



PUBLIC

2026-06-30

Solution Guide for SAP Service Cloud Version 2

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1 Solution Guide for SAP Service Cloud Version 2

This guide aims to inform you about the capabilities of SAP Service Cloud Version 2, help you set up your solution, and accomplish your daily tasks.

With SAP Service Cloud Version 2, your service agents have customer information at their fingertips. Using the collaboration tools and knowledge base, you can quickly address customer issues.

Create new cases and update existing cases automatically. With native integration with Microsoft Teams collaboration, you can share content from within agent teams and stay up to date on the latest service requests, comments, discussions, and decisions online. SAP Service Cloud Version 2 automatically assigns tasks to a case based on relevant attributes to help guide agents through complex processes. Create workflow rules that generate notifications, update fields, and trigger requests for multilevel approvals based on context and time.

Create serialized registered products with customer, location, and warranty information, and add to a case, a maintenance plan, or replicate equipment from SAP ERP as registered products.

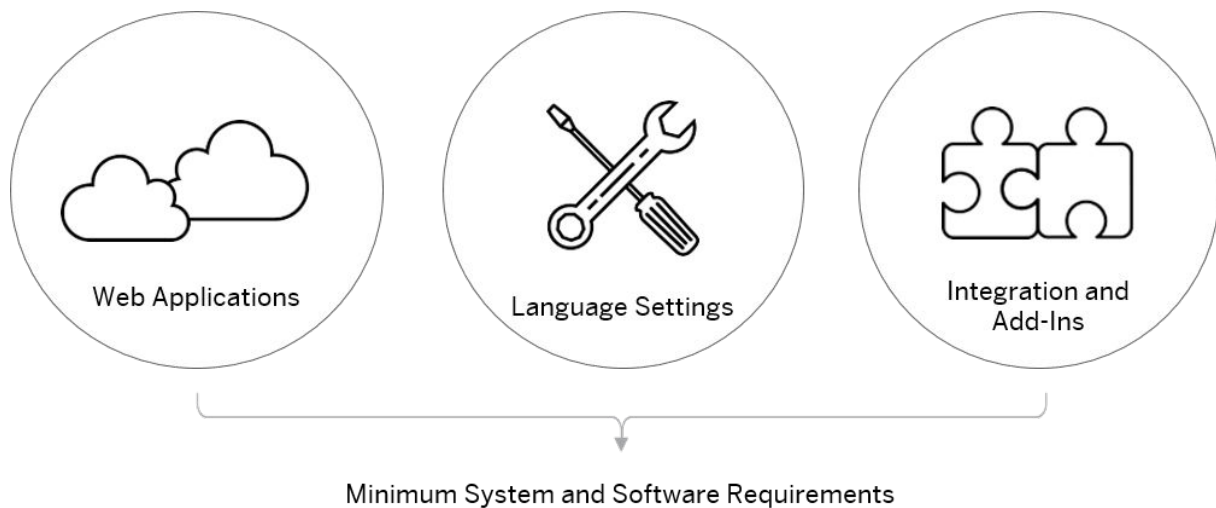
For more information about initial setup of your system, setting up the solution on mobile devices and customizing the solution to your needs, see the appropriate guide on the SAP Help portal.

Related Information

[SAP Service Cloud Version 2 on the SAP Help Portal](#)

2 Minimum System and Software Requirements

This section provides an overview of minimum system and software requirements.



2.1 Web Applications

You will learn about the minimum hardware and network requirements, display resolution, additional software, browser settings and versions and domain settings for web applications.

2.1.1 Minimum Hardware Requirements

Minimum desktop and laptop hardware requirements.

- Processor: Intel Core i5 12th generation and above, or equivalent
- Memory: 8 gigabytes (GB) minimum, 16 gigabytes (GB) recommended

2.1.2 Minimum Network Requirements

Minimum bandwidth and latency requirements for

Number of Users		20	100	500	1000
Bandwidth Re-quired (Mbps)	Sales	0.25	1.24	6.2	12.4
	Service	0.6	3	15	30

Network latency should be 200ms.

Note

The calculations consider only bandwidth used by the solution and don't include any other internet or internal network traffic.

SAP Support may request wired networking during investigation of incidents.

2.1.3 Display Resolution

The solution is best displayed at a screen resolution of 1920 x 1080 and 100% scale.

2.1.4 Additional Software

You will require Adobe Reader 8.1.3 or higher as an additional software to work on certain functions.

2.1.5 Browser Settings

Download settings and formats, pop-up settings and advanced settings.

Downloads

Downloading files should be enabled in your browser, since the solution can export files to your local device. If your browser supports restricting downloads by file type, you should enable at least the XML and CSV file types.

If your browser supports trusted sites, we recommend maintaining the download settings only for the Trusted Sites security zone and adding the following URLs to this zone:

- Your system URL, or alternatively the general pattern to which the URL adheres, such as `http://*.crm.cloud.sap`
- The pattern `https://*.crm.cloud.sap`
- The pattern `https://*.cxm-salescloud.com`

Pop-ups

The pop-up blocker should either be disabled, or the system URL should be registered as an exceptional site for the pop-up blocker. The Trusted Sites security zone settings listed in the **Downloads** section applies to pop-ups as well.

2.1.6 Browser Versions

Versions tested and handling browser updates.

SAP performs manual and automated testing on the supported and recommended browsers. Recommended browsers provide better performance and usability. Later versions of the recommended browser should be compatible, but have not yet been tested.

Use the latest, stable version of the recommended browsers. Please be aware that some browsers download and apply updates automatically. SAP makes every effort to test and support the most recent, stable versions of all recommended browsers.

2.1.7 Domain Settings

Allow applications to access resources from the ***.crm.cloud.sap** domains.

If you use a URL filter to blocklist a category of websites, you must allow ***.crm.cloud.sap** domains as an exception. Static resources based on the Content Delivery Network (CDN) should be in allow list for the domain ***.cxm-salescloud.com**.

2.1.8 Desktops and Laptops

Browser support by operating system for desktops and laptops.

Platform	OS	Recommended Browser	Supported
Microsoft Windows	Windows 10 & above	Google Chrome	Google Chrome
			Microsoft Edge (Chromium)

Platform	OS	Recommended Browser	Supported
Apple Mac OS X	10.10 "Yosemite"	Google Chrome	Google Chrome
			Microsoft Edge (Chromium)

2.2 Language Settings

Browser settings for language support.

To ensure that texts appear consistently in the same login language, review the following three language settings:

- Before you log on to the solution, choose the preferred language from the dropdown list.
- Make sure that the browser locale is correct, the locale is used to determine the dates, time zone, or amount formats. For add-ons, dates and times are not updated based on your browser settings.
- In the operating system itself, ensure that the preferred language is defined as the display language.

2.2.1 Languages Supported

Supported languages and restrictions for specific languages.

The user interface is available in the following languages.

- AR — Arabic (Functional limitations for this language are described in the note following this list)
- BG — Bulgarian
- CS — Czech
- DA — Danish
- DE — German
- EL — Greek
- EN — English
- ES — Spanish
- FI — Finnish
- FR — French
- HE — Hebrew (Functional limitations for this language are described in the note following this list)
- HR — Croatian
- HU — Hungarian
- IT — Italian
- JA — Japanese
- KK — Kazakh
- KO — Korean
- MS — Malay

- NL — Dutch
- NO — Norwegian
- PL — Polish
- PT — Portuguese
- RO — Romanian
- RU — Russian
- SH — Serbian
- SK — Slovak
- SL — Slovenian
- SV — Swedish
- TH — Thai
- TR — Turkish
- UK — Ukrainian
- VI — Vietnamese
- ZH-CN — Simplified Chinese
- ZF — Traditional Chinese

Note

Right-to-left languages (Arabic script and the Hebrew alphabet are written from right to left) are **NOT SUPPORTED** for email integration, analytics, or maps.

2.3 Integration and Add-Ins

Additional software requirements for integration scenarios and add-ins.

You can enable additional functionalities by integrating with external systems or software that can be installed, via the [Download](#) screen, for specific business purposes and users.

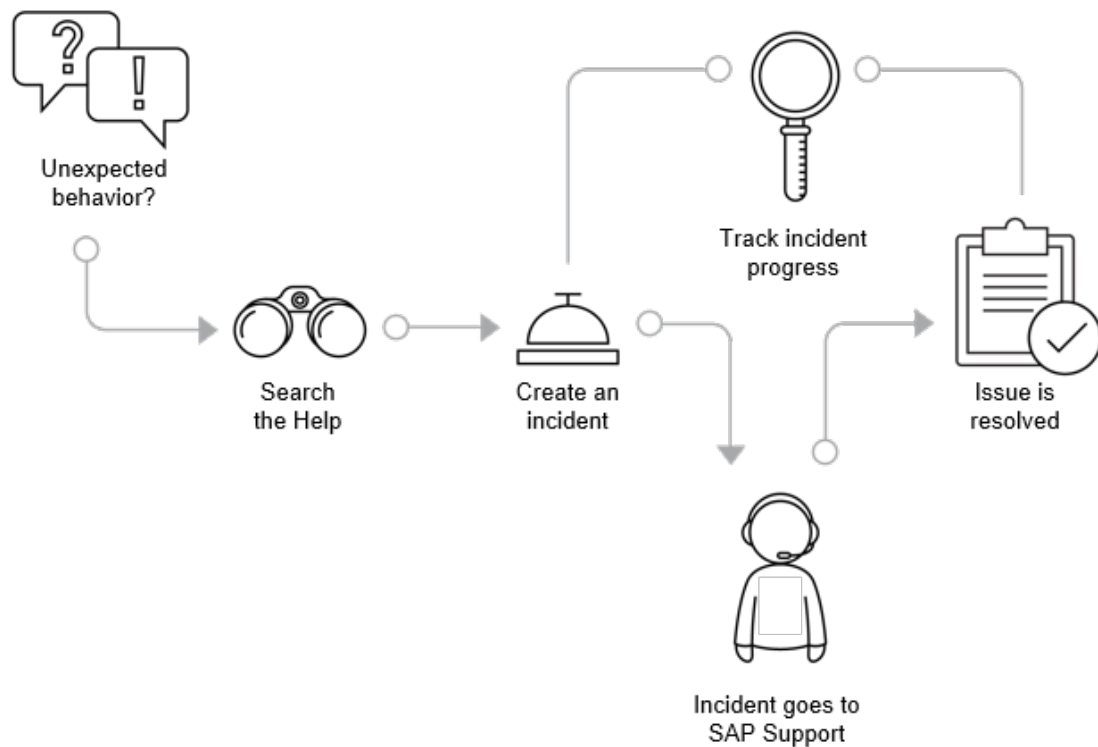
2.3.1 Requirements for Software Integration

To increase customer service, large enterprises can integrate existing SAP S/4HANA systems with the solution.

If you integrate the cloud service with licensed SAP on-premise software, you can access your on-premise solutions through the cloud service without additional licenses, providing the access is solely to perform functions in conjunction with the cloud service.

3 Help and Support

Learn how to find answers to your questions about the solution and how to report issues and problems.



As you're working, if you encounter unexpected behavior in the solution that interrupts your work or reduces the quality of the service, you can search the [Built-In Support](#) (🔍) for more information or create an incident that is sent to SAP Support. You can search the entire SAP knowledge database, as well as additional resources, for information that can solve your problem.

If you want to review the product documentation that can help you solve the issue yourself, you can find links to the SAP Help Center and this solution guide in the [Built-In Support](#) panel.

Your administrator is the first line of support but if they can't solve the issue for you, they can send the incident to SAP for further investigation.

Prerequisite: One time registration is required to create an SAP Universal ID and use the real-time chat and submit an incident. We recommend you register for your SAP Universal ID with your S-User ID. Once registered, incident reporting and expert chat are available in the [Built-In Support](#) panel.

When creating an incident, be sure to create it from the screen where you're experiencing the issue. The system identifies the screen automatically and includes this information in the incident. To help support process your incident more quickly, always include step-by-step instructions on how to re-create the behavior you're reporting.

As an administrator, after you submit an incident, you can track it for updates.

You can chat with product support specialists as well as with our customer interaction teams for updates on existing incidents. Each chat generates an incident that you can view and edit. The incident contains the chat transcript and can be used to follow up on the reported issue.

Get help within the *Built-In Support* tool by selecting the (ⓘ) icon at the top of the panel.

Restriction

Built-in support is available only in English.

Related Information

[Full documentation for Built-In Support](#)

[About SAP Universal ID](#) 

4 User Interface

Familiarize yourself with the User Interface of the solution.

Knowing how to navigate around the solution with the visible elements that you see and interact with is critical in managing your data in the solution.

A static Shell Bar is always visible at the top of the interface, allowing you to access options such as the navigation menu, search bar, user menu, and more at any time.

The following table lists the icons available in the shell bar.

Icon	Name	Description
	Navigation Menu	Provides easy access to the core functionalities and makes browsing easier by providing a main menu of options. To search for the functionalities in the navigation menu, you can either scroll down the list or start typing in the search field until you get the match.
	Company or Brand Logo	Displays the default SAP logo that you can replace with your own logo. If you're not on the home page, click the logo to return to the home page.
	Global Search	Allows you to search and filter the entity details across the solution.
	CTI Widget	Helps you to support your customers. Computer Telephony Integration (CTI) is identified as the technology of linking of computers and telecom instrument to respond calls, to pull out details from the database based on the phone numbers and even route calls to different people in some cases.
	Built-In Support	Provides digital services to find help, create tickets, and contact support right in your cloud application.
	Product Feedback	Allows you to take a one-minute anonymous survey where you can provide your feedback on this SAP software. The system also automatically displays a popup on your screen twice a quarter for the product feedback survey.
	Favorites	Allows you to create a list of favorite entities for your easy access.
	Notifications	Lets you know that something new has happened so you don't miss anything that might be worth your attention.

Icon	Name	Description
	Switch Application	Allows you to quickly switch between applications.
	User Menu	Usually shows the initials of your user name. If you click the User Menu, you can see your user name and the email address along with the following options: • Settings: Configure and customize various settings based on your personal preferences. • Start Adaptation: Customize and extend your solution using various tools. • System Settings: A central area where your administrator can view and maintain the settings for your solution. • Sign Out: Use this option to end your session.

You can open a maximum of 15 tabs at a time. When you open the 16th tab, the latest active tab is closed. Also, when you choose to close all the tabs, all unsaved changes in all the tabs will be lost.

Related Information

[Set Company Logo \[page 54\]](#)

As an administrator, you can set your company logo on your shell bar and login page.

[Global Search \[page 63\]](#)

Search for entity details across the solution.

[Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

4.1 Shortcuts

You can access [Recent Items](#) and [Favorites](#) from [Shortcuts](#).

Recent Items

[Recent Items](#) records all quick views, list views, and detail views that were recently opened by the user. Quick views of custom worklists are not added to recent items. Only the last 15 items per user per system are displayed in recent items.

Favorites

You can use the ☆ (*Add to favorites*) icon to add your entities to the favorites list and use ★ (*Remove from favorites*) icon to remove. To view the list, select ☆ icon available on the top right corner of the shell bar. You can search or filter your items and open them in detail within a click. Note that each user can add up to 300 items to their favorites list per tenant.

The *Show All* option available under the list gives you the same list in a separate tab where you can select multiple items and then you can remove them from your favorites list at once.

The supported entities are as follows:

- Appointments
- Contacts
- Contract Accounts
- Accounts
- Products
- Individual Customers
- Sales Orders
- Sales Quotes
- Leads
- Guided Selling

4.2 Notifications

Notifications are a way to let you know that something new has happened so you don't miss anything that can be worth your attention.

Notifications display the type of notification, triggering entity type, and the time of occurrence. Click 🔔 (*Bell*) to open the notifications panel. The notifications panel lists the latest five notifications across notification types with the entity type information and actions. You can filter the notifications by *Type*.

The following table lists the different type of notifications that appear in the notification panel, the information, and actions available for each type.

Notification Types and Actions

Notification Type	Information	Actions
Info Notifications	View in-app notifications sent as part of an autoflow or approval. Displays the subject, entity ID, name, the time of receiving the notification, and the status of the info notification sent by the system upon completing an approval process (Approved or Rejected).	• View or dismiss notification. • Navigate to the entity.

Notification Type	Information	Actions
Approvals	View approval requests. Displays the subject, entity ID and name, and the time of receiving the notification.	• Approve or reject approval requests. • Add a note for approval or rejection. • Navigate to the entity.
Reminders	View task reminders. Displays the task subject, entity ID and name, and the due date and time for task completion, before which the reminder is triggered.	• Filter reminders by Priority. • View or dismiss reminders. • Navigate to the entity.

To view a full list of notifications that you received, click [Show All](#) at the bottom of the notification panel. The [Notifications](#) page displays the entire list of notifications that came in and displays all details of notifications in the following tabs:

- [Info Notifications](#)
 - Filter the notifications using the [Date](#) and [Status](#) filters.
 - View details such as subject, sender, entity, display ID, received time, and status.
 - Navigate to the entity by clicking the subject.
- [Approvals](#)
 - Filter the notifications using the [Date](#) and [Status](#) filters.
 - View details such as subject, sender, entity, display ID, received time, status, and actions.
 - Add notes, approve or reject approval requests.
 - Navigate to the entity by clicking the subject.
- [Reminders](#)
 - Filter the notifications using the [All Due Dates](#), [Start Date](#), [Status](#), [Category](#), and [Priority](#) filters.
 - View details such as task subject, category, activity/type, ID, priority, status, start date/time, and end date/time.
 - Navigate to the task by clicking the subject.

To clear the notification list, click [Clear All](#).

Note

This action clears Info Notifications and Reminders but does not clear Approval notifications. An Approval notification is cleared only after the required action is completed. However, you can still view the complete list by clicking [Show All](#).

Related Information

[Send Info Notifications](#)

[Approval \[page 668\]](#)

Approval is a systematic process of reviewing and authorizing changes or actions before they are integrated into the system. Approvals are routed to your reporting line manager, though there may be multiple levels of approval required for certain objects or conditions.

4.3 Settings

Configure and customize settings based on your personal preferences.

4.3.1 Select Themes

Apply themes to your solution based on your requirements.

You can follow these steps to apply themes to your solution:

1. Navigate to ► [User Menu](#) ► [Settings](#) ►.
2. Under [Appearance](#), select a theme:
 - [Light](#)
 - [Dark](#)
 - [Browser Setting](#): The theme automatically switches between light and dark modes based on your browser setting.Your selected theme applies to your solution.
3. Close the window.

4.3.2 Change Password

Change the password for users from the user interface.

Change the password for your user by choosing the ► [User Menu](#) ► [Settings](#) ► [Change Password](#) ► option. Enter your current password. If you're unsure if you've entered in the correct current password, you can view the password by clicking the  (show) icon. Next, enter a new password and also re-enter the new password, and click [Confirm](#) to save your new password.

4.3.3 Accessibility

Manage the visibility of the user interface.

Turn the following switches on based on your preference by navigating to ► [User Menu](#) ► [Settings](#) ► [Accessibility](#) ►:

- **Adopt Device Preferences**
This overrides manual adjustments by adopting the preferences set on your device.
- **High Contrast Mode**
This enhances the visibility and accessibility of your selected theme with more distinct colors.

4.3.4 Work Time

Set work time for your business users.

As an administrator, you can access this settings from ► [User Profile](#) ► [Settings](#) ► [Work Time](#) ►.

On the [Work Time Settings](#) tab, you can choose a time zone from the dropdown to configure work time for your business users.

Alternatively, you can also edit the [Work Time](#) for your business users from the [User Details](#) section on the [Business User Details](#) page.

ⓘ Note

This [Work Time](#) settings is introduced for Dynamic Visit Planning purposes, where information about a business user's work timings helps in the visit planning and scheduling process. This settings doesn't impact the regular time zone configuration of the system.

4.4 System Settings

Access the Settings page from the user menu to navigate to different system settings on the system.

Go to ► [User Menu](#) ► [System Settings](#) ►. On the [Settings](#) page, you can view both the [All Settings](#) and [Dashboard](#) tabs.

The [All Settings](#) tab lists all the settings on your system in a card view. These settings are categorized into different categories such as [Company](#), [General](#), [Users and Control](#), [System Preferences](#), and so on. Each of these categories further shows four more settings sub categories. If any of the settings category contains more than four sub categories, a link showing +1 More, +2 More, and so on, is displayed. From the [All Settings](#) page, you can navigate to different apps on your system. You can also search for settings in the search bar. The [Dashboard](#) tab lists all the [Pinned](#) and [Recently Visited](#) sections. You can view the settings that you've pinned in the [Pinned](#) section, and all the settings that you visited recently appear in the [Recently Visited](#) section.

4.5 Tabs

Use tabs to switch between different content on the screen. To access a tab, select the tab header.

If you have many tabs open, not all tabs appear on the screen. Choose ... ([More](#)) to open a tab from the list of existing tabs, or close all tabs. You can open a maximum of 15 tabs at a time. If you try to open more tabs, the system closes your current tab. If you are signed out due to inactivity, you can restore your tabs. To keep your tabs after you refresh the page, enable the [Retain Tabs on Refresh](#) option in the [Feature Activation Hub](#).

4.5.1 Multi-Tab Grouping

Group your open tabs into custom groups.

Context

You can group multiple tabs under a specific title and color, making it easier to manage and navigate through numerous open tabs at once.

Procedure

1. Open the tabs you want to group together.
2. Right-click a tab.
3. Select ► *Add to Group* ► *New Group* ▾.

You can also add this tab to an existing group if you have already created one.

4. Rename the title if you prefer not to use the system-generated one.
5. Select *Change Color* and then choose a color.

Similarly, you can add all other tabs to the same group or different groups.

6. To manage the tabs and created groups, follow these options:
 - To expand or collapse all the tabs in the groups, select the group titles.
 - Right-click a tab in a group and use the following options:
 - *Remove from Group*: Removes the selected tab from the group but keeps the tab open separately.
 - *Close Tab*: Closes the selected tab, just like using the ✕ (Close) option.
 - *Close Other Tabs*: Closes all other tabs in all groups except the selected one.
 - *Close All Tabs*: Closes all groups and tabs.
 - Right-click the group title to edit the title and assigned color, and also use the following options:
 - *Ungroup*: Removes all tabs from the group but keeps them open separately.
 - *Close Group*: Closes the group and all tabs within it.

4.6 URLs for Direct Navigation

You can predetermine URLs to navigate users directly to specific instances of a business entity.

Include deep links as placeholders in workflow-based email templates. When users click the URL, it opens the business entity details without requiring them to navigate through the system.

As an example, you want to inform sales representatives in your organization about the status of an opportunity that has been modified. You trigger e-mail communication and include workflow placeholders with

direct link to the opportunity. Your sales representatives can directly open the opportunity details by clicking the link.

4.6.1 Create Predetermined URLs

You can create a predetermined URL by adding additional parameters to your solution's URL.

The following tables summarize the details for creating URLs. The routing key varies for each entity. For more information, see [Routing Keys for Entities \[page 35\]](#).

- Create a direct URL to any list or detail view of your entities by using these parameters:

View	URL Format	Example URL
List View	<Tenant URL>< /go/list/><Routing Key>	https://myxyz.crm.cloud.sap/go/list/case
Detail View	<Tenant URL>< /go/detail/><Routing Key>? param1=123&param2=abc	https://myxyz.crm.cloud.sap/go/detail/case?param1=123&param2=abc

- Create a direct URL to any detail view of your entity by using these IDs:

Type of ID for Navigation	Parameter	URL Format
Object ID	nodeid	<Tenant URL>< /go/detail/><Routing Key>?nodeid=<ID>&ui-header=false&ui-tabs=false
Display ID	displayId	<Tenant URL>< /go/detail/><Routing Key>?displayid=<Display ID>&ui-header=false&ui-tabs=false

Type of ID for Navigation	Parameter	URL Format
External ID	- externalId - Either communicationSystemId or communicationSystemDisplayId - externalIdType	<Tenant URL>< /go/detail/><Routing Key>?externalId=<External ID>&communicationSystemId=<Communication System ID>&externalIdType=<External ID Type>&ui-header=false&ui-tabs=false <Tenant URL>< /go/detail/><Routing Key>?externalId=<External ID>&communicationSystemDisplayId=<Communication System Display ID>&externalIdType=<External ID Type>&ui-header=false&ui-tabs=false

Note

Adding additional parameters to a URL format helps you make relevant changes to the screen. For example, adding `&ui-header=false&ui-tabs=false` hides the shell and tab section.

- Create a direct URL to modify the settings of your solution using these parameters:

Function	Parameter	Example URL
Right to Left (RTL) Mode	ui-rtl=true	<Tenant URL>?ui-rtl=true
Set Language	ui-language=de	<Tenant URL>?ui-language=de
Set Theme	- ui-theme=horizon - ui-theme=sap_horizon_dark	<Tenant URL>?ui-theme=horizon <Tenant URL>?ui-theme=sap_horizon_dark
Automatic Trigger for SSO flow	auth=sso	<Tenant URL>?auth=sso

4.6.2 Routing Keys for Entities

Use the specific routing key for each entity to create a URL for direct navigation.

Entity	Routing Key	List View Support	Detail View Support		
			nodeid	displayId	externalId
Accounts	mdaccount	✓	✓	✓	✓

Entity	Routing Key	List View Support	Detail View Support		
			nodeid	displayId	externalId
Contacts	mdcontact	✓	✓	✓	✓
Case	case	✓	✓	✓	
Agent Desktop	agentdesk	✓			
Chats	chat	✓	✓		
Competitors	mdcompetitor	✓	✓		
Contract Account	contractaccount	✓	✓		
Employees	mdemployee	✓	✓		
Individual Customers	mdindividualcustomer	✓	✓	✓	✓
Leads	lead	✓	✓	✓	
Library	library		✓		
Messages	message	✓	✓		
Partners	mdpartner	✓	✓		
Phone Calls	phone	✓	✓		
Premise	premise	✓	✓		
Products	mdproduct	✓	✓	✓	✓
Appointments	appointment	✓			
Guided Selling	guidedselling	✓	✓	✓	
Sales Quotes	sales-quote	✓	✓		
Surveys	survey	✓	✓		
Registered Product	registeredProduct	✓	✓	✓	
Functional Location	functionalLocation	✓			
Functional Location	installationPoint		✓	✓	
Installed Base	installedBase	✓	✓	✓	
Product Installation Point	productInstall-Point	✓	✓	✓	
Task	task	✓	✓	✓	
Visit	visit	✓	✓	✓	
Service Contracts	service-contract	✓	✓	✓	✓

Related Information

[Create Predetermined URLs \[page 34\]](#)

You can create a predetermined URL by adding additional parameters to your solution's URL.

4.7 Document Flow

The document flow provides a pictorial representation of an entity's journey through various stages.

The journey begins at the entity's origin and concludes with a quote or order. Each entity is displayed in a card format, with the cards connected to illustrate relationships or sequential steps. By default, the document flow section is available in the details view of supported entities.

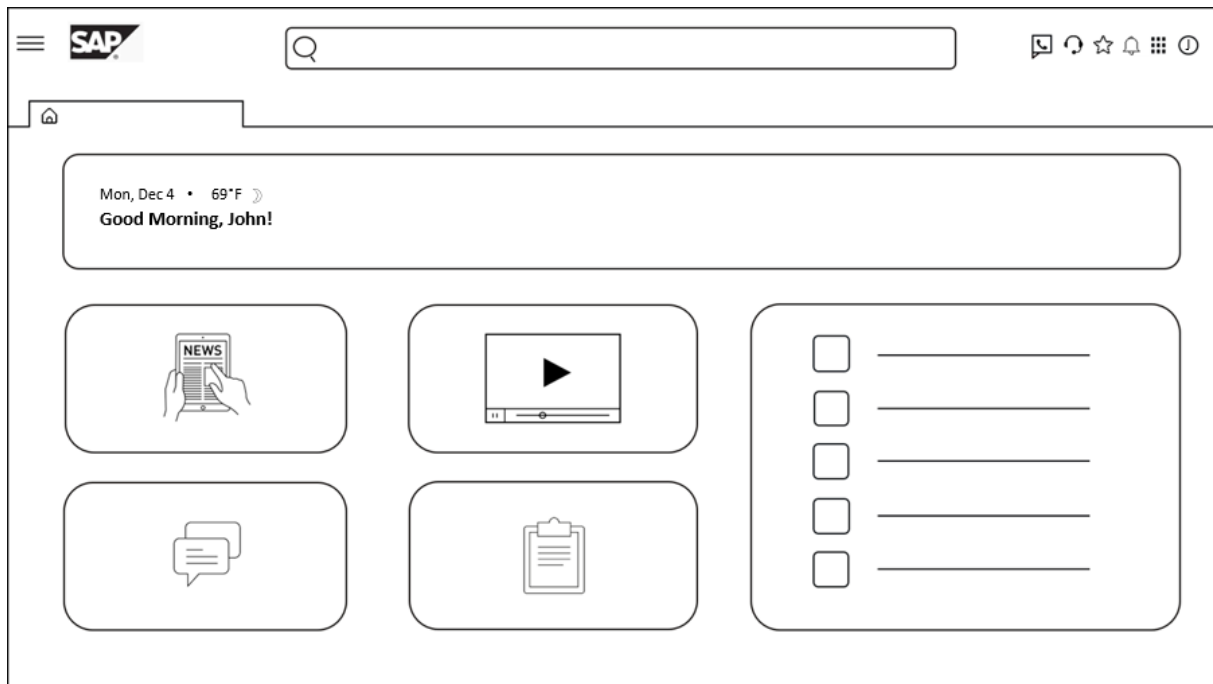
In the *Document Flow* section, use the



(Full Screen) icon to enlarge the view for better visibility. Within the flowchart, you can expand or collapse the cards based on the information they contain. Some entities also offer easy navigation to their corresponding quick views.

5 Home Page

The home page is the default start page, typically the first thing you see after logging in.



Home page cards are the blocks of content in the solution. These cards highlight important information and enable you to act or view more information. You can add different types of cards on the home page such as News card, Message card, Quick links card and so on. Based on your requirements, you can customize the home page by adding, hiding, or rearranging cards via adaptation.

Note

If your tenant isn't live, a message banner *Your Tenant Is Not Live* is displayed for administrator users. You can choose *Go Live Now!* to record that your tenant has gone live or choose *Dismiss* to record go-live later. Once the administrator records go-live, a message banner stating *Your tenant is now Live!* is displayed.

Business users view a message banner displaying *Tenant Go Live not initiated! Reach out to your administrator* on every screen until go-live is recorded.

Alternatively, you can also set *Go-Live* date for your tenant from the *Settings* page. For information, see: [Set Go-Live for Your Tenant \[page 219\]](#)

Use the following cards on the home page:

- **Greeting Card:** Shows a greeting message to the user along with the current date, and the weather condition based on your browser settings. This card is the only card available by default and you can't hide or change its position.
- **Message Card:** Shows messages for the business users.

- **Video Thumbnail Card:** Appears on the home page with the pre-delivered video thumbnail. When you click the video thumbnail, it launches in a separate window. This video is only available in English.
- **Pins Card:** Serves as a launch pad with different types of links. Pins card on the home page shows the icons and the actions that help you to navigate.
- **Learning Content Card:** Shows a list of five useful articles that help you understand the solution.
- **Video Feed Card:** Shows a list of five useful videos that help you understand the solution. All these videos are only available in English.

For an overview, watch the following video:

5.1 Create Cards

Create your personalized cards on the home page.

5.1.1 Create Message Cards

As an administrator, create your personalized message cards on the home page.

Context

While creating the message card, you can define the title, description, button type, and background color. The description supports up to 500 characters, including line breaks and special characters.

Procedure

1. Go to [Home Page](#) and navigate to **User Menu** > **Start Adaptation**.
The system displays a thin line in the header to indicate that you are in adaptation mode.
2. Hover over the border of the **My Cards** section and choose  **(Edit)**.
A new pop-up opens.
3. Choose  **(Create Card)** located on the top-right corner of the pop-up.
4. Choose > **(Drill Down)** next to **Tools**
5. Choose  **(Add)** next to **Message** to add an empty message card to the home page.
6. Hover over the new message card on the home page, and then choose  **(Edit)**.
7. Enter the details such as title, message, button type, and background color.

8. Choose [Apply](#).
9. Select [End Session](#) when your changes are complete.

Note

The custom card messages are not translatable.

Related Information

[Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

5.1.2 Create Pins Cards

As an administrator, create your personalized pins cards on the home page. End users can then personalize these pin cards by editing them in personalization mode.

Context

Pins card helps you create pins to the quick create windows of entities, external portals, and filtered list views. You can create up to 12 pins in a card per page layout.

Note

Unauthorized workspace pins don't display.

Procedure

1. Go to [Home Page](#) and navigate to ► [User Menu](#) ► [Start Adaptation](#) ►.

The system displays an orange line in the header to indicate that you are in adaptation mode.

2. Hover over the border of the [My Cards](#) section and choose  [\(Edit\)](#).

A new pop-up opens.

3. Choose  [\(Create Card\)](#) located at the top-right corner of the pop-up.
4. Choose ► [\(Drill Down\)](#) next to [Tools](#).
5. Choose  [\(Add\)](#) next to [Pins](#) to add an empty pins card to the home page.

6. Hover over the newly added pins card on the home page, and then choose  (*Edit*).
7. Change the default card title if needed.
8. Select *Compact* or *Expanded* as the card size.

The card size section is enabled only if there are more than six pins.

9. To create pins, select  and choose any of the following:
 - Choose *Quick Create* as the *Pin Type* and select a *Name* from the drop-down.
 - Choose *External Link* as the *Pin Type* and enter the *Link URL* and *Link Name*.
You can also choose an icon from the *Icon* drop-down.
Link Name now supports the *Language Adaptation* tool.
 - Choose *Filtered List View* as the *Pin Type* and enter the *Entity* and *Filter*.

Note

When creating *Quick Create* or *Filtered List View* pins, only entities assigned to your role will be accessible in the dropdown. For example, if you only have access to the Account entity, only Account will be visible as an option.

10. Pins are assigned a default color based on the selected entity. Customize the pin color from the *Pin Color* drop-down if you prefer a different color.
11. Save your changes.

You can add a maximum of 12 pins.
12. To edit a pin, choose  (*Edit*).
13. To delete a pin, choose  (*Delete*).
14. To rearrange the order of the pins, use  (*Drag and Drop*) to move them to the desired position.
15. Choose *Apply* when the list of your pins are ready.
16. Choose *End Session*.

Related Information

[Personalization \[page 90\]](#)

Learn how to personalize the solution settings to suit your needs.

5.1.3 Create Mashup Cards

As an administrator, create mashup cards on the home page.

Context

You can add mashups that have no parameter binding.

SAP Analytics Cloud (SAC) widgets can be embedded on the Home Page by creating a mashup card of an Analytics Mashup containing the SAC widget.

Procedure

1. Go to [Home Page](#) and navigate to  [User Menu](#) > [Start Adaptation](#) .

The system displays an orange line in the header to indicate that you are in adaptation mode.

2. Hover over the border of the [My Cards](#) section and choose  ([Edit](#)).

A new pop-up opens.

3. Choose  ([Create Card](#)) located at the top-right corner of the pop-up.
4. Choose > ([Drill Down](#)) next to [Tools](#)
5. Choose  ([Add](#)) next to [Mashup](#) to add an empty mashup card to the home page.
6. Hover over the newly added mashup card on the home page, and then choose  ([Edit](#)) to open the [Edit Mashup Card](#) window.
7. Enter a card name under [Title](#). The default name is [New Mashup](#).

Note

This name helps you identify your mashup card in the list of cards section.

8. To display the added mashup's name as the card title, choose the [Show Title On Card](#) checkbox.
9. Change the card size if required.
10. Select your desired mashup from the [Select Mashup](#) dropdown.
Mashup cards support analytics Mashups, web component mashups and non retained HTML mashups.
11. Choose [Apply](#).
12. Choose [End Session](#) when your changes are complete.

Related Information

[Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

5.1.4 Create Standard Application Cards

As an administrator, create your standard application cards on the home page.

Procedure

1. Go to [Home Page](#) and navigate to  [User Menu](#) > [Start Adaptation](#) .

The system displays an orange line in the header to indicate that you are in adaptation mode.

2. Hover over the border of the [My Cards](#) section and choose  ([Edit](#)).

A new pop-up opens.

3. Choose  ([Create Card](#)) located at the top-right corner of the pop-up.
4. Choose > ([Drill Down](#)) next to [Standard](#).
5. Choose  ([Add](#)) next to the required cards to add them to the home page.
6. Choose [Apply](#).
7. Choose [End Session](#) when your changes are complete.

Related Information

[Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

5.1.5 Create KPI Cards

As an administrator, create personalized KPI cards on your home page to visualize key metrics from different applications.

Context

You can create KPI cards for Cases.

To help users track performance at a glance, the system allows administrators to add and configure KPI (Key Performance Indicator) cards directly on the home page. These cards pull real-time data from various applications, offering a personalized view of what's most important for your role or team. In adaptation mode, you can configure KPI cards with filters, KPI fields, and graph types to display the data most relevant to you.

Procedure

1. Go to [Home Page](#) and navigate to [User Menu](#) > [Start Adaptation](#).

The system displays an orange line in the header to indicate that you are in adaptation mode.

2. Hover over the border of the [My Cards](#) section and select  ([Edit](#)).

The [Create Cards](#) pop-up opens.

3. Choose  ([Create Card](#)).
4. Choose > ([Drill Down](#)) next to [Application](#).
5. Choose > ([Drill Down](#)) next to [KPI](#).
6. From the list of available services, select the desired service.
7. Choose [Apply](#).

A new card with a predefined title **New <Entity Name> KPI** is added to the [My Cards](#) section.

8. Hover over the border of the [New KPI](#) card and choose  ([Edit](#)).

The [Edit KPI Card](#) pop-up opens, showing the selected entity in the [Entity](#) field.

9. From the [Filter](#) dropdown, select a predefined filter.

For more detailed filtering, define and save a filter on the entity advanced filter and choose the saved filter.

10. From the [KPI](#) dropdown, select the metric to display.
11. Optional: From the [Date Filter](#) dropdown, select how you want to filter the date.
12. Optional: From the [Date Range](#) dropdown, select the date range that must be applied to the data.
13. Enter a [Title](#).
14. From the [Graph](#) dropdown, select the graph type.

The five graphical representations available are Donut, Horizontal Bar, Funnel, Vertical Bar, and Radial.

15. Choose [Apply](#) to save the KPI card configuration.
16. Choose [End Session](#) to exit the adaptation mode.

Results

Select the graph legend to open the respective entity list view. For KPI cards with date filters, select different date ranges using the dropdown to view the respective KPIs. However, upon refreshing the page, the KPI will revert to the default date range that was selected during adaptation.

You can refresh KPI cards to display the latest data by choosing  ([Refresh](#)) on each card. The system refreshes the data automatically when you reload the homepage or return to it after being away for 10 minutes.

5.1.6 Create Filtered List Cards

As an administrator, create personalized filtered list cards on your home page to view entities based on desired query filters and fields.

Context

You can create Filtered List cards for Cases.

Procedure

1. Go to [Home Page](#) and navigate to ► [User Menu](#) ► [Start Adaptation](#) ►.

The system displays an orange line in the header to indicate that you are in adaptation mode.

2. Hover over the border of the [My Cards](#) section and choose  ([Edit](#)).

The [Create Cards](#) pop-up opens.

3. Choose  ([Create Card](#)).
4. Choose ► ([Drill Down](#)) next to [Application](#).
5. Choose ► ([Drill Down](#)) next to [Filtered List Cards](#).
6. From the list of available services, select the desired service.

Note

This list contains all the services that have KPI cards enabled except Cases and Accounts.

7. Choose [Apply](#).

A new card with a predefined title **New <Entity Name> Filtered List Card** is added to the [My Cards](#) section.

8. Hover over the border of the [New Filtered List](#) card and choose  ([Edit](#)).

The [Edit Filtered List Card](#) pop-up opens, showing the selected entity in the [Entity](#) field.

9. Select a [Filter](#) and enter a [Title](#).
10. Select the [Primary Field](#) and [Secondary Field](#).

The fields you select will appear in every row of the filtered list.

11. Select the [Date Filter](#) from the dropdown and the corresponding [Date Range](#).
12. Choose [Apply](#) to save the Filtered List card configuration.
13. Choose [End Session](#) to exit the adaptation mode.

Note

The system displays the top 30 results that match your selected filters.

You can refresh Filtered List cards to display the latest data by choosing  (*Refresh*) on each card. The system refreshes the data automatically when you reload the homepage or return to it after being away for 10 minutes.

5.1.7 Create RSS Feed Cards

As an administrator, subscribe to your favorite websites using RSS feed cards to stay up to date.

Context

RSS feed cards allow you to receive updates of new content published on the website, without constantly visiting the website.

Procedure

1. Go to *Home Page* and navigate to  *User Menu*  *Start Adaptation* .

The system displays an orange line in the header to indicate that you are in adaptation mode.

2. Hover over the border of the *My Cards* section and choose  (*Edit*).

The *Create Cards* pop-up opens.

3. Choose  (*Create Card*).
4. Choose  (*Drill Down*) next to *Tools*.
5. Choose  (*Add*) next to *RSS Feed* to add an empty RSS Feed card to the home page.
6. Hover over the newly added RSS feed card on the home page, and then choose .
7. Enter a title.
8. Enter a URL in the field.
9. Choose *Apply*.
10. Choose *End Session* to exit the adaptation mode.

Note

To display the RSS Feed image, configure its source URL in the Image Source section of content security policy settings.

1. Navigate to  *User Menu*  *System Settings*  *All Settings*  *System Preferences*  *Content Security Policy* .
2. Go to the *Image Source* section and choose  (*Add*).
3. Enter the hostname URL and choose .

If you're creating a mashup with the URL `https://media-cldnry.s-nbcnews.com/image/upload/t_fit_1500w/mpx/2704722219/img.jpg` then, add `*.s-nbcnews.com` in the [Image Source](#).

5.2 Manage Cards

As an administrator, create, delete, hide, and rearrange your cards on the home page via adaptation.

Procedure

1. Go to [Home Page](#) and navigate to **User Menu** > [Start Adaptation](#).

The system displays an orange line in the header to indicate that you are in adaptation mode.

2. To edit, hide or, rearrange any existing card on the home page, hover over the desired card and use the following options:

-  : Move the card towards left
-  : Move the card towards right
-  : Hide the card
-  : Edit the card

Note

The edit functionality is only available for custom Message cards, Greeting card, and Quick links card.

3. To add cards, hover over the border of the [My Cards](#) section and choose  ([Edit](#)).

The system opens the [Edit Card](#) window with a list of existing cards where you can use the following icons to perform the corresponding actions:

-  : Remove the custom cards permanently.
-  : Open the [Add Card](#) pop-up where you can add the hidden cards using .
-  : Open the [Create Card](#) pop-up where you can add custom message cards and application cards.

4. Choose [End Session](#) when your changes are complete.

Related Information

[Create Message Cards \[page 39\]](#)

As an administrator, create your personalized message cards on the home page.

[Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

5.3 Configure Home Page

As an administrator, you can configure the cards on your home page.

5.3.1 Add Background Image

As an administrator, you can add background image on home page.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ►.
2. Under [System Preferences](#), select ► [Home Page](#) ► [Background Image](#) ►.
3. You can use one of the following options:
 - Choose [Default](#) and select one of the available images.
 - To use a custom image:
 1. Choose [Custom](#) and upload your own image.

❗ Note

The image format should be JPEG or PNG without exceeding 1 MB size limit.

2. Adjust the size by using the zoom in or zoom out option, and then drag and drop the cropping area to fit the background image within the frame.
3. Turn the [Background Overlay](#) switch on to prevent the group name on the home page being hidden by your uploaded background image.
4. Save your changes.

5.3.2 Configure Mobile Relevant Message Cards

As an administrator, you can enable or disable desktop home page message cards as mobile relevant for display on the mobile home page.

Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ►.
2. Under [System Preferences](#), select ► [Home Page](#) ► [Mobile Relevant Cards](#) ►.
3. Under [Message Card](#), turn the switch **On** or **Off** for each message card to enable or disable it on your mobile home page settings.
4. To access mobile home page settings, navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Mobile Administration](#) ► [Home Page](#) ►.
5. Under [Home Page Cards](#), you can set the visibility of each message card on the mobile home page by turning the switch **On** or **Off** next to each card.
6. Save your changes.

5.3.3 Configure Greeting Card

As an administrator, you can customize the background of your homepage greeting card and configure it to display the weather.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ►.
2. Under [System Preferences](#), select ► [Home Page](#) ► [Greeting Card](#) ►.
3. Do the following:
 - Customize Background Image: To customize your background image follow these steps:
 1. Under [Image](#), select [Default](#) to choose a default background from the available options.
 2. To upload a custom image:
 1. Choose [Custom](#) and upload your image.

Note

The image format should be JPG or PNG without exceeding 1 MB size limit and the recommended width x height ratio is 2688 x 402 pixels with an 8-bit depth.

2. Adjust the size by using the zoom in or zoom out option, and then drag and drop the cropping area to fit the background image within the frame.

3. Based on your uploaded image, switch on the following options:
 - **Dark Text**: This turns all the information on the card into a dark color.
 - **Background Overlay**: This adds a separate layer and prevents the information on the card being camouflaged by your uploaded image.
3. Save your changes.
- Display Weather: To display the weather on your greeting card, follow these steps:
 1. Scroll down to the **Weather** section.
 2. Turn on the **Show** switch to display the weather on your greeting card. When the switch is on, the weather editor becomes available.
 3. Turn on the **API Key Editing** switch.
 4. In the **API Key** field, enter the key from your AccuWeather subscription.

ⓘ Note

- You must have an active AccuWeather subscription to obtain an API key.
- Make sure the location permission is granted in your browser settings.

5. By default, the temperature is set to **Fahrenheit**. Select **Celsius** to change the temperature unit.
6. Save your changes.

5.4 Create Groups

You can create groups to club different cards under a single group.

Procedure

1. Go to **Home Page** and navigate to **User Menu > Start Adaptation**.

The system displays an orange line in the header to indicate that you are in adaptation mode.

2. Hover over the outermost border of the **My Cards** section and choose **+** (**Add**).
3. Choose **Create Group**.
4. Provide a name for the group and choose **Apply**.
5. Add required cards to the group and end adaptation.

5.5 Rename Groups

As an administrator, you can rename a group or delete group names on the homepage.

Procedure

1. Go to [Home Page](#) and navigate to ► [User Menu](#) ► [Start Adaptation](#) ►.

The system displays an orange line in the header to indicate that you are in adaptation mode.

2. Hover over the group you need to rename and choose  ([Edit](#)).

A new window opens for editing.

3. Turn on the switch to get an input field to edit the group name.
4. Enter the desired name or delete the existing name to keep the group name blank.
5. Apply your changes, and choose [End Session](#).

5.6 Manage Groups

As an administrator, you can delete an existing group and rearrange groups on your home page.

Procedure

1. Go to [Home Page](#) and navigate to ► [User Menu](#) ► [Start Adaptation](#) ►.

The system displays an orange line in the header to indicate that you are in adaptation mode.

2. Hover over the outermost border of the [My Cards](#) section and choose  ([Add](#)).
3. Choose [Manage Groups](#).

- a. Choose  to delete an existing group.

Note

Deleting a group will also delete the cards inside the group.

- b. Drag and drop groups to rearrange groups.
- c. Choose  to hide a group.

At least one group should be visible always.

- d. Choose  (Add from List) to add hidden groups.
- 4. Choose [Apply](#) to save your changes.

You can add and repeat cards in a group. You can add a maximum of 20 cards on the homepage.

- 5. Hover over a group and choose  ([Collapse](#)) or  ([Expand](#)).
- 6. Choose [End Session](#) to complete adaptation.

6 System Preferences

Learn how you can configure system preferences in your solution.

[Appearance and Behavior \[page 53\]](#)

Adapt the look and feel of your SAP solution to suit your company's need.

[Language, Region, and Currency \[page 57\]](#)

Configure language, region, and currency settings for all your business users.

[Feature Activation Hub \[page 59\]](#)

View critical and majors changes that you, as an administrator, can activate in your system before they're activated in your system by default.

[WalkMe \[page 60\]](#)

WalkMe provides a framework for in-app help including guided walk-throughs that can aid users with onboarding and adoption of your solution.

6.1 Appearance and Behavior

Adapt the look and feel of your SAP solution to suit your company's need.

As an administrator, you can set the company logo, login image, auto sign out, and background screen. The changes will be visible to all users the next time they log on to the system.

6.1.1 Set Default Theme

As an administrator, you can set a default theme for all users.

Procedure

1. Navigate to [User Menu](#) > [System Settings](#) > [All Settings](#).
2. Under [System Preferences](#), select [Appearance and Behavior](#).
3. Go to the [Appearance](#) tab.
4. Choose a default theme for all users:
 - Light
 - Dark

Note

If a user has already selected a theme in their [Settings \[page 31\]](#), the preference theme will remain unchanged.

5. Save your changes.

6.1.2 Set Company Logo

As an administrator, you can set your company logo on your shell bar and login page.

Procedure

1. Navigate to [User Menu](#) > [System Settings](#) > [All Settings](#).
2. Under [System Preferences](#), select [Appearance and Behavior](#).
3. Go to the [Branding](#) tab.
4. Under the [Logo](#) section, select [Shell Bar](#) or [Sign-In Page](#) depending on where you want to upload your logo.
5. Select [Browse Files](#) and choose an image.

You can also drag and drop the image.

Note

The supported image file formats are SVG, PNG, and JPG. The size of the image must be less than 2MB.

The system displays the uploaded image on the screen.

6. If you're setting a logo on the shell bar, select a crop size that fits well:
 - Standard
 - Wide
7. Adjust the size by using the zoom in or zoom out option, and then drag and drop the cropping area to fit the logo within the frame.
8. Save all your changes.

6.1.3 Set Login Image

As an administrator, you can set your login image.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ►.
2. Under [System Preferences](#), select [Appearance and Behavior](#).
3. Go to the [Branding](#) tab.
4. Under the [Login Image](#) section, choose one of the following options based on the requirements:
 - [Default](#): Provides five different images rotating for the login page.
 - [Custom](#): Add your own images in the login page.

Note

The supported image file formats are PNG and JPG. The size of the image must be less than 1MB.

5. Save your changes.

6.1.4 Set Auto Sign Out

As an administrator, you can set the sign out time for all users or for a selected business role.

Context

For security reasons, users are automatically logged off from the system if they've been inactive in the system for a certain period. If you leave this option empty, inactive users will be logged off from the system after 1 hour.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ►.
2. Under [System Preferences](#), select [Appearance and Behavior](#).
3. Go to the [Behavior](#) tab.
4. Under the [Auto Sign Out](#) section, set the sign out time for the following:
 - Company
 - Business Users
5. To set the sign out time for all the inactive users in the company, select the dropdown and choose any time period.

6. To set the sign out time for a specific inactive business users, click  available under *Business Role* to create a new row.
7. Search and select a business role, choose a time, and click  to create.

Similarly, you can add many business roles as required.

8. To delete any of the rows, click .
9. Save your changes.

You can lose your unsaved changes in the following scenarios:

- **Browser Inactivity**
If your SAP Sales and Service Cloud V2 browser tab becomes inactive (for example, if you switch to another tab and stop interacting with the application), your session may time out. One minute before auto sign out, you'll see a prompt asking if you want to stay signed in. If you don't respond, you will be automatically logged out.
-  **Note**

If you have multiple tabs of the application open, inactive tabs may be logged out even if you are active in another tab.
- **Logged in on Multiple Devices**
If you are signed in to the same account on more than one device (such as a laptop and a tablet), inactivity is tracked separately on each device. Being active on one device does not prevent a session from timing out on another.
 - **Network Disconnection**
If your network connection is lost, for example, if you lock your system or close your laptop, you will be logged out when the connection is restored. You must log in again.
 - **System Shutdown**
If your device shuts down, any unsaved changes will be lost.

To use the SSO option when you sign in, use the *Sign in using SSO* option. If you have a direct integration with the SAP Sales and Service Cloud V2 site, append the URL with `auth=sso`. For example, `https://<tenant-url>?auth=sso`. This parameter skips the log in page.

6.1.5 Set Background Screen

As an administrator, you can set your background screen that shows only when all tabs are closed.

Procedure

1. Navigate to  *User Menu*  *System Settings*  *All Settings* .
2. Under *System Preferences*, select *Appearance and Behavior*.
3. Go to the *Behavior* tab.
4. Under the *Tab Configuration* section, select one of the following options:
 - *Default*: Shows a default screen when all the tabs are closed.

- [Plain Page](#): Shows a simple text when all the tabs are closed.
5. Save your changes.

6.2 Language, Region, and Currency

Configure language, region, and currency settings for all your business users.

1. Log in to the system as an administrator.
2. Navigate to user profile on the right-top corner, and choose [System Settings](#).
3. Go to [All Settings](#) > [General](#) > [Language, Region, and Currency](#).
4. On the [Language, Region, and Currency](#) page, you can configure the tabs:
 - **Currency**: Set the switch to [Enabled](#), against the currencies that you want to enable for your users. Define number of decimal places for each currency choosing the number of places after the decimal from the [Decimal Places](#) dropdown.

Note

The allowed number of decimal places is zero to six.

- **Language**: Set the switch to [Enabled](#) against the system languages and communication languages that you want to enable for your users.
- **Time Zone**: Set the switch to [Enabled](#), against the time zones that you want to enable for your users.
- **Country/Region**: Set the switch to [Enabled](#), against the countries/regions that you want to enable for your users. Use + [\(Expand\)](#) next to [Country/Region](#), to view more details.
- **Fiscal Period**: Define fiscal periods.
To generate fiscal periods for the past 10 years or upcoming 5 years, use the [Generate Fiscal Period](#) option. Select the fiscal years and the start month. This option allows you to generate fiscal periods for multiple years in one go.
To define fiscal periods individually, follow the steps mentioned:
 1. Select [Fiscal Year](#), [Fiscal Quarter](#), or [Fiscal Period](#) option from the dropdown.
 2. Choose + [\(Add\)](#) to add a new fiscal year, fiscal quarter, or fiscal period information.
 3. Enter all the information in the respective columns, and choose [Save](#) to save your fiscal period data.

Note

All values entered for [Fiscal Year](#), [Fiscal Quarter](#), or [Fiscal Period](#) fields can be edited inline.

- **Exchange Rate**: Define the currency exchange rates on the [Exchange Rate](#) tab.
 1. Select a currency from the [Select Unit Currency](#) dropdown.
 2. Choose + [\(Add\)](#) to add a new currency to the list.
 3. Choose a currency from the [Quoted Currency](#) dropdown, define the exchange rate in the [Exchange Rate](#) column, and also edit [Quoted Date/Time](#) to select the date and time when the currency value was defined.
 4. Choose [Save](#) to save the entry.

You can also import exchange rates from an Excel or CSV file.

To import exchange rates, do as follows:

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Language, Region, and Currency](#) ► [Exchange Rate](#) ►.
2. Choose [↕ \(Import\)](#).
3. In the [Import](#) screen that appears, select the [File Type](#) and choose [Download Template](#).
4. In the `Field_Definitions` file, view the value type that you need to enter in each field. In the file that you want to upload, enter the values for the four fields mentioned in the following table.

Field Definitions

Column Name	Value Type
Unit Currency	String
Quoted Currency	String
Exchange Rate	Number
ⓘ Note The number must contain a decimal.	
Quoted Date/Time	Datetime
ⓘ Note Date Time must be in the ISO 8601 format.	

5. Fill the template with your exchange rates. Drag and drop the file or browse and open the file.
6. Choose [Import](#).

6.2.1 Define Custom Country/Region

Learn how to create and delete a custom country/region.

Procedure

1. Log in to the system as an administrator.
2. Navigate to user menu on the top-right corner, and choose [System Settings](#).
3. Go to ► [All Settings](#) ► [System Preferences](#) ► [Language, Region, & Currency](#) ►.
4. Navigate to [Country/Region](#) tab.
5. Choose [+ \(Add\)](#) on the [Country/Region](#) page.
6. Enter mandatory fields such as country, country code, and choose [Save](#) to create the country/region.
7. You can choose the delete icon next to the custom country/region to delete it.

📘 Note

You can delete only custom country/region that you've created. You can't delete SAP pre-delivered countries/regions.

📘 Note

The custom country/region must adhere to the following restrictions:

- Country/region name cannot exceed 50 characters in length.
- Country code must consist of two characters and must start with the uppercase alphabet X.
- Region code must consist of three characters.
- Vehicle key must be alphanumeric and must consist of three characters.
- International dialing code cannot exceed four numbers.
- Trunk prefix cannot exceed two numbers.

6.3 Feature Activation Hub

View critical and majors changes that you, as an administrator, can activate in your system before they're activated in your system by default.

Feature Activation Hub allows you to review and activate new system features. You can activate features that offer new capabilities or enhance productivity if they benefit your organization before they're activated in all systems.

Any issues identified on feature activation are considered the same as when a regular update adds new features. We use the same standard support process, service level agreement, and processing priority.

⚠️ Restriction

Activating a new feature can't be undone. Once active, there's no way to 'deactivate' a new feature. New features listed in [Feature Activation Hub](#) are activated by default after the stated period of time. You can choose to 'opt-in' early if you like.

6.3.1 Configure Feature Activation Hub

Add the feature activation service and app to your administrator role to access [Feature Activation Hub](#).

Context

To see [Feature Activation Hub](#) in Settings, add access to your administrator role.

Procedure

1. Go to ► [System Settings](#) ► [Users and Control](#) ► [Roles](#) ►.
2. Open your administrator role in detail view.
3. Search for and add the business service: `customerFeatureToggleService`.
4. Search for and enable the app: **Customer Features**.
5. Save the changes.

6.3.2 Activate New Features

Administrators can view and activate new features in settings before the features are activated by default.

Context

Once your administrator user has access to the [Feature Activation Hub](#), you as an administrator, can activate new features in settings before they become available by default in all systems.

Procedure

1. To view details and activate new features, go to your user menu then select: ► [System Settings](#) ► [System Preferences](#) ► [Feature Activation Hub](#) ►.
You can sort and filter new features by service name and the date on which the feature is available for activation. You can also see when the feature is activated in all systems by default. The ⓘ ([Information](#)) icon links to more details about the new feature in the What's New viewer on the SAP Help Portal.
2. Activate a new feature by selecting the [Activate](#) checkbox.

⚠ Restriction

Once you activate a feature, you can't deactivate it. We recommend you activate new features in your test or development tenants before activating them in your production tenant.

6.4 WalkMe

WalkMe provides a framework for in-app help including guided walk-throughs that can aid users with onboarding and adoption of your solution.

WalkMe is an AI-powered digital adoption solution that enables teams to create guidance and automation in the flow of work. This enables organizations to accelerate user adoption of technology, boost productivity, and maximize the value of enterprise software investments.

WalkMe currently supports the following languages:

- English
- French
- German
- Japanese
- Portuguese
- Spanish
- Simplified Chinese

Note

WalkMe is not available in sales and service mobile apps.

Related Information

[WalkMe product page on the SAP Help Portal](#)

6.4.1 Configure WalkMe

Activate WalkMe in your solution to start using guided walk-throughs provided by SAP or your own learning content.

Context

WalkMe is inactive by default in your system. To use WalkMe, you first enable the framework and then choose SAP provided content, or configure the URL for your own WalkMe content.

→ Tip

If you encounter issues with WalkMe in your SAP cloud solution, reference component WME-LOB-INT to expedite support ticket processing.

Procedure

1. Go to your user menu and select:  [System Settings](#)  [System Preferences](#)  [WalkMe](#) .

2. Activate WalkMe.
3. If you wish to use your own custom content, choose *Custom Content* and enter the URL for your WalkMe content repository.

Note

Custom content requires a WalkMe Premium license.

4. Save your changes, sign out, and sign in again.

Results

You can use WalkMe by selecting  (WalkMe Icon) from the Shell Bar.

Related Information

[WalkMe product page on the SAP Help Portal](#)

[How to obtain the URL for your WalkMe content repository](#) 

7 Global Search

Search for entity details across the solution.

Global search allows you to search through the entire solution. After clicking the search bar, located at the top of the screen, you can choose to do a simple or advanced search. You can search for a term without specifying any details, or you can search in all categories, or you can specify a specific category. The system displays a list of all the previously searched terms.



Currently, the available entities for search are:

- Cases
- Individual Customers
- Installed Bases
- Registered Products
- Installation Points
- Library
- Accounts

7.1 Configure Global Search

Administrators can configure Global Search in [System Settings](#).

7.1.1 Define Filters for Advanced Search

You can define filters and make them visible for users in the advanced searches for the currently available entities.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Filter Configuration](#) ►.
2. From the left pane, select the entity you want to configure.
3. Choose ⊕ [\(Add\) to add a new field](#).
4. Optional: Choose [Reset](#) to erase all the fields in the predefined configuration.
5. Choose [Save](#) once you have created a new filter configuration.

7.1.2 Activate Search Bar

As an administrator, you can activate the search bar popover to open for the user when they hover over it.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Search Admin Settings](#) ►.
2. Turn on the [Display on Hover](#) switch to activate the search bar.
3. Choose [Save](#).

7.2 Basic Search

Learn about performing a basic search in the solution.

Enter the text in the search field. You can enter a text, number, or date. Any record matching the text shows up. You can view the record in detail by clicking the desired record. The system opens a quick view with the details

of the record. Here you can view details or exit the quick view and navigate to the associated entity details screen.

Note

In case there are more than three records matching your search criteria, you can choose the [Show More](#) option and view all the matching records in the [Search Results](#) screen.

7.3 Syntax Search

Learn about using the syntax search in the solution.

You can perform a more specific search by using either a query or command line, or by entering the required details in a search form. Also, you can build a command line by selecting the filter icon on the search bar and adding the filter fields that are known.

A query or a command line can fetch you more specific results for your search. Search command line provides suggestions while you are typing. When you press enter, the search result screen appears. This screen has the record details listed in the right pane, and the search form displayed on the left pane.

You can change the search terms and filters on the left pane. As you change the search criteria, notice that the command line field value also changes accordingly. Once you make the changes, click [Apply](#) at the bottom of the form to view the updated records in the right pane of the screen.

On the search form, you have the following additional options:

- Add rule – Adds a new search filter.
- Apply – Applies the changes to the specifics and carry out the search.
- Reset – Erases the search criteria that you have entered previously and start a fresh search.
- Save search – Saves the search query.

Note

The search is not case sensitive

Additionally, you can also use the asterisk (*) symbol to perform a wildcard search.

When you enter a search term with multiple words that are separated with spaces, the system considers each space as an asterisk or wild card for the previous word. Multiple words are also combined with a logical AND operator. The only exception to this is when the search term is enclosed within double quotes ("").

For instance,

- sap is queried as sap* - all matches starting with the word sap, ignoring the capitalization of the letters
- sap se is queried as sap* AND se*
- "john smith" is queried for an exact match

Use the asterisks appropriately to expand your search results as in the following examples:

- sap* matches any text starting with sap
- *sap* matches any text containing the word sap

- *sap matches any text finishing with the word sap

7.4 Advanced Search for One Entity

Find out how to use the advanced search for one entity in the solution.

You can access the search form directly by clicking the filter icon at the right corner of the search bar. Once you enter the search term and click the filter icon, the system displays the search form with an option to select the entities from the drop-down list in the show section. Upon selecting the entities, the system displays a list that will help you further narrow down your search to get more accurate results.

Example: To search for cases containing the word SAP, enter the term SAP in the search bar and click the filter. In the search form that appears, choose cases from the drop-down list available in [Show](#) section. The system displays the list with options to filter the results further. The solution is configured to fetch the most appropriate filter options corresponding to the entities that you selected in the previous step.

The filter option appears only when you select a single entity in the show section.

Note

If you wish to change the default filters, your administrator can modify them for each entity using [Define Filters for Advanced Search \[page 64\]](#).

7.5 Advanced Search for Multiple Entities

Find out how to use the advanced search for multiple entities in the solution.

Once you enter the search term and click the filter icon, the system displays the search form with an option to select the entities from the drop-down list in the show section. Upon selecting multiple entities in the show section, click [Apply](#) to search.

On the search form, you have the following additional options:

- [Reset](#) – Erases the search criteria that you have entered previously and start a fresh search.
- [Save Search](#) – Saves the search query.

7.6 Edit Saved Searches

You can edit a saved search in the solution.

You can edit recent saved searches in the popover by choosing the  ([Edit](#)) icon.

To edit searches that do not appear in the recent saved searches, choose [Show All Saved Searches](#) and select the search you wish to edit. Here, you can edit the title, syntax, and add new rules.

7.7 Delete Search

This function deletes the saved search template that is currently stored in the solution.

You can delete recent saved searches in the popover by clicking on the delete icon. Click [OK](#) if you are sure to delete the saved search.

To delete searches that do not appear in the recent saved searches, click [Show All Saved Searches](#) and delete the search.

8 Company

Learn to manage employees, create divisions and distribution channels, and create your company's structure.

8.1 Organizational Structure

An organization structure is a set of organizational units, and their hierarchical relationships, that together form the company.

As an administrator, learn to set up your organizational structure including business organizations and sub-units. The organizational structure establishes reporting lines and allows automatic work distribution.

8.1.1 Create Your Org Structure

Setting up an organizational structure enables automated routing of work. The organizational structure is composed of units and provides a unified representation of your company's organizational data.

To create your org structure, you must first plan your org structure. Use your existing organizational structure plan as a basis for creating the org structure in the system. When you start creating the structure, we recommend that you build from the top down; that is, start with companies and then add the sales organizations or departments, including your sales teams. Obtain all data relevant to organizational management, including managerial and functional data.

→ Tip

When editing your org structure, always enter the valid-from date for your changes.

8.1.1.1 Recommendations

Under **System Settings** > **All Settings** > **Company** > **Organizational Structures**, you establish your organizational structure as a prerequisite to going live. This is also where you maintain and update your organizational structure. As you set up your org structure, we recommend that you observe the following principles:

- The uppermost node of your org structure should be an org unit defined with the [Company](#) function.

→ Tip

You must create and then edit the org unit details to select the [Company](#) function.

- The node that you create directly below the [Company](#) node should be either a [Sales Organization](#) or a [Service Organization](#). If your company uses both the sales and service functions of the solution, then your org structure will have both types of nodes below the company.

→ Tip

It's possible to setup multiple sales/service organizations in parallel organizational structures but it isn't possible to stack sales/service organizations. Because a sales organization is required to process all corresponding sales documents (for example, leads, opportunities), and a service organization is required to process service requests. We recommend that you define only one sales organization and one service organization per org structure.

- The nodes that you create below the [Sales Organization](#) node can be for example, [Sales Units](#), and the nodes that you create below the [Service Organization](#) node can be for example, be [Service Units](#). It's also possible to create an organization, in which all units underneath a sales/service organization are not flagged as a sales/service unit.

However, it is not recommended to interrupt the setup of the sales or service function along the organizational hierarchy as application logic may not consider functional units underneath a node that is not flagged as service or sales unit.

→ Tip

Within the org structure, multiple levels of sales or service units may be defined. Service units represent the service organization and teams that process service requests. Sales units represent the sales departments or offices where sales documents are initiated. Nodes for [Sales Units](#) or [Service Units](#) can be defined below the Sales Organization, or Service Organization node, or below the nodes of other sales or service units.

- When editing your org structure, always enter the valid-from date for your changes. There's no need to explicitly activate the organizational units. They are activated based on their validity period.

⚠ Caution

During maintenance of the org structure, always set the validity of org units within the validity period of the parent org unit.

8.1.2 Create an Org Unit

Learn how to create an [Org Unit](#).

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Company](#) ► [Organizational Structure](#) ►.
2. Create a new org unit by choosing + ([Create](#)).
3. Enter the [Valid From](#) date (today's date, or a future date, fixed date) and the [Valid To](#) date.
You can edit the [Valid From](#) and [Valid To](#) fields in the detail view of the org unit.
4. Enter the [Address](#) details for the unit.
You can edit the [Address](#) field in the detailed view of the org unit under the [General](#) tab.
5. Select the appropriate functions for the unit.

Function	Description
Sales	The Sales function indicates that the org unit is responsible for the processing of documents, such as opportunities or sales quotes. In sales reporting, sales data is aggregated at the sales unit level. The sales organization is a specific type of sales unit, which is used to head complete areas or countries/regions. Relevance Select this function if employees assigned to this org unit will perform tasks in the areas described above or if sales data is to be aggregated at the level of this org unit.
Sales Organization	The Sales Organization function indicates that the org unit represents the top level of a sales hierarchy. Note Example For your domestic sales, you create a sales hierarchy and define the top-level org unit as a sales organization. Then below that org unit, you add additional units, defined as sales units, that represent regional sales groups and sales departments. The sales organization is also used for defining sales data in master data. • Sales data in the product and account master can be defined in relation to the sales organization in combination with the distribution channel and division. • Internal price lists can be defined based on the sales organization and distribution channels. • The combination of the sales organization, distribution channel, and division is also included in sales documents, such as sales orders or service orders. Relevance Select this function if the org unit represents the top unit of a sales hierarchy. All sales-relevant master data and pricing must include a sales organization.

Function	Description
Service	The Service function indicates that the org unit is responsible for the managing, monitoring, and execution of services, such as the handling of product inquiries, providing recommendations, and pre- and post- sales support. Customer service can be provided by a service desk or by field or in-house service teams. Relevance Select this function if employees assigned to this org unit will perform tasks in the areas described above.
Service Organization	The Service Organization function indicates that the org unit represents the overall organization responsible for customer service. Below the service organization, you can define individual service units to represent the various service and support teams and departments within the service organization. → Tip If the services provided are sold to your customers, you will also need to define a sales organization. Relevance Select this function if the org unit represents a fixed entity for service reporting that can be referenced by all service documents.
Company	In the context of organizational management, a Company represents an org unit that is financially and legally independent, that is not tied to a geographical location, and could be registered under business law. Each org structure must contain at least one org unit that is defined as a company. Saving the org unit as a company automatically creates an associated business partner which is used in the context of seller party or output form determinations. You set the default currency for the organization within the company org unit.

6. Save your entries.
7. To select the [Company](#) function for the org unit, open the unit details and make your selection in the header section.

8.1.3 Delete an Org Unit

You can delete an Org unit from the Organizational Structure worklist.

Select the org unit you want to delete and choose  (*Delete*) from *Actions* in the list view.

The delete action performs a logical deletion rather than removing the record entirely. The status of the org unit is updated to Deleted, but the data remains in the system for reference purposes. Deleted org units remain accessible from transactional records, for example Opportunities or Leads where they were previously used.

Note

Logically deleted org units are hidden from standard selection lists such as worklists and value help and cannot be selected or reused in new transactions or master data, however, they remain visible in change logs under the *Deletions* section for reference.

8.1.4 Add Employees and Managers to Org Units

As an administrator, you can identify an employee as a manager by defining that employee as the manager of an org unit. The manager of an org unit enjoys unique access privileges and can access the data of their subordinates.

Note

Employees and managers need the Primary Indicator. An employee can be marked as main by using the primary indicator for only one org unit. An employee who is marked as main in an org unit may only be added as a secondary employee in another org unit.

Prerequisites:

- The employees you want to assign to the org unit have been created in the system.
- Alternatively, you can assign employees to org units when you create the employee data in the system.

Procedure

1. From the *Org Structure* screen, select the relevant org unit from the list.
2. On the *Employees* tab, choose  (*Add*) to assign employees on the *Employees* view or a manager on the *Managers* view to the org unit.
3. Select the employee or manager you want to assign to the org unit and choose  (*Accept*).
4. *Save* your entries.

8.1.5 Manage Sales Data Restriction

As an administrator, you can define access restrictions for organizational unit whose function is **sales organization** based on a combination of distribution channel, and division to ensure that users can only access relevant and authorized sales data.

Procedure

1. Open the *Organizational Structure* screen by navigating to ► *System Settings* ► *All Settings* ► *Company* ►.
2. Select the relevant org unit from the list.
3. On the *Sales Data Restriction* tab, choose + *(Add)* to assign distribution channel on the *Distribution Channel* drop-down and division on the *Division* drop-down.
4. Select the *All Distribution Channels* or *All Divisions* switch as needed and choose ✓ *(Accept)*.

❖ Example

You can configure the following rules:

- If the Sales Organization is **A** and the Distribution Channel is **10**, then only the Division **Wind Turbines** is allowed.
- For other Distribution Channels under the same Sales Organization, such as 20 or 30, a different Division like Pumps may be the only one accessible.
- Alternatively, the administrator can set the rule so that all Distribution Channels are allowed but only certain Divisions can be used, or vice versa.

8.2 Plant

A plant represents an operational unit or branch within a company, playing a crucial role in various business processes.

A plant is assigned to a single company code, although a company code can have multiple plants. It serves as a key element in the organizational hierarchy, facilitating seamless integration with other business functions. Each plant has a specific address and is associated with a country. Plants are replicated from SAP S/4HANA, ensuring consistency across systems.

A plant is essential for several operational processes, including:

- Inventory Management: Material stock levels are managed at the plant level.
- Plant Maintenance: If a plant is responsible for maintenance planning, it is designated as a maintenance planning plant. This type of plant can also handle planning tasks for other plants, known as maintenance plants.

8.2.1 Create Plants

As an administrator, you can create new plants by following the procedure below.

Procedure

1. Navigate to ► *User Menu* ► *Settings* ► *All Settings* ► *Company* ► *Plant* ►.
2. Select + *(Create)* .

3. Enter the [ID](#). A unique identifier of the plant.
4. Enter the [Name](#). A descriptive name of the plant.
5. Select a [Company](#) to which this plant belongs to.
6. Select the [Status](#). You can set the status to either Active, Blocked or Deleted.
7. Select the [Country/Region](#) followed by State and the rest of the address and communication details.
8. Select [Save](#) or [Save and Open](#).

8.3 Employees

Learn how to create employees in your system.

📘 Note

All accounts, individual customers, employees, contacts, are considered as business partners in the system. Therefore, all functions that are common to business partners are applicable to them.

Additionally, detailed information on External IDs is displayed under the [Mapping for Integration](#) section, and you can view all changes made to employees under the [Change History](#) (🔄) section.

8.3.1 Create Employees

You can create employee records manually or upload employee data via migration tool in the implementation project activity.

Procedure

1. Navigate to your [User Menu](#) and select ► [Settings](#) ► [All Settings](#) ► [Company](#) ► [Employees](#) 🗒.
2. In the worklist of the employees view, choose [Create](#) (+).
3. Enter as much personal, organizational, and contact information as you require.
4. Choose [Save](#).

8.3.1.1 Edit Employees

Edit an employee record.

Procedure

1. In the worklist of the employees view, choose the employee record.
2. In the quick view, choose [Open Details](#).
3. To delimit the validity of an employee record, enter the appropriate date in the [Valid To](#) field. From this date onward, this employee record cannot be used for new business processes.
The system automatically saves the changes you made.

8.3.2 Manage Attachments

As an administrator, you can upload, view, delete, and download attachments.

8.3.2.1 Upload Attachments From Your Computer

Here is a step-by-step guide on how to import attachments from a front-end system, such as a computer, into the system.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Company](#) ► [Employees](#) ►.
2. In the quick view, choose  (Open Detail View).
3. Choose  ([Attachment](#)) and then choose [Drop or Browse Files](#).
4. Select the file from your computer you want to upload and choose [Open](#).
5. From the dropdown, select the [Attachment Type](#).
6. Choose [Upload](#).

Note

You can upload multiple files at the same time.

To download attachments, select an attachments and choose  ([Download](#)).

Select an attachment and choose  ([Delete](#)) to delete an attachment.

8.3.2.2 Add Attachments From SAP System

Find out how to add attachments from your SAP system.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Company](#) ► [Employees](#) ►.
2. In the quick view, choose  (Open Detail View).
3. Choose  ([Attachment](#)) and then choose [Add](#).
4. Choose [Add From Library](#).

Note

To add a link, choose  ([Add Link](#)) and provide the link in the link field. You also can provide a title for this link. Save your changes.

5. Select the documents you want to add and choose [Add](#).

8.3.3 Working Hours

An employee's scheduled working hours.

8.3.3.1 Add Working Day Calendar

The working days of an organizational unit within a particular company or region.

Context

Find out how you can assign the working days of an organization to an employee.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Company](#) ► [Employees](#) ►.
2. Select an employee and in the quick view and choose  (Open Detail View).

3. Choose  (*Working Hours*).
4. Under the *Working Day Calendar* section, fill the *Time Zone* and *Working Day Calendar* fields from the dropdowns.

The system automatically saves this information.

8.3.3.2 Add Working Hours

The amount of time an employee is scheduled to spend working.

Procedure

1. Navigate to  *User Menu*  *System Settings*  *All Settings*  *Company*  *Employees* .
2. Select an employee and in the quick view and choose  (Open Detail View).
3. Choose  (*Working Hours*).
4. In the *Working Hours* section, choose  (*Create*).
5. Select the *Days* and choose  (*Time*) to set the time.
6. Choose  (*Accept*).

The employees' working hours are saved.

8.3.4 Create Sales Responsibility

Employees are always created with an assignment to an organizational unit. Therefore, you must create the necessary sales data required to use employees for various business needs within the org. structure of your company. You can also use territories, distribution channels and divisions for your employees.

Procedure

1. Navigate to *User Menu* and select  *Settings*  *All Settings*  *Company*  *Employees* .
2. Select an employee and in the quick view, click *Open in Detailed View* (.
3. Select the *Sales Data* tab.
4. Click  (*Create*) from the Sales Responsibility section.
5. Select the *Sales Organization ID* from the value help, *Distribution Channel*, and *Division*.
6. Turn on the *Main* toggle to set the sales responsibility as main.
7. Select *Add* to save your changes.

8.4 Distribution Channel

A channel through which saleable materials reach customers. Distribution channels include wholesale, retail, and direct sales. You can assign a distribution channel to one or more sales organizations.

8.4.1 Create Distribution Channels

Learn how to create a distribution channel.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Company](#) ► [Distribution Channel](#) ►.
2. Choose + [\(Create\)](#).
3. Enter all the desired fields and [Save](#) your changes.

8.5 Division

A sales organization can sell materials from different divisions. Divisions can be used to form sales areas to refine the organizational sales structure.

Use divisions to organize materials or services, for example to form product lines.

8.5.1 Create Divisions

Learn how to create a division.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Company](#) ► [Divisions](#) ►.
2. Choose + [\(Create\)](#).
3. Enter all the desired fields and [Save](#) the created division.

Note

Once divisions are created for your company, they can be included in account sales data and sales documents, such as sales orders.

9 Adaptation

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

This document describes the functions that you can access as an administrator using the [Start Adaptation](#) button that you can find under the [User Menu](#) dropdown list.

For an overview, watch the following video:

9.1 Customize Your Solution

As an administrator, you can customize the UI look and feel for all users.

Procedure

1. Navigate to ► [User Menu](#) ► [Start Adaptation](#) ►.

The system displays a thin border in the header to indicate that you are in adaptation mode.

2. Make your changes. Note that any change you make applies to only the main layout.
3. When your changes are complete, select [End Session](#) in the header area.

9.2 Manage Fields

Add, hide, and reorder fields.

Procedure

1. Navigate to ► [User Menu](#) ► [Start Adaptation](#) ►.

The system displays a thin border in the header to indicate that you are in adaptation mode.

2. Hover over the desired section to view the editing icons.
3. Select  **(Edit Section)** to open the [Section Items](#) pop-up box.
 - a. To change the sequence of fields, drag  **(Move)** next to a field and move the fields around.

- b. To hide fields, select  (Hide Field).
 - c. To add fields, select  (Add from list) to bring up the fields available in the entity. You can select one or multiple fields at a time.
4. Select [Apply](#).

9.3 Set Default Sorting

As an administrator, you can set a default sort column and direction for tables in adaptation mode. You can choose one sortable column to be the default.

Procedure

1. Navigate to an entity and open the list view.
2. From the [User Menu](#) select [Start Adaptation](#).
3. Choose  ([Table](#)) to switch to the table view.
4. Choose  ([Edit](#)) and then choose  ([Sort](#)).
5. In the pop-up box, select a column from the dropdown to define the sort criteria.
6. Select if you want the column to be sorted in the ascending or descending order.
7. Choose [Apply](#).

The system displays the active sort on the UI. For example, Sorted By Account.

9.4 Create and Organize Filters

As an administrator, you can define filters that end users often use. This makes it easy for them to find the information they need quickly.

Context

Customers use our platform to manage tickets or sales modules such as leads, but currently have to manually enter their most common queries each time. This feature allows them to save their own queries saving their time making the user experience better.

There are two types of custom filters:

- **End User or Personalized Filters:** Personalized filters applicable only for that end user.

- **Key User Filters:** Filters created by the administrator and propagated to all end users or certain group of end users using page layouts and assignment rules.

❁ Example

A customer service manager wants their team regularly to monitor high priority tickets or platinum customer incidents. With this feature, they can create a predefined query that filters for high priority tickets, saving them from having to manually enter this query each time.

Procedure

1. Navigate to [User Menu](#) > [Start Adaptation](#).

The system displays a thin border in the header to indicate that you are in adaptation mode.

2. Navigate to the list view for which you want to create a filter.
3. Select [▼ \(Advanced Filter\)](#)
4. Select an existing filter from the drop down.
5. In the advanced search fields, fill the values as per your requirements and select [Search](#). The system shows you all the items related to the filters.
6. Depending on whether you have selected a standard or custom filter, the system offers the following options:
 - The [Save](#) and [Save As](#) buttons are enabled if you have chosen a custom filter. Select [Save](#) to override the values and edit the existing filter. Select [Save As](#) to create a copy of the selected filter.
 - Only the [Save As](#) button is enabled if you have chosen a standard filter. Select [Save As](#) to create a copy of the selected filter. The system stores the references of standard filter and builds additional parameters. This means that in future if the application changes the conditions for the standard filter, it will reflect in the custom filter. The [Save](#) button is grayed out because you are not allowed to edit a standard filter.
7. In the [Save Filters](#) pop-up box, enter a name for your filter and save your changes.

📘 Note

- The system considers only Advanced Filter fields for custom filter. Quick Filter field values are not considered. However, if Quick Filter values are connected to the Advanced Filter, the system uses the values from the Advanced Filter section.
- You can switch between saved filters in the dropdown. The system resets the values saved as part that specific saved filter.
- If you try to remove or hide a field that's being used as a parameter in any saved filter, the system displays an error message indicating that the field is currently in use. It will request that you eliminate its usage before proceeding with removal.

The system displays the list of all saved filters in the [Saved Filters](#) pop-up window. You can perform the following actions:

- Delete: Select [🗑 \(Delete\)](#) next to the filter you wish to remove, and then select [Save](#). Note that you cannot delete standard filters.

- Rearrange: To change the sequence of filters, drag  (Move) next to the filters and move them around.
 - Show and Hide: Use the switch next to the filters.
 - Set as default: Under the *Default Filter* header, select a filter from the available list.
 - Rename custom filters: Hover over the filter name and select  (Edit) to edit the name.
8. Save your changes.
 9. End the adaptation session.

9.4.1 Customize Quick Filters

As an administrator, you can customize quick filters according to your specific preferences or needs. This customization allows you to adjust which filters are readily available and how they are displayed or accessed within the application.

Context

It helps in improving efficiency and usability by ensuring that the most relevant filters are easily accessible for quick navigation or sorting of information.

Procedure

1. Navigate to  *User Menu*  *Start Adaptation* .

The system displays a thin border in the header to indicate that you are in adaptation mode.

2. Select an entity from the left navigation menu.
3. Select a saved filter.

The system displays the quick filter list associated with the saved filter.

4. Hover over the quick filter bar to view the edit option.

Choose  (Edit) to view the list of available fields. You can perform the following actions:

- Add From List: To add filters, select  (Add from list) to bring up the fields available in the entity.

Note

You cannot add more than six filters.

- Delete: To delete filters from the list, select  (Delete)
 - Hide: To hide the filter from the screen, choose  (Mark as Hidden)
 - Rearrange: To change the sequence of filters, drag  (Move) next to the filters and move them around.
5. Apply your changes.

The system reflects the new filters immediately. It also displays the filters in the order in which you placed them during editing.

9.5 Add Extension Fields

Add extension fields for your objects.

Procedure

1. Navigate to ► [User Menu](#) ► [Start Adaptation](#) ►.

The system displays a thin border in the header to indicate that you are in adaptation mode.

2. Hover over the desired section to view the editing icons.
3. Select  **(Edit Section)** to open the [Section Items](#) pop-up box.
4. To add fields, select  **(Add from list)** to bring up the fields available in the entity.
5. Find the [Extensions](#) node in the list and drill down inside the structure to view the list of available extension fields.
6. Select **+** **(Add Field)** to add the desired field.

Note: You can add only part of structure fields, for example, you can add only the amount value and not the currency.

7. Select [Apply](#).

Related Information

[Field Attributes \[page 101\]](#)

Field attributes, also known as column attributes or field properties, are characteristics or settings associated with a database field (column) that define various aspects of how data is stored, displayed, and processed within a database. These attributes help ensure data integrity, enforce constraints, and control how the data is used.

9.6 Create and Manage Custom Tabs

As an administrator, you can create custom tabs and embed mashups.

Procedure

1. Navigate to ► [User Menu](#) ► [Start Adaptation](#) ►.

The system displays a thin border in the header to indicate that you are in adaptation mode.

2. Hover over the tab header section to view the editing icons.
3. Select  ([Edit](#)) to open the [Edit Tabs](#) pop-up box.
4. Select  ([Add](#)) to create a custom tab.
5. Add a name for your tab and press the **Return** key.
6. Select [Apply](#).

A custom tab is now created with the same title.

7. Options:
 - To hide the tab and launch it based on a button, select  ([Drill Down](#)) next to the tab and select the [Show on Event Trigger](#) checkbox. The system now hides the tab by default and makes it visible only after you select the button you associate with an event. Ensure that the desired parameters of the event are associated to the mashup present in custom tab.
 - To hide a custom tab, select  ([Hide](#)).
 - To delete a custom tab, select  ([Delete](#)).
 - To change the sequence of tabs, drag  ([Move](#)) next to the tabs and move them around.
8. Select [Apply](#) after performing all the optional steps for the changes to reflect.
9. End your adaptation session.

9.7 Add HTML Mashups to Custom Sections or Tabs

As an administrator, you can add HTML mashups to custom sections or tabs.

Procedure

1. Navigate to ► [User Menu](#) ► [Start Adaptation](#) ►.

The system displays a thin border in the header to indicate that you are in adaptation mode.

2. Open a custom section, or a custom tab.

3. Select > *(Drill Down)* next to *Add Mashup* to drill down to the list of available mashups.
4. Search for the desired mashup and select > *(Drill Down) to view the mashup properties*.
5. If necessary, you can adjust the appearance of the mashup by editing the following options in the *Edit Properties* pop-up box.

Note: The options available to you'll vary depending on the mashup.

- Select the *Show Header* checkbox if you want to see the mashup title on the screen.
- Define the height of HTML Mashups to be displayed in the available screen. For example, if you set the value of *Height (%)* to 100, the newly added mashup occupies the full height of the screen.
- If the mashup has a parameter, you can choose the fields that need to be bound to the parameter value.
- Select *Event Parameters* to choose from the available parameters configured for this mashup. This helps you trigger certain events from the mashup. For example, if you want to use a button in the mashup to refresh the entire screen or specific sections where it's embedded, your admin creates a mashup with the required events and parameters in Mashup Authoring.

📌 Note

The embedded mashup instantly updates when you change the mapped parameter.

6. Select *Apply*.

9.8 Add URL Mashups as Button or Link

As an administrator, you can add URL mashups to a screen as a button or a link.

Context

You can place URL mashups in supported locations on the screen, depending on how the application supports adaptation. Implementation may vary by application and screen layout.

Procedure

1. Navigate to ► *User Menu* ► *Start Adaptation* ►.

The system displays a thin border in the header to indicate that you are in adaptation mode.

2. Open a custom section, or a custom tab.
3. Select  *(Edit)*.
4. Select  *(Add URL Mashup)*.
5. Select *Add Mashup as Link* or *Add Button* to view the list of available URL mashups.

6. Search for the desired mashup and select  (*Drill Down*) to view its properties.
7. Enter the following values:
 - a. *Button Text* to add the mashup as button.
 - b. *Link Text* to add the mashup as link.
8. Select *Apply*.

9.9 Add and Manage Sections

Add, hide, show, and reorder sections.

Procedure

1. Navigate to  *User Menu*  *Start Adaptation* .

The system displays a thin border in the header to indicate that you are in adaptation mode.

2. Hover over the desired section to view the editing icons.
 - a. To move the section up or down, select  (**Sort**).
 - b. To hide the section from the screen, select  (**Hide Section**).
 - c. To add sections, follow these steps:
 1. Select  (**Add Section**) on the orange/yellow outline.
 2. Select *Create Section*. The system creates an empty section above the selected spot and a *Create Section* pop-up box opens up.
 3. Enter the section name.
 4. Optional: Select the *Show Section Header* checkbox to make the section name visible as header.
 5. Select *Apply*.
 - d. To manage multiple sections together, follow these steps:
 1. Select .
 2. Select *Manage Sections*. The system displays the list of visible sections in the *All Sections* pop-up box.
 3. You can perform the following actions:
 - To change the sequence of sections, drag  (**Move Section**) next to sections and move them around.
 - To hide sections from the screen, Select .
 - To make hidden sections visible, select  (**Add from list**) to bring up the *Add Section* pop-up box. Search and select the desired sections and select *Apply* to make those sections visible again in the UI.
 - To delete custom sections from the screen, select  (**Delete Section**).

ⓘ Note

You can't delete standard sections; you can only hide them from the screen.

4. Select [Apply](#) to make changes to all these explicit actions at one go.

9.10 Create Custom Buttons

As an administrator, you can create custom buttons to trigger end user action such as release sales orders, print invoices, and so on. You can create them at designated sections on the screen, for example, near an action group.

Procedure

1. Navigate to [User Menu](#) [Start Adaptation](#).

The system displays a thin border in the header to indicate that you are in adaptation mode.

2. Hover over the desired section to view the editing icons.
3. Select [Edit](#) to open the [Section Items](#) pop-up box.
4. Select [Add](#) to open the [Add Buttons](#) pop-up box.

ⓘ Note

You can create a custom button under a standard button group or create a stand-alone button. To create a custom button under a standard button group, drill down inside the group.

5. Add a button name.
6. Add an event name. We recommend choosing a name that clearly describes what the button will do. For example, Create a Sales Order.

User actions, such as select of a button, or clicking a link triggers certain events. These events are associated to a button.

ⓘ Note

In this context, an **event** is the action that the system performs when the user interacts with the UI. Whenever a user selects a button or clicks a link, it triggers an event, which then tells the system what to do next.

For example, if you create a custom button called **Create Sales Order**, you then assign it to an event such as `OnCreateSalesOrder`. This event contains the logic that runs when the user clicks the button, such as opening a new form or creating a new record.

The button is what the user clicks, and the event is the operation that gets executed behind the scenes. Linking the button to an event ensures the system knows exactly what should happen when the user interacts with it.

7. Optional: Add parameters.

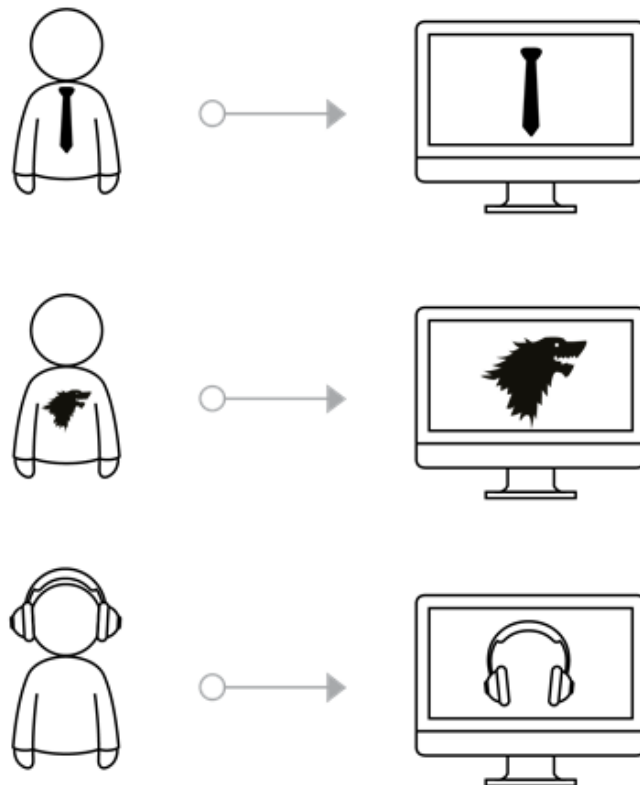
Parameters are data that is passed when an event is triggered. You can use these data points as input for mashups.

For example, when you capture the current address and send it to a third-party system through a button click, the system uses the address specified in the parameter section during button creation.

8. Select *Apply*.

10 Personalization

Learn how to personalize the solution settings to suit your needs.



Administrators define the way your system is displayed. Since personalization is all about you, tweak the solution so that it best suits your working style and uniqueness.

As an end user, you can for example, create and save your own filters, hide or show them, and organize the filters in each screen to save time. The personalization settings that you make on the screen take effect immediately. You can accomplish your daily activities without having to restart the system. If you ever decide to go back to the original personalization settings, you can set it back to default.

Note

If **Change Project** is enabled in the system, personalization cannot currently be used in production systems.

10.1 Configure Personalization

As an administrator, you must create business roles and assign users to the **sap.crm.service.personalizationService** business services so that they can use Personalization.

Related Information

[Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

10.2 Personalize Fields

Add, hide, and reorder fields.

Prerequisites

Your administrator has assigned **sap.crm.service.personalizationService** to your business role.

Procedure

1. Navigate to  [User Menu](#)  [Start Personalization](#) .

The system displays a thin border in the header to indicate that you are in personalization mode.

2. Hover over the desired section to view the editing icons.
3. Select  **(Edit Section)** to open the [Section Items](#) pop-up box.
 - a. To change the sequence of fields, drag  **(Move)** next to a field and move the fields around.
 - b. To hide fields, select  **(Hide Field)**.
 - c. To add fields, select  **(Add from list)** to bring up the fields available in the entity. You can select one or multiple fields at a time.
4. Select [Apply](#).
5. End the personalization session.

10.3 Create and Personalize Filters

Define and personalize filters that you often use.

Procedure

1. Navigate to the list view for which you want to create a filter.
2. Choose  (*Advanced Filter*).
3. Select an existing filter from the drop down.
4. In the advanced search fields, fill the values as per your requirements and select *Search*. The system shows you all the items related to the filters.
5. Depending on whether you have selected a standard or custom filter, the system offers the following options:
 - The *Save* and *Save As* buttons are enabled if you have chosen a custom filter. Select *Save* to override the values and edit the existing filter. Select *Save As* to create a copy of the selected filter.
 - Only the *Save As* button is enabled if you have chosen a standard filter. Select *Save As* to create a copy of the selected filter. The system stores the references of standard filter and builds additional parameters. This means that in future if the application changes the conditions for the standard filter, it will reflect in the custom filter. The *Save* button is grayed out because you are not allowed to edit a standard filter.
6. In the *Save Filters* pop-up box, enter a name for your filter and save your changes.

Note

- The system considers only Advanced Filter fields for custom filter. Quick Filter field values are not considered. However, if Quick Filter values are connected to the Advanced Filter, the system uses the values from the Advanced Filter section.
- You can switch between saved filters in the dropdown. The system resets the values saved as part that specific saved filter.
- If you try to remove or hide a field that's being used as a parameter in any saved filter, the system displays an error message indicating that the field is currently in use. It will request that you eliminate its usage before proceeding with removal.

The system displays the list of all saved filters in the *Saved Filters* pop-up window. You can perform the following actions:

- Delete: Choose  (*Delete*) next to the filter you wish to remove, and then select *Save*. Note that you cannot delete standard filters.
 - Rearrange: To change the sequence of filters, drag  (*Move*) next to the filters and move them around.
 - Show and Hide: Use the switch next to the filters.
 - Set as default: Under the *Default Filter* header, select a filter from the available list.
 - Rename custom filters: Hover over the filter name and select  (*Edit*) to edit the name.
7. Save your changes.

10.4 Personalize Custom Tabs

Create and modify tabs to display personalized content and frequently used features.

Prerequisites

Your administrator has assigned **sap.crm.service.personalizationService** to your business role.

Procedure

1. Navigate to ► [User Menu](#) ► [Start Personalization](#) ►.

The system displays a thin border in the header to indicate that you are in personalization mode.

2. Hover over the tab header section to view the editing icons.
3. Select  ([Edit](#)) to open the [Edit Tabs](#) pop-up box.
4. Select  ([Add](#)) to create a custom tab.
5. Add a name for your tab and press the **Return** key.
6. Select [Apply](#).

A custom tab is now created with the same title.

7. Options:
 - To hide the tab and launch it based on a button, select  ([Drill Down](#)) next to the tab and select the [Show on Event Trigger](#) checkbox. The system now hides the tab by default and makes it visible only after you select the button you associate with an event. Ensure that the desired parameters of the event are associated to the mashup present in custom tab.
 - To hide a custom tab, select  ([Hide](#)).
 - To delete a custom tab, select  ([Delete](#)).
 - To change the sequence of tabs, drag  ([Move](#)) next to the tabs and move them around.
8. Select [Apply](#) after performing all the optional steps for the changes to reflect.
9. End the personalization session.

10.5 Personalize Home Page Cards

Create, hide, and rearrange your cards on the home page.

Prerequisites

Your administrator has assigned **sap.crm.service.personalizationService** to your business role.

Procedure

1. Go to [Home Page](#) and navigate to ► [User Menu](#) ► [Start Personalization](#) .
2. To edit, hide or, rearrange any existing card on the home page, hover over the desired card and use the following options:

-  : Move the card towards left
-  : Move the card towards right
-  : Hide the card
-  : Edit the card

3. To add cards, hover over the border of the [My Cards](#) section and click  .

The system opens the [Edit Card](#) window with a list of existing cards where you can use the following icons to perform the corresponding actions:

-  : Remove the custom cards permanently.
-  : Open the [Add Card](#) pop-up where you can add the hidden cards using .
-  : Open the [Create Card](#) pop-up where you can add custom message cards and application cards.

4. Select [End Session](#) when your changes are complete.

10.6 Add and Personalize Sections

Add, hide, show, and reorder sections.

Prerequisites

Your administrator has assigned **sap.crm.service.personalizationService** to your business role.

Procedure

1. Navigate to  [User Menu](#)  [Start Personalization](#) .

The system displays a thin border in the header to indicate that you are in personalization mode.

2. Hover over the desired section to view the editing icons.
 - a. To move the section up or down, select  [\(Move Section\)](#) .
 - b. To hide the section from the screen, select  [\(Hide\)](#) .
 - c. To add sections, follow these steps:
 1. Select  [Add Section](#) on the outline.
 2. Select [Create Section](#). The system creates an empty section above the selected spot and a [Create Section](#) pop-up box opens up.
 3. Enter the section name.
 4. Optional: Select the [Show Section Header](#) checkbox to make the section name visible as header.
 5. select [Apply](#).
 - d. To manage multiple sections together, follow these steps:
 1. Select  .
 2. Select [Manage Sections](#). The system displays the list of visible sections in the [All Sections](#) pop-up box.
 3. You can perform the following actions:
 - To change the sequence of sections, drag  [\(Add from list\)](#) next to sections and move them around.
 - To hide sections from the screen, select  .
 - To make hidden sections visible, select  [\(Add from list\)](#) to bring up the [Add Section](#) pop-up box. Search and select the desired sections and select [Apply](#) to make those sections visible again in the UI.
 - To delete custom sections from the screen, select  [\(Delete Section\)](#).

Note

You can't delete standard sections; you can only hide them from the screen.

4. Select *Apply* to make changes to all these explicit actions at one go.
3. End the personalization session.

11 Extensibility

Extensibility allows you and your partners to extend the software platform without having to modify the original codebase. So, you can add to the base functionality, thereby offering new capabilities and outputs.

Extensions range from customizing through to the development of add-ons or composites. Extensions can either be made by customers, partners, or SAP. Extensibility allows customers and partners to support specific use cases and requirements that are not covered by standard software.

11.1 Create Extension Fields

Extension fields are additional fields that you, as an administrator, can add to a cloud solution from SAP.

Context

Extension fields provide the means to store additional data for specific use cases beyond what is natively present in the solution. You can create these fields for a screen that has been enabled for extension fields.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Extensibility](#) ► [Extensibility Administration](#) ►.

The system opens a new screen and displays a list of all business entities in the left panel. These entities are grouped by services.

2. Select the [Extendable](#) checkbox to view the entities that can be extended.
3. Drill down to the entity that you want to add an extension field to, and select it. The system opens the corresponding worklist.
4. In the [Custom Fields](#) tab, select + [\(Add\)](#) to open the [Create Fields](#) quick create screen.
5. Enter the [Label](#). The system automatically generates the [Technical Name](#). You can edit the technical name if the system displays a duplication error.

Note

Technical names must be unique and are not case-sensitive.

6. Select the [Data Type](#) and the corresponding [Data Format](#).
7. (Optional) If the [Data Type](#) is [String](#) and the [Data Format](#) is [UUID](#), you can make this field a standard value help option. To do so, select the [Standard Value Help](#) checkbox, and choose the desired value help from the dropdown list to associate it with the extension field.

Note

Standard Value Help has restricted availability and is available only for Sales Quotes and Sales Orders. To request access to this feature, you must create a case with the component CEC-CRM-CZM-EXT.

8. (Optional) If you want to map this field with an existing field in a different entity, turn on the [Default Mapping](#) switch and select  (*Add from List*).
9. Select the field either from the direct or indirect references.

Note

- In the direct references, when the value of the mapped entity changes, the value of custom fields update automatically. There are associated entity references.
- Indirect references are follow-up or create with reference type entity. The value of the custom field remains unchanged until manually updated.

10. (Optional) If you want to mark the custom field that you are creating as a custom reference, enable the [Custom Reference Attribute](#) switch. Based on the data type and data format you enter, you must select the attributes. Any changes made to this standard field is automatically updated in the reference attributes across the referenced entities. You can select both standard fields and extension fields.

Note

The following field types are not supported:

- Country/Region
- Amount
- Quantity
- Extension fields of standard OVS
- Custom code lists

11. Select [Apply](#) and save your changes.

The extension field is now created and is listed under the [Custom Fields](#) tab.

Note

You can create up to 150 extension fields for root or main entity and up to 30 extensions fields for a child entity.

Related Information

[Extension Field Data Types \[page 99\]](#)

Extension Field Data Types refer to the various formats or structures of data that can be used when creating custom fields (extension fields) in an application. These data types define the kind of data the field can store, such as text, numbers, dates, boolean values, amounts, ensuring that the data entered aligns with the intended use and system requirements.

[Field Attributes \[page 101\]](#)

Field attributes, also known as column attributes or field properties, are characteristics or settings associated with a database field (column) that define various aspects of how data is stored, displayed, and processed within a database. These attributes help ensure data integrity, enforce constraints, and control how the data is used.

[Delete Extension Fields \[page 106\]](#)

As an administrator, you might delete an extension field to eliminate redundancy, improve system performance, and maintain data accuracy..

11.1.1 Extension Field Data Types

Extension Field Data Types refer to the various formats or structures of data that can be used when creating custom fields (extension fields) in an application. These data types define the kind of data the field can store, such as text, numbers, dates, boolean values, amounts, ensuring that the data entered aligns with the intended use and system requirements.

Extension Field Data Types

Data Type	Data Format	Description
STRING	STRING (Default)	This data type is used for storing alpha-numeric characters. It can be a single line or a multiline text field.
	UUID	A UUID (Universally Unique Identifier) is a 128-bit identifier used for unique resource identification, typically represented as a 36-character string.
	EMAIL	Email data types are designed for storing email addresses and often include validation checks.
	CODE	CODE data type is used for code list. Fixed code lists are defined via Enum options. Dynamic code lists are defined via reference to the corresponding entity.
	TOKEN	A TOKEN represents a small piece of data, often a single word, number, or symbol used as a fundamental unit in programming or language processing.
	URI	A URI (Uniform Resource Identifier) is a text string used to identify a resource, typically consisting of a scheme, authority, path, query, and fragment components. Example: https://www.example.com/resource?param=value#section .

Data Type	Data Format	Description
NUMBER	FLOAT (Default)	Number data types can include integers, decimals, or floats. They are used for storing numeric values. Use FLOAT when memory conservation is critical, and you can tolerate lower precision
	DOUBLE	The DOUBLE data type is used to represent real numbers with a high level of precision. Double provides a higher level of precision compared to the FLOAT data type. It can represent approximately 15-16 decimal digits accurately.
BOOLEAN		Boolean fields can have only two values - true or false. They are used for binary data or simple yes/no choices.
OBJECT		OBJECT is a versatile and often generic data type that can represent a wide range of values, data structures, or entities.
	AMOUNT	AMOUNT stores numerical values that represent quantities, prices, costs, or any other kind of monetary or non-monetary amounts.
	QUANTITY	QUANTITY typically refers to a numerical value that represents a count, measurement, or amount. Such values are generally represented using standard numeric data types, which can be either integer or floating-point types, depending on the nature of the quantities being measured.
INTEGER	INT32 (Default)	The INT32 data type can store a range of integer values, both positive and negative, within the constraints of a 32-bit binary representation. Int-32 is more memory-efficient than larger integer types like int-64, making it a good choice for applications where memory optimization is a concern.
	INT64	The INT64 data type is capable of storing a wide range of integer values, both positive and negative, within the constraints of a 64-bit binary representation. The range of values for a 64-bit integer is extensive, making it suitable for applications where very large or very small integer values need to be handled.

Note

Do not store ID fields as the number data type. Use the string data type for ID values. Even if the IDs consist only of numbers, we recommend that you store them as string type, especially when number formatting is not required.

Data Type	Data Format	Description
DATETIME	DATETIME (Default)	DATETIME data types store information about both the date (day, month, and year) and time (hours, minutes, seconds, and sometimes fractions of a second).
	DATE	Date fields store date values, including options for time and time zone settings.
	TIME	Time fields store time values without date information.
	DURATION	Duration fields are used to represent a specific length of time, typically measured in terms of hours, minutes, seconds, and sometimes milliseconds. It allows you to work with time intervals or durations, as opposed to specific points in time, which are handled by date and time data types.

📘 Note

- You can add up to 100 codes in a code list field. For existing static code lists having more than 100 codes, further code addition is restricted. However, other modifications such as activation / deactivation of the codes are allowed.

11.1.2 Field Attributes

Field attributes, also known as column attributes or field properties, are characteristics or settings associated with a database field (column) that define various aspects of how data is stored, displayed, and processed within a database. These attributes help ensure data integrity, enforce constraints, and control how the data is used.

Available Field Attributes

Field Attribute	Description
createable	Createable fields indicate whether a field can be populated with data when inserting a new record (i.e., during the creation of a new record in a database table). If a field is createable, you can provide a value for it when adding a new record to the database. If it's not createable, the field must remain empty or be set to a default value during insertion.

Field Attribute	Description
updateable	Updateable fields determine whether a field's value can be modified after the record has been created. If a field is updateable, you can change its value when updating existing records. Fields marked as non-updateable typically remain unchanged after the record's creation, but this behavior can be controlled using field attributes.
nullable	A field is nullable if it can contain null values, meaning that it's not required to have a value in every record. If a field is nullable, you can leave it empty (null) when creating or updating a record. If a field is not nullable, it must always have a valid value, and it can't be null. Non-nullable fields are typically used for data that's required and must always have a value.
required	Required fields are those that must have a value in every record, and null values are not allowed. When defining a field as required, you must ensure that it is populated with a valid value whenever a new record is created or an existing record is updated. These fields are essential for data integrity and accuracy.
hidden	Hidden fields are not visible to the user by default, but they may contain data that is used for various purposes, such as calculations or internal processing. Hidden fields are often used in forms or data structures where the data is needed for processing but doesn't need to be displayed to the user.

📘 Note

- You cannot change the `searchable` property for the `OBJECT`, `ARRAY`, `INTEGER`, `NUMBER`, and `DATETIME` datatypes.
- You cannot change the `filterable` and `sortable` properties for the `OBJECT`, `ARRAY`, `INTEGER`, and `NUMBER` datatypes.
- The `required` and `nullable` properties are not applicable for the `BOOLEAN` datatype.
- `OBJECT` `dataType` can not have `dataFormat` as `DEFAULT` or not defined. `dataFormat` `AMOUNT` or `QUANTITY` or `TEXT` are only supported for custom/extension attributes.
- You cannot update `dataType` and `dataFormat`.

11.1.3 Field Query Properties

As an administrator, you can define whether a field is filterable, searchable, or sortable to control how it behaves in queries and list views.

The following table gives an overview of the available properties.

Field Query Properties

Field Query Property	Description
sortable	Sortable fields allow data to be arranged in a particular order, typically in ascending or descending fashion. Sorting is based on the values within these fields. You can click the column headers in a table or a list to sort the data by that column. Sorting helps with data organization and simplifies data analysis.
filterable	Filterable fields permit data to be filtered based on specific criteria or conditions. Users can apply filters to display only the records that meet their chosen criteria. Filtering is employed to reduce a dataset's size, making it easier to focus on specific information or patterns within the data.
searchable	Searchable fields enable data to be searched or queried using keywords, phrases, or search terms. Searching allows users to find specific records or information within a larger dataset. You can enter search queries to locate records that contain the desired information, which is crucial for efficient information retrieval.

Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Extensibility** > **Extensibility Administration**.
2. In the **Field Query Properties** tab, set the filterable, searchable, or sortable properties by turning on the switch next to them.

Turn on the **Show Limits** switch to display the total number of fields that can be marked as searchable, or search-relevant, along with how many have already been configured, for example, 5/10.

The system displays the limits for the following fields:

- **Searchable Fields:** Searchable fields allow you to find data using keywords, phrases, or search terms.
- **Search-Relevant Fields:** Search-relevant fields are those marked as filterable, searchable, or sortable. These attributes determine whether a field can be used in search, filtering, or sorting functionality.

Behavior of Search Relevant Properties (searchable, sortable, filterable)

Standard Fields

- Sortable & Filterable: You can mark a maximum of 50 standard attributes for an entity in a tenant as sortable or filterable. This limit is aggregated.
- Searchable: You can mark a maximum of 10 standard attributes for an entity in a tenant as searchable.

Extension Fields

- Search properties are counted row-wise for each attribute in an entity.
- If any one of the properties (searchable, sortable, or filterable) is enabled for an extension field, that field is counted for all three properties.
- The row-wise limit for extension fields is 10.

Note

When marking search-relevant fields (filterable, searchable, or sortable) it's important to stay within the defined limits. Note that you can mark up to 10 custom fields as searchable. However, the overall limit for search-relevant fields is also 10. This means that if you have marked 10 fields as searchable, you can no longer mark any other field as sortable or filterable within a particular entity.

In some cases, you may see totals like **73/50** for standard fields due to inherited or legacy configurations. Although this appears incorrect, the system still enforces the cap and prevents further changes. To resolve this, you must deselect some fields using adaptation before adding new ones. The system prompts you if the field count exceeds the limit.

Note

You can also define up to 100 search-relevant fields, including 30 searchable fields, without needing to differentiate between standard and custom fields using the [Enhanced Search Field Limits](#) feature in the [Feature Activation Hub](#). Once the feature is activated, the aggregated limits are applied across all entities in a service. You can continue to add or modify fields as long as the defined limits are not exceeded. If you are unable to customize a standard field for a particular service, create a case for the relevant application.

For more information regarding the enhanced search field limits feature, check the **Related Information** section.

Data Types and Data Formats for Search Relevant Properties

Data Type	Data Format	Searchable	Filterable	Sortable
STRING	STRING (Default)	Yes	Yes	Yes
	UUID	Not Applicable	Yes	Yes
	EMAIL	Yes	Yes	Yes

Data Type	Data Format	Searchable	Filterable	Sortable
	CODE	Yes	Yes	Yes
	TOKEN	Yes	Yes	Yes
	URI	Yes	Yes	Yes
	ALPHANUMERIC	Yes	Yes	Yes
NUMBER	FLOAT (Default)	Not Applicable	Yes	Yes
	DOUBLE	Not Applicable	Yes	Yes
BOOLEAN		Not Applicable	Yes	Yes
ARRAY		Not Applicable	Not Applicable	Not Applicable
OBJECT	AMOUNT	Not Applicable	Yes	Yes
	AMOUNT (VALUE)	Not Applicable	Yes	Yes
	AMOUNT (UOM)	Not Applicable	Yes	Yes
	QUANTITY	Not Applicable	Yes	Yes
	QUANTITY (VALUE)	Not Applicable	Yes	Yes
	QUANTITY (UOM)	Not Applicable	Yes	Yes
	TEXT	Yes	Yes	Yes
	TEXT (CONTENT)	Yes	Yes	Yes
	TEXT (LANG CODE)	Not Applicable	Yes	Yes
INTEGER	INT32 (Default)	Not Applicable	Yes	Yes
	INT64	Not Applicable	Yes	Yes
DATETIME	DATETIME (Default)	Not Applicable	Yes	Yes
	DATE	Not Applicable	Yes	Yes
	TIME	Not Applicable	Yes	Yes
	DURATION	Not Applicable	Yes	Yes

Related Information

[Enhanced Search Field Limits](#)

11.1.4 Delete Extension Fields

As an administrator, you might delete an extension field to eliminate redundancy, improve system performance, and maintain data accuracy..

To delete an extension field, navigate to ► [Extensibility Administration](#) ► [Custom Fields](#) ► where all the fields are listed and select  ([Delete](#)).

Note that deleted fields cannot be recovered, and all data will be lost.

You are not allowed to delete an extension field if it is already in use in other business processes such as Validations, Determinations, Autoflows, and so on. We recommend that you use the where-used function to identify and detect all usages. Make sure to delete these usages before deleting the extension field.

Select



([View Usage](#)) to check the services where the field has been used. If the usage list is blank or shows an error, ensure that the where-used service `sap.crm.service.whereUsedService` is assigned to your corresponding user role.

11.2 Custom Logic

Custom logic enables key users to create their own implementations to customize application functionalities with predelivered logic.

Two major types of custom logic implementation are supported in the system:

- Business expression-based custom logic: These validations and determinations are based on simple expressions and configured using in-built tools. These custom logic expressions are simple logic and limited by the capabilities of business expressions and custom logic tools.
- External API hooks: These validations and determinations are based on external API calls. The external APIs can be implemented in another external platform such as SAP Build Apps but must support the message structure defined by the system.

Note

The pre hook and post hook execution flow is as follows:

- For Pre Hook, the flow follows:
 1. In-App Determinations
 2. External Hook
- For Post Hook, the flow follows:
 1. In-App Determinations
 2. External Hook
 3. In-App Validations

Source Tenant Copy for Custom Logic

Custom Logic supports both *Complete Copy of Source Tenant* and *Copy of Configuration* scenarios.

In *Complete Copy of Source Tenant*, the custom logic runtime database and all its collections such as determinations, validations, and dynamic properties are copied except external hooks (copying data connector service isn't supported).

In *Copy of Configuration*, custom logic runtime database and all its collections such as determinations, validations, and dynamic properties are copied except for external hooks (copying data connector service isn't supported), however, in this scenario, only customization is copied and data isn't copied.

Related Information

[Requesting a New Tenant](#)

11.2.1 Create Validations

Validations help you, as an administrator, to implement a custom logic where you can prevent a save or issue a warning message to users during save based on certain conditions.

Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Extensibility** and choose *Extensibility Administration*.

The system opens a new screen and displays a list of all business entities in the left panel. These entities are grouped by services.

2. Select a service and choose **Drill Down** to open and select an entity.
3. Navigate to the **Validations** tab and choose **Create** > **Using Forms** to launch the *New Validation* editor tab.

The editor has three main blocks:

- Header: Specify the validation name and description here.
 - Condition: Set the desired conditions using a flow-based visual condition editor.
 - Action: Specify an error or warning message based on the conditions defined in the condition block.
4. In the header block, specify the validation name and description.
 5. You can enable the *Show Inactive Codelist* switch to display all the codelist values including the inactive ones in the *Condition Block* dropdown.

Note

- By default, only active codelist values are shown in the dropdown. If a service does not support filtering active and inactive values using the filter parameter, all codelist values are shown in the dropdown.
- When you edit an existing condition, the switch is off by default. If an inactive code value was previously selected, it appears (in condition block) without description. You cannot save when the switch is disabled and an inactive value is selected.
- When you activate or deactivate the switch, all conditions using codelist fields are reloaded that takes some time and impacts performance.

6. In the *Condition Block* set the desired conditions using a flow-based visual condition editor.

- Select a function from the dropdown.
- Select the standard or extension field from the dropdown.

To create a condition based on the previous value of the field, slide the *Previous Value* switch.

- Select the comparison operator.
- Select the target comparison. You can compare either by a fixed value or with another field.
- If you choose *Value*, enter a corresponding target value. If you choose *Field*, select a target field.

Add multiple conditions by choosing + (*Add Condition*). To remove a condition, choose ✕ (*Remove Condition*). To clear all conditions in a block, choose 🗑️ (*Delete Condition Block*).

Note that when you create multiple conditions, the condition group is considered fulfilled only if all the conditions within a group are met.

7. Optional: Create an OR condition by choosing the + *Or* button. The system displays additional condition blocks. Follow the same steps as earlier to fill one or more OR condition blocks.

Note

When you create multiple OR conditions, the condition group is considered fulfilled if any one of the block conditions are met.

8. In the third block, under *Action* choose to show either an error or a warning message.

9. Add the message text.

You can enhance your validation messages by adding standard or extension fields directly into your validation message text. At runtime, these placeholders are automatically replaced with their actual values.

To insert a placeholder, type { to view the list of supported fields and select the desired field.

Key points to remember when adding placeholder:

- A maximum of 5 placeholders can be added to a message.
- Any unsupported field/placeholder will be replaced with a blank value at runtime.
- Messages exceeding 200 characters will be shortened to 200 characters at runtime.
- Array fields are not supported.

Note

To enable this feature, create a case with the CEC-CRM-PM-PF component using the subject Enable field placeholders in validation.

You can create translations for validation messages using the [Language Adaptation](#) tool. Refer to [Language Adaptation \[page 160\]](#) for more information.

When translating messages, make sure to:

- Keep the translated message within 200 characters.
- Preserve all field placeholders from the original message in your translation.

10. Optional: Select [Else](#) or [Else If](#) to create one more set of condition blocks that are triggered if the initial sets of conditions aren't satisfied. Follow the same steps to create **Else If/Else** conditions and assignments inside the respective blocks.

Note

- You can create an **Else If/Else** block only when you have at least one condition in the initial IF block.
- You can create up to 10 **Else If** conditions.
- If you select an **Else** condition, the system doesn't allow you to create additional blocks indicating that your entire logic is complete.
- You can delete an Else If/Else block by choosing  ([Delete Else If block](#)).
- You can change an [Else](#) block to an [Else If](#) by choosing the [Else If/ Else](#) dropdown only after deleting the condition in that block.
- Changing an intermediate Else If to Else is not possible unless subsequent blocks are deleted.
 - During execution, based on condition only one of the messages is raised.

11. Save and activate your changes.

Note

You can create a maximum of 20 validations per entity.

In the [Validations](#) tab, the system lists all validations for a specified entity. Select  or  to edit or delete the corresponding validation.

If you need to temporarily turn off certain rules for testing or troubleshooting, you can do so by using the switch under [Actions](#) to disable the validation.

Note

- If you've used any IDs or code values in your determination or validation logic in the source system ensure the same IDs and code values are also present in your other tenants (test and production). This verification is important to ensure consistent behavior of custom logic across all tenants.
- Country/Region codes aren't unique. When setting up validation or determination conditions involving country/region codes, go to [Language, Region, and Currency](#) settings to check the codes listed under each country/region.

Note

To create a validation using a block-based editor, watch the following video:

Related Information

[Disable Custom Logic \[page 127\]](#)

As an administrator you can disable custom logic that you have previously configured or added to meet specific requirements. This includes validation and determination rules.

[Functions in Custom Logic \[page 128\]](#)

This document lists all the functions available for creating validation and determination rules in *Extensibility Administration*.

[Supported Entities for Custom Logic \[page 132\]](#)

Custom logic feature is available only for specific entities and sub-entities. All these entities have restricted availability. To access this feature, you must submit a support ticket in the relevant application component.

11.2.2 Create Determinations

Use determinations to calculate specific field value based on certain conditions. You can either default or propose the value or mandate a certain value using determinations.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Extensibility](#) ► and choose *Extensibility Administration*.

The system opens a new screen and displays a list of all business entities in the left panel. These entities are grouped by services.

2. Select a service and choose  (*Drill Down*) to open and select an entity.
3. Navigate to the *Determinations* tab, and choose ► [Create](#) ► [Using Forms](#) ► to launch the *New Determination* editor tab.

The editor has three main blocks:

- Header: Specify the determination name, event, and description here.
- Condition: Set the desired conditions using a flow-based visual condition editor.
- Assignment: Assign a value to specific fields. You can use each row to assign a single field value. For example, `total_amount = item_count * item_price`.

4. In the header block, perform the following actions:
 - a. Enter a name.
 - b. Choose one of the following events:
 - Pre Hook: You can use it to default or suggest standard and custom field values. The user can change the field values.
 - Post Hook: You can use it to mandate custom field values. The user can't change the standard field values.
 - c. Add a description.

5. You can enable the [Show Inactive Codelist](#) switch to display all the codelist values including the inactive ones in the [Condition Block](#) dropdown.

Note

- By default, only active codelist values are shown in the dropdown. If a service doesn't support filtering active and inactive values using the filter parameter, all codelist values are shown in the dropdown.
- When you edit an existing condition or assignment, the switch is disabled by default. If an inactive code value was previously selected, it appears (in condition/assignment block) without a description. You can't save when the switch is disabled and an inactive value is selected.
- When you activate or deactivate the switch, all conditions using codelist fields are reloaded that takes some time and impacts performance.

6. In the [Condition Block](#), set the desired conditions using a flow-based visual condition editor.

- Select a function from the dropdown.
- Select the standard or extension field from the dropdown.

To create a condition based on the previous value of the field, slide the [Previous Value](#) switch.

- Select the target comparison. You can compare either by a fixed value or with another field.
- If you choose [Value](#), enter a corresponding target value. If you choose [Field](#), select a target field.

Add multiple conditions by choosing + ([Add Condition](#)). To remove a condition, choose ✕ ([Remove Condition](#)). To clear all conditions in a block, choose 🗑️ ([Delete Condition Block](#)).

Note that when you create multiple conditions, the condition group is considered fulfilled only if all the conditions within a group are met.

7. Optional: You can also create an OR condition by choosing the + [Or](#) button. The system displays additional condition blocks. Follow the same steps as earlier to fill one or more OR condition blocks.

Note

When you create multiple OR conditions, the condition group is considered fulfilled if any one of the block conditions are met.

Under the [Summary](#) header, the system shows you a summary of all the conditions that you've entered.

8. In the [Assignment Block](#), perform the following actions:

- Use a row to assign or calculate a value to a specific field.
- Write the expressions and calculations in free-style format.
- Mention the target field first, followed by "=" and then specify the expression. For example, {status} = ('Open')
- Enclose all entity fields in curly braces: For example, {status}, {ID}, and so on.
- Ensure that you add the extension/custom fields under the extensions structure. For example, {extensions/customfield}
- Get the technical name of the fields using the dropdown in the [Condition Block](#).
- Use expressions consisting of operators and certain pre-defined functions specified in the [Assignment Block](#).

- Ensure that you check the feedback provided by the system in case of invalid expressions. The error messages are configured to give exact feedback so that you can correct the expression.
 - Create additional assignment rows by choosing + ([Add Assignment](#)). To remove a row, choose  ([Remove Assignment](#)). Choose [Clear All](#) to remove all assignment rows.
9. Optional: Select [Else](#) or [Else If](#) to create one more set of condition blocks that are triggered if the initial sets of conditions aren't satisfied. Follow the same steps to create **Else If/Else** conditions and assignments inside the respective blocks.

Note

- You can create an **Else If/Else** block only when you have at least one condition in the initial IF block.
- You can create up to 20 **Else If** conditions.
- If you select an **Else** condition, the system doesn't allow you to create additional blocks indicating that your entire logic is complete.

10. Save and activate your changes.

Note

You can create a maximum of 20 determinations per entity.

In the [Determinations](#) tab, the system lists all determinations for a specified entity. Choose  or  to edit or delete the corresponding determination.

To control the sequence in which the determination rules must be implemented, drag and drop the rules in order of precedence by choosing  ([Move](#)).

If you need to temporarily turn off certain rules for testing or troubleshooting, you can do so by using the switch under [Actions](#) to disable the determination.

Note

- If you've used any IDs or code values in your determination or validation logic in the source system, ensure the same IDs and code values are also present in your other tenants (test and production). This verification is important to ensure consistent behavior of custom logic across all tenants.
- Country/Region codes aren't unique. Go to [Language, Region, and Currency](#) settings, and check for country/region codes under a particular country/region while setting conditions for validations and determinations that involve country/region codes.

Note

To create a determination using a block-based editor, watch the following video:

Related Information

[Disable Custom Logic \[page 127\]](#)

As an administrator you can disable custom logic that you have previously configured or added to meet specific requirements. This includes validation and determination rules.

[Functions in Custom Logic \[page 128\]](#)

This document lists all the functions available for creating validation and determination rules in *Extensibility Administration*.

[Supported Entities for Custom Logic \[page 132\]](#)

Custom logic feature is available only for specific entities and sub-entities. All these entities have restricted availability. To access this feature, you must submit a support ticket in the relevant application component.

11.2.3 Create External Hooks

As an administrator, you can create and use external hooks to activate external functions when you save an application. This means you can customize or add extra functionalities to the saving process according to your needs using side-by-side tools such as Kyma, BTP, and so on.

Prerequisites

You have already configured the communication arrangement between the solution and a communication partner.

Context

External hooks refer to mechanisms or points in a system or software where external processes or custom code can be integrated or triggered to extend or modify the behavior of the system. These hooks provide a way for external components to interact with the main system at specific events or actions, allowing for customization and flexibility in the overall functionality.

Note

When you send data to external systems, you're responsible for managing or deleting personal data from those systems. SAP or its affiliated companies shall not be liable for errors or omissions with respect to the data that is transmitted outside of the SAP solution.

Procedure

1. Navigate to  *User Menu*  *System Settings*  *All Settings*  *Extensibility*  and choose *Extensibility Administration*.

The system opens a new screen and displays a list of all business entities in the left panel. These entities are grouped by services.

2. Select a service and choose  (*Drill Down*) to open and select an entity.
3. Navigate to the *External Hooks* tab and choose  (*Create External Hook*) to launch the *Create External Hook* quick create window.

Note

You can use *Generate Schema* to download the schema JSON files for both request and response. You can also use *Generate Sample Payload* to download sample request and response payloads for both the Pre Hook and Post Hook.

The values in the generated sample payloads are illustrative only. Ensure that you update them according to your specific requirements before sending the payload.

These JSON files can be used to implement parsing logic in an external system. The downloaded schema file always reflects the latest metadata information.

In the schema, some fields originate from a referenced entity. To use these fields and receive their data in custom logic or hooks, you must first enable them through the Reference Fields Usage feature. This requirement applies only to supported entities.

The schema displayed in the Generate Schema feature represents an example of the possible structure. It doesn't guarantee that all fields are available at runtime. The actual data returned depends on the specific instance and the reference fields that are enabled for the entity.

The External Hook payload contains only fields that have been populated in the instance at the time of the change or save. Fields left empty on the UI aren't sent. The schema shown in the *Generate Schema* feature is only an example of possible structures and doesn't guarantee that all fields are present.

4. Enter a name and description.
5. Select one of the following events:
 - Pre Hook: You can use it to default or suggest standard and custom field values. The user can change the field values.
 - Post Hook: You can use it to mandate custom field values. The user can't overwrite the field values.

The system displays the *Service Full Name* based on your selection in Extensibility Administration. It's a read-only field.

6. Enter the *API Path* suffix that must be applied. In the *Communication System* field, define the system URL but this API path can be different for different logic. For example, your system URL `my123131.ondemand.com` is defined in the communication system but you may call `my123131.ondemand.com/case_validation` for each case save. This step is achieved by mentioning the API path, which is added to the system instance URL.

The *HTTP Method* field is already auto-populated with *POST*, since this method is the only method allowed currently. All the data exchange happens via a POST message.

7. Select the *Communication System* from the dropdown. Note that you have already created the communication system.
8. Save your changes.

Note

- In pre hook, you have the flexibility to update both standard and custom fields. However, in post hook, you can only update custom fields. Updating standard fields isn't permitted.
- You can't add or delete entries from arrays of objects in either pre hook or post hook.

For instance, in the opportunity entity (`sap.ssc.opportunityservice.entity.opportunity`), you have items which are an array of objects referring to the `sap.ssc.opportunityservice.entity.opportunityItems` entity. Here, you can't add another object in the items array, nor can you remove the object (with `"id"= "6cc451bc-2969-4cf4-a303-92607abc7b5c"`).

Sample Code

```
{
  "items": [
    {
      "id": "6cc451bc-2969-4cf4-a303-92607abc7b5c",
      "productId": "c14c84f8-2f86-4890-b0a4-b6a956c3d622",
      "productDisplayId": "0000000000,020,255",
      "netAmount": {
        "content": 0,
        "currencyCode": "USD"
      },
      "revenueStartDate": "2024-03-01",
      "revenueEndDate": "2024-03-01"
    }
  ]
}
```

However, you can add or remove items from arrays of primitive types (String, Number, and so on.) For example, a case entity (`sap.ssc.caseservice.entity.case`) has an attribute called 'toRecipients' which is an array of strings. You can add or remove entries here.

Sample Code

```
{
  "emailInteraction": {
    "id": "fd63de17-e971-11ed-a33e-a7a619a69637",
    "senderEmailAddress": lorem.ipsum@gmail.com,
    "toRecipients": [
      icanaddandremovehere@gmail.com
    ]
  }
}
```

- In the post hook, you can perform validations and respond with error/warning/info messages. Responding with an error message results in a transaction save failure.
- Metadata validations are conducted on modified data, and errors from these checks are returned to the application service.
These validation errors must be visible in the user interface, and the save operation fails accordingly.
- If there's an error in connecting to an external system implementation (due to incorrect configuration or unavailability of the service), appropriate errors are returned to the application service.
These errors are displayed in the user interface, and the save operation fails.
- The response returned in hooks must adhere to the published and supported response structure. Schema validations are performed on the response data, and any validation errors are returned to the application service.
These errors are displayed in the user interface, and the save operation fails.
- Only one external pre hook and one external post hook per root entity are allowed.
Creating hooks on sub-entities isn't permitted.

- The external hook implementation must be lean, efficient, and performant as these implementations are called synchronously within the transaction. Sub-optimal implementations hamper the performance of your application.
- In unforeseen cases, to protect the system's stability and performance, requests taking more than 10 seconds are canceled. An error message indicating the cancellation appear in the application.

→ Tip

As external hooks are executed synchronously, the round-trip time for each call should be kept within 500 ms to ensure an optimal user experience.

⚠ Caution

- Data can only be modified by sending updated data back to the pre- and post-hook response **data** object.
- Don't use APIs to create, modify, or delete the same entity (for which the hook is called), another entity in SAP Sales and Service Cloud Version 2, or an entity in an external system (SAP or non-SAP). At this stage, the transaction is still in progress and not yet complete. It can be aborted after the hook returns for various reasons, which can lead to inconsistencies in the solution. For such scenarios, use the entity state-changed events that are triggered after the entity is saved.

Related Information

[External Hook Request and Response Structure \[page 116\]](#)

Provides Request and Response structure for both preHook and postHook to external system.

[Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

[Reference Fields Usage \[page 125\]](#)

Enable administrators to reference attributes from other entities when defining custom logic on an entity.

11.2.3.1 External Hook Request and Response Structure

Provides Request and Response structure for both preHook and postHook to external system.

ExternalHook PreHook

Request format for preHook to external system:

↗ Sample Code

```
{
  "entity": "",
```

```
"beforeImage": { },
"currentImage": { },
"context": { }
}
```

Element	Element Of	Mandatory	Type	Description
entity		Yes	String	Full name of the aggregated entity.
beforeImage		No	Object	Before image of the aggregate entity data. This is empty in the create scenario.
currentImage		Yes	String	Current image of the aggregate entity data.
userId	context	Yes	String	ID of the user for the current transaction.
employeeId	context	No	String	Employee ID of the user for the current transaction. This isn't provided for technical users.
skipValidations	context	Yes	Boolean	A flag to bypass custom logic validation. When passed as true , external hooks can bypass validations, and the validation results are ignored.
isDryRun	context	Yes	Boolean	A flag to simulate custom logic without saving any changes. When set to true , the transaction runs in dry run mode, letting users preview the outcome before committing.
language	context	Yes	String	The current login language in which the user has logged in.

Element	Element Of	Mandatory	Type	Description
operation	context	Yes	String	This field provides information about the aggregate entity. Supported values include CREATE_DRAFT, CREATE, UPDATE, or DELETE.

Operation

The operation value is determined based on the action performed on the aggregate entity.

- **CREATE_DRAFT**: The operation will have this value when the aggregate entity instance is a **Draft Document** in the **Creation** stage.

Note

This operation value is only for entities that support draft documents/draft mode, otherwise CREATE is sent.

- **CREATE**: The operation will have this value when the aggregate entity instance is being created. For entities that support draft mode, this value represents the finalization of a draft into a **finalized record**. For entities without draft mode, this value represents the document creation state.
- **UPDATE**: The operation will have this value when the aggregate entity instance is being updated. This could be the ROOT being updated or Items being created/updated/deleted etc.
- **DELETE**: Operation will have this value when the aggregate entity instance is being deleted.

Example

Incoming Externalhook PreHook request for case entity

Sample Code

```
{
  "entity": "sap.ssc.caseservice.entity.case",
  "currentImage": {
    "subject": "Very Important Case",
    "priority": "03",
    "priorityDescription": "Normal",
    "origin": "MANUAL_DATA_ENTRY",
    "caseType": "ZSRK",
    "caseTypeDescription": "SRK Case Type",
    "timePoints": {
      "reportedOn": "2023-10-30T05:28:00Z"
    },
    "categoryLevel1": {},
    "extensions": {
      "Price": 12345
    }
  },
  "context": {
    "employeeId": "11ee5843-e4c2-d70e-afdb-81a24fa8c000",
    "userId": "f5b4e4ad-5843-11ee-829c-21688db8d25e",
    "skipValidations": true,
  }
}
```

```

    "isDryRun": true,
    "language": "de",
    "operation": "CREATE_DRAFT"
  }
}

```

Response format for preHook

Sample Code

```

{
  "data": { },
  "noChanges": true/false
}

```

Element	Mandatory	Type	Description
data	Yes (if noChanges = false or if noChanges not sent in response)	Object	Modified entity aggregates current image data returned by the external system. Standard and extension fields can be modified.
noChanges	No	Boolean	Indicates that the external system hasn't modified the data. If set to 'true' you don't need to return the 'data' attribute in the response. This helps reduce unnecessary data transfer over the wire.

Example

Externalhook PreHook response for case entity where subject and extensions/price are changed.

Sample Code

```

{
  "data": {
    "subject": "Not important",
    "priority": "03",
    "priorityDescription": "Normal",
    "origin": "MANUAL_DATA_ENTRY",
    "caseType": "ZSRK",
    "caseTypeDescription": "SRK Case Type",
    "timePoints": {
      "reportedOn": "2023-10-30T05:28:00Z"
    },
    "categoryLevel1": { },
    "extensions": {
      "Price": 999
    }
  }
}

```

❖ Example

Externalhook PreHook response for case entity where no modifications are made on the data.

↔ Sample Code

```
{
  "noChanges": true
}
```

ExternalHook PostHook

Request format for postHook to external system

↔ Sample Code

```
{
  "entity": "",
  "beforeImage": { },
  "currentImage": { },
  "context": { }
}
```

Element	Element Of	Mandatory	Type	Description
entity		Yes	String	Full name of the aggregated entity
beforeImage		No	Object	Before image of the aggregate entity data. This is empty in the create scenario.
currentImage		Yes	Object	Current image of the aggregate entity data
userId	context	Yes	String	ID of the user for the current transaction.
employeeId	context	No	String	Employee ID of the user for the current transaction. This isn't provided for technical users.
skipValidations	context	Yes	Boolean	A flag to bypass custom logic validation. When passed as true , external hooks can bypass validations, and the validation results are ignored.

Element	Element Of	Mandatory	Type	Description
isDryRun	context	Yes	Boolean	A flag to simulate custom logic without saving any changes. When set to true , the transaction runs in dry run mode, letting users preview the outcome before committing.
language	context	Yes	String	The current login language in which the user has logged in.
operation	context	Yes	String	This field provides information about the aggregate entity. Supported values include CREATE_DRAFT , CREATE , UPDATE , or DELETE .

Operation

The `operation` value is determined based on the action performed on the aggregate entity.

- **CREATE_DRAFT**: The operation will have this value when the aggregate entity instance is a **Draft Document** in the **Creation** stage.

Note

This operation value is only for entities that support draft documents/draft mode, otherwise **CREATE** is sent.

- **CREATE**: The operation will have this value when the aggregate entity instance is being created. For entities that support draft mode, this value represents the finalization of a draft into a **finalized record**. For entities without draft mode, this value represents the document creation state.
- **UPDATE**: The operation will have this value when the aggregate entity instance is being updated. This could be the **ROOT** being updated or **Items** being created/updated/deleted etc.
- **DELETE**: Operation will have this value when the aggregate entity instance is being deleted.

Example

Incoming Externalhook PostHook request for case entity

Sample Code

```
{
  "entity": "sap.ssc.caseservice.entity.case",
  "currentImage": {
```

```

    "subject": "Very Important Case",
    "priority": "03",
    "priorityDescription": "Normal",
    "origin": "MANUAL_DATA_ENTRY",
    "caseType": "ZSRK",
    "caseTypeDescription": "SRK Case Type",
    "timePoints": {
      "reportedOn": "2023-10-30T05:28:00Z"
    },
    "categoryLevel1": {},
    "registeredProducts": [
      {
        "serialId": "11",
        "referenceProduct": {
          "id": "00163e03-552b-1ee2-8daa-9827ce027ec0"
        },
        "referenceDate": "2023-10-16T00:00:00.000Z",
        "id": "3c448270-67fd-00d2-0000-726b8bb0f5cb",
        "displayId": "6",
        "status": "ACTIVE",
        "description": "Test Product",
      },
      {
        "serialId": "123",
        "referenceDate": "2023-10-16T00:00:00.000Z",
        "displayId": "Test",
        "status": "ACTIVE",
        "description": "Test Product2",
      }
    ],
    "extensions": {
      "Price": 12345
    }
  },
  "context": {
    "employeeId": "11ee5843-e4c2-d70e-afdb-81a24fa8c000",
    "userId": "f5b4e4ad-5843-11ee-829c-21688db8d25e",
    "skipValidations": true,
    "isDryRun": true,
    "language": "de",
    "operation": "CREATE_DRAFT"
  }
}

```

❁ Example

Response format for postHook

📄 Sample Code

```

{
  "data": { },
  "error": [
    {
      "code": "",
      "message": "",
      "target": ""
    }
  ],
  "info": [
    {
      "code": "",
      "message": "",
      "target": ""
    }
  ]
}

```

```

    },
    "severity": "WARNING/INFO"
  }
]

```

Element	Element Of	Mandatory	Type	Description
data		Yes (if noChanges = false or if noChanges not sent in response)	Object	Modified entity aggregates current image data returned by the external system. Only extension fields are editable.
noChanges		No	Boolean	Indicates no modifications to data by an external system. If passed as 'true', data need not be provided in the response.
error		No	Array of objects	List of validation error messages
code	Error	Yes		Combination of the external service name and error code of integer (5 digits), with a dot (.) as the delimiter
message	Error	Yes	String	Description of the error message Messages can be up to 200 characters long. Anything longer is truncated.
target	Error	No	String	Object that is used to provide reference to the target element that caused the error. The target may either identify the resource directly using the URL notation (or) may identify an element in the payload using the binding "{ ... }" notation
info		No	Array of objects	List of validation info/warning messages.
code	Info	No	String	Combination of the external service name and code integer (5 digits), with a dot (.) as the delimiter
message	Info	Yes	String	Description of the info/warning message Messages can be up to 200 characters long. Anything longer is truncated.
target	Info	No	String	Object that is used to provide reference to the target element that caused the error. The target may either identify the resource directly using the URL notation (or) may identify an element in the payload using the binding "{ ... }" notation

Element	Element Of	Mandatory	Type	Description
severity	Info	Yes	Enum	Indicates the type of the information. Permitted values INFO WARNING

❧ Example

Outgoing Externalhook PostHook response for case entity with error, info, and warning messages

🔗 Sample Code

```
{
  "data": {
    "subject": "Very Important Case",
    "priority": "03",
    "priorityDescription": "Normal",
    "origin": "MANUAL_DATA_ENTRY",
    "caseType": "ZSRK",
    "caseTypeDescription": "SRK Case Type",
    "timePoints": {
      "reportedOn": "2023-10-30T05:28:00Z"
    },
    "categoryLevel1": {},
    "registeredProducts": [
      {
        "serialId": "11",
        "referenceProduct": {
          "id": "00163e03-552b-1ee2-8daa-9827ce027ec0"
        },
        "referenceDate": "2023-10-16T00:00:00.000Z",
        "id": "3c448270-67fd-46d2-ae80-726b8bb0f5cb",
        "displayId": "6",
        "status": "ACTIVE",
        "description": "Test Product",
      },
      {
        "serialId": "123",
        "referenceDate": "2023-10-16T00:00:00.000Z",
        "displayId": "Test",
        "status": "ACTIVE",
        "description": "Test Product2",
      }
    ],
    "extensions": {
      "price": 12345
    }
  },
  "error": [
    {
      "code": "external_CaseService.10000",
      "message": "Case type is not allowed",
      "target": "{caseType}"
    },
    {
      "code": "external_CaseService.10001",
      "message": "Reported on is older than required date.",
      "target": "{timePoints.reportedOn}"
    },
    {
      "code": "external_CaseService.10004",
      "message": "Error message raised from external hook. Registered Products node does not contain id.",
      "target": "{registeredProducts[1].id}",
      "severity": "ERROR"
    }
  ]
}
```

```

    }
  ],
  "info": [
    {
      "code": " external_CaseService.10002",
      "message": "The price is greater than 1000.",
      "target": "{extensions.price}",
      "severity": "WARNING"
    },
    {
      "code": " external_CaseService.10003",
      "message": "Case processed by external system.",
      "target": "",
      "severity": "INFO"
    },
    {
      "code": " external_CaseService.10004",
      "message": "Case processed by external system.",
      "target": "{registeredProducts[0].id}",
      "severity": "INFO"
    }
  ]
}

```

📘 Note

The 'isDraftMode' attribute in currentImage and beforeImage attributes is for SAP internal usage only. Don't use this field for read or write in your external implementations.

11.2.4 Reference Fields Usage

Enable administrators to reference attributes from other entities when defining custom logic on an entity.

These referenced entities can either have standard or extension attributes. For example, A scenario where end users want to create a determination on a case entity and use standard and extension fields from the individual customer entity.

These reference fields are classified into four types:

- Standard Reference Field, for example, `case/id`
- Cross-Entity Reference Field, for example, `referenceUsages/case_priority`
- Cross-Entity Extension Reference Field, for example, `referenceUsages/caseExtensionsIsPremium`
- Extension Reference Field, for example, `Extensions/field1` for Case/Subject

📘 Note

To use a reference field in [Condition Configuration](#) of custom logic, ensure it is explicitly tagged using the [Reference Fields Usage](#) UI. However, to use a reference field in the left-hand side (LHS) of an assignment, it is not mandatory to be tagged. In such a case, the reference field is available as long as it is marked as creatable or updatable.

Note

These reference fields usage objects are read-only and not intended for end-user modification. If there are any changes made by users via External Hooks, it is ignored by the system. These fields are a part of both pre-hook and post-hook data, and in both the scenarios the behavior is the same.

Structure:

```
referenceUsages: { caseStatus: 'ACTIVE', ownerEmployeeDisplayId: 'b96a8f70-01fb-4f36-866f-4dc8882b669a' } *referenceUsage object is present directly under the root entity.
```

11.2.4.1 Create Reference Fields

Create reference fields that are used in custom logic.

Prerequisites

Ensure you've chosen [Custom Logic](#) from the dropdown on the [Reference Fields Usage](#) screen.

Context

A reference field is an attribute that points to another attribute in a different entity to fetch the data. These attributes are called custom reference fields.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Extensibility Administration](#) ►.
2. Select an entity from the left pane.
3. Navigate to the [Reference Fields Usage](#) tab, and choose + [\(New\)](#). In the [Select KeyGroups](#) quick create screen, choose entities, select the attributes for these entities, and then choose [OK](#).
You've now created a reference field for usage in custom logic.

Note

- For a selected KeyGroup, only level one attributes are displayed.
- If attributes are already selected for a custom logic, such attributes are grayed out for selection.
- While creating a reference field, you can select a maximum of 10 fields at once. You can create a maximum of 30 cross-entity reference fields for custom logic from a maximum of 10 KeyGroups.
- Cross-entity reference fields and extension fields can be accessed using the path `referenceUsages/generatedfield`, which consists of the keyGroup and fieldName details.

- For each referenced field, additional details such as [Path](#), [Mapped Reference Fields](#), [External Hook](#), and [Actions](#) are displayed under respective columns. You can select the  (View Usage) under the [Actions](#) column to view the usage of the reference field within custom logic (whether used in validations, determinations, or external hooks) and choose  ([Delete](#)) to delete the reference field.
- [View Usage](#) shows all the platform application usage of the reference field across custom logic and autoflow.
- To delete a reference field from usage, all the occurrences must be removed and also must be deleted from validations, determinations, and external hooks across custom logic and autoflow.

4. If you want to enable the usage of the reference field in external hooks, in addition to validations and determinations, turn on the [External Hook](#) switch for a particular reference field.

11.2.5 Disable Custom Logic

As an administrator you can disable custom logic that you have previously configured or added to meet specific requirements. This includes validation and determination rules.

Context

For debugging purposes, if you wish to disable the implementation of custom logic for specific users in a test landscape, you can use the [Custom Logic Administration](#) workspace.

Here, you have the option to temporarily disable the custom logic that you created for debugging purposes. By doing so, you can differentiate between SAP-generated messages and those from your own logic, aiding in your analysis and resolution process. This feature is particularly useful during debugging, enabling you to mimic the behavior of a fresh SAP solution by turning off custom logic implementation for specific users or in a test landscape.

In the [Custom Logic Administration](#) workspace, you can specify the users for whom you want to disable these custom processes. This feature is helpful when you need to temporarily suspend all custom logic implementation for selected users during debugging or testing phases.

Procedure

1. Navigate to  [User Menu](#)  [System Settings](#)  [All Settings](#)  [Extensibility](#)  and choose [Custom Logic Administration](#).

The system opens the [Disable Custom Logic](#) screen and displays the list of all the users who created the custom logic.

2. Select the check box next to the user that you want to delete.

3. Choose  (*Delete*).

All the validation and determination rules connected to that user is disabled.

Note

This feature is available only in the test landscape and you cannot add more than five users.

11.2.6 Functions in Custom Logic

This document lists all the functions available for creating validation and determination rules in [Extensibility Administration](#).

The list of functions available are as follows:

- **IS NULL**

The function supports null check for both array and non-array attributes. The result data type is Boolean.

- **Non-Array Fields**

This function accepts an expression or an attribute as an input. This function is supported for all data types.

- **Example**

- `$IS NULL ( {closeDate} )` returns true if closeDate is null otherwise false.
 - `$IS NULL ( {description} == 'desc' )` returns true if description is null otherwise false.
 - `( $IS NULL ( {account/name} ) == false ) && ( {account/name} == 'acc' )`

- **Array Root Fields**

This function only operates on the top-level array attribute, and doesn't support nested arrays.

The expression returns true only if the array is either not present in the input JSON or is explicitly set to null.

In case of empty arrays or arrays with values in it, the result of the expression would be false.

- **Example**

`$IS NULL ( {salesData} )` returns true if salesData array is null or not part of the input json.

- **MATCH_ALL**

Returns true if every occurrence of an attribute in the array matches with a value. Otherwise, returns false.

- **Note**

If a condition using `$MATCH_ALL` is evaluated on an empty array or an attribute belonging to an empty array, it shall evaluate to false.

- **MATCH_ANY**

Returns true if there's at least one occurrence of an attribute in the array that matches a value. Otherwise, returns false.

- **Note**

If a condition using `$MATCH_ANY` is evaluated on an empty array or an attribute belonging to an empty array, it shall evaluate to false.

- **SUM**
Returns the sum of attributes in the array. This function is applicable only for Integer and Number array operands.
- **IS_EMPTY**
Returns true if the array is empty, else returns false.

❖ Example

salesData is an array, \"salesData\": [] will return true. But \"salesData\": [{}] would return false. When salesData is missing or \"salesData\": null the result is UNKNOWN

- **IS_CHANGED**
The function compares before image and current image of a specific attribute. The result data type is Boolean.
IS_CHANGED function isn't supported for arrays, objects, reference fields, or multi-value codelists.

❖ Example

`$IS_CHANGED ( {priority} )` returns true if value of priority field has changed from its before image.

- **\$CURRENTDATETIME()**
Returns current date time value, supported as Date Time data type. Usage (`$CURRENT_DATETIME()` > '2019-08-27T00:00:00Z').
When used alone, for example (`$CURRENT_DATETIME()`), it returns the current date time value in EPOC format on evaluation.
The consuming application can then convert it in the format that is required.
- **\$CURRENT_DATE_IN_UTC**
Returns current date value, supported as Date data type. Usage (`$CURRENT_DATE_IN_UTC()` > '2019-08-27').
When used alone, for example (`$CURRENT_DATE_IN_UTC()`), it returns the current date value in UTC format on evaluation.
The consuming application can then convert it in the format that is required.
- **\$LOGGED_IN_EMPLOYEE_ID**
Returns logged in user's employee ID as a string. Usage (`{ownerId} = ( $GET_LOGGED_IN_EMPLOYEE_ID() )`).

ⓘ Note

When this function is called for a technical user (for example, in a data impex scenario), it returns **null** because no value is assigned to the LHS field since no employee is associated with a technical user.

- **\$CONCATENATE (list of comma-separated string arguments)**
Returns concatenated string value. It accepts arguments of the data type String.
Usage `$CONCATENATE ( 'String1' , {account/name} , 'String2' )`

ⓘ Note

Condition configuration UI supports the following functions: **IS Null, Is Empty, Match All, Match Any, and Sum** based on the source field datatype. The assignment editor (in determination) supports **Current date time, Current date in UTC, Concatenate and Sum** functions.

- **\$COUNT**
Returns the number of attributes in an array that evaluate to true for a given condition.

Usage: \$COUNT({arrayExpression})

Parameters

Parameter	Type	Required	Description
arrayExpression	Array(Boolean)	Yes	Array expression that evaluates to boolean values

Return Value

- **Type:** Integer (Number)
- **Value:** Number of elements that evaluate to true

Supported Data Types: Array expressions

Behavior:

- **Boolean Evaluation:** Each element is evaluated as true or false.
- **True Values Counted:** Only elements evaluating to true are counted.
- **False Ignored:** Elements evaluating to false are ignored.
- **Array-Based Operation:** Intended for use with array attributes and conditions.
- **Missing Attribute Handling:** If an attribute referenced in the condition isn't present in one or more array entries, the function doesn't throw an error. Those entries are skipped in evaluation and execution continues.
- **Zero Safe:** Returns 0 if no elements match the condition.

Null Handling

Input Array	Output	Additional Information
null	0	Null array returns zero
[]	0	Empty array returns zero

Examples:

-  **Example**
Count Matching Items

```
$COUNT({items/description} == 'Test')  
// Returns the number of items whose `description` equals Test.
```
-  **Example**
Counting Open Items

```
$COUNT({items/lifeCycleStatus} == 'OPEN')  
// Returns the number of items where `lifeCycleStatus` is OPEN.
```
-  **Example**
No Matching Entries

```
$COUNT({items/description} == XYZ)  
// Returns : 0
```
-  **Example**
Numeric Condition

```
$COUNT({items/price} > 100)  
// Returns the number of items where the price is greater than 100.
```

- **\$Length**

Returns the total number of characters present in a string.

The function is case neutral and counts all characters including letters, numbers, spaces and special characters.

Usage \$Length(<Field>).

Return Type: Integer

Supported data Types:

- String
- Null

- **Nulling of Values**

You can clear field values of various data types using determinations.

Configure determinations in extensibility to null field values by setting the target field to null when your specified conditions are met. This works consistently across string, code list, and date field types.

- Array nulling is not supported as arrays in general are not updatable in determinations.
- To properly clear field values, you should use null on the right-hand side in the assignment expression.

11.2.7 Supported Entities for Custom Logic

Custom logic feature is available only for specific entities and sub-entities. All these entities have restricted availability. To access this feature, you must submit a support ticket in the relevant application component.

List of supported entities in custom logic

- Account
 - Account Address
 - Account Domain
 - Account Contact Person
 - Account Identification
 - Account Relationship
 - Account Sales Arrangement
 - Account Sales Territory
 - Account Team Member
 - Assigned Product List
 - Call List
 - Case
 - Chat Interaction
 - Competitor
 - Competitor Product
 - Contact Person
 - Contract Account
 - Email Interaction
 - Employee
 - Functional Location
 - Installed Base
 - Individual Customer
 - Individual Customer Address
 - Individual Customer Identification
 - Individual Customer Relationship
 - Individual Customer Sales Arrangement
 - Individual Customer Team Member
 - Lead
 - Move Integration Service
 - Partner
 - Phone Call
 - Premise
 - Product
 - Product Group
 - Product Install Point
 - Product List
 - Registered Product
 - Return Order
 - Sales Quote
 - Service Order
 - Service Quotation
-

11.2.8 View Application Logs

View a summary of all errors that occurred during the processing of custom logic external hooks. This enables customers to review and address issues with their external system calls.

Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Extensibility** and choose **Extensibility Administration**.

The system opens a new screen and displays a list of all business entities in the left panel. These entities are grouped by services.

2. Select a service and choose **Drill Down** to open and select an entity.
3. Navigate to the **Logs** tab.

4. Select the [Log ID](#) or choose  in the [Actions](#) column to open the screen with the details of that log.

You can view details such as timestamps, process, user names, description and so on.

Note

These logs are visible for a period of seven days, after which they're automatically deleted from the database.

11.3 Create Dynamic Property Rules

Create and apply dynamic rules to manage property behaviors for entities and sub-entities based on specific conditions.

Context

Dynamic property rules are essential for providing flexibility and adaptability in managing entity behaviors. In complex systems, entities and sub-entities often require different property configurations based on varying business rules, conditions, or contexts.

Note

Dynamic property rules can be created only for specific entities and sub-entities, some of which have restricted availability. To access this feature, you must submit a support ticket in the relevant application component.

Account	Individual Customer Address	Product
Account Address	Individual Customer Identification	Appointment
Account Domain	Individual Customer Relationship	Sales Order
Account Identification	Individual Customer Sales Arrangement	Visit (unrestricted)
Account Contact Person	Individual Customer Team Member	Phone Call
Account Relationship	Lead	Chat Interaction
Account Sales Arrangement	Opportunity	Service Order
Account Sales Territory	Sales Quote	In-Person Interaction
Account Team Member	Key Account Plan (unrestricted)	Registered Product
Functional Location	Product Install Point	Installed Base
Individual Customer	Case	

Restriction

Dynamic property rules apply to screens and controls explicitly designed for one single type and instance of an entity. For example: a lead, an opportunity, or a case. Dynamic property rules **cannot** be applied to

screens or controls that display tables of entities or multiple types of entities. For example: the interaction log, which shows multiple phone calls, chats, in-person interactions, and more.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Extensibility](#) and choose [Extensibility Administration](#).

The system opens a new screen and displays a list of all business entities in the left panel. These entities are grouped by services.

2. Select a service and choose  ([Drill Down](#)) to open and select an entity.
3. Navigate to the [Dynamic Properties](#) tab and choose [+](#) ([Create](#)).
4. Select either [Field Attributes](#) or [Layout Conditions](#) to launch the [Create Dynamic Properties](#) editor tab.

Note

[Field Attributes](#) define the properties of fields (entity attributes) such as creatable, updatable, required, or hidden based on the application's context. In contrast, [Layout Conditions](#) control the visibility of sections, tabs, and buttons based on the application's context.

Field Attributes are configured directly on the entity, making them applicable across all layouts. Layout Conditions are specific to individual page layouts.

5. In the header block, specify the dynamic property name and description.
6. Turn on the [Allow Override by Business Role](#) switch if you want field settings defined in this rule to be overridden by role-based rules. This gives priority to rules created in the [Role-Based Attributes](#) editor for users with specific business roles. For more information, see the **Create Role-Based Attributes** guide in the **Related Information** section.

Note

When this switch is enabled, the system applies the role-based rule instead of the current rule for users with the specified business role.

7. In the [Condition Block](#) set the desired conditions using a flow-based visual condition editor.
 - a. Select a function from the dropdown.
 - b. Select the standard or extension field from the dropdown.

When you add a condition in a child entity, the dropdown normally shows only child fields. But in some cases, where a child field property needs to be defined based on a root field, such as, case status, you need access to root fields. To create a rule based on the root field, turn on the **Root Fields** switch.

- c. Select the comparison operator.
- d. Select the target comparison. You can compare either by a fixed value or with another field.
- e. If you choose [Value](#), enter a corresponding target value. If you choose [Field](#), select a target field.

Add multiple conditions by choosing [+](#) ([Add Condition](#)). To remove a condition, choose  ([Remove Condition](#)). To clear all conditions in a block, choose  ([Delete Condition Block](#)).

Note that when you create multiple conditions, the condition group is considered fulfilled only if all the conditions within a group are met.

- Optional: Create an OR condition by choosing the **+ Or** button. The system displays additional condition blocks. Follow the same steps as earlier to fill one or more OR condition blocks.

Note

When you create multiple OR conditions, the condition group is considered fulfilled if any one of the block conditions are met.

- In the *Properties* section, choose **+ (Create)** to add a new property.

Note

The *Properties* tab is available only for *Field Attributes*.

- Select a field from the dropdown and use the check boxes to define the properties as required.
- Save and activate your changes.

Note

You can create up to 30 dynamic property rules per entity.

- Switch to adaptation mode and manually assign dynamic layout condition rules for tabs, sections, and buttons. Field attribute rules are applied automatically and do not require manual assignment.

Related Information

[Create Role-Based Attributes \[page 135\]](#)

As an administrator, you can create and assign role-based business rules in dynamic properties.

11.3.1 Create Role-Based Attributes

As an administrator, you can create and assign role-based business rules in dynamic properties.

Procedure

- Navigate to **User Menu** > *System Settings* > *All Settings* > *Extensibility* and select *Extensibility Administration*.

The system opens a new screen and displays a list of all business entities in the left panel. These entities are grouped by services.

- Select a service and choose  (*Drill Down*) to open and select an entity.
- Navigate to the *Dynamic Properties* tab and choose **+ (Create)**.

4. Select [Role-Based Attributes](#).

The editor opens with two sections:

1. Header:

- Specify the dynamic property name and description.
- Use the [Default](#) switch to apply the rule to all business roles at once. Use this when all roles should follow the same restrictions.

Note

Only one rule can be marked as default. Creating a default rule is optional and depends on your use case.

- Use the [Business Role](#) dropdown to select a specific role and customize the property behavior for that role. This allows different field attributes for different roles.

2. Properties: Use the check boxes to define restricted or unrestricted properties as required.

5. Select [Save](#) to apply your changes.

Note

The scope of a role-based attributes rule is limited to the dynamic property where it's defined. If a restriction is set in a static property or another dynamic property, that restriction takes priority. To override it based on business roles, use the [Allow Override by Business Role](#) switch in the corresponding [Field Attribute](#) rule. For more information, refer to the [Create and Assign Dynamic Property Rules](#) topic in the **Related Information** section.

Related Information

[Create Dynamic Property Rules \[page 133\]](#)

Create and apply dynamic rules to manage property behaviors for entities and sub-entities based on specific conditions.

11.4 Create Page Layouts

As an administrator, you can create customized page layouts to cater to the diverse needs of different user groups. This allows you to provide an optimized and user-centric experience for each segment of users.

Context

While the main layout is the default layout that impacts all users and establishes consistency across the entire project, there are situations where specific user groups may require a different look and feel or user interface (UI) design. In such cases, page layouts play a crucial role in customizing the user experience for

different groups of users. For example, users in Bangalore may have distinct preferences, cultural influences, or language requirements compared to users in New York. By using different page layouts for each user group, administrators can create a more personalized and relevant experience, enhancing user engagement and satisfaction.

By default, when you create a new page layout, the changes you make to that layout are not automatically applied to any of the existing users. You must explicitly assign the new page layout by using the assignment rules.

This approach allows administrators to have full control over which users or user groups will be using the customized page layout. You can selectively assign the new layout based on countries, languages, business roles, individual users, territories and their hierarchies, and so on, using the assignment rules. Once the assignment is made, the users who have been assigned the new page layout starts experiencing the changes and enjoy the optimized user experience tailored to their requirements.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Extensibility](#) ► and choose [Page Layouts](#).
2. Choose + (Add) to open the [New Layout](#) quick create screen.
3. Add a name. Note that you cannot modify the name of a page layout as the name field is disabled in edit mode.
4. Save your changes.

The page layout is now created and is listed under the [Page Layouts](#) screen.

Note

Conflicts can occur when changes are made to the same control in both the main layout and the page layout. In such cases, the behavior defined in the page layout takes precedence over the main layout. For example, if a field is made visible in the main layout and then explicitly hidden in the page layout, the page layout will take precedence, and the field will be eventually hidden when the page is displayed to the user.

In case of non-conflicting changes, both the main layout and the page layout changes will get applied. In this scenario, any visibility configurations set at the main layout level will be applied universally across all pages where that field appears unless explicitly overridden in individual page layouts.

11.5 Create and Assign Rules to Page Layouts

As an administrator, you can create and assign rules to page layouts.

Context

Assignment rules allow users to implement diverse logic, customize the user interface, and create distinct appearances for various user groups based on territories, departments, and users.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Extensibility](#) ► and choose [Assignment Rules](#).
2. Choose + [\(Add\)](#) to open the [New Rule](#) screen.
3. Enter the rule name and description.
4. Add a condition following these steps:
 - a. Select a property from the dropdown.
 - b. Select the comparison operator.
 - c. Enter a value.

Add multiple conditions by choosing + [\(Add Condition\)](#). To remove a condition, choose ✕ [\(Remove Condition\)](#). To clear all conditions in a block, choose 🗑 [\(Delete Condition Block\)](#)

Note that when you create multiple conditions, the condition group is considered fulfilled only if all the conditions within a group are met.

5. Optional: You can create a new condition by choosing the + [New Condition Group](#) button. The system displays additional condition blocks. Follow the same steps as earlier to fill one or more OR condition blocks.

📘 Note

When you create multiple OR conditions, the condition group is considered fulfilled if any one of the block conditions are met.

6. Save your changes.

The rule is now created and is listed under the [Assignment Rules](#) screen.
7. Navigate to the [Page Layouts](#) screen.
8. Choose + [\(Assign Rules\)](#) next to the page layout. The system opens the [Assign Rules](#) quick create screen.
9. Select the rules you want to assign to the page layout and choose [Save](#).

The rule is now assigned to the page layout.

Note

You can assign multiple rules to a single page layout. The system applies the **OR** condition in case of multiple assignment rules per page layout. Even if one assignment rule is satisfied, the page layout is assigned to the user.

If there are multiple rules assigned, the page layout that appears on top of the list on the UI takes precedence and is applied for that particular user. One user can have only one page layout applied at a time and this is decided based on precedence. To change the sequence, you can drag and drop the page layout.

Example

You have created two different Page Layouts **Sales Manager** and **Sales Rep**. They appear on the UI as follows:

1. Sales Manager
2. Sales Rep

If you fall under both the conditions, i.e., a sales manager who can act like a sales rep as well, the Sales Manager layout is given more precedence since the Sales Manager Page Layout precedes the Sales Rep page layout on the UI.

11.6 Create and Add Custom Code Lists

Create customized code lists and use them in all supported entities.

Prerequisites

As an administrator, you must configure code lists in **Settings**. Add the business service `customCodeListService` to the required business roles to provide access to custom code list. Enable the app in the [App List](#) section.

Procedure

1. To create a custom code list:
 - a. Navigate to  [User Menu](#)  [System Settings](#)  [All Settings](#) .
 - b. Under [Extensibility](#), select [Custom Code Lists](#).
 - c. Choose  [\(Create Code List\)](#) from the code list section on the left pane.
The system opens a window.
 - d. Enter a [Code List ID](#) and [Name](#).

- e. Choose your [Default Language](#).
- f. Select the [Sorting Options](#). You can choose the order in which you want to see the code list, based on the code or description.
- g. Save your changes.

The system displays the details of your newly created code list, along with an option to add more entries to it.

- h. Choose + [\(Create Code List Entry\)](#) from the detail section on the right pane.
- i. Enter a [Code](#) and [Description](#).
- j. Choose ✓ [\(Create\)](#)

Similarly, you can add more entries based on your requirement. You can search, delete, and view usage of code lists. You can also remove and modify notes.

Note

You can create a maximum of 100 code lists, and each code list can contain up to 2000 values.

2. To create an extension field with the code list in an entity:
 - a. Go to [Extensibility](#) in the [Settings](#) page, and then select [Extensibility Administration](#).
The system opens a new screen and displays a list of all business entities in the left panel. These entities are grouped by services.
 - b. Select the [Extendable](#) checkbox to view the entities that can be extended.
 - c. Drill down to the entity you want to add an extension field to, and select it. The system opens the corresponding worklist.
 - d. In the [Custom Fields](#) tab, choose + [\(Add\)](#) to open the [Create Fields](#) quick create screen.
 - e. Enter a [Label](#).
The system auto-populates the name.
 - f. In the [Data Type](#) field, choose [String](#).
 - g. In the [Data Format](#) field, choose [Code](#).
 - h. Select the [Custom](#) checkbox.
This displays a field for code list with a single-selection option. To enable multiple selections, select the [Multi Value](#) checkbox.
 - i. Search and add the code lists.
 - j. Save your changes.
3. To add the extension field to an entity, navigate to a supported entity and add the extension field via adaptation mode.
4. To export custom code list values:
 - a. Go to ► [All Settings](#) ► [System Settings](#) ► [Extensibility](#) ► [Custom Code List](#) ►.
 - b. Select a custom code list.
 - c. To export, choose ⬇ [\(Export\)](#).
 - d. In the [Export](#) screen, select the file type as either [Excel](#) or [CSV](#) and choose [Export](#).
5. To import custom code list values:
 - a. Go to ► [All Settings](#) ► [System Settings](#) ► [Extensibility](#) ► [Custom Code List](#) ►.
 - b. Select a custom code list.
 - c. To import, choose ⬆ [\(Import\)](#).

- d. In the [Import](#) screen, you can select [Create](#) for creating new values or [Update](#) for updating the existing values.
- e. Select the file type as either [Excel](#) or [CSV](#).
- f. Browse for the prepared data file you want to upload.

→ Remember

When using [Update](#), the system replaces the entire list of values. Ensure that you export the existing values, make the required updates in the file, and then import the file back.

- g. Choose [Import](#) and save your changes.

Related Information

[Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

11.7 Create Code List Restrictions

Code list restriction refers to the process of limiting the available code values based on other code fields or context. As an administrator, you can restrict the values available from a drop-down list by creating and maintaining code list restrictions for different business entities.

Prerequisites

You have assigned the [Code List Restrictions](#) service to the respective business roles.

Context

By default, the system allows all the code values for a business entity to be visible. You can restrict those values based on an instance field through a combination of the following values: Business entity, code field, and control field.

Procedure

1. Navigate to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Extensibility](#) and select [Code List Restrictions](#).

2. Choose + (*Create*) to open the *Create Code List Restrictions* guided activity.
3. In the *Define Code List Restriction* step, do the following:
 - a. Enter a name and description.
 - b. From the drop-down list, select a business entity for which you want to restrict certain code types.
 - c. From the *Code to Restrict* drop-down list, select a code that you want to restrict for the business entity.

📘 Note

The drop-down list includes both active and inactive codes. Make sure you select an active code.

- d. Turn on *Filter Relevant* switch to apply code list restrictions to filter fields. When enabled, role-based code list restriction values are also reflected in basic and advanced filters, ensuring consistency across create, detail, and quick view screens.

📘 Note

This does not impact your data access restrictions.

- e. Do one of the following:
 - 1. From the *Control Field* drop-down list, select a field. If the data type is boolean, you can use the *Include Undefined as False* switch.
 - 2. Choose *Next* to view all the allowed code values for that business entity.
 - 3. In the *Configure Restrictions* step, deselect the check boxes to restrict all or some of the values. Select *View Details* to view more than 20 values.
 - 1. Choose *Next* to view all the allowed code values for that business entity.
 - 2. In the *Configure Restrictions* step, select one or multiple roles from the value help and mark them as restricted if you so require.
You can choose not to define the code list restrictions based on roles.
 - 3. Choose *Next*.
 - 4. In the *Set Default Value* step, select a role from the value help to mark it as default. Note that this feature has restricted availability and is supported only for *Case*. To request for access to this feature, you must create a case with the component CEC-CRM-CLR.
4. Save your changes.

📘 Note

Code list restrictions with circular dependencies are not supported, as they can result in infinite loops during defaulting. For example, if Priority controls Status, Status controls Source Code, and Source Code controls Priority, this creates a circular dependency and is therefore not allowed.

Result: You have restricted specific code values from appearing in certain drop-down menus in the applications. This restriction is based on a combination of business entity, code field, and control field.

To view the code list restrictions that you have created, select the business entity from the drop-down menu on your screen.

📘 Note

The *Validation Relevant* switch determines whether Code List Restrictions (CLR) checks are applied across different data creation channels, such as the UI or back-end APIs.

When turned on, the CLR checks are enforced for both UI-based actions and back-end channels, including API, Data Replication, and Data Import Tools (e.g., Data Impex)

When turned off, the CLR checks are performed only for UI-based operations, skipping validation for bulk imports or API-based entries. This option is designed for performance optimization. For example, when creating many accounts at once using systems like S/4HANA, skipping validation can help avoid delays.

Note

The *Filter Relevant* switch determines whether code list restrictions are applied to filter fields.

When you turn it on, the values defined for role-based code list restrictions are also reflected in basic and advanced filters, ensuring consistency across create, detail, and quick view screens.

When you turn it off, code list restrictions are not applied to filter fields, and all values remain visible in filters. This setting does not impact your data access.

Example

In the application UI, you have made the following selections:

- *Business Entity*: Sales Orders
- *Code to Restrict*: Cash Discount Term Code
- *Control Field*: Distribution Channel

The system displays all the available code list values for the code Cash Discount Term Code, for the Sales Orders business entity. You will have an option to restrict or allow the code values for the control field values *Direct Sales* and *Indirect Sales* individually.

11.7.1 Role-Based Code List Restrictions

As an administrator, you can define code list restrictions (CLR) based on user roles.

For each code field within a business entity, you can create up to two restrictions:

- With a Control Field: Restricts values based on another field's input.
- Without a Control Field: Allows you to apply role-based restrictions, specifying which values are available for users in different roles.

Rules for Restriction Computations at Runtime

When managing CLRs for a code field in a business entity, the system follows specific rules at runtime to determine access based on role-based or instance-based restrictions:

- A restricted code value without specified roles applies universally to all users, overriding any instance-based CLR.
- A restricted code value with specified roles applies only to those roles. Other roles are allowed by default, but instance-based CLRs can further restrict these values for other users.
- An allowed code value with specified roles explicitly permits users with those roles and implicitly restricts others, taking precedence over instance-based CLR.
- An allowed code value without specified roles is open to all users, with instance-based CLR potentially applying further restrictions.

- If only an instance-based CLR exists, its restrictions apply universally to all users.
- If a single CLR with role-based configurations exists for a code field, its restrictions will apply accordingly. Specifically, if a code value is permitted for one role, it will be restricted for all other roles. Conversely, if it is restricted for one role, it will be allowed for all others. If no roles are specified, the restrictions or allowed values will apply to all roles.

11.8 Mashups

Learn how to configure, use, and access mashups.

Mashups are used to integrate data from SAP's cloud solution with data provided by an online Web service or application. Users can access the content provided by these Web services and applications, and use it in their daily work. Mashups can include Web searches, company or industry business information, or online map searches.

11.8.1 Configure Mashups

Administrators can configure mashups in [Settings](#).

→ Tip

Expand a collapsible section heading to view the configuration steps.

11.8.1.1 Enable Mashups for Business Roles

As an administrator, you must add the mashup business service to your business users.

Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► and under [Users and Control](#), select [Business Roles](#).
2. Select a [Business Role ID](#) to open the details.
3. Under [Business Services](#), choose + to open the [Add Business Services](#) window.
4. Select the check box for [mashupService](#) and choose [Add](#).

📘 Note

You can create HTML mashups based on a mashup category provided by SAP.

Results

You have added the mashup service to the selected business user.

Related Information

[Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

11.8.1.2 Configure Mashup URL in Content Security Policy

As an administrator, you must configure the mashup URL in the content security policy settings.

Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [System Preferences](#) ► [Content Security Policy](#) ►
2. Go to the [Frame Source](#) section and choose +.
3. Enter the hostname URL and choose ✓.

If you're creating a mashup with the URL `https://my123456.s4hana.ondemand.com/ui?sap-ushell-config=headerless#ServiceOrder-create` then, add `*.onedemand.com` in the [Frame Source](#).

4. To add an image to the RSS Feed card, go to the [Image Source](#) section and choose +.
5. Enter the hostname URL and choose ✓.

If you're creating a mashup with the URL `https://media-cldnry.s-nbcnews.com/image/upload/t_fit_1500w/mpx/2704722219/img.jpg` then, add `*.s-nbcnews.com` in the [Image Source](#).

11.8.2 Create HTML Mashups

Create HTML mashups to embed a HTML or JavaScript based web page into a screen of your SAP cloud solution.

Context

Some web services may pass your business data to a third-party organization, for example, account data is passed to a search engine when performing a reverse lookup in an online address book. We recommend

that you check whether the mashup conforms to your company's data privacy policies before activating the mashup.

Procedure

1. As an administrator, navigate to **User Menu** > **System Settings** > **All Settings** and under **Extensibility**, select **Mashup Authoring**.
2. Choose **+ (Create)** and then choose **Create HTML Mashup**.
3. Under **General Information**, enter a mashup name.

By default, the status of the mashup is **Active**. You can also change the status to **Inactive** if necessary.

4. To use this mashup on your mobile, turn on the **Mobile Usage** switch.
5. To allow aliasing of mashup parameters during navigation (for example, from a timeline card), you must turn on the **Object-Based Navigation** switch. Once enabled, you can alias your parameters using either the **Object ID** or the **Object Display ID**.
6. Choose **Show More** and update other required fields.

Note

You can adjust the screen height. The default height is 500 pixels.

7. From the **Manage Permissions** dropdown, select **Microphone**, **Camera**, **Notifications**, **Clipboard** or **Local Network Access** to allow mashups to access your system's microphone, camera, notifications, clipboard, and local network respectively.

Note

Ensure that your system permissions are enabled.

Note

Local Network Access is released through the Feature Activation Hub, where, as administrators, you can activate features on your system before they're activated by default.

8. Under **Input Parameters**, enter the URL of the website in the field.
9. Select **Extract Parameters**.

The system verifies the URL domain and shows  if the domain is already available under the trusted domain list.

Note

For URLs that don't use queries, you can manually add curly brackets around terms that should act as placeholders. For example, in the URL `https://mail.google.com/mail/#search/SAP`, you can replace the word `SAP` with a search term in curly brackets, for example, `{term}`. If you then enter `https://mail.google.com/mail/#search/{term}` in the **URL** field and click **Extract Parameters**, the word in brackets is extracted as a parameter.

10. If the URL domain is not in the trusted domain list, hover over  and **Add to Trusted Domain List**.

11. To add parameters to this mashup, select [Add Parameter](#) and enter the required details.

In the [Parameters and Value Binding](#) section, configure the required parameters for the mashup.

- Enter a [Parameter Name](#) to identify the mashup parameter.
- Choose [Constant](#) to assign a fixed value to the parameter, which cannot be changed at runtime.
- Turn on the [Mandatory](#) switch if the parameter must always have a value.
- Turn on the [Multi Value](#) switch to allow the mapped application field to hold multiple values in an array format.
- Select [System Parameter](#) to bind the parameter to a predefined system value.

Note

Field Parameter Binding allows you to bind a mashup parameter to an application field's value. The field must be exposed by the business object, and the binding is done in adaptation mode when adding the mashup to a screen.

Caution

Do not add any sensitive information.

12. Under [Event Configuration](#), enter an event name and add parameters according to your requirements.

Note

The admin must map this event to the application event or directly to a standard operation on the respective screens through adaptation.

13. Choose [Show Preview](#) to check the details.

14. Save your changes

11.8.2.1 Initiate Navigation from Mashups

You can initiate navigation to specific screens in SAP Sales Cloud and SAP Service Cloud Version 2 from any external web applications using a mashup.

Note

- The external web application must be added as an HTML mashup in SAP Sales Cloud and SAP Service Cloud Version 2.
- Navigation is supported only for the list view, detail view, quick view, and quick-create view.
- This feature is also supported for custom UIs.

Initiate navigation refers to the action of navigating to a specific screen or view within SAP Sales Cloud and SAP Service Cloud Version 2, such as the list, detail, quick, or quick create view, based on the parameters passed from an external web application.

To initiate navigation, the external application must use the `window.postMessage()` method to send data to SAP Sales Cloud and SAP Service Cloud Version 2. This data must include specific parameters required for the navigation to work.

The following details explain these parameters and help you create the required HTML code in the external application:

Parameter	Default Value	Description	Mandatory/Optional	Usage Detail
operation	navigation	Name of the operation.	Mandatory	Used by the Mashup web component for determining the action that needs to be triggered.
params	null	Parameters required for initiating navigation.	Mandatory	Used by the Mashup web component for passing the required parameters to trigger the mentioned action.
params.objectKey	null	UUID of the entities or things.	Mandatory	Used to navigate to the specific entity or thing.
params.routingKey	null	Name of the entities, retrieved from the routingKey property in the application UI view metadata in SAP Service Cloud Version 2.	Mandatory	Used for determining the entity to which user wants to navigate.
params.viewType	details	Name of the screen or view to navigate to.	Mandatory	Used for determining the view or screen to which the user wants to navigate. The following view types are supported: • "list" for list view • "details" for entity detail view • "quickcreate" for entity quick create screen • "quickview" for entity quick view.

You can use the following code snippet as a reference. Add a similar script to your external web application and integrate it using an HTML mashup to initiate the navigation.

📘 Note

For custom UI navigation, you can obtain the **routingKey** information from the Design App.

```
<script>
function openCaseView() {
  var case={
    operation:"navigation",
    params: {
```

```

        objectKey: "00163ea6-f284-1eda-b895-42c904e08752",
        routingKey: "case",
        viewType:"details"
    }
};
window.parent.postMessage(case, '*')
}
</script>
<input type='button' value='Open Case Details' onclick='openCaseView();' />

```

11.8.2.2 Initiate Search Events from Mashups

As an administrator, you can initiate search events to specific screens in SAP Sales Cloud Version 2 and SAP Service Cloud Version 2 from any external web applications using a mashup.

Note

- The external web application must be added as an HTML mashup in SAP Sales Cloud and SAP Service Cloud Version 2.

To initiate a search event, the external application must use the `window.postMessage()` method to send data to SAP Sales Cloud and SAP Service Cloud Version 2. This data must include specific parameters required for the navigation to work.

The following details explain these parameters and help you create the required HTML code in the external application:

Parameter	Default Value	Description	Mandatory/Optional
operation	null	Name of the operation.	Mandatory
params	null	Parameters required for initiating navigation.	Mandatory if required by the specific event
event	null	Name of the event..	Mandatory

You can use the following code snippet as a reference. Add a similar script to your external web application and integrate it using an HTML mashup to initiate the search event.

```

<script>
function triggerSearchEvent() {
    var event = {event: "mashup100.magiccom.customExtendedSearch", operation:
"search", params: {$search: "alex"}};
    window.parent.postMessage(event, '*')
}
</script>
<input type='button' value='Search' onclick='triggerSearchEvent();' />

```

11.8.2.3 Initiate Custom Events from Mashups

Use the Mashup callback feature in SAP Sales Cloud and SAP Service Cloud Version 2 to initiate custom events from embedded web applications. These events must be defined and maintained by the respective application teams.

Note

The external web application must be added as an HTML mashup in SAP Sales Cloud and SAP Service Cloud Version 2.

Implementation Guidelines for External Web Applications

To initiate a custom event from a mashup, note the following:

- Use `window.parent.postMessage` within your embedded web application to communicate with the SAP Sales Cloud and SAP Service Cloud Version 2 mashups.
- A specific JSON format (described in the table below) must be sent from the embedded web application to the SAP Sales Cloud and SAP Service Cloud Version 2 mashups using `window.parent.postMessage`.
- Parameters passed to the event are sanitized using `encodeURIComponent` before processing.
- The **Name of event** and **parameter names** must exactly match those defined during mashup authoring.

Format of the JSON data

The following table outlines the structure of the JSON object that must be sent via `window.parent.postMessage` from the embedded web application:

Property Name	Data Type	Default Value	Mandatory/Optional	Description
operation	string	null	Mandatory	Name of the operation
event	string	null	Mandatory	Name of the event
params	object	null	Mandatory if required by specific event	Parameters required to trigger the event

Example

Scenario: A user wants to initiate a refresh event from a web application embedded in a mashup within the Account object detail screen. The event name is "accountRefreshEvent", and it does not require any parameters.

The following sample provides an idea of the logic that must be written using `window.parent.postMessage`:

```
<script>
```

```
function triggerRefreshEvent() {
    var event = { event: "accountRefreshEvent",
                  operation: "triggerCustomAction"
                };
    window.parent.postMessage(event, '*')
}
<input type='button' value='Refresh' onclick= triggerRefreshEvent();' />
```

11.8.3 Create URL Mashups

As an administrator, you can create URL mashups to send data from SAP Sales Cloud and SAP Service Cloud Version 2 to a web service provider's URL. The results are displayed on the provider's website in a new browser window.

Context

Some web services may pass your business data to a third-party organization, for example, account data is passed to a search engine when performing a reverse lookup in an online address book. We recommend that you check whether the mashup conforms to your company's data privacy policies before activating it.

📘 Note

You can create URL Mashups for the following entities: Accounts, Individual Customers, Contacts, Competitors, Partner Contacts, Leads, Cases, Guided Selling, Sales Quotes, Sales Orders, Employee, Partner, Supplier, and Supplier Contact.

Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Extensibility** > **Mashup Authoring**.
2. Choose **+** (*Create*) and then select **URL Mashup**.
3. Under **General Information**, enter a mashup name.

By default, the status of the mashup is **Active**. You can also change the status to **Inactive** if necessary.

4. To use this mashup on your mobile, turn on the **Mobile Usage** switch.
5. To allow aliasing of mashup parameters during navigation (for example, from a timeline card), you must turn on the **Object-Based Navigation** switch. Once enabled, you can alias your parameters using either the **Object ID** or the **Object Display ID**.
6. Choose **Show More** and update other required fields.
7. Under **Input Parameters**, enter the URL of the website in the field.
8. Select **Extract Parameters**.

The system verifies the URL domain and shows  if the domain is already available under the trusted domain list.

Note

For URLs without query parameters, you can manually insert curly brackets around terms you want to use as placeholders. For example, replace **SAP** in `https://mail.google.com/mail/#search/SAP` with `{term}` to create `https://mail.google.com/mail/#search/{term}`. When you enter this in the *URL* field and select *Extract Parameters*, the word in brackets is extracted as a parameter.

9. If the URL domain is not in the trusted domain list, hover over  and choose *Add to Trusted Domain List*. The system redirects you to the *Content Security Policy Setting*, where you can add the URL to the trusted domains list.
10. To add parameters to this mashup, select *Add Parameter* and enter the required details.

In the *Parameters and Value Binding* section, configure the required parameters for the mashup.

- Enter a *Parameter Name* to identify the mashup parameter.
- Choose *Constant* to assign a fixed value to the parameter, which cannot be changed at runtime.
- Mark the *Mandatory* checkbox if the parameter must always have a value.
- Choose *System Parameter* to bind the parameter to a predefined system value.

Note

Field Parameter Binding allows you to bind a mashup parameter to an application field's value. The field must be exposed by the business object, and the binding is done in Adaptation mode when adding the mashup to a screen.

Caution

Do not add any sensitive information.

11. Select *Show Preview* to open the preview in a new browser tab.
12. Save your changes.

To use the mashup, perform the following steps:

1. Navigate to an entity and open a record in detailed view.
2. Choose *Start Adaptation* to add the URL mashup as a button or a link at any place where a mashup can be added.
3. Choose *End Adaptation* after adding the mashup.

Results

The URL is launched in a separate browser tab on choosing the button or the link.

11.8.4 Create Web Component Mashups

Create web component mashups to embed that into a screen of your SAP cloud solution.

Context

Some web services may pass your business data to a third-party organization, for example, account data is passed to a search engine when performing a reverse lookup in an online address book. We recommend that you check whether the mashup conforms to your company's data privacy policies before activating the mashup.

Note

To enable this feature, create a case with the CEC-CRM-PM-PF component using the subject **Enable Creation of Web Component Mashups**.

Procedure

1. As an administrator, navigate to **User Menu** > **System Settings** > **All Settings** and under **Extensibility**, select **Mashup Authoring**.
2. Choose **+** (**Create**) and then choose **Create Web Component Mashup**.
3. Under **General Information**, enter a mashup name.

By default, the status of the mashup is **Active**. You can also change the status to **Inactive** if necessary.

4. Optional: To use this mashup on your mobile, turn on the **Mobile Usage** switch.
5. Select **Show More** and update the required fields.

Note

You can adjust the screen height. The default height is 500 pixels.

6. From the **Manage Permissions** dropdown, select **Microphone**, **Camera**, **Notifications**, **Clipboard** or **Local Network Access** to allow mashups to access your system's microphone, camera, notifications, clipboard, and local network respectively.

Note

Local Network Access is released through the Feature Activation Hub, where, as administrators, you can activate features on your system before they're activated by default.

7. Under **Input Parameters**, enter the **Resource URL** of the website in the field.
8. Enter the **Web Component** name.
9. To add parameters to this mashup, select **Add Parameter** and enter the required details.

⚠ Caution

Do not add any sensitive information.

10. Choose [Show Preview](#) to check the details.
11. Save your changes.

Related Information

[Create Analytics Mashups \[page 154\]](#)

Create an SAP Analytics Cloud mashup that is embedded on the home page card to show advanced charts via SAP Analytics Cloud.

11.8.5 Create Analytics Mashups

Create an SAP Analytics Cloud mashup that is embedded on the home page card to show advanced charts via SAP Analytics Cloud.

Context

Some web services may pass your business data to a third-party organization, for example, account data is passed to a search engine when performing a reverse lookup in an online address book. We recommend that you check whether the mashup conforms to your company's data privacy policies before activating the mashup.

Procedure

1. As an administrator, navigate to ► [User Menu](#) ► [Settings](#) ► [All Settings](#) ► and under [Extensibility](#), select [Mashup Authoring](#).
2. Select [+ \(Create\)](#) and then choose [Analytics Mashup](#).
3. Under [General Information](#), enter a mashup name.

By default, the status of the mashup is [Active](#). You can also change the status to [Inactive](#) if necessary.

4. Select [Show More](#) and update the required fields.

📘 Note

You can adjust the screen height. The default height is 500 pixels.

5. Under [Parameters and Value Binding](#), the **Widget ID** parameter will be added by default. Select a widget from the dropdown.

6. Save your changes

11.8.6 Copy Existing Mashups

You can create a copy from the existing mashups.

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Extensibility](#) > [Mashup Authoring](#).
2. From the new tab, select the mashup you want to copy by clicking on the mashup name.
3. From the [Mashup Details](#) screen, choose [Duplicate](#).
The system opens a copy of the mashup.
4. Enter a new name for the mashup and adapt the configuration settings, as required.
5. Save your changes.

11.8.7 Add Mashups as Tabs

As an administrator, you can add a mashup as a new tab.

Using page layouts and visibility property, you can control who is allowed to use the mashup.

To add a mashup as a tab, follow these steps:

1. **Create a tab on a screen.**
 1. Navigate to a screen where you want to add the mashup.
 2. Go to [User Menu](#) > [Start Adaptation](#). The system opens in the adaptation mode.
 3. Hover over the area where you see a plus icon (+).
The system highlights the area with a red border along with a tool tab
 4. From the tool tab, select the pencil icon to edit. A new tab opens.
 5. Click the plus icon (+) and enter a tab name.
 6. Click [Apply](#).
The new tab is added to the header of the screen.
2. **Add a mashup to the tab.**
 1. Open the new tab and hover over the empty space to enable the red highlight with the tool tab.
 2. From the tool tab, select the pencil icon to edit. A new tab opens.
 3. Select the arrow available next to [Add Mashup](#) to open a new window.
 4. Click the arrow available next to the required mashup to display the properties.
 5. If necessary, you can adjust the appearance of the mashup by selecting one of the following options under [Edit Properties](#).

Note

The options available to you may vary depending on the mashup.

- [Show Header](#): Select the [Show Header](#) checkbox if you want to see the mashup title on the screen.
- [Height \(%\)](#): You can define the height of HTML Mashups to be displayed in the available screen.
For example, if you set the value of Height (%) to 100, the newly added mashup occupies the full height of the screen.

If the selected mashup has only a parameter name added, without a constant or system parameter, the system displays an additional field to choose the value to be mapped.

Note

The embedded mashup instantly updates when you change the mapped parameter.

6. Click [Apply](#).
7. To save your settings, click [End Session](#) on the top of the screen.

Related Information

[Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

11.8.8 Delete or Deactivate Mashups

Delete or deactivate mashups that you and other users have created.

1. Go to  and under [Extensibility](#), select [Mashup Authoring](#).
2. Select a mashup from the list.
3. Choose the [Delete](#) icon, or turn the [Active](#) switch off.
If you choose to deactivate, the mashup is no longer visible on screens. If you choose to delete, the mashup is removed from the [Mashup Authoring](#) view and is also deleted from all screens for which it had been made visible.

11.8.9 Edit URL and Parameter Value for Transported Mashups

As an administrator, you can manually enter the URL and parameter value for mashups in the target system.

Context

When you transport a mashup to the target system, the URL field and parameter value are not transported and remains empty. As a result, any screen where the mashup is used displays a warning message indicating that no URL is added. To ensure the mashup works correctly, you must manually enter the URL and parameter value in the target system.

Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** and under **Extensibility**, select **Mashup Authoring**.
2. Select the transported mashup for which you need to enter a URL.
3. Choose **Edit**, located on the top-right corner of the screen.
4. Under **Input Parameters**, enter the URL of the website in the field.
5. Under **Parameters and Value Binding** edit the values for **Constant** and **System Parameter**.
6. Select **Save**.
See the related link section for information on transporting configuration changes from a source tenant to a target tenant.

Related Information

[Change Project \[page 936\]](#)

Change Project allows you to record and transport configuration changes from a source system to target systems.

11.8.10 Retain Mashup State

As an administrator, you can retain the mashup state when switching tabs.

Context

When you switched between tabs in the application, mashups would refresh, causing any data you had entered to be lost. This disrupts the workflow for users, especially when they need to copy information from different screens into the mashup.

With the **Mashup Retain State** feature, mashups built with HTML or Web Components will no longer reload when you switch tabs. Your data stays just the way you left it, making it easier to work without interruptions or repeated inputs.

Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Extensibility** > **Mashup Authoring**
2. Select the mashup for which you want to retain the state while switching tabs.
3. Choose **Edit**.

4. Under [General Information](#), turn on the [Retain State](#) switch.
5. Save your changes.

⚠ Caution

Be careful when choosing which mashups to keep open. Keeping too many can impact performance, so use this feature wisely.

ℹ Note

- Browser support details:
 - Google Chrome: Supported from version 133 onwards
 - Microsoft Edge: Supported from version 133 onwards
 - Mozilla Firefox and Safari: Not supported yet
- This feature supports all shell tab switching but may not function consistently when switching between tabs within the entity details screen. The entities where it works are: Accounts, Contact, Individual Customer.

11.8.11 Mashups Where Used List

The [Where Used](#) feature tracks where mashups are used in other entities or as homepage cards.

It displays the usage in a hierarchical structure that shows the complete dependency from the top-level component down to the mashup.

The feature tracks the usages only for mashups created on or after January 15, 2026.

When you delete such mashups the system will display an error message. Use the Where Used feature to identify and remove all usages before deleting the mashup.

ℹ Note

Mashups created before January 15, 2026 may not have their usages tracked. If you delete such mashups, the system allows the deletion even if they are used in other entities, which may lead to errors. To track the usage of these mashups, go to the screen where the mashup is used, make a minor change in adaptation mode, and save it. This enables the system to register the mashup usage.

To view the where used list do the following:

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► and under [Extensibility](#), select [Mashup Authoring](#).
2. From the list of mashups, navigate to the desired mashup and choose  ([Where Used](#)).
A pop up opens listing the usages of the mashup.

11.8.12 Auto-Loaded URLs in Mashups

As an administrator, you can set up [Auto-Loaded URLs](#) in Mashup Authoring.

Context

When navigating to a mashup, data from source websites may take time to load, causing delays. Auto-Loaded URLs eliminate this lag by preloading content in the background, ensuring your mashups are ready instantly and your workflow remains uninterrupted.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Mashup Authoring](#) ►.
2. Choose the [Auto-Loaded URL](#) button on top left of Mashup Authoring.
The Auto-Loaded URLs window pops up.
3. Enter the URLs and select ✓ ([Accept](#)) corresponding to them to save your URL.

Note

You can only set a maximum of two Auto-Loaded URLs.

11.9 Modify Work Center Sequence

As an administrator, you can rearrange the order in which work centers appear in the navigation menu. You can also set a default work center that opens each time you access the screen.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Extensibility](#) ► and choose [Work Center Sequence](#).
2. From the [Default Work Center](#) dropdown, select the work center that should open by default whenever you access the screen.
3. Choose ≡ ([Move](#)) next to a work center and drag it to adjust its position in the sequence.
4. Confirm your changes.

11.10 Language Adaptation

Language adaptation customizes communication for different users, considering business and linguistic preferences. It ensures content resonates effectively, improving comprehension and engagement.

This practice is vital for global communication, making information accessible and enhancing the user experience across diverse linguistic and cultural backgrounds.

11.10.1 Change User Interface Texts for Applications

As an administrator, you can translate or change field labels, codelist descriptions, custom messages and UI texts for applications.

Context

You can use this feature to override standard SAP texts and custom message texts, as well as customize field label terminology to fit your business needs.

Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Extensibility](#) ► [Language Adaptation](#) ►. The system opens the **Language Adaptation** tool in a new window.
2. Select an application, source language, and target language for maintaining custom translations. Keep the source language and target language same if you just want to change the field labels or texts.

Note

You must have unrestricted write access to the selected application for using this feature.

3. Choose [Next](#).
4. Navigate to one of the following:
 - [Field Labels](#) tab if you want to change the field labels. The system displays the current target language text.
 - [Code Lists](#) tab if you want to change the code lists descriptions. If no code lists are selected, select one or multiple code lists from the drop down and click outside the box. The system displays the list of selected code lists and the current target language text.
 - [Messages](#) tab if you want to edit custom and standard messages.
 - [Timeline Texts](#) tab if you want to translate the texts that appear in Timeline events. Note that parameters such as "{\$leadId}", "{\$closeDate}", and other placeholders starting with "{\$...}" cannot be added or removed; they must be included in the target language text. Only the surrounding static text can be modified.

5. Modify the text in one of the following ways:

- For simple texts, use the *Target Language Text* column and save your changes. To undo the changes, choose  (*Reset*).
You can also change the source text by selecting *Edit Source Text*. To go back to the SAP delivered target language text, select  (*Revert*)
- To change texts enmasse, use the following steps:
 1. Choose  (*Export*).
 2. In the *Export* screen, select the file type as either *Excel* or *CSV* and select *Export*. The system generates a zip file.
 3. Select the zip file.
It gets download to your local system. The file contains two excels with the following column headers:
 - File 1: ID, Service, Source Language, Target Language
 - File 2: ID, Label ID, Default Target Language Text, Source Language Text, Target Language Text, Text Parent_Technical_Key and a new column header called **New Target Language Text**
 4. Add a new text or update the existing text in the **New Target Language Text** column.
 5. Save your changes and re-compress the Excel files into a ZIP file.
 6. Navigate to the original tab and select  (*Import*).
 7. In the *Import* screen, select the file type as either *Excel* or *CSV*. You can either choose to import the complete entity by switching on the *Complete Entity* option, or select from *Field Labels*, *Code Lists*, and *Messages*.
 8. Browse for the *.zip prepared data file you want to upload.

→ Remember

Use that latest file for import. If an old file is used, existing data is overwritten considering update file data as the latest data. Data which is not to be updated can be left unchanged in the exported file. We recommend that you import only a maximum of 50,000 records in a single file.

9. Select *Import* and save your changes.

Related Information

[Data Import and Export \[page 734\]](#)

This document describes how you can use Data Import and Export to import data into your solution and export data from your solution.

11.11 Extensibility Using SAP Build

SAP Build enables you to build custom application for all form factors including mobile, desktop, browser, TV, and others without writing code.

You can extend your system using SAP Build by designing, developing, and embedding these extensions on your system. You can access SAP Build by choosing  ([Switch Application](#)) in the Shell bar.

Note

SAP Sales and Service Cloud Version 2 includes new entitlements of SAP Build Base User, SAP Build Developer, and SAP Build Runtime.

Related Information

[Setup SAP Build Apps with SAP Sales Cloud and SAP Service Cloud Version 2](#)

[Build-Default](#)

[Build Apps Deprecation](#) 

11.12 Configure Inbound Authentication

Propagate user identity from BTP service to SAP Sales Cloud Version 2 and SAP Service Cloud Version 2 using OAuth2 SAML Bearer Assertion Flow BTP destinations.

Context

The following steps describe how to connect a SAP Sales Cloud Version 2 and SAP Service Cloud Version 2 system using the OAuth2 SAML Bearer Assertion Authentication flow. In this flow, the user identity of the logged-in user from source system can be propagated to SAP Sales and Service Cloud Version 2 system.

Procedure

1. Login to your SAP BTP cockpit, and navigate to  [BTP Subaccount](#)  [Destinations](#)  [Subaccount](#) [Destinations](#) .
2. Copy contents of the certificate between the header and the footer.
3. Create an inbound configuration in your tenant.

- a. Verify if your tenant is already configured.

Code Syntax

```
Method: GET
URL: <Your tenant host url>/sap/c4c/api/v1/iam-service/
oauth2InboundConfiguration/34f8b9d2-78c2-4617-bcf2-6eb36403c667
```

- b. If there exists a configuration, verify if it is the same certificate or different. If the certificate is same, you can use the existing configuration. Otherwise, override it.

Code Syntax

```
Method: PUT
URL: <Your tenant host url>/sap/c4c/api/v1/iam-service/
oauth2InboundConfiguration/34f8b9d2-78c2-4617-bcf2-6eb36403c667
Body:
{
  "id": "34f8b9d2-78c2-4617-bcf2-6eb36403c667",
  "clientAppName" : "<give your own name>",
  "certificate" : "<certificate extracted in above step>"
}
```

- c. If there is no inbound configuration, create a new inbound configuration.

Code Syntax

```
Method: POST
URL: <Your tenant host url>/sap/c4c/api/v1/iam-service/
oauth2InboundConfiguration
Body:
{
  "id": "34f8b9d2-78c2-4617-bcf2-6eb36403c667",
  "clientAppName" : "<give your own name>",
  "certificate" : "<certificate extracted in above step>"
}
```

Once you create or update the configuration, you get the following response.

Output Code

```
{
  "value": {
    "id": " ... ",
    "adminData": {
      "createdBy": " ... ",
      "createdOn": " ... ",
      "updatedBy": " ... ",
      "updatedOn": " ... ",
      "deletedBy": null,
      "deletedOn": null,
      "deleted": false
    },
    "description": " ... ",
    "grantType": "SAML2_BEARER",
    "scopes": [
      "<SCOPE_ID>"
    ],
    "nameIdType": "EMAIL",
    "spEntityId": " ... ",
    "audience": "<AUDIENCE>"
  }
}
```

```

    "tokenServiceUrl": "<TOKEN_URL>",
    "clientId": "<CLIENT_ID>",
    "clientAppName": "...",
    "certificate": "... "
  }
}

```

⚠ Restriction

Only one OAuth2 SAML Assertion Bearer Flow Inbound Configuration can be configured for a tenant.

- Now, go to your [BTP Subaccount](#) > [BTP Subaccount - Create New Destination](#) and create a new destination entering the following information:

Option	Description
Name	<As per your choice>
Type	HTTP
URL	<Your tenant host URL>
Authentication	OAuth2SAMLEntityAssertion
Audience	<AUDIENCE> from the inbound configured JSON response
AuthContextClassRef	urn: none
Client Key	<CLIENT KEY> from the inbound configured JSON response
Token Service URL	<TOKEN_URL> from the inbound configured JSON response
Scope	<SCOPE_ID> from the inbound configured JSON response
nameIdFormat	urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress

📌 Note

If this destination is also used for SAP Build Apps (deprecated), select additional properties and enter the information.

AppGyverEnabled	true
HTML5.DynamicDestination	true
IsSAPSalesAndServiceCloudAPI	true

- Configure trusted domains for SAP authorization and trust management service: [Configure Trusted Domains for SAP Authorization and Trust Management Service](#).

Related Information

[Security Considerations for the SAP Authorization and Trust Management Service](#)

11.13 Custom Services

Custom Service refers to a service that is developed, implemented, and deployed outside of the SAP Sales Cloud and SAP Service Cloud Version 2 systems. However, its metadata, such as entity definitions and event structures, is imported into the metadata repository of the systems.

This is a key feature that enables add-ons, allowing external services to integrate seamlessly with the SAP Sales Cloud and SAP Service Cloud Version 2 processes.

Once integrated, the custom service can fully participate in the SAP Sales Cloud and SAP Service Cloud Version 2 ecosystem and leverage core platform capabilities, such as:

- **Built-in features** like autoflow, timeline, and so on.
- **Custom work centers** with auto-generated user interfaces, including:
 - List View
 - Detail View
 - Quick View
 - Quick Create
 - Timeline

This approach allows customers to extend the functionality without altering the core platform, ensuring flexibility and future-proofing custom developments.

There are two types of custom services: one is mashup based, and the other is entity based. The mashup-based version features a new UI flow and expanded configuration options .

Note

You can create up to 30 custom services in total, with the following limits:

- A maximum of **30 mashup-based** custom services.
- A maximum of **15 entity-based** custom services.

These limits are shared. For example: If you create **30 mashup-based** services, you cannot create any more entity-based services. If you create **15 entity-based** services, you can create up to **15 mashup-based** services, totaling 30 overall.

Related Information

[API Guidelines \[page 181\]](#)

This page outlines the API guidelines that external or custom services must follow to integrate with SAP Sales Cloud Version 2 and SAP Service Cloud Version 2.

[Metadata Guidelines \[page 170\]](#)

When integrating external services, inconsistencies may arise due to differences in data types, attributes, associations, and operations. To address this, a JSON file is used to map the external service details to

structure expected in the solution. By explicitly defining these mappings in the JSON file, you ensure seamless and accurate service integration.

11.13.1 Create a Mashup-Based Custom Service

As an administrator, you can create a mashup-based custom service.

Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Extensibility** > **Custom Services**.
2. Choose **+ (Create)** and then select **Mashup-Based Custom Service**.
 - a. On the **Service Details** screen, enter a title and description.
 - b. Choose **Confirm**.
 - c. Navigate to the **Custom Services** screen and choose **↻ (Refresh)** to view the new service.

Note

You can create a maximum of 30 mashup-based custom services.

- -
 3. To assign a mashup into the new service, choose **✎ (Edit)** or **🗑 (Delete)** under the **Actions** column.
3. To assign a mashup into the new service, choose **📄 (Design App)** under the **Actions** column.

Note

Ensure that the new service is activated. If it is not, wait until the status changes from **In Process** to **Activated**.

- a. On the **UI View** screen, choose **+ (Create)** available on the top-right corner of the screen.
The system opens a new screen.
- b. Enter a title.
- c. Choose an icon.
- d. Select a UI View Pattern from the available options:
 - Work List
If you intend to use the mashup solely as a work center feature, assign it to a worklist.
 - Detail View
 - Quick View
 - Quick Create
- e. Choose **📄 (Add Mashup)** to open the Mashup pop-up window.
- f. Select a mashup and choose **Apply**.

Note

The mashup name that you configured in Mashup Authoring will not be visible on the UI.

- g. Save your changes.
The [UI View](#) page shows the new design.
 - h. Turn on the [Include in Navigation Menu](#) switch to include this screen to the navigation menu as a work center.
 - i. Choose [Confirm](#).
4. To manage the custom service and the interface you created, choose **⋮** ([More](#)) available on the top-right corner of the screen and choose the following options:
 - [Assign Business Roles](#): For more information, see [Create Business Users and Assign Business Roles \[page 225\]](#).
 - [Manage Work Center Sequence](#): For more information, see [Modify Work Center Sequence \[page 159\]](#).

ⓘ Note

The previous **Mashup as a Work Center** flow experience has been deprecated on September 1, 2025 and is replaced by the new custom service flow. This change applies only to the admin creation flow and not to the underlying functionality. The existing mashups will continue to work as-is and no changes are required to your current configurations or data. The update introduces a revamped UI with enhanced features for a better authoring experience.

Results

You have added the mashup as a work center under the navigation menu.

11.13.2 Create an Entity-Based Custom Service

Create a custom service to integrate external functionality into the SAP Sales Cloud and SAP Service Cloud Version 2 systems without modifying the core application.

Procedure

1. Navigate to **► User Menu ► System Settings ► All Settings ► Extensibility ► Custom Services ►**.
2. Choose **+** ([Create](#)) and then select [Entity-Based Custom Service](#).
 - a. On the [Service Details](#) screen, enter a [Service Title](#) and update other required details.

ⓘ Note

For CAP-based custom services, you can automatically generate the metadata JSON file using the **CAP File Conversion** feature. This reduces the manual effort required to fill in details based on your CAP service. For more details, see the **Related Information** section.

- b. Upload a service JSON file that contains custom metadata using the [Drop or Browse Files](#) option.
You can select **↓** ([Download JSON Files](#)) to download the following files based on your requirement:

- **Template:** This downloads a JSON file template without any data
- **Sample:** This downloads an example of JSON file with data
- **Current Metadata:** This downloads a copy of your uploaded JSON file

SAP Sales Cloud and SAP Service Cloud Version 2 requires that both the service API and metadata conform to specific guidelines. For more details, refer to the **Metadata Guidelines** and **API Guidelines** in the **Related Information** section.

- c. Choose **Confirm**.

Navigate to the **Custom Services** screen and in the **Actions** column, choose  (**Refresh**) to view the new service.

Note

After saving the service, you can use the **Export to CAP Model** option to generate and download the CAP CDS schema based on the metadata.

- d. Optional: To edit or delete a service, choose the  (**Edit**) or  (**Delete**) icons in the **Actions** column.
3. To Configure the host for your custom service, Go to the **Actions** column for the service you want to configure the host for, and then select  (**Configure Host**).

Note

The service must contain a JSON file with the API metadata.

- a. In the **Configure Host** window, select one of the following connection types:
 - **Direct Connection:** If you select this option, you must provide the **Host URL** for Direct Connection. As the name suggests, a direct call is made from the SAP Sales and Service Cloud application to the external or custom service.

Note

- The external service must support **Single Sign-On (SSO)**.
 - **CORS (Cross-Origin Resource Sharing)** settings must be handled by the external service.
- **Backend Connection:** In this connection type, calls to the external service API are not made directly. Instead, they are routed through a standard backend service within SAP Sales and Service Cloud, essentially functioning as a server-to-server call.
To use the backend connection type, you must configure an outbound communication system with the domain URL of the external service. Once the communication system is set up, you can select the operations (as defined in the metadata) that should be supported.

Note

- The connection uses server-to-server communication.
 - Authentication is based on the method configured in the communication system.
 - Supported authentication methods:
 - OAuth 2.0 – Client Credentials
 - OAuth 2.0 – SAML Bearer Assertion (Recommended for user propagation)
- b. Save your changes.

4. To embed an interface into the new service, choose  (**Design App**) in the **Actions** column.

Note

Ensure that the new service is activated. If it is not, wait until the status changes from *In Process* to *Activated*.

- a. On the *UI View* screen, choose **+** (*Create*) available on the top-right corner of the screen.
- b. Enter a title.
- c. Choose an icon.
- d. Select a UI View Pattern from the available options:
 - Work List
 - Detail View
 - Quick View
 - Quick Create

Note

You can either generate a custom UI or assign a mashup. After saving, you can switch from a mashup to a custom UI, but not the other way around.

- e. To generate a custom timeline card for this external service, select *Timeline Card* under the *Select Embedded Component* section. To enable navigation from the timeline card, make sure a *Quick View* is assigned to the custom service under the *Select UI View Pattern* section. If a custom UI is selected for the Quick View, it will be used for navigation. If a URL mashup is selected, navigation will open the mashup in a new browser tab.
- f. Save your changes.

The *UI View* page shows the new interface design.
- g. To include this screen to the navigation menu as a workspace, turn the *Navigation Launchpoint* switch on.
- h. Choose *Confirm*.

Note

The system currently supports up to two child entities per root entity. Multi-level hierarchies are not yet supported.

5. To manage the service, choose **...** (*More*) available on the top-right corner of the screen and select the following options:
 - *Assign Business Roles*: For more information, see [Create Business Users and Assign Business Roles \[page 225\]](#).
 - *Manage Workspace Sequence*: For more information, see [Modify Work Center Sequence \[page 159\]](#).

Related Information

[Metadata Guidelines \[page 170\]](#)

When integrating external services, inconsistencies may arise due to differences in data types, attributes, associations, and operations. To address this, a JSON file is used to map the external service details to structure expected in the solution. By explicitly defining these mappings in the JSON file, you ensure seamless and accurate service integration.

[API Guidelines \[page 181\]](#)

This page outlines the API guidelines that external or custom services must follow to integrate with SAP Sales Cloud Version 2 and SAP Service Cloud Version 2.

[CAP File Conversion \[page 206\]](#)

For CAP-based custom services, you can automatically generate the metadata JSON file using the *CAP File Conversion* feature. This reduces the manual effort required to fill in details based on your CAP service.

[Manage Communication Systems \[page 908\]](#)

Create and manage communication systems.

[Create Custom Timeline Events \[page 335\]](#)

Use custom timeline events to display business activities triggered by custom or external services on the timeline for supported subscribers objects.

[Create HTML Mashups \[page 145\]](#)

Create HTML mashups to embed a HTML or JavaScript based web page into a screen of your SAP cloud solution.

11.13.2.1 Metadata Guidelines

When integrating external services, inconsistencies may arise due to differences in data types, attributes, associations, and operations. To address this, a JSON file is used to map the external service details to structure expected in the solution. By explicitly defining these mappings in the JSON file, you ensure seamless and accurate service integration.

Note

Custom services are primarily implemented outside the SAP Sales Cloud and SAP Service Cloud Version 2 infrastructure. Their metadata is imported into the SAP Sales Cloud and SAP Service Cloud Version 2 metadata repository, enabling seamless integration with SAP Sales Cloud and SAP Service Cloud Version 2 processes such as generating custom UIs to list, create, or update entities, adding timeline entries, or defining autoflow actions.

These metadata artifacts are described in the following section. You can download a sample metadata file or template from the **Custom Service Administration** screen.

Service

The **Service** metadata acts as a container for all other metadata artifacts and is required if you plan to define any of them.

name

A unique technical name of the service.

Must start with a letter and contain only alphanumeric characters. It should not be suffixed with the word **service**. (for example: "projectOrder").

Type: string

fullName

Auto-generated using the name and the default namespace (`customer.ssc`).

A "Service" suffix is added automatically (for example: `"customer.ssc.service.projectOrderService"`). This is why the name itself should not end in **service**.

Type: string

title

Display name of the service, readable name used on the UI.

Type: string

description

Description of the service. This property can be used to explain the purpose of the service.

authorizationRelevant

If this property is set to true, the service needs to be added to a business role assigned to the user who will access it via the custom UI (or SAP Sales Cloud and SAP Service Cloud Version 2 channels). If the user sets it to false, there will be no check from SAP Sales Cloud and SAP Service Cloud Version 2. To generate a custom UI, this property must be set to true (so that an admin can assign the corresponding UI app to a user role).

Note

This mechanism only provides filtering of UI apps and API calls to the custom service (from SAP Sales Cloud and SAP Service Cloud Version 2). Your external service must implement its own access control logic and not depend on this filtering.

```
"service": {
  "name": "ProjectOrder",
  "title": "ProjectOrder",
  "description": "Project Order Service For Demo",
  "authorizationRelevant": true
}
```

Entity

A Service is an aggregate of one or more entities. Entities can have references to other entities. An entity represents a resource that can be accessed from an API. In that sense, it represents the publicly accessible model of entity data

This is a core metadata to define most of the artifacts. For example, it is used to define the request and response structure of the (custom service) API, payload structure of the events, and used to generate the UI views. An entity can be composed of attributes and can refer other entities in the same or other service. Usually every service has one aggregate entity (marked as root). A service can have only one aggregate entity.

In addition to business entities, code list entities are also supported.

An entity metadata sample:

```
{
  "name": "projectOrder",
  "label": "Project Order",
  "entityType": "BUSINESS",
  "objectTypeCode": "CUS1271",
```

```

"root": true,
"attributes": [
  {
    "name": "id",
    "label": "Name",
    "dataType": "STRING",
    "dataFormat": "UUID",
    "nullable": false,
    "creatable": true,
    "updatable": false,
    "filterable": true,
    "searchable": true,
    "keyType": "PRIMARY"
  },
  {
    "name": "name",
    "label": "Name",
    "dataType": "STRING",
    "description": true,
    "nullable": false,
    "creatable": true,
    "updatable": true,
    "filterable": true,
    "searchable": true
  },
  {
    "name": "account",
    "dataType": "OBJECT",
    "label": "Account",
    "objectDefinition": [
      {
        "name": "id",
        "dataType": "STRING",
        "creatable": false,
        "updatable": false,
        "nullable": false,
        "sortable": false,
        "filterable": true,
        "searchable": false,
        "label": "Account ID",
        "dataFormat": "UUID",
        "descriptionAttribute": "formattedName",
        "keyType": "FOREIGN",
        "objectReference": {
          "associationType": "ASSOCIATION",
          "targetAttribute": "id",
          "targetEntity":
"sap.ssc.md.accountservice.entity.account",
          "keyGroup": "account",
          "targetService":
"sap.ssc.md.service.accountService"
        }
      },
      {
        "name": "formattedName",
        "dataType": "STRING",
        "creatable": true,
        "updatable": true,
        "nullable": true,
        "sortable": true,
        "filterable": true,
        "searchable": true,
        "label": "Account Name",
        "objectReference": {
          "associationType": "REFERENCE",
          "targetAttribute": "formattedName",
          "keyGroup": "account"
        }
      }
    ]
  }
]

```

```

    }
  ],
  {
    "name": "estimatedRevenue",
    "label": "Estimated Revenue",
    "dataType": "OBJECT",
    "dataFormat": "AMOUNT",
    "nullable": false,
    "creatable": true,
    "updatable": true
  },
  {
    "name": "products",
    "dataType": "ARRAY",
    "creatable": true,
    "updatable": true,
    "nullable": true,
    "sortable": false,
    "filterable": true,
    "searchable": true,
    "label": "Products",
    "itemDataType": "OBJECT",
    "entityReference": "product"
  }
]
}

```

name

Technical name for the entity (for example: "projectOrder"). Every entity needs to have a unique technical name within a service. Only alphanumeric characters are supported and must start with a letter.

Type: string

label

Display name of the entity (for example: "Project Order"). The translation support of these labels is supported via the Language Adaptation Tool.

Type: string

entityType

It can have following values:

- BUSINESS - Indicates that the entity is a business entity.
- CODEVALUE - Indicates that the entity is used to stored code values.

Type: string

objectTypeCode

Object type code for the entity type. It is used in various object relationship. This is a 4 digit value prefixed with 'CUS'. This property is added for Root Entity only. If type code is not provided, it is generated by the system.

Type: string

root

Indicates if the entity is the root of the aggregate.

Type: boolean

Attributes

An attribute represents a field in the entity. Attributes can also be complex or be defined by an association to another entity, within the same service or across services. An attribute can have following properties in the metadata:

name

The technical name of the attribute (for example: "id", "name"). It should be alphanumeric starting with a letter. It can contain underscore. It is recommended to use lower camel case.

Type: string

label

Human-readable and translatable label for the attribute. Translation support of these labels is supported via the Language Adaptation Tool.

Type: string

dataType

Data type of the attribute (for example: string, number). The API implementation should validate the data type in the payload to ensure it matches the expected type. Custom UI uses this property to determine the type of input control (for example: text box, number field, date picker).

For supported data type and their characteristics, see the **Datatypes in SAP Sales Cloud and SAP Service Cloud Version 2** section.

Type: string

dataFormat

The data format enables the consumer to understand the way the data needs to be processed (or) formatted (for example: CODE, FLOAT). In custom UI, this property would help in rendering the field with specific formatting or validation (for example: dropdown for CODE, numeric input for FLOAT). Custom service API implementation should ensure the data adheres to the specified format.

For supported data format and their characteristics, see the **Datatypes in SAP Sales Cloud and SAP Service Cloud Version 2** section.

Type: string

nullable

Indicates if value null is allowed for the attribute. In the custom UI, an attribute marked nullable as false will be validated to ensure they are filled before submission. API implementation should also not allow null value if this property is set to false.

Type: boolean

creatable

Indicates if the attribute can be set during entity creation. Custom UI will mark corresponding UI field as read-only if the value of this property is false. API implementation should ignore any value passed in the payload for such cases. Note that these attributes can be set in the backend processing (calculation based on other attributes) even if creatable is false.

Type: boolean

updateable

Indicates if the attribute can be modified during update. If value of this property is true, the respective UI field will appear as read-only. API implementation should ignore the value of such attribute in the payload if updateable is false.

Type: boolean

filterable

Specifies if the entity instances can be filtered based on this attribute. This property ensures that only relevant attributes are available for filtering in the UI. If the value is true, the API implementation should respect the attribute value in a filter expressions, but if the value is false such attributes can be ignored or rejected (in filter expressions).

Type: boolean

searchable

Specifies if the entity instances can be searched using this attribute. If the value is true, the API implementation should respect the attribute value in a search expressions, but if the value is false such attributes can be ignored or rejected (in a search expression).

Type: boolean

keyType

This should be used only if the attribute is a key. Possible values are PRIMARY and FOREIGN.

- An entity should have an attribute named `id` of type `UUID` that is marked as a PRIMARY key.
Exception: In case it is not possible to have a key of type `UUID`, `displayId` attribute can be used as a key. However support for such entities would be limited to certain scenarios (time-line and related activities). An entity must have either `id` or `displayId` (or both).
- There should not be more than one attribute marked as PRIMARY in an entity
- FOREIGN is used for attribute that has reference to another entity and represents primary key for that entity. An attribute with reference to another entity cannot be marked as PRIMARY.

Type: string

objectDefinition

This is used to define object structure for object data type. For example see the "account" attribute in the above entity metadata example.

Type: Object

objectReference

An attribute can refer to an attribute of an associated entity. When there is an association to another entity, this setting specifies the referenced foreign attribute. Note that this is only an indicator of the source entity from which the data originates. It helps consumers (such as a custom UI) during edit operations by enabling value help (Object Value Selector) for these attributes. For read operations, the custom service API must include the corresponding data in the response payload.

Type: Object

An object reference has following properties:

- **"associationType"**: "ASSOCIATION" or "REFERENCE". In the entity relationship, one attribute need to establish the relationship. It needs to point the primary-key of the target entity. For the source entity this attribute is marked as foreign key. For the foreign key attribute, the association type must be of type "ASSOCIATION". For other reference-attributes via same association it needs to be set as "REFERENCE".
- **"keyGroup"**: The keyGroup represents the association name. The keyGroup is defined on the foreign key attribute and used for all other attributes that use the same association.
 - Use a readable name for the keyGroup as it is also used in the admin screen.
 - The keyGroup should be unique for an entity.
 - keyGroup must be alpha-numeric only, and should not start with a number.
- **"targetService"**: Target service name. This needs to be specified only on the foreign-key attribute.
- **"targetEntity"**: Specifies the target entity name in the association. This needs to be specified only on the foreign-key attribute.
- **"targetAttribute"**: Attribute name in the target entity.

description

Indicates if this attribute represents the description of the entity. The description-attribute is also used as description of the corresponding `id` attribute, specially in the case if the `id` is referenced in another entity. For example in the above entity metadata sample, "formattedName" is marked as "descriptionAttribute" of the "account/id". There can be only one attribute marked as description-attribute (description: true) for an entity.

Type: boolean

displayID

display

Indicates if this attribute is display id attribute, which could be used as an alternate key. This property designates an attribute as a user-friendly identifier for the entity. In custom UI, attributes marked as `displayId` are often displayed prominently in tables, forms, or dropdowns to help users identify records.

itemDataType (for array data type)

This property required for the array data type to specify the data type of the items in the array.

- `itemDataType` could be a primitive data type (like string) or another entity. For example in the above sample it points to the "product" entity (to define array of products).
- An array of entity must have an `id` attribute that identifies an item uniquely.

Type: string

Events

Defines supported events for the service. Events provides asynchronous communication from custom service to SAP Sales Cloud and SAP Service Cloud Version 2. These events can be consumed in the SAP Sales Cloud and SAP Service Cloud Version 2 processes, such as, autoflow and timeline.

```
{
  "name": "projectOrderCreate",
  "entityReference": "ProjectOrder",
  "trigger": "CREATE"
}
```


name

Technical name for the event (for example: "projectOrderCreate"). Every event needs to have a unique technical name within the service. This name would be used to generate the event's fullname. The technical name needs to be alpha numeric with lower Camel Case.

Type: string

fullName

This is generated out of name. E.g.: "customer.ssc.projectorderservice.event.projectOrderCreate". Here "customer.ssc" is name space, "projectorderservice" is the service name and "projectOrderCreate" is the name of the event.

Type: string

entityReference

The entity this event is associated with (for example: "projectOrder"). Entity metadata defines the structure of the event payload.

Type: string

trigger

Event trigger type, such as CREATE, UPDATE, or DELETE. It defines the condition under which the event is triggered, such as when an entity is created, updated, or deleted.

Type: string

API

Note

Refer to the **API Guidelines** in the **Related Information** section for more details on response headers and messages.

API metadata sample:

```
{
  "name": "projectOrder",
  "description": "API for interacting with the projectOrder service",
  "title": "Project Order Collection API",
  "apiPath": "/project-order-service/projectOrders",
  "entityReference": "projectOrder",
  "operations": [
    {
      "id": "readProjectOrder",
      "method": "QUERY",
      "request": {
        "pathVariables": []
      }
    },
    {
      "id": "readProjectOrder",
      "path": "/{key}",
      "method": "READ",
    }
  ]
}
```

```

        "request": {
          "pathVariables": [
            {
              "name": "id",
              "dataType": "STRING",
              "dataFormat": "UUID"
            }
          ]
        },
      },
      {
        "id": "createProjectOrder",
        "path": "/",
        "method": "POST",
        "request": {
          "pathVariables": []
        }
      },
      {
        "id": "updateProjectOrder",
        "path": "/{key}",
        "method": "PATCH",
        "request": {
          "pathVariables": [
            {
              "name": "id",
              "dataType": "STRING",
              "dataFormat": "UUID"
            }
          ]
        }
      }
    ],
  },
}

```

name

Technical name for the API (for example: "projectOrder"). Every api needs to have a unique technical name within a service. This name would be used to generate the event's fullname. The technical name needs to be alpha numeric with lower Camel Case.

fullName

Like other metadata artifacts full name is generated based on the name space and name. E.g:
"customer.ssc.projectorderservice.api.productOrder".

Type: string

entityReference

Name of the entity to which this API provides access to. The request/response schema is determined based on the entity metadata

Type: string

description

Brief description of the API's purpose.

Type: string

title

Display title for the API.

Type: string

apiPath

Relative base path for the API (for example: "/project-order-service/projectOrders").

Type: string

operations

It defines the supported operations, such as, READ, CREATE, UPDATE, or DELETE, along with binding to the respective HTTP methods, relative path and variables

Type: array

Each operation has the following properties:

- **"id"** : An unique id for the operation. Example: "readProjectOrder".
- **"path"** : The relative path (from API path) to perform operation. For example to read a particular entity ("readProjectOrder" operation), the path is "{key}". Here particular record will be fetched based on the **primary** key of the entity. See the following path variables. The actual path to call the API would be //.
- **"pathVariables"**: Path variables defines the place holders in the path that can vary based on the resource requested. In the above example the consumer needs to pass the primary key (usually **id** attribute) of the entity to be fetched.

Note: Placeholder name in path attribute should be unique for each entity per service. Means, if "{key}" is already defined as path for say root entity, then for child entity, path should be different, such as "{parentKey}"

-
- **"method"** : HTTP method like POST

Datatypes in SAP Sales Cloud and SAP Service Cloud Version 2

In SAP Sales Cloud and SAP Service Cloud Version 2, metadata attributes are defined using datatypes (aligned with OpenAPI/JSON Schema standards) and data formats (providing additional context). Please refer to the following table for more information on available datatypes.

Data Type	Data Format	Description
STRING	STRING (Default)	Default string format. If dataFormat is not set, default data format assumed.
	UUID	Universally Unique Identifier.
	EMAIL	Email address.
	CODE	Code list (fixed via enumOptions or dynamic via code entity reference).
	TOKEN	Token format.
	URI	Uniform Resource Identifier.
	ALPHANUMERIC	An alphanumeric string (0-1, A-Z, a-z)
NUMBER	FLOAT (Default)	Default number type.
	DOUBLE	Double-precision number.

Data Type	Data Format	Description
BOOLEAN	No value	Represents true/false.
OBJECT	No value	For structured or complex types.
	AMOUNT	Amount with a structure (e.g., <code>sap.crm.common.struct.amount</code>).
	QUANTITY	Quantity with a structure (e.g., <code>sap.crm.common.struct.quantity</code>).
	TEXT	Text with a structure (e.g., <code>sap.crm.common.struct.text</code>).
ARRAY	No value	Applicable data format specified via <code>itemDataType</code> .
INTEGER	INT32 (Default)	Default integer type.
	INT64	Long integer.
DATETIME	DATETIME (Default)	Default datetime type.
	DATE	Date only.
	TIME	Time only.
	DURATION	Duration type.

UI Metadata

Apart from the metadata uploaded there are also metadata that is generated and attached to the service. These metadata are generated as new user interface(UI) created. These include:

- UI View: A UI View represent an UI component such as list, detail and quick view.
- UI App: The UI Views logically belong to one or more UI Apps. UI Apps perform many roles, such as, filtering the UI components based on user roles and hold routing information.

Lifecycle and Versioning

All the artifacts are owned by the service. If the service is deleted, all the related artifacts are also deleted. Currently old versions of custom service metadata are not stored in the SAP Sales Cloud and SAP Service Cloud Version 2 repository. Since the custom services are primarily implemented outside the SAP Sales Cloud and SAP Service Cloud Version 2 infrastructure, versioning of the metadata also needs to be maintained externally.

Related Information

[API Guidelines \[page 181\]](#)

This page outlines the API guidelines that external or custom services must follow to integrate with SAP Sales Cloud Version 2 and SAP Service Cloud Version 2.

11.13.2.2 API Guidelines

This page outlines the API guidelines that external or custom services must follow to integrate with SAP Sales Cloud Version 2 and SAP Service Cloud Version 2.

The custom service APIs can be implemented using one of the following API styles, each described in its own topic in the **Related Information** section:

- **REST** – JSON-based RESTful APIs .
- **OData V4** – Current OData standard.

Note

OData V4 has restricted availability. To request access to this feature, you must create a case with the component CEC-CRM-CZM-EXT.

Related Information

[REST API \[page 191\]](#)

REST APIs (also called RESTful Web Services) are cross-platform APIs used to perform QCRUD (Query, Create, Read, Update, Delete) operations on data resources using the HTTP protocol. It uses HTTP methods to interact with resources that are identified using a Uniform Resource Identifier (URI). Requests and responses are sent in a structured format.

[OData V4 \[page 198\]](#)

OData (Open Data Protocol) V4  is a standardized protocol for building and consuming RESTful APIs. It provides advanced querying capabilities, improved performance, and better support for complex data scenarios compared to earlier versions. You can use OData V4 to retrieve, filter, sort, and manipulate data in a consistent and efficient way.

11.13.2.2.1 HTTP Headers

The following list contains common HTTP headers that custom services should support.

Service Headers

Request Header

HTTP Request Header	Description
Accept - Language	Used to provide the response language expected by consumer. Refer to Accept-Language Header  for more information about the header and examples- • APIs must support both 2-character language codes (e.g., Accept - Language: de) and 2-2 character codes (e.g., Accept - Language: en-US). • APIs must return a Content - Language header indicating the language of the response.
If - Match	This header is used as part of request (PUT and PATCH) in cases where conflict management is required. Its value represents the state of the resource as known to the client (using the ETag previously obtained from the API as the If - Match value). When a consumer tries to update a resource, it informs the server to perform the update if and only if the state of resource known to the client (ETag) matches the state of the resource in server. Services shall implement conflict handling for PUT and PATCH depending on the use case. The value of If - Match is enclosed in double quotes ("2022-06-29T14:45:42.272Z"). If double quotes are missing, the extraction of the tag may fail and pre-condition checks may be unsuccessful (412 Precondition Failed).
content - type	Content

Response Header

HTTP Response Header	Description
Content - Language	Content-Language is used for indicating the language intended for the users. It doesn't indicate that the document is written in that language. - Services must respond using Content - Language header to indicate the language intended for audience. - For services/APIs that are language-neutral, the Content - Language header may be skipped to indicate the content is intended for all users.
Allow	When the service responds with 405 Not Allowed (request HTTP verb not allowed), the service must also indicate the verbs that are allowed for the requested resource. Example: Allow: GET, POST, PUT
Location	For a POST request, services must include the URL of the created resource in this response header. Relative URL of the API is sent as the value. The relative URL should start from the service-URL
ETag	The ETag is used to represent the state of a resource. APIs use strong ETags with strong comparison. APIs must include the ETag in responses for GET, PUT, and PATCH requests. The ETag typically applies to the entire aggregate; creating or updating a child entity uses the same aggregate ETag.

11.13.2.2.2 HTTP Response Code and Message Handling Guidelines

This documents explains the guidelines to be followed with respect to response codes and messages (Error, Info, Warnings) raised by external custom service.

HTTP Response Codes

Follow standard codes for HTTP status

- 2XX - Success codes
- 4XX - Error Due to client

- 5XX- Error due to server

2XX Response Code

Status	Verb	Response	Description
200 OK	GET	Query: Requested resources for GET	Represents successful operation
200 OK	GET	Read: Requested resource for GET	Represents successful operation
200 OK	PATCH	Updated resource (in full)	Represents successful operation
200 OK	DELETE	Representation of status (for example, minimal payload with identifier, status)	Represents successful operation
201 Created	POST	Created resource after the successful creation	Only used for successful create. The location header in response should also contain the URL to the resource.
202 Accepted	POST		This needs to be supported only where asynchronous operations are supported, for example, request was received and will be processed asynchronously.
202 Accepted	PATCH		Represents successful operation
202 Accepted	DELETE		Represents successful operation

Example for 2XX response code.

Consider an example where the entity metadata is as following.

```
{
  "value": {
    "name": "authors",
    "label": "Authors",
    "root": true,
    "attributes": [
      {
        "name": "id",
        "label": "ID",
        "dataType": "STRING",
        "dataFormat": "UUID",
        "nullable": false,
        "creatable": true,
        "updatable": false,
        "filterable": true,
        "searchable": true,
        "keyType": "PRIMARY"
      },
      {
        "name": "Name",
```



```

"label": "Name",
"dataType": "STRING",
"description": true,
"nullable": false,
"creatable": true,
"updatable": false,
"filterable": true,
"searchable": true
},
{
"name": "books",
"dataType": "ARRAY",
"creatable": true,
"updatable": true,
"nullable": true,
"sortable": false,
"filterable": true,
"searchable": true,
"label": "Books",
"itemDataType": "OBJECT",
"objectDefinition": [
{
"name": "id",
"dataType": "STRING",
"creatable": false,
"updatable": false,
"nullable": true,
"sortable": false,
"filterable": true,
"searchable": true,
"label": "Technical ID",
"dataFormat": "UUID",
"keyType": "PRIMARY"
},
{
"name": "title",
"label": "Title",
"dataType": "STRING",
"nullable": true,
"creatable": true,
"updatable": true,
"filterable": true,
"searchable": true,
"description": true
},
{
"name": "description",
"label": "Description",
"dataType": "STRING",
"nullable": true,
"creatable": true,
"updatable": true,
"filterable": true,
"searchable": true
},
{
"name": "inStock",
"dataType": "BOOLEAN",
"creatable": true,
"updatable": true,
"nullable": true,
"sortable": true,
"filterable": true,
"searchable": true,
"label": "In Stock"
}
],
"entityReference": "books"

```

```

    }
  ]
}

```

A successful response would look as following:

```

{
  "value": [
    {
      "id": "0f8cbc4c-0417-45a1-8a32-75563d8ef3bc",
      "name": "John Doe",
      "email": "john.doe@example.com",
      "books": [
        {
          "id": "1",
          "title": "Book 1",
          "inStock": true,
          "description": "A great book"
        },
        {
          "id": "2",
          "title": "Book 2",
          "inStock": false,
          "description": "Another great book"
        }
      ],
      "createdOn": "2025-02-01T05:00:02.669Z",
      "updatedOn": "2025-05-06T17:00:02.689Z"
    }
  ]
}

```

Status	Verb	Response Body	Description
400 Bad Request	All	Error Message	Request cannot be processed as it (URL or request body) does not match what was defined for the API.
401 Unauthorized	All		User is not authenticated. This error code would be sent at the API gateway. At the service implementation, if the JWT is not received or cannot be decoded, then this status SHOULD be raised.
403 Forbidden	All		When the user is authenticated but does not have the authorizations to access the resource, then this error code is used.
404 Not Found	All		When a user has authorizations to access a resource type, but the resource does not exist in the system then this error code is used.

Status	Verb	Response Body	Description
405 Not Allowed	All		If a specific HTTP verb is not supported by an API, then this status code should be returned when the consumer attempts to use that HTTP verb.
412 Precondition Failed	PATCH	Error Message	When the client requests for an update of a resource based on the known state of the object (ETag / If-Match), the server checks for state conflict, and if a conflict exists, this response is sent.
415 Unsupported Media Type	All		When the client sends the payload in a content type that is not supported by the server, then this status code is returned.
422 Unprocessable Content	POST, PATCH	Error Message	This should also be used when the request body is syntactically correct but it was not able to be processed. For example, the request body fails business logic validation because of an invalid code value.
428 Precondition Required	PATCH		If the precondition (If-Match) is missing in the header, this status is returned. For PATCH , this precondition (If-Match) is mandatory.

Status	Verb	Response Body	Description
500 Internal Server Error	All	Error Message	This error code is used in general for any exception or error that may be raised by the server. For exceptions that are raised by the service, the error has to be returned in a standard error format.
501 Not Implemented	GET	Error Message	When a system query option is specified that is planned to be supported, but not yet implemented by the service. The details of the options not supported are returned in the error message.

Status	Verb	Response Body	Description
523 Upstream Server Error	All	Error Message	This error code is reserved for failed calls made to an external service. The specific reason for the failure (e.g. service unavailable) will be included in the response payload.

Errors and Info Messages

When an error is raised and a response has to be sent back, the service must send only the error response in the payload.

Warnings and Info messages must not be part of the error response.

Where required, warnings and info messages **MAY** be sent as part of the HTTP header.

Error Response

When an error occurs, the response is sent as a single object `error` as shown in the following example. When the service sends an error response, no other payload is sent back to consumer.

```
{
  "error": {
    "code": "external.12345.ValidationsMessages",
    "message": "Invalid email address",
    "target": "{emailAddress}"
  }
}
```

If the error object has to return multiple errors, then a list of error details are sent. The primary error is defined in the root. The details, if present, contain the inner/secondary errors and do not include the primary error. The detailed error instances cannot have further child-level details.

```
{
  "error": {
    "code": "projects.234567.Auth",
    "message": "insufficient authorizations for creating a projects",
    "details": [
      {
        "code": "projects.22345.Auth",
        "message": "insufficient authorizations for ..."
      }
    ]
  }
}
```

Error Response Attributes

Element	Element of	Mandatory	Description
error		Yes	Single instance object that represents the primary error. An error can contain other errors as a flattened array (refer to details).
code	error	Yes	Represents an error code. The error code is a combination of the group (service prefix) and error code integer (5 digits), with a dot (.) as the delimiter.
message	error	Yes	Description of the error message. The error message must be localized using the standard language rules.
details	error	No	Array of error objects excluding details. The child errors should not contain further children (for example, the element "details" is not permitted for child error objects). The primary error is not repeated in details.
target	error	No	Object that is used to provide reference to the target element that caused the error. The target may either identify the resource directly using the URL notation (or) may identify an element in the payload using the binding { ... } notation.

Note

The error response must not include warnings and info messages.

Target Element Specification

The URL notation is used to define the target resource and must provide the complete URL path to the resource (for example, `https://<application-url>/external-projectorder-service/projectorders/124/products`).

The binding notation is used to identify the element within the payload. The binding is enclosed in curly braces `{ }` and the value is the attribute target path in the payload (for example, `{id}`, `{amount/currency}`, `{products/1/name}`).

Information Message Response

There could be cases where the service needs to send additional messages, like a warning or info. This may be required even when the service is responding with the expected payload — for example, sending info with 200 OK or warnings along with error responses. A generic message response payload can be used in such situations to send the message via the HTTP header.

The info messages are sent as part of the response payload. These are included in the **m** (message) element of the payload.

The info messages do not stop the execution flow. These messages may or may not be displayed (or) acted upon, and hence a follow-up action should not be expected.

```
{
  "info": {
    "message": "lead warning message",
    "target": "/leads/90299929",
    "severity": "WARNING",
    "details": [
      {
        "message": "phone number may be invalid",
        "target": "{phoneNumber}"
      },
      {
        "message": "another warning",
        "target": "{anotherAttribute}",
        "severity": "WARNING"
      }
    ]
  }
}
```

A code is not mandatory in info or warning messages.

Info Response Attributes

Element	Element of	Mandatory	Description
info		Yes	Single instance object that represents the primary message.
message	info	Yes	Description of the info message.
details	info	No	Array of info objects excluding details. The child messages should not contain further children (for example, the element "details" is not permitted for child message objects).

Element	Element of	Mandatory	Description
target	info	No	Object that is used to provide reference to the target element that needs to be mapped to the message. The target may either identify the resource directly using the URL notation (or) may identify an element in the payload using the binding { ... } notation.
severity	info	No	Indicates the type of the information. Permitted values: INFO , WARNING , and ERROR . INFO is the default, and a message is considered as INFO if severity is not specified.

📘 Note

The severity **ERROR** should be used only if the create or update is successful, but there are errors that need to be conveyed as messages. These are not transactional / server errors.

Do not use severity **ERROR** for server errors. Server errors must only be returned as error objects, and the HTTP status should indicate an error. The severity **ERROR** is only for communicating a message to the user with an error icon!

The info message is only applicable for HTTP status 200 and 201

11.13.2.2.3 REST API

REST APIs (also called RESTful Web Services) are cross-platform APIs used to perform QCRUD (Query, Create, Read, Update, Delete) operations on data resources using the HTTP protocol. It uses HTTP methods to interact with resources that are identified using a Uniform Resource Identifier (URI). Requests and responses are sent in a structured format.

Operations

The following table maps CRUD operations to HTTP methods:

CRUD Operation	Semantics	HTTP Method	Example
Query	Query a collection of resources.	GET	GET /project-order-service/projectOrders

CRUD Operation	Semantics	HTTP Method	Example
Read	Read a single resource.	GET	GET /project-order-service/projectOrders/1234
Create	Create a resource in collection.	POST	POST /project-order-service/projectOrders`
Update (partial)	Partial update of the resource	PATCH	PATCH /project-order-service/projectOrders/1234
Delete	Deletes a resource.	DELETE	DELETE /project-order-service/projectOrders/1234

📌 Note

The PUT verb is not currently used by the custom UI.

URL

The complete API URL is constructed as : `https://<application base url>/<api-path>`

- **application-base-url**: The application's base URL, specified when creating a custom service in the admin settings.
- **api-path** : The relative API path provided in the metadata JSON.

Further **application-base-url** should be constructed as following: `///`. Especially **version** is required to be present. Currently this must be "v1".

🔗 Example

In `https://XXX.ondemand.com/customer/ssc/api/v1//project-order-service/projectOrders`,

- "https://XXX.ondemand.com" is **host**.
- "customer/ssc" is **namespace**.
- "api" is **prefix**. It can be any other suitable prefix.
- "v1" is **version**.
- "/project-order-service/projectOrders" is (**api-path**)

Refer to the **Metadata Guidelines** topic for more details on API path. Various CRUD operations will be performed as per API information uploaded in the metadata.

JSON as a Content Type

All the APIs must accept and provide response in JSON format unless specifically mentioned otherwise.

The content type must be manifested in the API response by using the HTTP header Content-Type.

Content-Type: `application/json`

JSON payload for a single resource as well as a collection should be wrapped within a root object with **value** property as below.

Example: Single resource response

```
{
  "value": {
    "id": "192399f2-00ef-4024-80bf-9940c8a1e320",
```



```

    "name": "Meow"
  }
}

```

Example: Collection resource response

```

{
  "value": [
    {
      "id": "192399f2-00ef-4024-80bf-9940c8a1e320",
      "name": "Meow"
    },
    {
      "id": "192399f2-00ef-4024-80bf-9940c8a1e321",
      "name": "Woof"
    }
  ]
}

```

Query a Collection

For query on a collection, GET (HTTP) method is used. The query should support query parameters \$top, \$skip, \$search, \$filter, \$orderBy and \$count as defined below.

\$top, \$skip

For query, the pagination is primarily client-driven, for example, the client (Custom UI) would request for the pages from the API and the API responds accordingly.

Query Parameter	Description
\$top	Indicates page size.
\$skip	Indicates the offset (number of items). For example, if the page size is 100 and the user is navigating to the 10th page, the offset (\$skip) would be 900 (9 * 100).

Example: Get 3rd page with page size of 50
 GET /project-order-service/projectOrders?\$skip=100&\$top=50"

\$search

Provides the basic search (for example, free text search) expression in the query to search in a collection.

Example: Search for `custom service` within project order collection.
 GET /project-order-service/projectOrders?\$search="sample project"

- The search expression required to be enclosed in double quotes ("..").
- Phrases are required to be enclosed in double quotes for search("This is a value").
- If the search value is a single word, quotes can also be skipped though not recommended. API providers need to support this.

\$filter

This is used to provide filtering on the individual attributes, with the ability to use complex conditions.

Example: Get all the project orders with estimated revenue

```
GET /project-order-service/projectOrders?$filter=account/id eq '0002a5fa-4e10-11ed-be55-6b0cc10b11d2' and estimatedRevenue/content eq 200 and estimatedRevenue/currencyCode eq 'USD'
```

- The filter expressions are not enclosed in single or double quotes.
- Only the **equals** (eq) and **starts with** operators are supported in the custom UI. The **starts with** operator appears as **startswith** for Data services and **sw** for REST services.

Literal Values

Literal values follow the [OData URL conventions](#) .

Type	Description	Example
Boolean	Boolean literals are represented as low-ercase names	true, false
Date	RFC 3339 full-date without quotes	2024-01-19
DateTimeStamp	RFC 3339 date-time without quotes	2024-01-19T13:43:21Z
Duration	dayTimeDuration in single quotes	'P21DT15H42M3.1415927S', '-PT5M'
Null	The null literal is represented as a low-ercase name	null
Number	Numeric values may contain a decimal point and use exponential notation	42, 3.14, 6.371e3
String	String literals are surrounded by single quotes, single quotes within the string are doubled	'l' 'amour'
Time	RFC 3339 partial-time or full-time without quotes	23:59:59.999999, 13:43:21Z
UUID	RFC 4122 representation without quotes	192399f2-00ef-4024-80bf-9940c8a1e320

\$orderby

Used for ordering the result. It is comma separated list of attribute names, attributed with asc or desc.

Example: Get Products ordered by release data (Ascending) and Price (Descending)
 GET /project-order-service/projectOrders?\$orderby=account/name asc

\$select

The \$select is used as query parameter to select specific attributes (or) nodes from the aggregate. When attributes are specified via \$select, the rest of the attributes and nodes are excluded automatically from the payload in the response. The following are some of the other characteristics of \$select.

- For a list, only the attributes in value node can be specified.
- For deep structures, the path can be navigated by using forward slash /.
- Comma , is used as the separator.
- Primary key (entity primary key) is always returned.

- The \$select does not determine the order of fields.
- Wildcards (*) or regex are not supported.
- If an attribute is specified that does not exist in entity, ignore the attribute.
- The entire string or parts must not be enclosed in single or double quotes.

❖ Example

GET /project-order-service/projectOrders?\$select=name&\$top=1

RESPONSE

```
{
  "value": [{
    "id": "192399f2-00ef-4024-80bf-9940c8a1e320",
    "name": "Sample project "
  }]
}
```

\$count

The \$count is used in the path of the api to get only the count of records. While retrieving the list of records, \$count is used as a query parameter to indicate if the count should be returned along with list of records.

GET /project-order-service/projectOrders?\$search="sample"

Response:

```
{
  "count" : 11
}
```

GET /project-order-service/projectOrders?\$search="sample"&\$select=name&\$count=true

Response

```
{
  "count": 11,
  "value": [{
    "id": "192399f2-00ef-4024-80bf-9940c8a1e320",
    "name": "sample"
  }],
  {...}]
}
```

Read a Single Resource

To read a single resource, GET (HTTP) method is used.

Example read project order with the id value '0002a5fa-4e10-11ed-be55-6b0cc10b11d2`

GET /project-order-service/projectOrders/0002a5fa-4e10-11ed-be55-6b0cc10b11d2

Create

To create a resource, POST (HTTP) method is used.

❖ Example

POST /project-order-service/projectOrders

```
{
  "name": "Sample Project",
  "account": {
```

```
    "id": "111399f2-00ef-4024-80bf-9940c8a1e311"
  }
}
```

Note

In POST, PATCH and PUT methods, the content is enclosed directly without a wrapper root object.

Request Content

- The content is of JSON type and represents the entity.
- Unless specifically mentioned, `id` attribute is not passed in the request payload and it must be generated by the service.
- If request payload contains an attribute that is marked as `creatable=false` (in entity metadata), ignore the attribute.
- Unknown attributes should be ignored.

Response

Headers

ETag: Return the ETag of the created resource in the response header. Usually, for the child entity create, the state of the root is also updated and ETag of root is returned.

Status

On successful creation, API should return 201 response code with the relative path of the resource created.

HTTP/1.1 201 Created

Location: /project-order-service/projectOrders/0002a5fa-4e10-11ed-be55-6b0cc10b11d2

Response Content

- The created resource is returned on successful execution of the create request.
- The content returned is dependent on the entity being created. For e.g. if POST is on /projectOrders, the response should contain the entire Project Order aggregate. If the POST is on /projectOrders/4dde9b8e-6fe9-11ea-bc55-0242ac130003/products then the created Product content is returned.
- For error cases, an error payload may be returned as described in the error responses
- If additional messages have to be sent as part of response, these are handled as part of the info message. Refer message handling

Update (Partial)

To update a resource (partial), PATCH (HTTP) method must be supported.

PATCH /project-order-service/projectOrders/444399f2-00ef-4024-80bf-9940c8a1e222

Content-Type: application/merge-patch+json

If-Match: "2022-06-29T14:45:42.272Z"

```
{
  "name": "Changed Sample Project ",
}
```

Request Content

- The content is of JSON type and represents the entity.

- `id` is passed as part of the URL.
- If request payload contains an attribute that is marked as `updatable=false` (in entity metadata), ignore the attribute.
- Unknown attributes should be ignored.

Request Header

IF-Match PATCH requests are not idempotent and to avoid conflicting updates, this header must be supported. The value represents the state of the resource available with the client (ETag obtained from API is used as value for If-Match)

When a consumer tries to update a resource, it informs the server to perform the update if and only if the state of resource known to the client (ETag) matches the state of the resource in server.

For more details see the **HTTP Headers** guide.

Response

Headers

ETag: Return the ETag of the updated resource in the response header. Usually, for the child entity update, the state of the root is also updated and ETag of root is returned.

Status

- Return HTTP code:
 - 200, if the request is successful and content is being sent as part of the response payload.
 - 204, if the request is successful and no content is being sent back as part of the response payload.
 - 412, if the passed **If-Match** value does not match against the current state.
 - 428, if the precondition (If-Match) is missing.
- For other response code see the **HTTP Response Code and Message Handling Guidelines** document.

Response Content

- The updated resource content may (http code 200) or may not (HTTP code 204) be returned on successful execution of the update request.
- The content returned must conform to the metadata of entity updated.
- For error cases, an error payload may be returned as described in the error responses.
- If additional messages have to be sent as part of response, these are handled as part of the info message.

Delete

To delete a resource, DELETE (HTTP) method must be supported. Similar to PATCH, the resource to be deleted is specified in the URL.

DELETE /project-order-service/projectOrders/444399f2-00ef-4024-80bf-9940c8a1e222

Request Content

- Entity `id` is passed as part of the URL.
- Content is not provided in the response body.

Request Header

IF-Match may or may not be specified in the request header. But if passed in the request header it should be treated similar to PATCH. It means if the state on the server does not match with the state passed in this header, the service should return HTTP error code 412.

Response

Headers

ETag: For aggregate entity deletion, no ETag is returned. For the child entity deletion, the state of the root is also updated and ETag of root is returned.

Status

- Returns HTTP code 204, if the request is successful.
- Returns 412, if the passed If-Match value does not match against the current state of the resource.

Response Content

- No content is send back in the response payload.
- For error cases, an error payload may be returned as described in the **HTTP Response Code and Message Handling Guidelines**.

Note

For more details on error cases, response codes, and response headers, see the **Related Information** section.

Related Information

[HTTP Headers \[page 181\]](#)

The following list contains common HTTP headers that custom services should support.

[HTTP Response Code and Message Handling Guidelines \[page 183\]](#)

This documents explains the guidelines to be followed with respect to response codes and messages (Error, Info, Warnings) raised by external custom service.

[Metadata Guidelines \[page 170\]](#)

When integrating external services, inconsistencies may arise due to differences in data types, attributes, associations, and operations. To address this, a JSON file is used to map the external service details to structure expected in the solution. By explicitly defining these mappings in the JSON file, you ensure seamless and accurate service integration.

11.13.2.2.4 OData V4

[OData \(Open Data Protocol\) V4](#)  is a standardized protocol for building and consuming RESTful APIs. It provides advanced querying capabilities, improved performance, and better support for complex data

scenarios compared to earlier versions. You can use OData V4 to retrieve, filter, sort, and manipulate data in a consistent and efficient way.

Operations

The following table maps CRUD operations to HTTP methods for OData V4:

CRUD Operation	Semantics	HTTP Method	Example
Query	Query a collection of entities.	GET	GET /project-order-service/projectOrders
Read	Read a single entity.	GET	GET /project-order-service/projectOrders/1234
Create	Create an entity in a collection.	POST	POST /project-order-service/projectOrders
Update (partial)	Partial update of an entity.	PATCH	PATCH /project-order-service/projectOrders/1234
Delete	Delete an entity.	DELETE	DELETE /project-order-service/projectOrders/1234

Note

The PUT verb is currently not used by the custom UI.

URL

The complete OData V4 API URL is constructed as: `https://<application base url>/<api-path>`

- **application-base-url** and **api-path** follow the same rules as in the REST section.
- The **api-path** includes the entity set name (e.g., `projectOrders`), as defined in the metadata.
- Single entities are addressed by appending the key in parentheses, e.g., `projectOrders/192399f2-00ef-4024-80bf-9940c8a1e320`.

Example

```
https://XXX.hana.ondemand.com/customer/ssc/api/v1/project-order-service/projectOrders
https://XXX.hana.ondemand.com/customer/ssc/api/v1/project-order-service/projectOrders(192399f2-00ef-4024-80bf-9940c8a1e320)
https://XXX.hana.ondemand.com/customer/ssc/api/v1/project-order-service/$metadata
```

Refer to the **Metadata Guidelines** topic for more details on API path.

Headers & Content Type

OData V4 requests and responses must include the following HTTP headers:

```
OData-Version: 4.0
OData-MaxVersion: 4.0
Content-Type: application/json
Accept: application/json
```

JSON is the required format. The OData V4 metadata level can be controlled using the Accept header.

Response Format

OData V4 responses include `@odata.*` annotations:

Collection response:

```
{
  "@odata.context": "$metadata#projectOrders",
  "@odata.count": 42,
  "value": [
    {
      "id": "192399f2-00ef-4024-80bf-9940c8a1e320",
      "name": "Sample Project"
    }
  ]
}
```

Single entity response:

```
{
  "@odata.context": "$metadata#projectOrders/$entity",
  "@odata.etag": "W/\\"2024-01-19T13:43:21Z\\\"",
  "id": "192399f2-00ef-4024-80bf-9940c8a1e320",
  "name": "Sample Project"
}
```

- For response payload and error handling refer to the **HTTP Response Code and Message Handling Guidelines**
- For other HTTP headers refer to the **HTTP Headers** topic.

Query a Collection

For query on a collection, GET (HTTP) method is used. The query should support query parameters `$top`, `$skip`, `$search`, `$filter`, `$orderby`, `$select`, and `$count` as defined below.

Note

`$expand` is not a client-facing query parameter. Related entity expansion is handled internally by the service implementation.

`$top`, `$skip`

Pagination works the same as in the REST section — client-driven pagination via `$top` (page size) and `$skip` (offset).

Example: Get 3rd page with page size of 50

GET /project-order-service/projectOrders?\$skip=100&\$top=50

`$search`

Provides free-text search expression across searchable properties of the entity set.

Example: Search for `sample project` within project orders GET /project-order-service/projectOrders?\$search="sample project"

- The search expression must be enclosed in double quotes (" . ").
- Phrases must be enclosed in double quotes, e.g., `$search="sample project"`.
- Single-word searches may omit quotes, though enclosing them is recommended.

`$filter`

Used to filter entities based on property values, supporting complex Boolean conditions.

Example: Get all project orders linked to an account with estimated revenue of 200 USD

```
GET /project-order-service/projectOrders?$filter=account/id eq 0002a5fa-4e10-11ed-be55-6b0cc10b11d2 and estimatedRevenue/content eq 200 and estimatedRevenue/currencyCode eq 'USD'
```

The following filter operators are supported:

- Comparison: eq, ne, lt, le, gt, ge
- String functions: contains(field, 'value'), startsWith(field, 'value')
- Logical: and, or, not

Example: Filter project orders whose name contains 'sample'

```
GET /project-order-service/projectOrders?$filter=contains(name, 'sample')
```

Example: Filter project orders whose name starts with 'proj'

```
GET /project-order-service/projectOrders?$filter=startsWith(name, 'proj')
```

Literal Values

Literal values follow the [OData V4 URL conventions](#) .

Type	Description	Example
Boolean	Boolean literals are represented as lowercase names	true, false
Date	RFC 3339 full-date  without quotes	2024-01-19
DateTimeStamp	RFC 3339 date-time  without quotes	2024-01-19T13:43:21Z
Duration	dayTimeDuration  in single quotes	'P21DT15H42M3.1415927S', '-PT5M'
Null	The null literal is represented as a lowercase name	null
Number	Numeric values may contain a decimal point and use exponential notation	42, 3.14, 6.371e3
String	String literals are surrounded by single quotes; single quotes within the string are doubled	'l' 'amour'
Time	RFC 3339 partial-time or full-time  without quotes	23:59:59.999999, 13:43:21Z
UUID	RFC 4122  representation without quotes	192399f2-00ef-4024-80bf-9940c8a1e320

\$orderby

Used for ordering the result. Comma-separated list of property names, each optionally followed by asc or desc.

Example: Get project orders ordered by name (ascending) and created date (descending)

```
GET /project-order-service/projectOrders?$orderby=name asc, createdAt desc
```

\$select

Used to request only a specific set of properties in the response.

```
GET /project-order-service/projectOrders?$count=true
GET /project-order-service/projectOrders?$select=name,account/id&$top=1RESPONSE
{
  "@odata.context": "$metadata#projectOrders(name,account(id))",
  "value": [{
    "id": "192399f2-00ef-4024-80bf-9940c8a1e320",
    "name": "Sample project"
  }]
}
```

- The primary key (id) is always returned regardless of \$select.
- Nested property paths are navigated with /.
- Comma , is the separator.
- Wildcards (*) and regex are not supported.
- Unknown attributes are ignored.

\$count

Used as a query parameter (\$count=true) to include the total count of matching records alongside the result set, or as a path suffix (/ \$count) to retrieve only the count.

```
GET /project-order-service/projectOrders?$count=true
GET /project-order-service/projectOrders?
$search="sample"&$select=name&$count=trueResponse:
{
  "@odata.context": "$metadata#projectOrders(name)",
  "@odata.count": 11,
  "value": [{
    "id": "192399f2-00ef-4024-80bf-9940c8a1e320",
    "name": "sample"
  }]
}
```

\$expand (Internal — Service Implementation Only)

\$expand is not accepted or exposed as a client-facing query parameter. The expansion of related entities (navigation properties) is determined entirely by the service implementation. The service decides which related entities to include in the response based on the entity structure defined in the metadata, without requiring the client to pass \$expand.

Read a Single Entity

To read a single entity, GET (HTTP) method is used. The entity key is passed in parentheses.

Example: Read project order with id 0002a5fa-4e10-11ed-be55-6b0cc10b11d2

```
GET /project-order-service/projectOrders/0002a5fa-4e10-11ed-be55-6b0cc10b11d2
```

Create

To create an entity, POST (HTTP) method is used.

Request

❖ Example

POST /project-order-service/projectOrders
Content-Type: application/json

```
{
  "name": "Sample Project",
  "account": {
    "id": "111399f2-00ef-4024-80bf-9940c8a1e311"
  }
}
```

📘 Note

In POST and PATCH methods, the request body is the entity object directly — no wrapper root object.

Request Content

- The content is of JSON type and represents the entity.
- `id` is not passed in the request payload and must be generated by the service.
- If request payload contains an attribute marked as `creatable=false` in entity metadata, ignore the attribute.
- Unknown attributes should be ignored.

Response

Headers

- ETag: Return the ETag of the created resource in the response header. For child entity creation, the ETag of the root aggregate is returned.
- See [http-header guideline](#) 📖 for details and other headers.

Status

- On successful creation, API should return 201 Created with the URL of the created resource.
- For other response codes refer to the **HTTP Response Code and Message Handling Guidelines**.

HTTP/1.1 201 Created Location: /project-order-service/
projectOrders(0002a5fa-4e10-11ed-be55-6b0cc10b11d2)

Response Content

- The created entity is returned on successful execution.
- The response content is dependent on the entity created.
- For error cases, an error payload is returned as described in the error responses.

Update (Partial)

To partially update an entity, PATCH (HTTP) method must be supported. The entity key is passed in the URL.

PATCH /project-order-service/projectOrders/444399f2-00ef-4024-80bf-9940c8a1e222
Content-Type: application/merge-patch+jsonIf-Match: "2022-06-29T14:45:42.272Z"

```
{
  "name": "Updated Project"
}
```

Request Content

- The content is of JSON type and represents the properties to update (merge-patch semantics).
- `id` is passed as part of the URL only.
- Attributes marked `updateable=false` in entity metadata are ignored.
- Unknown attributes should be ignored.

Request Header

If-Match — PATCH requests are not idempotent; to avoid conflicting updates this header must be supported. The value is the ETag of the resource known to the client. The server performs the update only if the ETag matches the current server state.

For details see the [HTTP Header guideline](#) .

Response

Headers

- **ETag**: Return the ETag of the updated resource in the response header. For child entity update, the ETag of the root aggregate is returned.
- See [http-header guideline](#)  for details.

Status

- 200 if the request is successful and updated content is returned in the response.
- 204 if the request is successful and no content is returned.
- 412 if the **If-Match** value does not match.
- 428 if the **If-Match** header is missing.
- For other response codes refer to the **HTTP Response Code and Message Handling Guidelines**.

Response Content

- The updated entity content may (HTTP 200) or may not (HTTP 204) be returned.
- For error cases, an error payload is returned as described in the error responses.

Delete

To delete an entity, DELETE (HTTP) method must be supported. The entity key is passed in the URL.

DELETE /project-order-service/projectOrders(444399f2-00ef-4024-80bf-9940c8a1e222)

If-Match: "2022-06-29T14:45:42.272Z"

Request Content

- Entity key is passed as part of the URL.
- No request body is provided.

Request Header

If-Match may or may not be specified. If provided, it must be validated — return 412 if the ETag does not match.

Response

Headers

ETag: For root entity deletion, no ETag is returned. For child entity deletion, the ETag of the updated root aggregate is returned.

Status

- 204 if the request is successful.
- 412 if the If-Match value does not match.
- For other response codes refer to the **HTTP Response Code and Message Handling Guidelines**.

Response Content

- No content is returned in the response payload.
- For error cases, an error payload is returned as described in the **HTTP Response Code and Message Handling Guidelines**.

Error Responses

OData V4 error responses follow the same error object structure as the REST guidelines, with the following additions and requirements:

- All error responses must include the **OData-Version: 4.0** response header.
- The **Content-Type** header of error responses must be **application/json**.
- An optional **innererror** object may be included for additional debugging context. It must not be returned in production environments as it may expose internal details.

```
{
  "error": {
    "code": "external.12345.ValidationMessages",
    "message": "Invalid email address",
    "target": "{emailAddress}",
    "details": [
      {
        "code": "external.12346.ValidationMessages",
        "message": "Email format is not valid",
        "target": "{emailAddress}"
      }
    ]
  },
  "innererror": {
    "message": "System.FormatException: Input string was not in correct format",
    "type": "System.FormatException",
    "stacktrace": "..."
  }
}
```

Differences from REST error format

Aspect	REST	OData V4
<code>error.code</code>	Required	Required
<code>error.message</code>	String	String
<code>error.target</code>	Optional	Optional
<code>error.details</code>	Optional array	Optional array
<code>innererror</code>	Not defined	Optional, omit in production
OData-Version response header	Not required	Required (4.0)

For HTTP status codes used in error scenarios, refer to the **HTTP Response Code and Message Handling Guidelines**.

11.13.2.3 CAP File Conversion

For CAP-based custom services, you can automatically generate the metadata JSON file using the [CAP File Conversion](#) feature. This reduces the manual effort required to fill in details based on your CAP service.

The feature helps you convert CAP-CDS-based metadata into the JSON format used by SAP Sales and Service Cloud, allowing you to upload the final metadata with minimal effort and create custom services with the corresponding UI.

Current Scope

- Supports conversion to create service, entities, events, APIs based on available metadata.
- Partial automation: Some manual intervention is required post the conversion.
- Limited to JSON format support for conversion.

Pre-Requisites

- A CAP service must be developed and deployed.
- If the CDS service is available locally, run the following command in the CLI to convert it to JSON: `cds -2 json <service.cds file path>`
- For services deployed to BTP, use `cds pull` to fetch the complete service, then convert it locally using the same command: `cds -2 json <service.cds file path>`
- Follow guidelines to avoid inconsistency in metadata conversion and reduced manual effort to upload final metadata to SAP Sales Cloud and SAP Service Cloud Version 2 while creating custom service in [Extensibility](#) > [Extensibility Administration](#) > [Custom Service](#).

Guidelines for Conversion Supportability

You must follow these guidelines in `schema.cds` while defining the entity and events:

- Use the custom annotation `@isRoot` to mark the root entity. If not specified, the first entity will be treated as the root by default. Only one root entity is allowed.
- The `source` property in the service definition must not be modified and should retain the “.cds” extension. All required properties must remain intact when converting `serviceSchema.cds` to JSON and uploading it for metadata conversion. For example:

```
"ProjectOrderService": {
  "@source": "srv/projectorder-service.cds", // .cds extension
  "kind": "service",
  "@path": "/project-order-service"
}
```

Note: Do not use the word `service` while defining the service name in your `.cds` file.

- Use `@odata.containment: false` for entities in `schema.cds` that can exist independently and are not contained within another entity. This is important for maintaining the entity's `creatable` and `updatable` properties.
- Each entity must have at least one attribute (element) with `"key": true`, preferably a UUID field. For example:

```
key ID : UUID;
```

- Use the `@description` custom annotation to mark an attribute as the entity's description field. Only attributes annotated this way can be used as `descriptionAttribute` in associations. For Example:

```
"Name": {
  "@description": true, // Custom annotation.
  "type": "cds.String",
  "notNull": true
},
```

- Use `@Core.Immutable: true` to make an attribute non-updatable under all conditions. For such attributes, or attributes of type `UUID`, the system will set `creatable: true` and `updatable: false`. For all other attributes, `updatable` will be set to `true` by default. For example to maintain either true or false for `Name` attribute:

```
"@Core.Immutable": true/false,
Name : String not null;
```

- Use `@readonly` to make an attribute neither creatable nor updatable. In the converted metadata, this results in: `creatable: false` and `updatable: false`.

```
@readonly
opportunityId : UUID;
```

- If none of the above annotations are applied, `creatable` and `updatable` will default to `true`, except for attributes of type `UUID`, where `updatable` will be `false`.
- Use `@UI.HiddenFilter: true` to mark an attribute as `filterable: false`. If `@UI.HiddenFilter: false` is explicitly set, the attribute will be marked as `filterable: true`. If this annotation is not maintained, the default behavior is `filterable: true`.

```
@UI.HiddenFilter: false/true
displayId : String;
```

- Use `not null` to mark an attribute as non-nullable. If not specified, the attribute is considered `nullable: true` by default.

```
Name : String not null;
```

- For attributes that are associated with another entity, the custom annotation `@dataFormat` should be maintained on the attribute in the parent entity.

For example:

```
@dataFormat: 'AMOUNT'
estimatedRevenue : Composition of EstimatedRevenue;
```

In this case, the `estimatedRevenue` attribute in the `ProjectOrder` entity is associated with another entity, `EstimatedRevenue`, which contains an amount field structure. To indicate that the `estimatedRevenue` association follows the **AMOUNT** structure, it is mandatory to maintain the `@dataFormat` custom annotation as described above.

`EstimatedRevenue` entity:

```
entity EstimatedRevenue {
  key ID                : UUID;
    currencyCode        : String;
    content              : Decimal(10, 3);
}
```

Similarly, for attributes associated with an entity that represents a **quantity structure**, the custom annotation `@dataFormat: 'QUANTITY'` must be maintained.

For example:

```
@dataFormat: 'QUANTITY'
quantity : Composition of ProductQuantity;
```

`ProductQuantity` entity:

```
entity ProductQuantity {
  key ID                : UUID;
    content              : Integer;
    unitOfMeasure        : String;
}
```

For entities defined with `@dataFormat: 'QUANTITY'` or `'AMOUNT'`, be sure to mark them with the annotation `@isCnsEntity: true`.

- ```
type Etype : String @assert.range enum {
 BUSINESS = 'Business';
 CODEVALUE = 'Code Value';
}
```
- Events can be defined in the `service.cds` file of a CAP project using the `event` keyword. To ensure proper event metadata generation during conversion, the event name should end with the corresponding action: `CREATE`, `UPDATE`, or `DELETE`.

For example:

```
EVENT
ProjectOrderService.customer.ssc.projectorderservice.event.projectOrderCreate;
```

- The CDS import functionality can be used to convert an OpenAPI schema into CSN (Core Schema Notation). You can retrieve the OpenAPI schema from the **SAP Business API Hub** under the SAP Sales Cloud and SAP Service Cloud Version 2 space. Then, run the following command to generate the CSN:

The conversion involves the following steps:

1. Upload CAP Schema: Provide CAP-CDS based metadata in JSON format generated as mentioned in pre-requisites section. This schema should adhere to guidelines mentioned in below section.
2. Download Converted Metadata: Retrieve the converted metadata in JSON format. Please note that the conversion has limitations. For more details, refer to the **Guidelines for Conversion Supportability** section
3. Validate and Modify: Review the output and update the JSON file if any details are missing or inconsistencies are found.
4. Re-upload Metadata: Use the existing upload feature in the custom service UI to submit the revised metadata.



## Manual Steps Before Uploading Metadata to Sales and Service Cloud

After downloading the converted metadata file through the automated process, complete the following manual steps before using the upload feature in Sales and Service Cloud:

1. Validate the downloaded metadata to ensure it is correct and aligns with the current scope. The conversion might introduce inconsistencies or discrepancies. Make any necessary corrections based on the guidelines for uploading custom service metadata to the Sales and Service Cloud.
2. Set the correct root entity. The first entity defined in the CAP service metadata is automatically considered the root. If a different entity should be the root, update the root: true property accordingly.
3. Update names of entities, services, and other full names with namespace, as the converted metadata may only reflect CAP-specific names. These should be modified to match the naming conventions required by the Sales and Service Cloud. Example: For associations to CNS entities, target entity and target service needs to be updated. Adding entityReference for ASSOCIATION depends on customer's use case (If the customer wants all the attributes from the associated entity, then entity reference can be maintained. If not then only attributes defined under the objectDefinition will be taken into considerations)
4. For entity attributes which are marked for description, update the descriptionAttribute property accordingly. Example: If @description: true is set upon an element in CDS, then please make use of it as a descriptionAttribute for the appropriate entity attribute, for which it serves as the description field. Refer to the sample json payload for examples of attributes which are marked under the descriptionAttribute property.
5. For APIs, update the API metadata, with the relevant API paths corresponding to all the child entities. Since at the CDS side, @path is maintained at the service level, the metadata conversion takes care of only one api metadata i.e. the root entity. For other child entities, the api metadata has to be manually maintained.
6. Once all validations and modifications are complete and aligned with the custom service metadata guidelines(compare it with the sample metadata that is available), use the upload feature to submit the final metadata.

## Metadata Conversion Support and Limitations:

### Service

- No discrepancy in service metadata converted with metadata defined in template data . json.
- **Supported:** name, title, description, authorizationRelevant
- **Unsupported:** fullName (not present in template . json)

### Entities

- **Supported:**
  - name
  - label (human-readable format of name)
  - entityType (enum)
  - root (first entity in service)
  - creatable, updatable
  - attributes
- **Unsupported:** objectTypeCode
- **Notes:**
  - entityType is based on provided guidelines.
  - objectTypeCode not supported yet.
  - creatable, updatable of entity: default is false.

- As per guidelines: `@odata.containment: false` → `creatable, updatable = true`.  
If annotation exists but is `true`, then `creatable, updatable = false` (default behavior anyway).

## Entity Attributes

- **Supported:**
  - `name`
  - `label` (human-readable format)
  - `dataType` (CAP ↔ Sales & Service Cloud): `STRING`, `BOOLEAN`, `NUMBER`, `DATETIME`, `OBJECT`, `ARRAY`, `INTEGER`
  - `dataFormat`: `STRING`, `UUID`, `EMAIL`, `CODE`, `URI`, `ALPHANUMERIC`, `FLOAT`, `DOUBLE`, `AMOUNT`, `QUANTITY`, `INT32`, `INT64`, `DATETIME`, `DATE`, `TIME`, `DURATION`
  - `nullable`: derived from `not null` property
  - `creatable, updatable`: default `true`;
    - If `@Core.Immutable: true` or `UUID` field → `updatable: false`
    - If `@readonly: true` → `creatable, updatable: false`
  - `filterable`: determined by `@UI.HiddenFilter: true`
  - `enumOptions`: populated per guideline
- **Unsupported:**
  - `description` (not available due to CODELIST association not supported)
  - `dataFormat`: `TEXT`, `DEFAULT`
- **Associations Supported:**
  - `AMOUNT`: If custom annotation is defined. Also, for the `AMOUNT` field, if the elements will have a attribute of type - `"cds.string"` then it will be considered as a `CODE` field (`currencyCode` etc.), and the remaining field will be added as it is. For eg: if content field is present of type `cds.integer` or `cds.decimal` it will be handled accordingly.
  - `QUANTITY`: If a custom annotation is defined, it will be handled in the same way as an `Amount` field.
  - `CODE`: Enum-based.
- **Associations Not Supported:**
  - Dynamic code list (`CODEVALUE` entity type associations)
- **Other Notes:**
  - `searchable, sortable, searchResult, langDependent`: always `false`
  - `searchWeightage`: always `1`
  - `keyType: primary for key: true` attributes
  - `filterable: false` for `OBJECT/ARRAY` `dataType` or when `@UI.HiddenFilter: true`
  - `sourceEntity, targetEntity, targetService`: namespaces not included, to be maintained manually

## Events

- **Supported:**
  - `technicalName`
  - `label`
  - `entityReference`
  - `trigger` (should follow naming convention ending in `CREATE/UPDATE/DELETE`)

## APIs

- **Supported:**
  - `technicalName`
  - `title`
  - `description`
  - `apiPath`
  - `operations:`
    - `id`
    - `path`
    - `method: GET, POST, PATCH, DELETE`
    - `request:`
      - `pathVariable: name, dataType, dataFormat`
    - `responses: description, responseCode (200, 400, 401, 403, 404, 500)`
    - `entityReference`
- **Unsupported:** `method: query`

**Note:** Currently only API metadata for root entity is supported. APIs for child entities are not yet generated. Need to be set manually. Api methods - GET POST PATCH DELETE

---

## Limitations

- First entity in CDS schema is assumed as the root.
- `@create, @update` required on attributes. Defaults:
  - `creatable, updatable = true` for non-key fields
  - For key: `creatable = true, updatable = false`
- `@Core.Immutable: true` or `UUID` → `creatable: true, updatable: false`
- `@readonly: true` → `creatable, updatable = false`
- `@UI.HiddenFilter: true` → `filterable = false`.
  - If not present → `filterable = true` by default
- Attribute composition:
  - `to many` → `ARRAY`
  - `1:1` → `OBJECT`
- `@dataFormat: AMOUNT` or `QUANTITY` must be set for correct mapping
- Enums via type keyword: `type Etype : String @assert.range enum { BUSINESS = 'Business'; CODEVALUE = 'Code Value'; }`
- Multiple `service .cds` files supported by combining into single JSON via `cds` commands. Currently only one service-based JSON is supported.
- Event must be defined in `service .cds` file. It can be defined using the `EVENT` keyword. Also, the trigger (`CREATE, UPDATE, DELETE`) should be maintained at the end of the event name, like `projectOrderCreate`.

## Mapping Data Type and Data formats of CAP and SAP Sales Cloud and SAP Service Cloud Version 2

| Cloud Data Type | Data Format     | CAP Data Type | Description        | Supported | Comments                      |
|-----------------|-----------------|---------------|--------------------|-----------|-------------------------------|
| STRING          | STRING          | String        | Default string     | YES       |                               |
|                 | UUID            | UUID          | UUID               | YES       |                               |
|                 | EMAIL           | String        | Email              | YES       |                               |
|                 | CODE            | String        | Code List          | YES       |                               |
|                 | TOKEN           | String        | Token format       | YES       | Requires @dataFormat: 'TOKEN' |
|                 | URI             | String        | URI format         | YES       | Requires @dataFormat: 'URI'   |
| NUMBER          | FLOAT           | Decimal       | Default number     | YES       |                               |
|                 | DOUBLE          | Double        | Double-precision   | YES       |                               |
| BOOLEAN         | -               | Boolean       | Boolean type       | YES       |                               |
| OBJECT          | AMOUNT/QUANTITY | Aspect types  | Complex structures | YES       | TEXT not supported/tested     |
| ARRAY           | -               | Array         | Array type         | YES       |                               |
| INTEGER         | INT32           | Integer       | Default integer    | YES       |                               |
|                 | INT64           | Int64         | Long integer       | YES       |                               |
| DATETIME        | DATETIME        | DateTime      | DateTime type      | YES       |                               |
|                 | DATE            | Date          | Date               | YES       |                               |
|                 | TIME            | Time          | Time               | YES       |                               |

**Note:** Database specific data types like real\_vector or blob are not supported in CNS and there are no alternatives.

### 11.13.2.4 Supported Features

This document gives an overview of the features available in Custom Services.

#### 11.13.2.4.1 Embedded Component

As an administrator, you can define list views or object forms in a custom service and add them as embedded components in custom UIs and selected standard UIs. By mapping parameters from the host page, you can view and work with related custom records directly within the relevant UI view.

## Context

By embedding relevant custom service list views directly into the application UI, users spend less time navigating between screens and more time focusing on value-added tasks, while maintaining consistency with the native look and feel. Passing parameters from the host UI also enables contextually filtered and relevant records to be displayed automatically.

For example, when a custom service is created for an entity, the details page includes an embedded, context-aware list that automatically shows all project orders for that account, eliminating the need to navigate to a separate screen.

### Note

This feature has restricted availability. To add embedded components to custom UIs, you must create a case with the component CEC-CRM-CZM-EXT.

## Procedure

### 1. Generate Embedded Component View

- a. Open an entity-based custom service and choose  (*Design App*) in the *Actions* column.
- b. On the UI View screen, choose  (*Create*) available on the top-right corner of the screen.
- c. Enter a title.
- d. Choose an icon.
- e. Select a UI View Pattern from the available options.
- f. To generate a list view select *List Card* under the *Select Embedded Component* section.
- g. Select the parameters for filtering based on your use case. The available fields are derived from the service metadata and are marked as filterable = true in the metadata.

### Note

- Ensure that the external service supports **\$filter** for these fields.
- Fields of all data types, except ARRAY, are available for parameter binding.

- h. Optional: To add an *Object Form*, select the object card option and do one of the following:
  - Bind the required parameters such as ID or Display ID.
  - Select the parameters for filtering based on your use case.
- i. Choose *Apply* and save your changes.

### 2. Embed Component using the Adaptation Mode

1. Open the target standard or custom UI in adaptation mode.
2. Create a new section and choose *Add Embedded Component*. The system displays the list of custom services, where the list view is selected in the corresponding design app.
3. Add the generated embedded component and bind the parameters by mapping host UI parameters to the List View input parameters.
4. Choose *Apply* and end the adaptation mode.

The system displays the object form or the list view and shows the filtered records based on the host UI parameters.

#### ⓘ Note

- List view displays multiple records, while the object form displays a single record. It fetches the record based on the provided ID. This is a typical **getById** request, where the ID must be specified.
- You can add or hide columns for the embedded component using adaptation mode. Ensure column changes are global and apply wherever the component is reused.

## 11.13.2.4.2 Global Search

You can search for a custom service from within the home screen using the global search option.

#### Steps

1. Create or edit an entity-based custom service.
2. Under ► *Custom Metadata* ► *Entities* ►, select an event and turn on the *Global Search Relevant* switch.
3. Go to the corresponding API and set the *API Style*.

This setting is available only for the root entity.

For REST API Style, the following operators are supported: ct, sw, eq, gt, lt, ge, le, and, not, or.

For OData, the following operators are supported: contains(), startswith(), eq, gt, lt, ge, le, and, not, or.

#### ⓘ Note

- This setting is available only for the root entity and you can configure up to a maximum of 10 entity based custom services as global search relevant.
- Ensure the corresponding service is assigned to the appropriate role and available in the user's scope (for example, in the relevant work center). Otherwise, Global Search results will not appear for the end user.
- Search results currently display values from the first five visible fields defined in the metadata.

## 11.13.2.4.3 Analytics

You can mark custom entities as analytics relevant, enabling them to appear in analytics data sources.

By default, only standard entities are available for analytics; custom entities must be explicitly marked to be included.

#### ⓘ Note

This feature has restricted availability. To add analytics in custom services, you must create a case with the component CEC-CRM-ANA.

## Steps

1. Enable the Analytics-Relevant switch for entities
  1. Create or edit an entity-based custom service.
  2. Set **analyticsRelevant** to **true** for the required entity attributes in the Metadata JSON.
  3. Under ► [Custom Metadata](#) ► [Entities](#) ► select the root entity.
  4. Turn on the [Analytics Relevant](#) switch.  
Root and child entities must be marked as analytics relevant separately. Enabling it for a root entity replicates only root entity data. To replicate child entity data, turn on the [Analytics Relevant](#) switch for the required child entities as well.
2. Add the data export request event
  1. In your service metadata, add a new event of type data export request with the trigger `DATA_EXPORT_REQUEST`, in addition to the existing create, update, and delete events.
  2. Upload the updated metadata to the custom service. This event is required to trigger the initial data replication for analytics.
3. Configure an Inbound Communication System
4. Enable the required events
  1. Navigate to ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ► [Inbound Custom Events](#) ►.
  2. Enable events of trigger type Data Export Request and other relevant events for the required custom service.
5. Implement analytics data replication API  
Implement API (POST `/dataExportRequest`) in your external service. The external service must implement this endpoint to handle initial load/data replication request.  
The request body for this API:

```
{
 "dataRequestId": "string", // Required - UUID Format, generated by UI
 "serviceFullName": "string", // Required - Fully qualified service name
 "entityFullName": "string" // Required - Fully qualified entity name
}
```

This API must trigger the following events:

- Plan event (type: PLAN) – indicates the number of records to be sent
  - Data events (type: DATA) – sends each record individually
  - Summary event (type: SUMMARY) – signals completion of replication
6. Trigger Initial Load or Replicate Analytics data from application UI
    1. Open the custom service.
    2. Choose [Replicate Analytics Data](#).

The replication starts as a background process. The system calls the external service to initiate data transfer.

After the initial replication the external service must send create, update, and delete events. These events keep analytics data synchronized whenever records change.

## Result

- Initial data is copied to analytics after replication.
- New and updated records are automatically synchronized based on CUD events.
- Data from both parent and child entities is available for analytics.
- In Analytics Design stories, Custom service is listed under **Custom Data Sources**. Admins can create analytical stories with custom data sources or joined with standard entity data sources.

## Limitations

- You can mark up to 15 custom entities as analytics relevant. This limit is applied at the entity level and is shared across all custom services.
- There is a total data upload or replication limit of **3 million** records across all analytics relevant custom service entities.  
There is no separate limit for individual custom services beyond this overall limit. If the limit is reached, you must initiate a delete event to purge older data before adding new data.

## Related Information

### [Custom Service Entities in Analytics \[page 865\]](#)

Custom service entities can be used as data sources in SAP Analytics Cloud (SAC) once they are marked as analytics relevant. After enabling this option, the system automatically creates corresponding data sources that are available in the Query Designer for analytics stories and widget models.

### [Create Communication Configurations \[page 913\]](#)

Create communication configurations for the integration between SAP Service Cloud Version 2 and external applications.

### [Enable Custom Inbound Events \[page 922\]](#)

You must enable custom inbound events to allow your custom services to send external data into the system through secure inbound API calls.



## 11.13.2.4.4 Metadata Creator

Use the [Metadata Creator](#) to generate the JSON metadata required for entity-based custom services.

### Context

The [Metadata Creator](#) helps you create metadata that aligns with your external service schema, including fields including fields and associations required by the UI. You can then use the generated metadata as a starting point and adjust it based on your service implementation.

#### Note

This feature has restricted availability. To request access, you must create a case with the component CEC-CRM-CZM-EXT.

### Procedure

1. Create a Service
  - a. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Extensibility](#) ► [Custom Services](#) ►
  - b. Choose [+ \(Create\)](#) and then select [Entity-Based Custom Service](#).
  - c. Select Metadata Creator.
  - d. On the [Service Details](#) screen, enter a [Service Title](#) and [Service Description](#)

2. Create an entity and add attributes
  - a. Under ► [Metadata](#) ► [Entities](#) ►, choose [+ \(Add Entity\)](#) to open the [Add Entity](#) section.
  - b. Add a name, label, and other details.

The first entity created is a Root entity by default.
  - c. Choose Add Attribute.
  - d. In the new window add all the required information
  - e. Choose Add Attribute.

You can choose to add many other attributes in the same way.

#### Note

You can add other entities as a hierarchical structure following the same steps.

3. Create an API and add Operations
  - a. Under ► [Metadata](#) ► [APIs](#) ►, choose [+ \(Add Entity\)](#) to open the [Add API](#) section.
  - b. Add a name and API description.
  - c. In the [Entity Reference](#) dropdown, all existing entities from the metadata are displayed. Select an entity to automatically generate the [API Path](#). You can modify the generated path if you need a specific API path.

- d. Select an [API Style](#).
- e. Choose Add Operation
- f. In the new screen, enter the HTTP Method and Operation ID. The operation path is automatically generated.
- g. Scroll down to the [Responses](#) section.
- h. Choose [Add Default Responses](#). The system auto populates all the fields
- i. Choose [Add Response](#) and add them one by one.
- j. Save your changes.

You can choose to add another operation in the same way.

4. Create an event
  - a. Under ► [Metadata](#) ► [Events](#) ▾, choose + ([Add Event](#)) to open the [Add Event](#) section.
  - b. Add a name.
  - c. Choose a [Trigger](#) and [Entity Reference](#).
5. Download the generated metadata and upload it to the custom service.

# 12 Set Go-Live for Your Tenant

Administrators can set Go-Live date for the tenant.

## Context

Go-Live date helps SAP identify when a tenant is actively used in a production environment. As an administrator, you must set the [Tenant Go-Live](#) once your tenant is live and is in productive use.

## Procedure

1. Log in to the system as an administrator.
2. Navigate to the [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
3. Go to ► [All Settings](#) ► [Tenant Configuration](#) ► [Tenant Go-Live](#) ►.
4. Set the Go-Live Date from the date picker on the [Tenant Go-Live](#) page, and choose [Save](#).

### ⓘ Note

You can't set a future date as your [Tenant Go-Live](#) date.

# 13 Users and Control

Users and control settings allow you, as an administrator, to manage your employees, users, business roles, and security policies which in turn provide authentication and authorization services for your system.

- **Employees:** A group of people who contribute to creating goods or services in a company, based on a work contract or a contract for services. Unlike externals, internal employees are bound by instructions and obliged to adhere to the company's policies and regulations.
- **Users:** Refer to employees, business users, and other users such as partner contacts. Users are assigned to business roles and technically, access controls in your system are implemented on the business roles.
- **Business Roles:** Represents a set of authorizations to access your solution within your organization and system landscape. In the system, a business role defines a hierarchy of access controls that you can assign to application users in your organization. You can use roles to assign access to a large number of users at a time. As roles change, you need to update only the access rights within a role and the rights apply for all assigned users.
- **Security Policies:** A set of rules that defines password complexity, such as including numerical digits and password validity, like requiring a password change after a certain period of time.

## Authentication and Authorization

Authentication is the process of verifying who a user is, while authorization is the process of verifying what a user will have access to.

The different authentication methods include:

- **Basic Authentication:** Basic authentication is a simple authentication method that is built into the HTTP protocol that is supported by most Web browsers and Web servers. With this authentication mechanism, the client sends the user ID and password to the server in plain text format.
- **Single Sign-On Authentication:** Single sign-on (SSO) is an authentication method that enables users to securely authenticate with multiple applications and websites by using just one set of credentials. It is a mechanism that eliminates the need for users to enter passwords for every system that they log on to.
- **Certificate-Based Authentication:** Certificate-based authentication is a cryptographic technique that enables secure identification of one computer by another across a network connection. It uses a public-key certificate. This authentication system confirms a user's or device's identity using digital certificates issued by a trusted authority such as a government agency or web server to verify its authenticity.
- **Token-Based Authentication:** Token-based authentication is a protocol which allows users to verify their identity, and in return receive a unique access token. Until the token is valid, the users can access the website or app that the token has been issued for without having to re-enter credentials each time they go back to the same webpage or app. The user retains access as long as the token remains valid. Once the user logs out or quits an app, the token becomes invalid.

For example: If you want to do single call where you intend to read case and opportunity, you call the opportunity API by passing basic auth headers (User Name and Password). If you want to make like 100s of calls, then it is best to use Auth Token. You use Auth Token call and provide details for Basic Authentication, with which you get an Access Token. Once you have the Access Token, you don't need basic authentication credential each time you want to access any APIs, instead you use bearer token. In

the bearer token, you can pass the Access Token and its validity. Until the validity expires, the authorization remains valid.

## 13.1 Users

Users are created for system access. Business users are created for employees to access the system through UI, whereas API users are technical users who can access the system through APIs.

In this section, we discuss about the different types of users that exist in the solution.

### User Types

The different types of users in the system include:

- **Business User:** Users who have at least one business role assigned to them that governs the access to the system. These users can access the user interface of the application.
- **Technical User:** Users that have been created for a specific purpose. The different types of technical users include:
  - **Communication User** – Users created and used for integration purposes only. A communication user is used only for accessing a specific communication scenario for which they've been created. They have API access, but not UI access.
  - **Support User** – Users who are used by support teams to log on to customer tenants to access the system as part of case processing.

#### Note

Support teams may receive a case that requires access to the customer system. This scenario can occur if the issue can't be reproduced or resolved in internal environments. In such situations, the Cloud Access Manager (CAM) is used to generate temporary access to the corresponding customer system.

Support users aren't allowed to share these details. The CAM tool maintains a log of which user generated which support user at what date and time. So, it's always possible to link a generic support user back to the real person.

Support users follow the pattern **SAP\_\***.

- **Initial User** – Users who are created initially when a tenant is provisioned, and are later locked.
- **API User** – Users created and used for consuming other services through APIs. These users have API access as per the technical roles assigned. They don't have access to the UI of the application.

#### Note

For communication and API users, only for the first logon for the day, an event is logged in and published in the log.

- **Active Users:** It's a metric, and is defined as the number of unique users who are logging in a 30-day period.

- **Licensed Users:** It's a metric, and is defined as the total number of valid Business Users in the system.
- **Service Account User:** These users are created at a tenant Level. Displayed in the system as `SAP_SYSTEM01` is a service account user. They can't be created using HTTP APIs but are auto-created by IAM services. Some of the features of such service account users include:
  - `SAP_SYSTEM01` user is created in response to a tenant create event.
  - `SAP_SYSTEM01` user can't be used to log in to the tenant.
  - `SAP_SYSTEM01` user is used for any non-interactive user access and updates in the tenant that ensures that all access and updates are always based on a valid tenant user.
  - Each tenant contains a Service Account User (`SAP_SYSTEM01`) that is created with an all-zero UUID (00000000-0000-0000-0000-000000000000).
- **Limited User:** A user who can perform a limited number of transactions in the tenant. The total number of transactions that a limited user can perform are 1200 transactions per calendar year. To create a limited user, an administrator must choose the *Limited User* SKU in the *Manage SKUs* section while creating a business role. Once the limited user SKU is selected, you can't add any other SKU. Any user assigned to this role is counted as a limited user.  
The transactions that get reported when a limited user can perform actions include:
  - Cases
  - Phone Calls
  - Emails
  - Tasks
  - Chats
  - Notes
  - Leads
  - Opportunities
  - Appointments
  - Visits
  - Attachments
  - Quotes
  - Orders

## Business User List View

You can view all business users in your system in a list format in the *All Business Users* section. You can use additional filters such as *Business Users*, *Status*, *Created On*, *Valid From*, *Valid Until*, *Administrator*, *SCIM Replication*, and *Password Locked* to filter your business users on different parameters.

You can use the advance filter (filter icon) to filter on various parameters.

The following header fields are available on this page:

- **User Name:** the user name of your business user.
- **Full Name:** the full name of your business user.
- **Status:** indicates the status of the user whether the user status is *Active*, *In Preparation*, *Blocked*, *Deleted*, or *Obsolete*.
- **Status:** a switch to indicate if the user is an administrator on the system.

- SCIM Replication: a switch to indicate if replication of the user via the SCIM API is enabled.
- Password Locked: a switch that indicates if the password is locked for a particular user.
- Created On: the calendar date on which your business user was created.
- Valid From: the calendar date from when your business user is activated in the system.
- Valid Until: the calendar date until which your business user is valid in the system.

#### Note

The user validity is independent of employee validity. The employee *Valid Until* date and the user *Valid Until* date can be different.

## Technical User List View

You can view all the technical users in your system in a list format in the *All Technical Users* section. You can use additional filters such as *Technical Users*, *Status*, *Created On*, *Valid From*, *Valid Until*, *Administrator*, *SCIM Replication*, and *Password Locked* to filter your technical users on different parameters.

You can use the advance filter (filter icon) to filter on various parameters.

The following header fields are available on this page:

- User Name: the user name of your technical user.
- User Type: the type of technical user.
- Status: the status of the technical user, whether *Active*, *Blocked*, or *Obsolete*.
- Password Locked: a switch that indicates if the password is locked for a particular user.
- Valid From: the calendar date on which your technical user was created.
- Valid Until: the calendar date until which your technical user is valid in the system.

#### Note

User validity is independent of Employee validity. It means an employee valid until date isn't the same as the user valid until date.

- Security Policy: the security policy associated with the technical user.

## 13.1.1 Business User Details

View details of a business user on this page.

The *Details* tab provides the following information of a business user.

- *Employee Data*: Shows the basic employee information such as Employee Name, Employee ID, Company, Email ID, and so on.
- *User Details*: Displays the following user information.
  - *User Name*: A unique name to identify a business user. Only an administrator has the privileges to edit it.

- **Global User ID:** A unique identifier for a user for content records.
- **Created On:** The date on which the business user was created in the system.
- **Valid From:** The date from which the business user is valid. An administrator can edit this date.

#### Note

**Valid From** date may not be the same as **Created On** date. **Valid From** date can be a future date. A business user is a valid user only between the interval defined by **Valid From** and **Valid Until** dates. An administrator can edit the **Valid From** date.

- **Valid Until:** The date until which the user is active in the system.
- **Password Locked:** A switch that indicates if the password is locked or not. The following are the features of the **Password Locked** switch:
  - The switch is auto-enabled after too many failed login attempts.
  - If the switch is enabled, an employee can't log on to the system from the login screen but can only log in using a certificate.
  - An administrator can disable this switch to unlock the password, however, an administrator can't lock the password.
- **Security Policy:** Displays the security policy assigned to the user. An administrator can change the assigned security policy.
- **Work Time:** Edit the time zone in which your business users work. An administrator can set the work time for business users.

#### Note

The **Work Time** field is for Dynamic Visit Planning functionality purposes and is used for visit planning and scheduling process. This settings won't impact the regular time zone configuration of the system.

- **SCIM Replication:** A flag that indicates if the user is locally created or SCIM replicated.
- **Reset Password:** Provides an option to reset the current password of the user. As an administrator, you can reset a user's password by clicking the **Reset Password** button, which triggers a password reset email to your user. The user can then reset the password using the **Password Reset** link in the email.

#### Note

- The **Password Reset** link is valid for 60 minutes and is for single password reset only.
- You can view user created and password reset email details in **Outbound Monitoring** setting.

- **Manage Certificates:** Enables an administrator to add or remove certificates for a user to enable certificate-based login for a user.

To add a new certificate for a user:

1. Choose **Manage Certificates**.
2. Upload a certificate for a user using the **Drop or Browse Files** option. Once the certificate is uploaded, it enables an user with seamless login to the system.

#### Note

You can upload only certificates generated from the certificate authority listed in the following note: <https://launchpad.support.sap.com/#/notes/2801396>.

To remove a certificate, select the certificate and select the delete icon under the **Actions** column.



The [Assigned Business Roles](#) tab lists all the business roles assigned to a particular business user. An administrator can search and add a business role. The administrator can also delete an assigned role.

## Related Information

[Users \[page 221\]](#)

Users are created for system access. Business users are created for employees to access the system through UI, whereas API users are technical users who can access the system through APIs.

[Create Business Users and Assign Business Roles \[page 225\]](#)

Administrators can create business users and provide appropriate authorizations by assigning business roles.

## 13.1.2 Create Business Users and Assign Business Roles

Administrators can create business users and provide appropriate authorizations by assigning business roles.

### Context

Business users in the system are linked to employees. Business users have business roles assigned, and the access controls in the system are implemented on business roles.

### Procedure

1. Log in to the system as an administrator.
2. Navigate to [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
3. Go to [All Settings](#) > [Users and Control](#) > [Users](#).
4. Choose [Business Users](#) from the dropdown on the page.
5. Click the Add icon (+) on the [Business Users](#) page.
6. Search and select an employee for whom you wish to create the business user.

#### Note

- The employee linked to a user must have a unique Email ID.
- If a business user already exists for the employee, a message stating [The business user already exists for this employee](#) is displayed.

7. Once you select an employee, the [User Data](#) section is auto-populated. By default, the user name is created with the last name followed by the first name of the employee. If you wish to modify the user name, you can modify them.

8. Once you've verified all the details, click [Create](#). The business user is now created and linked to the employee. Refresh the business users' list to view your newly created business user.  
Once the user is created, an email is triggered to the users. This email contains the username, a link to set the password, and the system URL. For SSO-enabled users, an SSO-enabled URL is sent in the email, using which the users can log in via SSO to the system.
9. Choose your business user, and then navigate to the [Assigned Business Roles](#) tab.
10. Add business roles to your user by using the [Search and Add](#) functionality on the screen. All the business roles that you assigned to your business user now appear in the list format on the [Assigned Business Roles](#) tab.

#### Note

- Ensure that your administrator has access to the role service in addition to the user service to assign roles to your business users.
- If a role assigned to your user has its [Write Access](#) set to [No Access](#) in the [Business Services](#) section, then such a user can't edit business roles.

You've now created a business user and assigned the user to a business role.

## Related Information

[Business User Details \[page 223\]](#)

View details of a business user on this page.

## 13.1.3 Display User Metrics for SKUs

Displays the user count per SKU assignment for a tenant. Use this metric to monitor license distribution, optimize costs, and ensure compliance with your organization's software licensing agreements.

### Context

This procedure helps you to view the user count for an SKU in a given tenant. SKUs are assigned to roles, and the users are assigned to those roles. Using this relationship, we determine which users are associated with each SKU.

### Procedure

1. Navigate to [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
2. Go to  [All Settings](#)  [Users and Control](#)  [Users](#)  [All Business Users](#)  page.

3. On the [All Business Users](#) page, choose the [Show Usage Metrics](#) icon.  
A popup appears to display the number of business users assigned to each SKU in the tenant.

## 13.1.4 Technical User Details

View details of a technical users on this page.

The [Details](#) tab provides the following information of a technical user:

- [User Details](#): Displays the following user information.
  - [User Name](#): A unique name to identify a technical user. Only an administrator has the privileges to edit it.
  - [Display Name](#): A unique identifier for a user for content records.
  - [Created On](#): The date on which the technical user was created in the system.
  - [Valid Until](#): The date until which the user is active in the system. An administrator can edit this date.
  - [Password Locked](#): A switch that indicates if the password is locked or not. The following are the features of the [Password Locked](#) switch.
    - The switch is auto-enabled after too many failed login attempts.
    - An administrator can disable this switch to unlock the password, however, an administrator can't lock the password.
- [Security Policy](#): Displays the security policy assigned to the user. An administrator can change the assigned security policy.
- [Change Password](#): Provides an option to change the current password of the user. As an administrator, you can change a user's password by clicking the [Change Password](#) button.
- [Manage Certificates](#): Enables an administrator to add or remove certificates for a user to enable certificate-based login for a technical user.

To add a new certificate for a technical user:

1. Choose [Manage Certificates](#).
2. Upload a certificate for a user using the [Drop or Browse Files](#) option. Once the certificate is uploaded, it enables an user with seamless login to the system.

### Note

You can upload only certificates generated from the certificate authority listed in the following note:  
<https://launchpad.support.sap.com/#/notes/2801396> .

3. To remove a certificate, select the certificate and click the delete icon under the [Actions](#) column.

The [Assigned Technical Roles](#) tab lists all the technical roles assigned to a particular API user. An administrator can search and add a technical role. The administrator can also delete an assigned role.

## Related Information

[Users \[page 221\]](#)

Users are created for system access. Business users are created for employees to access the system through UI, whereas API users are technical users who can access the system through APIs.

Administrators can create API users and provide authorizations by assigning them to technical roles.

## 13.1.5 Create Technical Users and Assign Technical Roles

Administrators can create API users and provide authorizations by assigning them to technical roles.

### Context

An API user is a type of technical user who is authorized to consume other services through APIs. These users can access the system using the APIs as per the technical roles assigned to them. They don't have access to the UI of the application. For an API user, an Employee can't be assigned, and all the details of the user must be entered manually.

### Procedure

1. Log in to the system as an administrator.
2. Navigate to the [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
3. Go to [All Settings](#) > [Users and Control](#) > [Users](#).
4. Choose [Technical Users](#) from the dropdown on the page.
5. Click the Add icon (+) on the [All Technical Users](#) page, and enter a [User Name](#), [Display Name](#), [Password](#), [Valid From](#), and browse to upload a certificate on the [Create API User](#) window. By default, a security policy relevant for the technical user is assigned.
6. Click [Create](#). The API user is now created. Refresh the [All Technical Users](#) page to view your newly created API user.
7. Choose your technical user, and then navigate to the [Assigned Technical Roles](#) tab.
8. Add technical roles to your user by using the [Search and Add Technical Roles](#) button on the screen. All the technical roles that you assigned to your API user now appear in a list format on the [Assigned Technical Roles](#) tab.

#### Note

- Ensure that your administrator has access to the role service in addition to the user service to assign roles to your technical users.
- If a role assigned to your user has its [Write Access](#) set to [No Access](#) in the [Business Services](#) section, then such a user can't edit business roles.

You've now created an API user and assigned a technical role to the user. You can now use this user to consume other services through APIs.

## 13.1.6 Sign In as Another User

The *Sign In as Another User* feature allows you, as an administrator, to act as another business user. You have the same authorizations as the other user, enabling you to troubleshoot and resolve issues without screen sharing or password exchange.

### Prerequisites

The User service, `sap.crm.service.userService`, and the Role service, `sap.crm.service.roleService` are assigned to your administrator user.

### Procedure

1. Navigate to the *User Menu* on the top-right corner, and choose *Sign In as Another User*.
2. In the *Sign In as Another User* popup, choose the business user you want to mimic, and choose *OK*.

#### Note

The popup lists all the business users in the tenant who are not administrators. If a user listed as a business user is assigned an administrator role, they will no longer appear in the list.

A confirmation message appears stating that the administrator user will be logged off and on the login screen, you can log in with your administrator credentials to continue to sign in as another business user.

3. Once you confirm, you're logged off from the current session and a new login screen appears where you can log in with your administrator credentials to proceed as the business user.

#### Note

The new login screen provides a URL specific to the current administrator and the selected business user. This URL can't be used by any other administrators. A message at the top of the screen indicates the business user that you are signing in as.

4. Once you've logged in, a message appears confirming that you've logged in as the chosen business user. As a security measure, the business user is notified by email whenever an administrator logs in to the system on their behalf.

#### Note

Once you sign in as another user, the time zone displayed on the system is of the other business user and is non-editable. And, you won't see the option to *Change Password* under *Settings*.

## Results

You've now logged as another user that has the same authorizations as the business users, with which you can help the user resolve issues without screen sharing or password exchange.

### 13.1.6.1 Service-Specific Details

This document outlines the service-specific behavior and limitations of the [Sign In as Another User](#) feature.

#### Custom Logic

- **Validations and Determinations:** When an administrator signs in as another user, the validations and determinations run as expected in the system. However, in determinations, the function `$LOGGED_IN_EMPLOYEE_ID` returns the Employee ID of the other user.
- **External Hooks:** In external hooks, the fields, `employeeId` and `userId`, contain details of the other user. Additionally, two additional fields `impersonatingEmployeeId` and `impersonatingUserId` are passed as context, and they contain the details of the administrator user.

#### Limitations

- **Extensibility Administration:** This is an administrator-only feature and not accessible in this mode.
- **Logging:** In this mode, the details of both the administrator user and mimicked business user is logged.

## Extensibility Scenarios

### Personalization and Impersonation Behavior

When an administrator signs in as another user, the interface appears exactly as it does for that user, including the same page layout and role-based behavior. In other words, the administrator experiences the application exactly as the impersonated user, and no personalization changes are saved.

#### Limitations

- **Explicit Personalization:** The [Start Personalization](#) option in the user menu is hidden when you sign in as another user. This prevents manual personalization changes during impersonation.
- **Implicit Personalization:** Actions such as saving custom queries, resizing columns, and similar personalization features are restricted for impersonated users. These restrictions ensure that no new personalization changes are created during impersonation, maintaining consistent system behavior.

## Dynamic Properties

When signed in as another user, all role-based dynamic property evaluations are performed for the signed in user, not the original logged-in user.

This means that field visibility and other dynamic behaviors are determined based on the signed in user's roles and permissions.

### ❖ Example

In an entity-based configuration, a field such as *Role* is configured to be hidden. However, a role-based rule can make the field visible.

If the required role is assigned to the impersonated user, the field becomes visible when you sign in as that user. This ensures that system behavior and field visibility are evaluated based on the impersonated user's roles and permissions.

## Shortcuts

**Favorites:** The administrator user can view the other user's Favorites but cannot add or remove them. Favorites remain read-only to prevent unintended changes.

### Limitations

**Recent Items:** In this mode, the administrator user cannot view or create Recent Items. Since Recent Items are user-private activity data, this feature is not available in this mode.

## Home Page

- **Home Page Cards:** The system loads the other user's homepage metadata, ensuring the administrator user experiences the same homepage view.
- **Home Page Greeting Card:** The greeting card displays both names in the **Admin user (Business user)** format indicating that the session is running under *Sign In as Another User*.  
For example, if John Doe (Admin user) logs in as Sam Smith (Business user), the greeting card would display the name as John Doe (Sam Smith).

## Account Plans

When an administrator signs in as another user, the administrator experiences the application precisely as the user would, with access limited to their assigned modules and viewable information. This can be utilized to check for authorizations or troubleshoot issues.

### Limitations

In this mode, the administrator cannot delete any account plans or edit any attributes for account plans in detail view.

## Approvals

When an administrator logs in as another user, approval notifications are displayed as they would appear for the business user, and the administrator can perform approval actions.

- **Search and Data Access:** Search results, access to entities, and navigation behavior reflect the permissions and data scope of the business user.
- **Approval Processing:** Administrators can access approval tasks through the notification icon, similar to the business user. They can perform actions such as [Submit](#), [Withdraw](#), [Approve](#), or [Reject](#) on approval tasks.

## Limitations

This feature is currently supported only for approval actions related to opportunities.

## Notifications

When an administrator logs in as another user, notification entries are displayed in the context of the business user. They can access these notifications through the notification icon.

Administrators can navigate to related entities by selecting hyperlinks in notifications, including info notifications, approvals, and task reminders.

## 13.2 Roles

A business role defines the specific areas of the system the users can access when they're assigned to that role. Administrators can implement authorizations to business users by assigning business roles.

A business role represents a set of authorizations to access your solution within your organization and system landscape. A business role defines a hierarchy of access controls that you can assign to business users in your organization. As roles change, you need to update only the access rights within a role and the rights will apply for all assigned users.

### Business Roles List View

Lists all the business roles in a list view. You can filter the roles using the [Technical Roles](#), [Admin](#), and [Status](#) filters. You can also use the advanced filter icon to filter using additional parameters. As an administrator, you can view and edit some of the applicable fields on this page:

- Business Role ID



- Business Role Name
- Description
- Status: You can set the status to [In Preparation](#), [Active](#), or [Obsolete](#).
- Admin: You can activate this switch to indicate that the role is an administrator role.
- Action: You can copy the role using the copy functionality under the [Action](#) column.

## Technical Roles List View

Lists all the technical roles in a list view. You can filter the roles using the [Technical Roles](#), [Admin](#), and [Status](#) filters. You can also use the advanced filter icon to filter using additional parameters. As an administrator, you can view and edit some of the applicable fields on this page:

- Technical Role ID
- Technical Role Name
- Description
- Status: You can set the status to [In Preparation](#), [Active](#), or [Obsolete](#).
- Admin: You can activate this switch to indicate that the role is an administrator role.

### 13.2.1 Business Role Details

View more details of a business role on this page.

The [Details](#) tab provides the following information of a business role.

- [Business Services](#):
  - All business services that are assigned to a business role are displayed in the [Business Services](#) list. As an administrator, you can add or delete business services to the business role.
  - All business services have unrestricted read and write access by default.
  - Some business services allow creation of restrictions. Such services have [Read/Write](#) dropdown list enabled. On setting any one of them to [Restricted](#), the [Restriction Rule](#) link is enabled.

#### Note

If one role blocks write access and another role allows it, the more permissive role wins.

- An administrator can select from the available restrictions for a given service to create a restriction rule.
- You can delete invalid business services that get flagged with the following message "Some of the business services assigned to the business role are no longer valid. Please delete all the services with a warning sign to proceed further."
- Default and Mandatory Business Services: When a business role is created, a few of the services such as [Org. Units](#), [Data Import and Export](#), [Home Page](#), [Service Catalog](#), and so on, are assigned by default. These services are default (non-mandatory) business services. The respective apps are added to the app list. These services can be removed by an administrator while either creating or editing a business role. Also, some of the business services such as [Search](#) and [Language, Region, and Currency](#) services

are also assigned by default. These services and their respective apps can't be removed or disabled by an administrator. These services are mandatory business services for a role.

- [App List](#):
  - Each business service can have one or more apps associated with it. These apps define the left navigation for the users having this particular business role assigned.
  - On adding the business service to a role, the corresponding apps are added to the app list.
  - Administrators can enable or disable these apps using the switch against them.
  - You can also search for apps from the search bar. You can also filter the app list by [All Apps](#), [Generic Apps](#), and [Admin Apps](#).
  - As an administrator, you can also enable all apps at once using the [Enable All Apps](#) switch and enable all Admin Apps at once using the [Enable All Admin Apps](#) switch.

#### Note

The overall access to entities is controlled and governed by the [Business Services](#) section. However, access to a particular entity on the UI is managed using [Apps](#). If you want to provide restricted access to a particular entity, use the restriction rules in the [Business Services](#) section.

The [Assigned Business Users](#) tab lists all the users that have this business role assigned. An administrator can search and add users to this role. The administrator can also delete users from this role.

The [Changes](#) tab lists all the changes made to your business role. These changes include the modifications made to restriction rules for a particular service. The changes display the business service name that is affected when a restriction rule is edited. You can use the different filters available on the interface to filter and view the changes.

## Related Information

[Changes \[page 837\]](#)

Review detailed configuration changes with effective filtering capability.

## 13.2.2 Create Business Roles and Assign Business Users

Administrators can create business roles with appropriate authorizations and assign them to business users.

### Context

Use business roles to assign access rights to multiple business users who carry out similar activities. You can also define access restrictions for a business role and in turn to the business users that are assigned to the role.

## Procedure

1. Navigate to [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
2. Go to [All Settings](#) > [Users and Control](#) > [Roles](#).
3. Choose [Business Roles](#) from the dropdown list.
4. Click the Add (+) icon on the [All Business Roles](#) page, and enter a business role name and description. The [Business Role ID](#) is auto-generated. You can also set this role as an admin role by enabling the [Admin](#) switch.
5. Click the Add (+) icon in the [Manage SKUs](#) section, and choose one or more SKUs from the [Select SKUs](#) list. However, if you choose Limited User SKU from the list, you can't select or add any other SKUs from the list. Also, you can't add Limited User SKU if any other SKU is already added.

### Note

- In general, you can select more than one SKU from the list. You can remove SKUs that you no longer need. In such a case, the corresponding services are removed from the role. The business service is retained only if it's also part of another assigned SKU.
- If you select the limited use SKU from the [Select SKUs](#) list, a list of all business services (associated with all other existing SKUs in the tenant) is fetched and enabled, except for the Groupware services.

6. Based on the selected SKUs, a list of services is populated by default. The list of business services is filtered based on the selection of SKUs. Click the Add (+) icon in the [Business Services](#) section to open the [Add Business Services](#) popup, select all the services that are required for this role from the list of services, and then click [Add](#). You can now [Save and Activate](#) your business role.

### Note

- Choosing an SKU in the [Manage SKUs](#) section is applicable for new roles only and doesn't impact the existing business roles.
- Mandatory and Non-Mandatory Services:  
Some business services such as [Search](#) and [Language, Region, and Currency](#) business services are also assigned by default. These services and their respective apps can't either be removed or disabled by an administrator. These services are mandatory business services for a business role. If you try to remove these services or disable these apps while creating or editing a business role, they're added back again to the role. For an existing business role, this change has no functional impact.  
By default, a list of business services such as [Org. Units](#), [Data Import and Export](#), [Home Page](#), [Service Catalog](#), and so on, is assigned. Such services are default (or non mandatory) business services. The respective apps are also added to the app list. These services can be removed by an administrator either while creating or editing a business role.
- If you set a role as an Admin role using the switch, a default list of business services necessary for the administrator role is added by default.

7. Click the Add (+) icon in the [Business Services](#) section, and select and add all the services that are required for this role from the [Add Business Services](#) popup. [Save and Activate](#) your business role.

### Note

If you're editing a business role, you must explicitly use the [Save](#) option to ensure all your changes get saved on both [Business Role Details](#) and [Assigned Business Users](#) pages.

- You can add additional services for your role from the [Add Business Services](#) popup.
- Set restrictions for the business services by editing either or both [Read Access](#) and [Write Access](#) columns for a corresponding business service. By default, both these columns are set to unrestricted for a service, and the [Restriction Rule](#) is set to unassigned. Once you set [Read Access](#) and [Write Access](#) for a business service, the corresponding [Restriction Rule](#) is enabled. Click the enabled [Unassigned](#) button to set access restriction rules for your business role, based on the options listed.

### Note

Access Restriction Rules: Based on the restriction types defined by each service, the following restriction rules are supported. When a business role is maintained for a user, based on supported restriction types for a service, the corresponding rules are displayed. You can select one or more rules.

#### Access Restriction Rules

| Restriction Type    | Restriction Rule          | Description                                                                                                                                                         |
|---------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMPLOYEE            | Myself                    | This rule provides access based on direct employee assignment                                                                                                       |
|                     | Employees Reporting to Me | For a manager: Access is based on employee and involvement of employees reporting to a user in an org. unit (including subunits). For a non-manager: Same as Myself |
|                     | Specific Employees        | This rule provides access to specific employees                                                                                                                     |
| ORGANIZATIONAL UNIT | My Service Organization   | This rule provides access to the service organization of the employee in the organizational hierarchy                                                               |
|                     | My Sales Organization     | This rule provides access to the sales organization of the employee in the organizational hierarchy                                                                 |
|                     | My Organizational Unit    | This rule provides access to an organizational unit of the employee in the organizational hierarchy                                                                 |

| Restriction Type | Restriction Rule              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | Specific Organizational Unit  | <p>This rule provides access to specific organizational units (which the employee doesn't belong to)</p> <p><b>Note</b></p> <p>As a prerequisite, the organizational unit must be set as the <i>Trusted Authorization Unit</i> in the account or individual customer details. The <i>Trusted Authorization Unit</i> field is enabled via adaptation. Restricting a business role for an account or individual customer service by the organizational unit only affects the account or individual where the <i>Trusted Authorization Unit</i> field is maintained. If the <i>Trusted Authorization Unit</i> is specified for an account or individual customer, the account can't be restricted by the employee, territory, or sales data.</p> |
| TERRITORY        | My Territory Hierarchy        | This rule provides access based on the employee's territory assignment only (including sub-territories)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SALES AREA       | My Sales Data                 | This rule provides access based on employee's sales data (sales org. + division + distribution channel)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                  | Sales Areas of My Sales Orgs. | <p>This rule provides access based on all sales areas of sales organizations of employee.</p> <p><b>Note</b></p> <p>Do not use this to create access restrictions based on a selected organizational unit for Accounts and Individual Customers. Use the Specific Organizational Unit restriction under Organizational Unit for the same.</p>                                                                                                                                                                                                                                                                                                                                                                                                 |

| Restriction Type   | Restriction Rule                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DISTRIBUTION CHAIN | My Sales Data                         | <p>This rule refers to a distribution chain maintained at an employee level. Provides access based on the distribution chain.</p> <p>A distribution chain is a combination of Sales Org. and Distribution Channel code</p> <ul style="list-style-type: none"> <li>• A sales organization (for example, Sales Organization France)</li> <li>• A distribution channel code (for example, 1 = direct sales and 2 = indirect sales)</li> </ul> <p>Therefore, the distribution chain at the employee level has the sales data of:</p> <ul style="list-style-type: none"> <li>• Sales Organization France 1</li> <li>• Sales Organization France 2</li> </ul> |
|                    | Distribution Chains of My Sales Orgs. | <p>If an employee is assigned under Sales Organization France and once you select this restriction, you get access for any distribution chains with Sales Organization France that is Sales Organization France *Refers to the Org. with any distribution channel. The restriction rule checks to which Sales Org. the user is assigned. Accordingly, any distribution chain with this Sales Org. is allowed (combination of the user's Sales Org. with any Distribution Channel)</p>                                                                                                                                                                   |

#### 📘 Note

If write access is set to [No Access](#) for any of the IAM services such as the Identity Provider Configuration and Security Policy services, the users assigned to that role are completely blocked from accessing it.

#### 📘 Note

If one rule blocks the Write Access and another role allows it, the more permissive role takes precedence.

- The [App List](#) section, following the [Business Services](#) section, displays all the available apps for the selected business services. Select the switch against an app to make it available for the business role.

#### Note

The overall access to entities is controlled and governed by the [Business Services](#) section. However, access to a particular entity on the UI is managed using [Apps](#). If you want to provide restricted access to a particular entity, use the restriction rules in the [Business Services](#) section.

11. Navigate to the [Assigned Users](#) tab. A list of users who have been this role assigned is displayed. If there are no business users assigned yet, the [Search and Add Users](#) button is visible.
12. Click the [Search and Add Users](#) button to add business users from the quick view. Search and select users from the quick view to add them to the role.

#### Note

- Ensure that your administrator has access to the user service in addition to the role service to assign users to your business roles.
- You can't assign business users if [Write Access](#) is set to [No Access](#) for [User](#) service. If otherwise, the user can't edit the role but can edit the user assignments.

## Results

You've now created a business role and assigned the business role to the selected list of business users.

## Related Information

### [Business Role Details \[page 233\]](#)

View more details of a business role on this page.

### [List of Business Services \[page 242\]](#)

This document provides a list of business services available in SAP Sales Cloud Version 2 and SAP Service Cloud Version 2.

### [Users \[page 221\]](#)

Users are created for system access. Business users are created for employees to access the system through UI, whereas API users are technical users who can access the system through APIs.

## 13.2.3 Copy Business Roles

Create copy of business roles and assign it to your business users.

## Context

Administrators can now create copy of business roles using the inline copy function on the object worklist page.

## Procedure

1. On the [All Business Roles](#) page, choose the inline [Copy](#) option for a business role that you wish to copy. A new quick create page, [Copy Role](#) opens up.

### Note

A new role ID is generated, and the role name is populated as [Copy Of <the existing business role>](#), which can be edited to give a name.

2. Enter a description for the role and choose [Save and Open](#) to open the new business role. All the business services and the apps assigned to the role are copied as well.

### Note

The new business role is set to active status by default, and if your role had administrator authorizations, the same is retained. However, none of the users assigned to the role is retained. Ensure that you assign users to your business role.

## Results

Your role is now copied and ready. You can assign business users to your role.

## 13.2.4 Create Technical Roles and Assign Technical Users

Administrators can create technical roles with appropriate authorizations and assign them to technical API users to consume services.

## Context

Use technical roles to assign access rights to multiple technical API users who carry out similar activities.

## Procedure

1. Log in to the system as an administrator.
2. Navigate to [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
3. Go to [All Settings](#) [Users and Control](#) [Roles](#).
4. Choose [Technical Roles](#) from the dropdown on the page.



5. Click the Add icon ( + ) on the [All Technical Roles](#) page, and enter a technical role name and description. The [Technical Role ID](#) is auto-generated. You can also set this role as an admin role by enabling the [Admin](#) switch.
6. Click the Add icon ( + ) in the [Business Services](#) section to open the [Add Business Services](#) popup, select all the services that are required for this role from the list of services, and then click [Add](#). You can now [Save and Activate](#) your business role.
7. Set restrictions for the newly added business services by editing either or both of the [Read Access](#) and [Write Access](#) columns for a corresponding business service. By default, both these columns are set to unrestricted for a service. You can choose to impose restrictions on these services by choosing [Unrestricted](#) for [Read Access](#) and either [Unrestricted](#) or [No Access](#) for [Write Access](#).
8. Navigate to the [Assigned Technical Users](#) tab. A list of users who have been this role assigned is displayed. If there are no technical API users assigned yet, the [Search and Add Technical Users](#) button is visible.
9. Click the [Search and Add Technical Users](#) button to add technical API users from the quick view. Search and select users from the quick view to add them to the role.

#### Note

- Ensure that your administrator has access to the user service in addition to the role service to assign users to your technical roles.
- You can't assign technical users if [Write Access](#) is set to [No Access](#) for [User](#) service. If otherwise, the user can't edit the role but can edit the user assignments.

## Results

You've now created a technical role and assigned the technical role to the selected list of technical API users.

## Related Information

[Roles \[page 232\]](#)

A business role defines the specific areas of the system the users can access when they're assigned to that role. Administrators can implement authorizations to business users by assigning business roles.

## 13.2.5 List of Business Services

This document provides a list of business services available in SAP Sales Cloud Version 2 and SAP Service Cloud Version 2.

| Business Service Name   | Description                                                                                                     | Business Service: Technical Details                                                                                                                                                                                                                       |
|-------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Accounts                | Monitor, store, and track business information about customers, prospects, and partners.                        | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.md.service.accountService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.md.accountservice.uiapp.accountApp</code></li> </ul>                                  |
| Account Hierarchy       | Map complex organizational structures of a business partner or a large customer with multiple subsidiaries.     | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.md.service.accountHierarchyService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.md.accounthierarchy.service.uiapp.accountHierarchyApp</code></li> </ul>      |
| Account Hierarchy Admin | Configure account hierarchy settings.                                                                           | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.md.service.accountHierarchyService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.md.accounthierarchy.service.uiapp.accountHierarchyAdminApp</code></li> </ul> |
| Address                 | Add, modify, or delete addresses.                                                                               | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.md.service.addressService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.md.addressservice.uiapp.addressAdminApp</code></li> </ul>                             |
| Agent Desktop           | Review customer information, create and process cases, manage interactions, and review knowledge base articles. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.agentDeskService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.agentdeskservice.uiapp.agentDesk</code></li> </ul>                                     |

| Business Service Name          | Description                                                                                      | Business Service: Technical Details                                                                                                                                                                                                           |
|--------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agent Desktop Settings         | Configure agent desktop settings.                                                                | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.agentDeskService</li> <li>• <b>UI App Name:</b><br/>sap.crm.agentdesk.service.uiapp.agentDeskAdmin</li> </ul>                                             |
| Alerts Service                 | Configure alert services to receive notifications.                                               | <b>Technical Name:</b><br>sap.crm.service.alertsService                                                                                                                                                                                       |
| Analytics                      | Create analytical stories and models.                                                            | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.analyticsBusinessUserStoriesService</li> <li>• <b>UI App Name:</b><br/>sap.crm.analyticsbusinessuserstories.service.uiapp.anaStoryBusinessUser</li> </ul> |
| Analytics - SAC Setup Service  | Configure SAP Analytics Cloud setup.                                                             | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.analyticsSacSPSetupService</li> <li>• <b>UI App Name:</b><br/>sap.crm.analytics.sac.sp.setup.service.uiapp.idPSetupUI</li> </ul>                          |
| Analytics - User Story Service | View stories assigned to your user.                                                              | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.analyticsUserStoriesService</li> <li>• <b>UI App Name:</b><br/>sap.crm.analytics.user.stories.service.uiapp.anaStoryAdmin</li> </ul>                      |
| Application Log                | View a summary of all errors that occurred during the processing of custom logic external hooks. | <b>Technical Name:</b><br>sap.crm.md.service.accountService                                                                                                                                                                                   |
| Approvals                      | Create approvals for streamlining your business processes.                                       | <b>Technical Name:</b><br>sap.crm.md.service.accountService                                                                                                                                                                                   |
| Attachments                    | Choose the files that you want to upload or download.                                            | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.documentService</li> <li>• <b>UI App Name:</b><br/>sap.crm.document.service.uiapp.document</li> </ul>                                                     |

| Business Service Name          | Description                                                                                                   | Business Service: Technical Details                                                                                                                                                                                    |
|--------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Attachments Admin              | Configure your attachment settings.                                                                           | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b></li> <li>• <b>UI App Name:</b><br/>sap.crm.documentservice.uiapp.documentAdmin</li> </ul>                                                              |
| Audit Log                      | Review security-relevant chronological records of user actions.                                               | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b> sap.crm.service.auditService</li> <li>• <b>UI App Name:</b><br/>sap.crm.documentservice.uiapp.documentAdmin</li> </ul>                                 |
| Authorization Service          | Configure authorization services.                                                                             | <b>Technical Name:</b> sap.crm.service.authService                                                                                                                                                                     |
| Autoflow                       | Automate your business processes by creating rules that can trigger various events.                           | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.workflowService</li> <li>• <b>UI App Name:</b><br/>sap.crm.workflowservice.uiapp.workflowAdmin</li> </ul>                          |
| Built-In Support Service       | Find help, create tickets, and contact support right in your cloud application.                               | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.builtinSupportService</li> <li>• <b>UI App Name:</b><br/>sap.crm.builtinsupportservice.uiapp.builtinSupportUi</li> </ul>           |
| Built-In Support Service Admin | Configure support services to find help, create tickets, and contact support right in your cloud application. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.builtinSupportService</li> <li>• <b>UI App Name:</b><br/>sap.crm.builtinsupportservice.uiapp.builtinSupportAdminUi</li> </ul>      |
| Business Partners              | Capture, monitor, store, and track all critical information about business partners.                          | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.md.service.businessPartnerService</li> <li>• <b>UI App Name:</b><br/>sap.crm.md.businesspartnerservice.uiapp.businessPartnerApp</li> </ul> |

| Business Service Name         | Description                                                                                        | Business Service: Technical Details                                                                                                                                                                                                                             |
|-------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Business Partners Admin       | Configure business partner settings.                                                               | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.md.service.businessPartnerService</li> <li>• <b>UI App Name:</b><br/>sap.crm.md.businesspartnerservice.uiapp.businessPartnerAdminApp</li> </ul>                                     |
| Business Partner Relationship | Add relationships between different business partners.                                             | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.md.service.businessPartnerRelationshipService</li> <li>• <b>UI App Name:</b><br/>sap.crm.md.businesspartnerrelationshipservice.uiapp.businessPartnerRelationshipAdminApp</li> </ul> |
| Call Lists Administration     | Configure settings for Call lists.                                                                 | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.callListService</li> <li>• <b>UI App Name:</b><br/>sap.crm.calllistservice.uiapp.callListAdminApp</li> </ul>                                                                |
| Call Lists                    | Create call lists from the database of contacts, prospects, and leads. Also track and manage them. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.callListService</li> <li>• <b>UI App Name:</b><br/>sap.crm.calllistservice.uiapp.callList</li> </ul>                                                                        |
| Case                          | Create cases and manage case phases and steps.                                                     | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.caseService</li> <li>• <b>UI App Name:</b><br/>sap.crm.caseservice.uiapp.case</li> </ul>                                                                                    |
| Case Management               | Create case types and configure case settings.                                                     | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.caseService</li> <li>• <b>UI App Name:</b><br/>sap.crm.caseservice.uiapp.caseAdmin</li> </ul>                                                                               |
| Case Type                     | Create and configure case types to match the workflow used by your organization.                   | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.caseTypeService</li> <li>• <b>UI App Name:</b><br/>sap.crm.caseservice.uiapp.caseAdmin</li> </ul>                                                                           |

| Business Service Name  | Description                                                                                                        | Business Service: Technical Details                                                                                                                                                                                                                         |
|------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Change History         | Check when and by whom an entity was modified.                                                                     | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.changeHistoryService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.service.changehistoryservice.uiapp.changeHistoryApp</code></li> </ul>                |
| Change Project         | Record and transport configuration changes from a source tenant to a target tenant.                                | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.changeProjectService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.changeprojectservice.uiapp.changeProjectApp</code></li> </ul>                        |
| Chat                   | Chat with customers to resolve their service issues.                                                               | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.chatService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.chatservice.uiapp.chatInteraction</code></li> </ul>                                           |
| Code List Restrictions | Restrict the availability of code values based on a combination of business entity, code field, and control field. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.codeListRestrictionService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.codelistrestrictionsservice.uiapp.codeListRestrictionsUi</code></li> </ul>     |
| Competitor             | Create new competitors and maintain competitor information.                                                        | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.md.service.competitorService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.md.competitorservice.uiapp.competitorApp</code></li> </ul>                           |
| Competitor Product     | Create and maintain comprehensive records of competitor products.                                                  | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.md.service.competitorProductService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.md.competitorproductservice.uiapp.competitorProductAdminApp</code></li> </ul> |

| Business Service Name                | Description                                                                                                     | Business Service: Technical Details                                                                                                                                                                                                                                                                                             |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Computer Telephony Integration (CTI) | Speak with customers using partner-supplied computer telephony service.                                         | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.ctiService</li> <li>• <b>UI App Name:</b><br/>sap.crm.ctiservice.uiapp.cti</li> </ul>                                                                                                                                                       |
| Contacts                             | Maintain the details for contacts by creating a contact or using the relation between a contact and an account. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.md.service.contactPersonService</li> <li>• <b>UI App Name:</b><br/>sap.crm.md.contactpersonservice.uiapp.contactApp</li> </ul>                                                                                                                      |
| Contract Account                     | Manage contract account and their related plans.                                                                | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.contractAccountService</li> <li>• <b>UI App Name:</b><br/>sap.crm.contractaccountservice.uiapp.contractaccout</li> </ul>                                                                                                                    |
| Customer Insights                    | Analyze customer data and feedback to generate insights.                                                        | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.insightsService</li> <li>• <b>UI App Name:</b><br/>sap.crm.insightsservice.uiapp.insightssap.crm.insightsservice.uiapp.insightsAdminApp</li> </ul>                                                                                          |
| Customer Insights Summary Service    | Summarize customer data to enable sales teams to customize their approach.                                      | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.insightsSummaryService</li> </ul>                                                                                                                                                                                                           |
| Customer Returns                     | Create, manage, and track return orders.                                                                        | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.returnOrderService</li> <li>• <b>UI App Name:</b><br/>sap.crm.returnorderservice.uiapp.returnOrderAdmin</li> </ul>                                                                                                                          |
| Data Connector Service               | Configure and monitor communication systems.                                                                    | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.dataConnectorService</li> <li>• <b>UI App Name:</b><br/>sap.crm.dataconnectorservice.uiapp.dataConnectorConfigAppsap.crm.dataconnectorservice.uiapp.communicationSystemsApp<br/>sap.crm.dataconnectorservice.uiapp.monitoringApp</li> </ul> |

| Business Service Name                           | Description                                                                                                    | Business Service: Technical Details                                                                                                                                                                                                                               |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data Import and Export                          | Import and export data.                                                                                        | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.dataImpexService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.dataimpexservice.uiapp.dataimpex</code></li> </ul>                                             |
| Data Depersonalization                          | Remove personal data of employees, individual customers, and contacts on their request.                        | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.dppService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.dppservice.uiapp.depersonalize</code></li> </ul>                                                     |
| Data Disclosure                                 | Disclose personal data of employees, individual customers, and contacts.                                       | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.dppService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.dppservice.uiapp.disclosure</code></li> </ul>                                                        |
| Data Workbench                                  | Import data from a third-party system or a csv file.                                                           | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.dataworkbenchService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.dataworkbenchservice.uiapp.dataworkbench</code></li> </ul>                                 |
| Digital Assistant - CX AI Toolkit Admin Service | Integrate the CX AI Toolkit from the settings page.                                                            | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.digitalAssistantCxaItkAdminService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.digitalassistantcxaitkadminservice.uiapp.cxaiToolKitAdmin"</code></li> </ul> |
| Digital Assistant - CX AI Toolkit Service       | Analyze enterprise data with trusted AI that helps you improve sales performance and enhance customer service. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.digitalAssistantCxaItkService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.digitalassistantcxaitkservice.uiapp.cxaiToolKit</code></li> </ul>                 |
| Digital Selling Workspace                       | Gather information and insights required for productive customer conversations.                                | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.dswService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.dswservice.uiapp.dswApp</code></li> </ul>                                                            |



| Business Service Name   | Description                                                                                                                                        | Business Service: Technical Details                                                                                                                                                                        |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Document Service        | Configure document services.                                                                                                                       | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.documentService</li> <li>• <b>UI App Name:</b><br/>sap.crm.documentservice.uiapp.document</li> </ul>                   |
| E-mail Action           | Add or remove e-mails.                                                                                                                             | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.emailActionService</li> <li>• <b>UI App Name:</b><br/>sap.crm.emailactionservice.uiapp.emailAction</li> </ul>          |
| E-mail Channel          | Create and manage e-mail channels used for customer interactions and case routing.                                                                 | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.emailChannelService</li> <li>• <b>UI App Name:</b><br/>sap.crm.emailchannelservice.uiapp.emailChannel</li> </ul>       |
| Email Monitor           | Monitor inbound and outbound emails.                                                                                                               | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.emailMonitorService</li> <li>• <b>UI App Name:</b><br/>sap.crm.emailmonitorservice.uiapp.emailMonitor</li> </ul>       |
| Email MTA Configuration | Configure a Mail Transfer Agent (MTA) to send emails through your company's Simple Mail Transfer Protocol (SMTP) server or to use the default MTA. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.emailMtaConfigService</li> <li>• <b>UI App Name:</b><br/>sap.crm.emailmtaconfigservice.uiapp.emailMtaConfig</li> </ul> |
| Email                   | Create and send email messages to customers.                                                                                                       | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.emailService</li> <li>• <b>UI App Name:</b><br/>sap.crm.emailservice.uiapp.email</li> </ul>                            |
| Email Interaction       | Track email interactions.                                                                                                                          | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.emailService</li> <li>• <b>UI App Name:</b><br/>sap.crm.emailservice.uiapp.emailInteraction</li> </ul>                 |

| Business Service Name           | Description                                                                                                         | Business Service: Technical Details                                                                                                                                                                                     |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Employees                       | Create employees in the system.                                                                                     | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.md.service.employeeService</li> <li>• <b>UI App Name:</b><br/>sap.crm.md.employeeservice.uiapp.employeeApp</li> </ul>                       |
| Enrichment Service              | Provide additional related-entity information to dependent services such as Autoflow and email templates.           | <b>Technical Name:</b><br>sap.crm.service.enrichmentService                                                                                                                                                             |
| ESM Backend Integration Service | Enable an integration option with backend systems such as an S/4HANA system                                         | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.esmBackendIntegrationService</li> <li>• <b>UI App Name:</b><br/>sap.crm.esmbackendintegrationsevice.uiapp.integrationApp</li> </ul> |
| ESM Common Control Service      | Expose Angular components that are reused in ESM Form and ESM Business Document.                                    | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.esmCommonControlService</li> <li>• <b>UI App Name:</b><br/>sap.crm.esmcommoncontrolservice.uiapp.commonControlApp</li> </ul>        |
| ESM Condition Service           | Define conditions in ESM Form and ESM Business Document.                                                            | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.esmConditionService</li> <li>• <b>UI App Name:</b><br/>sap.crm.esmconditionservice.uiapp.conditionApp</li> </ul>                    |
| Event Bridge                    | Enable event bridge service for your users.                                                                         | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.eventBridgeService</li> <li>• <b>UI App Name:</b><br/>sap.crm.eventbridgeservice.uiapp.eventBridgeAdmin</li> </ul>                  |
| Extensibility Admin             | Create extension fields and define the field attributes. You can also create custom validations and determinations. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.extensibilityService</li> <li>• <b>UI App Name:</b><br/>sap.crm.extensibilityservice.uiapp.extensibilityAdmin</li> </ul>            |

| Business Service Name | Description                                                                    | Business Service: Technical Details                                                                                                                                                                                                 |
|-----------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| External ID Mapping   | View and modify ID mapping for master data.                                    | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.externalIdMappingService</li> <li>• <b>UI App Name:</b><br/>sap.crm.externalidmappingsevice.uiapp.externalidmappingApp</li> </ul>               |
| External Link         | Create links to the objects in the external systems.                           | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.externalNavigationService</li> <li>• <b>UI App Name:</b><br/>sap.crm.externalnavigationsevice.uiapp.externalNavigationApp</li> </ul>            |
| Favorites             | Mark frequently used objects to enable quick access in the future.             | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.favoriteService</li> <li>• <b>UI App Name:</b><br/>sap.crm.favoriteservice.uiapp.favorite</li> </ul>                                            |
| Favorites Workspace   | View all your favorites in one place.                                          | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.favoriteService</li> <li>• <b>UI App Name:</b><br/>sap.crm.favoriteservice.uiapp.favoriteWorkspace</li> </ul>                                   |
| Feedback              | Configure feedback service.                                                    | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.feedbackService</li> <li>• <b>UI App Name:</b><br/>sap.crm.feedbackservice.uiapp.feedbacksap.crm.feedbackservice.uiapp.feedbackAdmin</li> </ul> |
| Financials            | Create financial transactions and their related services for contract account. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>ap.crm.servsice.financialsService</li> <li>• <b>UI App Name:</b><br/>sap.crm.financialsservice.uiapp.financials</li> </ul>                                      |
| Flag                  | Mark an item to highlight it.                                                  | <b>Technical Name:</b><br>sap.crm.service.flagService                                                                                                                                                                               |

| Business Service Name | Description                                                                                                                                         | Business Service: Technical Details                                                                                                                                                                                                                                                                                  |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flexibility           | Change the look and feel of the solution for all users by changing layout settings, adding mash-ups and fields, as well as adding extension fields. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.extensibilityService</li> <li>• <b>UI App Name:</b><br/>sap.crm.extensibilityservice.uiapp.flex</li> </ul>                                                                                                                       |
| Form                  | Configure the form service to work with forms.                                                                                                      | <b>Technical Name:</b><br>sap.crm.service.formService                                                                                                                                                                                                                                                                |
| Functional Location   | Maintain physical location of the object that requires servicing or maintenance.                                                                    | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.functionalLocationService</li> <li>• <b>UI App Name:</b><br/>sap.crm.functionallocationservice.uiapp.functionalLocationsap.crm.functionallocationservice.uiapp.functionalLocationAdmin</li> </ul>                                |
| Global Calendar       | View all appointments or visits days of an organizational unit within a particular company or region.                                               | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.calendarService</li> <li>• <b>UI App Name:</b><br/>sap.crm.calendarService.uiapp.globalCalendarApp</li> </ul>                                                                                                                    |
| Groupware Integration | Use SAP Sales Cloud Version 2 features from Microsoft Outlook or your Gmail inbox.                                                                  | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.groupwareSsiService</li> <li>• <b>UI App Name:</b> <ul style="list-style-type: none"> <li>• sap.crm.groupwaressiservice.uiapp.groupwareSsi</li> <li>• sap.crm.groupwaressiservice.uiapp.groupwareSsiAdmin</li> </ul> </li> </ul> |
| Guided Selling        | Work through the sales cycle across various phases by creating opportunities.                                                                       | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.guidedSellingService</li> <li>• <b>UI App Name:</b><br/>sap.crm.guidedsellingservice.uiapp.guidedSelling</li> </ul>                                                                                                              |

| Business Service Name                                | Description                                                                                                                   | Business Service: Technical Details                                                                                                                                                                                                                       |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Holiday Calendar                                     | Add holidays of an organizational unit within a particular company or region.                                                 | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.holidayCalendarService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.holidaycalendarservice.uiapp.holidayCalendarApp</code></li> </ul>                |
| Home Page                                            | Explore the default start page that provides various card types and helps you with essential information and easy navigation. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.homepageService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.homepageservice.uiapp.homepage</code></li> </ul>                                        |
| Home Page Admin                                      | Arrange the start page with information and activities based on business roles.                                               | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.homepageService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.homepageservice.uiapp.homepageadmin</code></li> </ul>                                   |
| Identity and Access Management Configuration Service | Configure authentication and authorization mechanism for your users.                                                          | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.iamConfigurationService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.iamconfigurationservice.uiapp.iamConfiguration</code></li> </ul>                |
| Inbound Data Connector                               | Configure inbound configurations to receive messages from external systems.                                                   | <b>Technical Name:</b><br><code>sap.crm.service.inboundDataConnectorService</code>                                                                                                                                                                        |
| Individual Customers                                 | Manage, monitor, store, and track business information about individual customers.                                            | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.md.service.individualCustomerService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.md.individualcustomerService.uiapp.individualCustomerApp</code></li> </ul> |
| Installed Bases                                      | Arrange installed items hierarchically at your customer's location.                                                           | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.installedBaseService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.installedbaseservice.uiapp.installedBase</code></li> </ul>                         |

| Business Service Name              | Description                                                                                                                 | Business Service: Technical Details                                                                                                                                                                                                                                                                                            |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Knowledge Base                     | Search for, review, and share Knowledge Base Articles.                                                                      | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.knowledgeBaseService</li> <li>• <b>UI App Name:</b><br/>sap.crm.knowledgebaseservice.uiapp.knowledgebase</li> </ul>                                                                                                                        |
| Knowledge Base Settings            | Configure knowledge base settings.                                                                                          | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.knowledgeBaseService</li> <li>• <b>UI App Name:</b><br/>sap.crm.knowledgebaseservice.uiapp.knowledgebaseAdmin</li> </ul>                                                                                                                   |
| Language Adaptation Service        | Override the standard SAP texts and customize field label terminology to fit your business needs.                           | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.languageAdaptationService</li> <li>• <b>UI App Name:</b><br/>sap.crm.languageadaptationservice.uiapp.languageAdaptation</li> </ul>                                                                                                         |
| Language, Region, & Currency       | Choose language, region, and currency settings.                                                                             | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.i18nService</li> <li>• <b>UI App Name:</b><br/>sap.crm.i18nservice.uiapp.i18napp</li> </ul>                                                                                                                                                |
| Language, Region, & Currency Admin | Configure language, region, and currency settings.                                                                          | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.i18nService</li> <li>• <b>UI App Name:</b><br/>sap.crm.i18nservice.uiapp.i18nAdmin</li> </ul>                                                                                                                                              |
| Lead                               | Capture interest in products and services, and qualify and nurture the interest to convert them to opportunities for sales. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.leadService</li> <li>• <b>UI App Name:</b> <ul style="list-style-type: none"> <li>• sap.crm.service.leadService (<a href="#">Lead</a>)</li> <li>• sap.crm.service.leadService (<a href="#">Lead Administration</a>)</li> </ul> </li> </ul> |

| Business Service Name                             | Description                                                                                           | Business Service: Technical Details                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Library                                           | Store, share files with the other users, and link files as attachments in sales and service entities. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.libraryService</code></li> <li>• <b>UI App Name:</b> <ul style="list-style-type: none"> <li>• <code>sap.crm.libraryservice.uiapp.libraryApp</code></li> <li>• <code>sap.crm.libraryservice.uiapp.libraryAdminApp</code></li> </ul> </li> </ul> |
| Machine Learning Topic Analyzer Service           | Use Generative AI to view trending topics.                                                            | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.mlNlpTopicAnalyzerService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.mlNlpTopicAnalyzerService.uiapp.topicAnalyzerResult</code></li> </ul>                                                                                        |
| Machine Learning Management Generative AI Service | Generate account synopsis, case summary, and draft email response for cases.                          | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.mlScenarioManagementGenAIService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.mlscenarioManagementGenAIService.uiapp.mlScenarioMngmntGenAIAdmin</code></li> </ul>                                                                   |
| Machine Learning Management Service               | Use case text to identify sentiment, translate case text, and identify profane language.              | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.mlScenarioManagementService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.mlscenarioManagementService.uiapp.mlScenarioMngmntAdmin</code></li> </ul>                                                                                  |
| Mashups                                           | Integrate SAP Cloud solution data with data from online Web services or applications.                 | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.mashupService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.mashupservice.uiapp.mashupApp</code></li> </ul>                                                                                                                          |
| Mashup Authoring                                  | Activate pre-configured mashups and create new mashups.                                               | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.mashupService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.mashupservice.uiapp.mashupAuthoring</code></li> </ul>                                                                                                                    |

| Business Service Name | Description                                                                                            | Business Service: Technical Details                                                                                                                                                                                                                                 |
|-----------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mashup Configuration  | Configure, access, and use mashups.                                                                    | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.extensibilityService</li> <li>• <b>UI App Name:</b><br/>sap.crm.extensibilityservice.uiapp.flexMashupConfigAdmin</li> </ul>                                                     |
| Mashup Demo           | Display mashup service consumption.                                                                    | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.mashupService</li> <li>• <b>UI App Name:</b><br/>sap.crm.mashupservice.uiapp.mashupDemo</li> </ul>                                                                              |
| Messaging             | Exchange text messages with customers to resolve their service issues.                                 | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.chatService</li> <li>• <b>UI App Name:</b><br/>sap.crm.chatservice.uiapp.messageInteraction</li> </ul>                                                                          |
| Microsoft Teams       | Collaborate through Microsoft Teams across chats, meetings, and shared workspaces.                     | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.msteamsService</li> <li>• <b>UI App Name:</b><br/>sap.crm.msteamsservice.uiapp.msteamsadminAppsap.crm.msteamsservice.uiapp.msteamsapp.crm.msteamservice.uiapp.mobile</li> </ul> |
| Mobile Administration | Configure mobile application for your users.                                                           | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.mobileAdminService</li> <li>• <b>UI App Name:</b><br/>sap.crm.mobileadminservice.uiapp.mobile</li> </ul>                                                                        |
| Move Process          | Create move processes and their related services.                                                      | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.moveIntegrationService</li> <li>• <b>UI App Name:</b><br/>sap.crm.moveintegrationservice.uiapp.moveApp</li> </ul>                                                               |
| Note                  | Store and maintain notes with rich text support for host objects like case, account, visit, and so on. | <b>Technical Name:</b><br>sap.crm.service.noteService                                                                                                                                                                                                               |



| Business Service Name              | Description                                                                                              | Business Service: Technical Details                                                                                                                                                                                                                                     |
|------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Opportunity                        | Configure access restrictions for Guided Selling, Pipeline Manager, Forecast Tracker, and Pipeline Flow. | <b>Technical Name:</b><br><code>sap.crm.service.opportunityService</code>                                                                                                                                                                                               |
| Organizational Units               | Create an element of an organizational model.                                                            | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.md.service.organizationalUnitService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.md.organizationalunitsevice.uiapp.organizationalUnitApp</code></li> </ul>                |
| Organizational Unit Admin          | Maintain organizational units.                                                                           | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.md.service.organizationalUnitService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.md.organizationalunitsevice.uiapp.organizationalUnitAdminApp</code></li> </ul>           |
| Outbound Data Connector            | Configure outbound configurations to send messages to external systems.                                  | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.outboundDataConnectorService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.outbounddataconnectorsevice.uiapp.eventMonitoringApp</code></li> </ul>                   |
| Output Management                  | Manage activities related to the output of documents.                                                    | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.outputManagementService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.outputmanagementservice.uiapp.outputManagementApp</code></li> </ul>                           |
| Page Layouts and Assignments Rules | Create and assign rules to page layouts.                                                                 | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.pageLayoutService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.pagelayoutservice.uiapp.assignmentRulesap.crm.pagelayoutservice.uiapp.pageLayouts</code></li> </ul> |

| Business Service Name | Description                                                                                                           | Business Service: Technical Details                                                                                                                                                                                                                                                           |
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| Partners              | Create and manage business information about partners.                                                                | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.md.service.partnerService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.md.partnerservice.uiapp.partnerApp</code></li> </ul>                                                                      |
| Partner Contacts      | Create and manage business information about partner contacts.                                                        | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.md.service.partnerContactService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.md.partnercontactservice.uiapp.partnerContactApp</code></li> </ul>                                                 |
| Party Processing      | Configure and maintain involved parties in various business transactions.                                             | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.partyProcessingService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.partyprocessingservice.uiapp.partyProcessingAppsap.crm.partyprocessingservice.uiapp.partySchemeApp</code></li> </ul> |
| Phone                 | Track and review phone call activities.                                                                               | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.phoneService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.phoneservice.uiapp.phone</code></li> </ul>                                                                                     |
| Playbook              | Build a sales framework to guide your sales representatives through the entire sales cycle and help accelerate deals. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.salesPlaybookService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.salesplaybookservice.uiapp.salesPlaybook</code></li> </ul>                                                             |
| Premise               | Manage premise and their related services.                                                                            | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.premiseService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.premiseservice.uiapp.premise</code></li> </ul>                                                                               |

| Business Service Name      | Description                                                                      | Business Service: Technical Details                                                                                                                                                                                                                                                                                                           |
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| Pricing                    | Configure pricing components and master data to enable native price calculation. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.pricingMasterDataService</li> <li>• <b>UI App Name:</b> <ul style="list-style-type: none"> <li>• sap.crm.pricingmasterdataservice.uiapp.pricingMasterData</li> <li>• sap.crm.pricingmasterdataservice.uiapp.pricingMasterDataAdmin</li> </ul> </li> </ul> |
| Products                   | Create, view, and update products in an organizational master data.              | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.md.service.productService</li> <li>• <b>UI App Name:</b><br/>sap.crm.md.productservice.uiapp.productApp</li> </ul>                                                                                                                                                |
| Product Groups             | Create, view, and update product groups in an organizational master data.        | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.md.service.productGroupService</li> <li>• <b>UI App Name:</b><br/>sap.crm.md.productgroupservice.uiapp.productGroupApp</li> </ul>                                                                                                                                 |
| Product List               | Configure targeted product proposals, exclusions, listings.                      | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b> business services<br/>sap.crm.service.productListService</li> <li>• <b>UI App Name:</b> <ul style="list-style-type: none"> <li>• sap.crm.productlistservice.uiapp.productListApp</li> <li>• sap.crm.productlistservice.uiapp.productListAdminApp</li> </ul> </li> </ul>       |
| Product Installation Point | Maintain physical location of the object that requires servicing or maintenance. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.productInstallPointService</li> <li>• <b>UI App Name:</b><br/>sap.crm.productinstallpointservice.uiapp.productInstallPointsap.crm.productinstallpointservice.uiapp.productInstallPointAdmin</li> </ul>                                                    |

| Business Service Name | Description                                                                                  | Business Service: Technical Details                                                                                                                                                                                          |
|-----------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Qualtrics XM Discover | Create and configure feedback flow.                                                          | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.qualtricsXmDiscoverService</li> <li>• <b>UI App Name:</b><br/>sap.crm.qualtricsxmdiscover.service.uiapp.xmDiscoverAppLauncher</li> </ul> |
| Question Bank         | Store survey questions in the question bank for easy reuse in multiple surveys.              | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.questionBankService</li> <li>• <b>UI App Name:</b><br/>sap.crm.questionbankservice.uiapp.questionBankApp</li> </ul>                      |
| Read Access Logging   | Monitor and record access to sensitive personal data.                                        | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.md.service.raAppService</li> <li>• <b>UI App Name:</b><br/>sap.crm.md.raAppservice.uiapp.raApp</li> </ul>                                        |
| Registered Products   | Use products that are associated with a specific customer and generally has a serial number. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.registeredProductService</li> <li>• <b>UI App Name:</b><br/>sap.crm.registeredproductservice.uiapp.registeredProduct</li> </ul>          |
| Roles                 | Configure different user roles in the system to access specific services.                    | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.roleService</li> <li>• <b>UI App Name:</b><br/>sap.crm.roleservice.uiapp.roleAdmin</li> </ul>                                            |
| Campaign              | Engage with customers and prospects to promote products and services.                        | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.campaignService</li> <li>• <b>UI App Name:</b><br/>sap.crm.service.campaignService</li> </ul>                                            |

| Business Service Name    | Description                                                 | Business Service: Technical Details                                                                                                                                                                                                                                                                           |
|--------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sales Order              | Record and view sales interactions related to sales orders. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.salesOrderService</li> <li>• <b>UI App Name:</b> <ul style="list-style-type: none"> <li>• sap.crm.salesorderservice.uiapp.salesOrderAdmin</li> <li>• sap.crm.salesorderservice.uiapp.salesOrderApp</li> </ul> </li> </ul> |
| Sales Quote              | Create and manage sales quotations for business partners.   | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.salesQuoteService</li> <li>• <b>UI App Name:</b> <ul style="list-style-type: none"> <li>• sap.crm.salesquoteservice.uiapp.salesQuoteApp</li> <li>• salesquoteservice.uiapp.salesQuoteAdminApp</li> </ul> </li> </ul>      |
| SAML IdP                 | Configure SAML IdP services for your users.                 | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.saml2idpService</li> <li>• <b>UI App Name:</b><br/>sap.crm.saml2idpservice.uiapp.idpConfigAdmin</li> </ul>                                                                                                                |
| Search                   | Search for entity details across the solution.              | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.searchService</li> <li>• <b>UI App Name:</b><br/>sap.crm.searchservice.uiapp.searchApp</li> </ul>                                                                                                                         |
| Search Admin             | Manage global search settings.                              | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.searchService</li> <li>• <b>UI App Name:</b><br/>sap.crm.searchservice.uiapp.searchAdmin</li> </ul>                                                                                                                       |
| Search Referring Service | Maintain the attributes of referring entities up to date.   | <b>Technical Name:</b><br>sap.crm.service.searchReferringService                                                                                                                                                                                                                                              |
| Security Policies        | Create security policies for your organization.             | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.securityPolicyService</li> <li>• <b>UI App Name:</b><br/>sap.crm.securitypolycyservice.uiapp.securityPolicyAdmin</li> </ul>                                                                                               |

| Business Service Name              | Description                                                                                                                        | Business Service: Technical Details                                                                                                                                                                                                                  |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service Category Catalog           | Configure service catalog classifications.                                                                                         | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.serviceCategoryService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.servicecategoryservice.uiapp.serviceCatalogClassification</code></li> </ul> |
| Service Category Catalog Settings  | Create and manage service category catalogs.                                                                                       | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.serviceCategoryService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.servicecategoryservice.uiapp.serviceCatalogAdmin</code></li> </ul>          |
| Service Category Path              | View a multilevel classification (path) of selected categories in transactional objects, for example, a case, phone call, or chat. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.serviceCategoryService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.servicecategoryservice.uiapp.serviceCategoryPath</code></li> </ul>          |
| Service Category Catalog Selection | Select a catalog from a drop-down list of available catalogs. Used in interactions dialogues to select a catalog.                  | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.serviceCategoryService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.servicecategoryservice.uiapp.serviceCatalogSelection</code></li> </ul>      |
| Service Level                      | Create, view, and maintain service level agreements.                                                                               | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.serviceLevelService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.servicelevelservice.uiapp.serviceLevel</code></li> </ul>                       |

| Business Service Name | Description                                                                         | Business Service: Technical Details                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service Orders        | Replicate service orders to external systems.                                       | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.s4hcServiceOrderService<br/>(cloud)</li> <li>• sap.crm.service.s4hopServiceOrderService(On-prem mashup)</li> <li>• <b>UI App Name:</b><br/>sap.crm.s4hcserviceorderservice.uiapp.externalReplica<br/>(cloud)</li> <li>• sap.crm.s4hopserviceorderservice.uiapp.s4hopServiceOrder(On-prem mashup)</li> </ul> |
| Service Quotation     | Create and manage service quotations for business partners.                         | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.s4hcServiceQuotationService</li> <li>• <b>UI App Name:</b><br/>sap.crm.s4hcservicequotationservice.uiapp.s4hcServiceQuotation</li> <li>• sap.crm.servicequotationservice.uiapp.serviceQuotationAdmin</li> </ul>                                                                                             |
| Settings              | Configure dashboard settings for your system.                                       | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.adminService</li> <li>• <b>UI App Name:</b><br/>sap.crm.adminservice.uiapp.admin</li> </ul>                                                                                                                                                                                                                 |
| Settings              | Configure administration settings for your system.                                  | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.adminService</li> <li>• <b>UI App Name:</b><br/>sap.crm.adminservice.uiapp.adminconsole</li> </ul>                                                                                                                                                                                                          |
| Shell                 | Adjust the interface to optimize it for interaction.                                | <b>Technical Name:</b><br>sap.crm.service.shellService                                                                                                                                                                                                                                                                                                                                          |
| Surveys Design Time   | Create surveys that sales representatives can use to collect business-related data. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.surveyDesignService</li> <li>• <b>UI App Name:</b><br/>sap.crm.surveydesignservice.uiapp.survey</li> </ul>                                                                                                                                                                                                  |

| Business Service Name  | Description                                                                                                | Business Service: Technical Details                                                                                                                                                                                                                                                                                                                                          |
|------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surveys Runtime        | Answer surveys and help collect important information for deriving insights.                               | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.surveyService</li> <li>• <b>UI App Name:</b><br/>sap.crm.surveydesignservice.uiapp.survey</li> </ul>                                                                                                                                                                                     |
| Surveys Administration | Configure your settings for surveys.                                                                       | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.surveyDesignService</li> <li>• <b>UI App Name:</b><br/>sap.crm.surveydesignservice.uiapp.surveyAdminApp</li> </ul>                                                                                                                                                                       |
| Target Group           | Segment customers and prospects to form the right target audience for sales campaigns.                     | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b> <ul style="list-style-type: none"> <li>• sap.crm.service.targetGroupService</li> <li>• sap.crm.service.targetGroupMemberService</li> </ul> </li> <li>• <b>UI App Name:</b><br/>sap.crm.service.targetGroupService</li> </ul>                                                                                 |
| Tasks                  | Create and manage your tasks associated with entities such as leads, opportunities, and quotes, and so on. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b>sap.crm.service.taskService</li> <li>• <b>UI App Name:</b> <ul style="list-style-type: none"> <li>• sap.crm.taskservice.uiapp.taskApp</li> <li>• sap.crm.taskservice.uiapp.taskAdmin</li> <li>• sap.crm.taskservice.uiapp.taskTile</li> <li>• sap.crm.taskservice.uiapp.taskManagerApp</li> </ul> </li> </ul> |
| Templates              | Create and edit templates.                                                                                 | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.templateService</li> <li>• <b>UI App Name:</b><br/>sap.crm.templateservice.uiapp.template</li> </ul>                                                                                                                                                                                     |



| Business Service Name    | Description                                                                                              | Business Service: Technical Details                                                                                                                                                                             |
|--------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Template Settings        | Configure template settings.                                                                             | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.templateService</li> <li>• <b>UI App Name:</b><br/>sap.crm.templateservice.uiapp.templateAdmin</li> </ul>                   |
| Timeline                 | View timeline events for your apps.                                                                      | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.timelineService</li> <li>• <b>UI App Name:</b><br/>sap.crm.timelineservice.uiapp.timeline</li> </ul>                        |
| Timeline Settings        | Configure timeline for your apps.                                                                        | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.timelineService</li> <li>• <b>UI App Name:</b><br/>sap.crm.timelineservice.uiapp.timelineAdmin</li> </ul>                   |
| User Settings            | Configure user settings.                                                                                 | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.userService</li> <li>• <b>UI App Name:</b><br/>sap.crm.userservice.uiapp.userAdmin</li> </ul>                               |
| Utilities Admin Settings | Configure utilities admin settings.                                                                      | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.commonIntegrationService</li> <li>• <b>UI App Name:</b><br/>sap.crm.commonintegrationservice.uiapp.commonadminui</li> </ul> |
| Value Mapping            | Create value mappings to map code lists and their values between your system and the external system.    | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.valueMappingService</li> <li>• <b>UI App Name:</b><br/>sap.crm.valuemappingservice.uiapp.valuemappingApp</li> </ul>         |
| Warranty                 | Assign a warranty to a registered product or installation point, and determine its coverage in a ticket. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/>sap.crm.service.warrantyService</li> <li>• <b>UI App Name:</b><br/>sap.crm.warrantyservice.uiapp.warranty</li> </ul>                        |

| Business Service Name | Description                                                                                                                   | Business Service: Technical Details                                                                                                                                                                                                                  |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Where-Used            | Get a list of content, within a system, where objects such as extensions fields, code lists, and so on is used or referenced. | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.whereUsedService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.whereusedservice.uiapp.whereUsed</code></li> </ul>                                |
| Working Day Calendar  | Add working days of an organizational unit within a particular company or region.                                             | <ul style="list-style-type: none"> <li>• <b>Technical Name:</b><br/><code>sap.crm.service.workingDayCalendarService</code></li> <li>• <b>UI App Name:</b><br/><code>sap.crm.workingdaycalendar-service.uiapp.workingDayCalendarApp</code></li> </ul> |

## 13.3 Security Policies

A security policy is a set of rules that defines password complexity, such as including numerical digits and password validity, like requiring a password change after a certain period of time.

You can define multiple security policies because work areas or departments of a company may have different password security requirements.

As an administrator, you can manage the security level, if desired, by editing and enhancing the security policy, for example, by changing the complexity and validity for all passwords, in accordance with your company's security requirements.

### 13.3.1 Security Policy Features

Lists and describes the features of a security policy.

The security policy features are classified as:

- System password-related features
  - Enable Password Login - if enabled, allows users to log in to the system with a password.
  - Set Default - if enabled is set as the default security policy for all the users.
- System password complexity-related features
  - Minimum Number of Characters - defines the minimum number of characters in a valid password.
  - Minimum Number of Lowercase Alphabets - defines the minimum number of lowercase alphabets in a valid password.
  - Minimum Number of Uppercase Alphabets - defines the minimum number of uppercase alphabets in a valid password.

- Minimum Number of Digits - defines the number of numerals in a password.
- Minimum Number of Special Characters - defines the minimum number of special characters in a valid password.
- System password validity-related features
  - Allowed Number of Incorrect Password Attempts - defines the number of successive login failures before a password is locked. A message is displayed on the login screen once the password is locked.
  - Password History - defines the number of passwords to store in the memory to compare with the new productive password set by the user.
  - Maximum Password Validity (in Days) - defines the maximum number of days a password is valid for.
  - Minimum Waiting Time Before Changing Password (in Days) - defines the minimum number of days a user must wait before changing the existing password to a new password.
  - Unused Productive Password Validity (in Days) - defines the validity of the productive password after changing from the initial password.

## 13.3.2 Create Security Policies

You can define multiple security policies as different work areas or departments in a company can have different password security requirements.

### Context

As an administrator, you can increase the security level by editing and enhancing a security policy. For example, by changing the complexity and validity for all passwords, in accordance with your company's security requirements.

### Procedure

1. Log in to the system as an administrator.
2. Navigate to [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
3. Go to [All Settings](#) [Users and Control](#) [Security Policies](#).
4. Click the add icon (+) on the [Security Policies](#) page.
5. Enter a [Policy ID](#), [Policy Name](#), and [Description](#) for the security policy. You can further choose to set this policy as the default using the [Set Default](#) switch.
6. Enhance security complexity for your policy by entering inputs for: [Minimum Number of Characters](#), [Minimum Number of Lowercase Alphabets](#), [Minimum Number of Uppercase Alphabets](#), [Minimum Number of Digits](#), [Minimum Number of Special Characters](#), [Allowed Number of Incorrect Password Attempts](#), [Password History](#), [Maximum Password Validity \(in Days\)](#), [Minimum Password Change Waiting Time \(in Days\)](#), and then choose [Save](#).
7. Refresh the [Security Policies](#) page to view your newly created security policy. All the security policies that you've created appear in the list format on the [All Policies](#) page.

You've now created a security policy.

### 13.3.3 Edit Security Policy

Administrators can edit security policies.

#### Procedure

1. Log in to the system as an administrator.
2. Navigate to [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
3. Go to ► [All Settings](#) ► [Users and Control](#) ► [Security Policies](#) ►.
4. Click an existing policy ID to view the details. The [Security Policy](#) quick view opens.
5. Hover the mouse over the fields that you want to edit. Click on pencil icon next to the field to edit the field.

#### Results

Once edited, the changes are saved automatically.

## 13.4 Identity Provider Configuration

Identity provider refers to an entity that manages identity information and provides authentication services to trusted service providers.

Every user type must authenticate to the system for regular browser-based front-end access, as well as for electronic data exchange, such as business-to-business communication. The system doesn't support anonymous access. We recommend using Single Sign-On (SSO) for basic security. To protect accounts further, configure the identity provider (IdP) of the SSO solution to provide enhanced security.

## 13.4.1 Configure Identity Provider

Administrators can configure identity provider to enable Single-Sign-On (SSO) for the system.

### Enable Single Sign-On for the System

To enable SSO for a tenant, you've to connect the identity provider to the tenant. To do so, download the metadata of your system, upload the tenant metadata XML file to your identity provider (IdP), and then download the configured metadata from your identity provider. Afterwards on your system, choose the identity provider, and create the identity provider to start using the system.

#### Download the System Metadata

Download the tenant metadata XML and further upload it to IdP to configure it.

1. Log in to the system as an administrator.
2. Navigate to the [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
3. Go to ► [All Settings](#) ► [Users and Control](#) ► [IdP Configuration](#) ► page.
4. Choose [Download Metadata](#). The tenant metadata XML file is downloaded to your local drive.

#### Note

If your IdP certificate is due for renewal in the next 20 days, the message "Click the [Renew and Download Metadata](#) button before the certificate validate expiration date to avoid disruptions to your SSO users" appears. In addition to the message, the certificate validity period is displayed as well.

If you intend to renew and reconfigure your identity provider, click the [Renew and Download Metadata](#) option to download and further reconfigure the identity provider. The [Renew and Download Metadata](#) option extends the validity of your certificate and stops your SSO users from logging into the system until you've reconfigured your IdP with the renewed metadata file. Use the downloaded service-provider metadata file to configure your IdP.

#### Configure System Metadata in Your Identity Provider (IdP)

Upload the system metadata XML file to IdP, configure it, and then download the configured IdP metadata file.

#### Note

Use this procedure to configure authentication services provided by SAP Cloud Identity Services. You can follow similar steps to configure other IdPs as well.

1. Log on to the [SAP Cloud Identity Services](#) as an administrator. You can also use an external identity provider.
2. On the SAP Cloud Identity Services screen, navigate to ► [Applications & Resources](#) ► [Applications](#) ►, and choose [Add](#) to create a new application for your system.
3. In the [Add Application](#) pop-up window, enter a name, and choose [Save](#). A new application page opens.
4. Under ► [Trust](#) ► [Single Sign-On](#) ►, configure the following settings:
  - Choose [Type](#), and select SAML 2.0

- Choose [SAML 2.0 Configuration](#), and upload the downloaded tenant metadata XML from your local drive.
  - Choose [Subject Name Identifier](#), and configure the attribute, which the application uses to identify the users.
5. Navigate to [Tenant Settings](#), and choose [SAML 2.0 Configuration](#) to open a new screen.
  6. Choose [Download Metadata File](#) to download the IdP metadata file.

## Create a Trusted Identity Provider and Upload IdP Metadata to Your System

Navigate to your tenant to create a trusted IdP and choose a default IdP.

1. Log in to your system as an administrator.
2. Navigate to the [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
3. Go to [All Settings](#) > [Users and Control](#) > [Configure IdP](#).
4. Choose the add (+) icon under the [Trusted Identity Provider](#) section.
5. Under the [Upload IdP Metadata](#) quick view, enter an [Alias](#), and upload the configured metadata XML file (downloaded from your IdP) by either dropping or browsing to upload from the system.
6. Choose [Save](#) to save your configuration.
7. Activate your configuration by enabling the [Set Active](#) switch. To make it a default option, turn on the [Set Default](#) switch.

You've now configured Single Sign-On for your system.

## Related Information

[Access Admin Console](#)

## 13.5 System for Cross-Domain Identity Management (SCIM) API

System for Cross-domain Identity Management (SCIM) specification is designed to efficiently manage user identities in cloud-based applications and services.

The specification suite builds upon the existing schema and deployments, placing specific emphasis on simplicity of development and integration, while applying existing authentication, authorization, and privacy models. It intends to reduce the cost and complexity of user management operations by providing a common user schema and extension model, as well as binding documents to provide patterns for exchanging this schema using standard protocols.

## Getting Started with the SAP Sales and Service Cloud V2 SCIM API

The SAP Sales Cloud and SAP Service Cloud Version 2 SCIM API is an API based on the SCIM (System for Cross-domain Identity Management) specification. It's used as an interface between SAP Cloud Identity

Services (IAS) and SAP Sales and Service Cloud V2 solutions to transfer user information as part of user management. In SAP Sales and Service Cloud V2, the SCIM API is used to provision Users and User Groups.

- [User Service](#) 
- [User Group Service](#) 

SAP Sales and Service Cloud V2 have a standalone user and roles management. To efficiently manage the users and user groups in V2 in an integrated scenario, SCIM API is implemented.

#### → Remember

- The incoming data from the Source (SCIM API) is considered as master data and overwrites any User attributes already maintained in the SAP Sales and Service Cloud Version 2 system.
- Each group has 1:1 mapping with the business role in SAP Sales and Service Cloud Version 2.
- SCIM API is applicable for management of business users but not to integration users (the users that are created using communication systems).
- Username is the unique attribute and is used to resolve any conflicts.
- SAP Sales and Service Cloud Version 2 don't support hard-deletion or soft-deletion of a user. The user status is set to Obsolete when a Delete request is received.
- When a create user request is received with an existing Username, a 409 – CONFLICT response is raised, and the user can be updated with a PUT request.
- When a Create request is received with an existing deleted user (Status: Obsolete), the same user is reactivated with the same ID.
- When a create Group request is received with an existing Display Name (Role Name), the request isn't rejected but is linked to the existing role. If the role isn't existing, a new Role is created with Default Services assigned.
- When you use a PUT request to update the Members list, the system removes the role from any existing users in SAP Sales and Service Cloud Version 2 who aren't included in the updated list.
- If it's required to add or remove roles for specific users, PATCH operation on the Group Resource can be used to modify the members.
- Whenever a role is created in SAP Sales and Service Cloud Version 2, it's automatically available as a User Group when the groups' endpoint is accessed.
- The default security policy assigned: **S\_BUSINESS\_USER\_WITHOUT\_PASSWORD**.

## Set Up Integration with Cloud Identity Services (IAS) and SAP Identity Provisioning Services (IPS)

### 1. Create a Technical API User.

You can consume the SCIM APIs using the Technical User (API User). To create a technical user:

1. On the SAP Sales Cloud and SAP Service Cloud Version 2, navigate to the [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
2. Go to  [All Settings](#)  [Users and Control](#)  [Roles](#) .
3. Select [Technical Roles](#) from the dropdown, and create a new technical role as an admin role. Assign the [User](#), [Role](#), [Employee](#), and [Admin Service](#) business services.
4. Save and activate the role.

5. Navigate to ► [All Settings](#) ► [Users and Control](#) ► [Users](#) ►.
6. Select [Technical Users](#) from the dropdown, create a new technical user, and assign the previously created technical role to this user.

#### Note

- Ensure that your [User Name](#) doesn't contain a space and a period and also ensure you choose a strong password that meets the security policy guidelines.
- Choose [Refresh](#) once you assign a technical user to the role.

2. Create an Application in IAS. Create an SAML 2.0 application following the procedure at [Create SAML 2.0 Application](#).

1. Sign in to the administration console for SAP Cloud Identity Services. Navigate to ► [Applications and Resources](#) ► [Applications](#) ► tile and choose [Create](#).
2. Enter or choose the following information while you create an application, and choose [+ Create](#).

| Field           | Information                                                                                                                                                           |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display Name    | Required field. The display name of the application appears on the logon and registration pages. Ensure you enter a display name that helps you identify your system. |
| Home URL        | Enter the SAP Sales Cloud V2 or SAP Service Cloud V2 tenant URL.                                                                                                      |
| Organization ID | Global. Auto-filled.                                                                                                                                                  |
| Protocol Type   | Select the <b>SAML 2.0</b> radio-button.                                                                                                                              |

3. Set Up Single Sign-On on the SAP Sales Cloud and SAP Service Cloud Version 2 system.
  1. On the SAP Sales Cloud and SAP Service Cloud Version 2 system, navigate to the ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Users and Control](#) ► [Identity Provider Configuration](#) ► page.
  2. Choose [Download Metadata](#) to download the service provider metadata from the SAP Sales Cloud and SAP Service Cloud Version 2 system.
  3. Upload the metadata to SAP IAS.  
Follow the steps listed at: [Make a New Trust Configuration](#).
    1. On the SAP Cloud Identity Services, navigate to ► [Applications and Resources](#) ► [Applications](#) ► tile. Select your application on the left.
    2. Choose the [Trust](#) tab.
    3. Under [Single Sign-On](#), choose [SAML 2.0 Configuration](#).
    4. Upload the service provider metadata XML file that you downloaded from the SAP Sales Cloud and SAP Service Cloud Version 2 system. Choose [Load from File](#), and upload the metadata file.
  4. Download the configured metadata from SAP IAS.  
Follow the steps listed at: [Tenant SAML 2.0 Configurations](#).
    1. On the SAP Cloud Identity Services, navigate to ► [Applications and Resources](#) ► [Tenant Settings](#) ► [Single Sign-On](#) ►.
    2. Choose the [Download Metadata File](#) to download the metadata file.
5. To re-upload the downloaded metadata from SAP IAS to SAP Sales Cloud and SAP Service Cloud Version 2.



Follow the steps listed at: [Configure Identity Provider \[page 269\]](#).

1. On the SAP Sales Cloud and SAP Service Cloud Version 2 system, navigate to the [Identity Provider Configuration](#) page, choose **+** ([Add](#)), enter an alias, and choose [Upload Metadata](#).
2. In the [Upload IdP Metadata](#) quick view, enter an [Alias](#), enable the [Active](#) toggle, and upload the configured metadata XML file (downloaded from your IdP).

#### Note

The alias name can be the URL of your IdP service.

3. Leave the [Client ID](#) and [Client Secret](#) blank, and choose [Save](#).
4. Set Up SAP IAS as Source.

Follow the steps listed in [Identity Authentication](#).

1. On [SAP Cloud Identity Services](#), navigate to **Identity Provisioning** **>** [Source Systems](#) **▾**, and choose [Add](#).
2. Enter or choose the following information on the [Details](#) tab.
  1. For [Type](#), enter **HTTP** input.
  2. Choose **Identity Authentication** from the [Type](#) dropdown.
  3. For [System Name](#), enter a system name with which you can identify your source system; here it's, the IAS service. For example, **IAS for SAP Sales and Service Cloud V2**.
  4. For [Description](#), enter a description for system identification. You can enter the same description as the system name with additional information that helps you identify the system.
3. Navigate to the [Transformations](#) tab, and complete the following steps:
  1. Copy the code syntax under [Default transformation for SCIM API version 2](#) section from the [Identity Authentication](#) topic.
  2. On the [Transformations](#) tab, go to **Switch to JSON Editor** **>** [Edit](#) **>** [Paste](#) **▾**.
  3. Choose [Save](#), and enter a description to confirm your transformation changes.
4. Navigate to the [Properties](#) tab, enter the properties as listed in the [Mandatory Properties](#) section in [SAP Sales Cloud and SAP Service Cloud](#), and choose [Save](#).  
Enter the IAS tenant URL under the [URL](#).
5. Navigate to the [Outbound Certificates](#) tab, generate, and download the certificate.

5. Set Up Sales Cloud and Service Cloud V2 as Target.

Follow the steps listed at: [SAP Sales Cloud and SAP Service Cloud](#).

1. On [SAP Cloud Identity Services](#), navigate to **Identity Provisioning** **>** [Target Systems](#) **▾**, and choose [Add](#).
2. Enter or choose the following information on the [Details](#) tab.
  1. Choose **SAP Sales and Service Cloud** from the [Type](#) dropdown.
  2. In the [System Name](#) field, enter a system name with which you can identify your target system. For example, **Service3 VLAB**.
  3. In the [Description](#) field, enter a description for system identification. You can enter the same description as the system name with additional information that helps you identify the system.
  4. Select the source system that was created previously from the [Source Systems](#) dropdown.
3. Navigate to the [Transformations](#) tab, and complete the following steps:
  1. Copy the code syntax under [Default transformation for connector version 4](#) section from: [SAP Sales Cloud and SAP Service Cloud](#).
  2. On the [Transformations](#) tab, go to **Switch to JSON Editor** **>** [Paste](#) **▾**.
  3. Choose [Save](#), and enter a description to confirm your transformation changes.

4. Navigate to the [Properties](#) tab, enter the properties as listed in the [Mandatory Properties](#) table, and choose [Save](#).

#### Mandatory Properties

| Property Name               | Description & Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                        | Enter: <a href="#">HTTP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| URL                         | SAP Sales Cloud and SAP Service Cloud Version 2 system URL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ProxyType                   | Enter: <a href="#">Internet</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Authentication              | Enter your authentication method:<br><a href="#">ClientCertificateAuthentication</a>                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| c4c.support.patch.operation | <p>By default, it's PUT. Modify if you want PATCH operation.</p> <p>This property controls how modified entities (users and groups) in the source system are updated in the target system.</p> <ul style="list-style-type: none"> <li>• If set to <a href="#">true</a>, PATCH operations are used to update users and groups in the target system.</li> <li>• If set to <a href="#">false</a>, PUT operations are used to update users and groups in the target system.</li> </ul> <p>Default value: <a href="#">false</a></p> |
| ips.delete.threshold.groups | <p>Enter a numeric value.</p> <p>Use this property to control the number of groups to be deleted in a target system by defining a threshold. This property prevents you from accidentally deleting a huge number of groups, for example by adding a filter or condition.</p>                                                                                                                                                                                                                                                   |
| ips.delete.threshold.users  | <p>Enter a numeric value.</p> <p>Use this property to control the number of users to be deleted in a target system by defining a threshold. This property prevents you from accidentally deleting a huge number of users, for example by adding a filter or condition.</p>                                                                                                                                                                                                                                                     |

#### Note

An exhaustive list of properties and their descriptions is available at: [SAP Sales Cloud and SAP Service Cloud](#).

5. Navigate to the [Outbound Certificates](#) tab, generate, and download the certificate.
6. Authentication Set Up in SAP IAS.
  1. On [SAP Cloud Identity Services](#), go to ► [Users and Authorization](#) ► [Administrators](#) ► [+Add](#) ► [System](#) ►.

1. Enter a display name for *Name*, enable all configurations for the user, and choose *Save*.
2. Select the system user from the left-hand pane, and go to ► *Configure System Authentication* ► *Certificate* ► *Configure Certificate* ►, and choose *Upload Certificate* to upload the source system certificate downloaded during source setup, and choose *Save*.
2. Go to SAP Sales Cloud and SAP Service Cloud Version 2 system, navigate to ► *User Menu* ► *System Settings* ► *All Settings* ► *Users and Control* ► *Users* ►, and choose the API user that you created previously and upload the certificate downloaded from the target system.

#### Note

Ensure that the certificate that you upload is of **.cer** extension type only.

You've now successfully configured the SCIM API on your system.

7. Verify the Set Up.
  1. To verify that your SCIM configuration is successful, create or edit a user on SAP Cloud Identity Services. For a selected user, ensure that the following fields are updated.
    - User Type: Employee
    - Valid From
    - Valid To
    - Login Name
    - Employee Number
  2. On the SAP Cloud Identity Services, navigate to ► *Users and Authorization* ► *User Management* ►, and edit the fields for a user. Open the *Groups* tab and assign a group to the user.
  3. On the SAP Cloud Identity Services, navigate to ► *Identity Provisioning* ► *Source Systems* ►, select the system on the left pane, and choose *Jobs*. In the *Job Type* list, choose *Run Now*.  
Once the job is successfully run, the changes made on the SAP Cloud Identity Services reflect on the SAP Sales Cloud and SAP Service Cloud Version 2 system.

## Authentication Mechanism

SCIM API supports the following authentication mechanisms:

- Basic Authentication
- Certificate Authentication
- Bearer Token Authentication

## Monitoring Tools

SAP Sales Cloud and SAP Service Cloud Version 2 doesn't provide any monitoring tools for the direct usage of SCIM APIs. As a user, you must monitor the replications using SCIM APIs.

## 13.6 Settings

This page lists all the identity and access management settings.

### Cross-Site Request Forgery Settings

Cross-Site Request Forgery (CSRF) is a web-security vulnerability that allows an attacker to induce users to perform actions that they don't intend to perform. CSRF attacks exploit the trust a Web application has in an authenticated user. To prevent such attacks, CSRF settings are provided.

Configure Cross-Site Request Forgery Settings

1. Log in to the system as an administrator.
2. Navigate to the [User Menu](#) on the right-top corner, and access the [System Settings](#) page.
3. Go to ► [All Settings](#) ► [Users and Control](#) ► [Settings](#) ► [Cross-Site Request Forgery Settings](#) ►.
4. Select one of the modes: [Strict](#), [None](#), or [Lax](#) from the dropdown for third-party integration.

#### ⓘ Note

- Lax: This mode allows cookies to be sent for top-level navigation only.
- None: This mode disables SameSite-based protection. The website can use its own CSRF protection mechanisms.
- Strict: This mode disables cookies being sent to all third-party websites. Cookies are sent only if the domain is the same as the path for which the cookie has been set.

#### ⓘ Note

By default, the [Strict](#) mode is enabled for third-party integrations. However, for existing customers, this change doesn't affect the existing integrations in the current release. In a future release, the existing integrations can be affected.

## 13.7 Access Control Restrictions for Unassigned Entities

Unassigned entities are instances of authorization-relevant business objects that don't have Access Control List entries. These entities lack organizational assignments that determine user access permissions.

Some examples of unassigned entities include:

- an opportunity that isn't associated with an employee, organizational unit, or territory.
- an account created without an account team, territory, or sales area assignment.
- accounts migrated from SAP ERP that don't include sales organization data.

Previously, the system allowed all users to access unassigned entities, regardless of their authorization restrictions.

- If you have had unrestricted access, you could access unassigned instances of that entity.
- If you have had restricted access, you could also access unassigned instances of that entity.

Now, with access control restrictions for unassigned entities, access depends on your user authorization.

- If you have unrestricted access to an entity, you can access unassigned instances of that entity.
- If you have restricted access to an entity, you can't access unassigned instances of that entity.

# 14 Accounts and Individual Customers

Accounts and individual customers provide a holistic view of the customers and allow you to capture, monitor, store, and track all critical business information about customers, prospects and partners.

You can use this information to focus on your most profitable customers, maintain customer satisfaction and loyalty, and enable consistent interactions with your customers across all channels.

## 📘 Note

All accounts, individual customers, employees, contacts, partners and competitors are considered as business partners in the system. Therefore all functions that are common to business partners are applicable to them.

## 📘 Note

In the system, the [Customers](#) refer to corporate accounts, individual customer accounts, and contacts. [Accounts](#) represent organizations with which business is done.

Individual Customers represent persons with whom business is done.

Create business accounts to represent your customers in your system.

Additionally, detailed information on External IDs for accounts is displayed under the [Mapping for Integration](#) section, and you can view all changes made to accounts under the [Change History](#) (🔍) section.

Use the [Advanced Search](#) filter to narrow down the search results by using multiple criteria at a time. You can save the search query.

An administrator can add additional standard fields and custom fields to the advanced filter using the [Start Adaptation](#) button that you can find under the user profile dropdown list. For more information, see the **Related Links** section.

However, the advanced search filter has the following limitations:

- Wild card search while using the free text fields is not supported.
- Search is limited to the main address of accounts.

## Related Information

[Manage Fields \[page 80\]](#)

Add, hide, and reorder fields.

[Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

## 14.1 Configure Accounts and Individual Customers

As an administrator, you must configure basic business partner features and account features and individual customers in [Settings](#).

### 14.1.1 Configure Business Partner Features

As an administrator, you can maintain the basic configuration for Business Partner that are applicable to accounts and individual customers.

#### Note

This configuration is applicable to all business partners such as accounts, employees, contacts, partners and competitors.

#### 14.1.1.1 Configure Industries

As an administrators, you can configure industries that are applicable to business partners.

#### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Business Partners](#) ► [Industries](#) ►
2. Click [+](#) ([Create](#)) to add a new industry.
3. Enter the [Code](#) and [Description](#).
4. Click [✓](#) ([Accept](#)) to save your changes.

Turn on the [Translate](#) switch and select the [Target Language](#) to translate the description to the desired language. Select the [Show Non-Translated Only](#) checkbox to view non-translated entries.

## 14.1.1.2 Configure Number Ranges

As an administrator, you can configure number ranges that determine the number of a new document or a data record.

### Context

Number ranges determine the number of a new document or a data record. For example, while adding a new document, you can configure the system to create a document number automatically, or have the user enter a number manually. Note that changing a previously assigned number range can lead to errors in the system.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Business Partners](#) ► [Number Range](#) ►.
2. Click  ([Edit](#)) to edit the [From](#), [To](#), and [Current Value](#).
3. Click  ([Accept](#)) to save your changes.

## 14.1.1.3 Configure Marital Status

As an administrators, you can configure marital status for your business partners.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Business Partners](#) ► [Marital Status](#) ►
2. Click  ([Create](#)) to add a new marital status.
3. Enter the [Code](#) and [Description](#).
4. Click  ([Accept](#)) to save your changes.

Turn on the [Translate](#) switch and select the [Target Language](#) to translate the description to the desired language. Select the [Show Non-Translated Only](#) checkbox to view non-translated entries.



### 14.1.1.4 Configure Academic Titles

As an administrators, you can configure academic titles for your business partners.

#### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Business Partners](#) ► [Academic Titles](#) ►
2. Click + [\(Create\)](#) to add a new marital status.
3. Enter the [Code](#) and [Description](#).
4. Turn on the [Placed Before Name](#) switch to place the title before the name.
5. Click ✓ [\(Accept\)](#) to save your changes.

### 14.1.1.5 Configure Titles

As an administrators, you can configure titles for your business partners.

#### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Business Partners](#) ► [Titles](#) ►
2. Click + [\(Create\)](#) to add a new marital status.
3. Enter the [Code](#) and [Description](#).
4. Select the [Related Gender Code](#)
5. Click ✓ [\(Accept\)](#) to save your changes.

Turn on the [Translate](#) switch and select the [Target Language](#) to translate the description to the desired language. Select the [Show Non-Translated Only](#) checkbox to view non-translated entries.

### 14.1.1.6 Configure Legal Forms

As an administrators, you can configure legal forms for your business partners.

#### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Business Partners](#) ► [Legal Forms](#) ►

2. Click **+** (*Create*) to add a new marital status.
3. Enter the *Code* and *Description*.
4. Click **✓** (*Accept*) to save your changes.

### 14.1.1.7 Configure Relationships

As an administrator, you can configure custom relationships.

#### Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Business Partners** > **Relationships**.
2. Select **+** (*Create*) a new relationship role.
3. Enter the *Code* and *Description*.
4. Turn on the *Directed* switch if the relationship is bidirectional.
5. Turn on the *Account Team* switch if the relationship is only relevant for employees who are part of the account team.
6. Turn on the *Sales Area Dependent* switch if the relationship is dependent on sales area.
7. Choose **✎** (*Edit*) from the *Time Dependent* column and select a desired value.

The available values are:

- *Yes (single record)*: You can only maintain one data record for the same relationship category between two business partners.
- *No*: There are no time constraints. It is not possible to maintain multiple data records for the same relationship category.
- *Yes (multiple records)*: You can maintain multiple records for the same relationship category between two business partners with gaps.

You can maintain the values *Yes (single record)* and *Yes (multiple records)* for relationship types that are Sales Area Dependent. However, when you specify the sales area at a specific relationship, you cannot maintain the validity. Validities are only allowed for relationships without a maintained sales area.

You can change the value from *Yes (single record)* to *No* for a specific relationship type is only if there is no relationship with this relationship type within the system that has time dependent data.

You can change the value from *Yes (multiple records)* to *Yes (single record)* or *No* or from *Yes (single record)* and *No* to *Yes (multiple records)* for a specific relationship type is only if there is no relationship within the system that has this relationship type.

8. Select **✓** (*Save*) to save your changes.
9. Choose **🗑** (*Delete*) to delete a relationship.

#### Note

You can only delete a relationship type if there is no relationship in the system that has this relationship type.

10. Click  (*Edit*) to edit the description of Business Partner 1 and Business Partner 2.

#### Note

While adding accounts to an account team, custom relationships configured by your administrators are displayed by the Business Partner 1 description maintained in the configuration. If the descriptions are not maintained, the Business Partner 1 code is displayed as the role.

## 14.1.1.8 Configure Identification Types

As an administrator, you can configure identification types that are used to assign additional identifiers to accounts.

### Procedure

1. Choose  *User Menu*  *System Settings*  *All Settings*  *Business Partners*  *Identification Types* .
2. Choose  (*Create*).
3. Enter the code and the description.
4. Turn on the *For Persons* switch if the identification type is applicable for individuals.
5. Turn on the *For Organizations* switch if the identification type is applicable for businesses.
6. Turn on the *Single ID* switch if the ID type is unique.
7. Choose  (*Save*).

## 14.1.1.9 Configure Name Prefixes

As an administrators, you can configure legal forms for your business partners.

### Procedure

1. Navigate to  *User Menu*  *System Settings*  *All Settings*  *Business Partners*  *Name Prefixes* .
2. Click  (*Create*) to add a new marital status.
3. Enter the *Code* and *Description*.
4. Click  (*Accept*) to save your changes.

## 14.1.1.10 Configure Account Hierarchy Types

As an administrator, you can configure account hierarchy types for your business partners.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Business Partners](#) ► [Account Hierarchy Types](#) ►
2. Choose **+** ([Create](#)) to add a new account hierarchy type.
3. Enter the [Code](#) and [Description](#).
4. Use the [Default](#) radio button to mark the usage type as the default type.

Default usage type is considered while displaying top account or parent account. Default usage type is considered while evaluating top accounts and parent accounts in transactions using account hierarchy.

#### Note

- Changing the default usage type will impact transactions related to account hierarchy and screens where top and parent accounts are displayed.
- Default usage type cannot be deleted.

5. Use the [Hierarchy Relevant for Business Partner Relationship](#) radio button to mark a custom hierarchy as relevant for business partner relationships.
6. Choose **✓** ([Accept](#)) to save your changes.
  - You cannot modify predelivered usage types Standard Hierarchy "A" and Reporting Hierarchy "R". Standard Hierarchy "A" is dependent on Sales Area and Pricing Relevance. It is used in transactions like pricing calculations in sales quotes or sales orders.
  - Reporting Hierarchy "R" is independent of Sales Area and Pricing Relevance. Hierarchy created using this usage type should not have Sales Area and Pricing Relevance assigned. It is used for reporting purposes.

#### Note

Standard hierarchy "A" allows sales area, and should not be used if the hierarchy is independent of the sales area. If users want a hierarchy without sales area, they must create a custom usage type, which cannot be created as sales area relevant.

## 14.1.2 Configure Basic Account and Individual Customer Features

As an administrator, you can maintain the basic configuration for accounts and individual customers such as roles, classifications, payment terms and so on.

Navigate to ► [User Menu](#) ► [Settings](#) ► [All Settings](#) ► [Customer](#) ► to maintain the following configurations:

- ABC Classifications
- Payment Terms
- Customer Groups
- Delivery Block Reasons
- Billing Block Reasons
- Order Block Reasons
- Price Lists
- Price Groups
- Delivery Priorities
- Incoterms
- Roles
- Nielson IDs

### 14.1.2.1 Configure ABC Classifications

As an administrator, you can configure ABC classification for accounts and individual customers.

#### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Customers](#) ► [ABC Classifications](#) ►.
2. Choose + [\(Create\)](#) to add a new classification.
3. Enter the [Code](#) and [Description](#).
4. Click ✓ [\(Accept\)](#) to save your changes.

Turn on the [Translate](#) switch and select the [Target Language](#) to translate the description to the desired language. Select the [Show Non-Translated Only](#) checkbox to view non-translated entries.

### 14.1.2.2 Configure Payment Terms

As an administrator, you can configure payment terms for accounts and individual customers.

#### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Customers](#) ► [Payment Terms](#) ►.
2. Choose + [\(Create\)](#) to add a new payment term.
3. Enter the [Code](#) and [Description](#).

4. Click ✓ *(Accept)* to save your changes.

Turn on the *Translate* switch and select the *Target Language* to translate the description to the desired language. Select the *Show Non-Translated Only* checkbox to view non-translated entries.

### 14.1.2.3 Configure Customer Groups

As an administrator, you can configure customer groups for accounts and individual customers.

#### Procedure

1. Navigate to ► *User Menu* ► *System Settings* ► *All Settings* ► *Customers* ► *Customer Groups* ►.
2. Choose + *(Create)* to add a new customer group.
3. Enter the *Code* and *Description*.
4. Click ✓ *(Accept)* to save your changes.

Turn on the *Translate* switch and select the *Target Language* to translate the description to the desired language. Select the *Show Non-Translated Only* checkbox to view non-translated entries.

### 14.1.2.4 Configure Delivery Block Reasons

As an administrator, you can configure delivery block reasons for accounts and individual customers.

#### Procedure

1. Navigate to ► *User Menu* ► *System Settings* ► *All Settings* ► *Customers* ► *Delivery Block Reasons* ►.
2. Choose + *(Create)* to add a new delivery block reason.
3. Enter the *Code* and *Description*.
4. Click ✓ *(Accept)* to save your changes.

Turn on the *Translate* switch and select the *Target Language* to translate the description to the desired language. Select the *Show Non-Translated Only* checkbox to view non-translated entries.

## 14.1.2.5 Configure Billing Block Reasons

As an administrator, you can configure billing block reasons for accounts and individual customers.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Customers](#) ► [Billing Block Reasons](#) ►.
2. Choose [+ \(Create\)](#) to add a new billing block reason.
3. Enter the [Code](#) and [Description](#).
4. Click [✓ \(Accept\)](#) to save your changes.

Turn on the [Translate](#) switch and select the [Target Language](#) to translate the description to the desired language. Select the [Show Non-Translated Only](#) checkbox to view non-translated entries.

## 14.1.2.6 Configure Order Block Reasons

As an administrator, you can configure order block reasons for accounts and individual customers.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Customers](#) ► [Order Block Reasons](#) ►.
2. Choose [+ \(Create\)](#) to add a new order block reason.
3. Enter the [Code](#) and [Description](#).
4. Click [✓ \(Accept\)](#) to save your changes.

Turn on the [Translate](#) switch and select the [Target Language](#) to translate the description to the desired language. Select the [Show Non-Translated Only](#) checkbox to view non-translated entries.

## 14.1.2.7 Configure Price Lists

As an administrator, you can configure price lists for accounts and individual customers.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Customers](#) ► [Price Lists](#) ►.

2. Choose **+** (*Create*) to add a new price list.
3. Enter the *Code* and *Description*.
4. Click **✓** (*Accept*) to save your changes.

Turn on the *Translate* switch and select the *Target Language* to translate the description to the desired language. Select the *Show Non-Translated Only* checkbox to view non-translated entries.

## 14.1.2.8 Configure Price Groups

As an administrator, you can configure price groups for accounts and individual customers.

### Procedure

1. Navigate to **► User Menu ► System Settings ► All Settings ► Customers ► Price Groups ►**.
2. Choose **+** (*Create*) to add a new price group.
3. Enter the *Code* and *Description*.
4. Click **✓** (*Accept*) to save your changes.

Turn on the *Translate* switch and select the *Target Language* to translate the description to the desired language. Select the *Show Non-Translated Only* checkbox to view non-translated entries.

## 14.1.2.9 Configure Delivery Priorities

As an administrator, you can configure delivery priorities for accounts and individual customers.

### Procedure

1. Navigate to **► User Menu ► System Settings ► All Settings ► Customers ► Delivery Priorities ►**.
2. Choose **+** (*Create*) to add a new delivery priority.
3. Enter the *Code* and *Description*.
4. Click **✓** (*Accept*) to save your changes.

Turn on the *Translate* switch and select the *Target Language* to translate the description to the desired language. Select the *Show Non-Translated Only* checkbox to view non-translated entries.



## 14.1.2.10 Configure Incoterms

As an administrator, you can configure incoterms for accounts and individual customers.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Customers](#) ► [Incoterms](#) ►.
2. Choose [+ \(Create\)](#) to add a new incoterm.
3. Turn on the [Mandatory Location](#) switch if location is mandatory.
4. Enter the [Code](#) and [Description](#).
5. Click [✓ \(Accept\)](#) to save your changes.

Turn on the [Translate](#) switch and select the [Target Language](#) to translate the description to the desired language. Select the [Show Non-Translated Only](#) checkbox to view non-translated entries.

## 14.1.2.11 Configure Roles

As an administrator, you can configure roles to define accounts and individual customers

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Customers](#) ► [Roles](#) ►.
2. Choose [+ \(Create\)](#) to add a new role.
3. Enter the [Code](#) and [Description](#).
4. Turn on the [Prospect](#) switch to mark the role as a prospect.
5. Turn on the [Default](#) switch to mark the role as the default role for the account or individual customer.

#### Note

You must always mark at least one prospect role as the default role.

6. Click [✓ \(Accept\)](#) to save your changes.

Turn on the [Translate](#) switch and select the [Target Language](#) to translate the description to the desired language. Select the [Show Non-Translated Only](#) checkbox to view non-translated entries.

## 14.1.2.12 Configure Nielsen IDs

As an administrator, you can configure Nielsen IDs for accounts and individual customers.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Customers](#) ► [Nielsen IDs](#) ►.
2. Choose [+](#) ([Create](#)) to add a new ID.
3. Enter the [Code](#) and [Description](#).
4. Click [✓](#) ([Accept](#)) to save your changes.

Turn on the [Translate](#) switch and select the [Target Language](#) to translate the description to the desired language. Select the [Show Non-Translated Only](#) checkbox to view non-translated entries.

## 14.1.3 Enable Account Hierarchy

As an administrator, you must create business roles and assign users to necessary business services so that they can use Account Hierarchy.

To access Account Hierarchy, you must add sap.crm.md.service.accountHierarchyService business service to your role.

### Related Information

[Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

## 14.1.4 Create Code List Restrictions

Code list restriction refers to the process of limiting the available code values based on other code fields or context. As an administrator, you can restrict the values available from a drop-down list by creating and maintaining code list restrictions for different business entities.

### Prerequisites

You have assigned the [Code List Restrictions](#) service to the respective business roles.

## Context

By default, the system allows all the code values for a business entity to be visible. You can restrict those values based on an instance field through a combination of the following values: Business entity, code field, and control field.

## Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Extensibility](#) ► and select [Code List Restrictions](#).
2. Choose + [\(Create\)](#) to open the [Create Code List Restrictions](#) guided activity.
3. In the [Define Code List Restriction](#) step, do the following:
  - a. Enter a name and description.
  - b. From the drop-down list, select a business entity for which you want to restrict certain code types.
  - c. From the [Code to Restrict](#) drop-down list, select a code that you want to restrict for the business entity.

### Note

The drop-down list includes both active and inactive codes. Make sure you select an active code.

- d. Turn on [Filter Relevant](#) switch to apply code list restrictions to filter fields. When enabled, role-based code list restriction values are also reflected in basic and advanced filters, ensuring consistency across create, detail, and quick view screens.

### Note

This does not impact your data access restrictions.

- e. Do one of the following:
    - 1. From the [Control Field](#) drop-down list, select a field. If the data type is boolean, you can use the [Include Undefined as False](#) switch.
    - 2. Choose [Next](#) to view all the allowed code values for that business entity.
    - 3. In the [Configure Restrictions](#) step, deselect the check boxes to restrict all or some of the values. Select [View Details](#) to view more than 20 values.
  - 1. Choose [Next](#) to view all the allowed code values for that business entity.
  2. In the [Configure Restrictions](#) step, select one or multiple roles from the value help and mark them as restricted if you so require.  
You can choose not to define the code list restrictions based on roles.
  3. Choose [Next](#).
  4. In the [Set Default Value](#) step, select a role from the value help to mark it as default. Note that this feature has restricted availability and is supported only for [Case](#). To request for access to this feature, you must create a case with the component CEC-CRM-CLR.
4. Save your changes.

### Note

Code list restrictions with circular dependencies are not supported, as they can result in infinite loops during defaulting. For example, if Priority controls Status, Status controls Source Code, and Source Code controls Priority, this creates a circular dependency and is therefore not allowed.

**Result:** You have restricted specific code values from appearing in certain drop-down menus in the applications. This restriction is based on a combination of business entity, code field, and control field.

To view the code list restrictions that you have created, select the business entity from the drop-down menu on your screen.

### Note

The *Validation Relevant* switch determines whether Code List Restrictions (CLR) checks are applied across different data creation channels, such as the UI or back-end APIs.

When turned on, the CLR checks are enforced for both UI-based actions and back-end channels, including API, Data Replication, and Data Import Tools (e.g., Data Impex)

When turned off, the CLR checks are performed only for UI-based operations, skipping validation for bulk imports or API-based entries. This option is designed for performance optimization. For example, when creating many accounts at once using systems like S/4HANA, skipping validation can help avoid delays.

### Note

The *Filter Relevant* switch determines whether code list restrictions are applied to filter fields.

When you turn it on, the values defined for role-based code list restrictions are also reflected in basic and advanced filters, ensuring consistency across create, detail, and quick view screens.

When you turn it off, code list restrictions are not applied to filter fields, and all values remain visible in filters. This setting does not impact your data access.

### Example

In the application UI, you have made the following selections:

- *Business Entity*: Sales Orders
- *Code to Restrict*: Cash Discount Term Code
- *Control Field*: Distribution Channel

The system displays all the available code list values for the code Cash Discount Term Code, for the Sales Orders business entity. You will have an option to restrict or allow the code values for the control field values *Direct Sales* and *Indirect Sales* individually.

## 14.2 Account Hierarchy

An account hierarchy is a collection of accounts linked to each other through a parent-child relationship.

Use account hierarchy to:

- Map complex organizational structures of a business partner (for example, buying group, co-operative or chain of retail outlets).
- Map the complex organizational structure of a large customer with multiple levels of subsidiaries.

The account hierarchy structure that you create on the SAP S4/HANA On-Premise system is replicated uni-directionally in [Account Hierarchy](#) in SAP Sales Cloud Version 2. Such account hierarchies are associated with an [External ID](#) field.

You can also create account hierarchy in the SAP Sales Cloud Version 2 system, however, these hierarchies remain local to SAP Sales Cloud Version 2 and are not replicated back on the SAP S4/HANA On-Premise system.

To access Account Hierarchy, you must add [Account Hierarchy \(sap.crm.md.service.accountHierarchyService\)](#) business service to your role.

To view Account Hierarchy, go to  ([Navigation Menu](#)) and search for [Account Hierarchy](#). Select an account hierarchy to view details.

### Features

#### Expand/Collapse

The [Account Hierarchy](#) worklist displays the top accounts by default.

Expand and collapse the account hierarchy at any level to display as many or as few accounts as you like.

- To view child accounts, click the  (Expand Hierarchy) icon in the hierarchical table.
- To hide child accounts, click the  [Collapse Hierarchy](#) icon.
- To expand the hierarchy and view all the levels of parent-child accounts, click the  (Expand All) icon.
- To expand the hierarchy and view all the levels of parent-child accounts, click the  (Collapse All) icon.

#### Filter/Search

You can filter the [Account Hierarchy](#) worklist based on [Account](#), [Country/Region](#), [Sales Organization](#), and [Usage Type](#). You can also use the search box to search accounts. You can click the [Locate in Hierarchy](#) icon to locate the account in the hierarchy.

#### Table View and Graphical View

When you click the [Open Hierarchy Detail](#) icon for an account hierarchy, the screen displays details such as external ID, main contact, main owner, account ID, and top account in that hierarchy.

By default, the account hierarchy displays a table view. You can switch to the graphical view by clicking the [Graphical View](#) icon. You can expand and collapse the graphical nodes and zoom in and zoom out of the graphical nodes. You can scroll to display the content of the view that does not fit within the screen.

## Account Hierarchy Cards

The detail view of an account has an [Account Hierarchy](#) card, if the selected account is a part of an account hierarchy. The [Account Hierarchy](#) card displays details such as [Top Account](#), [Parent Account](#), and [Child Account](#) related to the account in the hierarchy. Accounts can be part of multiple hierarchies. There will be a separate card for each account hierarchy.

## 14.2.1 Create Account Hierarchy

You can create a new account hierarchy by adding a top account and then adding child accounts to it.

### Add a Top Account

1. Go to  (Navigation Menu) and search for Account Hierarchy.
2. In the [Account Hierarchy](#) screen, click the  icon.
3. Select an [Account Name](#) and [Usage Type](#) for the top account.
4. For sales area dependent usage types, select the relevant [Account Sales Data](#).
5. Click [Save](#).

Standard Hierarchy "A" is dependent on Sales Area and Pricing Relevance. It is used in transactions like pricing calculations in sales quotes or sales orders. Reporting Hierarchy "R" is independent of Sales Area and Pricing Relevance. Hierarchy created using this usage type should not have Sales Area and Pricing Relevance assigned. It is used for reporting purposes.

### Add a Child Account

1. Select an account hierarchy and click the  icon under [Actions](#).
2. Select an [Account Name](#).  
The [Parent Account](#) and [Usage Type](#) fields are pre-filled by the system. If the parent account has assigned sales data, the system defaults the same sales data to the child account.
3. Click [Save](#).

## 14.3 Create Accounts

Learn how to create an account so you can keep track of all the information about your customers.

### Procedure

1. From the [Navigation Menu](#) () , search for [Accounts](#).
2. Click  ([Create](#)).

The system opens a quick view.

3. Enter the following details:

Name: Provide title for the account.

Role: Define default customer roles for a customer type. A customer type can be either a prospect or a customer. A prospect is someone who may become a customer.

ABC Classification: Categorize accounts based on their importance within your organization. The standard solution offers three levels of categorization, namely A, B, and C accounts.

Owner: Assign an owner to the account using the [Value Help](#) ().

4. Enter the address details.

Optional: [House Number](#), [Street](#), [City](#), [Postal Code](#), and [Country/Region](#)

5. Enter the communication details.

Optional: [Language](#), [Website](#), [Phone](#), and [Email](#)

6. [Save](#) your details.

If your administrator has enabled **Duplicate Check for Accounts**, the solution displays the duplicate check results with a confidence score before creating the account. [Confidence](#) indicates how closely the attributes of the new account matches with the duplicates.

Duplicate check can either be configured through Duplicate Check configuration in Settings or Generative AI.

#### Note

Generative AI features are available only when you have a valid license for usage of SAP AI Units. To enable Generative AI features, you must raise a case with the CEC-CRM-ML component, mentioning that you have a valid license for SAP AI Units. After you activate the Generative AI features, you must assign the sap.crm.service.mlScenarioManagementGenAIservice service and app to your role.

7. Update the fields in the [Create Account](#) section and select [Check for Duplicates](#) to refresh your results. After updating the fields in the [Create Account](#) section, you must first check for duplicates before saving your changes.
8. Select [Save](#) or [Save and Open](#).

## Related Information

### [Account Duplicate Check \[page 639\]](#)

Account Duplicate Check leverages Generative AI to check and display the duplicate check results with a confidence score, before creating an account.

### [Duplicate Check \[page 971\]](#)

Duplicate check, once enabled, displays the duplicate check results with a confidence score before creating the instance.

### [Configure Basic Account and Individual Customer Features \[page 284\]](#)

As an administrator, you can maintain the basic configuration for accounts and individual customers such as roles, classifications, payment terms and so on.

## 14.3.1 Assign Status

You can set a status to your account.

### Context

You can set one of the following statuses to your accounts:

**Active:** Indicating that the account is valid and can be used.

**Obsolete:** An indication that the account has expired or is invalid.

**In Preparation:** A sign that the account is currently being worked on.

**Blocked:** A system status indicating that an account has been suspended.

### Procedure

1. From the [Navigation Menu](#) () , search for [Accounts](#).
2. Choose the account you want to set the status for.
3. The system opens a quick view.
4. Click  ([Open in Detail View](#)).
5. In the left-hand panel, under the  (Overview) tab, click  ([Edit](#)) in the [Status](#) field to set the status for the account.
6. The system saves the changes automatically.



## 14.3.2 Assign Industry

Categorize accounts according to the primary business activity of the enterprise. These are standard defaulted values.

### Procedure

1. From the *Navigation Menu* () , search for *Accounts*.
2. Click the account for which you wish to assign an industry.
3. The system opens a quick view.
4. Click  (*Open in Detail View*).
5. In the left-hand panel, under the  (*Overview*) tab, edit () the *Industry* field to assign an industry for the account.
6. The system saves the changes automatically.

## 14.3.3 Create or Add Contacts

Find out how to create or add contacts for a person or an organization that is associated with your account.

### Procedure

1. Go to *Navigation Menu* () and search for *Accounts*.
2. Select the account and  (*Open in Detail View*).
3. In the *Contacts* section, click  (*Create*).
4. Enter all the desired fields.

#### Note

The *Account* field is automatically populated.

5. Click *Save* to create the contact.

#### Note

You can also *Search and Add* a contact. To do this, click *Search and Add*, search for the contact, and select  (*Add*). The system adds the contact automatically. You can see the updated information in the contacts section.

Within the detailed view of the account, you can  (*Call*),  (*Email*), or  (*Edit*) the function field of a contact. The *Ellipsis* () on each contact allows you to *Delete* () or *Mark as Main*. When the contact is marked as main, it is prioritized, and the solution places it at the top of the list.

## 14.3.4 Add Account Team Members to Accounts

You can add account team members to accounts.

### Procedure

1. From the *Navigation Menu* () , search for *Accounts*.
2. Select the account and  (*Open in Detail View*).
3. In the *Account Team* section, click .
4. In the *Account Team* popup, select a role and employee, and then click *Add*.
5. The system adds the account automatically. You can see the updated information in the accounts section.

#### Note

Within the detailed view of the account, you can  (*Call*),  (*Email*), or  (*Edit*) the function field of an account in *Account Team*. The *Ellipsis* () on each account allows you to *Delete* () or *Mark as Main*. When the account is marked as main, it is prioritized, and the solution places it at the top of the list.

## 14.3.5 Create Relationships

Learn how to add relationships between business partners.

### Procedure

1. Search and select *Accounts* from  (*Navigation Menu*).
2. Click  to open the account in detail view.
3. Click  from the *Relationships* section to add a new relationship.
4. Select the *Relationship Type*.
5. If the relationship type is sales area dependent, select the *Sales Area*.
6. Select the *Business Partner* and *Name*.
7. Click *Add*.

## 14.3.6 Create Addresses

Learn how to add, edit, and delete an address.

### Procedure

1. From the *Navigation Menu* () , search for *Accounts*.
2. Select the account for which you would like to add an address and  (*Open in Detail View*).
3. Click  (*Create*) in the *Address* section.
4. In the new screen, click  (*Add*) to add an address.
5. In the bottom section, enter the address and communication details.
6. The system saves the changes automatically. Navigate *Back* to the address section. You can see the updated information.

To edit any address, select *Full Screen* from the *Address* section and make the edits. You can mark an address as the Main Address, Ship-To Address, or Bill-To Address.

If Ship-To or Bill-To field of an address is marked as *Yes (Default)*, this address is used as the default Ship-To party when the account is involved in a Ship-To relationship. If there are multiple addresses marked as *Yes*, a random address is selected to use in a Ship-To relationship. If an address is marked as *No*, the address is not considered when determining the Ship-To address for relationships. If no address is marked as Ship-To or Bill-To relevant, the main address is selected for Ship-To or Bill-To party.

Additionally, to delete an address, select the address and click  (*Delete*).

## 14.3.7 Create Additional Identifiers

Learn how to add, edit, and delete an address.

### Procedure

1. From the *Navigation Menu* () , search for *Accounts*.
2. Select the account for which you would like to add an address and  (*Open in Detail View*).
3. Select  from the *Additional Identifiers* section to assign an identifier to the account or individual customer.
4. Select the *ID Type* and enter the *ID Number*
5. Choose *Add* to save your changes.

## 14.3.8 Maintain Attachments

You can upload, view, delete, and download attachments.

### 14.3.8.1 Upload Attachments From Your Computer

Here is a step-by-step guide on how to import attachments from a front-end system, such as a computer, into the system.

#### Procedure

1. From the *Navigation Menu* () , search for *Accounts*.
2. Select the account and  (*Open in Detail View*).
3. Choose the *Additional Data* tab.
4. From the *Attachments* section, select  (*Drop or Browse Files*) .
5. Select the file from your computer you want to upload and click *Open*.
6. From the dropdown, select the *Attachment Type*.
7. Click *Upload*.

#### Note

You can upload multiple files at the same time.

Select an attachment and click  (*Download*) to download an attachment.

To delete an attachment, click  (*Delete*).

### 14.3.8.2 Add Attachments From SAP System

Learn to add attachments from your SAP system.

#### Procedure

1. From the *Navigation Menu* () , search for *Accounts*.
2. Select the account and  (*Open in Detail View*).
3. Choose the *Additional Data* tab.

4. From the [Attachments](#) section, select **+** ([Attachments](#)).
5. Select [Add From Library](#).

#### Note

To add a link, select  ([Add Link](#)) and provide the link in the link field. Click [Save](#). You also can provide a title for this link.

6. Choose the documents you want to add and click [Add](#).

## 14.3.9 Create Sales Data

Accounts are often used within the purview of an org. structure. Therefore, create the necessary sales data required for accounts within the org. structure of your company. Use distribution channels and divisions for accounts. Assign one or more sales organizations, distribution channels, and divisions to an account.

### Procedure

1. From the [Navigation Menu](#) () , search for [Accounts](#).
2. Select the account and  ([Open in Detail View](#)).
3. In the detailed view of an account, select the [Additional Data](#) tab.
4. In the [Sales Data](#) section, select **+** ([Create](#)).
5. A new window opens. Click **+** ([Create](#)).
6. [Search and Add Sales Organization](#), [Distribution Channel](#), [Division](#), [Sales Office](#), [Sales Group](#), and other desired fields.
7. The system saves the changes automatically. Navigate [Back](#) to the sales data section. You can see the updated information.

## 14.3.10 Manage Visiting Information

Account visit information consists of details such as last visited date, next planned date, visiting hours, delivery hours, visit type, sales data, and due date for accounts that have a visit plan.

You can add visiting hours and delivery hours from the respective sections. The information contains the following details:

- [Due Date](#) - Date when the next visit is due for the account
- [Next Planned Date](#) - Date when the next visit is planned for the account based on a reference date. Current date is the default reference date.
- [Last Visited Date](#) - Date when the account was last visited or was delivered.

You can request for the next planned date based on a reference date that can be in the future. The system computes the information provided there is a valid visit plan maintained for an account in the system. The plan

can be maintained directly in an account or in a route group. If the system finds no active route group, or a valid plan for an account then the information is not computed. Note that even if an account was visited earlier and if there no active route group or a valid visit plan the system does not return any information.

Valid Visit Plan - A valid visit is one whose validity range matches with the reference date.

### Visit Information Calculation

The following section provides details on how the account visit information is calculated:

- **Due Date:** Due date tells when the account is due for next visit. It can be either in past or in future. Following logic is applied to derive at the due date.
  1. The system first checks if there is an active route group for given account/sales area/visit type combination. If the system finds one, then the due date is calculated based on the visit plan maintained in the route group.
  2. The system then checks if there is a valid visit plan for the given account/sales area/visit type combination. If the system finds one, then the due date is calculated based on the visit plan.
- **Last Visited Date:** The last visited date is computed from the actual date when the visit was done for the account. The visit must be in completed state.
- **Next Planned Date:** The next planned date tells when the account can be visited latest. The information can be derived based on the following order:
  1. If there is any open visit in the near future for an account; then the scheduled start date becomes the next planned date. System also provides the ID of the visit along with the date.
  2. If there is any planned visit in the near future for an account; then the scheduled start date becomes the next planned date. This planned visit is not confirmed. It is still in proposal state. It needs to be confirmed to create an open visit.
  3. If there is an active route group for the account (sales area/visit type), then the planned date is calculated using the frequency and visiting days maintained in the visit plan of route group.
  4. If there is a valid visit plan for the account (sales area/visit type), then the planned date is calculated using the frequency and visiting days maintained in the visit plan.
- **Plan Selection:** System has to select the right plan for its computation. A right plan can be selected only if the user provides following information:
  - Account ID
  - Sales Organization ID
  - Distribution Channel
  - Division
  - Visit Type
  - Validity Date

To create a visit plan:

1. Navigate to [Accounts](#) and open an account in detail view.
2. Go to the [Visiting Information](#) tab and select **+** (Create) from the [Visit Plan](#) section.
3. Select the [Visit Type](#), [Sales Organization](#), [Distribution Channel](#), [Division](#), [Validity](#), [Frequency](#), [Visit Duration](#), and [Preparation Time](#).
4. Save your changes.

You can also add [Visiting Hours](#) and [Delivery Hours](#) from the respective sections.

## 14.3.11 Create Entities and Interactions for Accounts

Create appointments, tasks, cases, opportunities, and leads for accounts from the account detail page.

1. From the Navigation Menu, search for [Accounts](#).
2. In the worklist of the accounts view, select the account name and then click  ( [Open in Detail View](#) ).
3. Click **+**.
4. Select one of the options:
  - [Appointment](#)
  - [Task](#)
  - [Case](#)
  - [Opportunity](#)
  - [Lead](#)

### Related Information

## 14.3.12 View Sales History for Accounts

You can view all leads, opportunities, sales orders, and sales quotes associated with an account in the [Sales History](#) tab.

### Procedure

1. From the Navigation Menu, search for [Accounts](#).
2. In the worklist of the accounts view, select the account name and then click  ( [Open in Detail View](#) ).
3. Navigate to the [Sales History](#) tab.

You can view all leads, opportunities, sales orders, and sales quotes associated with an account in the respective sections.

## 14.3.13 View Activity History for Accounts

You can view all opportunities, tasks, and visits associated with an account in the [Activity History](#) tab.

### Procedure

1. From the Navigation Menu, search for [Accounts](#).
2. In the worklist of the accounts view, select the account name and then click  ([Open in Detail View](#)).
3. Navigate to the [Activity History](#) tab.

You can view all opportunities, tasks, and visits associated with an account in the respective sections.

## 14.4 Create Individual Customers

Learn how to create an individual customer so you can keep track of all the information about your customers.

### Procedure

1. From the [Navigation Menu](#) () , search for [Individual Customers](#).
2. Click  ([Create](#)).

The system opens a quick view.

3. Enter the following details:

Name: Provide the First Name and Last Name of the customer.

Role: Define default customer roles for a customer type. A customer type can be either a prospect or a customer. A prospect is someone who may become a customer.

ABC Classification: Categorize individual customers based on their importance within your organization. The standard solution offers three levels of categorization, namely A, B, and C individual customers.

Owner: Assign an owner to the individual customer using the [Value Help](#) ().

4. Enter the address details.

Optional: [House Number](#), [Street](#), [City](#), [Postal Code](#), and [Country/Region](#)

5. Enter the communication details.

Optional: [Language](#), [Website](#), [Phone](#), and [Email](#)

6. [Save](#) your details.



#### Note

In the detailed view of an individual customer, the left-hand panel provides *Communication Details*, *Address*, and *General* individual customer information. To add the individual customer to favorites, click  (*Add to Favorites*). This can be done in the quick view as well. You can view the favorite individual customers by going to  *Navigation Menu*  *Favorites* . Choose *Individual Customers* from the *Type* dropdown.

## Related Information

[Configure Basic Account and Individual Customer Features \[page 284\]](#)

As an administrator, you can maintain the basic configuration for accounts and individual customers such as roles, classifications, payment terms and so on.

### 14.4.1 Assign Status

You can set a status to your individual customer.

#### Context

You can set one of the following statuses to your individual customers:

**Active:** Indicating that the individual customer is valid and can be used.

**Obsolete:** An indication that the individual customer has expired or is invalid.

**In Preparation:** A sign that the individual customer is currently being worked on.

**Blocked:** A system status indicating that an individual customer has been suspended.

#### Procedure

1. From the *Navigation Menu* () , search for *Individual Customers*.
2. Choose the individual customer you want to set the status for.
3. The system opens a quick view.
4. Click  (*Open in Detail View*).
5. In the left-hand panel, under the  (Overview) tab, click  (*Edit*) in the *Status* field to set the status for the individual customer.
6. The system saves the changes automatically.

## 14.4.2 Add Account Team Members to Accounts

You can add account team members to accounts.

### Procedure

1. From the *Navigation Menu* () , search for *Accounts*.
2. Select the account and  (*Open in Detail View*).
3. In the *Account Team* section, click .
4. In the *Account Team* popup, select a role and employee, and then click *Add*.
5. The system adds the account automatically. You can see the updated information in the accounts section.

#### Note

Within the detailed view of the account, you can  (*Call*),  (*Email*), or  (*Edit*) the function field of an account in *Account Team*. The *Ellipsis* () on each account allows you to *Delete* () or *Mark as Main*. When the account is marked as main, it is prioritized, and the solution places it at the top of the list.

## 14.4.3 Create Addresses

Learn how to add, edit, and delete an address.

### Procedure

1. From the *Navigation Menu* () , search for *Individual Customers*.
2. Select the individual customer for which you would like to add an address and  (*Open in Detail View*).
3. Click  (*Create*) in the *Address* section.
4. In the new screen, click  (*Add*) to add an address.
5. In the bottom section, enter the address and communication details.
6. The system saves the changes automatically. Navigate *Back* to the address section. You can see the updated information.

To edit any address, select *Full Screen* from the *Address* section and make the edits. You can mark an address as the Main Address, Ship-To Address, or Bill-To Address.

If Ship-To or Bill-To field of an address is marked as *Yes (Default)*, this address is used as the default Ship-To party when the individual customer is involved in a Ship-To relationship. If there are multiple addresses marked as *Yes*, a random address is selected to use in a Ship-To relationship. If an address is marked as

*No*, the address is not considered when determining the Ship-To address for relationships. If no address is marked as Ship-To or Bill-To relevant, the main address is selected for Ship-To or Bill-To party.

Additionally, to delete an address, select the address and click  (*Delete*).

## 14.4.4 Create Additional Identifiers

Learn how to add, edit, and delete an address.

### Procedure

1. From the *Navigation Menu* () , search for *Individual Customers*.
2. Select the individual customer for which you would like to add an address and  (*Open in Detail View*).
3. Select  from the *Additional Identifiers* section to assign an identifier to the individual customer or individual customer.
4. Select the *ID Type* and enter the *ID Number*
5. Choose *Add* to save your changes.

## 14.4.5 Create Relationships

Learn how to add relationships between business partners.

### Procedure

1. Search and select *Individual Customers* from  (*Navigation Menu*).
2. Click  to open the individual customer in detail view.
3. Click  from the *Relationships* section to add a new relationship.
4. Select the *Relationship Type*, *Business Partner*, and *Name*.
5. Click *Add*.

## 14.4.6 Create Sales Data

Individual Customers are often used within the purview of an org. structure. Therefore, create the necessary sales data required for individual customers within the org. structure of your company. Use distribution

channels and divisions for individual customers. Assign one or more sales organizations, distribution channels, and divisions to an individual customer.

## Procedure

1. From the *Navigation Menu* () , search for *Individual Customers*.
2. Select the individual customer and  (*Open in Detail View*).
3. In the detailed view of an individual customer, select the *Additional Data* tab.
4. In the *Sales Data* section, select  (*Create*).
5. A new window opens. Click  (*Create*).
6. *Search and Add Sales Organization, Distribution Channel, Division, Sales Office, Sales Group*, and other desired fields.
7. The system saves the changes automatically. Navigate *Back* to the sales data section. You can see the updated information.

## 14.5 Customer Insights

Customer Insights is the interpretation of customer data and feedback to draw conclusions. It gives an overview of a sales account and its interactions and activities with the sales team. It integrates data for the account from different business entities that can help sales representatives understand the account and provide a personalized and targeted sales experience.



## 14.5.1 Enable Customer Insights

Enable customer insights to be able to view key metrics, highlights, and timeline in the account detail page.

Administrators must create business roles and assign business users to necessary business services to view customer insights in account details.

- Add the following business services to the administrator role:
  - insightsService to activate customer insights
  - insightsHighlightsService to view highlights
  - Signal to view signals
- Enable the following apps for the administrator role:
  - sap.crm.insightsserviceservice.uiapp.insights
  - sap.crm.insightsserviceservice.uiapp.insightsAdminApp

## Related Information

[Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

## 14.5.2 Configure Customer Insights

Administrators can configure Customer Insights to get an overview of a sales account.

### 14.5.2.1 Create Custom Key Metrics

Create custom key metrics in account detail page.

In addition to standard Key Metrics, admins can define their own custom metrics using generic iFlows and bring in key insights from the third party system into Accounts. When you create a custom metric, you must select Name, Chart Title, Chart Type, Communication systems, Path, and Navigation URL.

Bar, Column, Pie, and Indicator chart types are available while creating custom metrics.

Maintain the recommended iFlow response for the chart types.

- Indicator

To render Indicator chart, the iFlow response must be in the following format:

#### Sample Code

```
{
 "total": 65.2,
 "totalDescription": "%"
}
```

- Bar, Column, or Pie

To render Bar, Column, or Pie chart, the iFlow response must be in the following format:

#### Sample Code

```
{
 "total": 34.0,
 "data": [
 {
 "name": "Incomplete data",
 "y": 6
 },
 {
 "name": "Credit blocks",
 "y": 18
 },
 {
 "name": "Billing blocks",
 "y": 10
 }
]
}
```

To render Pie chart with currency notation, the iFlow response must be in the following format:

#### Sample Code

```
{
 "total": 7200.0,
 "currency": "USD",
 "data": [
 {
 "name": "In Process",
 "y": 1
 },
 {
 "name": "Open",
 "y": 2
 }
]
}
```

## Procedure

### Note

Before you create a custom metric, ensure that you have set up the communication system and verified that the APIs work as per the required response structure as per the desired key metric chart type.

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Customer Insights** > **Key Metrics** and choose **+ (Create)**.
2. In the **Create New Key Metric** popup, enter all the details for the custom metric.

### Note

In the **Navigation URL** tab, you can add the following supported parameters to the navigation URLs:

- ACCOUNT\_ID {accountId}
- ACCOUNT\_DISPLAY\_ID {accountDisplayId}
- ACCOUNT\_NAME {accountName}
- LANGUAGE {language}
- EXTERNAL\_ID {externalId}

3. You can change the visibility of the custom metric and save.

### Note

You can create a maximum of five custom key metrics.

## 14.5.2.2 Configure Highlights

You can choose the highlights that are displayed on the entity details view.

### Prerequisites

You must define Fiscal Year. For more information, see the Related Information section.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Customer Insights](#) ► [Highlights](#) ►.
2. In the [Highlights](#) tab, use the switch to enable or disable the required highlights.
3. You can select the timeframe for displaying Appointments, Opportunities, and Expiring Quotes.  
To use preset default values for all the highlight settings, you can select [Use Default Values](#).
4. You can select the number of top-ranked signals to display.
5. Save your preferences.

### Related Information

[Language, Region, and Currency \[page 57\]](#)

Configure language, region, and currency settings for all your business users.

## 14.5.2.3 Configure Timeline Filters

You can choose the filters that are displayed in the [Timelines](#) section on the account details page.

### Context

#### ⓘ Note

[Timeline Filters](#) in Customer Insights will be deprecated in a future release. Use [Timeline Configuration](#) to configure timeline filters for Customer Insights. For now, both the features are available in the system for configuration. Configuration performed on [Timeline Configuration](#) takes precedence and the timeline filters are displayed based on the entities and events configured according to [Timeline Configuration](#). For example, if an event or entity filter is disabled in [Timeline Configuration](#), you can't enable it using [Timeline Filters](#).



## Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Customer Insights](#) ► [Timeline Filters](#) ►.
2. In the [Interaction Filters](#) tab, use the switch to enable or disable the required filters under [Accounts](#) and [Contacts](#).
3. In the [Entity Filters](#) tab, use the switch to enable or disable the required filters under [Accounts](#) and [Contacts](#).
4. Save your preferences.

## Related Information

[Configure Timeline \[page 361\]](#)

Configure the events that create a timeline update for different entities and conditions.

### 14.5.2.4 Configure Integration With SAP S/4HANA and SAP S/4HANA Cloud

As an administrator, you must configure the integration with SAP S/4HANA and SAP S/4HANA Cloud to surface the data for invoices, contracts, purchase orders, and credit limit in Customer Insights.

## Prerequisites

The following communication scenarios must be set up for SAP S/4HANA Cloud:

- Billing Integration (SAP\_COM\_0120)
- Sales Contract Integration (SAP\_COM\_0119)
- Finance - Credit Management Integration (SAP\_COM\_0173)
- Finance - Accounting Analytics Integration (SAP\_COM\_0303)
- Purchase Order Integration (SAP\_COM\_0053)

For more information, see [Extend and Integrate Your SAP S/4HANA Cloud](#).

The following configurations must be set up for SAP S/4HANA:

- creditmanagementaccountbyidqu1 web service
- OData Service APIs:
  - API\_OPLACCTGDOCITEMCUBE\_SRV
  - API\_BILLING\_DOCUMENT\_SRV
  - API\_SALES\_CONTRACT\_SRV
  - API\_PURCHASEORDER\_PROCESS\_SRV OData APIs

For more information, see [Activating OData Services for Individual Apps](#).

- SAP Cloud Connector to expose the APIs (recommended)  
To allow browser navigation from Customer Insights to SAP S/4HANA, SAP S/4HANA must be publicly available on the Internet.

## Context

Configure the integration package to import and deploy iFlows and assign the AuthGroup.IntegrationDeveloper role in your tenant.

## Procedure

1. Log in to SAP Cloud Integration.
2. Choose the package Sales Cloud Version 2 - Customer Insights Integration with SAP S/4HANA.
3. Select [Artifacts](#).
4. Click the [Action](#) icon for the selected iFlow and click [Configure](#).
5. Enter the following parameters:

| Parameter | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Address   | <p>SAP S/4HANA Cloud API URL</p> <div> <p><b>Note</b></p> <p>For SAP S/4HANA Cloud API URL, the address must be <a href="#">https</a>.</p> </div> <p>For SAP S/4HANA, the address is the API exposed using the SAP Cloud Connector.</p> <div> <p><b>Note</b></p> <p>For SAP S/4HANA, the address must be <a href="#">http</a>. Proxy Type On Premise is not supported for <a href="#">https</a> end points.</p> </div> <p>For credit account (Request Credit Account Data from SAP Business Suite) iFlow, the address must be <a href="#">sap/bc/srt/scs/sap</a> and not <a href="#">sap/bc/srt/scs_ext/sap</a> for on-premise system. The client number must be maintained for on-premise system.</p> <div> <p><b>Example</b></p> <p><code>http://&lt;hostname&gt;/sap/bc/srt/scs/sap/creditmanagementaccountbyidqu1?sap-client=&lt;client_number&gt;</code></p> </div> |

| Parameter                                                                                       | Description                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                 | For the Request Billing Document PDF from SAP Business Suite - Classic OM iFlow, the prefilled Receiver URL must be similar to the following: <b>http://&lt;hostname&gt;port/sap/bc/srt/scs/sap/salesdocumentprintpreviewquery?sap-client=300</b> |
| <b>Authentication</b>                                                                           | Appropriate authentication protocol<br>The recommended value is <b>Client Certificate</b> .                                                                                                                                                       |
| <b>Credential Name</b>                                                                          | Name of the credential created                                                                                                                                                                                                                    |
| <b>Query Options</b>                                                                            | Custom Query Options field to add an additional filter to the OData call.<br><br><div> ❖ Example<br/> sap-client=300 </div>                                                                                                                       |
| <b>Number of Days (for <i>Sales Contracts</i>, <i>Purchase Orders</i>, and <i>Invoices</i>)</b> | Documents created within the past specified number of days from today.                                                                                                                                                                            |

After configuring the package, complete the connectivity from the *Customer Insights Administration* work center view.

1. You must set up the communication system and configuration communication before you proceed with the integration.
2. Create a communication system with host and authentication of your integration tenant. For more info, see [Create Communication Systems \[page 908\]](#)
3. Create a communication configuration for the communication system that you created in the previous step.
4. Copy the communication configuration **Integrate Customer Insights with SAP S/4HANA** from SAP delivered communication configurations and select the communication system that you created in step a and activate it.

#### ❗ Note

You can test the configurations under HTTP data section to verify the connection is established.

6. Navigate to ► *User Menu* ► *System Settings* ► *All Settings* ► *Customer Insights* ► *Integration Settings* ►.
7. Enter the *SAP S/4HANA Cloud Front-End (Fiori) URL*.

#### ❗ Note

For SAP S/4HANA Cloud, the URL should be of the format <https://myXXXXXX.s4hana.ondemand.com>. The URL for the SAP S/4HANA on-premise front-end depends on how it has been exposed publicly on the Internet.

Now, the user can maintain the entire link (both the host as well as the suffix). To do so, navigate to ► *User Menu* ► *Settings* ► *All Settings* ► *Integration* ► *External Link* ►. For more information, see the related links section.

To maintain external links, navigation to SAP S/4HANA is supported only from Purchase Orders and Sales Contracts.

To allow browser navigation from Customer Insights to SAP S/4HANA, the linked UI must be accessible to the C4C user.

From the dropdown, the user can select and maintain the External Object and the Communication System. The user can maintain the link under the "Link" section.

8. Save your changes.

Configure communication between SAP Sales Cloud Version 2 and the application you are integrating it with. For more information, see the related links section.

## Related Information

### [Create Communication Configurations \[page 913\]](#)

Create communication configurations for the integration between SAP Service Cloud Version 2 and external applications.

### [Create External Links \[page 919\]](#)

Create links to the objects in the external systems.

## 14.5.2.5 Configure Key Metrics

You can choose the key metrics that are displayed on the account details page using the [Start Adaptation](#) option from the [User Menu](#). You can add, hide, show, and reorder key metrics.

## Related Information

### [Manage Fields \[page 80\]](#)

Add, hide, and reorder fields.

### [Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

## 14.5.2.6 Custom Highlights

As an administrator, you can customize the activities displayed in the Highlights section.

### Context

You can configure and customize the activities ([Appointments](#), [Opportunities](#), [Expiring Quotes](#), [Leads](#), [Cases](#), [Overdue Invoices](#), and [Signals](#)) displayed in the highlights section of the feature. You can also configure the timeframes for displaying information in the highlights to view activities that are relevant for specific time periods.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Customer Insights](#) ► [Custom Highlights](#) ►.
2. Click [+](#) ([Create](#)).
3. Enter a [Title](#) for the highlight.
4. From the dropdown, select the [Entity](#) for which you need the highlight to be displayed.
5. From the dropdown, select the corresponding [Filter](#).

#### Note

As a prerequisite, you need to have created and saved an advanced filter.

6. Click [Save and Activate](#).

The custom highlight will appear in the [Highlights](#) section of the [Accounts](#) detail page.

### Related Information

[Configure Customer Insights \[page 310\]](#)

Administrators can configure Customer Insights to get an overview of a sales account.

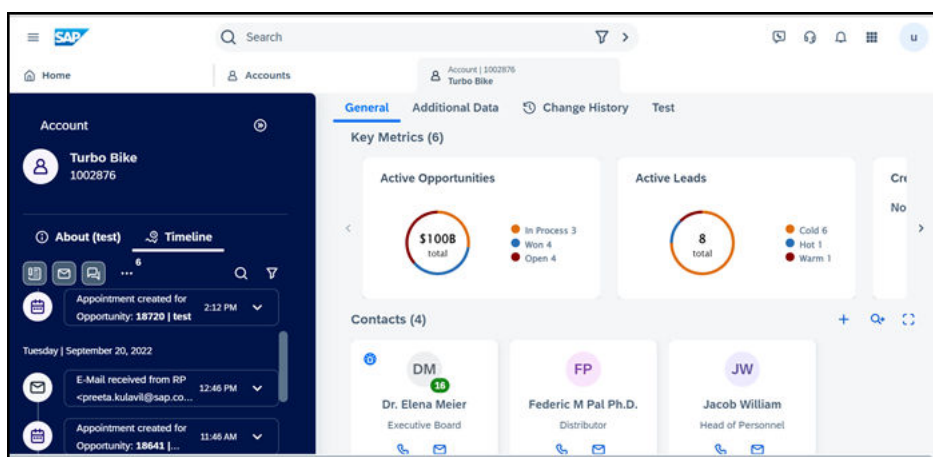
[Create and Organize Filters \[page 81\]](#)

As an administrator, you can define filters that end users often use. This makes it easy for them to find the information they need quickly.

## 14.5.3 View Customer Insights

View customer insights inside the account details page.

The account details screen displays Customer Insights that help you, as a sales representative, to thrive in the digital-sales era by surfacing relevant insights and recommending actions to fully leverage growth opportunities and provide an enhanced customer experience.



You can view the following sections as a part of customer insights:

- **Key Metrics** The following key metrics are available:
  - Active Leads
  - Active Opportunities
  - Active Sales Quotes
  - Credit Limit Usage
  - Recent Invoices
  - Purchase Orders
  - Contracts
  - Open Cases
  - Activities
  - Active Sales Orders

Clicking on any of the metrics opens a detailed view of the metric. You can choose the key metrics that you need on the account details page.

- **Highlights**  
Summary of activities such as appointments, expiring quotes, leads, cases, top-ranked signals from external systems and so on. You can navigate to cases and appointments from highlights. You can choose the highlights and configure the timeframes to display the information in highlights.
- **Timeline**  
Displays customer's interaction in the order of their occurrence for a selected time period. The date filter allows to filter timeline events for specific time periods such as:
  - [Current Week](#)
  - [Last 30 Days](#)
  - [Last 6 Months](#)
  - [Last Year](#)

- [All Time](#)

You can also filter timeline based on interaction and entity types.

The following interactions are available:

- Phone Calls
- Emails
- Chats
- Tasks
- Appointments

The following entities are available:

- Cases
- Opportunities
- Leads
- Sales Quotes

You can choose filters that you want to display in the timeline.

## Data Source for Key Metrics

The service taps seamlessly into data from SAP Sales Cloud, SAP S/4HANA Cloud, Commerce Cloud, and other third party applications and data sources.

The key metrics are obtained from the following data sources.

Integration

| Key Metrics          | Data Source                                            | Descriptions                                                                                                         |
|----------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Active Leads         | <a href="#">Leads</a>                                  | Leads which are mapped to internal statuses <a href="#">Open</a> or <a href="#">Accepted</a> .                       |
| Active Opportunities | <a href="#">Guided Selling</a>                         | Total revenue of all the open opportunities or active opportunities.                                                 |
| Active Sales Quotes  | <a href="#">Sales Quotes</a>                           | Sales quotes that have the status <a href="#">Open</a> , <a href="#">In Process</a> or <a href="#">Pending</a> .     |
| Recent Invoices      | <a href="#">SAP S/4HANA Invoicing</a>                  | Recent invoices that you can download in PDF format.                                                                 |
| Credit Limit Usage   | <a href="#">SAP S/4 HANA Credit Limit</a>              | Information on credit limit, exposure amount and usage.                                                              |
| Contracts            | <a href="#">SAP S/4 HANA Sales Contract Management</a> | The total number of expiring contracts.                                                                              |
| Purchase Orders      | <a href="#">SAP S/4HANA Purchase Orders</a>            | A list of all purchase orders.                                                                                       |
| Cases                | <a href="#">Cases</a>                                  | A list of all open cases that are mapped to lifecycle statuses <a href="#">Open</a> and <a href="#">In Process</a> . |

| Key Metrics         | Data Source                  | Descriptions                                                                                                                                                                                                                                                                                                                             |
|---------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Active Sales Orders | <a href="#">Sales Orders</a> | Total order value of sales orders with the status <i>Open</i> and <i>In Process</i> for the account, the number of sales orders in the respective status, and the number of overdue sales orders.                                                                                                                                        |
| Activities          | <a href="#">Activities</a>   | <p>For <i>Tasks</i>: Activities with a due date and that have the status <i>Open</i> or <i>In Process</i>.</p> <p>For <i>Visits</i> and <i>Appointments</i>: Activities started and that have the status <i>Open</i> or <i>In Process</i>.</p> <p>For <i>Phone Calls</i> and <i>Emails</i>: Activities that are started and created.</p> |

In addition, you can also integrate external systems such as SAP Commerce Cloud via REST API call and provide relevant signals to Customer Insights.

## Related Information

### [Configure Key Metrics \[page 316\]](#)

You can choose the key metrics that are displayed on the account details page using the *Start Adaptation* option from the *User Menu*. You can add, hide, show, and reorder key metrics.

### [Configure Timeline Filters \[page 312\]](#)

You can choose the filters that are displayed in the *Timelines* section on the account details page.

### [Configure Highlights \[page 312\]](#)

You can choose the highlights that are displayed on the entity details view.

### [Integration \[page 904\]](#)

Configure settings for integrating SAP Service Cloud Version 2 with other SAP solutions.

### [Signal Service API \[page 320\]](#)

Integrate external systems via REST API call and provide relevant signals to Customer Insights.

## 14.5.3.1 Signal Service API

Integrate external systems via REST API call and provide relevant signals to Customer Insights.

Customer Insights service exposes APIs to receive signals from external systems. You can call the API from any external system that provides signals, such as the SAP Commerce Cloud system. An authentication call must be made to retrieve a token to call the Signal Service API.

Basic authentication (username and password) is used for retrieving the token and the user needs to be a valid technical user managed in SAP Sales Cloud Version 2.



**Authentication:** The API uses the token received from the Authentication API. To retrieve a token, make a call to the following URL.

<tenant\_host\_name>/sap/c4c/api/v1/iam-service/token

#### ❖ Example

https://ns-staging.cxm-salescloud.com/sap/c4c/api/v1/iam-service/token

#### 📘 Note

You must use the IAM service to get a token to call the API.

#### Request URL:

After authentication, send the signal as a POST request to the following URL.

<tenant\_host\_name>/sap/c4c/api/v1/insights-signals-service/signals with the following request header parameters.

#### ❖ Example

https://sales2.vlab.crm.cloud.sap/sap/c4c/api/v1/insights-signals-service/signals

#### Request Header Parameters:

- Content-Type: application/json
- x-sap-crm-token: The value of the token obtained from the authentication

**HTTP Method:** POST

**Request Attributes:** The signal must be sent in JSON format.

The following is a sample payload:

#### Generic Signal

For the ACCOUNT objectType, you can create signal in the following ways:

- **With Contact Email:** Based on the contact email, the system fetches account uuid and adds inside the object section when you get response.

```
{
 "signalType" : "genericSignal",
 "object" : {
 "objectType" : "ACCOUNT"
 },
 "score": 20,
 "message" : "Entered Gold Segment",
 "source" : {
 "url" : "https://www.bing.com/",
 "event" : "SegmentChanged",
 "createdOn" : "2023-04-3T06:09:34.078+00:00"
 },
 "person": {
 "email": "elena.meier@turbobike.com"
 }
}
```

- **With Account UUID:** Create signal with UUID of the account.

The following is an example of a generic signal JSON when you have account UUID:

```
{
 "signalType" : "genericSignal",
 "object" : {
 "objectType" : "ACCOUNT",
 "id": "11ed27c1-94f3-348e-afdb-8191ae010a00"
 },
 "score": 66,
 "message" : "Entered Gold Segment",
 "source" : {
 "url" : "https://www.bing.com/",
 "event" : "SegmentChanged",
 "createdOn" : "2023-04-3T06:09:34.078+00:00"
 }
}
```

- **With Display ID:** You can create a signal if you have the display ID of the account. The following is an example of generic signal JSON using displayId:

```
{
 "signalType" : "genericSignal",
 "object" : {
 "objectType" : "ACCOUNT",
 "displayId": "1000313"
 },
 "score": 20,
 "message" : "Entered Gold Segment",
 "source" : {
 "url" : "https://www.bing.com/",
 "event" : "SegmentChanged",
 "createdOn" : "2023-04-3T06:09:34.078+00:00"
 }
}
```

For the LEAD objectType, you can create signal in the following ways:

- **With Lead UUID:** Create signal with UUID of the lead.  
The following is an example of a generic signal JSON when you have lead UUID:

```
{
 "signalType" : "genericSignal",
 "object" : {
 "objectType" : "LEAD",
 "id": "d4bbe729-8a8d-11ee-99db-252809f5bc4d"
 },
 "message" : "Generic Lead Signal by uuid",
 "score" : 10.0,
 "source" : {
 "url" : "https://sap.com/",
 "event" : "SegmentChanged",
 "createdOn": "2024-01-06T06:09:34.078+00:00",
 "validUntil": "2024-02-06T06:09:34.078+00:00"
 }
}
```

- **With Display ID:** You can create a signal if you have the display ID of the lead. The following is an example of generic signal JSON using displayId:

```
{
 "signalType" : "genericSignal",
 "object" : {
 "objectType" : "LEAD",
 "displayId": "70856"
 },
}
```

```

 "message" : "Generic Lead Signal - by display ID",
 "score" : 8.0,
 "source" : {
 "url" : "https://sap.com/",
 "event" : "SegmentChanged",
 "createdOn": "2024-01-06T06:09:34.078+00:00",
 "validUntil": "2024-02-06T06:09:34.078+00:00"
 }
}

```

#### Attributes

| Attributes         | Description                                                                                                                                                                                                                                                                                                                                                |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| objectType         | While creating signal in the payload, the object type is mentioned for which signal must be created. For example, for Account signals, objectType is ACCOUNT, and for Lead signals, objectType is LEAD.                                                                                                                                                    |
| id (inside object) | This is the ID of the object. For objectType ACCOUNT, the ID would be account UUID, and for objectType LEAD, the ID would be lead UUID.                                                                                                                                                                                                                    |
| displayId          | This is the display ID of the object, for objectType ACCOUNT. You can get this ID from the List page of account or account detail page. For objectType LEAD, you can get the display ID from the List page of lead or lead detail page.                                                                                                                    |
| message            | This is the message for the signals which contains information of the signals. The same message will be displayed in the highlights section.                                                                                                                                                                                                               |
| signalType         | Type of signal<br><br>Supported signal type is Generic Signal                                                                                                                                                                                                                                                                                              |
| url                | If you provide the URL at the time of creation of signals, then that signal in highlights will be clickable.<br><br>This is useful when you want to store the information of the signal along with URL related to that signal.                                                                                                                             |
| eventType          | Generic Signals support <i>most</i> event types.                                                                                                                                                                                                                                                                                                           |
| createdOn          | Date when the signal was generated.                                                                                                                                                                                                                                                                                                                        |
| total              | Cart value in the corresponding currency in the abandoned cart.                                                                                                                                                                                                                                                                                            |
| validUntil         | This is the date until which the signal is valid. If not maintained, the system calculates valid until date as current date + 90 days.                                                                                                                                                                                                                     |
| score              | The score signifies the importance or weightage of a signal.<br><br>For example, there are 10 signals for an account and you want to display the top 3 signals. The top 3 signals will be selected based on the score and the creation date.<br><br>If score is not maintained, the top signals will be selected based on hug rank of account and contact. |

## 14.6 Account Insights

Account Insights provides valuable data on account, past interactions, and product preferences. Use it to tailor marketing strategies, improve customer experience, and drive sales.

You can view the following insights in the Account Insights tab:

- Account Synopsis
- Interaction Insights
- Product Insights

### Note

All functions are currently based only on opportunities, not sales orders.

### Note

This feature is available only for the sales tenant.

#### [Configure Account Insights \[page 324\]](#)

As an administrator, you can configure the visibility of different insights sections.

#### [Account Synopsis \[page 325\]](#)

Account Synopsis provides all the information related to an account that helps the service agents.

#### [Interaction Insights \[page 326\]](#)

Interaction Insights provides valuable metrics to analyze customer interactions and engagement trends.

#### [Product Insights \[page 327\]](#)

Product Insights provides a comprehensive analysis of product performance based on historical sales data. It enables sales teams and business analysts to track the most frequently sold products and monitor revenue trends throughout the year.

### 14.6.1 Configure Account Insights

As an administrator, you can configure the visibility of different insights sections.

#### Procedure

1. Go to ► [User Menu](#) ► [Settings](#) ► [All Settings](#) ► [Customer Insights](#) ► [Accounts Insights](#) ►.
2. In the [Accounts Insights](#) tab, enable the required insights.
3. Save the changes.

**Task overview:** [Account Insights \[page 324\]](#)

## Related Information

[Account Synopsis \[page 325\]](#)

Account Synopsis provides all the information related to an account that helps the service agents.

[Interaction Insights \[page 326\]](#)

Interaction Insights provides valuable metrics to analyze customer interactions and engagement trends.

[Product Insights \[page 327\]](#)

Product Insights provides a comprehensive analysis of product performance based on historical sales data. It enables sales teams and business analysts to track the most frequently sold products and monitor revenue trends throughout the year.

[Account Synopsis \[page 638\]](#)

Account Synopsis provides all the information related to an account that helps the service agents.

## 14.6.2 Account Synopsis

Account Synopsis provides all the information related to an account that helps the service agents.

### Configure Account Summary

1. As an administrator, navigate to **User Menu** > **System Settings** > **All Settings** > **AI Configuration** > **Generative AI** > **Account Summary**.
2. To activate account summary, enable **Activate Account Summary**, and accept **Acknowledgment**.
3. In the **Configure** section, you can enable the following aspects of accounts that you want to display in the **AI Synopsis** tab within accounts:
  - Overall Information
  - Business Overview
  - Typical Customers
  - Competitive Landscape
  - Culture and Background
  - Business Strategies
4. Save the changes.

### View Account Summary

1. From the Navigation Menu, search for **Accounts**.
2. In the worklist of the accounts view, select the account name and then click  (**Open in Detail View**).
3. Select the **AI Synopsis** tab to view the AI-generated summary.

Parent topic: [Account Insights \[page 324\]](#)

## Related Information

[Configure Account Insights \[page 324\]](#)

As an administrator, you can configure the visibility of different insights sections.

[Interaction Insights \[page 326\]](#)

Interaction Insights provides valuable metrics to analyze customer interactions and engagement trends.

[Product Insights \[page 327\]](#)

Product Insights provides a comprehensive analysis of product performance based on historical sales data. It enables sales teams and business analysts to track the most frequently sold products and monitor revenue trends throughout the year.

## 14.6.3 Interaction Insights

Interaction Insights provides valuable metrics to analyze customer interactions and engagement trends.

Interaction insights shows the following metrics:

- Overall Sentiment – View sentiment trends based on business interactions intelligence over the last six months. The graph provides a comprehensive overview of sentiment analysis for an account, displaying five sentiment levels which include Strong Negative, Weak Negative, Neutral, Weak Positive, and Strong Positive, considering interactions with following entities:
  - Opportunity (70% weightage)
  - Lead (30% weightage)

### Note

Sentiment data is displayed only if Business Interaction Intelligence is enabled. If not, the system will show **No data available**.

- Last Interaction Days - View insights into interactions recorded over the last six months from the current date and converted into days. This graph provides a trend analysis of appointments, emails, phone calls, and visits, focusing on the most recent interactions with completed status for appointments and visits. As an administrator, you must enable the following services to activate this insights to the business users:
  - sap.crm.service.appointmentService
  - sap.crm.appointmentService.uiapp.Appointment
  - sap.crm.service.emailService
  - sap.crm.emailService.uiapp.emailInteraction
  - sap.crm.service.phoneService
  - sap.crm.phoneservice.uiapp.Phone
  - sap.crm.service.visitService
  - sap.crm.visitService.uiapp.visitApp

Parent topic: [Account Insights \[page 324\]](#)

## Related Information

[Configure Account Insights \[page 324\]](#)

As an administrator, you can configure the visibility of different insights sections.

[Account Synopsis \[page 325\]](#)

Account Synopsis provides all the information related to an account that helps the service agents.

[Product Insights \[page 327\]](#)

Product Insights provides a comprehensive analysis of product performance based on historical sales data. It enables sales teams and business analysts to track the most frequently sold products and monitor revenue trends throughout the year.

## 14.6.4 Product Insights

Product Insights provides a comprehensive analysis of product performance based on historical sales data. It enables sales teams and business analysts to track the most frequently sold products and monitor revenue trends throughout the year.

- **Best Selling Products** - View the three highest-selling products from won opportunities in the past six months to quickly identify sales trends.
- **Year-to-Date (YTD) Revenue**- View total revenue earned from won opportunities from January 1st to the current date. This provides insights into revenue trends, enabling better financial tracking and forecasting.

### Note

Revenue is displayed in your currency. If it is unavailable, the currency of the first recorded opportunity is used.

As an administrator, you must enable the following services to activate these insights to the business users:

- sap. crm. service. opportunityService
- sap. crm. guidedsellingservice. uiapp. guidedSelling

Parent topic: [Account Insights \[page 324\]](#)

## Related Information

[Configure Account Insights \[page 324\]](#)

As an administrator, you can configure the visibility of different insights sections.

[Account Synopsis \[page 325\]](#)

Account Synopsis provides all the information related to an account that helps the service agents.

[Interaction Insights \[page 326\]](#)

Interaction Insights provides valuable metrics to analyze customer interactions and engagement trends.



# 15 Contacts

Use contacts to represent the relationship between contacts and accounts. Contacts can be maintained only for corporate accounts.

## 📘 Note

All accounts, customers, employees, contacts, partners, and competitors are considered as business partners in the system.

Contacts are persons that have a relationship with a corporate account and may be involved in business processes like activities, orders, opportunities, and so on. You can maintain the details for contacts by creating a contact or using the relation between a contact and an account. You can define a contact as sales area dependent and assign them to multiple accounts.

You can view LinkedIn profiles for contacts within the application. For this, you must ensure that the [Enable LinkedIn Sales Navigator](#) option is checked under [Communication & Information Exchange](#) in [Settings](#).

Additionally, use contacts to:

- Present a 360° view of the relationship that your organization has with a specific contact
- Set a status for a contact. For example, you can set a contact to [Active](#) or you can [Block](#) a contact.

## 15.1 Configure Contacts

As an administrator, you can configure basic contact data.

Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Contacts](#) ►, and maintain the following configuration for your business requirements:

- Departments
- Functions
- VIP Contacts

## 15.1.1 Configure Timeline Filters

You can choose the filters that are displayed in the [Timelines](#) section on the contact detail view page.

### Procedure

1. Navigate to [Settings](#) > [All Settings](#) > [Customer Insights](#) > [Timeline Filters](#).
2. In the [Interaction Filters](#) tab, use the switch to enable or disable the required filters under [Contacts](#).
3. In the [Entity Filters](#) tab, use the switch to enable or disable the required filters under [Contacts](#).
4. Save your preferences.

## 15.2 Create Contacts

Find out how to create a contact.

### Procedure

1. From the [Navigation Menu](#), search for [Contacts](#).
2. Choose [+ \(Create\)](#).
3. Enter all the desired fields.
4. Choose [Save](#).

#### Note

You can see the [Communication Details](#), [Address](#), and [General](#) contact information of a contact in its detailed view under the [\(About\)](#) info icon in the left panel.

### 15.2.1 View LinkedIn Profiles for Contacts

You can view LinkedIn profiles of contacts.

Ensure that the [Enable LinkedIn Sales Navigator](#) option is checked under [Communication & Information Exchange](#) in [Settings](#).

1. From the [Navigation Menu](#), search for [Contacts](#).
2. In the worklist of the contacts view, select the [Contact Name](#) and [\(Open in Detailed View\)](#).

3. Go to [Sales Navigator](#) under [General](#) to view matching profiles for your contact.
4. Select [Match](#) on the right profile.  
Sales Navigator displays the profile information for the contact.

#### Note

If you think the selected profile for the contact is not correct, you can select [Not the right person?](#) to choose another profile on LinkedIn.

## 15.3 Maintain Attachments

As an administrator, you can upload, view, delete, and download attachments.

### 15.3.1 Upload Attachments From Your Computer

Here is a guide on importing attachments from your front-end system.

#### Procedure

1. Go to  [Navigation Menu](#)  [Contacts](#) .
2. In the worklist of the contacts view, select the [Contact Name](#) and  ([Open in Detailed View](#)).
3. Under the [General](#) tab, in the [Attachments](#) section, select  ([Drop or Browse Files](#)).
4. Select the file from your computer you want to upload and click [Open](#).
5. From the dropdown, select the [Attachment Type](#).
6. Click [Upload](#).

#### Note

You can upload multiple files at the same time.

To download attachments, select the attachment and click  ([Download](#)).

Click  ([Delete](#)) to delete an attachment.

## 15.3.2 Add Attachments From SAP System

You can add attachments from your SAP system by following these steps.

### Procedure

1. Go to ► *Navigation Menu* ► *Contacts* ► (👤).
2. In the worklist of the contacts view, select the *Contact Name* and  (*Open in Detailed View*).
3. Under the *General* tab, in the *Attachments* section, select + (*Add*).
4. Click  (*Add From Library*).

#### Note

To add a link, select  (*Add Link*) and provide the link in the *Link* field. Click *Save*. You also can provide a title for this link.

5. Choose the documents you want to add and click *Add*.
6. You can view the attachments in the *Attachments* section.

## 15.4 View and Manage Related Accounts

View and add related accounts for a contact.

### Procedure

1. From the User Menu, select *Contacts*.
2. Select the required contact and open its detailed view page.
3. Go to the *Related Accounts* section.

You can see all the related accounts for the contact.

4. Select an account to view its details.

The account details page is displayed. You can navigate through the account details and perform account related activities.

5. To add an account to a contact, choose  (*Menu*), select the required account, and add.  
The account gets added to the *Related Accounts* list.

# 16 Competitors

You can create competitors and maintain competitor information from the [Competitors](#) work center.

Search and select [Competitors](#) from  ([Navigation Menu](#)). You can filter competitors by [Status](#). You can also use the advanced filters to narrow down your search.

## 16.1 Create Competitors

Learn how to create competitors.

### Procedure

1. Search and select [Competitors](#) from  ([Navigation Menu](#)).
2. Select  ([Create](#)) to create a new competitor.
3. Enter competitor information such as [Name](#), [Website](#), **Address**, and select the [Country/Region](#).
4. Save your changes.

# 17 Timeline

Timeline displays events that are generated by the creation and changes you make within the instance, in chronological order.

## 📘 Note

Timeline events are retained for up to three months in test tenants and up to two years in production tenants, ensuring you always have access to recent and relevant data. Events older than the specified periods are not accessible in the timeline.

All events shown in the Timeline Configuration for each subscriber are also available in the respective applications. For example, in Accounts, events appear if the **Show on Timeline** toggle is enabled. In the respective applications, you can filter events using the **Interactions**, **Entities**, and **Notes** criteria.

## 17.1 Configure Timeline

As an administrator, you can configure the events that create a timeline update for different entities.

### Context

Standard timeline events are generated within each subscriber. You can also choose which events to display in the timeline for each subscriber and enable the details view for those events.

Timeline events are retained for up to three months in test tenants and up to two years in production tenants, ensuring you always have access to recent and relevant data. Events older than the specified periods are not accessible in the timeline.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Timeline](#) ► [Timeline Configuration](#) ►
2. Select the subscriber and events listed under the subscribers, which you wanted view in the timeline.
3. Turn on [Show on Timeline](#) to view the events in timeline of respective applications.
4. Turn on [Show Details](#) to view the details of the events in the timeline.
5. Optional: Switch to [Event View](#) in the timeline configuration. Turn on or off [Event Generation](#) to control the generation of timeline events for both standard and custom events. When it is off, the system does not generate events, and it does not recover events that occurred during that time when you turn it back on.

## 17.2 Create Custom Timeline Events

Use custom timeline events to display business activities triggered by custom or external services on the timeline for supported subscribers objects.

### Prerequisites

- Create the **custom services** to receive the external inbound event data.
- Enable the **custom inbound events** for the custom services and map them to a communication system.
- Assign the custom services to the administrator's role to provide access for configuring custom timeline events.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Timeline](#) ► [Timeline Configuration](#) ►.
2. Switch to [Event View](#) in the timeline configuration.
3. Choose [New Event](#) to create custom timeline event.
4. Enter the required details:
  - a. Choose the custom service or standard entities in the Business Objects.
  - b. Enter the timeline event name.
  - c. Choose the card description.
  - d. Choose the required anchor object for which the timeline event to be created.

Anchor objects for the custom service are listed from the associated objects given in the custom service metadata.
  - e. Enter the timeline event title and put a curly bracket as a placeholder to see a list of fields available for the selected object. Only fields defined in your custom service metadata appear, and currently the system retrieves string type values and static code list only.
5. Save your changes and choose **Next**.
6. Choose the inbound event from the [Event Type](#) for which the condition needs to be defined.
7. Choose the field for which the autoflow condition needs to set.
8. Define the conditions and save your changes.
9. Choose [Activate](#) to activate the event.
10. Choose the **Subscriber Objects** available for the anchor object selected in step 4.d.
11. Save your changes.
12. Switch to [Subscriber View](#).
13. Search for the custom timeline event and turn on [Show on Timeline](#).

Add the event to the subscriber using the add icon when required. As an administrator, you must manually delete the custom timeline event before deleting the related custom services.

#### Note

- You can only create up to 30 custom timeline events.
- Once the limit is reached, the **New Event** button becomes disabled.
- In some cases, you may see fewer than 30 events, but still find the **New Event** button disabled. This happens when some events are already created for custom services that are not assigned to your role.
- Select the language in which the custom timeline event is created as the source language in Language Adaptation when adding the translation label for the target language. For static code lists in custom service metadata, update the `labelTextId` in the metadata.
- To enable availability in Language Adaptation and ensure the placeholder displays the relevant language.

## Related Information

### [Create an Entity-Based Custom Service \[page 167\]](#)

Create a custom service to integrate external functionality into the SAP Sales Cloud and SAP Service Cloud Version 2 systems without modifying the core application.

### [Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

### [Enable Custom Inbound Events \[page 922\]](#)

You must enable custom inbound events to allow your custom services to send external data into the system through secure inbound API calls.

### [Create Business Users and Assign Business Roles \[page 225\]](#)

Administrators can create business users and provide appropriate authorizations by assigning business roles.

### [Language Adaptation \[page 160\]](#)

Language adaptation customizes communication for different users, considering business and linguistic preferences. It ensures content resonates effectively, improving comprehension and engagement.

## 17.3 Send External Timeline Event from External System

To send custom timeline events from an external system to SAP Sales Cloud Version 2 and SAP Service Cloud Version 2, make a POST request to the following URL: `{{tenanturl}}/sap/c4c/api/v1/inbound-data-connector-service/events`

### Request format

The request payload will be sent through a POST call in JSON in the following format.

#### Sample Code

```
{
```



```

 "id": "f275f8c1-ab8b-4e08-bbcb-5f9f5b3c4410",
 "subject": "8fe85364-84b4-4b26-80c6-dc7898059c01",
 "type": "customer.ssc.zjoborderservice.event.zjobborderCreate",
 "specversion": "0.2",
 "source": "614cd785fe86ec5c905b4a00",
 "time": "2025-01-23T01:10:00.180Z",
 "datacontenttype": "application/json",
 "data": {
 "currentImage": {
 "id": "8fe85364-84b4-4b26-80c6-dc7888059c91",
 "subscriptionId": "123",
 "name": "Andrew Jonas Subscription",
 "status": "ACTIVE",
 "account": {
 "id": "11ee1571-6ae8-019e-afdb-814940020a00"
 }
 }
 }
 }
}

```

#### Attributes

| Attributes | Description                                                                                                                                                                                                                       |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id         | Unique ID of the inbound event.                                                                                                                                                                                                   |
| subject    | Unique ID of instance of custom entity.                                                                                                                                                                                           |
| type       | Custom service and event name. <code>customer.ssc.{{customservicenameinlowercase}}.event.{{customeventname}} </code>                                                                                                              |
| source     | ID of the external system sending the event.                                                                                                                                                                                      |
| data       | Contains data sent from the external system based on the custom service metadata. The payload must include the associated ID from SAP Sales Cloud Version 2 and SAP Service Cloud Version 2 for the timeline event to be created. |

#### 📘 Note

ID mapping must be managed externally, outside of SAP Sales Cloud Version 2 and SAP Service Cloud Version 2

## Related Information

[Monitor Events \[page 907\]](#)

Learn how to monitor the events you've subscribed for.

## 17.4 View Custom Timeline Events

Once an event is generated in the external application and sent to SAP Sales Cloud Version 2 and SAP Service Cloud Version 2, the custom timeline event appears in the timeline section of the subscriber entity based on the defined autoflow conditions.

### Procedure

1. From the home page, expand the **Navigation Menu** and go to the business entity where you want to view the timeline event.
2. Choose the specific instance.
3. Check the timeline to view the new custom event received from the external system.
4. Optional: Choose the hyperlink in the custom timeline event to open the linked content. The content opens in a new browser tab or quick view, based on the configuration defined in [User Menu](#) > [System Settings](#) > [All Settings](#) > [Extensibility](#) > [Custom Services](#) > [Design App](#) > [Quick View](#).

Navigation to quick view selection is based on the [Object ID](#) or [Object Display ID](#) from the metadata.

To open content in a new browser tab, configure a [URL Mashup](#) in the quick view of the [Design App](#) where **Object-Based Navigation** is enabled and the parameter is assigned to [Object ID](#) or [Object Display ID](#).

#### Note

Timeline events appear without a hyperlink when the UI view is not configured in the **Design App**, the external service is not functioning, or the custom service is not assigned to the user role.

5. Optional: Expand the custom timeline event to load and display the details from the custom service. The content opens based on the configuration defined in [User Menu](#) > [Settings](#) > [All Settings](#) > [Extensibility](#) > [Custom Services](#) > [Design App](#) > [Timeline Card](#).

#### Note

The timeline card displays the first five fields from the custom service metadata.

### Related Information

#### [Create an Entity-Based Custom Service \[page 167\]](#)

Create a custom service to integrate external functionality into the SAP Sales Cloud and SAP Service Cloud Version 2 systems without modifying the core application.

#### [Create URL Mashups \[page 151\]](#)

As an administrator, you can create URL mashups to send data from SAP Sales Cloud and SAP Service Cloud Version 2 to a web service provider's URL. The results are displayed on the provider's website in a new browser window.

# 18 Agent Desktop

Customer service agents can use the agent desktop to work on several business processes and communication items simultaneously.

The agent desktop is the central work environment for an agent in SAP Service Cloud Version 2. Agent desktop enables service agents to engage with customers efficiently across multiple communication channels. Includes supporting tools like automatic customer identification and search, detailed customer information, knowledge base integration, and case creation.

SAP Service Cloud Version 2 provides an integrated, cloud-based communication stack allowing multisession communication with customers in real time.

## 📘 Note

A third-party communication system provider is required for communication channels. Contracting a communication system provider, including all costs incurred by using the provider services, is your responsibility. These contracts and charges aren't part of SAP Service Cloud Version 2. The availability of the inbound and outbound call functionality depends on the services that your provider supports.

## 18.1 Configure Agent Desktop

Administrators can configure agent desktop in [Settings](#).

Find [Settings](#) in the user profile menu at the top of the screen.

## → Tip

Expand a collapsible section heading to view the configuration steps.

### 18.1.1 Configure General Settings

Enable automatic activity creation and open agent desktop automatically when a service agent accepts an incoming interaction.

## Context

You can configure the solution to automatically create activity entities for either incoming or outbound interactions, or for both. This screen is also where you enable agent desktop to open automatically upon accepting an incoming interaction.

## Procedure

1. Go to your user profile and select ► [System Settings](#) ► [Agent Desktop](#) ► [General Settings](#) ►.
2. Select the checkbox to enable one or more of these options:
  - [Create Activity from Interaction - Inbound](#) Create an activity record for each incoming interaction automatically.
  - [Create Activity from Interaction - Outbound](#) Create an activity record for each outgoing interaction automatically.
  - [Open Agent Desktop](#) Open the agent desktop when an agent accepts an incoming interaction.
3. Save your changes.

## 18.1.2 Configure Timeline

Configure the events that create a timeline update for different entities and conditions.

### Context

Different entities can subscribe to timeline events so that the event generates a timeline entry for that entity.

## Procedure

1. Go to your user profile and select ► [System Settings](#) ► [Timeline](#) ► [Timeline Configuration](#) ►.
2. Select [Event View](#) to list all events. Expand an event to view the event status.

Check the [Timeline Event Title](#) column to see how the event appears in the timeline with placeholders for entities and parties.
3. Select [Subscriber View](#) to see events grouped by subscribing entity. Expand the subscriber to view the subscribed events.
4. Toggle event visibility in the timeline in the [Show on Timeline](#) column.
5. Save your changes.

## 18.1.3 Configure Communication Provider

Configure communication system provider and widget size.

### Prerequisites

A third-party communication system integrated with your solution. The communication system must be available as a widget or embedded frame inside the agent desktop interface. For more details, see the integration information in the related links that follow the steps.

#### Note

A third-party communication system provider is required for communication channels. Contracting a communication system provider, including all costs incurred by using the provider services, is your responsibility. These contracts and charges aren't part of SAP Service Cloud Version 2. The availability of the inbound and outbound call functionality depends on the services that your provider supports.

#### Restriction

The maximum number of communications providers is 5.

### Procedure

1. Go to your user profile and select [System Settings](#) > [Agent Desktop](#) > [Live Interaction Widget Settings](#).
2. Under [Configure Widget and Provider](#), enter the required provider details:
  - [Provider Name](#)
  - [Provider ID](#)
  - [Provider URL](#) - **URL for the communication system widget**

3. Add channels. Select the add icon (+) at the top of the table to add a new channel.

Set the parameters depending on the channel type:

Channel Parameters

| Type                   | ID                  | Identify Customer By |
|------------------------|---------------------|----------------------|
| Phone                  | (unique channel ID) | Email                |
| Chat                   | (unique channel ID) | Phone                |
| SMS                    | (unique channel ID) | Phone                |
| (Social Media Service) | (unique channel ID) | Email                |

4. Activate channel. Set the [Active](#) switch for the channel entry to on.

Interactions on a channel are only possible if the channel is active.

You can configure multiple channels of each type for your solution. For example: different phone numbers or SMS short codes with your communication provider for each support team can be configured as separate channels with unique IDs.

5. Save your changes.

## 18.1.4 Configure SAP Build Work Zone Native KB Widget Integration

Integration with the native knowledge base widget in SAP Service Cloud Version 2 requires configuration steps in both SAP Build Work Zone, advanced edition and in SAP Service Cloud Version 2.

Since you need information from both systems, open both systems in separate browser windows or tabs.

### Prerequisites

Before you start, you must have:

- Administrator access on both your SAP Build Work Zone, advanced edition and SAP Service Cloud Version 2 systems. You need to access the Administration Console in SAP Build Work Zone and the [Settings](#) screen in SAP Service Cloud Version 2.
- Uploaded a root certificate, created by a certifying authority to your SAP Service Cloud Version 2 solution. The certificate includes a public key and private key. The public key is a X509 certificate and is uploaded to SAP Build Work Zone, enabling OAuth SAML bearer assertion. Self-signed certificates cannot be used for this type of authentication.
- Knowledge base users must have the same user name and email address in both systems. The email address is used to identify the user for the authentication process.

### 18.1.4.1 Configuration on SAP Build Work Zone

Perform these two procedures to configure knowledge base integration on your SAP Build Work Zone, advanced edition system.

You'll perform additional configuration on your SAP Service Cloud Version 2 system.

## 18.1.4.1.1 Configure SAML Trusted IDP

Use the SAP Build Work Zone Administration Console to register your SAML Trusted IDP.

### Procedure

1. Log on to your SAP Build Work Zone, advanced edition tenant as an administrator, and navigate to the [Administration Console](#).
2. Select [SAML Trusted IDP](#).
3. Choose [Register your SAML Trusted IDP](#).
4. Enter the [IDP ID](#). Supply your SAP Service Cloud Version 2 tenant without the **https://** protocol. For example: `my123456.ondemand.com`.
5. For the [Default Name ID Format](#) enter: **urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress**.
6. Enter the X509 certificate that you prepared in advance.  
You upload this certificate to your SAP Service Cloud Version 2 system in a later procedure if you haven't done so already.
7. Enter the [User attribute used for Name ID](#): **SCIM username**

## 18.1.4.1.2 Create OAuth Client

Register an oAuth client in SAP Build Work Zone for native knowledge base widget integration with SAP Service Cloud Version 2.

### Procedure

1. Log on to your SAP Build Work Zone, advanced edition tenant with an administrator user.
2. Go to: ► [Administration Console](#) ► [External Integrations](#) ► [OAuth Clients](#) ► [Add New OAuth Clients](#) ►.
3. Select [Register a new OAuth Client](#).
4. Enter the required information:
  - **Name**: Your SAP Service Cloud Version 2 without the https:// protocol. For example: `my12345.ondemand.com`
  - **Integration URL**: The URL of your SAP Service Cloud Version 2 tenant. For example: `https://my12345.ondemand.com`
5. Leave [X509 Certificate](#) blank.
6. Save the new oAuth client.

Your SAP Build Work Zone system generates a key and a secret for the new oAuth client. Copy these two codes to use later when configuring your SAP Service Cloud Version 2 tenant.

## 18.1.4.2 SAP Service Cloud Version 2 Configuration

Perform these two procedures to configure knowledge base integration on your SAP Service Cloud Version 2 system.

### 18.1.4.2.1 Create a Communication System

Set up a communication system to use your SAP Build Work Zone, advanced edition system as a knowledge base for your SAP Service Cloud Version 2 system.

#### Procedure

1. Log on to your SAP Service Cloud Version 2 system as an administrator.
2. Go to your profile menu and navigate to ► [System Settings](#) ► [Integration](#) ► [Communication Systems](#) ►.
3. Create a new communication system.
4. Enter a [Display ID](#) and [Description](#).
5. Set the direction to [Outbound](#) and the [Protocol](#) to [https](#).
6. Enter the [Host Name](#) of your SAP Build Work Zone tenant.

Find this information in your SAP Build Work Zone system: ► [Administration Console](#) ► [Overview](#) ► in the field: [DWS URL](#). Example: **system123456.workzone.cfapps.eu10.hana.ondemand.com**

7. For the authentication method, choose: [OAuth 2.0 SAML Bearer Assertion](#).
8. Enter the required information:

| Required Field | Entry                                                                                                                                                                 |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certificate    | Drag and drop or browse to upload certificate file.                                                                                                                   |
| Passphrase     | Pass phrase used to create the certificate.                                                                                                                           |
| Client ID      | Generated <b>key</b> provided when you created the oAuth client on your SAP Build Work Zone system.                                                                   |
| Client Secret  | Generated <b>secret</b> provided when you created the oAuth client on your SAP Build Work Zone system.                                                                |
| Token URL      | Enter in the format: <b>&lt;workzone tenant&gt;/api/v2/auth/token</b><br><br>Example:<br><b>system123456.workzone.cfapps.eu10.hana.ondemand.com/api/v2/auth/token</b> |



| Required Field          | Entry                                                                                                                                                                   |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Audience                | SAP Build Work Zone <i>Issuer</i><br><br>Found on the SAP Build Work Zone screen:<br> |
| Issuer                  | Domain of your SAP Service Cloud Version 2 system<br><br>Example: <b>my123456.de1.test.crm.cloud.sap</b>                                                                |
| Subject Name Identifier | EMAIL                                                                                                                                                                   |

9. [Save and Activate](#) the communication system.

## Related Information

[Create OAuth Client \[page 367\]](#)

Register an oAuth client in SAP Build Work Zone for native knowledge base widget integration with SAP Service Cloud Version 2.

## 18.1.4.2.2 Create Communication Configuration

Create a communication configuration that uses your SAP Build Work Zone, advanced edition system as a knowledge base for your SAP Service Cloud Version 2 system.

### Procedure

1. Log on to your SAP Service Cloud Version 2 system as an administrator.
2. Go to your profile menu and navigate to .
3. Copy the communication configuration *Knowledge Base Provider: SAP Build Work Zone* to create a new communication configuration.
4. Select the display ID of the communication system that you created in the previous procedure.
5. In the HTTP Data section, set the *API Path* for both items to: **/api/v1/0Data/Search?Category='kb'&\$expand=ObjectReference&SortBy='Relevance'&\$top=10**
6. Activate the communication configuration.  
Verify that there's only one active communication configuration for the communication system.

## Results

Integration with SAP Build Work Zone is now complete. Knowledge base articles are now available in the native widget in agent desktop.

### 18.1.5 Configure Knowledge Base Mashup Integration

Use a mashup to integrate a knowledge base widget with your solution.

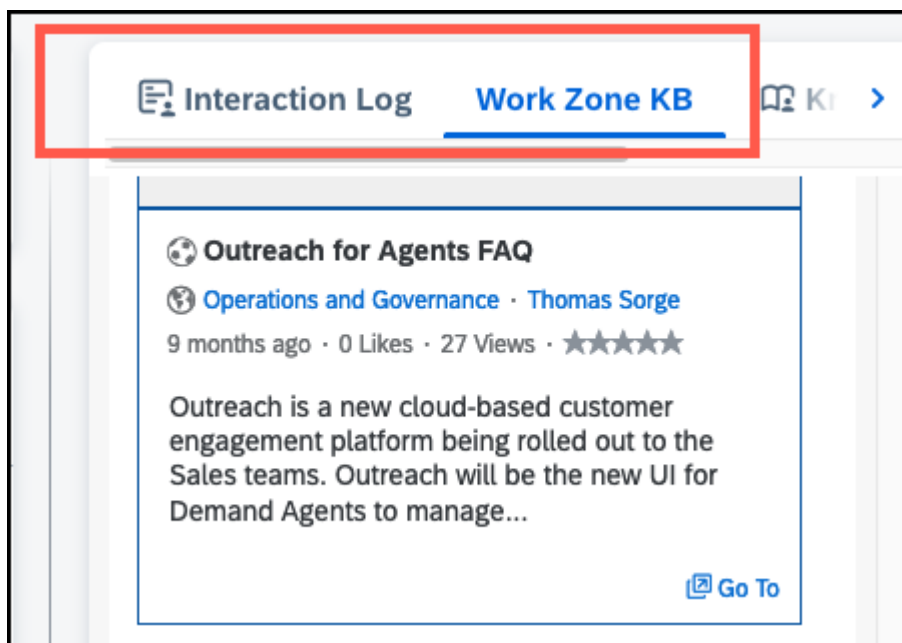
## Context

At a high level, integrating a knowledge base as a mashup involves two processes: configure a mashup, then adapt the agent desktop screen to add the mashup.

## Procedure

1. Request a widget URL from your knowledge base provider.
2. Create a mashup using the widget URL. See the Related Information section for detailed instructions on creating a mashup.
3. Adapt the agent desktop UI to add the knowledge base mashup to the screen. See the Related Information section for detailed instructions on adding a mashup as a tab.

We recommend that you add the mashup as a tab on the right-hand pane.



## Related Information

[Add Mashups as Tabs \[page 155\]](#)

As an administrator, you can add a mashup as a new tab.

## 18.1.6 Configure Knowledge Base Provider

Configure your knowledge base provider to integrate with the native widget. Widget functions include: recommended articles based on linked case or registered product, article search, a top trending article list, copy article URL, and send article as email.

### Prerequisites

Create a communication system for your knowledge base provider.

For knowledge base providers, the **outbound** protocol is **HTTPS**.

Find a link to complete details for setting up a communication system in the **Related Information** section.

### Procedure

1. Go to your user profile and select ► [System Settings](#) ► [Integration](#) ► [Communication Configuration](#) ►.
2. Search for and select one of the following :
  - [Knowledge Base Provider: NICE CXone Expert \(Mindtouch\)](#)
  - [Knowledge Base Provider: SAP Build Work Zone](#)
  - [Knowledge Base Provider: Generic](#) - all other knowledge base providers
3. Select the [Copy](#) (📄) button in the provider details screen you opened.
4. Edit the name of your new communication configuration as desired.
5. Set the two API paths under [HTTP Data](#):
  - Retrieve articles based on ...
  - Get Top Trending Articles from ...
6. Set the [Active](#) switch to on and save the configuration.

### Next Steps

Additional configuration is required if your knowledge base provider is [NICE CXone Expert \(Mindtouch\)](#).

1. Go to your user profile and select ► *System Settings* ► *Knowledge Base* ► *Provider Settings* ►.
2. Select *NICE CXone Expert (Mindtouch)* under *Knowledgebase Providers* and enter these required parameters:
  - *User* - user name for account
  - *Key*
  - *Secret*

Additional configuration is also required if your Knowledge base provider is SAP Build Work Zone. See the link in the **Related Information** section.

## Related Information

[Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

[Create Communication Configurations \[page 913\]](#)

Create communication configurations for the integration between SAP Service Cloud Version 2 and external applications.

[Configure SAP Build Work Zone Native KB Widget Integration \[page 366\]](#)

Integration with the native knowledge base widget in SAP Service Cloud Version 2 requires configuration steps in both SAP Build Work Zone, advanced edition and in SAP Service Cloud Version 2.

## 18.1.7 Configure Inbound Email Channels to Create Cases

Email messages routed to your solution can automatically generate cases that are sent to service agents for processing. You, as an administrator can add the inbound email addresses to use for case creation.

### Prerequisites

- Decide which email addresses to use for customer support. There is currently a limit of 20 channels per tenant.
- In your organization's mail server, configure email forwarding from each support address to the technical address of your SAP Service Cloud Version 2 tenant. Find the tenant technical address on the email channel settings page.

### Context

When an email message is routed to the solution, the system creates a case for the corresponding email channel according to the settings you configure for the channel. In addition, the solution can then route cases to a team or agent using routing rules you specify.

## Procedure

1. Go to your user profile and select ► [System Settings](#) ► [Email](#) ► [Channel Settings](#) ►.
2. Add a channel for each inbound support address you wish to use. Select the create icon ( + ) at the top of the [All Email Channels](#) list to create a new channel.
3. Enter the support email address for this channel and enter a display name for the channel.

You can also enter an address to send a blind carbon copy (BCC) of outbound messages you send as replies to this channel. Some organizations use this secondary address as another way to track support responses.

4. Choose [Case](#) for [Object](#).

When you choose [Case](#), the [Type](#) and [Default Account](#) fields appear.

5. Choose the case type, and the default account for this channel.

All cases created from this channel use the case type you select here. The default account is assigned to the case if the solution is unable to determine a unique account or customer based on the **from** address on the email message.

6. Select [Save](#) to save the new email channel.

The technical email address for your tenant appears on this screen once you save the channel.

7. Select [Activate](#) to set the channel to [Active](#) status.

A two-step verification process is required before the channel is activated. A message is sent to the channel email address with a verification code. A second message is sent from the verification service with a link you use to activate the channel.

Email channels only create cases from incoming messages when the channel status is set to [Active](#) and the forwarding rules are in place on your organization's mail server.

Once a channel is in [Active](#) status, you can edit all attributes of the channel, **except** the channel email address. For example, you can edit the channel name, display name, object, case type, or default account.

## Related Information

[Configure Case Routing to Employee \[page 428\]](#)

You, as an administrator, can set up rules that route cases to employees automatically.

[Configure Case Routing to Team \[page 429\]](#)

You, as an administrator, can set up rules that route cases to service teams automatically.

## 18.1.8 Create Email Templates

Email templates streamline email messaging with preset text, graphics, signatures, and attachments. Create templates for service responses, signatures, branding, and campaigns by uploading an HTML-based layout file.

### Prerequisites

Prepare an HTML template layout. You can include technical placeholders to fill in data from the object record when the template is applied in the context of an associated object. See the steps following for how to find a list of placeholders.

### Context

You can create email templates based on HTML layouts you create in your preferred HTML editor. Upload the HTML layout file and include any standard attachments for the template. You can also use placeholders to automatically pull data from associated objects in the system. For example: you can automatically fill in the customer name and ticket ID for a service response.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Email](#) ► [Templates](#) ►.
2. Add a new template. Choose + [\(Create\)](#) at the top of the [Templates](#) list to create a new template.
3. Enter a name for your new template.
4. Select a [Template Type](#):

- Response: use for service responses from your support teams.
- Signature: can include placeholders for employee information.
- Branding: create a custom brand-themed email template.
- Campaign: for newsletters and surveys.
- Approval Response Template: create a response template for approvals.
- Approval Template: create an approval request template.

The required fields for the template information vary depending on the type of template you select. Some types are only available for email channels. You can enter a description for response templates and campaign templates.

5. Select an [Object Type](#).
  - Account
  - Contact
  - Individual Customer

- Case

Object type selection is limited based on the template type. Not all objects are available for every template type.

6. Select a *Channel Type* if necessary.

The channel type defaults to *Email* for most template types.

7. Set up the formatting for your template.

Depending on the type of template and object you selected in the previous steps, some or all of the following tabs are available for working with template formatting:

- *Viewer*: Shows a preview of the template as it appears in the email editor. Placeholders are shown where relevant data is filled in once the template is applied.
- *Documents*: Upload or change the HTML file defining the template layout here. Use any HTML editor you prefer to create your template layout.
- *Attachments*: Upload any documents you want to include as standard attachments with email messages created from this template.
- *Placeholder*: Displays a list of available data fields associated with the object type you selected for your template. Consult this list when creating your HTML layout file to insert placeholders for object data. Placeholders are formatted as the technical field name surrounded by double curly braces. For example: `{{familyName}}`, `{{givenName}}`.

#### Note

While creating or editing the HTML approval template, to add the source document link, use *Insert link* and enter `{{uiLink}}` in the *URL* field, and enter a name for the source document in the *Text* field. When approval email notification is received by the intended approvers, the approver can access the source document by clicking on the link in the email with manual login and then navigate to the source document approval step.

8. Save your changes when finished.

## 18.1.9 Configure In-Person Interactions

You, as an administrator, can configure in-person interactions for use with customer hub and cases.

### Procedure

1. Add the In-Person service to the role assigned for users that you want to use in-person interactions. Go to your user profile and select: ► *System Settings* ► *Users and Control* ► *Roles* ►.
2. Open the role to which you want to add in-person interactions. In the *Business Services* section of the Details tab, choose + (*Search and Add Business Services*) then search for and add the person interaction service.
3. Adapt the Interaction Log create form to show or hide in-person interactions as an option for interactions.

4. Configure interaction types. Go to your user profile and select: ► [System Settings](#) ► [In-Person Interaction](#) ► [In-Person Interaction Types](#) ►. Set up the types or locations of the in-person interactions you wish to track.

Type codes for custom interactions must begin with **z**.

Agents can use the active interaction types to tag interactions they create for later analysis.

## 18.1.10 Configure Letter Interactions

Add the letter interaction service and app to the role assigned to users that you want to use letter interactions. Add a mashup for outbound letters to the case detail screen.

### Context

Add the letter interaction service and app to relevant roles for your organization. Then add a mashup to the case detail screen for the outbound letter functionality.

### Procedure

1. Go to your user profile and select: ► [Settings](#) ► [Users and Control](#) ► [Roles](#) ►.
2. Open the desired role in detail view. In the [Business Services](#) section of the Details tab, choose + ([Search and Add Business Services](#)) then search for and add the letter interaction service.
3. Go to the [Apps List](#) and search for and add the letter interaction app.
4. Configure any additional roles that require the letter interaction function in the same way.
5. Add a mashup for outbound letters to the case detail screen.

### Related Information

[Create HTML Mashups \[page 145\]](#)

Create HTML mashups to embed a HTML or JavaScript based web page into a screen of your SAP cloud solution.

[Configure Mashups \[page 144\]](#)

Administrators can configure mashups in [Settings](#).

[SAP Document Presentment by OpenText](#) ➡



## 18.2 Customer Search

Automatically identifies the customer or contact for the incoming interaction. If no matching customer is found, or if there are multiple possible matches you can confirm the correct customer manually.

## 18.3 Communication Channels

Agent desktop enables customer service communication across multiple contact channels such as: phone, e-mail, and chat. The service process begins with incoming complaints/queries/requests from these sources.

Communication channel integration is enabled by third-party communication system providers.

### 18.3.1 Configure Communication Provider

Configure communication system provider and widget size.

#### Prerequisites

A third-party communication system integrated with your solution. The communication system must be available as a widget or embedded frame inside the agent desktop interface. For more details, see the integration information in the related links that follow the steps.

##### Note

A third-party communication system provider is required for communication channels. Contracting a communication system provider, including all costs incurred by using the provider services, is your responsibility. These contracts and charges aren't part of SAP Service Cloud Version 2. The availability of the inbound and outbound call functionality depends on the services that your provider supports.

##### Restriction

The maximum number of communications providers is 5.

#### Procedure

1. Go to your user profile and select  [System Settings](#)  [Agent Desktop](#)  [Live Interaction Widget Settings](#) .
2. Under [Configure Widget and Provider](#), enter the required provider details:

- [Provider Name](#)
- [Provider ID](#)
- [Provider URL](#) - URL for the communication system widget

3. Add channels. Select the add icon (+) at the top of the table to add a new channel.

Set the parameters depending on the channel type:

Channel Parameters

| Type                   | ID                  | Identify Customer By |
|------------------------|---------------------|----------------------|
| Phone                  | (unique channel ID) | Email                |
| Chat                   | (unique channel ID) | Phone                |
| SMS                    | (unique channel ID) | Phone                |
| (Social Media Service) | (unique channel ID) | Email                |

4. Activate channel. Set the [Active](#) switch for the channel entry to on.

Interactions on a channel are only possible if the channel is active.

You can configure multiple channels of each type for your solution. For example: different phone numbers or SMS short codes with your communication provider for each support team can be configured as separate channels with unique IDs.

5. Save your changes.

## 18.3.2 Phone

Agent desktop supports voice calls with widget-based computer telephony integration (CTI) with third-party communication system providers.

Embed a third-party telephony widget into your solution, providing a unified call handling experience. Agents can receive incoming phone calls, initiate outbound calls and record voice calls. Links to voice call recordings appear in the timeline. Call playback takes place in the communication system widget.

### Note

Telephony functions in agent desktop are dependent upon communication system feature availability.

## 18.3.3 Chat

Agent desktop integrates third-party chat and messaging solutions to support service processes.

View chat and SMS interactions and transcripts in the timeline.

## 18.3.4 SMS

Connect with customers using short message service (SMS) for real-time chat interactions.

The SMS channel in agent desktop supports the following functions:

- Inbound SMS chat
- Outbound chat initiated by service agent
- Chat transcription (plain text)

## 18.3.5 Email Push Routing

Agent desktop supports pushing incoming email messages to agents with widget-based third-party communication systems.

Your solution can pass incoming email messages in a computer telephony integration (CTI) widget in addition to a native email processing capability.

### Note

Email push routing features in a CTI widget are dependent upon availability in your communication system.

## 18.3.6 In-Person Interactions

In-person interactions can take place in any situation where a customer service agent is face-to-face with a customer.

Interactions could be at a customer service center, kiosk, or video call. You can create your own interaction types to classify where the in-person interaction happens for tracking and analysis. In-person interactions have a separate work center much like phone calls and chats.

### Restriction

Currently, in-person interactions can only be used with individual customers, not with accounts and contacts.

## 18.3.6.1 Configure In-Person Interactions

You, as an administrator, can configure in-person interactions for use with customer hub and cases.

### Procedure

1. Add the In-Person service to the role assigned for users that you want to use in-person interactions. Go to your user profile and select: ► [System Settings](#) ► [Users and Control](#) ► [Roles](#) ►.
2. Open the role to which you want to add in-person interactions. In the [Business Services](#) section of the Details tab, choose + ([Search and Add Business Services](#)) then search for and add the person interaction service.
3. Adapt the Interaction Log create form to show or hide in-person interactions as an option for interactions.
4. Configure interaction types. Go to your user profile and select: ► [System Settings](#) ► [In-Person Interaction](#) ► [In-Person Interaction Types](#) ►. Set up the types or locations of the in-person interactions you wish to track.

Type codes for custom interactions must begin with **z**.

Agents can use the active interaction types to tag interactions they create for later analysis.

## 18.3.7 Letter Interactions

Use letter interactions to communicate with customers by post.

Record inbound and outbound letters as interactions in your solution. Letters can be scanned and referenced by URL or attached to the interaction as an image file. Inbound letter interactions are created in your solution with an API for scanned content, or you can create a new letter interaction in case detail view by attaching a scanned image. You can create new cases based on incoming letter interactions. Outbound letters are created from the case detail view with SAP Document Presentment by OpenText. Setting up your scanning solution to provide letter content with the API is beyond the scope of this document.

### 18.3.7.1 Configure Letter Interactions

Add the letter interaction service and app to the role assigned to users that you want to use letter interactions. Add a mashup for outbound letters to the case detail screen.

### Context

Add the letter interaction service and app to relevant roles for your organization. Then add a mashup to the case detail screen for the outbound letter functionality.

## Procedure

1. Go to your user profile and select: ► [Settings](#) ► [Users and Control](#) ► [Roles](#) ►.
2. Open the desired role in detail view. In the [Business Services](#) section of the Details tab, choose + ([Search and Add Business Services](#)) then search for and add the letter interaction service.
3. Go to the [Apps List](#) and search for and add the letter interaction app.
4. Configure any additional roles that require the letter interaction function in the same way.
5. Add a mashup for outbound letters to the case detail screen.

## Related Information

[Create HTML Mashups \[page 145\]](#)

Create HTML mashups to embed a HTML or JavaScript based web page into a screen of your SAP cloud solution.

[Configure Mashups \[page 144\]](#)

Administrators can configure mashups in [Settings](#).

[SAP Document Presentment by OpenText](#) ➡

## 18.3.8 Email

Email messages routed to your solution can automatically generate cases that can be routed to service agents or teams for processing.

You have the option to reply to an email message associated with a case, or compose a new email message.

### 18.3.8.1 Configure Inbound Email Channels to Create Cases

Email messages routed to your solution can automatically generate cases that are sent to service agents for processing. You, as an administrator can add the inbound email addresses to use for case creation.

## Prerequisites

- Decide which email addresses to use for customer support. There is currently a limit of 20 channels per tenant.
- In your organization's mail server, configure email forwarding from each support address to the technical address of your SAP Service Cloud Version 2 tenant. Find the tenant technical address on the email channel settings page.

## Context

When an email message is routed to the solution, the system creates a case for the corresponding email channel according to the settings you configure for the channel. In addition, the solution can then route cases to a team or agent using routing rules you specify.

## Procedure

1. Go to your user profile and select [System Settings](#) > [Email](#) > [Channel Settings](#).
2. Add a channel for each inbound support address you wish to use. Select the create icon (+) at the top of the [All Email Channels](#) list to create a new channel.
3. Enter the support email address for this channel and enter a display name for the channel.

You can also enter an address to send a blind carbon copy (BCC) of outbound messages you send as replies to this channel. Some organizations use this secondary address as another way to track support responses.

4. Choose [Case](#) for [Object](#).

When you choose [Case](#), the [Type](#) and [Default Account](#) fields appear.

5. Choose the case type, and the default account for this channel.

All cases created from this channel use the case type you select here. The default account is assigned to the case if the solution is unable to determine a unique account or customer based on the **from** address on the email message.

6. Select [Save](#) to save the new email channel.

The technical email address for your tenant appears on this screen once you save the channel.

7. Select [Activate](#) to set the channel to [Active](#) status.

A two-step verification process is required before the channel is activated. A message is sent to the channel email address with a verification code. A second message is sent from the verification service with a link you use to activate the channel.

Email channels only create cases from incoming messages when the channel status is set to [Active](#) and the forwarding rules are in place on your organization's mail server.

Once a channel is in [Active](#) status, you can edit all attributes of the channel, **except** the channel email address. For example, you can edit the channel name, display name, object, case type, or default account.

## Related Information

[Configure Case Routing to Employee \[page 428\]](#)

You, as an administrator, can set up rules that route cases to employees automatically.

[Configure Case Routing to Team \[page 429\]](#)

You, as an administrator, can set up rules that route cases to service teams automatically.

## 18.3.8.2 Create Email Templates

Email templates streamline email messaging with preset text, graphics, signatures, and attachments. Create templates for service responses, signatures, branding, and campaigns by uploading an HTML-based layout file.

### Prerequisites

Prepare an HTML template layout. You can include technical placeholders to fill in data from the object record when the template is applied in the context of an associated object. See the steps following for how to find a list of placeholders.

### Context

You can create email templates based on HTML layouts you create in your preferred HTML editor. Upload the HTML layout file and include any standard attachments for the template. You can also use placeholders to automatically pull data from associated objects in the system. For example: you can automatically fill in the customer name and ticket ID for a service response.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Email](#) ► [Templates](#) ►.
2. Add a new template. Choose + [\(Create\)](#) at the top of the [Templates](#) list to create a new template.
3. Enter a name for your new template.
4. Select a [Template Type](#):

- Response: use for service responses from your support teams.
- Signature: can include placeholders for employee information.
- Branding: create a custom brand-themed email template.
- Campaign: for newsletters and surveys.
- Approval Response Template: create a response template for approvals.
- Approval Template: create an approval request template.

The required fields for the template information vary depending on the type of template you select. Some types are only available for email channels. You can enter a description for response templates and campaign templates.

5. Select an [Object Type](#).
  - Account
  - Contact
  - Individual Customer

- Case

Object type selection is limited based on the template type. Not all objects are available for every template type.

6. Select a *Channel Type* if necessary.

The channel type defaults to *Email* for most template types.

7. Set up the formatting for your template.

Depending on the type of template and object you selected in the previous steps, some or all of the following tabs are available for working with template formatting:

- *Viewer*: Shows a preview of the template as it appears in the email editor. Placeholders are shown where relevant data is filled in once the template is applied.
- *Documents*: Upload or change the HTML file defining the template layout here. Use any HTML editor you prefer to create your template layout.
- *Attachments*: Upload any documents you want to include as standard attachments with email messages created from this template.
- *Placeholder*: Displays a list of available data fields associated with the object type you selected for your template. Consult this list when creating your HTML layout file to insert placeholders for object data. Placeholders are formatted as the technical field name surrounded by double curly braces. For example: `{{familyName}}`, `{{givenName}}`.

#### 📌 Note

While creating or editing the HTML approval template, to add the source document link, use *Insert link* and enter `{{uiLink}}` in the *URL* field, and enter a name for the source document in the *Text* field. When approval email notification is received by the intended approvers, the approver can access the source document by clicking on the link in the email with manual login and then navigate to the source document approval step.

8. Save your changes when finished.

## 18.3.8.3 Monitor Inbound Email Messages

Use email monitoring to verify that inbound messages are received successfully.

### Context

Identify technical errors with inbound email channels and resolve them to prevent problems with follow-on processes or with your business partner.



## Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Email](#) ► [Monitor](#) ►.
2. Review the latest messages and check for any error messages.

Scroll the list and choose the page buttons to view additional messages.

## 18.4 Customer Hub

For real-time interactions, customer hub provides a place to access and enter customer information to help you resolve issues quickly.

Upon accepting an incoming call or chat request, customer hub opens automatically. If the interaction is from a known customer or contact, customer hub loads the relevant customer or contact information. The solution captures details of the interaction in the timeline.

- View customer details at the left of the screen.
- Scan interactions and notes in the [Timeline](#) tab.
- Access entity information, such as registered products, cases, and more in the [Entities](#) tab.
- Resolve issues quickly with the knowledge base pane at the right side of the screen.
- Create a new message or case quickly from the [What would you like to do?](#) area.

### 18.4.1 Timeline

The timeline shows phone calls, e-mail, chat interactions, cases, and other touch points with the customer.

Select an item in the timeline to view more detailed information.

Use the filter menus to select interaction types, entities, and the time period you want to appear in the timeline. You can also search the timeline for specific key words in entries.

#### 18.4.1.1 Configure Timeline

Configure the events that create a timeline update for different entities and conditions.

## Context

Different entities can subscribe to timeline events so that the event generates a timeline entry for that entity.

## Procedure

1. Go to your user profile and select ► [System Settings](#) ► [Timeline](#) ► [Timeline Configuration](#) ►.
2. Select [Event View](#) to list all events. Expand an event to view the event status.  
  
Check the [Timeline Event Title](#) column to see how the event appears in the timeline with placeholders for entities and parties.
3. Select [Subscriber View](#) to see events grouped by subscribing entity. Expand the subscriber to view the subscribed events.
4. Toggle event visibility in the timeline in the [Show on Timeline](#) column.
5. Save your changes.

## 18.4.2 Entities

The [Entities](#) tab in customer hub shows entities in your solution related to the current customer such as cases, registered products, and so on.

Open the [Entities](#) tab to review related entities for the customer. Open an entity from the list to view details in a new tab.

## 18.5 Knowledge Base

Integrate an external knowledge base to enable agents to search for solutions and attach articles to responses without having to leave the agent desktop.

The knowledge base appears as a side panel on the agent desktop.

Search the knowledge base for relevant articles and preview the content in the side panel.

There are two ways to integrate a knowledge base with your solution: native widget integration, or widget integration with a mashup.

### Native Widget Integration

Native widget integration currently supports SAP Knowledge Central by NICE (formerly Mindtouch) and SAP Build Work Zone. If your provider is NICE CXone Expert (formerly Mindtouch), widget integration only works with single user (administrator) access to the knowledge base.

Knowledge base integration into the native widget provides some handy shortcuts for working with articles:

- Open the article in a new tab in the agent desktop (🔗), or view the article in the original knowledge base site in a new browser tab (🔗 [Open in help center](#)).

- Use the [Copy](#) button (📋) to copy the article URL and paste into the interaction to share the article in your response back to your customer.
- The email button (✉) creates a new email message with the article URL in the body of the message.

## Mashup Integration

Use a widget URL and a mashup to integrate your preferred knowledge base into your solution. The Mashup approach currently supports NICE CXone Expert (formerly MindTouch), SAP Build Work Zone, and Microsoft SharePoint. Other Knowledge base solutions can be used in a mashup by requesting a widget URL from your provider. The features for working with articles depend on what your provider makes available in the widget.

### 18.5.1 Configure Knowledge Base Mashup Integration

Use a mashup to integrate a knowledge base widget with your solution.

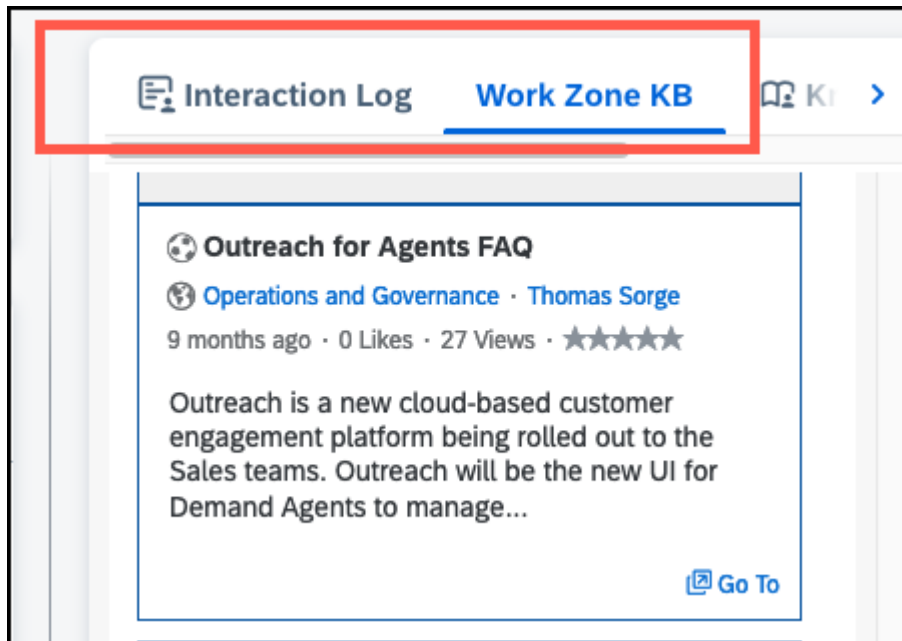
#### Context

At a high level, integrating a knowledge base as a mashup involves two processes: configure a mashup, then adapt the agent desktop screen to add the mashup.

#### Procedure

1. Request a widget URL from your knowledge base provider.
2. Create a mashup using the widget URL. See the Related Information section for detailed instructions on creating a mashup.
3. Adapt the agent desktop UI to add the knowledge base mashup to the screen. See the Related Information section for detailed instructions on adding a mashup as a tab.

We recommend that you add the mashup as a tab on the right-hand pane.



## Related Information

[Add Mashups as Tabs \[page 155\]](#)

As an administrator, you can add a mashup as a new tab.

## 18.5.2 Configure Knowledge Base Provider

Configure your knowledge base provider to integrate with the native widget. Widget functions include: recommended articles based on linked case or registered product, article search, a top trending article list, copy article URL, and send article as email.

## Prerequisites

Create a communication system for your knowledge base provider.

For knowledge base providers, the **outbound** protocol is **HTTPS**.

Find a link to complete details for setting up a communication system in the **Related Information** section.

## Procedure

1. Go to your user profile and select ► [System Settings](#) ► [Integration](#) ► [Communication Configuration](#) ►.
2. Search for and select one of the following :
  - [Knowledge Base Provider: NICE CXone Expert \(Mindtouch\)](#)
  - [Knowledge Base Provider: SAP Build Work Zone](#)
  - [Knowledge Base Provider: Generic](#) - all other knowledge base providers
3. Select the [Copy](#) (📄) button in the provider details screen you opened.
4. Edit the name of your new communication configuration as desired.
5. Set the two API paths under [HTTP Data](#):
  - Retrieve articles based on ...
  - Get Top Trending Articles from ...
6. Set the [Active](#) switch to on and save the configuration.

## Next Steps

Additional configuration is required if your knowledge base provider is [NICE CXone Expert \(Mindtouch\)](#).

1. Go to your user profile and select ► [System Settings](#) ► [Knowledge Base](#) ► [Provider Settings](#) ►.
2. Select [NICE CXone Expert \(Mindtouch\)](#) under [Knowledgebase Providers](#) and enter these required parameters:
  - [User](#) - user name for account
  - [Key](#)
  - [Secret](#)

Additional configuration is also required if your Knowledge base provider is SAP Build Work Zone. See the link in the **Related Information** section.

## Related Information

[Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

[Create Communication Configurations \[page 913\]](#)

Create communication configurations for the integration between SAP Service Cloud Version 2 and external applications.

[Configure SAP Build Work Zone Native KB Widget Integration \[page 366\]](#)

Integration with the native knowledge base widget in SAP Service Cloud Version 2 requires configuration steps in both SAP Build Work Zone, advanced edition and in SAP Service Cloud Version 2.

## 18.5.3 Configure SAP Build Work Zone Native KB Widget Integration

Integration with the native knowledge base widget in SAP Service Cloud Version 2 requires configuration steps in both SAP Build Work Zone, advanced edition and in SAP Service Cloud Version 2.

Since you need information from both systems, open both systems in separate browser windows or tabs.

### Prerequisites

Before you start, you must have:

- Administrator access on both your SAP Build Work Zone, advanced edition and SAP Service Cloud Version 2 systems. You need to access the Administration Console in SAP Build Work Zone and the [Settings](#) screen in SAP Service Cloud Version 2.
- Uploaded a root certificate, created by a certifying authority to your SAP Service Cloud Version 2 solution. The certificate includes a public key and private key. The public key is a X509 certificate and is uploaded to SAP Build Work Zone, enabling OAuth SAML bearer assertion. Self-signed certificates cannot be used for this type of authentication.
- Knowledge base users must have the same user name and email address in both systems. The email address is used to identify the user for the authentication process.

### 18.5.3.1 Configuration on SAP Build Work Zone

Perform these two procedures to configure knowledge base integration on your SAP Build Work Zone, advanced edition system.

You'll perform additional configuration on your SAP Service Cloud Version 2 system.

#### 18.5.3.1.1 Configure SAML Trusted IDP

Use the SAP Build Work Zone Administration Console to register your SAML Trusted IDP.

### Procedure

1. Log on to your SAP Build Work Zone, advanced edition tenant as an administrator, and navigate to the [Administration Console](#).
2. Select [SAML Trusted IDP](#).
3. Choose [Register your SAML Trusted IDP](#).

4. Enter the *IDP ID*. Supply your SAP Service Cloud Version 2 tenant without the **https://** protocol. For example: `my123456.ondemand.com`.
5. For the *Default Name ID Format* enter: **urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress**.
6. Enter the X509 certificate that you prepared in advance.  
You upload this certificate to your SAP Service Cloud Version 2 system in a later procedure if you haven't done so already.
7. Enter the *User attribute used for Name ID*: **SCIM username**

## 18.5.3.1.2 Create OAuth Client

Register an oAuth client in SAP Build Work Zone for native knowledge base widget integration with SAP Service Cloud Version 2.

### Procedure

1. Log on to your SAP Build Work Zone, advanced edition tenant with an administrator user.
2. Go to: ► *Administration Console* ► *External Integrations* ► *OAuth Clients* ► *Add New OAuth Clients* ►.
3. Select *Register a new OAuth Client*.
4. Enter the required information:
  - *Name*: Your SAP Service Cloud Version 2 without the https:// protocol. For example: `my12345.ondemand.com`
  - *Integration URL*: The URL of your SAP Service Cloud Version 2 tenant. For example: `https://my12345.ondemand.com`
5. Leave *X509 Certificate* blank.
6. Save the new oAuth client.  
Your SAP Build Work Zone system generates a key and a secret for the new oAuth client. Copy these two codes to use later when configuring your SAP Service Cloud Version 2 tenant.

## 18.5.3.2 SAP Service Cloud Version 2 Configuration

Perform these two procedures to configure knowledge base integration on your SAP Service Cloud Version 2 system.

## 18.5.3.2.1 Create a Communication System

Set up a communication system to use your SAP Build Work Zone, advanced edition system as a knowledge base for your SAP Service Cloud Version 2 system.

### Procedure

1. Log on to your SAP Service Cloud Version 2 system as an administrator.
2. Go to your profile menu and navigate to ► [System Settings](#) ► [Integration](#) ► [Communication Systems](#) ►.
3. Create a new communication system.
4. Enter a [Display ID](#) and [Description](#).
5. Set the direction to [Outbound](#) and the [Protocol](#) to [https](#).
6. Enter the [Host Name](#) of your SAP Build Work Zone tenant.

Find this information in your SAP Build Work Zone system: ► [Administration Console](#) ► [Overview](#) ► in the field: [DWS URL](#). Example: **system123456.workzone.cfapps.eu10.hana.ondemand.com**

7. For the authentication method, choose: [OAuth 2.0 SAML Bearer Assertion](#).
8. Enter the required information:

| Required Field | Entry                                                                                                                                                                                          |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certificate    | Drag and drop or browse to upload certificate file.                                                                                                                                            |
| Passphrase     | Pass phrase used to create the certificate.                                                                                                                                                    |
| Client ID      | Generated <b>key</b> provided when you created the OAuth client on your SAP Build Work Zone system.                                                                                            |
| Client Secret  | Generated <b>secret</b> provided when you created the OAuth client on your SAP Build Work Zone system.                                                                                         |
| Token URL      | <p>Enter in the format: <b>&lt;workzone tenant&gt;/api/v2/auth/token</b></p> <p>Example:<br/><b>system123456.workzone.cfapps.eu10.hana.ondemand.com/api/v2/auth/token</b></p>                  |
| Audience       | <p>SAP Build Work Zone <a href="#">Issuer</a></p> <p>Found on the SAP Build Work Zone screen:<br/>► <a href="#">Administration Console</a> ► <a href="#">SAML Local Service Provider</a> ►</p> |
| Issuer         | <p>Domain of your SAP Service Cloud Version 2 system</p> <p>Example: <b>my123456.de1.test.crm.cloud.sap</b></p>                                                                                |



| Required Field          | Entry |
|-------------------------|-------|
| Subject Name Identifier | EMAIL |

9. [Save and Activate](#) the communication system.

## Related Information

### [Create OAuth Client \[page 367\]](#)

Register an oAuth client in SAP Build Work Zone for native knowledge base widget integration with SAP Service Cloud Version 2.

## 18.5.3.2.2 Create Communication Configuration

Create a communication configuration that uses your SAP Build Work Zone, advanced edition system as a knowledge base for your SAP Service Cloud Version 2 system.

### Procedure

1. Log on to your SAP Service Cloud Version 2 system as an administrator.
2. Go to your profile menu and navigate to ► [System Settings](#) ► [Integration](#) ► [Communication Configuration](#) ►.
3. Copy the communication configuration [Knowledge Base Provider](#): SAP Build Work Zone to create a new communication configuration.
4. Select the display ID of the communication system that you created in the previous procedure.
5. In the HTTP Data section, set the [API Path](#) for both items to: **`/api/v1/odata/Search?Category='kb'&$expand=ObjectReference&SortBy='Relevance'&$top=10`**
6. Activate the communication configuration.  
Verify that there's only one active communication configuration for the communication system.

### Results

Integration with SAP Build Work Zone is now complete. Knowledge base articles are now available in the native widget in agent desktop.

## 18.5.4 Knowledge Base Integration into Native Widget

Knowledge base providers can facilitate integration of article content into the native knowledge base widget in customer hub. Knowledge base products must provide an HTTPS access path and compatible authentication system to customers using this SAP solution.

Currently only SAP Build Work Zone and **NICE CXone Expert (formerly Mindtouch)** have native support in the solution. All others can use this generic integration strategy.

The SAP solution uses REST API **GET** calls to populate knowledge base content in the native widget.

Use the **search** call to:

- Retrieve articles based on the query in the search field in the native KB widget.
- Retrieve articles based on the passed context, when the user **links** or **pins** a particular item in the Entity tab. These articles are shown as **Recommended Articles**.

### Code Syntax

```
GET https://<hostname>/<path-prefix>?$top=<n>&$skip=<m>&$search=<search term>
```

### Sample Code

```
GET https://kb.example.com/kb/sap-agent/search?$top=10&$skip=0&$search=laptop
```

Use the **query** call to retrieve articles based on the **trending** list.

### Code Syntax

```
GET https://<hostname>/<path-prefix>?$top=<n>&$skip=<m>&$query=<trending>
```

### Sample Code

```
GET https://kb.example.com/kb/sap-agent/trending?$top=10&$skip=0&$query=trending
```

## Related Information

[Configure Knowledge Base Provider \[page 347\]](#)

Configure your knowledge base provider to integrate with the native widget. Widget functions include: recommended articles based on linked case or registered product, article search, a top trending article list, copy article URL, and send article as email.

## 18.5.4.1 Knowledge Base GET Request Parameters and Examples

Parameters, example responses, response structure, and field reference information for GET calls that populate the native widget with article information.

### GET Request Parameters for Knowledge Base Articles

| Place holder/Parameter | Description                                                                                                                                                  | Example values                                                                                   | Maintenance                                        |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------|
| <hostname>             | Hostname of the External Knowledge Base Provider's server                                                                                                    | kb.example.com                                                                                   | In the communication section of the "Data" section |
| <path prefix>          | Path prefix. This value may differ based on the endpoint.                                                                                                    | Search articles: /kb/sap-agent/search<br>trending articles: /kb/sap-agent/trending               | In the communication section of the "Data" section |
| \$top=<n>              | \$top is a pagination parameter that selects the first n results.                                                                                            | \$top=10                                                                                         | No maintenance required                            |
| \$skip=<m>             | \$skip is a pagination parameter that is used to skip or offset m results into the collection.                                                               | \$skip=0<br>\$skip=10                                                                            | No maintenance required                            |
| \$search=<search term> | User entered search term in the native KB widget. Used in Search Articles request.                                                                           | \$search=laptop<br>\$search=phone repair                                                         | No maintenance required                            |
| \$query=trending       | Query term. In this case, the value "trending" will be populated and sent by default in the request from the consumer. Used in Top Trending articles request | \$query=trending<br><br>Note: this is the actual value that will be populated for this parameter | No maintenance required                            |

Query parameters in the respective calls are always sent as part of a GET request.

### Expected Response Structure (JSON)

The response structure is the same for both the search and query requests.

#### Example Responses

Success with results:

```
{
 "count": 14,
 "value": [
 {
```

```

 "id": "615",
 "title": "How to fix iphone",
 "content": "If something has gone seriously wrong and you're either
told to – or need to – put your iPhone into recovery or device firmware update
(DFU) mode in order to complete re-install iOS, you have that option as well.
Whether your iPhone isn't charging, is draining too fast even when charged,
or simply won't turn off or refuses to turn back on, the good news is that
sometimes it's easy to fix on your own.",
 "link": "https://my.kb.io/How_to_fix_iphone",
 "views": 1631,
 "ratingScore": 0,
 "ratingCount": 1,
 "upvotes": 0,
 "downvotes": 1,
 "adminData": {
 "createdByName": "P0000000",
 "createdOn": "2018-12-15T07:08:00Z",
 "updatedByName": "admin",
 "updatedOn": "2019-12-16T07:08:00Z"
 }
 },
 {
 "id": "460",
 "title": "How to restart phone",
 "content": "Goal After completing this how-to you will know how to
restart iphone XR First Step Begin by ... Second Step Then continue with ...
What's Next This is what was achieved and what was omitted in this how-to.",
 "link": "https://my.kb.io/Smart_Phones/Mere_Phones/User_Guide/
Page_Title",
 "views": 1322,
 "ratingScore": 1,
 "ratingCount": 4,
 "upvotes": 4,
 "downvotes": 0,
 "adminData": {
 "createdByName": "admin",
 "createdOn": "2018-06-15T07:08:00Z",
 "updatedByName": "admin",
 "updatedOn": "2019-06-25T02:49:58Z"
 }
 },
 {
 "id": "317",
 "title": "Make and Receive Calls",
 "content": "This article outlines how to make and receive calls on
your Mavion Mere phone.",
 "link": "https://my.kb.io/Smart_Phones/Mere_Phones/User_Guide/
02_Make_and_Receive_Calls",
 "views": 574,
 "ratingScore": 1,
 "ratingCount": 4,
 "upvotes": 4,
 "downvotes": 0,
 "adminData": {
 "createdByName": "admin",
 "createdOn": "2016-09-01T07:08:00Z",
 "updatedByName": "admin",
 "updatedOn": "2017-09-07T23:20:43Z"
 }
 },
 {
 "id": "316",
 "title": "Turning On Your Phone",
 "content": "This article outlines how to turn on your phone.",
 "link": "https://my.kb.io/Smart_Phones/Mere_Phones/User_Guide/
01_Turning_On_Your_Phone",
 "views": 223,
 "ratingScore": 1,

```

```

 "ratingCount": 3,
 "upvotes": 3,
 "downvotes": 0,
 "adminData": {
 "createdByName": "admin",
 "createdOn": "2017-09-01T07:08:00Z",
 "updatedByName": "admin",
 "updatedOn": "2017-09-07T23:20:45Z"
 }
 },
 {
 "id": "325",
 "title": "Turning On Your Phone",
 "content": "Overview This article outlines how to get started with your new phone by turning it on. Powering On/Off To get started, simply click the Power button on the right-hand side of your phone: You will then see the power screen: Once the power screen has cycled, you can turn off your phone by pressing the same button on the right-hand side.",
 "link": "https://my.kb.io/Smart_Phones/Clix_Phones/User_Guide/Turning_On_Your_Phone",
 "views": 57,
 "ratingScore": 1,
 "ratingCount": 1,
 "upvotes": 1,
 "downvotes": 0,
 "adminData": {
 "createdByName": "admin",
 "createdOn": "2017-09-01T07:08:00Z",
 "updatedByName": "admin",
 "updatedOn": "2017-09-07T23:20:46Z"
 }
 },
 {
 "id": "315",
 "title": "Clix Phones",
 "content": "Mavion Clix phones keep the clutter out of the way. Equipped with only a keyboard, the Clix will revolutionize the way you interact.",
 "link": "https://my.kb.io/Smart_Phones/Clix_Phones",
 "views": 392,
 "ratingScore": 5,
 "ratingCount": 6,
 "upvotes": 30,
 "downvotes": 24,
 "adminData": {
 "createdByName": "admin",
 "createdOn": "2016-09-01T07:08:00Z",
 "updatedByName": "admin",
 "updatedOn": "2017-09-07T23:20:44Z"
 }
 },
 {
 "id": "313",
 "title": "Mere Phones",
 "content": "Mere phones have a streamlined glass interface, removing the need for typing. Quickly read on the go, but replying? Who has time for that.",
 "link": "https://my.kb.io/Smart_Phones/Mere_Phones",
 "views": 378,
 "ratingScore": 1,
 "ratingCount": 4,
 "upvotes": 4,
 "downvotes": 0,
 "adminData": {
 "createdByName": "admin",
 "createdOn": "2016-07-01T07:08:00Z",
 "updatedByName": "admin",
 "updatedOn": "2017-09-07T23:20:41Z"
 }
 }
]

```

```

 }
 },
 {
 "id": "534",
 "title": "How to test phone performance",
 "content": "Feature This feature does ... What are the benefits of this feature? When you use this feature, you gain ... When to use this feature? Use this feature to ...",
 "link": "https://my.kb.io/Smart_Phones/Mere_Phones/User_Guide/How_to_test_phone_performance",
 "views": 56,
 "ratingScore": 4,
 "ratingCount": 10,
 "upvotes": 40,
 "downvotes": 30,
 "adminData": {
 "createdByName": "admin",
 "createdOn": "2016-07-01T07:08:00Z",
 "updatedByName": "admin",
 "updatedOn": "2019-09-04T09:27:18Z"
 }
 },
 {
 "id": "458",
 "title": "How to turn up your phone",
 "content": "This article introduces how to turn up your phone.....",
 "link": "https://my.kb.io/Smart_Phones/Mere_Phones/How_to_turn_up_your_phone",
 "views": 68,
 "ratingScore": 5,
 "ratingCount": 5,
 "upvotes": 25,
 "downvotes": 20,
 "adminData": {
 "createdByName": "test",
 "createdOn": "2016-07-01T07:08:00Z",
 "updatedByName": "admin",
 "updatedOn": "2019-04-18T03:36:23Z"
 }
 }
]
}

```

Success with no results:

```

{
 "count": 0,
 "value": []
}

```

Error response - example only:

```

{
 "count": 0,
 "value": null,
 "error": {
 "code": "knowledgebase.1002",
 "message": "article repository not configured",
 "target": "kb/sap-agent/search"
 }
}

```

## Response Structure and Field Reference

Overall Response Structure: [1..1]

| Field Name | Type    | Description                   | Cardinality |
|------------|---------|-------------------------------|-------------|
| count      | Integer | Overall Count of the articles | 1..1        |
| value      | Object  | Article Structure             | 1..1        |
| Error      | Object  | Error object                  | 0..1        |
| info       | Object  | Future use                    | 0..1        |

Article Structure Fields to be Included Within Value: [0..n]

| Field Name              | Type      | Description                                                   | Cardinality |
|-------------------------|-----------|---------------------------------------------------------------|-------------|
| id                      | String    | Unique Id of the Article                                      | 1..1        |
| title                   | String    | Title/Name of the Article                                     | 1..1        |
| content                 | String    | Snippet of the Article content                                | 1..1        |
| link                    | String    | URL of the Article                                            | 1..1        |
| views                   | Integer   | Total number of times the article has been viewed             | 0..1        |
| ratingScore             | Integer   | Cumulative score received for an article                      | 0..1        |
| ratingCount             | Integer   | Number of ratings received for an article                     | 0..1        |
| upvotes                 | Integer   | Number of upvotes for an article                              | 0..1        |
| downvotes               | Integer   | Number of downvotes for an article                            | 0..1        |
| adminData.createdBy     | UUID      | Unique createdBy Id (associated with the user)                | 0..1        |
| adminData.createdByName | String    | Name of the user/author who created the article               | 0..1        |
| adminData.createdOn     | Date Time | Article creation date time e.g., 2023-10-17T23:38:23.085Z     | 0..1        |
| adminData.updatedBy     | UUID      | Unique updatedBy Id (associated with the user)                | 0..1        |
| adminData.updatedByName | String    | Name of the user/author who last updated the article          | 0..1        |
| adminData.updatedOn     | Date Time | Article last updated date time e.g., 2023-10-17T23:38:23.085Z | 0..1        |

Fields for Error: [0..1]

| Field Name | Type   | Description                                              | Cardinality |
|------------|--------|----------------------------------------------------------|-------------|
| Code       | String | Error code e.g., knowledgebase.1002                      | 1..1        |
| Message    | String | Error message e.g., Unable to process the request        | 1..1        |
| details    | Object | List of Error objects i.e., nested list of Error objects | 0..1        |
| target     | String | Path prefix of the endpoint invoked                      | 0..1        |

## 18.5.5 Using MicroSoft SharePoint as a Knowledge Base

If you want to use SharePoint as a knowledge base, you must create a custom integration flow using the generic widget integration method.

Until mid 2025, you could use MicroSoft SharePoint as a knowledge base with an iframe mashup. Due to security concerns, Microsoft has discontinued support for SharePoint in a mashup. To use SharePoint as a knowledge base, use a custom integration flow with widget integration.

Points to consider:

- Knowledge base articles and associated documents are created and maintained on your SharePoint site.
- Widget integration with SAP Service Cloud Version 2 and SAP Enterprise Service Management enables agents to access and search articles from the knowledge base panel present in customer hub and case detail view. The knowledge base panel is also available to self-service users in SAP Enterprise Service Management.

Widget-based integration with Microsoft SharePoint uses the communication configuration type **Knowledge Base Provider: Generic**. This communication configuration includes two web hooks used to complete the integration with the knowledge base UI:

- **Get Top Trending Articles from Knowledge Base Provider: Generic**
- **Retrieve Articles based on search term from Knowledge Base Provider: Generic**

Before you start this integration process, be sure have:

1. A Microsoft Sharepoint site with knowledge articles already in place
2. User information and access setup in SAP Service Cloud Version 2 or SAP Enterprise Service Management
3. User information and access setup in your Microsoft SharePoint site
4. A technical or application user to access your SharePoint site with APIs

### → Tip

Although we use a technical or application user in the following procedures to retrieve information from MicroSoft SharePoint, we recommend that you use principal propagation in your integration flow to ensure required security protections.

## Related Information

<https://community.sap.com/t5/technology-blog-posts-by-members/principal-propagation-in-a-multi-cloud-solution-between-microsoft-azure-and/ba-p/13538648> 



## 18.5.5.1 Set Up Access for Microsoft Graph API

Enable SharePoint API access for your technical user with Microsoft Entra

### Context

To query your Microsoft SharePoint site, you need to set up a technical or application user with API access.

### Procedure

1. Go to the Microsoft Entra admin center: <https://entra.microsoft.com> .
2. Choose **App Registrations**.
3. Create a new registration.
4. Enter a **Secret ID** and **Value** in the **Certificates & secrets** section.  
The secret and value function as a password for your technical or application user.
5. Configure permissions for MicroSoft Graph and grant: **Sites.Read.All** level in the **API permissions** section.

### Next Steps

Be sure to test the Microsoft Graph APIs before using with your SAP solution.

## 18.5.5.2 Retrieve Required Information for the SharePoint Query

These steps provide you with the parameters you need to query your SharePoint site to retrieve trending articles, search results based on keyword input, and format the article URL for iframe compatibility.

### Context

The first three steps provide you with the parameters and values you need to query your SharePoint site with APIs. The next two steps include example JSON payloads to return trending articles and search with keyword input. The last step shows you how to return the query results in an iframe-friendly preview URL. Use Postman or similar app to send Post and Get requests in the following steps.

## Procedure

1. Get a token for your SharePoint site. Send a POST command to your SharePoint tenant (substitute your tenant ID for **<tenant\_id>**): `https://login.microsoftonline.com/<tenant_id>/oauth2/v2.0/token`

Use the URL Body form, and include the parameters:

- **client\_id**
- **client\_secret**
- **grant\_type**
- **scope**

2. Get the site ID for your SharePoint site. Send a GET request to your SharePoint tenant with the URL formatted like this: `https://graph.microsoft.com/v1.0/sites/<sharepointURL>:/sites/<site>`

Where:

- **<sharepointURL>** is the URL for your SharePoint tenant
- **<site>** is the path to the source of the knowledge base content

Use the token that you retrieved in the preceding step for authorization for the GET call. The site ID is labeled **id** in the response.

Record this fixed value and use it as a constant when making API calls to your SharePoint site.

3. Get the Drive ID for your Sharepoint site. Send a GET request with this URL: `https://graph.microsoft.com/v1.0/sites/<siteID>/drives`

Where **<siteID>** is the site ID that you received in the response in the preceding step. The drive ID is labeled **id** in the response.

Record this fixed value and use it as a constant when making API calls to your SharePoint site.

4. Get a complete list of documents from SharePoint. Send a POST command to this URL: `https://graph.microsoft.com/v1.0/search/query`

Expand this example payload and use it as a starting point for your query. Use the **<siteID>** and **<driveID>** you recorded in the two preceding steps.

```
{
 "requests": [
 {
 "entityTypes": ["driveItem", "listItem"],
 "query": {
 "queryString": "* AND isDocument=true"
 },
 "fields": [
 "name",
 "webUrl",
 "contentType",
 "lastModifiedDate",
 "createdBy",
 "lastModifiedBy",
 "fileSystemInfo"
],
 "region": "NAM",
 "from": 0,
 "size": 10,
 "filters": {
 "equals": {
```

```

 "siteId":
 "example12345.sharepoint.com,92493e73-35d3-435d-5555-7d7dc67ea3a1,03081f07-911
 7-exam-a0cc-110e27bc3119"
 }]]]}

```

The query results return a unique ID for each document. Record this ID to generate an iframe-friendly URL in the final step.

5. Perform a search based on an input string. Use the token from step 1 for the search.
6. Send a POST command to this URL: <https://graph.microsoft.com/v1.0/search/query>  
Expand this example payload and use it as a starting point for your query. Use the **<siteID>** and **<driveID>** you recorded in the preceding steps.

```

{
 "requests": [
 {
 "entityTypes": ["driveItem", "listItem"],
 "query": {
 "queryString": "Helicopter AND isDocument=true"
 },
 "fields": [
 "name",
 "webUrl",
 "contentType",
 "lastModifiedDateTime",
 "createdBy",
 "lastModifiedBy",
 "fileSystemInfo"
],
 "region": "NAM",
 "from": 0,
 "size": 10,
 "filters": {
 "equals": {
 "siteId":
 "example12345.sharepoint.com,92493e73-35d3-435d-5555-7d7dc67ea3a1,03081f07-911
 7-exam-a0cc-110e27bc3119"
 }
 }
 }
]
}

```

The query results return a webUrl from SharePoint for each matching document. Use this webUrl to generate an iframe-friendly URL in the final step.

7. Create a preview link to make each document web URL compatible with the integration frame. Send a POST command to this URL: <https://graph.microsoft.com/v1.0/drives/<driveID>/items/<itemID>/preview>

Where:

- **<driveID>** is the drive ID constant that you recorded in step 3
- **<itemID>** is the document item ID that you recorded in step 4

In the response, the getUrl value is the document's iframe-friendly URL. Use this URL when sending the response back to SAP Service Cloud Version 2 and SAP Enterprise Service Management.

## Results

Completing these steps successfully ensures that the Microsoft GRAPH API access is ready to be used in a custom integration flow (iFlow) created by you or your implementation partner. In the next set of steps, you'll

use the **<hostname>** and **<path-prefix>** from your custom iFlow to create a new communication system and communication configuration in SAP Service Cloud Version 2 or SAP Enterprise Service Management.

### 18.5.5.3 Set Up SAP Service Cloud or SAP Enterprise Service Management

Create a communication system and a communication configuration in your SAP solution.

#### Context

Follow the standard steps for creating a new communication system and link that to a new communication configuration to use APIs to bring SharePoint KB content into SAP Service Cloud Version 2 and SAP Enterprise Service Management.

#### Procedure

1. Create a communication system for SharePoint integration with the **Basic** authentication method. Don't use the authentication method **Basic** in productive tenants for security reasons.

##### Note

If you decide to use IDP authentication for your SharePoint integration, use the OAuth 2.0 SAML Bearer Assertion authentication method instead.

For detailed steps on creating a communication system, see: [Create Communication Systems \[page 908\]](#).

2. Create a communication configuration for SharePoint integration. Search for and open the communication configuration labeled **Knowledge Base Provider: Generic**. Copy this communication configuration. Rename the communication configuration as desired.

Use this copy to set up your communication configuration for SharePoint integration.

3. Add the communication **system** created in step 1 to the communication **configuration**.
4. Add the API path to [Retrieve Articles based on search term from Knowledge Base Provider: Generic](#).  
This path is used to retrieve articles based on the keywords a user enters in the search field in the knowledge base widget.

Example: GET `https://<hostname>/<path-prefix>?top=10&$skip=0&$search=laptop`

**Question to reviewers:** how do **<hostname>** and **<path-prefix>** relate to the SharePoint **site** and **driveID** retrieved in the preceding topic? Please answer in comments.

5. Add the API path to [Get Top Trending Articles from Knowledge Base Provider: Generic](#).  
This path is used to retrieve articles based on the SharePoint site's trending or default list.

Example: GET `https://<hostname>/<path-prefix>?$top=10&$skip=0&$query=trending`

For more details on GET requests and examples, see the links in the **Related Information** section.

For detailed steps on creating a communication configuration, see: [Create Communication Configurations \[page 913\]](#).

## Related Information

[Knowledge Base GET Request Parameters and Examples \[page 371\]](#)

Parameters, example responses, response structure, and field reference information for GET calls that populate the native widget with article information.

[Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

[Create Communication Configurations \[page 913\]](#)

Create communication configurations for the integration between SAP Service Cloud Version 2 and external applications.

## 18.5.5.4 Example CPI Resources

Resources to help you set up a cloud process integration (CPI) flow to process the knowledge base request and response from SharePoint.

The integration flow (iflow) processes the KB request originating from your SAP solution and calls the MicroSoft Graph API. The iflow then transforms the MicroSoft Graph API response into the format required for the native knowledge base widget.

## Related Information

<https://www.youtube.com/watch?v=xR1bSxtBsMo> 

<https://community.sap.com/t5/technology-q-a/my-first-integration-flow-in-sap-cpi-a-step-by-step-guide/qaq-p/14058133> 

## 18.6 Session Information

View session details, change customer, check linked items, and make notes for this interaction.

The Session information panel on the right of the Agent Desktop screen shows the current session details passed from your communication system. It also includes the following capabilities:

- **Wrong Customer?** In case the initial customer identification was wrong customer, this option opens the customer search screen to find and select another customer.
- **Interaction:** shows the interaction type.

- Enter the *Subject* of the interaction, and add or edit the phone number.
- The *Direction* of the call appears (*Inbound* or *Outbound*).
- The *Start Date & Time* and *End Date & Time* appear here.
- *Notes*: enter your notes for this interaction. Notes are available to remind you or subsequent agents of details communicated to the customer in this interaction.
- Enter a *Category* and sub-category for the interaction.
- *Linked Items*: View and add cases and registered products related to this interaction.

## 18.7 Widget Integration

Communication channels integrate to SAP Service Cloud Version 2 with a UI widget.

Agent desktop currently supports customer interactions through the following channels:

- Phone
- Chat
- SMS
- Email

### → Remember

- You need to contract with a third-party communication provider for communication channels.
- Your communication provider supplies you with a responsive widget that can be embedded into the agent desktop UI.
- The widget provides a front-end user interface for handling channels like phone, chat, and SMS.
- Routing interactions to agents is handled by the channel provider.

Integration between the vendor and service cloud is done on the client-side. That is, the widget communicates with SAP Service Cloud Version 2 through browser events using `window.postMessage()`.

To notify SAP Service Cloud Version 2 of an incoming message, the widget passes a set of parameters in the form of payload and then pushes the information using `postMessage`.

The following is sample code showing the payload construct for incoming phone call.

### Sample Code

```
/**
 * construct the payload in XML format
 * @param sDestination
 * @param sOriginator
 * @returns payload in xml format
 * @private
 */
c4c.cti.integration.prototype._formXMLPayload = function(parameters){
var sPayload = "<?xml version='1.0' encoding='utf-8' ?> <payload> ";
for(var key in parameters){
var tag = "<" + key + ">" + parameters[key] + "</" + key + ">";
sPayload = sPayload + tag;
}
sPayload = sPayload + "</payload>";
```

```

return sPayload;
};
/**
 * Send information to Service Cloud
 * @param parameters
 */
c4c.cti.integration.prototype.sendIncomingCalltoC4C = function (parameters) {
var payload = this._formXMLPayload(parameters);
this._doCall(payload);
};
/**
 * post to parent window
 * @param sPayload
 * @private
 */
c4c.cti.integration.prototype._doCall = function (sPayload) {
window.parent.postMessage(sPayload, "*");
};

```

### Note

Format the payload as JSON or XML.

#### [Phone \[page 384\]](#)

Integration events and payloads for the phone channel.

#### [Chat \[page 387\]](#)

Integration events and payloads for the chat channel.

#### [SMS \[page 390\]](#)

Integration events and payloads for the SMS channel.

#### [Messaging Apps \[page 392\]](#)

Integration events and payloads for messaging app channels such as WhatsApp, Facebook Messenger, Instagram, and Twitter.

#### [Email Routing from CTI Provider \[page 395\]](#)

Integration events and payloads for the email channel from CTI provider.

## Related Information

### [Configure Communication Provider \[page 341\]](#)

Configure communication system provider and widget size.

## 18.7.1 Phone

Integration events and payloads for the phone channel.

### Notify

Your communication provider uses the **notify** event to alert the agent of an incoming phone call. Typically, the notify event is used when a call is assigned to a specific agent by a routing algorithm.

The notify event doesn't record a phone call activity in SAP Service Cloud Version 2.

A sample payload follows:

#### Sample Code

```
payload :-
{
 "Type": "CALL",
 "EventType": "INBOUND",
 "Action": "NOTIFY",
 "ANI": "+358403573592",
 "ExternalReferenceID": "ED4E4730D1C711EAAA5EBC019352B05E",
}
```

ExternalReferenceID specifies the interaction record in your third-party channel provider system. The activity document created in SAP Service Cloud Version 2 links to this external reference ID.

### Accept

Your communication provider uses the **accept** event to indicate that an agent has accepted a call. Typically, the accept event is used when a call is connected between an agent and a caller.

SAP Service Cloud Version 2 creates a phone call activity along with start date and time upon receipt of the **accept** event.

A sample payload follows:

#### Sample Code

```
payload :-
{
 "Type": "CALL",
 "EventType": "INBOUND",
 "Action": "ACCEPT",
 "ANI": "+358403573592",
 "ExternalReferenceID": "ED4E4730D1C711EAAA5EBC019352B05E",
}
```



## End

Your communication provider uses the **end** event to indicate that the agent has ended the call. Typically, the end event is used when a call is disconnected between an agent and a caller.

SAP Service Cloud Version 2 updates the phone call activity with the end date and time upon receipt of the **end** event.

A sample payload follows:

### Sample Code

```
payload :-
{
 "Type": "CALL",
 "EventType": "UPDATEACTIVITY",
 "Action": "END",
 "ANI": "+358403573592",
 "ExternalReferenceID": "ED4E4730D1C711EAAA5EBC019352B05E",
}
```

## Recording ID

The recording ID is used to link the recorded phone call with the activity document created in SAP Service Cloud Version 2. The recording ID ties the interaction record to the recording and enabled users to trigger playback directly from SAP Service Cloud Version 2.

### Note

Phone recording and playback functions are provided by the widget.

### Sample Code

```
payload :- {
 "Type": "CALL",
 "EventType": "UPDATEACTIVITY",
 "Action": "END",
 "ANI": "+358403573592",
 "ExternalReferenceID": "ED4E4730D1C711EAAA5EBC019352B05E",
 "RecordingId": "REC_67F9EA535AE0EA1180E000505687F2F"
}
```

**RecordingId** is a unique identifier generated in the vendor system to reference the recorded phone call. To store the recording link, pass the **RecordingId** along with the phone call **end** event.

## Playback

To play back a recorded phone call, SAP Service Cloud Version 2 launches the widget and sends a payload with the recording identifiers. Your communication channel provider interprets the payload and starts playing the specified recording in the widget.

Sample playback payload from SAP Service Cloud Version 2 to widget:

### Sample Code

```
{
 type: "recordingPlayback"
 InteractionId: "67F9EA535AE0EA1180E000505687F2FD" -> external reference
 RecordingId: "REC_67F9EA535AE0EA1180E000505687F2F" -> Recording ID received
 by CCTR
}
```

## Outbound Call

SAP Service Cloud Version 2 offers click-to-call functionality for phone numbers. For example, on the customer detail screen, agents can select a phone number to trigger a phone call to the customer. To initiate the outbound phone call, the solution sends a payload to the widget as follows:

### Sample Code

```
{
 Direction: "OUT",
 PhoneNumber: "+1 6503054000",
 currentSessionId: "e16424af-4111011ee0b531-f9b3abe58725"
}
```

The widget uses the phone number parameter to trigger an outbound call upon receipt of the payload. The variable `currentSessionId` is used internally by SAP and it does not need to be saved/returned/used by CTI provider.

## CAD Information

SAP Service Cloud allows external communication systems to pass call attached data (CAD), or interactive voice response (IVR) information to be displayed to agents in the live activity center.

Supported CAD Fields

| Attribute               | Payload Field Key |
|-------------------------|-------------------|
| Business Partner Number | CustomerID        |
| Ticket ID               | TicketID          |
| Serial ID               | Serial            |

| Attribute      | Payload Field Key |
|----------------|-------------------|
| External ID    | ExternalID        |
| E-mail ID      | Email             |
| Phone Number   | ANI               |
| Custom Field 1 | Custom_1          |
| Custom Field 2 | Custom_2          |
| Custom Field 3 | Custom_3          |
| Custom Field 4 | Custom_4          |

The information passed in these fields is displayed as-is in the live activity center. Any other functionality required using the CAD parameters must be implemented through custom extensions.

Events that support CAD parameters are **NOTIFY**, **ACCEPT**, and **TRANSFER**.

A sample payload follows.

#### Sample Code

```
<?xml version="1.0" encoding="UTF-8"?>
<payload>
 <Type>CALL</Type>
 <EventType>INBOUND</EventType>
 <ACTION>NOTIFY</ACTION>
 <ANI>+358403573592</ANI>
 <ExternalReferenceID>EA42D48FEAD3EA11AA5EBC019352B05E</ExternalReferenceID>
 <ExternalOriginalReferenceID>E0163EA718FC1FFABDD5608C895AEF67</
ExternalOriginalReferenceID>
 <CustomerID>123456</CustomerID>
 <TicketID>983475</TicketID>
 <Serial>987987987987</Serial>
 <Email>johndoe@example.com</Email>
 <Custom_1>CAD4</Custom_1>
 <Custom_2>CAD5</Custom_2>
 <Custom_3>CAD6</Custom_3>
 <Custom_4>CAD7</Custom_4>
</payload>
```

## 18.7.2 Chat

Integration events and payloads for the chat channel.

### Notify

Your communication provider uses the **notify** event to alert the agent of an incoming chat. Typically, the notify event is used when a chat is assigned to a specific agent by a routing algorithm.

The notify event doesn't record a chat activity in SAP Service Cloud Version 2.

A sample payload follows:

#### Sample Code

```
payload :- {
 "Type": "CHAT",
 "EventType": "INBOUND",
 "Action": "NOTIFY",
 "Email": "Mike.Ross@test.com",
 "ExternalReferenceID": "ED4E4730D1C711EAAA5EBC019352B05E",
}
```

ExternalReferenceID specifies the interaction record in your third-party channel provider system. The activity document created in SAP Service Cloud Version 2 links to this external reference ID.

## Accept

Your communication provider uses the **accept** event to indicate that an agent has accepted a chat request. Typically, the accept event is used when an agent begins chatting with a customer.

SAP Service Cloud Version 2 creates an inbound chat activity along with start date and time upon receipt of the **accept** event.

A sample payload follows:

#### Sample Code

```
payload :- {
 "Type": "CHAT",
 "EventType": "INBOUND",
 "Action": "ACCEPT",
 "Email": "Mike.Ross@test.com",
 "ExternalReferenceID": "ED4E4730D1C711EAAA5EBC019352B05E",
}
```

## End (Update Transcript)

Your communication system uses the **end** event to upload a transcript with a chat activity. When an agent concludes a chat interaction with a customer, the external communication system uploads the transcript to the chat activity and records the ending time and date.

SAP Service Cloud Version 2 supports only plain text for transcripts. Your external communication system must convert transcripts to plain text before uploading.

A sample payload follows:

#### Sample Code

```
payload :- -
{
 "Type": "CHAT",
```

```

"EventType": "UPDATEACTIVITY",
"Action": "END",
"Email": "Mike.Ross@test.com",
"ExternalReferenceID": "ED4E4730D1C711EAAA5EBC019352B05E",
"Transcript": "support@sap.com : Hello Mike\n Mike.Ross@test.com: Hello\n
Mike.Ross@test.com : I need to book an appointment for fixing my washing
machine\nsupport@sap.com : Sure, will tomorrow 12.00 PM work for you? \n
Mike.Ross@test.com: yes thanks bye\nsupport@sap.com : bye"
}

```

Transcript – Contains the plain text chat transcript.

To update the transcript, omit the "Action": "END", line from the payload.

### Sample Code

```

payload :-
{
 "Type": "CHAT",
 "EventType": "UPDATEACTIVITY",
 "Email": "Mike.Ross@test.com",
 "ExternalReferenceID": "ED4E4730D1C711EAAA5EBC019352B05E",
 "Transcript": "support@sap.com : Hello Mike\n Mike.Ross@test.com: Hello\n
Mike.Ross@test.com : I need to book an appointment for fixing my washing
machine\nsupport@sap.com : Sure, will tomorrow 12.00 PM work for you? \n
Mike.Ross@test.com: yes thanks bye\nsupport@sap.com : bye"
}

```

## CAD Information

SAP Service Cloud allows external communication systems to pass call attached data (CAD), or interactive voice response (IVR) information to be displayed to agents in the live activity center.

Supported CAD Fields

| Attribute               | Payload Field Key |
|-------------------------|-------------------|
| Business Partner Number | CustomerID        |
| Ticket ID               | TicketID          |
| Serial ID               | Serial            |
| External ID             | ExternalID        |
| E-mail ID               | Email             |
| Phone Number            | ANI               |
| Custom Field 1          | Custom_1          |
| Custom Field 2          | Custom_2          |
| Custom Field 3          | Custom_3          |
| Custom Field 4          | Custom_4          |

The information passed in these fields is displayed as-is in the live activity center. Any other functionality required using the CAD parameters must be implemented through custom extensions.

Events that support CAD parameters are NOTIFY, ACCEPT, and TRANSFER.

A sample payload follows.

#### Sample Code

```
<?xml version="1.0" encoding="UTF-8"?>
<payload>
 <Type>CHAT</Type>
 <EventType>INBOUND</EventType>
 <ACTION>NOTIFY</ACTION>
 <ANI>+358403573592</ANI>
 <ExternalReferenceID>EA42D48FEAD3EA11AA5EBC019352B05E</ExternalReferenceID>
 <ExternalOriginalReferenceID>E0163EA718FC1FFABDD5608C895AEF67</
ExternalOriginalReferenceID>
 <CustomerID>123456</CustomerID>
 <TicketID>983475</TicketID>
 <Serial>987987987987</Serial>
 <Email>johndoe@example.com</Email>
 <Custom_1>CAD4</Custom_1>
 <Custom_2>CAD5</Custom_2>
 <Custom_3>CAD6</Custom_3>
 <Custom_4>CAD7</Custom_4>
</payload>
```

## 18.7.3 SMS

Integration events and payloads for the SMS channel.

### Notify

Your communication provider uses the **notify** event to alert the agent of an incoming SMS message. Typically, the notify event is used when a chat is assigned to a specific agent by a routing algorithm.

The notify event doesn't record an SMS chat activity in SAP Service Cloud Version 2.

A sample payload (formatted JSON data) follows:

#### Sample Code

```
payload :- {
 "Type": "MESSAGE",
 "EventType": "INBOUND",
 "Action": "NOTIFY",
 "ANI": "+30040300597",
 "Text": "This is SMS text",
 "ExternalReferenceID": "77FB2990D24411EAAA5EBC019352B05E"
}
```

ExternalReferenceID specifies the interaction record in your third-party channel provider system. The activity document created in SAP Service Cloud Version 2 links to this external reference ID.

## Accept

Your third-party communication system uses the **accept** event to indicate to SAP Service Cloud Version 2 that an SMS message has been accepted by an agent for further processing.

The accept event creates a new Message/SMS activity in SAP Service Cloud Version 2, and records the time and date.

### Sample Code

```
payload :- {
 "Type": "MESSAGE",
 "EventType": "INBOUND",
 "Action": "ACCEPT",
 "ANI": "+30040300597",
 "Text": "This is SMS text",
 "ExternalReferenceID": "77FB2990D24411EAAA5EBC019352B05E",
}
```

## End (Update Transcript)

Your communication system uses the **end** event to upload a transcript with a messaging activity. When an agent concludes a chat-like interaction with a customer using SMS, the external communication system can upload the entire transcript to one messaging activity.

SAP Service Cloud Version 2 supports only plain text for transcripts. Your external communication system must convert transcripts to plain text before uploading.

A sample payload (formatted JSON data) follows:

### Sample Code

```
payload :- {
 "Type": "MESSAGE",
 "EventType": "UpdateActivity",
 "Action": "END",
 "ExternalReferenceID": "77FB2990D24411EAAA5EBC019352B05E",
 "Transcript": "+30040300597 : Hi\nhelp@ssupport.com : Hi\nhelp@ssupport.com :
how you doing?\n+30040300597 : Please reschedule appt to
tomorrow.\nhelp@ssupport.com :Sure! Will look into that."
}
```

Transcript – Contains the plain text SMS transcript

## CAD Information

SAP Service Cloud allows external communication systems to pass call attached data (CAD), or interactive voice response (IVR) information to be displayed to agents in the live activity center.

#### Supported CAD Fields

| Attribute               | Payload Field Key |
|-------------------------|-------------------|
| Business Partner Number | CustomerID        |
| Ticket ID               | TicketID          |
| Serial ID               | Serial            |
| External ID             | ExternalID        |
| E-mail ID               | Email             |
| Phone Number            | ANI               |
| Custom Field 1          | Custom_1          |
| Custom Field 2          | Custom_2          |
| Custom Field 3          | Custom_3          |
| Custom Field 4          | Custom_4          |

The information passed in these fields is displayed as-is in the live activity center. Any other functionality required using the CAD parameters must be implemented through custom extensions.

Events that support CAD parameters are **NOTIFY**, **ACCEPT**, and **TRANSFER**.

A sample payload follows.

#### Sample Code

```
<?xml version="1.0" encoding="UTF-8"?>
<payload>
 <Type>MESSAGE</Type>
 <EventType>INBOUND</EventType>
 <ACTION>NOTIFY</ACTION>
 <ANI>+358403573592</ANI>
 <ExternalReferenceID>EA42D48FEAD3EA11AA5EBC019352B05E</ExternalReferenceID>
 <ExternalOriginalReferenceID>E0163EA718FC1FFABDD5608C895AEF67</
ExternalOriginalReferenceID>
 <CustomerID>123456</CustomerID>
 <TicketID>983475</TicketID>
 <Serial>987987987987</Serial>
 <Email>johndoe@example.com</Email>
 <Custom_1>CAD4</Custom_1>
 <Custom_2>CAD5</Custom_2>
 <Custom_3>CAD6</Custom_3>
 <Custom_4>CAD7</Custom_4>
</payload>
```

## 18.7.4 Messaging Apps

Integration events and payloads for messaging app channels such as WhatsApp, Facebook Messenger, Instagram, and Twitter.

For social media channels like Facebook Messenger, WhatsApp, Instagram, and Twitter, the **Type** attribute in the payload must be **MESSAGE**.



The standard channel IDs for messaging app payloads supported by the solution are:

- Facebook Messenger: messenger
- WhatsApp: whatsapp
- Instagram: instagram

You can change the standard channel IDs if you prefer something different.

Map these channel IDs to the channel types in the [Live Interaction Widget Settings](#) screen. For more information on channel configuration, see the related information section.

## Notify

Your communication provider uses the **notify** event to alert the agent of an incoming message. Typically, the notify event is used when a message is assigned to a specific agent by a routing algorithm.

The notify event doesn't record a messaging activity in SAP Service Cloud Version 2.

A sample payload (formatted JSON data) follows:

### Sample Code

```
payload :- {
 "Type": "MESSAGE",
 "EventType": "INBOUND",
 "Action": "NOTIFY",
 "ANI": "+30040300597",
 "Subject": "Test Subject",
 "Transcript": "Test message content"
 "ExternalReferenceID": "77FB2990D24411EAAA5EBC019352B05E"
 "ChannelId": "whatsapp"
}
```

ExternalReferenceID specifies the interaction record in your third-party channel provider system. The activity document created in SAP Service Cloud Version 2 links to this external reference ID.

## Accept

Your third-party communication system uses the **accept** event to indicate to SAP Service Cloud Version 2 that a message has been accepted by an agent for further processing.

The accept event creates a new Message activity in SAP Service Cloud Version 2, and records the time and date.

### Sample Code

```
payload :- {
 "Type": "MESSAGE",
 "EventType": "INBOUND",
 "Action": "ACCEPT",
 "ANI": "+30040300597",
 "Subject": "Test Subject",
```

```
"Transcript": "Test message content"
"ExternalReferenceID": "77FB2990D24411EAAA5EBC019352B05E"
"ChannelId": "twitter"
}
```

## End (Update Transcript)

Your communication system uses the **end** event to upload a transcript with a messaging activity. When an agent concludes a chat-like interaction with a customer using a messaging app, the external communication system can upload the entire transcript to one messaging activity.

SAP Service Cloud Version 2 supports only plain text for transcripts. Your external communication system must convert transcripts to plain text before uploading.

A sample payload (formatted JSON data) follows:

### Sample Code

```
payload :- {
 "Type": "MESSAGE",
 "EventType": "UPDATEACTIVITY",
 "Action": "END",
 "ExternalReferenceID": "77FB2990D24411EAAA5EBC019352B05E",
 "Transcript": "+30040300597 : Hi\nhelp@ssupport.com : Hi\nhelp@ssupport.com :
how you doing?\n+30040300597 : Please reschedule appt to
tomorrow.\nhelp@ssupport.com : Sure! Will look into that."
 "ChannelId": "messenger"
}
```

**Transcript** – Contains the plain text message transcript

## CAD Information

SAP Service Cloud allows external communication systems to pass call attached data (CAD), or interactive voice response (IVR) information to be displayed to agents in the live activity center.

Supported CAD Fields

| Attribute               | Payload Field Key |
|-------------------------|-------------------|
| Business Partner Number | CustomerID        |
| Ticket ID               | TicketID          |
| Serial ID               | Serial            |
| External ID             | ExternalID        |
| E-mail ID               | Email             |
| Phone Number            | ANI               |
| Custom Field 1          | Custom_1          |

| Attribute      | Payload Field Key |
|----------------|-------------------|
| Custom Field 2 | Custom_2          |
| Custom Field 3 | Custom_3          |
| Custom Field 4 | Custom_4          |

The information passed in these fields is displayed as-is in the live activity center. Any other functionality required using the CAD parameters must be implemented through custom extensions.

Events that support CAD parameters are **NOTIFY**, **ACCEPT**, and **TRANSFER**.

A sample payload follows.

#### Sample Code

```
<?xml version="1.0" encoding="UTF-8"?>
<payload>
 <Type>MESSAGE</Type>
 <EventType>INBOUND</EventType>
 <ACTION>NOTIFY</ACTION>
 <ANI>+358403573592</ANI>
 <ExternalReferenceID>EA42D48FEAD3EA11AA5EBC019352B05E</ExternalReferenceID>
 <ExternalOriginalReferenceID>E0163EA718FC1FFABDD5608C895AEF67</
ExternalOriginalReferenceID>
 <CustomerID>123456</CustomerID>
 <TicketID>983475</TicketID>
 <Serial>987987987987</Serial>
 <Email>johndoe@example.com</Email>
 <Custom_1>CAD4</Custom_1>
 <Custom_2>CAD5</Custom_2>
 <Custom_3>CAD6</Custom_3>
 <Custom_4>CAD7</Custom_4>
</payload>
```

## Related Information

[Configure Communication Provider \[page 341\]](#)

Configure communication system provider and widget size.

## 18.7.5 Email Routing from CTI Provider

Integration events and payloads for the email channel from CTI provider.

## Notify

Your communication provider uses the **notify** event to alert the agent of an incoming email message. Typically, the notify event is used when an email message is passed to a specific agent by a routing algorithm.

The notify event doesn't record an email activity in SAP Service Cloud Version 2.

A sample payload (formatted JSON data) follows:

### Sample Code

```
payload :- {
 "Type": "EMAIL",
 "EventType": "INBOUND",
 "Action": "NOTIFY",
 "Email": "bob.smith@example.com",
 "Subject": "Regarding product support",
 "ExternalReferenceID": "77FB2990D24411EAAA5EBC019352B05E",
 "ToAddress": "support%40sinchcontactpro.com"
}
```

ExternalReferenceID specifies the interaction record in your third-party channel provider system. The activity document created in SAP Service Cloud Version 2 links to this external reference ID.

## Accept

Your third-party communication system uses the **accept** event to indicate to SAP Service Cloud Version 2 that an email message has been accepted by an agent for further processing.

The accept event creates a new email activity in SAP Service Cloud Version 2, and records the time and date.

### Sample Code

```
payload :- {
 "Type": "EMAIL",
 "EventType": "INBOUND",
 "Action": "ACCEPT",
 "Email": "bob.smith@example.com",
 "Subject": "Regarding product support",
 "ExternalReferenceID": "77FB2990D24411EAAA5EBC019352B05E",
 "ToAddress": "support%40sinchcontactpro.com"
}
```

## CAD Information

SAP Service Cloud allows external communication systems to pass call attached data (CAD), or interactive voice response (IVR) information to be displayed to agents in the live activity center.

#### Supported CAD Fields

| Attribute               | Payload Field Key |
|-------------------------|-------------------|
| Business Partner Number | CustomerID        |
| Ticket ID               | TicketID          |
| Serial ID               | Serial            |
| External ID             | ExternalID        |
| E-mail ID               | Email             |
| Phone Number            | ANI               |
| Custom Field 1          | Custom_1          |
| Custom Field 2          | Custom_2          |
| Custom Field 3          | Custom_3          |
| Custom Field 4          | Custom_4          |

The information passed in these fields is displayed as-is in the live activity center. Any other functionality required using the CAD parameters must be implemented through custom extensions.

Events that support CAD parameters are **NOTIFY**, **ACCEPT**, and **TRANSFER**.

A sample payload follows.

#### Sample Code

```
<?xml version="1.0" encoding="UTF-8"?>
<payload>
 <Type>EMAIL</Type>
 <EventType>INBOUND</EventType>
 <ACTION>NOTIFY</ACTION>
 <ANI>+358403573592</ANI>
 <ExternalReferenceID>EA42D48FEAD3EA11AA5EBC019352B05E</ExternalReferenceID>
 <ExternalOriginalReferenceID>E0163EA718FC1FFABDD5608C895AEF67</
ExternalOriginalReferenceID>
 <CustomerID>123456</CustomerID>
 <TicketID>983475</TicketID>
 <Serial>987987987987</Serial>
 <Email>johndoe@example.com</Email>
 <Custom_1>CAD4</Custom_1>
 <Custom_2>CAD5</Custom_2>
 <Custom_3>CAD6</Custom_3>
 <Custom_4>CAD7</Custom_4>
</payload>
```

## 18.8 Integrate External SAP Systems into Agent Desktop with Mashups

Use the screen adaptation function of Agent Desktop and the mashup capabilities built into SAP Service Cloud Version 2 to integrate external system functions into Agent Desktop. The example that follows integrates SAP

S/4HANA or SAP S/4HANA Cloud Public Edition Service Management to create service orders and service quotation. As part of the standard integration, only service order and service quotation is supported.

## Overview

Incorporate a back-office application, such as SAP S/4HANA Cloud Public Edition Service Management or SAP S/4HANA, into the front-office interface of SAP Service Cloud Version 2 Agent Desktop using a mashup.

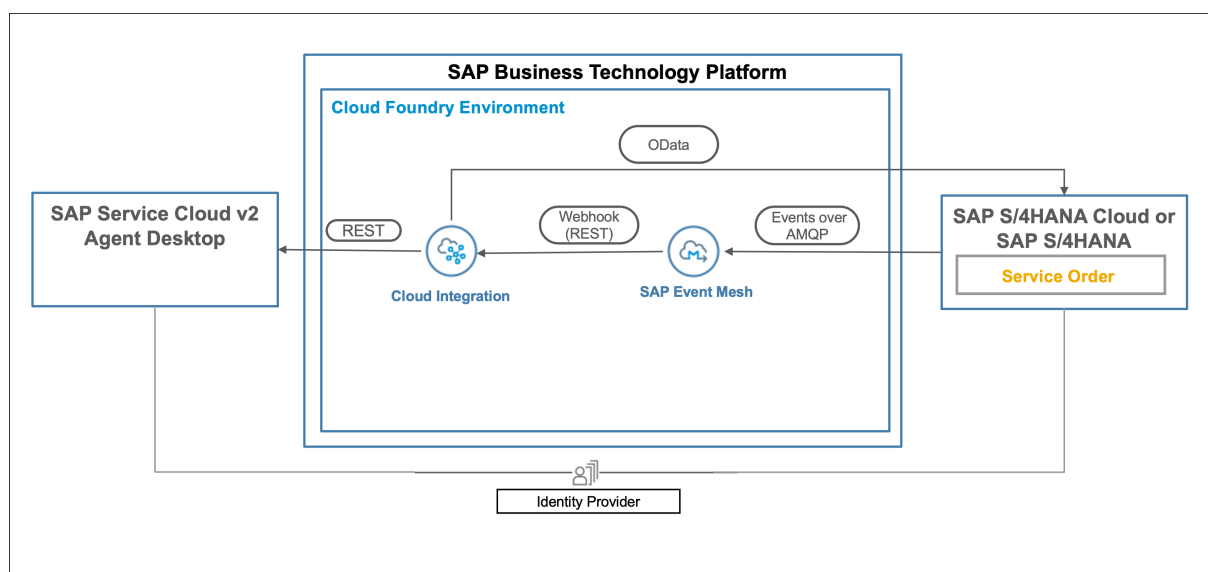
## Prerequisites

You require the following software components for this example integration:

- SAP Service Cloud Version 2
- SAP Agent Desktop
- SAP S/4HANA or SAP S/4HANA Cloud Public Edition Service Management
- SAP Event Mesh
- SAP Cloud Integration

## Architecture and Design

The following diagram illustrates this integration architecture:



## Related Information

[SAP Event Mesh documentation](#)

[SAP Cloud Integration documentation](#)

### 18.8.1 Configure SAP Event Mesh

Configure SAP Event Mesh for integration between SAP S/4HANA or SAP S/4HANA Cloud Public Edition and SAP Service Cloud Version 2, Agent Desktop.

#### Context

Log on as an administrator to configure this integration.

#### Procedure

1. Go to the Cloud Cockpit of your BTP sub-account.
2. Navigate to the [Instance and Subscriptions](#) option.
3. Under [Instances](#), create a new [Service Instance](#) of the [Event Mesh](#) service, with a **Default** plan.

Provide the JSON parameters for the instance following this example:

#### Sample Code

```
{
 "options": {
 "management": true,
 "messagingrest": true,
 "messaging": true
 },
 "rules": {
 "topicRules": {
 "publishFilter": [
 "${namespace}/*"
],
 "subscribeFilter": [
 "${namespace}/*"
]
 },
 "queueRules": {
 "publishFilter": [
 "${namespace}/*"
],
 "subscribeFilter": [
 "${namespace}/*"
]
 }
 },
 "version": "1.1.0",
```

```
"emname": "<Unique Instance name>",
"namespace": "<Unique namespace value>"
}
```

Make a note of the [Namespace](#) for this service instance. You need it later for configuring the [Enterprise Event Enablement](#) in SAP S/4HANA Cloud.

4. Create a [Service Key](#) for this newly created event mesh instance.

Make a note of the **Client ID** and **Secret** of this key under the `amqp10ws` protocol. You need it later for configuring the [Communication System](#) in SAP S/4HANA Cloud.

5. Launch the [Event Mesh Administrator](#) user interface to create a subscription to the **Event Mesh** application.
6. Choose the service instance you created previously.

Find the service instance listed under [Message Clients](#).

7. Go to the [Queues](#) tab, and create a new queue. Prefix the queue name with the namespace you created and noted previously.

Once the queue is created, you can create subscriptions to the SAP S/4HANA Cloud outbound topics corresponding to service order events in the SAP S/4HANA Cloud solution.

8. Add subscriptions to your queue: select the queue you created in the previous step, and go to [Actions](#) [Create Subscriptions](#).

For events you want to relay to the agent desktop timeline, create subscriptions using the following pattern:

<Message Client Namespace>**ce**<S4 Hana outbound topic name>

For example: `s4toc4/v2/srvo/ce/sap/s4/beh/serviceorder/v1/ServiceOrder/Completed/v1`

Other events supported currently are:

- `/sap/s4/beh/serviceorder/v1/ServiceOrder/Created/v1`
- `/sap/s4/beh/serviceorder/v1/ServiceOrder/Released/v1`

9. Create a webhook in the event mesh instance. Go to the instance [WebHooks](#) tab. Create a new webhook and point it to the integration flow endpoint by providing the required authentication.

## Related Information

[SAP Event Mesh documentation](#)



## 18.8.2 Configure SAP S/4HANA Cloud

Configure SAP S/4HANA Cloud for integration with SAP Service Cloud Version 2, Agent Desktop.

### Procedure

1. Log on to your SAP S/4HANA Cloud solution and to go [Communication Management](#).
2. Create a new communication arrangement for the communication scenario: SAP\_COM\_0092 (Enterprise Eventing Integration).

#### Note

You also need to create two more communication arrangements once you finish this one.

3. Enter the value you noted for the event mesh instance namespace under [Additional Properties](#).
4. Enter a unique value for the property: [Channel](#).

Make a note of the channel property value. You need it later to configure the channel binding.

5. Create a [Communication System](#) with the host name set to your event mesh instance.

For example: **enterprise-messaging-messaging-gateway.cfapps.sap.hana.ondemand.com:443**

6. Enter the authentication and token endpoint in the **OAuth 2.0** settings. Use the **Service Key** token endpoint value that you created previously.
7. Enter the OAuth 2.0 client ID and client secret corresponding to the service key amqp protocol under [Outbound communication](#).
8. Enter your mesh instance with the amqp protocol under [Outbound services](#).

For example: **https://enterprise-messaging-messaging-gateway.cfapps.sap.hana.ondemand.com:443/protocols/amqp10ws**

9. Activate the communication arrangement.

If you can't activate the communication arrangement, check and correct your entries made in the previous steps. Continue this procedure when the communication arrangement status is active.

10. Go to [Enterprise Event EnablementConfigure Channel Binding](#) and search for the communication arrangement, using the value you entered for the **Channel** property.

Verify that the communication arrangement status is **Active**. If the status is anything other than **Active**, try reactivating the communication arrangement.

11. Go to the channel details and create [Outbound Topics](#) corresponding to the service order events that need to be relayed to the Agent Desktop timeline.

The topics configured in this channel must be the same as the subscriptions you created in the event mesh instance.

Events supported currently are:

- /sap/s4/beh/serviceorder/v1/ServiceOrder/Created/v1
- /sap/s4/beh/serviceorder/v1/ServiceOrder/Released/v1

- /sap/s4/beh/serviceorder/v1/ServiceOrder/Completed/v1
- Go to [Administration](#) > [Security](#) > [Maintain Protection Allowlists](#). In the [Clickjacking Protection](#) tab, click on the + icon and add the [Trusted Host Name, Schema, and Port](#) for your SAP Service Cloud tenant.  
  
This step allows trusted access for SAP Service Cloud and Agent Desktop to your S/4 HANA Cloud tenant.
  - Create a new communication arrangement for the communication scenario: SAP\_COM\_0350 (Service Order OData Integration).  
  
This communication arrangement invokes the **Service Order OData API** from the integration flow. The log in credentials for the inbound user configured in this communication arrangement must be maintained in the integration flow.
  - Create a Communication Arrangement for the Communication Scenario: SAP\_COM\_0008 (Business Partner, Customer, and Supplier Integration).  
  
This communication arrangement invokes the **Business Partner OData API** from the integration flow.

## 18.8.3 Configure SAP S/4HANA

Configure SAP S/4HANA for integration with SAP Service Cloud Version 2, Agent Desktop.

Using the enterprise event enablement feature of SAP S/4HANA, events can be exchanged between SAP S/4HANA and event mesh. In order to enable SAP S/4HANA systems for enterprise messaging you need to create channels and maintain outbound event topic bindings for the channel. For more information, see [Creating, Configuring and Managing Channels](#)

## 18.8.4 Configure SAP Cloud Integration

Configure and deploy the SAP Cloud Integration flow (iFlow) between SAP Service Cloud Version 2, Agent Desktop, and SAP S/4HANA or SAP S/4HANA Cloud Public Edition.

### 18.8.4.1 Configure iFlow Parameters for SAP S/4HANA Cloud to SAP Service Cloud Service Order Integration

#### Prerequisites

As a prerequisite, go to [Operations View](#) > [Security Material](#) > [Add](#) > [User Credentials](#) and deploy the following:

- User credentials to connect to SAP S/4HANA Cloud Public Edition system

- User credentials to connect to SAP Service Cloud Version 2.

## Configure the iFlow Parameters

Configure the iFlow parameters for the SAP S/4HANA Cloud Public Edition to SAP Service Cloud integration.

- Configure Sender

| Parameter     | Description                                     |
|---------------|-------------------------------------------------|
| Sender        | Select <a href="#">S4_HANA_Cloud</a>            |
| Adapter Type  | HTTPS                                           |
| Address       | <b>&lt;Webhook configured in event mesh&gt;</b> |
| Authorization | User Role                                       |
| User Role     | ESBMessaging.send                               |

- Configure Receiver
  - S4\_HANA\_Cloud

| Parameter       | Description                                                   |
|-----------------|---------------------------------------------------------------|
| Adapter Type    | HTTP                                                          |
| S4 host URL     | <SAP S/4HANA Cloud host URL>                                  |
| Proxy Type      | Internet                                                      |
| Credential Name | <User credential created for connecting to SAP S/4HANA Cloud> |
| User Role       | ESBMessaging.send                                             |
| Timeout (in ms) | 60000                                                         |

- Service\_Cloud\_V2

| Parameter       | Description                                                      |
|-----------------|------------------------------------------------------------------|
| Adapter Type    | HTTP                                                             |
| C4C host URL    | <SAP Service Cloud V2 host URL>                                  |
| Credential Name | <User credential created for connecting to SAP Service Cloud V2> |
| Timeout (in ms) | 60000                                                            |

- More configurations

| Parameter | Description    |
|-----------|----------------|
| Type      | All Parameters |

| Parameter              | Description                                                                                                                                               |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agent Desktop Add-on   | <ul style="list-style-type: none"> <li>False: For standalone scenario</li> <li>True: For side by side scenario</li> </ul>                                 |
| Receiver Communication | Default communication system of Service Cloud version 2                                                                                                   |
| Sender Communication   | Communication system of Service Cloud version 2 which is configured for the communication configuration Integrate Service Entities with SAP S/4HANA Cloud |

## 18.8.4.2 Configure iFlow Parameters for SAP S/4HANA to SAP Service Cloud Service Order Integration

### Prerequisites

As a prerequisite, go to ► [Operations View](#) ► [Security Material](#) ► [Add](#) ► [User Credentials](#) ► and deploy the following:

- User credentials to connect to SAP S/4HANA system
- User credentials to connect to SAP Service Cloud Version 2.

### Configure the iFlow Parameters

Configure the iFlow parameters for the SAP S/4HANA to SAP Service Cloud integration.

- Configure Sender

| Parameter     | Description                                              |
|---------------|----------------------------------------------------------|
| Sender        | Select <a href="#">S4</a>                                |
| Adapter Type  | HTTPS                                                    |
| Address       | <a href="#">&lt;Webhook configured in event mesh&gt;</a> |
| Authorization | User Role                                                |
| User Role     | ESBMessaging.send                                        |

- Configure Receiver
  - S4\_HANA

| Parameter       | Description                                             |
|-----------------|---------------------------------------------------------|
| Adapter Type    | HTTP                                                    |
| S4 host URL     | <SAP S/4HANA host URL>                                  |
| Proxy Type      | On-premise                                              |
| Credential Name | <User credential created for connecting to SAP S/4HANA> |
| User Role       | ESBMessaging.send                                       |
| Timeout (in ms) | 60000                                                   |

- Service\_Cloud\_V2

| Parameter       | Description                                                      |
|-----------------|------------------------------------------------------------------|
| Adapter Type    | HTTP                                                             |
| C4C host URL    | <SAP Service Cloud V2 host URL>                                  |
| Credential Name | <User credential created for connecting to SAP Service Cloud V2> |
| Timeout (in ms) | 60000                                                            |

- More configurations

| Parameter              | Description                                                                                                                                               |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                   | All Parameters                                                                                                                                            |
| Agent Desktop Add-on   | <ul style="list-style-type: none"> <li>• False: For standalone scenario</li> <li>• True: For side by side scenario</li> </ul>                             |
| Receiver Communication | Default communication system of Service Cloud version 2                                                                                                   |
| Sender Communication   | Communication system of Service Cloud version 2 which is configured for the communication configuration Integrate Service Entities with SAP S/4HANA Cloud |

## 18.8.5 Configure SAP Service Cloud

Configure SAP Service Cloud, Service Agent Desktop for integration with SAP S/4HANA Cloud.

### Prerequisites

Master data replication of **Business Partner (BP)** in SAP S/4HANA or SAP S/4HANA Cloud Public Edition to **Customer** in SAP Service Cloud.

For this integration, every customer record in SAP Service Cloud requires a corresponding remote business partner in S/4HANA Cloud Service Management.

## Context

### ⚠ Restriction

Individual customers aren't supported currently.

## Procedure

1. Review Section 4 of the guide: **Setting Up Opportunity-to-Order with SAP Cloud for Customer**.  
Find a link to this guide in the Related Links section.
2. Follow the procedure in section 4 to set up master data integration for business partners (BP).

## Related Information

[Setting Up Opportunity-to-Order with SAP Cloud for Customer](#) 

## 18.8.6 Configure Service Agent Desktop

Configure SAP Service Cloud, Agent Desktop for integration with SAP S/4HANA or SAP S/4HANA Cloud Public Edition Service Management.

## Context

An inbound communication configuration linking the Event Bridge service to the Inbound entity is delivered with the connector-service. Create the following artifacts for this inbound communication configuration:

- Communication System
- Communication Configuration

## Procedure

1. Go to your user profile menu and choose **System Settings** > **Integration** >> **Communication Configuration** .
2. Choose **Integrate Service Entities with SAP S/4HANA Cloud**.

3. Select [Copy](#) icon.
4. Create a new communication configuration for the communication system you created .
5. Activate the communication configuration you created.

You don't need an outbound configuration for this integration.

## 18.8.7 Configure Mashup: Create Scenario

Configure a create scenario mashup in SAP Service Cloud Version 2 for integration with SAP S/4HANA or SAP S/4HANA Cloud.

### Prerequisites

- The S/4HANA or S/4HANA Cloud URLs that are included in the mashup need to be added to a list of allowed URLs in SAP Service Cloud Version 2. You can do this by navigating to your user profile on the top-right corner of your screen and click ► [Settings](#) ► [All Settings](#) ► [General](#) ► [Content Security Policy Setting](#) ► and scroll to the section [Frame Source](#) and add the S/4HANA Cloud hostname URLs.

#### ❖ Example

If the Service Order Create URL is `https://my123456.s4hana.ondemand.com/ui?sap-ushell-config=headerless#ServiceOrder-create` then, add `https://my123456.s4hana.ondemand.com/` in the [Frame Source](#).

Similarly, add the login URL of S/4HANA Cloud system in the Frame Source.

- Assign the customer service manager role `SAP_BR_CUSTOMER_SERVICE_MGR` to the user in S/4HANA.
- Assign the business catalog `SAP_CRM_BC_SERV_PROCCORDER_PC` to the user in S/4HANA Cloud Service Management.

For further details on assigning business catalogs to S/4HANA Cloud users, see the related links section following the steps.

### Context

### Procedure

1. Go to your user profile menu and choose ► [System Settings](#) ► ► [Foundation](#) ► ► [Mashup Authoring](#) ►.
2. Create a new mashup by clicking the + [Create](#) button.

- Under the [General Information](#) section, enter a mashup name and description. Use a meaningful title. For example: Create Service Order.
- Under the [Input Parameters](#) section, enter the service order create URL of your SAP S/4HANA or SAP S/4HANA Cloud tenant in the [URL](#) field.
  - Example URL for SAP S/4HANA: `https://my12345.org/sap/bc/ui5_ui5/ui2/ushell/shells/abap/FioriLaunchpad.html?sap-client=210&sap-ushell-config=headerless#ServiceOrder-create?sap-processtype=SRV0&sap-soldtoparty=171000030`
  - Example URL for SAP S/4HANA Cloud: `https://my123456.s4hana.ondemand.com/ui?sap-ushell-config=headerless#ServiceOrder-create?sap-processtype=SV01&sap-soldtoparty=17100004`
- Click [Extract Parameters](#).
- Under the [Parameter, Constant and API Key](#) section, ensure that the [sap-processtype](#) is set to SV01 and [sap-soldtoparty](#) is blank. You configure the parameter binding of the sap-soldtoparty by using the extensibility feature in Agent Desktop.

Post extraction of the parameters from the URL, the section should appear as:

**Input Parameters**

**URL \***  
 https://my12345.org/sap/bc/ui5\_ui5/ui2/ushell/shells/abap/FioriLaunchpad.html?sap-client=210&sap-ushell-config=headerless#ServiceOrder-create

**Parameter, Constant and API Key**

|                 |                     |                                             |                            |
|-----------------|---------------------|---------------------------------------------|----------------------------|
| sap-processtype | • SV01              | • <input type="checkbox"/> <b>Mandatory</b> | • No System Parameter a... |
| sap-soldtoparty | • No Constant added | • <input type="checkbox"/> <b>Mandatory</b> | • No System Parameter a... |

- [Save](#) and activate your mashup.
  - Ensure to create a new mashup to use with agent desktop integration.
  - Set the screen binding parameters in Agent Desktop via Extensibility and not in Mashup authoring.

## Related Information

[Add Business Catalogs to Business Users in SAP S/4HANA Cloud](#)



## 18.8.8 Configure Mashup: Display Scenario

Configure a display scenario mashup in SAP Service Cloud Version 2 for integration with SAP S/4HANA Cloud.

### Prerequisites

- Assign the customer service manager role `SAP_BR_CUSTOMER_SERVICE_MGR` to the user in S/4HANA.
- Assign the business catalog `SAP_S4CRM_BC_SRVC_DSP_PC` to the user in S/4HANA Cloud Service Management.

For further details on assigning business catalogs to S/4HANA Cloud users, see the related links section following the steps.

### Procedure

1. Go to your user profile menu and choose **System Settings** **Foundation** **Mashup Authoring**.
2. Create a new mashup by clicking the **+ Create** button.
3. Under the **General Information** section, enter a mashup name and description. Use a meaningful title. For example: Display Service Order.
4. Under the **Input Parameters** section, enter the service order display URL of your SAP S/4HANA or SAP S/4HANA Cloud tenant in the **URL** field.
  - Example URL for SAP S/4HANA: `https://my12345.org/sap/bc/ui5_ui5/ui2/ushell/shells/abap/FioriLaunchpad.html?sap-client=210&sap-ushell-config=headerless#ServiceOrder-display?ServiceOrder=ID`
  - Example URL for SAP S/4HANA Cloud: `https://my123456.s4hana.ondemand.com/ui?sap-ushell-config=headerless#ServiceOrder-display&/C_SrvOrdDocListRptAndObjPg'{'ID1}'/?FCLLayout=MidColumnFullScreen`
5. Click **Extract Parameters**.
6. Under the **Parameter, Constant and API Key** section, ensure that the **FCLLayout** is set to **MidColumnFullScreen** and **{ID}** is blank. You configure the parameter binding of the **{ID}** by using the extensibility feature in Agent Desktop.

Post extraction of the parameters from the URL, the section should appear as:

**Input Parameters**

**URL** \*

https://my123456.s4hana.ondemand.com/ui?sap-ushell-config=headerless#ServiceOrder-display&/C\_SrvOrdDocListRptAndObjPg'{'ID1}'/?FCLLayout=MidColumnFullScreen

**Parameter, Constant and API Key**

|           |                       |                                      |                            |
|-----------|-----------------------|--------------------------------------|----------------------------|
| FCLLayout | • MidColumnFullScreen | • <input type="checkbox"/> Mandatory | • No System Parameter a... |
| {ID1}     | • No Constant added   | • <input type="checkbox"/> Mandatory | • No System Parameter a... |

7. [Save](#) and activate your mashup.

- Ensure to create a new mashup to use with agent desktop integration.
- Set the screen binding parameters in Agent Desktop via Extensibility and not in Mashup authoring.

## Related Information

[Add Business Catalogs to Business Users in SAP S/4HANA Cloud](#)

## 18.8.9 Adapt Agent Desktop for Mashup

### 18.8.9.1 Service Order

#### 18.8.9.1.1 Create Service Order

Adapt the agent desktop screen to include the create scenario mashup in SAP Service Cloud Version 2 for integration with SAP S/4HANA Cloud.

### Procedure

1. Go to [Agent Desktop](#).
2. Under the [Search](#) tab, [Confirm](#) an account and navigate to the [Customer Hub](#) tab.
3. Go to your user profile menu and choose [Start Adaptation](#)
4. Select the [What would you like to do?](#) section and select the **Edit Section** icon (✎) to open the [Section Items](#) pop-up box.
5. Select [Create](#) and click the **Create Button** icon (+).
6. In the [Add Buttons](#) dialog box, enter the [Button Text](#) as **Service Order** and enter an [Event Name](#).
7. In the Parameters section, ensure the parameter binding of sap-soldtoparty is set to [Fields/External Business Partner - Default ID](#) and click [Apply](#).

This links the service order to a customer account.

8. Select the tabs section and click the icon (✎) to open the [Edit Tabs](#) pop-up box.
9. Click the **Create Tab** icon (+) and provide a new tab name, for example: Create Service Order and press Enter.

10. Click the icon ( > ) to launch Edit Tabs pop-up dialog again. Select the event you provided for service order create and click [Apply](#).
11. Click the icon ( ✎ ) under the Create Service Order screen area.
12. Click [Add Mashup](#) and select the mashup that you created for create service order.
13. In the Edit Properties window, set the value of [Height\(%\)](#) to 100 and ensure that `sap-soldtoparty` is set to [accountInfo/externalReferenceBusinessPartnerId](#) and click [Apply](#).
14. Click [End Session](#) to exit the adaptation mode and to view your adaptations on the screen.

## 18.8.9.1.2 View Service Order

Adapt the agent desktop screen to include the View Service Order Details mashup in SAP Service Cloud Version 2 for integration with SAP S/4HANA Cloud.

### Procedure

1. Go to [Agent Desktop](#).
2. Under the [Search](#) tab, [Confirm](#) an account and navigate to the [Customer Hub](#) tab.
3. Go to your user profile menu and choose [Start Adaptation](#).
4. Select the tabs section and click the icon ( ✎ ) to open the [Edit Tabs](#) pop-up box.
5. Click the **Create Tab** icon ( + ) and provide a new tab name, for example: Display Service Order and press Enter.
6. Click the icon ( > ) to launch Edit Tabs pop-up dialog again. Select the event you provided for service order display and click [Apply](#).
7. Click the icon ( ✎ ) under the Display Service Order screen area.
8. Click [Add Mashup](#) and select the mashup that you created for display service order.
9. In the Edit Properties window, set the value of [Height\(%\)](#) to 100 and ensure that `{ID}` is set to [s4ServiceOrderInfo/serviceOrderId](#) and click [Apply](#).
10. Click [End Session](#) to exit the adaptation mode and to view your adaptations on the screen.

### 18.8.9.1.3 Create an SAP S/4HANA Service Order from Agent Desktop Mashup

Create an SAP S/4HANA Service Order from Agent Desktop mashup by connecting to SAP Service Cloud Version 2.

#### Context

Now that the mashup is configured, and the Agent Desktop screen is adapted to show the mashup, service agents can create a service order directly in the back-office SAP S/4HANA Cloud Service Management application from Agent Desktop screen:

#### Procedure

1. Log in to your SAP Service Cloud Version 2 solution.
2. Choose **Service** > **Agent Desktop**.
3. **Search** for an account and click **Confirm**.
4. Under the **Customer Hub** tab, choose **Create** > **Service Order**.

The **Service Order** tab loads the SAP S/4HANA Cloud system's **Create Service Order** screen using the mashup.

5. Enter a description and fill-in other details in the service order and click **Save**.

The **Timeline** tab opens with a new **Service Order** created event on the timeline.

6. To see a quick view of service order, click on the **Service Order ID** in the timeline event.

To see a detailed view of the service order in new tab in the **Customer Hub**, click the  icon.

#### Note

Only users with a role that has access to the service `sap.crm.service.s4hcServiceOrderService` can view the Service Order quick view. You can assign business roles under **User** > **Settings** > **Users and Control**.

### 18.8.9.2 Service Quotation

## 18.8.9.2.1 Create Service Quotation

Adapt the agent desktop screen to include the create scenario mashup in SAP Service Cloud Version 2 for integration with SAP S/4HANA Cloud.

### Procedure

1. Go to [Agent Desktop](#).
2. Under the [Search](#) tab, [Confirm](#) an account and navigate to the [Customer Hub](#) tab.
3. Go to your user profile menu and choose [Start Adaptation](#).
4. Select the [What would you like to do?](#) section and select the **Edit Section** icon (✎) to open the [Section Items](#) pop-up box.
5. Select [Create](#) and click the **Create Button** icon (+).
6. In the [Add Buttons](#) dialog box, enter the [Button Text](#) as **Service Quotation** and enter an [Event Name](#).
7. In the Parameters section, ensure the parameter binding of `sap-soldtoparty` is set to [Fields/External Business Partner - Default ID](#) and click [Apply](#).

This links the service order to a customer account.

8. Select the tabs section and click the icon (✎) to open the [Edit Tabs](#) pop-up box.
9. Click the **Create Tab** icon (+) and provide a new tab name, for example: Create Service Quotation and press Enter.
10. Click the icon (➤) to launch Edit Tabs pop-up dialog again. Select the event you provided for service quotation create and click [Apply](#).
11. Click the icon (✎) under the Create Service Quotation screen area.
12. Click [Add Mashup](#) and select the mashup that you created for create service quotation.
13. In the Edit Properties window, set the value of [Height\(%\)](#) to 100 and ensure that `sap-soldtoparty` is set to [accountInfo/externalReferenceBusinessPartnerId](#) and click [Apply](#).
14. Click [End Session](#) to exit the adaptation mode and to view your adaptations on the screen.

## 18.8.9.2.2 View Service Quotation

Adapt the agent desktop screen to include the View Service Quotation Details mashup in SAP Service Cloud Version 2 for integration with SAP S/4HANA Cloud.

### Context

## Procedure

1. Go to [Agent Desktop](#).
2. Under the [Search](#) tab, [Confirm](#) an account and navigate to the [Customer Hub](#) tab.
3. Go to your user profile menu and choose [Start Adaptation](#).
4. Select the tabs section and click the icon (✎) to open the [Edit Tabs](#) pop-up box.
5. Click the **Create Tab** icon (+) and provide a new tab name, for example: Display Service Quotation and press Enter.
6. Click the icon (➤) to launch Edit Tabs pop-up dialog again. Select the event you provided for service quotation display and click [Apply](#).
7. Click the icon (✎) under the Display Service Quotation screen area.
8. Click [Add Mashup](#) and select the mashup that you created for display service quotation.
9. In the Edit Properties window, set the value of [Height\(%\)](#) to 100 and ensure that {ID} is set to [s4ServiceOrderInfo/serviceOrderId](#) and click [Apply](#).
10. Click [End Session](#) to exit the adaptation mode and to view your adaptations on the screen.

### 18.8.9.2.3 Create an SAP S/4HANA Service Quotation from Agent Desktop Mashup

Create an SAP S/4HANA Service Quotation from Agent Desktop mashup by connecting to SAP Service Cloud Version 2.

## Context

Now that the mashup is configured, and the Agent Desktop screen is adapted to show the mashup, service agents can create a service quotation directly in the back-office SAP S/4HANA Cloud Service Management application from Agent Desktop screen:

## Procedure

1. Log in to your SAP Service Cloud Version 2 solution.
2. Choose ► [Service](#) ► [Agent Desktop](#) .
3. [Search](#) for an account and click [Confirm](#).
4. Under the [Customer Hub](#) tab, choose ► [Create](#) ► [Service Quotation](#) .

The [Service Quotation](#) tab loads the SAP S/4HANA Cloud system's [Create Service Quotation](#) screen using the mashup.

5. Enter a description and fill-in other details in the service quotation and click [Save](#).

The *Timeline* tab opens with a new *Service Quotation* created event on the timeline.

6. To see a quick view of service quotation, click on the *Service Quotation ID* in the timeline event.

To see a detailed view of the service quotation in new tab in the *Customer Hub*, click the  icon.

#### Note

Only users with a role that has access to the service `sap.crm.service.s4hcServiceOrderService` can view the Service Quotation quick view. You can assign business roles under  *User*  *Settings* 

 *Users and Control* 

# 19 Agent Inbox

Agent Inbox is a consolidated work center that allows you to view and process all work items assigned to you from a single location.

Agent Inbox currently supports the following work item types:

- cases
- service orders
- service quotations
- tasks

Each work item requires processing until it reaches a completion state or similar status before you, as a service agent, can move on to the next assignment. Agent Inbox enables you to prioritize high-priority work items across different types, as each work item can have a different priority, status, and due date. This consolidated view eliminates the need to switch between multiple work centers.

Agent Inbox gives you the power to combine all your different type of work items together in one customizable list.

## 19.1 Sort and Filter Your Agent Inbox

Sort and filter your agent inbox to consolidate all your most important work in one list.

### Context

The agent inbox functions like other work centers in your solution, but it uniquely allows you to combine different types of entities in one view.

### Procedure

1. Open the [Agent Inbox](#) from the navigation menu.
2. Apply filters to expand or narrow the list of work items.
  - View in-process assignments or closed assignments.
  - Select the type of entities that appear in your inbox.
  - Filter for the priority level.
  - Choose the status for items that display in your list.
3. Sort the table rows by priority, status, or due date.



Sorting helps you surface your most urgent work items.

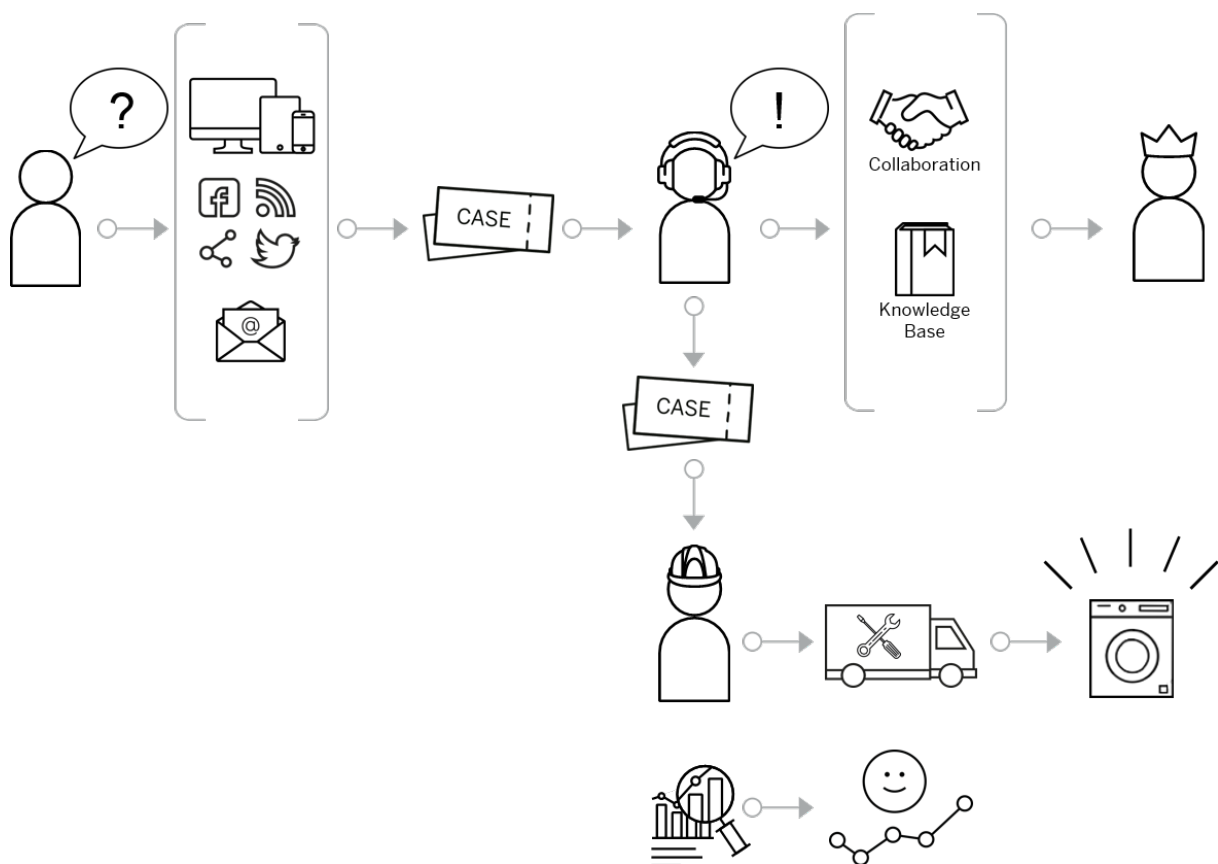
4. View more details about your assignment.

- Select the Display ID to see a quick view panel with assignment details.
- Click  [Open in Detail View](#) to see the full assignment details.

## 20 Cases

Learn how the system creates cases, how to work with the case list, and how to respond to cases to resolve customer issues.

Cases are a record of a request for some type of service or support from an account, customer, or employee. This record allows you to track interactions with the service requester. Cases also record details like how much time has passed since the case was created, what actions were taken to resolve the issue, priority, associated products, or warranties, and much more. Cases are sometimes referred to as service requests.



- You, as an agent, create a case from an incoming support request. This request could arrive from any one of a number of channels, such as social media, a phone call, or an email.
- The system can do some automatic processing of the request to classify and route the case.
- As an agent, you can add crucial information such as customer contact information from a phone call, or specify how quickly the issue must be resolved.
- Use the knowledge base, collaborate with colleagues in real time, or work with other systems to access the information required to resolve the problem.
- Some cases can require a visit by a service technician. The solution can integrate with external systems to schedule an appointment and arrange for repair parts as needed.
- Respond to the requestor. Communicate the solution to the customer through the same channel used to make the initial request, or any other preferred contact point.

- Once the issue is resolved, you can close the case.
- Use case analytics and reports to help you fine-tune your service strategy and make your organization more efficient.

## 20.1 Configure Cases

Administrators can configure cases in [Settings](#).

Find [Settings](#) in the user profile menu at the top of the screen.

### → Tip

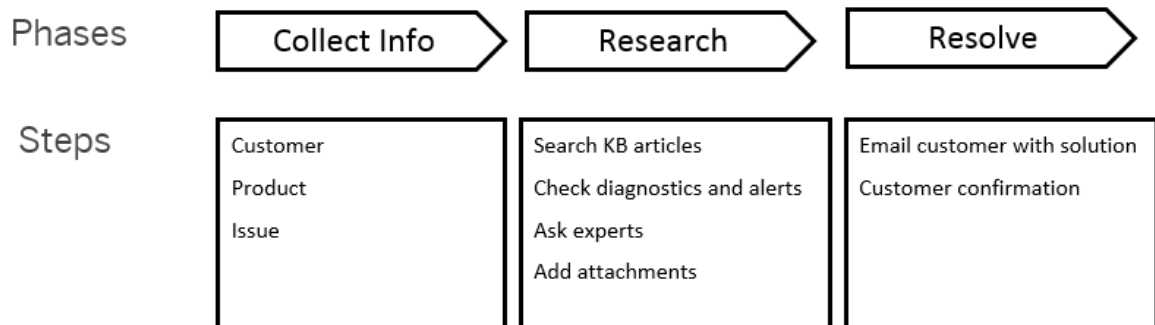
Expand a collapsible section heading to view the configuration steps.

### 20.1.1 Configure Case Types

Customize case types to match the workflow used by your organization.

#### Context

Create case types to model any type of service workflow based on your business processes. You can add phases, steps, approvals, automated flows, mashups, and feedback to your case type. Phases and steps guide your agents visually through processing the case.



Standard Case Statuses

| Status Code | Status          |
|-------------|-----------------|
| 01          | Open            |
| 02          | In Process      |
| 04          | Customer Action |

| Status Code | Status    |
|-------------|-----------|
| 05          | Completed |
| 06          | Closed    |

## Procedure

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Cases](#) > [Case Types](#).

### → Tip

Select the pin icon (📌) to add [Case Types](#) to the [Dashboard](#) for quick access.

2. Select a case type in status [Active](#) that you want to use as a starting point to customize and create your own case type. You can use the [Sample Case Type](#) provided by SAP to get started.
3. Select [Copy to New Case Type](#) from the [Action](#) menu (⋮) for an active version of the case type template.
4. Enter a case type code starting with the letter **Z**. The type code can be up to four characters in length, with no spaces or special characters.
5. Enter a description for your new case type.
6. Choose the relevant business units and select [Create](#).
7. The Case Template screen opens where you can edit the [General Settings](#), [Case Flow](#), [Relationship Settings](#), [Additional Features](#), and [Feature Settings](#).
8. Go to the [Case Flow](#) tab to create Phases and Steps. Phases contain one or more specific steps. Steps are discrete actions that can be:
  - **To-Do:** Tasks or actions that can include explanatory text. If a step is mandatory, the agent must complete the task or action before the case can proceed to the next step. The agent must confirm manually once they complete the step.
  - **Autoflows:** Triggers an autoflow action. For example: update a field in an object, create a time line event, or send an email message. You can use autoflow steps in addition to autoflows triggered at the case level.
  - **Approvals:** Use approval steps to require that the agent request approval before continuing to process the case. Agents can include notes before submitting the approval request. You can use approval steps in addition to approvals triggered at the case level.
  - **Mashup:** A step consisting of a mashup screen from an external system. Integrate external systems directly into your case workflow.
  - **Feedback:** Set up a feedback step with channel, template, customer response survey, and optional preconditions. Once the agent reaches this step and conditions are met, the solution sends an email message containing a link to the survey and collects survey feedback.
  - **Input:** Use Input to embed case fields and attributes into the case runtime flow. The data entered is persisted onto relevant case fields across tabs and sections. This helps the service agent to focus on processing on the same screen.
  - **Assignment:** Use Assignment to enable automatic updates to field values based on the defined actions.
9. Add, edit, reorder, or remove phases and steps to set up the case template to reflect your desired business process.

Drag the move icon ( ≡ ) to reorder phases and steps.

10. (Optional) Add step preconditions. Edit the desired step to include conditions that evaluate if the step is ready to be processed.

Preconditions determine if a particular step can be processed or not. Agents can only set the step as done when the preconditions are met.

When preconditions are **not** met:

- Mandatory step: agents can proceed with other steps, but can't complete the current phase and continue to the next phase.
  - Optional step: agents can proceed with next steps as well as continue to next phase.
  - First step of the first phase: the solution takes agents to the next step that can be processed.
11. (Optional) Select [View/edit number range table](#) to select an existing number range for the case type, or create a new number range.
  12. (Optional) Select a service catalog for the case type.

#### Note

You can only select catalogs set up for use with cases. If you want to associate a service catalog to your case type, you must select a catalog when the case type is in draft status. You cannot add a catalog later.

13. Go to [Relationship Settings](#) and select a completion mechanism for main and subcases.
14. Select a business document from the [Additional Features](#) tab.
15. Enable the required features under the [Features Setting](#) tab.
16. Save your changes.
  - [Activate](#) sets your case type to active status.
  - [Close](#) saves your case type as a draft. You can activate it later.

## Related Information

### [Autoflow \[page 653\]](#)

Autoflow enables you to create rules that automatically trigger actions such as sending event notifications to integrated solutions, notifying users in the application, and sending automated emails for business entities.

### [Approval \[page 668\]](#)

Approval is a systematic process of reviewing and authorizing changes or actions before they are integrated into the system. Approvals are routed to your reporting line manager, though there may be multiple levels of approval required for certain objects or conditions.

## 20.1.2 Configure Status Dictionary Entries

You, as an administrator, can use your own case statuses in your processes and schemas. Create the [Status Dictionary Entries](#) and then assign them a lifecycle and assignment status.

### Context

The lifecycle statuses are used for service level agreement (SLA) calculations. Assignment statuses are used to identify the assignee of the case (the processor and requestor) to help case duration determination.

The following table lists the predelivered status values that you can select in the case and the next status you can reach from there. When you create your statuses, keep these possibilities in mind.

| Current Status                  | Reachable Statuses                                                                                                                                         | Non-Reachable Statuses                                                                                                                                                                    | Description                                                                                                                                                                   |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Open</a>            | <ul style="list-style-type: none"><li>• <a href="#">In Process</a></li><li>• <a href="#">Customer Action</a></li><li>• <a href="#">Completed</a></li></ul> | <ul style="list-style-type: none"><li>• <a href="#">Closed</a></li></ul>                                                                                                                  | This status isn't reachable from any other value.                                                                                                                             |
| <a href="#">In Process</a>      | <ul style="list-style-type: none"><li>• <a href="#">Customer Action</a></li><li>• <a href="#">Completed</a></li></ul>                                      | <ul style="list-style-type: none"><li>• <a href="#">Open</a></li><li>• <a href="#">Closed</a></li></ul>                                                                                   | If the status changes from <a href="#">In Process</a> to <a href="#">Closed</a> the system completes and closes the case.                                                     |
| <a href="#">Customer Action</a> | <ul style="list-style-type: none"><li>• <a href="#">In Process</a></li><li>• <a href="#">Completed</a></li></ul>                                           | <ul style="list-style-type: none"><li>• <a href="#">Open</a></li><li>• <a href="#">Closed</a></li></ul>                                                                                   |                                                                                                                                                                               |
| <a href="#">Completed</a>       | <ul style="list-style-type: none"><li>• <a href="#">In Process</a></li><li>• <a href="#">Customer Action</a></li><li>• <a href="#">Closed</a></li></ul>    | <ul style="list-style-type: none"><li>• <a href="#">Open</a></li></ul>                                                                                                                    |                                                                                                                                                                               |
| <a href="#">Closed</a>          | None                                                                                                                                                       | <ul style="list-style-type: none"><li>• <a href="#">Open</a></li><li>• <a href="#">In Process</a></li><li>• <a href="#">Customer Action</a></li><li>• <a href="#">Completed</a></li></ul> | If a case is closed, it isn't possible to open it again. This status can only be used for cases still in the system. New cases aren't allowed to use <a href="#">Closed</a> . |

**Note**

Once a case is set to **closed**, you can't change the case status.

## Procedure

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Cases](#) > [Status Dictionary Entries](#).
2. Select the add icon ( + ) at the top of the table to add a new status code.
3. Enter a code and a description for your new status.

Custom status codes have to start with **Z** or **Y**.

4. Select the [Lifecycle Status](#) and [Assignment Status](#) for your new code.

Allowed Combinations

| Lifecycle Status | Assignment Status |
|------------------|-------------------|
| Open             | Processor Action  |
| In Process       | Processor Action  |
| In Process       | Requestor Action  |
| Completed        | Requestor Action  |
| Closed           | Not Assigned      |

5. Select the confirm icon ( ✓ ) to save changes.

You can delete a status code by selecting the delete icon (  ) in the [Action](#) column.

### Note

You can change the description of the predelivered statuses, but you can't delete them.

## Related Information

[Configure Status Schemas \[page 423\]](#)

You, as an administrator, can edit the standard status schemas, and create new schemas for cases.

## 20.1.3 Configure Status Schemas

You, as an administrator, can edit the standard status schemas, and create new schemas for cases.

## Context

Change the visibility, and sequence of the standard statuses. Use status schemas to realize different processes in your company. For example: Create a status schema for use with your internal employee support, and a different status schema valid for interactions with partners.

## Procedure

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Cases](#) > [Status Schemas](#) .
2. Select the add icon ( + ) at the top of the table to add a new status schema.
3. Enter an ID for your new schema in the [Status Schema](#) field. The ID consists of two characters and starts with either **Z** or **Y**.
4. Enter a description for your new schema.
5. Select the add icon ( + ) at the top of the table to [Add Status to Schema](#).

This step adds a row to the table where you can select from the status dictionary entries you've previously defined. Select the option if this is the [Initial Status](#) for the schema, and if you want the [Status Visible](#) for the case.

- Only the [Open Life Cycle Status](#) can be selected as initial status.
  - You can select the [Closed Life Cycle Status](#) but you can't set it to visible.
6. Save your changes.

You can [Hide](#) a status, or [Set as Visible](#) from the [Actions](#) menu ( ⋮ ).

### Note

Only statuses not currently in use can be deleted.

## Related Information

### [Configure Status Dictionary Entries \[page 422\]](#)

You, as an administrator, can use your own case statuses in your processes and schemas. Create the [Status Dictionary Entries](#) and then assign them a lifecycle and assignment status.

## 20.1.4 Configure Party Schemas

You, as an administrator can configure [Parties](#) for cases.

## Context

You can determine automatically all involved parties for business transactions and their related documents using party roles and determination rules. These rules allow you to streamline account team assignments, and ensure that business partners are correctly assigned to business objects in a way that matches your company processes. You can decide which party roles to use in your organization, however some party roles are mandatory in some standard party schemas, and can't be deactivated.



## Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Cases](#) ► [Party Schema](#) ►.
2. Add or edit party roles under [Party Role Assignments](#). Select the add icon (+) at the top of the table to add a new party role assignment.

You can also select the edit (✎) icon to edit the existing party role assignments.

3. Select a [Party Role](#) from the menu.
4. Select the appropriate toggles to set the role to: active, mandatory, or unique.
5. Click  against any party role to open the [Party Role Determination Steps](#) screen where you can select the determination steps you want to keep active.

### Note

When you check the [Event: Enforce consistency with source party during all subsequent determination steps](#) box for both [40 - Processor](#) and [28 - Service and Support Team](#) Party Role, it enables the system to maintain consistency between the assigned agent and the support team by automatically clearing or updating fields based on routing rules whenever one is manually changed, ensuring agents are only assigned within valid team structures.

## 20.1.5 Configure Priority Color

Assign a new color to any of the four priority codes.

## Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Cases](#) ► [Priorities](#) ►.
2. Select the edit (✎) icon to change the color assigned to a priority code.
3. Select a new color from the menu.

Your changes are saved automatically.

## 20.1.6 Configure Service Levels

You, as an administrator, can create new service levels in your solution.

### Context

Set up service level based on target milestones with response times, and specifying working hours and timezone.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Cases](#) ► [Service Levels](#) ►.
2. Enter a name for the new service level.
3. Add target milestones.
4. Select a milestone type.
  - [Due Date for Completion](#)
  - [Due Date for Initial Review](#)
  - [Due Date for Resolution](#)
  - [Due Date for Response](#)

#### → Tip

If you enter the duration in hours, the system only considers operating hours. If you enter the duration in days, the system uses the [Working Configuration](#), but not the time ranges. You enter this information under [Operating Hours](#) in the next step.

#### ❖ Example

Suppose that your working days are from Monday to Friday, from 8:00 to 18:00 and the reporting date is Wednesday 06 April 2022, 15:00.

- If you enter a duration of 2 days the system calculates a due date on Friday, 08 April 2022, 15:00.
- If you enter a duration of 48 hours the system calculates a due date on Wednesday, 13 April 2022, 13:00.

#### ⓘ Note

Attribute specific service level definition is not supported. You need to create multiple service level definitions for different attributes with different durations for milestones. For example, Priority.

5. Set the [Working Day Calendar](#), [Time Zone](#), and [Working Configuration](#) daily time ranges.

[Working Configuration](#) allows you to set the hours when your service staff is available. If you don't enter operating hours, the solution assumes that service is available 24x7.

#### → Tip

If you want to intentionally set up 24x7 availability, create a calendar with all 7 days as working days and 12 AM to 12 AM as working hours.

You can use customer working hours for milestone calculations by maintaining a working day calendar, time zone, and working configuration consistent with the customer location.

6. Save the new service level. The service level now appears in the [Service Levels](#) list.
7. Activate the new service level.

## Related Information

[Configure Service Level Determination \[page 427\]](#)

You, as an administrator, can set up determination rules that assign service levels to cases automatically.

## 20.1.7 Configure Service Level Determination

You, as an administrator, can set up determination rules that assign service levels to cases automatically.

### Context

When you create or edit a case, the system uses determination rules to evaluate which service level to apply. When a rule is found that matches the case, the system applies the appropriate service level. The service level pushes details about reaction times and due date calculations to the case.

### Procedure

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Cases](#) > [Service Level Determination](#).
2. Set up the rules table with [Adapt Columns](#).

The first time you set up business rules you must configure the rules table. You can have up to 15 columns in the table, including the results column.

#### → Tip

Use only the columns required for assigning objects. Extra columns can impact performance. You can add additional columns and rules at any time.

3. Select the add icon (+) at the top of the table to add a new rule. A new row with an asterisk in each field of the row is added to the table.

4. Click the asterisk symbol (\*) in a cell to enter a value for that field. The rules table offers a variety of logical operators to define your values.

You can add values to more than one field in a row. The fields in one row evaluate with a logical **AND** relationship. The field values must **all** evaluate to true in order for the rule to evaluate to true.

5. Continue to add rows for each desired result.

The system compares rows using the logical **OR** operator. The system compares each rule, top to bottom, until **ONE** evaluates to **true**.

Rearrange rows by selecting the row and selecting the sort icon (↕).

6. Select the confirm icon (✓) to save changes to the row when finished.
7. Click [Activate](#).

Enable your changes by activating the new rules.

#### → Tip

Once you've set up your columns and you're familiar with the operators and table properties, you can export the table to a Microsoft Excel file. If you have a large number of service level rules, you can edit the file off line and then import the rules file back into your solution.

## Related Information

[Configure Service Levels \[page 426\]](#)

You, as an administrator, can create new service levels in your solution.

## 20.1.8 Configure Case Routing to Employee

You, as an administrator, can set up rules that route cases to employees automatically.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Cases](#) ► [Case Routing to Employee](#) ►.
2. Set up the rules table with [Adapt Columns](#).

The first time you set up business rules you must configure the rules table. You can have up to 15 columns in the table, including the results column.

#### → Tip

Use only the columns required for assigning objects. Extra columns can impact performance. You can add additional columns and rules at any time.

3. Select the add icon ( + ) at the top of the table to add a new rule. A new row with an asterisk in each field of the row is added to the table.
4. Click the asterisk symbol ( \* ) in a cell to enter a value for that field. The rules table offers a variety of logical operators to define your values.

You can add values to more than one field in a row. The fields in one row evaluate with a logical **AND** relationship. The field values must **all** evaluate to true in order for the rule to evaluate to true.

5. Continue to add rows for each desired result.

The system compares rows using the logical **OR** operator. The system compares each rule, top to bottom, until **ONE** evaluates to **true**.

Rearrange rows by selecting the row and selecting the sort icon ( ↕ ).

6. Select the confirm icon ( ✓ ) to save changes to the row when finished.
7. Click [Activate](#).

Enable your changes by activating the new rules.

#### → Tip

Once you've set up your columns and you're familiar with the operators and table properties, you can export the table to a Microsoft Excel file. If you have a large number of service level rules, you can edit the file off line and then import the rules file back into your solution.

## Related Information

[Configure Case Routing to Team \[page 429\]](#)

You, as an administrator, can set up rules that route cases to service teams automatically.

## 20.1.9 Configure Case Routing to Team

You, as an administrator, can set up rules that route cases to service teams automatically.

### Procedure

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Cases](#) > [Case Routing to Team](#).
2. Set up the rules table with [Adapt Columns](#).

The first time you set up business rules you must configure the rules table. You can have up to 15 columns in the table, including the results column.

#### → Tip

Use only the columns required for assigning objects. Extra columns can impact performance. You can add additional columns and rules at any time.

3. Select the add icon ( + ) at the top of the table to add a new rule. A new row with an asterisk in each field of the row is added to the table.
4. Click the asterisk symbol ( \* ) in a cell to enter a value for that field. The rules table offers a variety of logical operators to define your values.

You can add values to more than one field in a row. The fields in one row evaluate with a logical **AND** relationship. The field values must **all** evaluate to true in order for the rule to evaluate to true.

5. Continue to add rows for each desired result.

The system compares rows using the logical **OR** operator. The system compares each rule, top to bottom, until **ONE** evaluates to **true**.

Rearrange rows by selecting the row and selecting the sort icon ( ↕ ).

6. Select the confirm icon ( ✓ ) to save changes to the row when finished.
7. Click [Activate](#).

Enable your changes by activating the new rules.

#### → Tip

Once you've set up your columns and you're familiar with the operators and table properties, you can export the table to a Microsoft Excel file. If you have a large number of service level rules, you can edit the file off line and then import the rules file back into your solution.

## Related Information

[Configure Case Routing to Employee \[page 428\]](#)

You, as an administrator, can set up rules that route cases to employees automatically.

## 20.1.10 Configure Business Information Extraction in Cases

The entity-specific information is extracted from the subject and description of a case and is automatically filled and can be quickly accessed by the agent in resolving a case.

## Context

The extraction applies on standard entity IDs, for example, category level 1, registered products, registered product serial IDs, product IDs, product names, installed base, and installation points. SAP provides pre-delivered extraction logic along with pre-defined field mappings as well as pre-delivered ID validation logic for the standard entities.

## Procedure

1. Create and activate a new scenario under [User Menu](#) > [System Settings](#) > [All Settings](#) > [Machine Learning](#) > [Generative AI](#) > [Business Information Extraction](#).
2. Open the case type in which you want to embed this feature and enable the switch [Business Information Extraction](#) under the tab [General](#) > [Features Settings](#).
3. During an email to case creation, the Case description is analysed by Machine Learning scenario and the values are populated into relevant sections.

## 20.2 Create Cases

You can create a case manually from the [Case](#) worklist, or from the agent desktop based on incoming communication from various available channels.

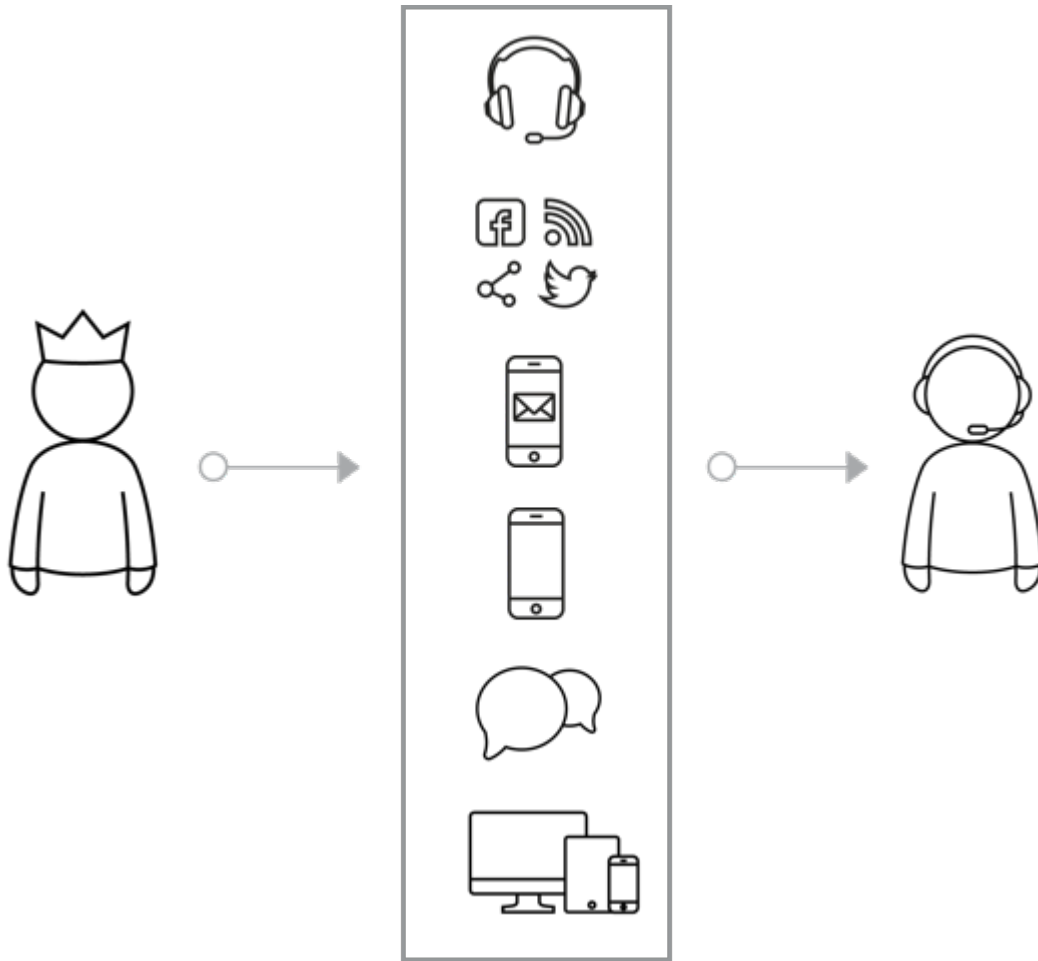
- From [Agent Desktop](#), click the [+](#) [Create](#) button and select [Case](#).
- From the [Case](#) worklist, click the create icon ([+](#)) to create a new case.

The [Subject](#), [Type](#), and [Account](#) fields are mandatory. We recommend that you also select the source of the incoming communication that led to the case creation in the [Source](#) field. The menu displays communication channels based on what is configured and integrated in your system.

After you save and open the case, the Case Approval window will display the various phases and the timeline associated with the case. A case flow includes phases such as:

- [Information Gathering](#): Collect customer data, capture issue details, add product details, and look up the customer using the available information. If the customer exists, assign them to the case. If not, create a new customer and associate them with the case.
- [Troubleshooting](#): Search for relevant troubleshooting articles in the knowledge section using the keywords from the issue description.
- [Resolution](#): Add solution details to case in the notes section and add necessary attachments.

As an agent, you can view all the events occurring in a case in the case timeline. You can filter the timeline events based on the interaction type and entities involved. The interaction types include emails, phone call, chat, In-person and the visible entities are based on the services enabled.



Administrators can create extension fields to store additional data for specific use cases beyond what is natively present in the solution. Your organization can choose to create cases automatically from incoming email messages to customer support addresses. See the following related link for more information.

## Related Information

### [Configure Inbound Email Channels to Create Cases \[page 348\]](#)

Email messages routed to your solution can automatically generate cases that are sent to service agents for processing. You, as an administrator can add the inbound email addresses to use for case creation.

### [Create Extension Fields \[page 97\]](#)

Extension fields are additional fields that you, as an administrator, can add to a cloud solution from SAP.



## 20.3 Manage Cases

Learn about options and parameters for case setup and management in the solution.

You have a wide variety of options for classifying, organizing, linking, and routing cases in the solution. Your administrator or service manager sets many of these options based on how your organization uses cases.

### [Case Worklist \[page 433\]](#)

The **Case** worklist displays all cases in the solution.

### [Use Case Types \[page 433\]](#)

Select a case **Type** to define the kind of case you're creating in the system.

### [Work with Case Status \[page 437\]](#)

You can maintain dictionary entries for the user status, combine them into status schemas, and assign the status schemas to case types.

### [Analyze Case Data with Qualtrics XM Discover \[page 440\]](#)

Access Qualtrics XM Discover from your SAP Service Cloud Version 2 solution to create and view widgets on a dashboard that display insights based on aggregated data from case information.

### [Case Monitor \[page 441\]](#)

As an administrator you can access a monitoring interface that captures the errors that might occur during the email to case auto creation.

### 20.3.1 Case Worklist

The **Case** worklist displays all cases in the solution.

Choose **Case** from the app menu () to view all cases that currently exist in the solution. You can search () for a case by keyword, such as ID, description, or account name. Filter the list to view a specific set of cases. You can filter by:

- Date (created, reported, or changed in the last week, month, or year)
- Priority
- Status
- Type
- Advanced Filters - Email Channels, Custom Parties etc.

### 20.3.2 Use Case Types

Select a case **Type** to define the kind of case you're creating in the system.

SAP provides one standard case type: **Sample**. Copy the sample case type to define your own case type and associated processes.

Based on the case type, you can define the status schema; whether it's relevant for external pricing, contract use, work cases, or ATP (available to promise).

## Example

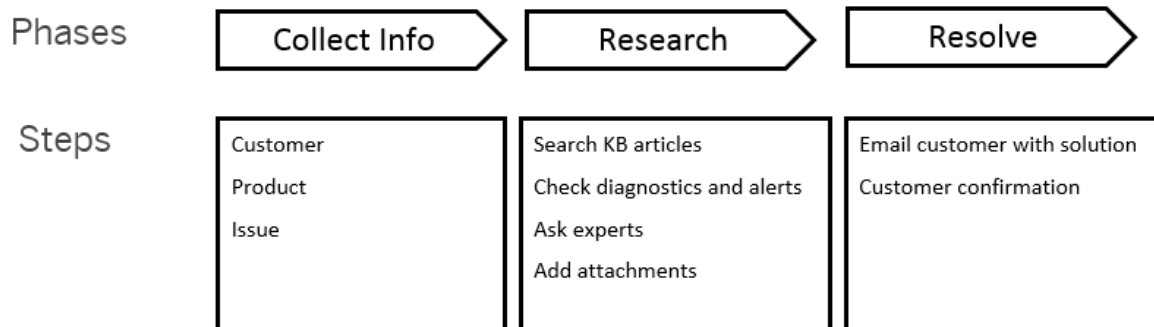
If you'd like to handle inquiries, feedback, or complaint processes differently in your organization, you would create three different case types.

### 20.3.2.1 Configure Case Types

Customize case types to match the workflow used by your organization.

## Context

Create case types to model any type of service workflow based on your business processes. You can add phases, steps, approvals, automated flows, mashups, and feedback to your case type. Phases and steps guide your agents visually through processing the case.



Standard Case Statuses

| Status Code | Status          |
|-------------|-----------------|
| 01          | Open            |
| 02          | In Process      |
| 04          | Customer Action |
| 05          | Completed       |
| 06          | Closed          |

## Procedure

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Cases](#) > [Case Types](#).

### → Tip

Select the pin icon (📌) to add [Case Types](#) to the [Dashboard](#) for quick access.

2. Select a case type in status *Active* that you want to use as a starting point to customize and create your own case type. You can use the *Sample Case Type* provided by SAP to get started.
3. Select *Copy to New Case Type* from the *Action* menu (⋮) for an active version of the case type template.
4. Enter a case type code starting with the letter **Z**. The type code can be up to four characters in length, with no spaces or special characters.
5. Enter a description for your new case type.
6. Choose the relevant business units and select *Create*.
7. The Case Template screen opens where you can edit the *General Settings*, *Case Flow*, *Relationship Settings*, *Additional Features*, and *Feature Settings*.
8. Go to the *Case Flow* tab to create Phases and Steps. Phases contain one or more specific steps. Steps are discrete actions that can be:
  - **To-Do:** Tasks or actions that can include explanatory text. If a step is mandatory, the agent must complete the task or action before the case can proceed to the next step. The agent must confirm manually once they complete the step.
  - **Autoflows:** Triggers an autoflow action. For example: update a field in an object, create a time line event, or send an email message. You can use autoflow steps in addition to autoflows triggered at the case level.
  - **Approvals:** Use approval steps to require that the agent request approval before continuing to process the case. Agents can include notes before submitting the approval request. You can use approval steps in addition to approvals triggered at the case level.
  - **Mashup:** A step consisting of a mashup screen from an external system. Integrate external systems directly into your case workflow.
  - **Feedback:** Set up a feedback step with channel, template, customer response survey, and optional preconditions. Once the agent reaches this step and conditions are met, the solution sends an email message containing a link to the survey and collects survey feedback.
  - *Input:* Use Input to embed case fields and attributes into the case runtime flow. The data entered is persisted onto relevant case fields across tabs and sections. This helps the service agent to focus on processing on the same screen.
  - *Assignment:* Use Assignment to enable automatic updates to field values based on the defined actions.
9. Add, edit, reorder, or remove phases and steps to set up the case template to reflect your desired business process.

Drag the move icon (≡) to reorder phases and steps.

10. (Optional) Add step preconditions. Edit the desired step to include conditions that evaluate if the step is ready to be processed.

Preconditions determine if a particular step can be processed or not. Agents can only set the step as done when the preconditions are met.

When preconditions are **not** met:

- Mandatory step: agents can proceed with other steps, but can't complete the current phase and continue to the next phase.
  - Optional step: agents can proceed with next steps as well as continue to next phase.
  - First step of the first phase: the solution takes agents to the next step that can be processed.
11. (Optional) Select *View/edit number range table* to select an existing number range for the case type, or create a new number range.
  12. (Optional) Select a service catalog for the case type.

#### Note

You can only select catalogs set up for use with cases. If you want to associate a service catalog to your case type, you must select a catalog when the case type is in draft status. You cannot add a catalog later.

13. Go to [Relationship Settings](#) and select a completion mechanism for main and subcases.
14. Select a business document from the [Additional Features](#) tab.
15. Enable the required features under the [Features Setting](#) tab.
16. Save your changes.
  - [Activate](#) sets your case type to active status.
  - [Close](#) saves your case type as a draft. You can activate it later.

## Related Information

### [Autoflow \[page 653\]](#)

Autoflow enables you to create rules that automatically trigger actions such as sending event notifications to integrated solutions, notifying users in the application, and sending automated emails for business entities.

### [Approval \[page 668\]](#)

Approval is a systematic process of reviewing and authorizing changes or actions before they are integrated into the system. Approvals are routed to your reporting line manager, though there may be multiple levels of approval required for certain objects or conditions.

## 20.3.2.2 Use Inactive Case Types

As an administrator, you can activate inactive case types as per the business need.

### Context

The functionality to activate inactive case types comes in handy to handle customer scenarios wherein cases of a certain case type is only valid for a given period of the year, for example, holiday sale. You can create a new version of the same case type for subsequent years without having to create a case type from scratch.

### Procedure

1. Go to [User Menu](#) [System Settings](#) [All settings](#) [Cases](#) [Case Types](#).
2. Under [Case Types](#), select an inactive case type.

3. Under [Actions](#), either select [Copy to New Case Type](#) or [Create new version](#).
4. [Activate](#) the case type after making the necessary changes.

### 20.3.2.3 Add Business Document to Case Type

You, as an administrator, can activate business documents for a case type and select a business document to use with each case type and version.

#### Context

Assign a specific business document for each case type.

#### Procedure

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Cases](#) > [Case Types](#).
2. Select a case type.
3. Select [Open in Detail View](#) to open the case type details.
4. Switch on [Business Documents](#) in the [Features Settings](#) section.  
Business Documents are now enabled for this case type, and the [Additional Features](#) tab is now shown in the [Case Type](#) header.
5. Choose the [Additional Features](#) tab in the case type header.
6. In the [Business Documents](#) section, choose the [Search](#) icon to search for a business document to add to this case type.
7. Choose [Add](#) to add the business document to the case type.

You can assign only one business document to each case type. When a case of this type is created, the [Business Documents](#) tab appears in the case detail view.

### 20.3.3 Work with Case Status

You can maintain dictionary entries for the user status, combine them into status schemas, and assign the status schemas to case types.

In a case, only the entries that you've maintained via configuration display in the user [Status](#) menu.

## 20.3.3.1 Configure Status Dictionary Entries

You, as an administrator, can use your own case statuses in your processes and schemas. Create the [Status Dictionary Entries](#) and then assign them a lifecycle and assignment status.

### Context

The lifecycle statuses are used for service level agreement (SLA) calculations. Assignment statuses are used to identify the assignee of the case (the processor and requestor) to help case duration determination.

The following table lists the predelivered status values that you can select in the case and the next status you can reach from there. When you create your statuses, keep these possibilities in mind.

| Current Status                  | Reachable Statuses                                                                                                                                         | Non-Reachable Statuses                                                                                                                                                                    | Description                                                                                                                                                                   |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Open</a>            | <ul style="list-style-type: none"><li>• <a href="#">In Process</a></li><li>• <a href="#">Customer Action</a></li><li>• <a href="#">Completed</a></li></ul> | <ul style="list-style-type: none"><li>• <a href="#">Closed</a></li></ul>                                                                                                                  | This status isn't reachable from any other value.                                                                                                                             |
| <a href="#">In Process</a>      | <ul style="list-style-type: none"><li>• <a href="#">Customer Action</a></li><li>• <a href="#">Completed</a></li></ul>                                      | <ul style="list-style-type: none"><li>• <a href="#">Open</a></li><li>• <a href="#">Closed</a></li></ul>                                                                                   | If the status changes from <a href="#">In Process</a> to <a href="#">Closed</a> the system completes and closes the case.                                                     |
| <a href="#">Customer Action</a> | <ul style="list-style-type: none"><li>• <a href="#">In Process</a></li><li>• <a href="#">Completed</a></li></ul>                                           | <ul style="list-style-type: none"><li>• <a href="#">Open</a></li><li>• <a href="#">Closed</a></li></ul>                                                                                   |                                                                                                                                                                               |
| <a href="#">Completed</a>       | <ul style="list-style-type: none"><li>• <a href="#">In Process</a></li><li>• <a href="#">Customer Action</a></li><li>• <a href="#">Closed</a></li></ul>    | <ul style="list-style-type: none"><li>• <a href="#">Open</a></li></ul>                                                                                                                    |                                                                                                                                                                               |
| <a href="#">Closed</a>          | None                                                                                                                                                       | <ul style="list-style-type: none"><li>• <a href="#">Open</a></li><li>• <a href="#">In Process</a></li><li>• <a href="#">Customer Action</a></li><li>• <a href="#">Completed</a></li></ul> | If a case is closed, it isn't possible to open it again. This status can only be used for cases still in the system. New cases aren't allowed to use <a href="#">Closed</a> . |

**Note**

Once a case is set to **closed**, you can't change the case status.

## Procedure

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Cases](#) > [Status Dictionary Entries](#).
2. Select the add icon ( + ) at the top of the table to add a new status code.
3. Enter a code and a description for your new status.

Custom status codes have to start with **Z** or **Y**.

4. Select the [Lifecycle Status](#) and [Assignment Status](#) for your new code.

Allowed Combinations

| Lifecycle Status | Assignment Status |
|------------------|-------------------|
| Open             | Processor Action  |
| In Process       | Processor Action  |
| In Process       | Requestor Action  |
| Completed        | Requestor Action  |
| Closed           | Not Assigned      |

5. Select the confirm icon ( ✓ ) to save changes.

You can delete a status code by selecting the delete icon ( 🗑 ) in the [Action](#) column.

### Note

You can change the description of the predelivered statuses, but you can't delete them.

## Related Information

[Configure Status Schemas \[page 423\]](#)

You, as an administrator, can edit the standard status schemas, and create new schemas for cases.

## 20.3.3.2 Configure Status Schemas

You, as an administrator, can edit the standard status schemas, and create new schemas for cases.

## Context

Change the visibility, and sequence of the standard statuses. Use status schemas to realize different processes in your company. For example: Create a status schema for use with your internal employee support, and a different status schema valid for interactions with partners.

## Procedure

1. Go to **User Menu** > **System Settings** > **All Settings** > **Cases** > **Status Schemas**.
2. Select the add icon (+) at the top of the table to add a new status schema.
3. Enter an ID for your new schema in the **Status Schema** field. The ID consists of two characters and starts with either **Z** or **Y**.
4. Enter a description for your new schema.
5. Select the add icon (+) at the top of the table to **Add Status to Schema**.

This step adds a row to the table where you can select from the status dictionary entries you've previously defined. Select the option if this is the **Initial Status** for the schema, and if you want the **Status Visible** for the case.

- Only the **Open Life Cycle Status** can be selected as initial status.
  - You can select the **Closed Life Cycle Status** but you can't set it to visible.
6. Save your changes.

You can **Hide** a status, or **Set as Visible** from the **Actions** menu (⋮).

### Note

Only statuses not currently in use can be deleted.

## Related Information

### [Configure Status Dictionary Entries \[page 422\]](#)

You, as an administrator, can use your own case statuses in your processes and schemas. Create the **Status Dictionary Entries** and then assign them a lifecycle and assignment status.

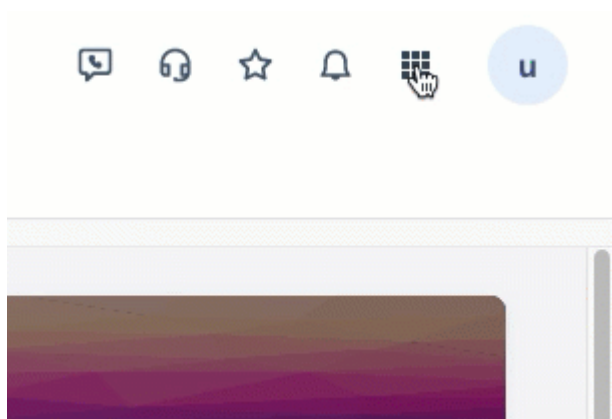
## 20.3.4 Analyze Case Data with Qualtrics XM Discover

Access Qualtrics XM Discover from your SAP Service Cloud Version 2 solution to create and view widgets on a dashboard that display insights based on aggregated data from case information.

Qualtrics XM Discover provides insights into case data from your SAP Service Cloud Version 2 solution. Qualtrics XM Discover can be purchased separately for use with SAP Service Cloud Version 2.

Access Qualtrics XM Discover from the **Switch Application** menu.





The Qualtrics XM Discover logon screen opens. Enter your account and password to continue. Find data connector setup information in the related links section. Requires Qualtrics XM Discover account and password.

## Related Information

[SAP Service Cloud connector configuration information \(requires Qualtrics XM Discover account\)](#) ➤

More information at: <https://www.qualtrics.com/discover/> ➤

## 20.3.5 Case Monitor

As an administrator you can access a monitoring interface that captures the errors that might occur during the email to case auto creation.

In the case auto monitoring screen, you can access the log of all failed cases with corresponding exception message indicating the reason for the failure and the status as open. With the help of the exception message, you can make appropriate changes in the channel and initiate reprocess which will change the status to reprocessed. If the reprocess succeeds, then there'll be a case created, if not, there'll be another log entry with the status as open.

To access the monitoring interface, go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Cases](#) ► [Case Auto Creation Monitoring](#) ►

# 21 Service Categories

Service categories are used to capture consistent information, to allow for reporting and benchmarking, and for determining service level assignments.

Creating and defining categories helps build valuable knowledge about the customer and also collects data that can be analyzed to understand business requirements and market demands.

Service categories are stored in catalogs to accomplish the following:

- Establish a multilevel category hierarchy.
- Link catalogs to different entities such as cases, and interactions such as email, chat, and phone calls.
- Manage the catalog status.

## 21.1 Create Service Catalogs

You, as an administrator, can create catalogs to organize service categories and sub categories.

### Context

Create and organize service categories to sort cases and other entities into different service catalogs.

### Procedure

1. Go to **User Menu** > **System Settings** > **All Settings** > **Service Catalogs** > **Catalog Definition**.
2. Select the Create icon (+) to create a new catalog, or select a catalog name to edit an existing catalog.
3. If you're creating a new catalog, enter a **Name**, **ID**, and **Description**, then save your changes.
4. Select or edit the entities with which to use this catalog. For example: case, email, chat, or phone call.
5. Add or edit a service category in the catalog. Select the **Add Parent Category** icon (+) to add a new category.
6. Enter or edit the **Name**, **ID**, and **Description** for the category, then save your changes.

Once you enter an ID for the category, it can't be changed. However, you can edit the name and description.

7. To add subcategories to your top-level category, select the **Add Subcategory** icon (+) in the **Action** column. Enter a **Name**, **ID**, and **Description** for the subcategory, then save your changes.

#### Note

You can have up to three levels of subcategories under your top-level category, providing a total of four hierarchy levels for your category catalogs.

Add additional categories and subcategories to build your catalog.

#### Tip

You can export a spreadsheet template, create your catalog hierarchy structure, and then import your catalog structure. For more details on importing data, see the related information section.

8. Activate your new catalog. Select the [Activate](#) button in the catalog header.

#### Restriction

Once you activate a catalog or category, you can deactivate it, but you cannot activate it again.

You can also activate and deactivate categories in the catalog with the [Activate](#) and [Deactivate](#) icons ( and  ) in the [Action](#) column. However, the same restriction applies: once you deactivate a service category, you cannot activate it again.

## Results

Once you create and activate your service catalog, users in the system can assign categories to the entities you specified for the catalog.

## Related Information

[Data Import and Export \[page 734\]](#)

This document describes how you can use Data Import and Export to import data into your solution and export data from your solution.

## 21.2 Copy Service Catalogs

Copy an existing service catalog and use it as a starting point to create a new catalog.

### Context

If you need a service category catalog that is substantially similar to a catalog you've already created, you can copy that catalog to create an entirely new catalog.

## Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Service Catalogs](#) ► [Catalog Definition](#) ►.
2. Find the catalog that you wish to copy, then choose the [Copy](#) button (  ) in the [Action](#) column of that catalog row.
3. Provide a unique name, ID, and description for the new catalog.
4. Select [Save and Open](#) to continue editing the new catalog.
5. Edit or add categories and sub-categories to your new catalog as needed.
6. Activate the catalog when you've finished making changes and the catalog is ready for use.

## Related Information

[Create Service Catalogs \[page 442\]](#)

You, as an administrator, can create catalogs to organize service categories and sub categories.

## 21.3 Translate Service Categories and Catalogs

Translate service category and catalog names and descriptions by entering translations in the [Catalog Definition](#) settings screen, or by importing translations in bulk.

## Context

You have two choices regarding how to translate the category and catalog names and descriptions into additional languages.

- Translate names and descriptions one-by-one on the [Catalog Definition](#) settings screen where you created the categories and catalogs. Translation can be done in parallel with the initial creation of the categories and catalogs, or after you've established the catalog and category structure in your sign-in language.
- Export a template file, enter translated names and descriptions in the template, and then bulk import the translated texts. For more information on this option, see the links in the **Related Information** section.

## Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Service Catalogs](#) ► [Catalog Definition](#) ►.
2. Select a catalog and then enable the [Translate](#) toggle for either the catalog or for the categories contained in that catalog.

3. Select the target language.
4. Enter the translated name and description for each catalog or category as required.

## Related Information

### [Data Import and Export \[page 734\]](#)

This document describes how you can use Data Import and Export to import data into your solution and export data from your solution.

### [Data Import and Export: Service Categories and Catalogs \[page 810\]](#)

More information about bulk upload of service categories, catalog structure, and translations

## 22 Service Quotes

Service quote processing is used when offering products to customers in accordance with specific terms with fixed conditions

Service quotes are presented to existing customers and potential buyers to have the chance to review the costs of products or services your company offers. With SAP Solution, your company service professionals can create and maintain quotes. Elements that affect quotes such as Quotation Types and Item Categories are configured by your administrator to enhance the service quotation process.

You can view Service quotes in table view. You can filter Service quotes based on the display ID. You can also use the advanced search icon to narrow your filters.

As a service agent, you can accept or reject a created service quote based on customer feedback.

Open a service order in the detail view and select the **...** (Actions) menu on the top left hand side and select [Accept](#) or [Reject](#). Select the Reason and Save. The Service quotes lifecycle status is set to [Completed](#) and the rejection reason is captured.

### 22.1 Configure Service Quotes

As an administrator, you can configure the settings required to create and process service quotes.

Find [Settings](#) in the user profile menu at the top of the screen.

#### → Tip

Expand a collapsible section heading to view the configuration steps.

#### 22.1.1 Configure Service Quotation Types

As an administrator, you can configure the service quotation types.

#### Procedure

1. Go to **User Menu** > [System Settings](#) > [All Settings](#) > [Service Quotes](#) > [Service Quotation Types](#).
2. Click + ([Create](#)).
3. In [Code](#), enter the code.
4. In [Description](#), enter the service quote type description.

5. Click ✓ (*Save*).

You can edit the created quotation type using in-line edit option.

## 22.1.2 Configure Item Categories

As an administrator, you can configure the item category.

### Procedure

1. Go to ► *User Menu* ► *System Settings* ► *All Settings* ► *Service Quotes* ► *Service Item Categories* ►.
2. Click + (*Create*).
3. In *Code*, enter the code.
4. In *Description*, enter the item category description.
5. Click ✓ (*Save*).

You can edit the created item category using in-line edit option.

## 22.1.3 Configure Rejection Reasons

As an administrator, you can configure the rejection reasons.

### Procedure

1. Go to ► *User Menu* ► *System Settings* ► *All Settings* ► *Service Quotes* ► *Rejection Reasons* ►.
2. Click + (*Create*).
3. In *Code*, enter the code.
4. In *Description*, enter the rejection reason description.
5. Click ✓ (*Save*).

You can edit the created reason using in-line edit option.

## 22.1.4 Configure Party Schema

As an administrator, configure party role assignments in the party schema for service quotes.

### Procedure

1. Go to your user profile and select: ► [System Settings](#) ► [All Settings](#) ► [Service Quotes](#) ► [Party Schema](#) ►. The standard party schema for service quotes and the party role assignments are displayed.
2. Select  ([Edit](#)) to do the following as required:
  - To make the party role optional, deselect the [Mandatory](#) checkbox.
  - To activate or deactivate party role determination steps of the party role, Select  ([Show Determination Steps](#)) and check or uncheck the [Active](#) checkbox respectively.
3. Save your changes when finished.

## 22.1.5 Configure Service Quote Replication

As an administrator, you can configure the replication of service quotes from SAP S/4HANA.

### Procedure

1. Go to your user profile and select ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ► [Inbound Configuration](#) ► and select [Confirm Service Quotation replication from External System](#) and [Replicate Service Quotation from External System](#).
2. Similarly, go to [Outbound Configuration](#) and select [Confirm Service Quotation replication to External System](#) and [Replicate Service Quotation to External System](#).
3. Deploy and configure the following iFlows from the package [SAP Service Cloud Integration with SAP S/4HANA](#) :
  - Replicate Service Quotation from SAP S/4HANA to SAP Service Cloud Version 2
  - Replicate Service Quotation from SAP Service Cloud Version 2 to SAP S/4HANA
4. Run the required configurations in SAP S/4HANA.

#### Note

For S/4HANA releases earlier than 2025 FPS0, you must create a [Last Changed](#) extension field using the S/4HANA Key User Extensibility Tool.



## 22.2 Create Service Quotes from External System

Agents can create the service quotes with customers through connector service.

Create the service quotes with the following information:

- Description
- Quote Types
- Involved Parties
- Registered Products
- Start Date
- End Date

Update the created service quotes with the following information:

- Line Number
- Description
- Product ID
- Item Category
- Unit of Measure

### 22.2.1 Service Quote API

Service Quote API allows users to manage service quotations through various operations, including creation, updating, and querying of quotations.

#### List of APIs available for Service Quotation:

- *Creation of Service Quotation:*  
POST  
`sap/c4c/api/v1/service-quotation-service/serviceQuotations`
- *Updating a Service quotation:*  
PATCH  
`sap/c4c/api/v1/service-quotation-service/serviceQuotations/{ID}`  
PUT  
`sap/c4c/api/v1/service-quotation-service/serviceQuotations/{ID}`
- *Query*  
Fetch all quotations  
GET  
`sap/c4c/api/v1/service-quotation-service/serviceQuotations`  
Fetch One quotation:  
GET  
`sap/c4c/api/v1/service-quotation-service/serviceQuotations/{ID}`

## Service Quotation Attributes

The table provides an overview of the attributes involved in a service quotation, detailing its structure and associated business information.

Service Quotation Attributes

| Attributes             | Description                                                                                                                                                                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description            | String, a brief description of the quotation. Mandatory field.                                                                                                                                                                                                            |
| Display ID             | String, an autogenerated unique integer value for each quotation.                                                                                                                                                                                                         |
| isReplicated           | Boolean, set to true when the quotation is replicated to an external system.                                                                                                                                                                                              |
| isEndOfPurpose         | Boolean, set to true when the service quotation is no longer used and has reached the end-of-purpose state via dpp. This flag is set via a configured End of Purpose job.                                                                                                 |
| isDepersonalised       | Boolean, set to true when the quotation is depersonalized via dpp process. This flag is set via a Data Depersonalization related job.                                                                                                                                     |
| Lifecycle status       | The states that a quotation can be set to until it is Accepted or Rejected. Accepts values: OPEN, IN PROCESS, RELEASED, COMPLETED.                                                                                                                                        |
| Document currency      | String, the currency for the transaction amount fields.                                                                                                                                                                                                                   |
| Transaction amount     | Pricing-related information for the quotation. Object with attributes: Net Amount, Tax Amount, Gross Amount. Each field is a nested object with: Content – BigDecimal, Currency Code – String (Document Currency and this field must have the same values).               |
| Timepoints             | Represents the various duration/timestamps associated with the quotation. Object with timestamp fields: validFrom, validTo, requestedStartOn, requestedEndOn, plannedFrom, plannedTo, postingOn, billingOn, billingDocumentCreatedOn, installedOn, receiptNotificationOn. |
| Rejection reason       | String – Code list representing the rejection reason for the quotation.                                                                                                                                                                                                   |
| Service quotation type | String – Code list, mandatory field representing the type of service quotation.                                                                                                                                                                                           |
| Acceptance status      | String, accepts values: ACCEPTED, REJECTED.                                                                                                                                                                                                                               |
| Business area          | Object with UUID fields: Sales organisation ID, Distribution channel, Division, Sales group ID, Sales office ID.                                                                                                                                                          |
| Registered products    | List object indicating the associated registered products for the quotation. Attributes: ID – UUID, isMain – Boolean (Indicates the main registered product).                                                                                                             |

| Attributes        | Description                                                                                                                                                                                                                                                                        |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Business partners | Business partners currently supported: Account, Contact, Individual customer, Owner, Ship to Account, Ship to Individual customer. Each field is a nested object with attributes: ID – UUID, partyRole – String, partyRoleCategory – String, isMain – Boolean, displayID – String. |
| External ID       | Object structure representing the corresponding object in the external system at the same hierarchy level with attributes: ID – UUID, Display ID – String, Communication system ID – UUID, Communication system display ID – String.                                               |

## Items

List object having the following attributes:

- **Line number:** An integer that uniquely represents each item.
- **External Item Reference:** A string that represents the item reference in an external system.
- **Parent line number:** An integer that indicates the item line number from which a child item was created.
- **Description:** A string that provides details about the item..
- **Product:** An object that includes fields such as Id, a UUID representing the unique identifier of the product.
- **Quantity:** An object that contains the fields Content -Big Decimal and UomCode -String.
- **Service duration:** An object with fields like Content -Big Decimal and UomCode -String.
- **Item Category:** A string that defines the category the item belongs to, such as Part Item or Service Item.
- **Rejection reason:** A string containing a code list that represents the rejection reason code for the item.
- **Acceptance status:** Accepts only two values: ACCEPTED or REJECTED.
- **Time points:** Follows the same attributes as in the header.
- **Transaction Amount:** Follows the same attributes as in the header.
- **Registered products list:** Follows the same attributes as in the header.

## Related objects

The following fields represent the predecessor or successor of the quotation and can also refer to external system objects.

- **ID:** Internal reference unique UUID.
- **Object ID:** UUID of the linked object.
- **Display ID:** A string representing the display Id of the external object.
- **Type:** A string that contains a unique code value representing the object type, for example: Service order – 117.
- **Role:** A string that accepts the following values:
  1. Predecessor
  2. Successor

- **Communication system ID:** UUID representing the external communication system configured by the user.
- **Communication system display ID:** A string that represents the display ID of the communication system configured by the user.

## Code List Attributes

The table presents the supported code lists for service quotations, detailing the attributes associated with each code list.

Code List Attributes

| Code List                   | Attributes                                                                                                               |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Service quotation type code | Code – String                                                                                                            |
| Rejection reason code       | Descriptions: List Object with the below attributes:<br>a. Content: String<br>b. Language code: String (en, fr, de etc.) |
| Item category code          |                                                                                                                          |

## 22.3 Extensibility in Service Quotes

As an administrator, you can create custom fields in the service quote header based on the business requirements.

For more information, see the related link below.

### Related Information

[Extensibility \[page 598\]](#)

Extensibility allows you and your partners to extend the software platform without having to modify the original code base. So, you can add to the base functionality, thereby offering new capabilities and outputs.

## 22.4 Replicate Service Quote from External System

You can replicate released or completed Service Quotations from external systems such as SAP S/4HANA (version 2025 FPS0 or higher) to SAP Service Cloud Version 2. The integration supports the transfer of key quotation details, including customer information and pricing.

After replication, you can present the quotation to the customer and follow up to capture their acceptance within Service Cloud V2. Once the customer accepts the quotation, this acceptance is replicated back to S/4HANA, where it can be used to trigger follow-up document creation.

The table below lists the header and item level information replicated from S/4HANA:

| Level  | Field                                                                                                                                                                                                                                                                                 |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Header | <ul style="list-style-type: none"><li>• Description</li><li>• Order Type (Create Only)</li><li>• Parties Involved</li><li>• Registered Product</li><li>• Requested Start &amp; End Date</li><li>• Sales Area</li><li>• Net , Gross and Tax Value</li><li>• Lifecycle Status</li></ul> |
| Item   | <ul style="list-style-type: none"><li>• Line Number</li><li>• Description</li><li>• Product ID</li><li>• Item Category</li><li>• Planned Quantity /UOM</li></ul>                                                                                                                      |

### 22.4.1 Configure Service Quote Replication

As an administrator, you can configure the replication of service quotes from SAP S/4HANA.

#### Procedure

1. Go to your user profile and select [System Settings](#) > [All Settings](#) > [Integration](#) > [Inbound Configuration](#) and select [Confirm Service Quotation replication from External System](#) and [Replicate Service Quotation from External System](#).
2. Similarly, go to [Outbound Configuration](#) and select [Confirm Service Quotation replication to External System](#) and [Replicate Service Quotation to External System](#).
3. Deploy and configure the following iFlows from the package [SAP Service Cloud Integration with SAP S/4HANA](#) :
  - Replicate Service Quotation from SAP S/4HANA to SAP Service Cloud Version 2

- Replicate Service Quotation from SAP Service Cloud Version 2 to SAP S/4HANA
4. Run the required configurations in SAP S/4HANA.

#### Note

For S/4HANA releases earlier than 2025 FPS0, you must create a *Last Changed* extension field using the S/4HANA Key User Extensibility Tool.

## 22.5 Replicate Service Quotation from S/4HANA Private Cloud

As an administrator, you can replicate service quotation from SAP S/4HANA private cloud.

Replicate released or completed Service Quotations from SAP S/4HANA to SAP Service Cloud V2 using the standard Update Date/Time attribute.

Capture the quote acceptance in Service Cloud V2 and replicate this status back to SAP S/4HANA to enable follow-up document creation. Provide the quotation details to your customer and follow-up to capture their acceptance.

## 22.6 Code List Restrictions in Service Quote

As an administrator, you can restrict values of standard and custom code list based on user roles or other code list field values to meet custom requirements.

For more information, see the related information section.

### Related Information

[Create Code List Restrictions \[page 141\]](#)

Code list restriction refers to the process of limiting the available code values based on other code fields or context. As an administrator, you can restrict the values available from a drop-down list by creating and maintaining code list restrictions for different business entities.

## 22.7 Support for Custom Code List

As an administrator, you can create customized code lists and use them in all supported entities including service quotation.

Re-use custom code list created centrally across multiple entities. For more information, see the related information section.

### Related Information

[Create and Add Custom Code Lists \[page 139\]](#)

Create customized code lists and use them in all supported entities.

## 23 Service Orders

A service order is a short-term agreement between a service provider and a service recipient, in which the service recipient orders one-off services from the service provider.

### 23.1 Configure Service Orders

As an administrator, you can configure the settings required to create and process service orders.

Find [Settings](#) in the user profile menu at the top of the screen.

#### → Tip

Expand a collapsible section heading to view the configuration steps.

#### 23.1.1 Configure Service Order Types

As an administrator, you can configure the service order types.

##### Context

Create service order types to model any type of service workflow based on your business processes.

##### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Service Orders](#) ► [Service Order Types](#) ►.
2. Click + [\(Create\)](#).
3. In [Code](#), enter the code.
4. In [Description](#), enter the service order type description.
5. Click ✓ [\(Save\)](#).

To enable the integration with your external systems, ensure to create the corresponding value mapping for the service order types you have created. For more information about value mapping, see the related link below.



## Related Information

[Create Value Mappings \[page 917\]](#)

Create value mapping to map code lists and their values between SAP Service Cloud Version 2 and the application you are integrating it with.

## 23.1.2 Configure Priorities

As an administrator, you can configure the service order priorities.

### Procedure

1. Go to **User Menu** > **System Settings** > **All Settings** > **Service Orders** > **Priorities**.
2. Click + **(Create)**.
3. In **Code**, enter the code.
4. In **Description**, enter the priorities description.
5. In **Color**, select the required color from the list.
6. Click ✓ **(Save)**.

To enable the integration with your external systems, ensure to create the corresponding value mapping for the service order priorities that you create. For more information about value mapping, see the related link below.

## Related Information

[Create Value Mappings \[page 917\]](#)

Create value mapping to map code lists and their values between SAP Service Cloud Version 2 and the application you are integrating it with.

## 23.1.3 Configure User Status

As an administrator, you can configure the user status.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Service Orders](#) ► [User Status](#) ►.
2. Click + [\(Create\)](#).
3. In [Code](#), enter the code.
4. In [Description](#), enter the user status description.
5. Click ✓ [\(Save\)](#).

To enable the integration with your external systems, ensure to create the corresponding value mapping for the user statuses that you create. For more information about value mapping, see the related link below.

### Related Information

[Create Value Mappings \[page 917\]](#)

Create value mapping to map code lists and their values between SAP Service Cloud Version 2 and the application you are integrating it with.

## 23.1.4 Configure Reason for Rejection

As an administrator, you can configure the reason for rejection.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Service Orders](#) ► [Reason for Rejection](#) ►.
2. Click + [\(Create\)](#).
3. In [Code](#), enter the code.
4. In [Description](#), enter the reason for rejection.
5. Click ✓ [\(Save\)](#).

To enable the integration with your external systems, ensure to create the corresponding value mapping for the service order reasons for rejection that you create. For more information about value mapping, see the related link below.

## Related Information

[Create Value Mappings \[page 917\]](#)

Create value mapping to map code lists and their values between SAP Service Cloud Version 2 and the application you are integrating it with.

## 23.1.5 Configure Item Status

As an administrator, you can configure the item status.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Service Orders](#) ► [Item Status](#) ►.
2. Click + [\(Create\)](#).
3. In [Code](#), enter the code.
4. In [Description](#), enter the item status description.
5. Click ✓ [\(Save\)](#).

To enable the integration with your external systems, ensure to create the corresponding value mapping for the item statuses that you create. For more information about value mapping, see the related link below.

## Related Information

[Create Value Mappings \[page 917\]](#)

Create value mapping to map code lists and their values between SAP Service Cloud Version 2 and the application you are integrating it with.

## 23.1.6 Configure Item Categories

As an administrator, you can configure the item categories.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Service Orders](#) ► [Item Categories](#) ►.

2. Click **+** (*Create*).
3. In *Code*, enter the code.
4. In *Description*, enter the item categories description.
5. Click **✓** (*Save*).

To enable the integration with your external systems, ensure to create the corresponding value mapping for the item categories that you create. For more information about value mapping, see the related link below.

## Related Information

### [Create Value Mappings \[page 917\]](#)

Create value mapping to map code lists and their values between SAP Service Cloud Version 2 and the application you are integrating it with.

## 23.1.7 Configure Party Schema

You, as an administrator can configure Parties for service order.

### Context

You can determine automatically all involved parties for business transactions and their related documents using party roles and determination rules. These rules allow you to streamline account team assignments, and ensure that business partners are correctly assigned to business objects in a way that matches your company processes. You can decide which party roles to use in your organization, however some party roles are mandatory in some standard party schemas, and can't be deactivated.

### Procedure

1. Go to your **► User Menu ► System Settings ► Service Order ► Party Schema ►**.
2. Edit party roles under *Party Role Assignments*. Select the edit () icon to edit the existing party role assignments.
3. Select a *Party Role* from the menu.
4. Select the appropriate toggles to set the role to: mandatory, or unique.
5. Click  against any party role to open the *Party Role Determination Steps* screen where you can select the determination steps you want to keep active.

To enable the integration with your external systems, ensure to create the corresponding value mapping for the party schemas that you create. For more information about value mapping, see the related link below.

## Related Information

[Create Value Mappings \[page 917\]](#)

Create value mapping to map code lists and their values between SAP Service Cloud Version 2 and the application you are integrating it with.

## 23.1.8 Configure Webhook

Learn about configuring webhook to enable external pricing simulation and warranty and contract determination. Expand the sections below for details.

### 23.1.8.1 External Pricing Simulation

To determine the cost of the Service Order from the external system, use the simulation action.

The external pricing simulation action triggers a webhook call (synchronous) to calculate the net amount, tax amount, and gross amount at the Service Order header panel, which are then determined and saved in the service order.

However, when the service order is replicated to the external system, this information is not transferred. The external system should recalculate the values and serve as the final source of truth. Once the replication is completed, this action will be disabled.

## Pre-requisites

- As a pre-requisite, ensure to implement the communication configuration ► [Integrate Service Order with External System](#) ► [HTTP Data Request Service Order Simulation from External System](#) ►
- All the Service Order items are mandatory.

## Configuration

SAP pre-delivers the Connector Configuration below and you can use this configuration to retrieve simulated pricing data from an external system:

- Configuration Name: **Request Service Order Simulation from External System**
- Service Full Name: **sap.crm.service.serviceOrderService**
- API Path: **/http/c4c/externalSystem/serviceOrderSimulationRequestOut**

## Synchronous Message Payload

Sample Request Payload:

Sample Code

```
{
 "serviceOrderType": "SRV0",
 "businessArea": {
 "distributionChannel": "S1",
 "division": "S1"
 },
 "partners": [
 {
 "receiverDisplayId": "343088",
 "role": "AG"
 },
 {
 "receiverDisplayId": "343088",
 "role": "RE"
 },
 {
 "receiverDisplayId": "343088",
 "role": "1005"
 },
 {
 "receiverDisplayId": "343088",
 "role": "8"
 }
],
 "items": [
 {
 "lineNumber": 10,
 "itemCategory": "SRVP",
 "receiverProductDisplayId": "CSSRV_01",
 "requestedQuantity": {
 "content": 10,
 "uomCode": "HR"
 }
 }
]
}
```

Sample Response Payload:

Sample Code

```
{
 "value": {
 "items": [
 {
 "lineNumber": "10",
 "totalValues": {
 "grossAmount": {
 "currencyCode": "EUR",
```

```

 "content": "133.85"
 },
 "taxAmount": {
 "currencyCode": "EUR",
 "content": "20.0"
 },
 "netAmount": {
 "currencyCode": "EUR",
 "content": "113.85"
 }
 }
],
 "totalValues": {
 "grossAmount": {
 "currencyCode": "EUR",
 "content": "133.85"
 },
 "taxAmount": {
 "currencyCode": "EUR",
 "content": "20.0"
 },
 "netAmount": {
 "currencyCode": "EUR",
 "content": "113.85"
 }
 }
}

```

## 23.1.8.2 External Warranty and Contract Determination

Use Warranty and Contract Determination to determine the warranty and contract linked to the service order from the external system.

This action initiates a webhook call (synchronous) to retrieve and store the warranty and contract information at the header. When the service order is created, the webhook is automatically triggered.

However, agents can invoke the action multiple times if any information changes. Nevertheless, when the service order is replicated to the external system, this information is not transmitted. The external system should reevaluate the values and serve as the ultimate source of truth. Once replication is completed, this action will be disabled.

### Pre-requisite

As a pre-requisite, ensure to implement the communication configuration ► [Integrate Service Order with External System](#) ► [HTTP Data Request Service Order Warranty from External System](#) ►

## 23.1.9 Configure Enterprise Organizational Model in Service Orders Integration

When you integrate Service Orders from SAP Service Cloud Version 2 with SAP S/4HANA Cloud Public Edition Private Edition, it's important to set up the Organizational Model properly to ensure smooth data flow and synchronization between the systems. This integration gives you the option to use either the Legacy Organizational Model or the [Enterprise Organizational Model](#), depending on your organization's needs and structure.

### Prerequisites

Before you begin, ensure the following:

- You have access to SAP S/4HANA Cloud Public Edition Private Edition to enable or disable the [Enterprise Organizational Model](#).
- You have access to SAP Cloud Integration to configure iFlows.
- You have the required permissions to modify ID Mappings in SAP Service Cloud Version 2.

### Enabling Enterprise Organizational Model in iFlow

- In SAP Cloud Integration, the [Enterprise Organizational Model](#) parameter in the iFlow configuration is set to [false](#) by default.
- If the [Enterprise Organizational Model](#) is enabled in SAP S/4HANA Cloud Public Edition Private Edition, you must set this parameter to [true](#) in the iFlow configuration.
- When set to [true](#), the correct organizational data flows into SAP Service Cloud Version 2.
- The mapping of IDs in SAP Service Cloud Version 2 depends on whether the [Enterprise Organizational Model](#) is enabled or disabled in SAP S/4HANA Cloud Public Edition Private Edition.
- To update the parameter:
  - Go to SAP Cloud Integration.
  - Locate the [Enterprise Organizational Model](#) parameter.
  - Set it to [true](#) if you are using the [Enterprise Organizational Model](#) in SAP S/4HANA Cloud Public Edition Private Edition.



## Mapping Organizational Data

Once the [Enterprise Organizational Model](#) is enabled, you must map the corresponding SAP Service Cloud Version 2 Organizational fields to their SAP S/4HANA Cloud Public Edition Private Edition equivalents:

| SAP Service Cloud Version 2 Field | SAP S/4HANA Cloud Public Edition Private Edition Equivalent |
|-----------------------------------|-------------------------------------------------------------|
| Organizational Center ID          | Use for S/4 Enterprise Service Organization                 |
| Sales Organization ID             | Use for S/4 Sales Organization                              |
| Sales Office ID                   | Use for S/4 Sales Office                                    |
| Sales Group ID                    | Use for S/4 Sales Group                                     |

## Scenario When Enterprise Organizational Model Is Disabled

- If the [Enterprise Organizational Model](#) is disabled, it follows the Legacy Organizational Model.
- In this case, there is no differentiation at the unit level.
- All SAP S/4HANA Cloud Public Edition Private Edition Organizational IDs should be mapped to their respective SAP Service Cloud Version 2 Organizational IDs using the Organizational Center ID.

### Note

Replication of the Legacy Organizational Model from SAP S/4HANA Cloud Public Edition Private Edition is currently not available, and ID mapping must be maintained manually or using the Data Impex tool.

## 23.2 User Authorization

Administrators must create business roles and assign business users to necessary business services to use the Service Order workcenter.

- Add the business service [Service Order \(S/4HANA\)](#) to the business role to activate service order workspace.
- Enable the application [sap.crm.service.serviceOrderService](#) to access the service order workspace. Based on the business role, you can choose to enable the business service either with administrator rights or without it.

For more information, see the related links below.

## Related Information

[Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

## 23.3 Replicate Service Orders to External SAP Systems

After creating the service order, you can replicate it to external SAP systems from SAP Service Cloud Version 2.

### Context

After replication, the S/4 Service Order document ID is updated in both the header section and document flow.

Any modifications made to the service order after initial replication will be automatically replicated. Once the replication is completed you cannot change the Service Order Item, but delete the existing ones and add new items.

A [Replicate](#) option is available in the header section to re-trigger replication in case of errors.

#### 📘 Note

Replication of service order is supported from SAP S/4HANA Private Cloud/OP 2022 and above.

## 23.4 View Service Orders

View service orders and their details.

### Procedure

1. From the home page, expand the [Navigation Menu](#) and go to [Service Orders](#).

The service orders are displayed.

You can use 🔍 ([Search](#)) and ⚙️ ([Filter](#)) options to look for the required service orders. You can also save your search query for later use and sort the service orders by Type, Priority, Created On, Account, and Lifecycle Status.

2. Do one of the following:

- Click the required service order Display ID for a quick view of the service order.
- Click [🔗](#) ([Open in Detail View](#)) for the detailed view of the service order.

The header, item and other details are displayed in the detail view.

In the [General](#) tab, you can view details on [Related Entities](#), [Document Flow](#), [Involved Parties](#) and so on.

In the [Timeline](#) tab of the header pane, you can view the timeline of events such as order creation, status update, addition of notes and attachments, activities, and so on.

#### 📌 Note

Administrators can choose the events that you should see as a part of the timeline. For more information, see [Configure Timeline \[page 334\]](#).

In the [Items](#) tab, you can add related products. Select the icon



(Mass Add Items) to add products in bulk.

In the [Changes](#) tab, you can view the log of changes to the service order.

## 23.5 Create Service Orders

You can create a service order manually from the [Service Order](#) worklist, or from the agent desktop based on incoming communication from various available channels.

### Procedure

1. From the [Navigation Menu](#), search for [Service Orders](#).
2. Click **+** ([Create](#)).
3. Enter all the desired fields.
4. Click [Save](#).

### 23.5.1 Cancel Service Order

As a service agent, you can save time and resources by cancelling a service order based on customer feedback

To cancel, open a service order in the detail view and select the **...** (Actions) menu on the top left hand side and select [Cancel](#). Select the [Reason](#) and [Save](#). The service order's lifecycle status is set to Completed and the rejection reason is captured.

If the service order was replicated from an external system, for example SAP S/4HANA, then the S/4HANA service order is also rejected with the same rejection reason.

## 23.6 Manage Service Order

Manage your service orders and details of service orders.

### 23.6.1 Add Items, Products and Parties

Add or delete one or more registered product and involved parties from the service order.

If there are multiple registered products, you can assign one of them as primary.

Following are the supported involved parties for service order:

- Account
- Contact
- Bill-To
- Ship-To
- Payer
- Owner
- Service and Support Team

### 23.6.2 View Document Flow

View all predecessor and successor transactions or activities related to service orders in the document flow diagram.

#### Procedure

1. From the home page, expand the [Navigation Menu](#) and go to [Service Orders](#).
2. Open the detail view of the required service order and scroll to the [Document Flow](#) section.  
The service order and the related transactions appear in the diagram.

### 23.6.3 Add Notes

Create and maintain notes for the service order and replicate them to an external system.

System supports two types of notes:

- **Customer Memo:** The customer memo is used to describe customer issues and problems with the system.

- **Internal Memo:** The internal memo is utilized for agent communication and passing on customer thoughts to the back-end team.

## 23.6.4 Functional Locations in Service Orders

Learn how a functional location can be marked as primary and assigned to items in service orders.

### Context

Items in a service order are initially assigned to the primary functional location. Each item within the service order can be assigned to either the primary functional location or the primary registered product, but not both simultaneously.

This functional location assignment is bidirectionally replicable with SAP S/4HANA. If you want to modify the assigned functional location for a specific item, you can manually reassign the functional location within the service order interface.

When a service order is created as a follow-up to a case, the functional location maintained in the case is automatically copied to the service order quick create screen.

### Procedure

1. Open an existing service order or create a new one, ensuring it includes at least one functional location.
2. Mark a functional location as primary.
3. Add items to the service order. The primary functional location is automatically set as the default functional location for the items.
4. To replicate the functional location assignment to SAP S/4HANA, go to the service order header and choose [Replicate](#).

## 23.6.5 Bi-directional Sync Between Applications

You can sync the service bi-directionally between the applications SAP Service Cloud Version 2 and SAP S/4HANA.

### Prerequisite

As a prerequisite, implement the communication configuration [Integrate Service Order with External System](#):

1. Inbound Configuration:
  - Replicate Service Order from External System
  - Confirm Service Order Creation from External System
2. Asynchronous Outbound Configuration:
  - Replicate Service Order to External System
  - Confirm Service Order to External System
3. Deploy the integration content in the package: [SAP Service Cloud Integration with SAP S/4HANA Private Edition](#)  
iFlows:
  - Replicate service order from SAP Service Cloud Version 2 to SAP S/4HANA
  - Replicate service order from SAP S/4HANA to SAP Service Cloud Version 2

The following service order information is synced uni-directionally from SAP S/4HANA Private Edition to SAP Service Cloud Version 2 at both the header and item levels.

- Credit Status
- User Status

## 23.6.5.1 Replication of Header Information from S/4HANA

As an administrator, you can replicate key header information from SAP S/4HANA.

You can help your agents share price information to customers from S/4HANA after replication.

### Prerequisite

- Ensure you've deployed the latest iFlows.
- Enable the required fields through adaptation in SAP Service Cloud V2.

### Replicated Header Information

The following service order header information is synced bi-directionally:

- Description
- Order Type
- Parties Involved
- Registered Product
- Priority
- Requested Start & End Date
- Sales Area
- Rejection Status

- Lifecycle Status
- Net Amount
- Tax Amount
- Gross Amount

## 23.6.5.2 Replication of Item Information from S/4HANA

As an administrator, you can replicate key item information from SAP S/4HANA.

You can help your agents communicate important details to customers including scheduled technician visits and upcoming service due timelines.

### Prerequisite

- Ensure you've deployed the latest iFlows.
- Enable the required fields through adaptation in SAP Service Cloud V2.

### Replicated Item Information

Bi-directionally synced service order item information:

- Line Number
- Description
- Product ID
- Item Category
- Planned Quantity /UOM
- Requested Start On
- Requested End On

Uni-directionally synced service order item information:

- Planned From
- Planned To
- Net Amount
- Tax Amount
- Gross Amount

## 23.6.6 Add New Section in Detail Screen

As an administrator, you can add a custom section to the detail screen to include additional fields or a mashup.

Create the section according to your requirements, and add standard or custom fields, or bind a mashup. For more information, see the related information section.

### Related Information

[Add and Manage Sections \[page 87\]](#)

Add, hide, show, and reorder sections.

## 23.7 Extensibility in Service Orders

As an administrator, you can create custom fields in the service order header based on the business requirements.

For more information, see the related link below.

### Related Information

[Extensibility \[page 97\]](#)

Extensibility allows you and your partners to extend the software platform without having to modify the original codebase. So, you can add to the base functionality, thereby offering new capabilities and outputs.

## 23.8 Code List Restrictions in Service Order

As an administrator, you can restrict values of standard and custom code list based on user roles or other code list field values to meet custom requirements.

For more information, see the related information section.

### Related Information

[Create Code List Restrictions \[page 141\]](#)



Code list restriction refers to the process of limiting the available code values based on other code fields or context. As an administrator, you can restrict the values available from a drop-down list by creating and maintaining code list restrictions for different business entities.

## 23.9 Support for Custom Code List

As an administrator, you can create customized code lists and use them in all supported entities including service order.

Re-use custom code list created centrally across multiple entities. For more information, see the related information section.

### Related Information

[Create and Add Custom Code Lists \[page 139\]](#)

Create customized code lists and use them in all supported entities.

## 23.10 Dynamic Property Rules in Service Order

As an administrator, you can create and apply dynamic rules to control property behavior for entities and sub-entities based on defined conditions.

Dynamic property rules enable flexibility and adaptability in managing service order entity behavior and screen configurations. For more information, see the related information section.

### Related Information

[Create Dynamic Property Rules \[page 133\]](#)

Create and apply dynamic rules to manage property behaviors for entities and sub-entities based on specific conditions.

## 23.11 Display of Premise Address for Service Orders

Utility-specific service orders replicated from SAP S/4HANA to SAP Service Cloud V2 are now associated with the premise address.

This helps call center agents identify service order locations through readable premise addresses instead of equipment IDs or device location codes, improving operational efficiency when handling customer inquiries.

For utilities-specific service orders that have an equipment ID, you can see the premise section displaying the functional location address, equipment ID, and premise address.

In the central tab of premise, the recent service orders card is displayed in the updates section. When you open the detail view, you can navigate to the service orders list view.

The recent service orders card and the service order tab are hidden by default. You must enable them through adaptation.

### Related Information

[Central \[page 556\]](#)

This tab displays premise details in cards such as Moving-in & Moving-out, Services, and Recent Cases.

## 24 Service Contracts

Learn how service contracts help you efficiently manage agreements, maintain contract headers, items, and covered objects.

Use service contracts to manage customer support agreements and track the type of support a customer is eligible for, as long as they have an active contract. The contract administration team defines contract details, including entitlements, covered objects, and pricing. Depending on the contract template, the contract may also include support types.

Access [Service Contracts](#) from the navigation menu to display contracts based on the required details and view an overview of active contracts.

### Note

- Creation or updates to service contracts are not supported.
- This feature has restricted availability. To request access to this feature, you must create a case with the CEC-CRM-SRVCOP component.

### 24.1 Service Contract Workcenter

The Service Contracts work center displays service contract records replicated from SAP S/4HANA On-Premise. It is a read-only view, allowing you to search and review existing contracts.

Service Contracts worklist displays all the replicated service contracts. You can [Search](#) by Display ID or Description. You can also [Filter](#) the contracts by Account, Contact, Individual Customer, Lifecycle Status, and Created On.

You can also view the following attributes of a service contract:

- Display ID
- Description
- Lifecycle Status
- Start and End Dates
- Net Value and Currency
- External ID (generated in S/4HANA)
- Account
- Cancellation Status and Rejection Status

## 24.1.1 Quick View

You can launch the service contract quick view by clicking the Display ID and view the key information regarding a service contract prior opening in the detail view.

On quick view screen, you can view the following information:

- **Header:** Shows External ID, Service Contract Type and description.
- **Overview Tab:** Displays the involved parties.
- **Details Tab:** Provides general information, contact information, status details, and organizational data.
- **Items Tab:** Lists all items associated with the contract.

Click an service contract, to open the detailed view, where you can get a glance of all the important details

## 24.1.2 Detail View

The Detail View provides a structured display of all the service contract related information.

The left header shows key contract attributes such as External ID, Gross Value, Net Value, Status, Service Information, and Organizational Data. The cards can be expanded or collapsed.

On detail view screen, you can view the following information:

- General Tab: Lists all the involved parties.
- Items Tab: The Items tab lists all contract items. Selecting an item opens Item Details which includes the following information:
  - General information
  - Parties: same party structure as the contract header
  - Covered Objects: Covered Objects displays the objects, including Registered Products and Functional Locations, that are covered by the service contract.
  - Product List: The Product List contains products, spare parts, or services associated with the contract (e.g., a replacement filter covered in the first service). This information is also replicated from S/4HANA and mapped to Service Cloud V2 master data.

## 24.2 Configure Service Contracts

As an administrator, you can view the [Service Contract Types](#) and [Item Categories](#) in the configuration settings by navigating to your ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Service Contract](#) ►.

The system supports displaying the settings maintained by your administrator.

# 25 Customer Returns

The *Customer Returns* feature in SAP Service Cloud Version 2 streamlines the return process, enabling businesses to create, manage, and track return orders as part of after-sales services within the sales process chain. This feature is designed to handle situations where a customer wants to return goods for any reason, ensuring flexibility and customer satisfaction.

Key capabilities include event-driven workflows, customizable return order fields, and flexible configurations tailored to meet specific business requirements. With strong data protection, privacy controls, and role-based authorizations, the feature ensures compliance while delivering a seamless and secure return management process.

## Note

- Requires SAP Service Cloud Version 2 setup in the same tenant with SAP Sales Cloud Version 2 *Sales Orders* scoped in.
- Process integration with SAP S/4HANA is not supported in the current version.
- Return orders can be created only for completed *Sales Orders*.

## 25.1 Configure Customer Returns

As an administrator, you can configure the settings required to create and process return orders.

### → Tip

Expand a collapsible section heading to view the configuration steps.

### 25.1.1 Configure Return Order Types

As an administrator, you can configure the return order types.

## Procedure

1. Go to your user profile and select: ► *System Settings* ► *All Settings* ► *Customer Returns* ► *Return Order Types* ►.
2. Select + *(Create)*.

3. In [Code](#), enter the code.
4. In [Description](#), enter the return order type description.
5. Select ✓ ([Save](#)).

You can edit the created order type using in-line edit option.

## 25.1.2 Configure Return Order Reasons

As an administrator, you can configure the return order reasons.

### Procedure

1. Go to your user profile and select: ► [System Settings](#) ► [All Settings](#) ► [Customer Returns](#) ► [Return Order Reasons](#) ►.
2. Select + ([Create](#)).
3. In [Code](#), enter the code.
4. In [Description](#), enter the return order reason description.
5. Select ✓ ([Save](#)).

You can edit the created order reason using in-line edit option.

## 25.1.3 Configure Return Order Item Reasons

As an administrator, you can configure the return order item reasons.

### Context

### Procedure

1. Go to your user profile and select: ► [System Settings](#) ► [All Settings](#) ► [Customer Returns](#) ► [Return Order Item Reasons](#) ►.
2. Select + ([Create](#)).
3. In [Code](#), enter the code.
4. In [Description](#), enter the return order item reason description.

5. Select ✓ ([Save](#)).

You can edit the created item reason using in-line edit option.

## 25.1.4 Configure Party Schema

As an administrator, configure party role assignments in the party schema for customer returns.

### Context

### Procedure

1. Go to your user profile and select: ► [System Settings](#) ► [All Settings](#) ► [Customer Returns](#) ► [Party Schema](#) ►. The standard party schema for return orders and the party role assignments are displayed.
2. Select ✎ ([Edit](#)) to do the following as required:
  - To make the party role nonmandatory, uncheck the [Mandatory](#) checkbox.
  - To activate or deactivate party role determination steps of the party role, Select  ([Show Determination Steps](#)) and check or uncheck the [Active](#) checkbox respectively.
3. Save your changes when finished.

## 25.1.5 Configure Return Order Replication

As an administrator, you can configure the replication of return order to SAP S/4HANA.

### Procedure

1. Go to your user profile and select ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ► [Inbound Configuration](#) ► and select [Confirm Return Order Creation from External System](#) and [Replicate Return Order from External System](#).
2. Similarly, go to [Outbound Configuration](#) and select [Replicate Return Order to External System](#).
3. Deploy and configure the following iFlows from the package [SAP Service Cloud Integration with SAP S/4HANA](#) :
  - Replicate Return Order from SAP S/4HANA to SAP Service Cloud Version 2
  - Replicate Return Order from SAP Service Cloud Version 2 to SAP S/4HANA

4. Run the required configurations in SAP S/4HANA.

## 25.2 User Authorization

Administrators must create business roles and assign business users to the necessary business services to use the *Customer Returns* application.

- Add the business service *sap.crm.service.returnOrderService* to the business role to activate return order workspace.
- Enable the *Customer Returns* application for agents to access the return order workspace.
- Enable the *Return Order Admin* application for agents to access the return order workspace.

For more information, see the related links below.

### Related Information

[Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

## 25.3 Create Return Orders

Create return orders to capture and manage customer return requests.

### Procedure

1. From the home page, expand the *Navigation Menu* and go to *Customer Returns*.
2. Choose **+** (*Create*) from the top-right corner of the screen.
3. In the *Reference Document* field, select the required sales order from the Sales Order value help. The *Description* from the selected sales order will automatically appear in the return order. You can edit it if needed.
4. In the *Return Type* field, select the type of return you want to create from the dropdown menu.
5. In the *Return Reason* field, select the reason for the return from the dropdown menu.
6. Specify the *Refund Quantity* or *Exchange Quantity* to either exchange the item or get a refund for it .
7. Choose *Next* to proceed to the *Confirm Return Information* screen.
8. Review the details of your return order to ensure all information is correct.



9. Choose [Save](#) to save the return order.

Choose [Save and Open](#) to save and open the return order.

## 25.4 Manage Return Orders

Manage your return orders and details of return orders.

### 25.4.1 Cancel Return Order

As an agent, you can cancel a return order if the customer changes their decision, as long as the order has not yet been released to SAP S/4HANA.

This feature provides flexibility to accommodate customer decision changes, prevents unnecessary processing of return orders that are no longer valid, and ensures data consistency between SAP Service Cloud and SAP S/4HANA.

To cancel a return order, navigate to [Customer Returns](#) from the navigation menu and open the required return order in detailed view. Select  ([Actions](#)) and [Cancel](#).

### 25.4.2 Import and Export Customer Return Data

Learn how to import and export customer return data.

#### Procedure

1. Go to  [User Menu](#)  [System Settings](#)  [All Settings](#)  [Import and Export Data](#) .
2. To import data, choose [Create](#) from the import drop-down. Then choose [Customer Returns](#) as the entity and import the data.
3. To export data, choose [Export](#). Then choose [Customer Return](#) as the entity and export data as an Excel or CSV file.

## 25.5 Extensibility in Customer Returns

As an administrator, you can create custom fields in the return order header based on your business requirements.

For more information, see the related link below.

### Related Information

[Extensibility \[page 97\]](#)

Extensibility allows you and your partners to extend the software platform without having to modify the original codebase. So, you can add to the base functionality, thereby offering new capabilities and outputs.

### 25.5.1 Mashup Support Using External IDs

This feature enhances mashup capabilities by supporting return order data integration, enabling extensibility for custom applications, and simplifying mashup creation.

Integrate the Return Order data model within mashup bindings. This allows you to display or process return order information directly in embedded mashups. Extend the system by embedding your own custom applications within the user interface. This provides flexibility to meet specific business or process requirements. Use the Mashup Authoring tool to create, configure, and bind mashups to the required data models or screens. For more information, see the related information section

### Related Information

[Mashups \[page 144\]](#)

Learn how to configure, use, and access mashups.

## 25.6 Replicate Return Order to External System

You can replicate customer returns to external systems such as SAP S/4HANA (version 2025 FPS0 or higher) from SAP Service Cloud Version 2.

You can capture customer-initiated return requests directly in Service Cloud V2, automatically send the return data to the S/4HANA Private Cloud backend for processing, and provide real-time status updates to customers throughout the process.

The creation and replication of return orders captures the following information:

- Order Type
- Referenced SAP Service Cloud Version 2 Sales Order & Items (only with Status as Completed)
- Return Reason at Header and Items
- Return Quantity, Return Type, RMA Number at Item level
- Net Value and Currency at Header
- Parties Involved & Sales Area at Header
- Refunding and Release Status at Header and Item
- Processing at Header level

#### Note

To replicate customer returns Sales Cloud V2 must be set up within the same tenant, with Sales Order functionality implemented and integrated with SAP S/4HANA.

## 25.6.1 Configure Return Order Replication

As an administrator, you can configure the replication of return order to SAP S/4HANA.

### Procedure

1. Go to your user profile and select  [System Settings](#) > [All Settings](#) > [Integration](#) > [Inbound Configuration](#)  and select [Confirm Return Order Creation from External System](#) and [Replicate Return Order from External System](#).
2. Similarly, go to [Outbound Configuration](#) and select [Replicate Return Order to External System](#).
3. Deploy and configure the following iFlows from the package [SAP Service Cloud Integration with SAP S/4HANA](#) :
  - Replicate Return Order from SAP S/4HANA to SAP Service Cloud Version 2
  - Replicate Return Order from SAP Service Cloud Version 2 to SAP S/4HANA
4. Run the required configurations in SAP S/4HANA.

## 25.7 Code List Restrictions in Return Order

As an administrator, you can restrict values of standard and custom code list based on user roles or other code list field values to meet custom requirements.

For more information, see the related information section.

## Related Information

[Create Code List Restrictions \[page 141\]](#)

Code list restriction refers to the process of limiting the available code values based on other code fields or context. As an administrator, you can restrict the values available from a drop-down list by creating and maintaining code list restrictions for different business entities.

## 25.8 Support for Custom Code List

As an administrator, you can create customized code lists and use them in all supported entities including return order.

Re-use custom code list created centrally across multiple entities. For more information, see the related information section.

## Related Information

[Create and Add Custom Code Lists \[page 139\]](#)

Create customized code lists and use them in all supported entities.

## 26 Forms

Use forms to capture information about cases and validate or send data to external systems.

You, as an administrator, can create custom forms and versions for case data entry. If you've enabled forms for a specific case type, you can find the [Forms](#) tab on the case detail view. Use conditions to make specific form fields required, read only, or hidden.

### Note

This product does not provide the technical capabilities to support the collection, processing, and storage of personal data.

### 26.1 Create Forms

You, as an administrator, can create forms for case data input.

#### Context

Create forms to enable your users to easily enter relevant data. Drag and drop form elements such as fields, buttons, tables, and more onto the form layout. Form buttons can use API calls to send and receive form data to and from external systems.

#### Procedure

1. Go to your user menu and choose ► [System Settings](#) ► [Forms](#) ►.
2. Select [+ \(Create New Form\)](#), Enter the required information, and save.  
Your new form appears in the [Forms](#) list with the header details on the right. A new draft version of the form appears in the [Versions](#) table. Select [⋮ \(Actions\)](#) to activate the version, copy to a new form, create new version, or delete the version. There can only be one draft version. You can activate multiple versions but there must only be one active version within the specified validity period.
3. (Optional) Add business unit-based access restrictions for other administrators. Choose the [Business Units](#) tab and add the business units with administrators you want to allow access to your form.  
Only administrators belonging to the specified business units can access your form in settings. If you don't select any business units, then your form is visible to all users that can access [Forms](#) in [Settings](#).
4. Select [🔗 \(Open Form Designer\)](#) to open the form layout.

5. Drag and drop elements from the [Control Palette](#) onto the [Form Layout](#).  
Each element has associated properties shown at the side of the form layout.
6. Adjust the control [Properties](#) as desired.  
For example: enter text for a heading and choose the heading level. Different form elements have different types of properties.  
If you want to remove an element from a form, use the  ([Delete](#)) button in the properties area.  
Control elements can also have associated conditions. You can set conditions specifying form elements as required, read only, hidden, deactivated, or supporting multiple selection.
7. Adjust the control [Configuration](#) by selecting the checkbox next to the associated condition if it has to be applied by default or the  ([Rule Configuration](#)).  
Configuration can include choosing a value list for a menu, setting associated conditions for the control, or providing an API URL for buttons. For example, select the [Required](#) checkbox if a text entry field is always required, or the  ([Rule Configuration](#)) next to the [Required](#) checkbox to define a rule if a text entry field is only required for one country or region. This setting makes the field optional unless a specific country or region code is entered elsewhere on the form.
8. Select  ([Add](#)), to add any desired control buttons to the bottom of the form.  
[Save](#), [Reset](#), and [Cancel](#) are the default buttons on the form. Custom form buttons can be used to send, submit, or check data on a form by calling an API on an external system.
9. To ensure that your form and conditions function properly, select [Validate](#).
10. Optional: To define auto-fill actions, choose  ([More](#)) and then [Auto-Fill Actions](#) to have fields prefilled or automatically filled.

#### Note

The Auto-Fill Actions feature has restricted availability. To request access to this feature, create a case with the component CEC-CRM-FORM.

For more information, see the **Configure Auto-Fill Actions** topic in the Related Links section.

11. To set conditions when the entire form displays as read only, choose  ([More](#)) and then [Form Read-Only Condition](#).  
This step is optional. There may be instances when you want users to view a form, but not change the information. Configure one or more condition blocks that check case and user field values to determine when the entire form appears as read only.
12. (Optional) To set conditions when the form is editable for a self-service user, choose  ([More](#)) and then [Self-Service Form Edit Rules](#). Specify the conditions to determine when the form appears as editable.  
If no conditions are specified, the form remains read-only.
13. (Optional) Enable data entry into your form by importing from a Microsoft Excel file. Go to the [Forms](#) list and turn on the [Enable Excel Upload](#) switch for the desired form versions. Then open the Form designer and choose  ([More](#)) and then [Export Excel Template](#).  
If you've translated the form with the [Language Adaptation](#) tool (in [Settings](#)), you can export templates for each translated language. Select the desired languages when you choose [Export Excel Template](#).  
Distribute the template to your organization to use for data entry with this form.  
Users of this form see [Import From Excel](#) on the forms tab of a case. They can drag and drop or browse to select the file to use to import data into the form.

14. (Optional) Allow users to download form data as a Microsoft Excel file. Go to the [Forms](#) list and turn on the [Enable Excel Download](#) switch.

Users can navigate to the [Forms](#) tab of a case and choose [Export to Excel](#) to download form data as a Microsoft Excel file.

15. (Optional) Create validation and determination rules for your form. Go to your profile menu and choose [Settings](#) > [Extensibility Administration](#) > [Form Service](#) and select your form to build validation or determination rules.

See the related information section for links to more details about validation and determination rules and how to create them.

## Related Information

### [Assign API Calls to Form Buttons \[page 492\]](#)

Configure APIs to be called when a button is clicked on the form to send or retrieve data, or validate data from external systems.

### [Language Adaptation \[page 160\]](#)

Language adaptation customizes communication for different users, considering business and linguistic preferences. It ensures content resonates effectively, improving comprehension and engagement.

### [Create Validations \[page 107\]](#)

Validations help you, as an administrator, to implement a custom logic where you can prevent a save or issue a warning message to users during save based on certain conditions.

### [Create Determinations \[page 110\]](#)

Use determinations to calculate specific field value based on certain conditions. You can either default or propose the value or mandate a certain value using determinations.

### [Configure Auto-Fill Actions \[page 494\]](#)

As an administrator, you can configure actions that pre-fill or auto-fill field values when the user fills a form.

## 26.1.1 Create Form Variants

You can create up to five variants of a form version.

### Context

Form variants help target different user groups. For example: You can create a form variant for an employee creating a request from a self-service application, and a different variant for the agent who handles the request.

#### Restriction

For variants, you can only modify the [Configuration](#) section for each form control. You can't make other changes to a variant, such as adding or removing form controls.

## Procedure

1. Select  (*Open Form Designer*) to open the form layout.
2. From the *Default Variant* dropdown, choose  (*Create*) to create a new variant.
3. Enter a name for the variant and define the assignment rule conditions.
4. Save your changes.

You can select the new variant from the *Variant Default* dropdown. Use  (*Move Up*) and  (*Move Down*) to set the sequence of form variants. Since more than one variant can have a selection rule that returns true, setting the sequence allows the Form Runtime to choose the first variant in the sequence for which the selection rule returns true. Select  (*Variant Properties*) to edit the variant settings and  (*Delete*) to delete a form variant.

## 26.1.2 Form Controls List

List of control elements that you can utilize when creating forms.

### Form Controls

| Control Name | Properties                                                                                                                                                                                                                                   |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Heading      | <ul style="list-style-type: none"><li>• Text</li><li>• Level (1 or 2)</li><li>• Hidden Flag</li></ul>                                                                                                                                        |
| Section      | <ul style="list-style-type: none"><li>• Section Title</li><li>• Read Only Flag</li><li>• Hidden Flag</li></ul>                                                                                                                               |
| Paragraph    | <ul style="list-style-type: none"><li>• Text</li><li>• Hidden Flag</li></ul>                                                                                                                                                                 |
| Text         | <ul style="list-style-type: none"><li>• Label</li><li>• Placeholder</li><li>• Initial Value</li><li>• Required Flag</li><li>• Read Only Flag</li><li>• Hidden Flag</li><li>• Description</li><li>• Character Limit (min &amp; max)</li></ul> |



| Control Name   | Properties                                                                                                                                                                                                                                                           |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Text Area      | <ul style="list-style-type: none"> <li>• Label</li> <li>• Placeholder</li> <li>• Initial Value</li> <li>• Required Flag</li> <li>• Read Only Flag</li> <li>• Hidden Flag</li> <li>• Description</li> <li>• Character Limit (min &amp; max)</li> </ul>                |
| Dropdown       | <ul style="list-style-type: none"> <li>• Label</li> <li>• Initial Value</li> <li>• Required Flag</li> <li>• Read Only Flag</li> <li>• Hidden Flag</li> <li>• Multiple Selection Flag</li> <li>• Description</li> <li>• Data Source (Code List or Dynamic)</li> </ul> |
| Radio Buttons  | <ul style="list-style-type: none"> <li>• Label</li> <li>• Initial Value</li> <li>• Vertical Alignment Flag</li> <li>• Required Flag</li> <li>• Read Only Flag</li> <li>• Hidden Flag</li> <li>• Description</li> <li>• Data Source (Code List or Dynamic)</li> </ul> |
| Checkbox Group | <ul style="list-style-type: none"> <li>• Label</li> <li>• Initial Value</li> <li>• Vertical Alignment Flag</li> <li>• Required Flag</li> <li>• Read Only Flag</li> <li>• Hidden Flag</li> <li>• Description</li> <li>• Data Source (Code List or Dynamic)</li> </ul> |
| Checkbox       | <ul style="list-style-type: none"> <li>• Label</li> <li>• Initial Value</li> <li>• Required Flag</li> <li>• Read Only Flag</li> <li>• Hidden Flag</li> <li>• Description</li> </ul>                                                                                  |

| Control Name | Properties                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number       | <p>Number Properties: Number and Amount</p> <p>If the type is Number:</p> <ul style="list-style-type: none"> <li>• Label</li> <li>• Placeholder</li> <li>• Initial Value</li> <li>• Required Flag</li> <li>• Read Only Flag</li> <li>• Hidden Flag</li> <li>• Description</li> <li>• Minimum and Maximum values</li> <li>• Decimal Places</li> </ul> <p>If the type is Amount:</p> <ul style="list-style-type: none"> <li>• Label</li> <li>• Initial Value</li> <li>• Initial Currency</li> <li>• Required Flag</li> <li>• Read Only Flag</li> <li>• Hidden Flag</li> <li>• Description</li> <li>• Minimum and Maximum values</li> </ul> <div> <p><b>Note</b></p> <p>Currency amount fields in forms has restricted availability. To request access to this feature, create a case with the component CEC-CRM-FORM.</p> </div> |
| Date         | <ul style="list-style-type: none"> <li>• Label</li> <li>• Placeholder</li> <li>• Required Flag</li> <li>• Read Only Flag</li> <li>• Hidden Flag</li> <li>• Description</li> <li>• Range Type: All Dates / Only Past Dates / Only Future Dates</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Link         | <ul style="list-style-type: none"> <li>• Label</li> <li>• Show label Flag</li> <li>• Description</li> <li>• Link URL</li> <li>• Link Text</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Control Name | Properties                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Table        | <ul style="list-style-type: none"> <li>• Label</li> <li>• Required Flag</li> <li>• Read Only Flag</li> <li>• Hidden Flag</li> <li>• Description</li> </ul> <p>Each column of the table can be of one of these types (with their corresponding properties):</p> <ul style="list-style-type: none"> <li>• Text</li> <li>• Checkbox</li> <li>• Number</li> <li>• Date</li> <li>• Dropdown Menu</li> </ul>           |
| Attachment   | <ul style="list-style-type: none"> <li>• Label</li> <li>• Description</li> <li>• Allowed File Types</li> <li>• Upload Multiple Files Flag</li> <li>• Required Flag</li> <li>• Read Only Flag</li> <li>• Hidden Flag</li> </ul> <div> <p><b>Note</b></p> <p>The Attachment feature has restricted availability. To request access to this feature, create an incident with the component CEC-CRM-FORM.</p> </div> |
| Buttons      | <ul style="list-style-type: none"> <li>• Text</li> <li>• Style: Primary, Secondary, or Link</li> <li>• deactivated Flag</li> <li>• Hidden Flag</li> <li>• Description</li> </ul>                                                                                                                                                                                                                                 |

## Related Information

[Create and Add Custom Code Lists \[page 139\]](#)

Create customized code lists and use them in all supported entities.

## 26.1.3 Assign API Calls to Form Buttons

Configure APIs to be called when a button is clicked on the form to send or retrieve data, or validate data from external systems.

### Prerequisites

Set up an outbound configuration under form integration for the API call.

### Context

Form buttons can trigger API calls to external systems through SAP Cloud Integration making forms adaptable and powerful.

### Procedure

1. Go to your user menu and choose ► [System Settings](#) ► [Forms](#) ►.
2. Select a form from the list and select  ([Open in Form Designer](#)) for the version you want to edit.
3. Select the button to which you want to add the API call.
4. In the [Button Configuration](#) area, choose [Add Integration](#) to open the [iFlow Configuration](#) screen.
5. Select the applicable HTTP data from the outbound configuration that was configured in the Form Integration section. If this button is meant to perform a post action, then select the [Is Post Action](#) checkbox.  
If the post action is successful, then the form is set to **read only**. For more information, see [Form Integration \[page 496\]](#).
6. Select data that you want to send with the API as the [iFlow Input](#). Choose form case, user, or form fields.
7. Select the form fields to update with the API response data as [iFlow Output](#).
8. Save the iFlow Configuration.
9. After saving the configuration, select [Download Response JSON Schema](#) to download the response schema as a file in a JSON format. You can then upload this file in SAP Cloud Integration when creating a message mapping for the API response.

## 26.1.4 Configure Dynamic Data Source

Set API URLs to populate values in dropdown menus, radio buttons, and checkbox groups based on a dynamic data source.

### Prerequisites

Set up an outbound configuration under form integration for the API call.

### Context

Values displayed in dropdown menus, radio buttons, and checkbox groups are populated by making API calls to external systems through SAP Cloud Integration.

### Procedure

1. Go to your user menu and choose ► [System Settings](#) ► [Forms](#) ►.
2. Select a form from the list and select  ([Open in Form Designer](#)) for the version you want to edit.
3. Select the form control to use a dynamic data source to populate values.
4. In the [Data Source](#) area, choose [Dynamic](#), and then choose [Dynamic Data Source](#) to open the [iFlow Configuration](#) screen.
5. Select the applicable HTTP data from the outbound configuration that was configured in the Form Integration section.  
For more information, see [Form Integration \[page 496\]](#).
6. Optionally, you can select data that you want to send with the API as the [iFlow Input](#). Choose from case, user, or form fields.  
When a field is marked as required, the API will only be called when it is populated. Note that for dynamic data sources, the output fields are always predefined as a list of keys and descriptions.
7. Save the iFlow Configuration.
8. After saving the configuration, select [Download Response JSON Schema](#) to download the response schema as a file in a JSON format. You can then upload this file in SAP Cloud Integration when creating a message mapping for the API response.

### 26.1.4.1 Dynamic Data Source FAQ

## Why is a dynamic drop-down list not showing the expected items?

If the dynamic drop-down list is not showing the expected items, check the following:

- Check for any errors or warnings displayed at the top of the form. Errors and warnings are listed in the message strip. Ensure that all errors and warnings are resolved and that no error messages are displayed.
- Open your browser's web inspector. In the **Network** tab, filter for requests containing **iFlowCall**. Check the payload of the request and the response to verify the dynamic data source's inputs and outputs. Make sure that the dynamic data source does not return an error message or **isSuccess: false** in its response. Verify that the dynamic data source returns a key for every item. Item description is optional, but item key is required.

## Are there any constraints on dynamic data source item keys?

Dynamic data source item keys have the following constraints:

- Dynamic data source items must have a key, and the key must be unique in the item list. Item description is optional, but item key is required.
- Dynamic data source items keys must not contain a comma. Comma is reserved as a separator for multiple selections while setting a drop-down list's initial value in the Form Designer.

## Why is a dynamic drop-down list not loading or refreshing?

A dynamic drop-down list might not load or refresh due to the following reasons:

- If the user does not provide a value for all required inputs of a dynamic data source, it does not get loaded.
- If the form is in edit mode, and a dynamic drop-down list is reloaded, the selected item is cleared if it is no longer available after reloading the data source. However, if the form is in read-only mode, the selected item remains unchanged even if it is no longer available, since read-only form data cannot change.
- If you get an HTTP 523 error when a dynamic drop-down list fails to load, verify the [Communication System](#) settings (especially the authentication method).

## 26.1.5 Configure Auto-Fill Actions

As an administrator, you can configure actions that pre-fill or auto-fill field values when the user fills a form.

### Context

The Auto-Fill Actions feature has restricted availability. To request access to this feature, create a case with the component CEC-CRM-FORM.

## Procedure

1. Navigate to your user menu and choose ► [System Settings](#) ► [Forms](#) ►.
  2. Select a form and choose [Open Form Designer](#) to open the form layout.
  3. To define auto-fill actions, choose [More](#) and then [Auto-Fill Actions](#) to have fields pre-filled or automatically filled.
  4. Choose [+ \(Create Auto-Fill Action\)](#) and select [Auto-Fill Action](#) or [Pre-Fill Action](#)
- You can create multiple auto-fill actions but only one pre-fill action.
5. Enter a [Name](#) and save your changes.
  6. Select an [Outbound Configuration](#).
  7. Select the desired fields in the [iFlow Input](#) and [iFlow Output](#) sections.
  8. Save your changes.

When the user changes the value of an auto-fill action's input while filling the form, the action is called and updates the fields selected as outputs. If there are multiple auto-fill actions that use the same input field, only the first action in the list (for which the input has changed) is called.

### 26.1.5.1 Auto-Fill Actions FAQ

#### Why is an auto-fill action not having the expected effect on a form?

To troubleshoot an auto-fill action:

- Check for any errors or warnings displayed at the top of the form. Errors and warnings are listed in the message strip. Ensure that all errors and warnings are resolved and that no error messages are displayed.
- Open your browser's web inspector. In the **Network** tab, filter for requests containing **iFlowCall**. Check the payload of the request and the response to verify the auto-fill action's inputs and outputs. Make sure that the auto-fill action does not return an error message or **isSuccess: false** in its response.

#### Why is an auto-fill action not getting called?

An auto-fill action may not get called due to the following reasons:

- If a form is not in edit mode, its auto-fill actions are not called since read-only form data cannot change.
- If a form is not displayed, its auto-fill actions are not called. The purpose of auto-fill actions is to assist the user as they fill out a form.
- If the user does not provide a value for all required inputs of an auto-fill action, it does not get called.
- If the user edits a form field, and that field is an input to multiple auto-fill actions, only the first auto-fill action gets called. Use Form Designer to reorder the auto-fill action list as needed.

- When the user opens a new empty form, none of the auto-fill actions are called until the user modifies an auto-fill action's inputs. If you want an action to be called automatically when opening a new empty form, define it as a prefill action in the Form Designer instead of defining it as an auto-fill action.
- If you get an HTTP 523 error when a form attempts to call an auto-fill action, verify the [Communication System](#) settings (especially the authentication method).

## 26.2 Create Form Categories

Create categories and sub-categories to classify your forms.

### Procedure

1. Go to your user menu and select ► [System Settings](#) ► [Forms](#) ► [Form Categories](#) ►.
2. Select + [Create](#) to create a new form category.
3. Enter a [Name](#) for the category, and select ✓ [Accept](#).
  - Create sub-categories with the + [Create](#) button in the category row. Your solution supports 4 levels of category hierarchy: a top-level category with three sub-levels.
  - Move sub-categories under different parent categories with the  ([Move Category](#)) button.
  - You can also rename and delete categories.

## 26.3 Form Integration

Create an outbound configuration to enable form buttons to send or retrieve data from external systems and to populate values in dropdown menus, radio buttons, and checkbox groups based on a dynamic data source.

### Prerequisites

Set up an outbound communication system under ► [System Settings](#) ► [Integration](#) ► [Communication Systems](#) ►.



## Context

Use forms to handle a variety of end-to-end processes by interacting with external systems.

## Procedure

1. Go to your user menu and choose ► [System Settings](#) ► [All Settings](#) ► [Forms](#) ► [Form Integration](#) ►.
2. Choose + [\(Create\)](#).
3. Enter a name and select the communication system.
4. Choose + [\(Create\)](#) to create a new configuration.
5. Save and activate the configuration.

## Related Information

[Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

# 26.4 Export Form to New Tenant

You as an administrator, can export a form and copy that form to a different tenant.

## Procedure

1. Go to your user menu and select: ► [System Settings](#) ► [Forms](#) ►.
2. Select a form and navigate to the **active** version to be exported.
3. Choose ... [Show Actions](#) in the [Actions](#) column and select [Export to File](#).
4. Choose a location to save the exported ZIP archive file on your local system.
5. Log in to the target tenant as an administrator.
6. Go to your profile menu and select: ► [System Settings](#) ► [Forms](#) ►, then choose + [Create New Form](#) and select [Import from File](#) from the drop-down menu.
7. Fill the relevant fields for the new form, drag and drop, or search to upload the ZIP file containing your exported form, and save your changes.

## 27 Business Documents

Business Documents represent back-end records in a semantic way and can create, update, or display those records. Values in the table can be populated automatically using AI services or entered manually.

Business documents can capture data from email message or case subject and description, attachments of various file types, or using manual data entry. Attachment data and entity information is extracted with generative AI using large language models.

You, as an administrator, can create business document schemas to represent data patterns for different scenarios. Schemas specify which data to use in your business documents and how you want the data formatted in your solution. If you've enabled business documents for a specific case type, you can find the [Business Documents](#) tab on the case detail view. Use conditions to make specific business document fields required, read only, or hidden.

### Note

This product does not provide the technical capabilities to support the collection, processing, and storage of personal data.

### 27.1 Create Business Documents

#### Context

Create business documents to represent back-end records semantically. Add elements such as fields, actions, and more onto the business document layout. Actions can use API calls to send and receive form data to and from external systems. Add fields to the business document table to hold data entered manually, or automatically extracted with generative AI.

#### Procedure

1. Go to your user menu and choose  [System Settings](#)  [Business Documents](#)  [Business Documents](#) .
2. Select  [Create Business Document](#), Enter the required information, and save.

Your new business document appears in the [Business Documents](#) list with the header details on the right.

A new draft version of the business document appears in the [Versions](#) table. Select  [Actions](#) to activate the version, copy to a new business document, create new version, or delete the version. There can only be one draft version. You can activate multiple versions but there must only be one active version within the specified validity period.

- (Optional) Add business unit-based access restrictions for other administrators. Choose the [Business Units](#) tab and add the business units with administrators you want to allow access to your business document.

Only administrators belonging to the specified business units can access your business document in settings. If you don't select any business units, then your business document is visible to all users that can access [Business Documents](#) in [Settings](#).

- Select  [Open Business Document Designer](#) to open the business document layout.
- Select  in the [Designer](#) tab to add controls and fields to the business document table.

Elements appear as columns in the business document table. Each element has associated properties shown at the side of the business document layout.

- Adjust the control [Properties](#) as desired.

For example: enter a display ID, label, and description for a new field. Different business document elements have different types of properties.

If you want to remove an element from a business document, use the  [Delete](#) button in the  menu or the properties area of that element.

#### Note

Source and Status are default columns, and cannot be removed from the table.

Control elements can also have associated conditions. You can set conditions specifying business document elements as required, read only, hidden, disabled, or supporting multiple selection.

- Adjust the control [Configuration](#) by selecting the checkbox next to the associated condition if it has to be applied by default or the  [Rule Configuration](#).

Configuration can include choosing a value list for a menu, setting associated conditions for the control, or providing an API URL for actions. For example, select the [Required](#) checkbox if a text entry field is always required, or the  [Rule Configuration](#) next to the [Required](#) checkbox to define a rule if a text entry field is only required for one country or region. This setting makes the field optional unless a specific country or region code is entered elsewhere on the business document.

- Add actions to the business document. Go to the [Actions](#) tab and select  [Add Action](#).

For more information about configuring actions, see [Assign API Calls to Business Document Actions](#) linked in the **Related Information** section following these steps.

- Go to the [Input Options](#) tab to choose one or more input methods for your business document.

| Option                     | Description                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Manual Entry</b>        | Uses a quick create form. Add elements from your business document layout that you want to display for manual data entry. Reorder the elements as desired.                                                                                                                                              |
| <b>Document Extraction</b> | Choose a schema and types of files from which to extract data. Configure field mappings according to the schema that you selected. You have the option to automatically extract data upon case creation and to configure a rule to determine if automatic data extraction takes place on case creation. |
| <b>Entity Extraction</b>   | Choose an entity extraction scenario and case fields from which to extract data. You can configure a rule to determine whether automatic data extraction takes place when you create a case.                                                                                                            |

#### Note

Rule configuration for input options requires that you save your settings.

### Note

[View Extraction Results](#) and [Extract from Attachment](#) are automatically added as actions once [Document Extraction](#) is turned on in the [Input](#) tab.

10. To set conditions when the row or the entire table displays as read only, return to the [Designer](#) tab and select [Read-Only Conditions](#).  
This step is optional. Select when you want users to view a business document, but not change the information. Configure one or more condition blocks that check case and user field values to determine when the row or table appears as read only.
11. To ensure that your business document and conditions function properly, go to the [Designer](#) tab and select [Validate](#).
12. (Optional) Create validation and determination rules for your business document. Go to your profile menu and choose ► [Settings](#) ► [Extensibility Administration](#) ► [Business Document Service](#) and select your business document to build validation or determination rules.  
See the related information section for links to more details about validation and determination rules and how to create them.

## Related Information

### [Assign API Calls to Business Document Actions \[page 502\]](#)

Set API URLs for business document actions to send or retrieve data, or validate data from external systems.

### [Business Document Integration \[page 510\]](#)

Create an outbound configuration to enable actions to send or retrieve data from external systems, or to populate values in dropdown menus in business documents based on a dynamic data source.

### [Create Validations \[page 107\]](#)

Validations help you, as an administrator, to implement a custom logic where you can prevent a save or issue a warning message to users during save based on certain conditions.

### [Create Determinations \[page 110\]](#)

Use determinations to calculate specific field value based on certain conditions. You can either default or propose the value or mandate a certain value using determinations.

## 27.1.1 Business Document Column Type List

List of control elements that you can utilize when creating columns in business documents.

### Business Document Column Types

| Column Type | Properties                                                                                                                                                                                                                                                                                                             |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Text        | <ul style="list-style-type: none"><li>• Display ID</li><li>• Label</li><li>• Placeholder</li><li>• Initial Value</li><li>• Description</li><li>• Required flag</li><li>• Hidden flag</li><li>• Read Only flag</li><li>• Character Limit (min &amp; max)</li><li>• Main Navigation Column</li></ul>                     |
| Checkbox    | <ul style="list-style-type: none"><li>• Display ID</li><li>• Label</li><li>• Initial Value</li><li>• Description</li><li>• Required flag</li><li>• Hidden flag</li><li>• Read Only flag</li></ul>                                                                                                                      |
| Number      | <ul style="list-style-type: none"><li>• Display ID</li><li>• Label</li><li>• Placeholder</li><li>• Initial Value</li><li>• Description</li><li>• Decimal Places</li><li>• Minimum and Maximum values</li><li>• Required flag</li><li>• Read Only flag</li><li>• Hidden flag</li><li>• Main Navigation Column</li></ul> |

| Column Type              | Properties                                                                                                                                                                                                                                                                                 |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date                     | <ul style="list-style-type: none"> <li>• Display ID</li> <li>• Label</li> <li>• Placeholder</li> <li>• Description</li> <li>• Range Type: All Dates / Only Past Dates / Only Future Dates</li> <li>• Required flag</li> <li>• Read Only flag</li> <li>• Hidden flag</li> </ul>             |
| Dropdown                 | <ul style="list-style-type: none"> <li>• Display ID</li> <li>• Label</li> <li>• Initial Value</li> <li>• Description</li> <li>• Data Source (Code List or Dynamic)</li> <li>• Required flag</li> <li>• Read Only flag</li> <li>• Hidden flag</li> <li>• Multiple Selection flag</li> </ul> |
| Buttons (Actions column) | <ul style="list-style-type: none"> <li>• Button Text</li> <li>• Display ID</li> <li>• Description</li> <li>• Disabled flag</li> <li>• Hidden flag</li> <li>• API URL</li> </ul>                                                                                                            |

## 27.1.2 Assign API Calls to Business Document Actions

Set API URLs for business document actions to send or retrieve data, or validate data from external systems.

### Prerequisites

Set up an outbound configuration under business document integration for the API call.

### Context

Business document actions can trigger API calls to external systems through SAP Cloud Integration making business documents adaptable and powerful.

## Procedure

1. Go to your profile menu and choose [System Settings](#) > [Business Documents](#).
2. Select a business document from the list and select [Open in Business Document Designer](#) for the version you want to edit.
3. Go to the [Actions](#) tab to create and manage actions.
4. Choose [+ Add Action](#) to create a new action. Enter a label for the action ([Action Text](#)) and an optional description.
5. Choose the action type:
  - Custom
  - Post
  - Lookup

### Note

If you select the [Post](#) or [Lookup](#) action types, then the system displays the corresponding icon in the Actions menu when the business document is in use. [P \(Post\)](#), or [Q \(Lookup\)](#).

After a business document is posted, the business document is set to **read only**.

6. Specify whether this action applies to:
  - Single Business Document
  - Single and Multiple Business documents
  - Multiple Business Documents Only

This option allows you to select multiple business documents and apply the action to all of them at once, or restrict applying the action to a single business document.

7. Choose [Add Integration](#) in the [Integration](#) section.
8. Select the applicable HTTP data from the outbound configuration that was configured in the [Business Document Integration](#) section.
9. Select data that you want to send with the API as the [iFlow Input](#). Choose from case, user, or business document fields.

Select [Download Request JSON Schema](#) to download the request schema as a file in a JSON format. Upload this file in SAP Cloud Integration while creating a message mapping for the API request.

10. Select the business document fields to update with the API response data as [iFlow Output](#).

Select [Download Response JSON Schema](#) to download the response schema as a file in a JSON format. Upload this file in SAP Cloud Integration when creating a message mapping for the API response.

11. Save the iFlow Configuration.

### Note

If you've set the action type to [Post](#), or [Lookup](#), you can map additional fields in the response schema including `systemId` (string), `entityName` (string), `keys` (array of attribute and value), `objectNumber` (string), `description` (string), and `url` (string). The URL enables agents to access information posted to or retrieved from an external system from the case detail view (business document tab).

#### Note

If Document Extraction is used as an input source for the business document type, all extracted header and line item fields are stored as a JSON attachment to the case. If you configure a Post action, the JSON file is also sent to SAP Cloud Integration, which forwards the JSON file to the back-end system.

12. To automatically perform this action when certain conditions are met, choose [Add Integration Automation](#) in the [Automation](#) section. Define rule conditions under which the action is performed automatically.  
You can define additional sets of rule conditions by choosing [Add Automation](#). Each automation block is evaluated independently of the other blocks.
13. Hide or deactivate the action with the options in the [Configuration](#) section. Select the check box to hide or deactivate the action by default. Choose  [Configure rule](#) to define a rule that determines whether the action is visible or shown as deactivated.  
For example, select the [Deactivated](#) check box if the action is always shown, but not activated for all users, or the  [Configure rule](#) next to [Deactivated](#) to define a rule that shows the action as deactivated only for a specific role.
14. Save the configuration changes.

#### Note

[View Extraction Results](#) and [Extract from Attachment](#) are automatically added as actions once [Document Extraction](#) is turned on in the [Input](#) tab.

## Related Information

[Business Document Integration \[page 510\]](#)

Create an outbound configuration to enable actions to send or retrieve data from external systems, or to populate values in dropdown menus in business documents based on a dynamic data source.

## 27.1.3 Configure Dynamic Data Source for Menus

Set API URLs to populate dropdown menu values in business documents based on a dynamic data source.

### Prerequisites

Set up an outbound configuration under [Business Document Integration](#) for the API call.



## Context

Values displayed in dropdown menus can be provided by a code list, or populated by making API calls to external systems through SAP Cloud Integration.

## Procedure

1. Go to your profile menu and choose ► [System Settings](#) ► [Business Documents](#) ►.
2. Select a business document from the list and select  [Open in Business Document Designer](#) for the version you want to edit.
3. Select the dropdown menu that you want to use a dynamic data source to populate values.
4. In the [Data Source](#) area, choose [Dynamic](#) and then select the globe icon (🌐) to open the [iFlow Configuration](#) screen.
5. Select the applicable HTTP data from the outbound configuration that was configured in the [Business Document Integration](#) section.
6. Select data that you want to send with the API as the [iFlow Input](#). Choose from case, user, or business document fields.  
  
Select [Download Request JSON Schema](#) to download the request schema as a file in a JSON format. Upload this file in SAP Cloud Integration while creating message mapping for the API request.
7. Select [Download Response JSON Schema](#) to download the response schema as a file in a JSON format. Upload this file in SAP Cloud Integration when creating message mapping for the API response.
8. Save the iFlow Configuration.

## 27.2 Create Code Lists for Business Documents

As an administrator, you can create code lists for business documents.

## Context

Code lists allow administrators to define a set of values to populate dropdown menus and reuse them in any business document.

## Procedure

1. Go to your user menu and choose ► [System Settings](#) ► [Extensibility](#) ► [Custom Code Lists](#) ►.

2. Choose **+** ([Create Code List](#)).
3. Enter the code list ID and name.
4. Save your changes.

You can add multiple values to a code list once it's saved.

5. Choose **+** ([Create Code List Entry](#)).
6. Enter a code and description.
7. Choose **✓** ([Accept](#)) to save your changes.

## 27.3 Configure Business Document Extraction Schemas

Use schemas to configure document extraction from attachments.

### Context

Schemas specify what information to extract from attachments and how that information maps to business document header and line item fields. Use different schemas for different business document scenarios. SAP ships standard schemas that you can use as-is or copy and modify for your specific needs. You can also create new schemas for additional scenarios. The standard schemas are:

- Invoice
- Payment advice
- Purchase order

### Procedure

1. Go to your user menu: **► System Settings ► Business Documents ► Document Extraction ►**.
2. Select **⌕** ([Copy Schema](#)) to create a copy of a standard schema that you can modify for your specific scenario, or **+** ([Create](#)) to create a new schema.
3. Enter a schema ID and description.
4. Add or edit header and body fields for your schema.

For each header field or line item field enter:

- Field name\*
- Label
- Description
- Data type\*

\* Mandatory information

5. Select either:

- [Save](#) to save your schema. You can activate your schema later.
- [Save and Activate](#) to save your schema and activate it for use in one step.

## 27.3.1 Configure Content Security Policy for Document Extraction

Add source URLs to your content security policy to allow your solution to use the documentation extraction service.

### Procedure

1. Go to your user menu and select: [Settings](#) > [All Settings](#) > [System Preferences](#) > [Content Security Policy](#).
2. Add `ui5.sap.com` to these sections:
  - [Script Source](#)
  - [Style Source](#)
  - [Default Source](#)
  - [font-src](#)
3. Add your SAP S/4 HANA system and identity provider (IDP) URLs to the same sections as the previous step.  
For example: `my123456.s4hana.ondemand.com` and `*.accounts123.ondemand.com`.
4. In the [Script Source](#) section, enable [Unsafe Eval](#).

#### ⚠ Caution

Enabling the [Unsafe Eval](#) setting can disable or severely weaken the default security protections for your solution. However, as of this time, this setting is required to use the document extraction service.

## 27.4 Business Information Extraction

Business information extraction is the process of identifying, extracting, and organizing relevant data from business-related content such as text descriptions to create, update, or identify business documents.

Use the generative AI-based information extraction capability to extract business information from the subject or description of the case and add that information to the business documents table.

## Related Information

[Generative AI \[page 633\]](#)

Use Generative AI to generate account synopsis, case summary, draft email response for cases, and backend entity extraction.

[Business Documents \[page 498\]](#)

Business Documents represent back-end records in a semantic way and can create, update, or display those records. Values in the table can be populated automatically using AI services or entered manually.

## 27.4.1 Configure Business Information Extraction

Activate and configure business information extraction.

### Context

To configure business information extraction:

- Activate Business Information Extraction.
- Create Elements.
- Include Standard Classes or create Custom Classes.

#### Note

Custom classes and custom elements can be used to extract and represent extension fields that exist at the root level of a business entity. For example: sales order and sales quote.

- Create a Scenario and include both Elements and Classes.

#### Note

- Elements refer to specific pieces of information or attributes that are extracted from a given business context. These attributes are the data points or fields of interest that the system aims to identify and capture.

Examples of elements in a sales order information extraction include:

- Sales Order Number/ID
- Order Status
- Customer ID
- Currency

- Classes refer to the category of business information which isn't directly present in the content received, however needs to be derived from the content.

Examples of Classes: Order Type and Order Confirmation in a Sales Order.

## Procedure

1. Go to your user menu and select ► [System Settings](#) ► [All Settings](#) ► [AI Configuration](#) ► [Generative AI](#) ► [Business Information Extraction](#) ►.
2. Activate business information extraction by enabling the [Activate Business Information Extraction](#) switch, and accept the [Acknowledgment](#). The [Activation Log](#) button displays when the capability is enabled.
3. Select [Elements](#) from the pane, and click the + icon.
4. Enter a name, label, and description for your element.

The description helps the LLM to identify the element content in attached documents. Describe the type of content and, if relevant where this content is located on a form.
5. Enter [Short Sample](#). This short sample is a sample text that helps the system identify your elements. Entering at least one short sample is mandatory.
6. Enter [Sample Values](#), each separated by a comma, and then choose [Save](#). These sample values are the values of your elements.
7. Either select [Classes](#) from the side panel. Enter [Short Sample](#). This short sample is a sample text and the corresponding value that helps the system identify the classes. Ensure that your short sample is a maximum of 150 characters in length. Save your configuration.
8. Or select [Classes](#) from the side panel, and click the + icon.
9. Enter a name, label, and description for your class to define a custom class.

### Note

The description helps the LLM to classify content from your documents.

10. Enter [Short Sample](#), [Value](#), and click [Save](#). At least one short sample and a value are mandatory for the system to identify class information.
  11. Select [Scenario](#) from the left pane, and click the + icon.
  12. Enter a scenario name and description. Scenario description is the detailed context of the scenario and role in which Generative AI must act as to extract elements and classify the content.
  13. Choose a [Usage Context](#) from the dropdown. Here it can be either [Sales Order](#) or [Sales Quote](#).
  14. Select and add elements in the [Element Selection](#), and also select and classes in the [Class Selection](#) sections.
  15. Perform a test extraction by entering sample text in the text box, and click [Test](#). Once information is extracted, you get the extracted elements and class derivations with confidence percentage values.
- You've now successfully configured [Business Information Extraction](#) capability on your system.

## Related Information

[Business Documents \[page 498\]](#)

Business Documents represent back-end records in a semantic way and can create, update, or display those records. Values in the table can be populated automatically using AI services or entered manually.

[Generative AI \[page 633\]](#)

Use Generative AI to generate account synopsis, case summary, draft email response for cases, and backend entity extraction.

## 27.5 Business Document Integration

Create an outbound configuration to enable actions to send or retrieve data from external systems, or to populate values in dropdown menus in business documents based on a dynamic data source.

### Prerequisites

Set up an outbound communication system under [System Settings](#) > [Integration](#) > [Communication Systems](#).

### Context

Handle a variety of end-to-end processes by interacting with external systems.

### Procedure

1. Go to your user menu and choose [System Settings](#) > [Business Documents](#) > [Business Document Integration](#).
2. Choose [+](#) *(Create)*.
3. Enter a name and select the communication system.
4. Choose [Search and Add](#) to add existing HTTP data outbound configurations or [+](#) *(Create)* to create a new configuration.
5. Save and activate the configuration.

Choose  **(Check Connection)** to test the connection status.

### Related Information

[Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

## 27.6 Export Business Document to New Tenant

You as an administrator, can export a business document and copy that business document to a different tenant.

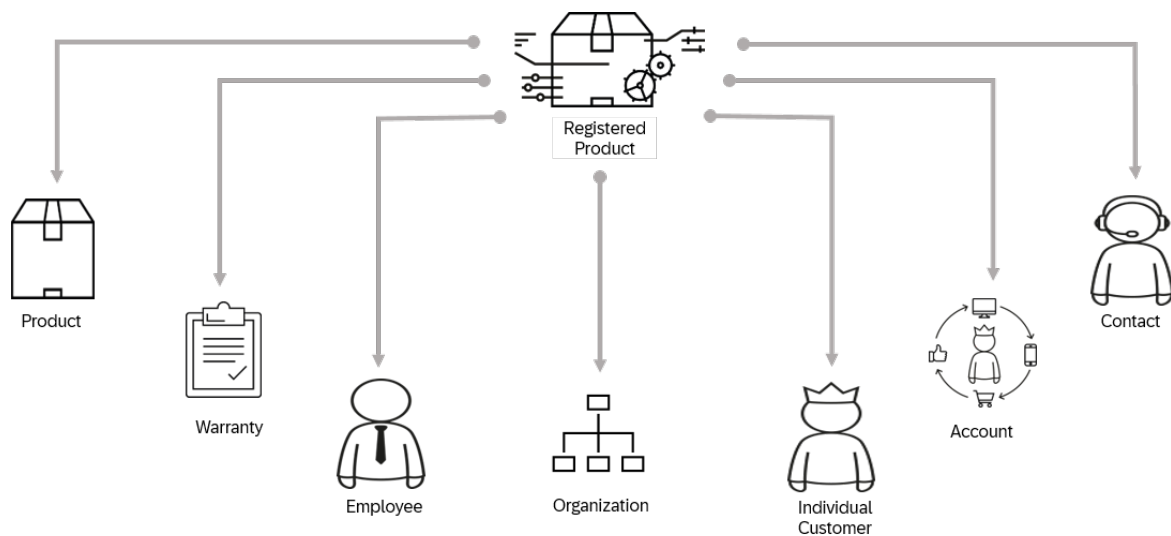
### Procedure

1. Go to your user menu and select: ► [System Settings](#) ► [Business Documents](#) ► [Business Documents](#) ►.
2. Select a business document and navigate to the **active** version to be exported.
3. Choose [⋮ Show Actions](#) in the [Actions](#) column and select [Export to File](#).
4. Choose a location to save the exported ZIP archive file on your local system.
5. Log in to the target tenant as an administrator.
6. Go to your profile menu and select: ► [System Settings](#) ► [Enterprise Service](#) ► [Business Documents](#) ►, then choose [+ Create New Business Document](#) and select [Import from File](#) from the drop-down menu.
7. Fill the relevant fields for the new business document, drag and drop, or search to upload the ZIP file containing your exported document, and save your changes.

## 28 Registered Products

A registered product is an instance of a product that is associated with a specific customer and generally has a serial number.

When a case is created, the registered product information allows the service agent to identify the customer product and any associated warranties or service entitlements. Additional information, such as product location is used in the service process.



You can do the following with a registered product:

- Create serialized registered products with customer, location, and warranty information
- Create a case that refers to a registered product
- Create a hierarchy of registered product items
- Create an analytical data model using the name, serial ID, display ID, and product ID fields.
- Add/Edit image to the registered product.

### 28.1 Configure Registered Products

As an administrator, you can add new categories and custom party types in addition to the default values.

#### Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Categories** > **Registered Products Category**.



2. Select **+** (*Create*).
3. Enter the *Code* and *Description*.
4. Save your changes.

Select  (*Delete*) to delete an existing value.

## 28.2 Create Registered Products

Register a product to create a unique instance of it in the system.

### Context

When you create a registered product, the relevant information is automatically copied from the customer. For example, the customer location and involved parties such as Ship-to-Party, Bill-to-Party, and service technician.

When you create a registered product from the agent workspace, the customer and product information in the case are automatically copied into the form.

### Procedure

1. Navigate to *Registered Products*, and click the **+** (*Create*) button.
2. Enter data for **Product**, **Serial ID**, **Registered Product Description**, and **Account** for identifying the registered product.
3. Select the type of the customer as per the requirement.
4. Save your entries.

## 28.3 Use Registered Products

Create a new registered product with information such as *Customer*, *Serial ID*, and *Products*.

Using the *Registered Products* functionality, you can do the following:

- Add notes and attachments
- Maintain involved parties, user status, sales, and distribution data
- Create cases for a registered product
- Create service order for a registered product

## 28.4 Search Registered Products

Search for registered products using various criteria.

### Basic Search

On the [Registered Products](#) lists screen, the basic search supports searching with the following fields:

- Description
- Serial ID
- Customer
- Contact
- Account
- Country/Region

### Advance Search

Use the [Advanced Search](#) filter in [Registered Products](#) for narrowing down the search results by using multiple criteria at a time. You can save the search query.

An administrator can add additional standard fields and custom fields to the advanced filter using the [Start Adaptation](#) button that you can find under the user profile dropdown list. For more information, see the **Related Links** section.

You can search for a registered product using the following search criteria:

- Account
- Individual Customer
- Contact
- Product
- Status
- Serial ID
- Changed On
- Changed By
- ID

### Related Information

[Adaptation \[page 80\]](#)

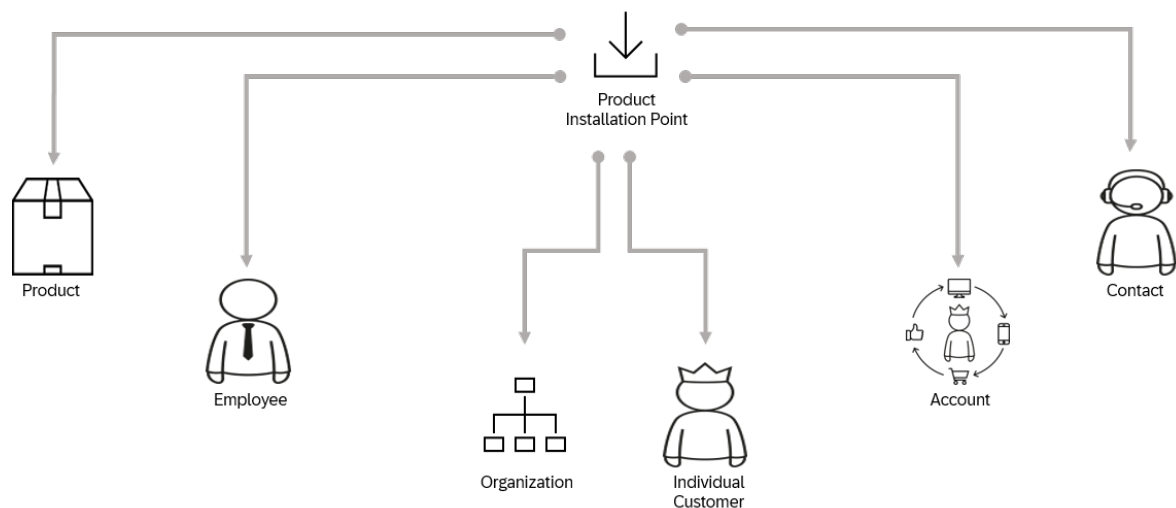
As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

## 29 Product Installation Points

A product installation point is the physical location of the object that requires servicing and maintenance. It also consists of product information for an installation point.

It consists of following specifications:

- Product
- Quantity
- Unit of Measure



You can create product installation point from other entities such as [Installed Base](#), [Functional Location](#), and [Registered Products](#).

### 29.1 Configure Product Installation Points

As an administrator, you can add new custom part types in addition to the default values.

#### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Product Installation Points](#) ► [Custom Party Type](#).
2. Select + [\(Create\)](#).
3. Enter the [Code](#) and [Description](#).

4. Save your changes.

Select  ([Delete](#)) to delete an existing value.

## 29.2 Use Product Installation Points

Know more about using product installation points.

Using the [Product Installation Points](#) functionality, you can:

- Add notes and attachments
- Maintain Involved Parties, location, and customer information

## 29.3 Search Product Installation Points

Search for product installation points using various criteria.

### Basic Search

On the installed base lists screen, the basic search supports searching with the following fields:

- Description
- ID
- Account
- Contact
- Individual Customer

### Advanced Search

Use the [Advanced Search](#) filter in [Product Installation Points](#) for narrowing down the search results by using multiple criteria at a time. You can save the search query.

An administrator can add additional standard fields and custom fields to the advanced filter using the [Start Adaptation](#) button that you can find under the user profile dropdown list. For more information, see the **Related Links** section.

You can search for a functional location using the following search criteria:

- Account
- Individual Customer

- Contact
- Status
- Created On
- Changed On

## Related Information

[Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

## 30 Installed Base

Installed base is a hierarchical arrangement of items installed at your customer's location.

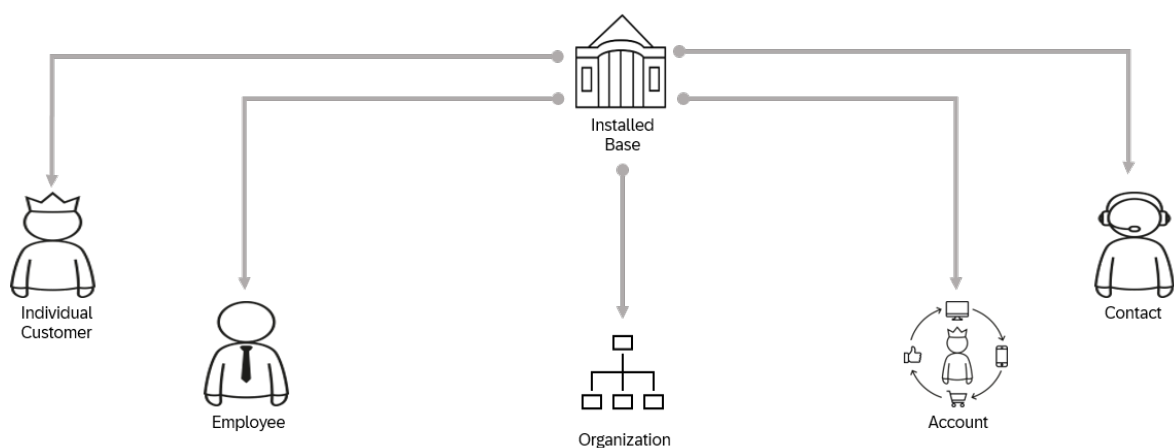
In the *Installed Base* worklist, you can do the following:

- View the list of maintained installed bases.
- Get information about customer, contact, location, and status, and access an installed base
- Create new installed bases

### Example

You can maintain an installed base for Company ABC where your servers are installed.

Here's an example of an Installed Base set up:



### 30.1 Configure Installed Bases

As an administrator, you can add new custom part types in addition to the default values.

#### Procedure

1. Navigate to ► *User Menu* ► *System Settings* ► *All Settings* ► *Installed Base* ► *Custom Party Type* ►.
2. Select + *(Create)*.

3. Enter the *Code* and *Description*.
4. Save your changes.

Select  (*Delete*) to delete an existing value.

## 30.2 Create Installed Base

You can create new installed base manually from **Installed Base** worklist.

### Procedure

1. Navigate to *Installed Base*, and click the  (*Create*) option.
2. Enter *Installed Base Description*, *Account* and *Contact* details.
3. Select the type of the customer as per the requirement.
4. Save your entries.

## 30.3 Use Installed Base

Create a new installed base with information such as *Description*, *Individual Customer*, and *Account*.

Using the *Installed Base* functionality, you can:

- Add notes and attachments
- Maintain Items, Involved Parties, location, sales, and distribution data
- Track history of changes
- Create cases for installed base

## 30.4 Search Installed Base

Search for installed base using various criteria.

### Basic Search

On the installed base lists screen, the basic search supports searching with the following fields:



- Description
- ID
- Account
- Contact
- Individual Customer

## Advanced Search

Use the [Advanced Search](#) filter in [Installed Base](#) for narrowing down the search results by using multiple criteria at a time. You can save the search query.

An administrator can add additional standard fields and custom fields to the advanced filter using the [Start Adaptation](#) button that you can find under the user profile dropdown list. For more information, see the **Related Links** section.

You can search for a functional location using the following search criteria:

- Account
- Individual Customer
- Contact
- Status
- Created On
- Changed On

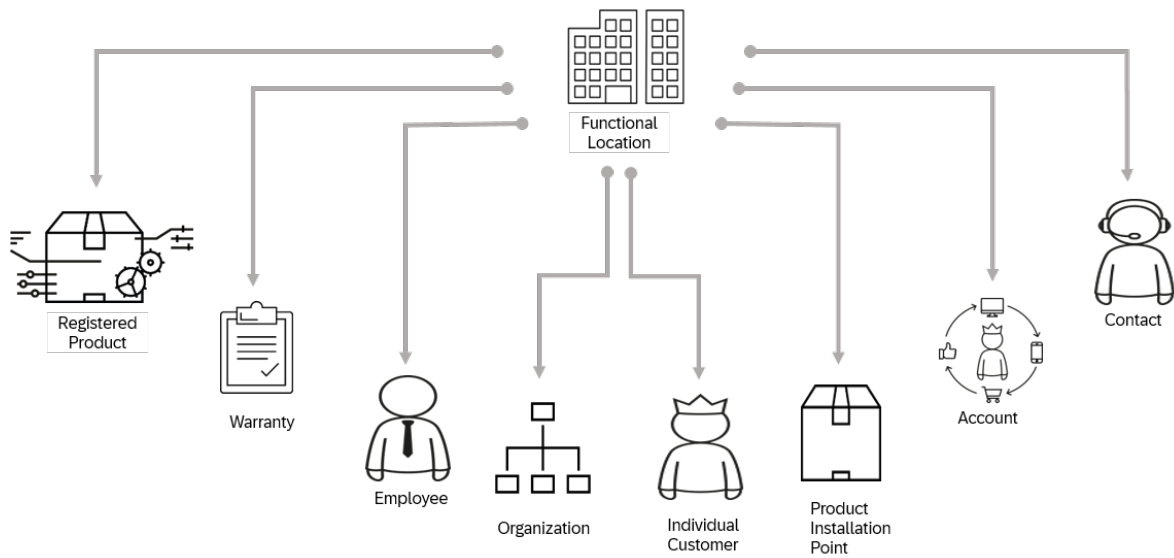
## Related Information

### [Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

# 31 Functional Locations

Functional location is the physical location of the object that requires servicing or maintenance based on the service or maintenance plan for that object. It also consists of product or registered product information.



## 31.1 Configure Functional Location

As an administrator, you can add new custom part types in addition to the default values.

### Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Functional Locations** > **Custom Party Type**.
2. Select **+** (Create).
3. Enter the **Code** and **Description**.
4. Save your changes.

Select **🗑** (Delete) to delete an existing value.

## 31.2 Create Functional Location

You can create new functional location manually from [Functional Location](#) worklist.

### Procedure

1. Navigate to [Functional Locations](#), and click the + ([Create](#)) option.
2. Enter **Functional Location Description**, **Account** and **Contact** details.
3. Select the type of the customer as per the requirement.
4. Save your entries.

## 31.3 Use Functional Location

Create a new functional location with information such as [Account](#) and [Individual Customer](#).

Using the [Functional Location](#) functionality, you can do the following:

- Add notes and attachments
- Maintain involved parties, location, sales, and distribution data
- Create cases for functional location.

## 31.4 Search Functional Location

Search for functional location using various criteria.

### Basic Search

On the functional location lists screen, the basic search supports searching with the following fields:

- Description
- ID
- Account
- Contact

## Advanced Search

Use the [Advanced Search](#) filter in [Functional Location](#) for narrowing down the search results by using multiple criteria at a time. You can save the search query.

An administrator can add additional standard fields and custom fields to the advanced filter using the [Start Adaptation](#) button that you can find under the user profile dropdown list. For more information, see the **Related Links** section.

You can search for a functional location using the following search criteria:

- Account
- Individual Customer
- Contact
- Status
- Changed On
- Changed By

## Related Information

[Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

## 32 Warranties

You can assign a warranty to a registered product and determine its coverage in service order.

A warranty gets determined in the service order via webhook call. Warranty determination is based on registered product, service date, and service order type. You can assign warranty in a service order, which is determined on the service order header, with inheritance to items. It influences external pricing (item) based on the accounting indicator in SAP S/4 HANA.

### Quick View

Quick view allows you to access information about a warranty.

Click the ID of the warranty to launch the quick view and a new tile opens with details such as Warranty Name, Warranty ID, Status, Duration and External ID. You can also edit duration field value inline.

### 32.1 Create Warranty

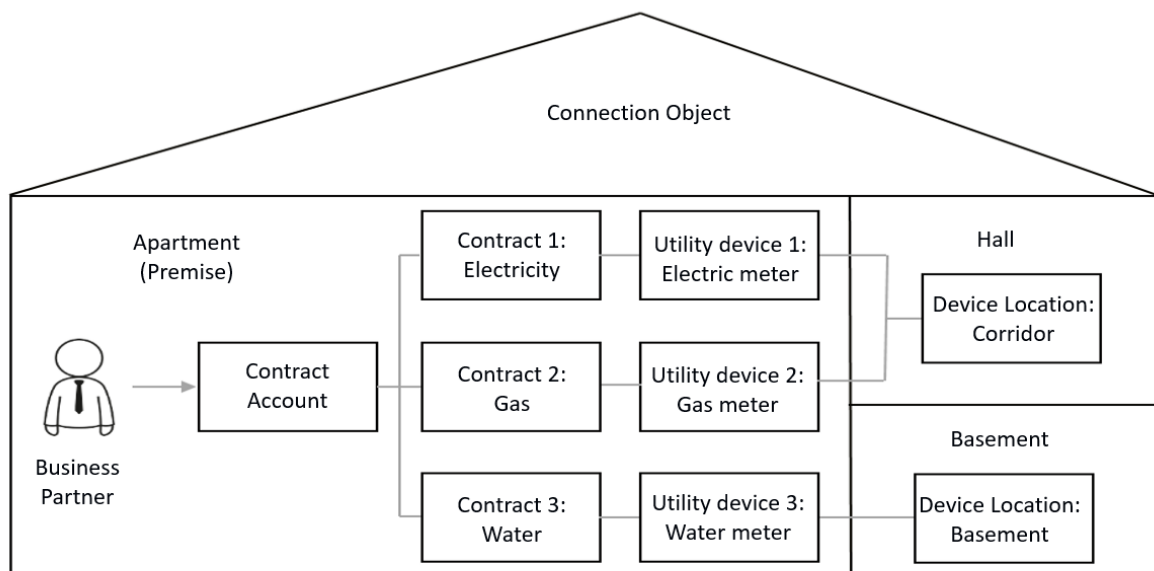
You can create a warranty from the warranties worklist.

#### Procedure

1. Click the **+** (**Create**) icon to create a new warranty.
2. Enter the **Name** and **Duration** based on the requirement.
3. Click [Save](#).

## 33 Utilities

Utilities is an enterprise that provides certain classes of services to the public including Electricity, Gas, and Water for a business partner.



The focus is inclusive of the following utilities industry segments that classifies as sectors within the Utilities:

- **Electricity**- Includes the generation, trading, transmission, distribution, retail, metering, and customer care segments of electricity providers.
- **Gas**- Includes the distribution, metering, retail, and customer care segments of end-use natural gas providers.
- **Water** - Includes the supply, treatment, distribution, metering and customer care segments of water and waste water providers.

The solution helps you to optimize call center operations using modern customer engagement tools for service processes. The utilities are fully integrated SAP S/4 HANA and supports seamless transition between the different support channels.

### 33.1 Configure Utilities

As an administrator, you can configure *Utilities* in *System Settings*.

Find *System Settings* in the user menu at the top right of the screen.

## 33.1.1 Configure General Settings

Configure all the settings for Utilities in this section.

1. To configure the meter reading table, navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Utilities](#) ► [General Settings](#) ► [Settings](#) ►.
2. Turn on the [Meter Reading Table](#) switch for the expanded view of the meter reading table by default, in the [Services](#) tab of [Premise](#).
3. Choose [Save](#).

## 33.1.2 Configure Import of Code Lists

As an administrator, update all the code lists by importing the standard excel maintained in SAP S/4 HANA. You can export the codes from the SAP S/4 HANA using the **ISU\_C4C\_V2\_CODE\_LIST\_MAPPING** report. By default, the report supports codes 02, 09, and 10 for meter reading reasons.

### Procedure

1. Navigate to your user profile and select ► [System Settings](#) ► [All Settings](#) ► [Utilities](#) ► [General Settings](#) ►.
2. Choose [Browse File](#).
3. Select the excel file and choose [Import](#).

All the code lists are added to the respective collections.

#### Note

You can import code lists even without descriptions from SAP S/4 HANA. The code lists without descriptions display a hyphen.

## 33.1.3 Configure Dynamic Code List

Group the code list values based on the business processes.

### Context

This configuration is done to maintain the S/4 Code values in the admin screen.

Admin can add, edit, and delete any code value based on the business requirement.

## Procedure

1. Go to your user profile, navigate to ► [System Settings](#) ► [All Settings](#) ► [Entity](#) ►.
2. From the left pane, select the field you want to configure.
3. Use the ⊕ (Add) button to add a new field.
4. Enter Code and Description for the new field.
5. Click [Create](#) to save the changes.

You can edit the created code list using in-line edit option and view the changes in the [Changes](#) tab.

You can also delete a added entry by selecting the ✖ (Delete) icon in the [Action](#) column and view them in the [Deletions](#) tab.

### 33.1.4 Configure Move Processes

As an administrator, configure various fields and parameters for the move process.

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Utilities](#) ► [Move Processes](#) ► [General](#) ►.
1. In the list of options available, make the required updates.

Configuration Options in Move Processes

| Option           | Details                                                                                                                                                                                                                                                             |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date Threshold   | Set the date threshold for move processes to define how far in the past or future moves can be scheduled.<br><br>For example, if the minimum is set to 10 days and the maximum to 40 days, users can select dates from 10 days before today to 40 days after today. |
| Address Type     | Select the default address type to be pre-selected when setting up a mailing address. You can choose from premise address, customer address mailing address, or PO box.                                                                                             |
| Country/Region   | Select the country/region to be pre-selected when setting up a mailing address.                                                                                                                                                                                     |
| Currency         | Select the default currency from the drop-down.                                                                                                                                                                                                                     |
| Contract Account | Select the default contract account for move processes. You can choose existing accounts or new accounts.                                                                                                                                                           |
| Service          | Activate all the services in the move process by default by using the switch.                                                                                                                                                                                       |
| Security Deposit | Choose to display the security deposit amount by default using the switch.                                                                                                                                                                                          |
| Alerts           | Choose to display the alerts section by default when you open a move-in, move-out, or transfer process using the switch.                                                                                                                                            |

2. Choose [Save](#).



## 33.1.5 Configure Terms & Conditions

As an administrator, configure the terms and condition for move processes according to your business needs.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Utilities](#) ► [Move Processes](#) ► [Terms & Conditions](#) .
2. Select **+** ([Add](#)).
3. Enter the terms and conditions based on the requirement.
4. Click [Save](#).

## 33.2 Integrate with SAP S/4HANA

Integrate the SAP Service Cloud Version 2, Add-on for Utilities with SAP S/4HANA.

To perform an end-to-end integration of the solution with SAP S/4HANA, there are three steps involved.

1. Configuration in SAP Cloud Platform Integration  
All the new and enhanced artifacts need to be upgraded to the latest available version.  
To update the packages containing the new and enhanced iFlows,
  1. Go to your Cloud Integration tenant.
  2. From the left pane, choose ► [Design](#) ► [Integrations and APIs](#) .
  3. From the list of packages that appear, open the required package for utilities, and choose [Update package](#) on the top-right corner of the screen. The enhanced iFlows are automatically deployed if you have already deployed the initial version. For the new iFlows you must update the sender and receiver configuration details, and then deploy it.  
(Optional) If you want to update specific iFlows, select the iFlow from the relevant package, choose **...** ([Actions](#)) , [Update](#), and then [Deploy](#).

### Note

You must not make any updates to the standard package delivered by SAP. Doing this will lead to missing of auto-update of the integration package, and you can see an error message stating the failure of uniqueness check. For more details on the error, see [0003531297](#) .

2. Configuration in SAP Service Cloud Version 2, Add-on for Utilities  
For all new features, you must update the communication configuration services.
3. Configuration in SAP S/4HANA  
You must create bindings for all the new services in the SOAMANAGER transaction. You may have to re-create some of the bindings.  
After re-creating the bindings, you may encounter the following errors:
  - Error: Message "<message name>{urn:sap-com:document:sap:rfc:functions}" not supported (interface: "<interface name>" binding key: "<binding key>"),

- Message "<message name>{urn:sap-com:document:sap:soap:functions:mc-style}" not supported (interface: "<interface name>" binding key: "<binding key>").

You must then delete and re-create the binding.

## Related Information

[Extensibility](#)

[SAP Note 2818078](#) 

[Configuration in SAP Service Cloud Version 2](#)

[SAP S/4HANA Web Service Configuration \(SOA Management\)](#)

## 33.3 Implement SAP Notes

For every release of the SAP Service Cloud Version 2, Add-On for Utilities, you must implement some SAP notes.

This section covers information on the additional steps that you must follow while implementing the SAP Notes.

### → Remember

- Ensure that all the notes from the previous releases are implemented in your system.
- While implementing the SAP note, do not alter the default selections in the objects list. Which means, you must not select or deselect any objects in the list.

### ❗ Posting Instructions

- Check if all the notes are implemented successfully.
- Ensure that the service definitions are adjusted in SE80 and activated.
- Capture all the transport requests for the modified services.

## Create Service Definitions

To create service definitions, do as follows:

1. Go to transaction SE80.
2. Select the appropriate [Function Group](#).
3. Right-click [Create](#), go to [Other Objects](#) and [Enterprise Service](#).
4. Provide the [Service Definition Name](#) (same as [Function Group](#)).
5. Enter a suitable description.
6. Select the option [Map Names](#).

7. Select all Function Modules shown.
8. Choose the options as per the dropdown.
9. Assign the package ISU\_C4C\_PROXY and a *Transport Request*.
10. Finish and activate.

## Add Service Operations or Function Modules to Service Definitions

To add an operation in the web service, do as follows:

1. Open the service.
  1. Go to transaction SE80.
  2. Navigate to the required service in the package ISU\_C4C\_PROXY and navigate to the service.
  3. Open it in the *Change* mode.
2. Switch to the *Internal View* tab of the selected service.
3. In the object navigator, right-click on the interface node. Note that interface names vary by service.
4. Add a new operation.
  1. Choose *Add* from the context menu.
  2. The *Function Group* is automatically derived from the service. You must not modify it.
5. Include the required function modules.
  1. Use the F4 Help on the function module field to view the available modules.
  2. Add any missing function modules that are not already listed under the interface.
  3. *Save* and *Activate* the service.

### Note

Ensure that the service is available for consumption in the relevant proxy or consumer setup.

To adjust the service definition, go to the *Systems* tab, select  and then . A popup message for *Service Adjustment* appears. Choose *Yes* and activate the service.

## Adjust Service Definition

To adjust or regenerate an existing service definition, do as follows:

1. Go to transaction code SE80.
2. Select object type as *Proxy* from the drop-down and provide the value as ISU\_C4C\_PROXY.
3. Expand the enterprise services node and expand *Service Definition*.
4. Double click on the service you want to regenerate and select the *Service Definition*.
5. Choose *Edit* and then *Syntax Check*. In the dialog box that appears, choose *Yes* and then *Activate*.

## Troubleshooting

When a service returns errors, execute the following reports:

- WS\_MANUAL\_WEBI\_AFTER\_IMPORT (enable force generation).
- WEBI\_CHECK\_REPAIR

### 33.3.1 SAP Notes (Current Release)

A list of SAP Notes need to be implemented to use the features released. Implement the notes in the same order as mentioned. You can follow the steps mentioned in the respective notes to use the features.

For the current release, you must implement all the SAP Notes consolidated in the SAP Note [3761109](#) .

### 33.3.2 SAP Notes (Previous Release)

A list of SAP Notes need to be implemented to use the features released. Implement the notes in the same order as mentioned. You can follow the steps mentioned in the respective notes to use the features.

#### April 2026

Implement all the notes consolidated in [3749764](#) .

#### March 2026

SAP Notes to be Implemented

| Order | SAP Note                                                                                                    | Details                                                                                                                      | Prerequisite Notes | iFlow Update | Package | iFlow Name and Version | Mandatory Additional Steps |
|-------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------|---------|------------------------|----------------------------|
| 1     | <a href="#">3725105</a>  | Mismatch in dunning records displayed and the actual count of dunning records for a contract account in SAP Service Cloud V2 | NA                 | NA           | NA      | NA                     |                            |

| Order | SAP Note                | Details                                                                             | Prerequisite Notes                                                            | iFlow Update | Package                                                                          | iFlow Name and Version                | Mandatory Additional Steps                                            |
|-------|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------|----------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------------|
| 2     | <a href="#">3736653</a> | Incorrect message while printing the welcome letter in the move-in process          | NA                                                                            | NA           | NA                                                                               | NA                                    |                                                                       |
| 3     | <a href="#">3717770</a> | Enhancement points in move functionality                                            | NA                                                                            | NA           | NA                                                                               | NA                                    |                                                                       |
| 4     | <a href="#">3685098</a> | Warning message displayed while updating communication details during move process  | <a href="#">3627051</a>                                                       | Yes          | SAP Service Cloud V2 for Utilities Premise Integration with SAP S/4HANA          | GET MOVE (1.0.2), CREATE MOVE (1.0.4) | Service definition( ISU_C4 C_V2_MOVE ) ADJUSTMENT REQUIRED            |
| 5     | <a href="#">3736778</a> | Meter read history and register data displayed in improper sequence                 | <a href="#">3643556</a><br><a href="#">3692888</a>                            | NA           | NA                                                                               |                                       |                                                                       |
| 6     | <a href="#">3731439</a> | Device location address not returned due to date format issue                       | NA                                                                            | NA           | NA                                                                               |                                       |                                                                       |
| 7     | <a href="#">3737494</a> | No list Available for Enhancement Points and Sections in SAP Cloud for Customer FMs | NA                                                                            | NA           | NA                                                                               |                                       |                                                                       |
| 8     | <a href="#">3726385</a> | SWIFT Key Not Passed in Contract Account Payment Data                               | <a href="#">3681432</a><br><a href="#">3691975</a><br><a href="#">3664153</a> | Yes          | SAP Service Cloud V2 for Utilities Contract Account Integration with SAP S/4HANA | Get Payment Bank Details(1.0.1)       | Service Definition( ISU_C4 C_V2_CA_PAYMENT_DATA ) Adjustment required |

| Order | SAP Note                                                                                                    | Details                                                                                                   | Prerequisite Notes                                                                                          | iFlow Update | Package                                                                          | iFlow Name and Version                      | Mandatory Additional Steps                                                                    |
|-------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------|----------------------------------------------------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------|
| 9     | <a href="#">3729203</a>    | IBAN Not Generated for Bank Account                                                                       | <a href="#">3733152</a>    | Yes          | SAP Service Cloud V2 for Utilities Contract Account Integration with SAP S/4HANA | Generate IBAN Based On Bank Details (1.0.0) | Add Operation(ISU_C4C_V2_IBAN_GENERATE) for the Service Definition(ISU_C4C_V2_BANK_DATA)      |
| 10    | <a href="#">3731439</a>    | Device Location Address Not Returned Due to Date Format Issue                                             | NA                                                                                                          | NA           |                                                                                  |                                             |                                                                                               |
| 11    | <a href="#">3737494</a>    | No List Available for Enhancement Points and Sections in C4C FMs                                          | NA                                                                                                          | NA           |                                                                                  |                                             |                                                                                               |
| 12    | <a href="#">3733153</a>  | Get the history of ping request in AMI meter                                                              | <a href="#">3694054</a>  | Yes          | SAP Service Cloud V2 for Utilities Premise Integration with SAP S/4HANA          | Get AMI Ping History(1.0.0)                 | Add Operation(ISU_C4C_V2_AMI_PIN_G_HIST_GET) for the Service Definition(ISU_C4C_V2_AMI_PIN_G) |
| 13    | <a href="#">3730906</a>  | Contract account overview screen showing status as locked even when there is no lock on contract account. | <a href="#">3691733</a>  | NA           | NA                                                                               |                                             |                                                                                               |
| 14    | <a href="#">3717770</a>  | Adding relevant error message while editing bank data                                                     | <a href="#">3681432</a>  | NA           | NA                                                                               |                                             |                                                                                               |

| Order | SAP Note                                                                                                    | Details                                                                         | Prerequisite Notes                                                                                                                                                                                                                                                                                                                  | iFlow Update | Package                                                                          | iFlow Name and Version       | Mandatory Additional Steps                                                                              |
|-------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------------------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------|
| 15    | <a href="#">3733152</a>    | Irrelevant error message appearing release reason and billing block             | <a href="#">3631992</a> <br><a href="#">3660710</a> <br><a href="#">3664153</a>  | Yes          | SAP Service Cloud V2 for Utilities Contract Account Integration with SAP S/4HANA | Update Billing Block (1.0.0) | Add Opeara-tion(ISU_C4C_V2_CON-TRACT_BILL_BLOCK) for the Service Defin-tion(ISU_C4C_V2_CON-TRACTS_GET ) |
| 16    | <a href="#">3733150</a>    | Providing relevant mes-sage if there are no locks present for contract ac-count |                                                                                                                                                                                                                                                                                                                                     |              |                                                                                  |                              |                                                                                                         |
| 17    | <a href="#">3733151</a>   | Providing sorting and pagination in BP security deposit                         | <a href="#">3691716</a>                                                                                                                                                                                                                           | Yes          | SAP Service Cloud V2 for Utilities Premise Inte-gration with SAP S/4HANA         | Get Security Deposit(1.0.1)  | Service Defi-ni-tion( ISU_C4C_V2_BP_SECU-RITY_DEP) Adjustment required                                  |
| 18    | <a href="#">3653376</a>  | When you replicate PODs, blank spaces ap-pear in the Premise ID column.         | NA                                                                                                                                                                                                                                                                                                                                  |              |                                                                                  |                              | Implement this note only if you are us-ing POD func-tionality.                                          |
| 19    | <a href="#">3632284</a>  |                                                                                 | NA                                                                                                                                                                                                                                                                                                                                  | NA           | NA                                                                               |                              |                                                                                                         |

### 33.3.3 SAP Notes (Older Releases)

A list of SAP Notes need to be implemented to use the features released for a specific release.

#### February 2026

SAP Notes to be Implemented

| Order | SAP Note                                                                                                    | Details                                                                           | iFlow Update | Package                                                                                          | iFlow Name and version                                                                                                        |
|-------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 1     | <a href="#">3714651</a>    | Remove leading zeros in Security Deposit                                          | NA           |                                                                                                  |                                                                                                                               |
| 2     | <a href="#">3714650</a>    | The disconnection activity and status are not appearing in the disconnection tab. | NA           |                                                                                                  |                                                                                                                               |
| 3     | <a href="#">3712828</a>   | Installment Plan – Remaining Open Amount Not Displayed Correctly                  | Yes          | SAP Service Cloud V2 for Utilities Contract Account Integration with SAP S/4HANA (version 1.2.3) | <ul style="list-style-type: none"> <li>Get Installment Plan 1.1.4</li> <li>Get Installment Plan Type Details 1.1.1</li> </ul> |
| 4     | <a href="#">3712714</a>  | Contract account locks with different dates are deleted.                          | NA           |                                                                                                  |                                                                                                                               |
| 5     | <a href="#">3712670</a>  | Duplicate records are sent in the POD payload from SAP S/4HANA.                   | NA           |                                                                                                  |                                                                                                                               |
| 6     | <a href="#">3710061</a>  | Payment Plan Amount Change Updates Already Invoiced Items                         | Yes          | SAP Service Cloud V2 for Utilities Contract Account Integration with SAP S/4HANA (version 1.2.3) | Edit Payment Plan 1.1.1                                                                                                       |
| 7     | <a href="#">3706040</a>  | Incorrect Unit of Measure Displayed for Consumption                               | Yes          | SAP Service Cloud V2 for Utilities Premise Integration with SAP S/4HANA (version 1.2.2)          | <ul style="list-style-type: none"> <li>Get Premise Services 1.1.6</li> <li>Get Meter Reading 1.1.3</li> </ul>                 |



| Order | SAP Note                                                                                                  | Details                                                                     | iFlow Update | Package                                                                                    | iFlow Name and version   |
|-------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------|--------------------------|
| 8     | <a href="#">3690714</a>  | Incorrect device status displayed at premise services and device quick view | Yes          | SAP Service Cloud V2 for Utilities<br>Premise Integration with SAP S/4HANA (version 1.2.2) | Get Device Details 1.0.3 |

## Notes for Bank Data

SAP Notes to use Bank Data

| Order | SAP Note                                                                                                    | Details                                                                                                                                                                                                                                                                                                                                |
|-------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1     | <a href="#">3570297</a>    | Incoming and outgoing bank and credit card details in the left panel of contract accounts.                                                                                                                                                                                                                                             |
| 2     | <a href="#">3343911</a>    | Fetch and create bank details for customers.                                                                                                                                                                                                                                                                                           |
| 3     | <a href="#">3681432</a>  | SAP Service Cloud Version 2 Utilities: Bank Details in Contract Account.<br><br>Prerequisite Notes <a href="#">3570297</a>  , and <a href="#">3343911</a>  . |
| 4     | <a href="#">3691972</a>  | Service Cloud Version 2 Utilities: Contract Account Payment Data – Exit Options                                                                                                                                                                                                                                                        |
| 5     | <a href="#">3691975</a>  | Service Cloud Version2 Utilities: Utilities Payment Data – Service Definitions                                                                                                                                                                                                                                                         |

After implementing these notes, you must verify the following services:

New Service Definition: ISU\_C4C\_V2\_CA\_PAYMENT\_DATA

- ISU\_C4C\_V2\_CA\_PAYMENT\_DATA
- ISU\_C4C\_V2\_CA\_PAYMTHD\_UPDATE

Existing Service Definition: ISU\_C4C\_V2\_BANK\_DATA

- ISU\_C4C\_V2\_BANK\_CREATE – Existing Service Operation
- ISU\_C4C\_V2\_BANK\_DELETE – New Service Operation
- ISU\_C4C\_V2\_BANK\_GET – Existing Service Operation
- ISU\_C4C\_V2\_BANK\_CHANGE – New Service Operation

## Notes for Meter Reading, Dunning, and Billing Amounts

SAP Notes for actions in meter reading, dunning and billing amounts

| Order | SAP Note                                                                                                  | Details                                                                                                                                                                                                                                                                |
|-------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1     | <a href="#">3677508</a>  | Future dunning data not being displayed in the Contract account central tab                                                                                                                                                                                            |
| 2     | <a href="#">3677573</a>  | Actual and expected consumption value for meter readings are rounded to whole number                                                                                                                                                                                   |
| 3     | <a href="#">3678732</a>  | <p>Incorrect billing amount showed in the financial metrics of contract account</p> <p>Prerequisite Note <a href="#">3431888</a>  to get the billing amount details for the CA.</p> |
| 4     | <a href="#">3676682</a>  | Customers moved out because of a new move-in were shown as inactive.                                                                                                                                                                                                   |

After implementing the SAP notes, you must adjust the Service Definition `ISU_C4C_V2_PREMISE_BP`.

## Notes for Locks, Code List Mapping, and Security Deposit

SAP Notes for actions in meter reading, dunning and billing amounts

| Order | SAP Note                                                                                                    | Details                                                                                                                                                                                                                                                                                                                                 |
|-------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1     | <a href="#">3691715</a>  | Incorrect lock status is being displayed by the Get Contract.                                                                                                                                                                                                                                                                           |
| 2     | <a href="#">3691716</a>  | No enhancement points available in <code>ISU_C4C_V2_BP_SECURITY_DEP_GET</code> .                                                                                                                                                                                                                                                        |
| 3     | <a href="#">3691733</a>  | <p>Lock status is not being displayed in contract account. iFlow is mentioned in the note. The service needs to be adjusted as per attached document in note.</p> <p>Prerequisite note <a href="#">3555616</a> </p> <p>.</p>                       |
| 4     | <a href="#">3691714</a>  | <p>Adding new context fields into the code list mapping download utility.</p> <p>Prerequisite notes <a href="#">3572538</a>  and <a href="#">3659632</a> </p> |

| Order | SAP Note                                                                                                  | Details                                                                                                                                                                                                    |
|-------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5     | <a href="#">3691720</a>  | To allow blank-value input for the Billing Reason and Release Reason.<br><br>Prerequisite note <a href="#">3664153</a>  |

After implementing the notes, adjust the Service Definition `ISU_C4C_V2_CA_OVERVIEW`.

## Notes for Utilities Entities for Accounts and Individual Customers

Implement the SAP Note [3683175](#) .

You must then create a service definition `ISU_C4C_V2_BP_UTIL_DATA`.

## Older Releases

Following is a list of notes and the additional actions needed for them.

- Locks and Active Contracts [3664153](#) 

After implementing the note, you must add the new service operations and function modules to the service definition as follows:

  - Open transaction `SE80`.
  - Navigate to the service definition `ISU_C4C_V2_CONTRACTS_GET`.
  - Add the new service operations.
  - Save and activate the service definition.
- Billing Document Creation and Details Services [3646536](#) 

There are no additional steps needed. Follow the standard steps of note implementation.  
This is a note from previous release. However, this is an updated note.
- Full reversal and adjustment reversal of Invoice [3674953](#) 

After implementing the note, you must add the new service operations and function modules to the service definition. Follow the instructions mentioned in the SAP Note to manually add the following new function modules to the existing service definitions.

Service Names and New Function Modules

| Service Name                          | New Function Module to be Added             |
|---------------------------------------|---------------------------------------------|
| <code>ISU_C4C_V2_INVOICES</code>      | <code>ISU_C4C_V2_INVOICE_SUBSEQ_GET</code>  |
| <code>ISU_C4C_V2_BILL_DOCUMENT</code> | <code>ISU_C4C_V2_BILL_DOC_SUBSEQ_GET</code> |

You can ignore the warnings that appear when you add the function modules to services.

- Retrieve the disconnection document [3675062](#) 

There are no additional steps needed. Follow the standard steps of note implementation.
- Consider future date items [3675006](#) 

There are no additional steps needed. Follow the standard steps of note implementation.

- Installment Plan Amount Determination for Open and Due Items [3625979](#) 
  1. Open transaction SE80.
  2. Navigate to the service definition `ISU_C4C_V2_INSTALLMENT_PLAN`.
  3. Make the adjustments as mentioned in the SAP Note.
  4. Save and activate the service definition.
- Payment Plan Deactivation Status [3669455](#) 
  1. Implement the SAP Note [3400650](#)  and ensure it is successful.
  2. Open transaction SE80.
  3. Open the service definition `ISU_C4C_V2_PAYMENT_PLAN`.
  4. Make the adjustments as mentioned in the SAP Note.
  5. Save and activate the service.
- Code list for Disconnection Activity Status and Process Variant [3675547](#) 

Follow the instructions mentioned in the SAP Note for the manual activities.

## 33.4 Contract Account

In the contract account, you can store controlling data for long-term business relationships with a business partner.

This data controls processes in invoicing, contract accounts receivable and payable, and correspondence processing. You can define several contract accounts for each business partner.

All the contract accounts within the application appear in a list view. Use the search and filter options to choose the relevant contract account. For more information on filters, see [Create and Organize Filters](#).

You can import and export the contract account details to a **CSV** or **Excel** file in **Data Import and Export** via **Settings**.

### Note

The search option is available only for the following fields:

- Contract Account ID
- Contract Account External ID
- Contract Account Name
- Collective Contract Account External ID
- Collective Contract Account Name

## Quick View

You can launch the contract account quick view by clicking the [Contract Account External ID](#) and view the key information regarding contract account prior opening in the detail view.

On quick view screen, you can view the following information:

- **Header:** Shows Contract Account Name, ID, Incoming Payment Method, and Contract Account Category.
- **Security Deposit:** Shows the deposit amount due and the paid by the customer.
- **Collective Contract Account:** Shows collective contract account tied to the contract account.
- **Premise:** Shows all the premise associated with the contract account.
- **General Information:** Shows other information such as Category, Account Determination ID, and so on for the contract account.

Click an contract account, to open the detailed view, where you can get a glance of all the important details

## 33.4.1 Header Pane

The header pane provides the basic information of the contract account in the left panel.

The information are displayed in the sections such as:

*General:* View more information about the contract account.

- *Alerts:* Shows the list of alerts specific to the premise. These alerts are from external systems that are integrated to SAP Sales and Service Cloud V2 and are categorized based on priority.
- *Financials:* Shows the following details of the contract account:
  - **Amount Due:** Sum of all unpaid invoices for which the due date has elapsed.
  - **Open and Payable:** Total amount the business partner owes to the utility company with respect to the opened contract account.
  - **Payment:** Latest posted payment amount and respective posting date.
  - **Scheduled Payment:** Next scheduled payment date and payment amount.
- *Customer Information:* Shows the Customer name, External ID and Credit Worthiness details of the contract account. If the customer has provided their email ID and phone number, they can make calls and send emails. If these details are missing, the options will be grayed out.
- *Collective Contract Account:* Appears only when the contract account opened has a collective contract account tied to it. This section display the collective contract account ID, name, type and payment method.
- *Security Deposit:* Shows the total amount requested/due from the customer and the amount of deposit paid by the customer.
- *Invoice Delivery Method:* Choose your preferred *Invoice Delivery Method* to deliver the invoices created in the contract account.
- *Fixed Address:* Select/edit from the standard address of business partner to add it as a fixed address for the contract account.
- *Premises:* Shows all the premises associated with the contract account which have active contract.
- *Creditworthiness:* Shows the creditworthiness score which refers to the evaluation of a business partner's payment history and financial risk. You can also view the history.

### ⓘ Note

- To enable the fixed address and invoice delivery method fields in the left panel for synchronous services, configure them through communication management in the settings.
- If contract account replication hasn't occurred after the upgrade, the updated fields will display the old record data type until replication in SAP S/4HANA system is done.

- All the standard fields in the General section of contract accounts left panel are listed in the default order. After the release in June 2026, all previous customizations specific to the [General](#) section must be reapplied.

**Timeline:** View the latest financial transactions for the opened contract account.

Date, time and the document details such as **Amount**, **Origin Text**, **Posting Date**, **Due Date**, and **Invoice Document ID** are available in the table.

You can also search using the document ID available in basic search option.

## Related Information

[Make Outbound Phone Calls \[page 927\]](#)

You can use the tool of your choice to make outbound phone calls in SAP Sales Cloud and SAP Service Cloud Version 2.

## 33.4.2 Create Contract Accounts

Create contract accounts from SAP Service Cloud V2 by using mashups.

### Context

To create a contract account in SAP Service Cloud V2, you must use a HTML mashup that links to the S/4 HANA system. You can invoke this mashup anywhere in the SAP Service Cloud V2 system. However, we recommend you add this mashup as a new workspace on the navigation menu.

Ensure that a connection is established between SAP Service Cloud V2 and SAP S/4 HANA.

### Procedure

1. Get the S/4 HANA target system's URL using the steps below:
  - a. Log into your SAP system and enter the transaction SICF.
  - b. Navigate to `/default_host/sap/bc/gui/sap/its/webgui`. You can also use the search function in SICF to locate it quickly.
  - c. If the service is inactive, right-click the service and select [Activate Service](#).
  - d. Right-click the service again and select [Test Service](#). A browser window opens, displaying a URL.
  - e. Copy the URL and modify it by appending the following parameters:

`swift`

`CopyEdit`

```
/sap/bc/gui/sap/its/webgui?sap-client=<your_client>&sap-
language=EN&~transaction=CAA1
```

- f. Replace <your\_client> with your SAP Client Number.
2. Create a mashup of the type [HTML](#) and enter the URL obtained.
3. Add the mashup as a workspace.
4. Add the service and application to the business role for which you want to allow creation of contract accounts.
5. Go to the new workspace, enter the user name, password the first time you log into the system.
6. In the screen that appears, enter the contract account name and provide a reference if available.
7. Save the contract account.

## Results

This account is now created in the SAP S/4 HANA system and is available in the list of contract accounts in SAP Service Cloud V2.

## Related Information

[Create HTML Mashups \[page 145\]](#)

Create HTML mashups to embed a HTML or JavaScript based web page into a screen of your SAP cloud solution.

### 33.4.3 Central

This tab displays cards pertaining to the contract account.

The cards are as follows:

1. [Open Items](#): The unpaid items for a billing document are grouped and displayed for each contract account. The Time slice shows the total open amount due against the range. Future due shows the open items with due dates in the future. 0-30 days range shows the amount due in the last 30 days from today's date. In similar way 30-60 days range shows for last 30- 60 days, 60+ days range shows the rest of the total open amount due.  
Click the [Make Payment](#) option to make a one time payment with the existing or new bank account.
2. [Budget Billing](#): Shows the upcoming due amount along the start and end date of the budget billing plan. The graphical view displays the number of plan items that are in **Open** and **Closed** status.
  - **Open**: The billing plan item does not have a clearing document
  - **Closed**: The billing plan item have a clearing document and clearing statusAlso you can create the plan using + ([Create](#)) icon.
3. [Disconnection Documents](#): Shows the three most recent disconnection documents for the premise.

#### Note

This card is hidden by default. You must enable it via extensibility.

4. **Payment Plan:** Shows the upcoming due amount along with the due date and the current difference value. The graphical representation displays the active payment plan amounts of all the contracts along with their corresponding consumption values in a stacked format. The average consumption of all the contracts are represented in a dotted line. Also you can create the plan using + (**Create**) icon.

#### Note

Either budget billing or payment plan is displayed on contract account budget billing procedure.

5. **Installment Plan:** Shows the latest installment plan in a pie chart with details such as plan amount paid, past due and open. Also you can create the plan using + (**Create**) icon.
6. **Promise to Pay:** Promise to Pay is a commitment from customer for payment of an outstanding receivable within a specified time. This card shows the latest promise to pay plan in a pie chart with the details such as plan amount paid, past due and open. View the next due date, next due amount and number of plan already due by system date for the contract account. Also you can create the promise to pay using + (**Create**) icon.
7. **Dunning:** Shows the dunning amount and the dunning step text and the graphical representation of the latest dunning amount and dunning date. It also shows the simulated value of the next dunning date and dunning value.
8. **Recent Invoices:** Shows the latest three invoices along with the **Invoice ID**, **Status**, **Invoice Amount**, and **Due Date**. Click  (Preview) icon to view the invoice in PDF.
9. **Recent Cases:** Shows the latest three cases for the contract account along with the **Case ID**, **Case Description**, **Priority State**, **Last Updated** and the **Case Status**. Click the hyper-linked **Case ID** and **Description** to open the case quick view. Click + (**Create**) to create a new case.
10. **Active Contracts:** Shows the latest three active contracts for that particular contract account with their **Contract ID**, **Contract Address**, **Contract Log Status**, **Contract Division**, and **Moving-In** and date.
11. **Correspondence History:** Shows the latest three correspondence linked to the contract account along with the creation date and status.

Click  (Open in Detailed View) to navigate to the detail view of that respective card.

#### Note

These cards are displayed only if the contract account has active plans.

## Related Information

### [Create Installment Plan \[page 549\]](#)

As an administrator, you can create installment for open items. The Utilities Contact Center solution supports create, change, and deactivation of an installment plan.

### [Create Promise to Pay \[page 549\]](#)



Promise to Pay is a commitment from customer for payment of an outstanding receivable within a specified time.

#### Create Budget Billing Plan [page 550]

Utility company normally bills for its services at the end of a supply period. To remain solvent, therefore starts charging budget billing amounts throughout the current period based on the expected bill amount due. Specify the budget billing amounts and the dates that are due in the budget billing plan.

#### Create Payment Plan [page 551]

The utility company and the customer together decide the amount to be paid with each bill.

## 33.4.3.1 Make Payment

You can make one time payments for contract account.

### Procedure

1. Click + ([Create](#)) to open the payment screen.  
The system opens the **Make a Payment** screen.
2. Choose the amount you want to pay under [Open Items](#), the **Open & Payable, Amount Due** and **Other Amount** fields.
3. Choose the bank details from the latest four bank ID's, under [Bank Information](#)
4. Optional: You can also create new bank account by using + ([Add](#)) icon.
5. Add all the necessary details and click [Make Payment](#).

## 33.4.4 Financials

This tab displays all the financial transactions for the selected contract account in a tabular form. You can filter transactions based on [Status](#), [Contract ID](#) and [Return Date](#).

The financials are differentiated into 6 main blocks:

- [Financial Documents](#): Shows all financial related transactions posted for the selected contract account for the last 365 days.  
There are three KPI cards which displays the information such as:
  - [Payment Behavior](#): Shows the number of active plans for the contract account and whether payments have been made on time or not for the latest 12 invoices in graphical form.
  - [Collection Analysis](#): Shows the dunning step text and the graphical representation of the latest dunning amount and dunning date.  
It also displays the count for the write offs, returns, and disconnect documents.

#### 📌 Note

You can use the sort option in the table for only one field at a time.

- **Monthly Bill Amount:** Shows the monthly billing amount over the last 12 months for the selected contract account.

#### Note

The KPI cards are visible only when the *Show Financial Metrics* switch is enabled.

Choose **+** (*Create*) if you want to create invoices, manual postings, or make payments.

#### Note

The *Create Invoice* option is hidden by default. You must enable it through adaptation. If you have previously enabled it, it will continue to be available.

To create an invoice, follow these steps:

1. Go to the contract account, in the *Financials* tab, go to *Financial Documents* or *Invoices*.
  2. Choose **+** (*Create*) to create an invoice for the selected contract account.
  3. Select the contracts and billing documents for which you want to create the invoice. If there are no billing documents generated, choose *Submit Meter Reading* and create new bill orders. Once generated, choose *Bill Now* to generate the billing document.
  4. (Optional) Choose *Simulate Invoice* to see the preview of the invoices created.
  5. Choose *Invoice Now*. You can now see the generated invoice in the *Invoices* section.
- **Open Items:** Shows all the open documents posted for the last 365 days.  
In the list of *Open Items*, you can add a *Deferral Date* based on your customer's requirement. Note that you can make only in-line edits to the deferral date by using  (*Edit*) that appears when you hover over the required field. You can select multiple open items from the list and apply a deferral date. When you edit multiple line items of the same document number, you will receive an error message stating that the document is locked.  
Choose **...** (*Actions*), and *Reverse*.

#### Note

- The *Actions* column is hidden by default. You must enable it through adaptation.
- The *Reverse* option is enabled based on the *Transaction* and *Sub-Transaction* maintained in SAP S/4HANA. The BAPI BAPI\_CTACDOCUMENT\_REVERSE is used to identify whether the open item is reversible or not.

- **Invoices:** Shows all the invoices pertaining to the open contract account posted for the last 365 days.  
Choose  (*Preview*) to view the invoice in PDF. You can create invoices and simulate them from here. You can also send them as attachments through emails.

#### Note

The *Create Invoice* option is hidden by default. You must enable it through adaptation.

To reverse an invoice you must first download the codelist *Invoice Reversal Reason* from SAP S/4HANA by navigating to **Settings > Utilities > General > Import Codelists**.

You can reverse invoices using the following steps:

1. Choose **...** (*Actions*).
2. Choose *Full Reversal* if you want to reverse the invoice, or choose *Adjustment Reversal* to reverse the underlying billing documents in the invoice.

3. Select the reason for reversal from the dropdown. Note that you must maintain the reversal reasons in the code list in SAP Service Cloud V2, for the corresponding values to be available in SAP S/4HANA. In adjustment reversal you must select the billing documents after you select the reversal reason. In adjustment reversal, you must select the billing documents that you want to reverse.
  4. Choose [Reverse](#). Then, you can either [Rebill](#), that is create the invoice, or choose to go to the next screen to update the meter reading, which is optional. If meter readings are available after reversing, the [Next](#) option is enabled. You can edit the meter readings listed here and save your changes using [Save](#) or [Save and Override](#).
- [Payments](#): Shows all the payment documents created posted for the last 365 days.
  - [Security Deposit](#): Shows all the security deposit related details created for the contract account with latest status information.  
Perform actions such as **Reverse**, **Release** and **Partial Release** from the more option under **Actions** column.  
The actions are enabled based on the security deposit status such as:
    - Requested- Reversed
    - Reversed- No Action Enable
    - Partially Released- Partial Release/Release
    - Released- No Action Enable
    - Paid- Partially Release/ Release
    - Partial Paid- No Action Enable
  - [Collections](#): Shows the dunning, returns, correspondence history, and write-offs related to that contract account.

## 33.4.5 Locks

This tab displays all the locks on a contract account that you select, and also for the contracts within the account.

You can create these locks both at the contract account and individual contract level, which are listed in two sections on the screen.

This tab is not available by default. You must enable it via adaptation.

You must download the following Code Lists from SAP S/4HANA by navigating to [Settings](#) [Utilities](#) [General](#) [Import Codelists](#):

- Dunning Lock Reason
- Incoming Payment Lock Reason
- Outgoing Payment Lock Reason
- Interest Lock Reason
- Invoice Lock Reason
- Correspondence Dunning Reason
- Posting Lock Reason
- Billing Block Reason
- Release Block Reason

Create a contract account lock as follows:

1. From the navigation menu, choose [Contract Accounts](#). Go to the [Locks](#) tab. All active locks for the contract account and contracts are displayed by default.
2. In the [Contract Account Lock](#) section, choose [+ \(Create\)](#). A new row is created in the table.
3. Select the [Lock Type](#), [Lock Reason](#), [Start Date](#), and [End Date](#).
4. Choose [✓ \(Save\)](#).

Select the [Show Expired Locks](#) checkbox to view locks that are already expired.

You can edit and delete contract account locks that you have created. To edit a contract account lock, choose the [Edit](#) option. The [Lock Reason](#), [Start Date](#), and [End Date](#) fields are editable. Make your changes and choose [✓ \(Save\)](#).

#### Note

Once you delete a lock, it is no longer displayed in the table.

Create locks for contracts inside the contract account as follows:

1. In the [Contract Locks](#) section, choose [⋮ \(Actions\)](#) and select [Create Contract Lock](#).
2. Select the [Lock Type](#), [Lock Reason](#), [Start Date](#), and [End Date](#).
3. Choose [Save](#).

Create a billing block for a contract as follows:

1. In the [Contract Locks](#) section, choose [⋮ \(Actions\)](#) and select [Create Billing Block](#).
2. Select the [Billing Block Reason](#).
3. Choose [Save](#).

To remove the billing block, choose [⋮ \(Actions\)](#) and select [Remove Billing Block](#). To delete the contract lock, choose [🗑 \(Delete\)](#).

## 33.4.6 Payment Arrangements

View installment plans, promise to pay, payment plans, or budget billing plans by division in card or table format

In the card view, you can see all plans by their status, create and edit plans, and make payments directly from each card.

In the table view, view all plan details in a tabular form. Use the actions menu for detailed views, inline edits, and creating new plans for each contract account.

You can use the adaptation mode to view [⋮ \(More Actions\)](#) in the card view and the left panel of the detail view.

#### Note

Payment Arrangements displays both active and deactivated plans.

## 33.4.6.1 Create Installment Plan

As an administrator, you can create installment for open items. The Utilities Contact Center solution supports create, change, and deactivation of an installment plan.

### Procedure

1. From the  (*Navigation Menu*), search for *Contract Account*.
2. Select the contract for which you need to create a installment plan.
3. Click  (*Create*) icon from payment arrangement tab or from the *Installment Plan* card in the central tab.
4. Select *Open Items* as per your requirement.
5. Under *Plan Selection* specify the each parameter and click *Generate Proposal* option.
6. Review the installment plan summary under the *Confirm Installment Plan* screen and click *Save*.

#### Edit or Deactivate Installment Plan

- To edit the existing installment plan, select the plan and click  (*Edit*) icon.
- If you add or delete installments, then you must ensure that the total installment plan corresponds to the amount of the source receivable.
- If the installment plan is unpaid or partly paid, select Deactivate to cancel the interest and charge documents and deactivate the plan. Click *Deactivate* option to deactivate the plan.

## 33.4.6.2 Create Promise to Pay

Promise to Pay is a commitment from customer for payment of an outstanding receivable within a specified time.

### Procedure

1. From the  (*Navigation Menu*), search for *Contract Account*.
2. Select the contract for which you need to create promise to pay.
3. Click  (*Create*) icon from payment arrangement tab or from *Promise to Pay* card in the central tab.
4. Select *Open Items* and enter the fields as per requirement.
5. Enter the desired fields for *Company Code*, *Plan Selection*, and *Plan Details* and click *Generate Proposal* option.
6. Review the promise to pay summary under the *Confirm Promise to Pay* screen and click *Save*.

#### Edit Promise to Pay

To edit the existing promise to pay, select the plan and click  (*Edit*) icon.

You can perform the following actions in edit screen:

- **Withdraw:** Allows you to disable an open plan. You need to specify the **Reason for Withdrawal** and **Initiator of Withdrawal**.
- **Replace:** Allows you to withdraw an existing plan and create a new plan.
- **Status Change:** Allows you to modify status of an existing plan. Enter the **Levels of Fulfillment** and maintain comments.
- **Reactivate:** Enables and activates a closed plan. The system prompts you to confirm if you need to reactivate a plan. This option is only available for the deactivated promise to pay plans.

#### Note

The Levels of Fulfillment and Reactivate options is only available for the deactivated promise to pay plans.

### 33.4.6.3 Create Budget Billing Plan

Utility company normally bills for its services at the end of a supply period. To remain solvent, therefore starts charging budget billing amounts throughout the current period based on the expected bill amount due. Specify the budget billing amounts and the dates that are due in the budget billing plan.

#### Procedure

1. From the  (*Navigation Menu*), search for *Contract Account*.
2. Select the contract for which you need to create budget billing plan.
3. Click  (*Create*) icon from payment arrangement tab or from *Budget Billing* card in the central tab.
4. Select *Contract* as per requirement.
5. Enter the desired fields for budget billing period and click *Generate Proposal* option.
6. Review the budget billing plan information under the *Confirm Budget Billing Plan* screen.
7. Enter the data in the *Text for Budget Billing* field.
8. Optional: Change the due date and plan amount for each line item. You can also use the **Update Amount** to update the changes for all the plan amount in the Items list.
9. Click *Save*.

#### Edit or Delete Budget Billing

To edit the existing budget billing plan, select the plan and choose  (*Edit*) and modify the **Plan Amount** and **Text for Budget Billing**. You can also use the *Mass Edit* option to edit multiple plans. Note that this option is hidden by default. To use this feature, you must enable it through adaptation. Also, once this feature is enabled, you cannot use the in-line edit option.

To delete the existing plan, select the budget billing plan and click  (*Delete*) icon.

#### Note

You can only delete plans with no payments or further activities.

## 33.4.6.4 Create Payment Plan

The utility company and the customer together decide the amount to be paid with each bill.

### Context

Instead of paying the actual bill amount, which varies according to season, the customer then has either a fixed payment plan or a payment plan in which the fluctuation of the amount is kept to a minimum. The utility company records the difference between the payment plan amount and the actual bill amount and charges it at a later date.

#### Note

Currently we support only Budget Billing Plans (BBP) type.

### Procedure

1. From the  (*Navigation Menu*), search for *Contract Account*.
2. Select the contract for which you need to create payment plan.
3. Click  (*Create*) icon from payment arrangement tab or from *Payment Plan* card in the central tab.
4. Select *Contract* as per requirement.
5. Enter the desired fields and click *Generate Proposal* option.
6. Review the payment plan details under the *Confirm Payment Plan* screen and click *Save*.

#### Edit or Delete Payment Plan

To edit the existing plan, select the payment plan and choose  (*Edit*) icon. You can also use the *Mass Edit* option to edit multiple plans. Note that this option is hidden by default. To use this feature, you must enable it through adaptation. Also, once this feature is enabled, you cannot use the in-line edit option.

To delete the existing plan, select the payment plan and click  (*Delete*) icon.

#### Note

You can only delete plans with no payments or further activities.

## 33.4.7 Bank Data

The *Bank Data* table displays the bank details of the contract account.

This tab is hidden by default. You must enable it via adaptation.

For this feature to be available, you must enable the options *Incoming Payment Method* and *Bank Details Required* in the codelist of *Contract Accounts*. You can do this by navigating to your *User Profile*, ► *Settings* ► *Utilities* ► *Contract Accounts* ► *Payment Method* ►.

You can create bank data using Bank Details or IBAN (International Bank Account Number).

To use the *Create Using IBAN* option, you must enable this feature on the *Feature Activation Hub*.

### Create With Bank Details

1. In the *Bank Data* tab, choose + (Add).
2. Choose *Create with Bank Details*.
3. In the window that appears, enter the *Country/Region*, *Bank Key*, *Bank Account*, *Bank Name*, *Account Holder*, *SWIFT Code*.
4. Choose *Save*.

### Create Using IBAN

This option is hidden by default. You must enable it through adaptation.

1. In the *Bank Data* tab, choose + (Add).
2. Choose *Create Using IBAN*.
3. In the *New Bank Details* dialog, if you know your IBAN, turn on the *IBAN Known* switch. Enter your IBAN and validity, and save it.
4. If you don't know your IBAN, fill the required fields and choose *Save*. You can also use the *Generate IBAN* option.



Use (Assign) to assign the bank data to a customer with the payment details. When you choose this option, the *Assign Contract Accounts* dialog box appears. Select the contract account for which you want to assign the bank data and save the changes. You can also assign incoming and outgoing payment methods while assigning the bank details.



You can remove the assignment using the (Unassign) option.



#### Note

- The *Incoming Payment Method* and *Outgoing Payment Method* dropdown menus display only the payment methods that are related to the bank information.
- For security reasons, only the last four digits of the bank account number are displayed.

#### Caution

Currently, *IBAN* and *Bank Data* are not encrypted, and are used as is.

## Edit Bank Data

Edit existing bank data using the in-line edit option. You must fill all the required details and select a reason for editing.

If you haven't added your IBAN and would like to generate it, use the *Generate IBAN* option.

#### Note

This option is available only when you enable the *Utilities: IBAN* on *Feature Activation Hub*.

When you edit the bank data which has an IBAN number, the edit screen displays a *New IBAN* field.

When you change the bank account number, you can choose to Generate IBAN for the updated account number using the *Generate IBAN* option. If you don't generate a new IBAN, the old IBAN number is retained for the updated bank details.

You can also delete the bank data using  (*Delete*) provided in the table. The contract accounts are then unassigned from the bank, after which the bank data is deleted.

## 33.4.8 Exceptions

The exception tab displays all the exceptions created in S/4 HANA system for the contract account.

You can add and view notes under the **Notes** column in the table.

## 33.4.9 Premises and Contracts

You can see a list of all the contracts associated with the contract account, grouped based on the premises.

A maximum of 1000 contracts are displayed in this tab. The active contracts are listed first, followed by inactive contracts.

Choose the premise to view its details in the quick view.

#### Note

This tab is hidden by default. You must enable it through adaptation.

## 33.5 Premise

The premise is an enclosed unit which allows to perform a host of utilities functions such as creating or changing move-in.

All premises within the application is listed in a list or card view.

You can import and export the premise details to a **CSV** or **Excel** file in **Data Import and Export** via **Settings**.

Use the filter option to find specific premises. Select a premise to view all its important details.

For more information on filters, see [Create and Organize Filters](#).

### Quick View

Click the [Premise External ID](#) to view key information of the premise without opening in the detail view.

In the quick view, you can access the following information:

- **Header:** Shows premise address, premise type, and owner for premise.
- **Current Customers:** Shows the active, moving in and moving out customers for premise.
- **Services:** Shows all the active services for premise.
- **General Information:** Shows other information such as External ID, Street, District, and so on of the premise.

### 33.5.1 Header Pane

The header pane provides the basic information of the premise in the left panel.

The information is displayed in the following sections:

- **Header:** Shows details about the premise address and premise type.
- **Alerts:** Shows the list of alerts specific to the premise. These alerts are from external systems that are integrated to SAP Sales and Service Cloud V2 and are categorized based on priority.
- **Service Status:** Shows the services along with their status available for the premise.
- **Customers:** Shows all the active, moving in and moving out customer linked to premise. If the customer has provided their email ID and phone number, they can make calls and send emails. If these details are missing, the options will be grayed out.

- **Owner:** Shows owner details linked to the premise
- **Details:** Shows more information about the premise

## Service Status

For each service the corresponding division is shown as icons along with the [Installation ID](#) and [Service Status](#).

By default three services are displayed on the screen. Choose **Show More** to view more available services.

The service status codes are defined as follows:

Service Status

| Status Code | Status Text in S/4 Logic             | Status Text in S/4 UI               |
|-------------|--------------------------------------|-------------------------------------|
| 00          | Installation Fully Operational       | Installation not disconnected       |
| 05          | Disconnection Started                | Disconnection started               |
| 10          | Installation Completely Disconnected | Installation fully disconnected     |
| 11          | Installation Partially Disconnected  | Installation partially disconnected |

## Customers Status

The customer status are:

1. **Active:** Customer has moved in without move-out date specified in system.
2. **Moving In:** Customer has a future dated move-in specified.
3. **Moving Out:** Customer has a future dated move-out specified.
4. **Inactive:** Customer as all ready moved out as of today.

## Premise Address Format

The premise address is formatted and maintained consistently across all screens of the premise workspace.

The formatted address should be in the format as:

1. Address Line 1:
  - House Number
  - Street
  - House Number 2
  - Location
2. Address Line 2:
  - City

- Region
  - Postal Code
3. Address Line 3:
- House Supplement
  - Street Supplement
  - Street Supplement 2
  - Location Supplement

#### Note

Due to space limitations, the address may appear truncated in certain areas. Hover over the address to view the full formatted version.

Customers must implement enhancements in S/4 to ensure the formatted address for objects in the class `CL_ISU_C4C_V2_OBJECT_ADDRESS` methods.

1. **Premise Replication:** Enhancement points in the following methods must be implemented before replicating data to the CX system
  - `PREMISE_ADDRESS`
  - `CONNECTION_OBJECT_ADDRESS`

If data has already been replicated, implement the enhancements first, then re-replicate the data.
2. **Contract Account Fixed Address:** Implement enhancements in `CA_FIXED_ADDRESS` method.
3. **Fixed Address Value Help:** Implement enhancements in `FIXED_ADDRESS` method.

#### Note

An exit is provided for each address type, allowing customers to modify the address format according to their business requirements.

## Related Information

### [Make Outbound Phone Calls \[page 927\]](#)

You can use the tool of your choice to make outbound phone calls in SAP Sales Cloud and SAP Service Cloud Version 2.

## 33.5.2 Central

This tab displays premise details in cards such as Moving-in & Moving-out, Services, and Recent Cases.

### Moving In & Moving Out

The card displays the customer information such as customer name, future move-in date or move-out date, contract account along with services, due amount, and open and payable amount for the customer.

#### Note

This card is visible only if there is a future move-in or move-out date document for that premise.

You can also reverse the created move-in for active and moving in customers and reverse move-out for inactive and moving out customers.

If a new customer moves in while the premise has an existing active customer, the active customer is moved out. This is indicated by the status *Forced Out*.

## Services

Gives an overview about the services associated with the premise and shows the **Division**, **Installation ID** and the **Graphical View** surfaced on the cards.

This graph shows the details of the billed consumption for latest three cycles for that installation or service.

Heart icon shows the supply guarantee and next meter read date along with the service order count and implausible meter reading count.

#### Note

If the installation has multiple metes/Registers, then you have to switch to the table view for more details.

## Updates

### Recent Cases

Shows the latest three cases for the premise along with the **Case ID**, **Case Description**, **Priority State**, **Last Updated** and the **Case Status**.

Choose + (*Create*) to create a new case.

### Recent Service Orders

Shows the latest three service orders for the premise along with the meter ID, status, and priority. To see the list of service orders, open the card in detail view.

#### Note

The *Updates* section supports extensibility. If you had hidden the *Recent Cases* cards in the past, it will re-appear in this section. You must hide the card again if required.

## 33.5.3 Customers

View all the customer information in a card and table view along with the status associated with the premise.

The card view displays all the active, inactive, moving-in, and moving-out contracts in card and also information about the move-in date, move-out date, balance amount the customer owes, due date from the last open item date till today. You can also perform actions based on the status of the contracts.

The table view is the graphical representation of all the active, inactive, moving-in, and moving-out status of contracts for each customer are listed. By default, the contract accounts which has all active contracts are expanded, and inactive contracts are collapsed. You can perform the actions at the contract account level based on the status of the contracts.

Categorized the customers based on the contract status by providing both customer and contract account specific details in sections. The Customer status is classified based on the use case:

- **Active:** Current date is greater than move-in date and the end date is not defined
- **Moving-In:** Move-In date is defined for future date
- **Moving-Out:** Move-Out date is defined (Not Infinity)
- **In Active:** Move-Out date is past current date

You can add custom buttons under the ... (**More Actions**) option for each customer card. You can use the button to either go to a specific tab within the premise, or to open a URL in a different browser tab using mashups.

To create a custom button, do as follows:

1. Go to the adaptation mode.
2. Hover over ... (**More Actions**), and choose  (**Edit**) that appears beside it.
3. Choose  (**Add**) to add a button.
4. To make the button open an existing tab in premise,
  1. Enter the **Button Text** and an **Event Name**, and choose **Apply**.
  2. Once you end the session, the button is listed under ... (**More Actions**).
  3. Go back to the adaptation mode. Choose  (**Edit**) that appears beside the tabs.
  4. Choose  (**Edit**) beside the tab that you want to associate to the button and select the event that you created, and choose **Apply**.
5. To make the button open a URL in a different browser URL,
  1. Enter the **Button Text** and select **Mashup**.
  2. Choose **Select Mashup**, and select a mashup from the list of mashups available in the system.
  3. Choose **Apply**.

You can add custom buttons from the left panel of the premise too.

## Related Information

[Move-In Process \[page 564\]](#)

Move-in of a service means that a customer is signing up for a utilities service such as gas, electricity, water, and so on. When move-in is created in SAP Cloud Solution, it creates a corresponding move-in in the S/4HANA system also.

[Move-Out Process \[page 567\]](#)

Move-out of a service means that a customer is signing off for a utilities service such as gas, electricity, water, and so on.

[Transfer Process](#)

## 33.5.4 Services

This tab displays all the services associated with the premise. Here, you can see a list of services with the [Installation ID](#) and the [Rate Category](#).

### 33.5.4.1 Billed Consumption Details

This section shows details of the billed consumption of last 12 cycles for the installation or service in both graphical and table views.

In the graphical view, you can view both the active and inactive customer's consumption with different color bars. The billed consumption shown here is the summation of all individual billed consumption of the meters connected to that service.

In the table view, consumption details are listed in a table format. You can also navigate to the contract account and customer quick view.

Use [Download](#) to download the details either as a .CSV or Microsoft Excel file. This option is available in both the tabular and graphical view.

Use the [Generate Summary](#) option to generate a summary of the billed consumption for each service (installation) on a premise. This allows users to quickly grasp key information about their current consumption pattern.

#### Note

The [Generate Summary](#) option is not available by default. You must enable it via adaptation. Ensure that your administrator has enabled the [Activate Utilities Insights](#) option in [Settings](#). For more information, see the related links section.

The summary includes details of the current consumption, its pattern, and possible reasons for any spike or dip in consumption level for the last 12 billed cycles.

#### Note

Customer can customize the consumption graph with their own logic using enhancement point such as:

- **EHP\_ISU\_C4C\_TEMPERATURE\_GET** in spot **ES\_ISU\_C4C\_TEMPERATURE**: Use this point to retrieve the temperature data corresponding to the billed consumption provided by the standard
- **EHP\_ISU\_C4C\_CONSUMPT\_COMPARE** in spot **ES\_ISU\_C4C\_CONSUMPTION\_COMPARE**: Use this point to provide the comparison consumption value to be matched against the standard consumption value.

Use the enhancement section **EHS\_ISU\_C4C\_BILLED\_CONSUMPTION** in spot **ES\_ISU\_C4C\_BILL\_CONSUMPTION** to override the standard logic for determining billed consumption.

Related Information

[Utilities Insights \[page 647\]](#)  
Use Utilities Insights from Generative AI to generate a summary for billed consumption details

33.5.4.2 Meter Reading

The meter reading process involves creating meter reading orders for each register, which includes the information such as meter reader, scheduled meter reading date and meter reading reason.

The header shows *Meter Type*, *Meter ID*, *Validity Date*, and *Next Scheduled Meter Reading Date*.

The meter readings for the services are shown in the following views:

- **Table View:** Shows the meter reading data in table view.
- **Card View:** Shows the meter reading data in card view.

Select a meter to view its details and the device's location in the quick view. You can also view notes for the device location using the *Device Location Notes* option. You can also see this information in the quick view.

AMI Meter Features

Use AMI (Advanced Metering Infrastructure) meters in SAP Service Cloud V2, Add-On for Utilities.

When you select an AMI meter in the *Services* tab of a premise, you can view the details of the meter, device location, and list of available AMI features in the quick view. Note that currently you cannot create or edit AMI meter readings.

For checking the voltage of an AMI meter at a particular time, use the *Ping* option. To see the power status in the past, use the *AMI Ping History* option.

You can also add *Status Code* as an additional field in ping history. It is a dynamic code list field and can be added through adaptation. The data in *Operational State* is displayed based on the *AMI Status* field which is dynamic code list.

You must maintain the dynamic code list for AMI Status in [User Menu](#) > [System Settings](#) > [Administration](#) > [Utilities](#) > [Premise](#) > [AMI Status](#) .

Code Lists for Status Code

| Code | Value   |
|------|---------|
| 01   | Unknown |



| Code | Value     |
|------|-----------|
| 02   | Power On  |
| 03   | Power Off |

You must also maintain the dynamic code list for Advanced Meter Status in ► [User Menu](#) ► [System Settings](#) ► [Administration](#) ► [Utilities](#) ► [Premise](#) ► [Advanced Meter Status](#) . The code list values must be the same as that maintained in the table TEAMI\_STAT\_CODE in SAP S/4HANA.

#### 📘 Note

The [Reconnect](#) and [AMI Ping History](#) options are hidden by default. You must enable it through adaptation.

In the [Services](#) tab of [Premise](#), you can select [Reconnect](#) to reconnect an AMI meter to the respective premise. This option is enabled only if the AMI meter is active.

When you choose [Reconnect](#), you can see the [Terms and Conditions](#) which is maintained in ► [Settings](#) ► [All Settings](#) ► [Utilities](#) ► [Premise](#) . On confirming the message, a reconnection order is created in the linked disconnection document in the SAP S/4HANA system.

The [DisDocStat](#) (Disconnection Document Status) becomes [Reconnection started](#) (22).

For the [Reconnect](#) option to be available, the following conditions must be true:

- The meter is of type AMI only.
- In the [AMI Data](#) tab of the AMI meter, [Remote Reconnection](#) is enabled.
- [Disconnection Document Status](#) is [Disconnection Carried Out](#).

To further enhance the reconnect option, you can use the following SPOTs:

- In the [Premise Service](#) tab, use the function module ISU\_C4C\_V2\_PREMISE\_SERVICE\_GET for the enhancement point EHP\_ISU\_C4C\_AMI\_RECONNECT\_DER which belongs to the enhancement spot ES\_ISU\_C4C\_PREMISE.
- In the quick view of the device, use the function module ISU\_C4C\_V2\_DEVICE\_GET for the enhancement point EHP\_ISU\_C4C\_DEVICE\_AMI which belongs to the enhancement spot ES\_DEVICE\_DATA.

## 33.5.4.2.1 Create or Edit Individual Meter Reading

Add new meter readings for each service corresponding to the service address of the contract.

### Procedure

1. Under the premises [Services](#) tab, go to [Meter Reading](#).
2. Choose + ([Create](#)) to create new meter reading.
3. Enter the [Meter Reading Reason](#), [Notes](#), and [Meter Reading](#).
4. Choose one of the option to determine the meter reading values:

- **Estimate:** Estimate the meter reading and consumption for an installation
- **Reset:** Clears all the meter reading values and you can enter fresh data.
- **Save & Override:** Overrides the estimated value and save the meter reading.
- **Save:** Saves the estimated meter reading and creates a new meter reading results.

The created meter reading is displayed in a table, card, and graphical form.

You can edit a meter reading using the  ([Edit](#)) icon.

#### Note

For meter reading reasons, the Excel import function supports only codes 02, 09, and 10. If additional codes are required, they must be added through [Settings](#) > [Administration](#) > [Utilities](#) > [Premise](#) > [Meter Reading Reason](#) .

By default, only these codes are supported. If new codes are added, customers must implement enhancements for the functionality to work with the new codes.

## 33.5.4.2.2 Create or Edit Multiple Meter Readings

Create or edit multiple meter readings simultaneously, for all the available devices of the service.

### Context

You can create and edit meter readings simultaneously for multiple meters and meters with multiple registers.

### Procedure

1. Go to the [Services](#) tab of [Premise](#). You can see the list of services.
2. Choose **+** (New Meter Readings) icon. You can see a list of meter readings in the [Create Meter Readings](#) dialog.
3. Select the required meters from the list to validate, estimate or reset them. You can also view the history.  
To edit multiple meter readings, choose the  ([Edit](#)) option. In the [Edit Meter Readings](#) table that appears, select the entries and make the required changes.

## 33.5.5 Cases

Displays all the cases created for the premise along with there status in a list and card view.

Use the search option to choose the relevant cases.

#### Note

In the list view, the headers are taken from the case service. To make changes to the names, you must use language adaptation for the case entity.

## Related Information

[Language Adaptation \[page 160\]](#)

Language adaptation customizes communication for different users, considering business and linguistic preferences. It ensures content resonates effectively, improving comprehension and engagement.

### 33.5.6 Service Orders

Shows the list of service orders for the premise along with the meter ID, status, and priority.

This tab is hidden by default. You can view this by enabling it in the adaptation mode.

### 33.5.7 Exceptions

The exception tab displays all the exceptions created in S/4 HANA system for the premise.

You can add and view notes under the **Notes** column in the table.

### 33.5.8 Disconnection Documents

View disconnection documents for the premise, in the detail view. A disconnection document is generated for each disconnection.

In this tab, you can see the list of disconnection documents associated with the premise. To view details of each document, choose  ([View Details](#)).

You can view the last three disconnection documents in the [Recent Disconnection Documents](#) card of the [Central](#) tab.

#### Note

The [Disconnection Document](#) tab and [Recent Disconnection Documents](#) card are hidden by default. You must enable them via adaptation.

You must download the following codelists from SAP S/4HANA by navigating to  [Settings](#)  [Utilities](#)  [General](#)  [Import Codelists](#) .

- Process Variant
- Disconnection Activity Status

## 33.5.9 Move Processes

You can initiate Move-In, Move-Out, and Transfer services for a premise.

### Note

User can implement the extended fields validations in each step of move processes through SAP S/4 HANA calls.

When you initiate a move-in, move-out, or transfer process, the calendar displays the working days and holidays to help you plan the move effectively. This is also applicable when you want to change the move dates. Based on the working day calendar selected, you can plan the move-in, move-out, or transfer.

### 33.5.9.1 Move-In Process

Move-in of a service means that a customer is signing up for a utilities service such as gas, electricity, water, and so on. When move-in is created in SAP Cloud Solution, it creates a corresponding move-in in the S/4HANA system also.

An agent can view the details in the Move-In tool bar as and when the details are filled in under the different steps of guided move-in. The tool bar shows the **Customer Name**, **Move-In Address**, **Move-In Date**, **Services Chosen**, **Security Deposit Amount**, and **Mailing Address**.

#### 33.5.9.1.1 Create Move-In

For guided move-in, you can only use either Move-in or Move-in using MDT to create a new move-in.

### Procedure

1. From the navigation menu choose [Premise](#). Select the premise from the list for which you want to create move-in.
2. Go to [Customers](#) tab, where you can also view all the customers with their status associated with the premise.
3. Choose [Move-In](#).

The create move-in screen has four main sections.

- a. **Customer and Premise:** This section displays the information related to customer and premise.

- **Who:** Select the customer using the value help. The system displays the corresponding **Total Amount Due, Open and Payable, Payment and Credit Worthiness** cards.

#### ⚠ Restriction

If an account has a large number of associated contract accounts, it may lead to performance issues, preventing value calculations for total amount due, open and payable, and payment cards causing a timeout error.

- **Where:** By default, the premise address is updated under the **Address** field. You can view the further details under Premise Details, Customers, and Service Status.
  - **When:** Choose the move-in date from the calendar when the customer wants to move-in to the premise.
- b. **Service:** This section displays the types of services (Electricity/Gas/Water) available for the customer to perform move-in.

Enable the **Activate Service** switch against the service which is chosen for move-in.

#### 📌 Note

By default the **Activate Service** switch is enabled for all available services. You can set it to On/Off as per the requirement.

Add the corresponding move-in meter reading for the devices available under chosen services. Also set the rate category from the **Rate** drop down.

- c. **Contract Account and Billing:** This section has four parts:
- **Contract Account:** Choose **Use Existing Account** to use the exiting contract accounts or choose **Create New Contract Account** to create a new contract account.  
Use the search feature to find the required contract account associated with your account. You can search using either the contract account name or the contract account ID.  
When you choose **Create Contract Account**, the Contract Accounts dialogue screen pops up where you need to fill all the required fields.

#### 📌 Note

By default, the **Create New Contract Account** is enabled. If the customer has only one contract account then that is chosen as default.

- **Security Deposit and Joint Invoicing:** Select the security deposit type and reason, Joint Invoicing and enter the amount.  
Choose **Calculate Deposit** which automatically determines the amount and deposit type. If you chooses the option as **Waive** then the security deposit amount will be set to zero.

#### 📌 Note

1. When you manually choose a reason for a security deposit, the security deposit and the amount fields are made mandatory.
2. The services are visible only if the installations have the divisions with categories 01, 02, 03, and 91.

- **Mailing Address:** Specify the mailing address for correspondence with the customer. This can be maintained by any of the following four available options:
  1. **Premise Address-** Chooses the premise address as the mailing address

2. **Customer Address**- Chooses the customer address as the mailing address
3. **New Mailing Address**- Create a new mailing address along with validity dates
4. **PO Box**- Create new PO Box address as the mailing address

#### 📘 Note

If you enable the [Premise Address](#) or [Customer Address](#) option, you can only modify the email ID, telephone number, mobile number and fax. To create a new address, you must use the [New Mailing Address](#) option.

If you have chosen [Premise Address](#) or [Customer Address](#), Enhancement Point :EHP\_ISU\_C4C\_ADDRESS\_LOGIC\_MI, Enhancement Spot: ES\_ISU\_C4C\_MOVE\_EDIT to provide the address that you want to make the standard address.

- **Notes:** (Optional) Enter if you have any notes.
- d. **Review:** Review all the details and agree to the terms and conditions.

#### 📘 Note

If you want to have agreeing to these terms and conditions as mandatory, ensure this setting is configured in the extensibility settings.

4. Choose Submit or Submit via MDT (Move-In using MDT) to create move-in.

#### 📘 Note

To predefine fields like date limits, default address type, country, currency, and services, configure them under ► [Setting](#) ► [Utilities](#) ► [Move Process](#) ► [General Settings](#) ►.

If you want to auto-populate any fields that need user inputs, you must enter your logic in the Enhancement point EHP\_ISU\_C4C\_MOVE\_SIMULATION under the enhancement spot ES\_ISU\_C4C\_MOVE.

## 33.5.9.1.2 Change Move-In

You can change the date for an existing move-in using the  ([Edit](#)) icon.

1. Go to the [Central](#) tab. You can see the customers in the [Moving In & Out](#) section.  
You can also access the customers for which you want to change the date, through the [Customers](#) tab.
2. Choose  ([Edit](#)).
3. Select the move-in document for which you want to edit the move-in date.  
If there is only one document available, you are directed to the [Edit Move-In](#) dialog.

#### 📘 Note

You cannot enter a date earlier than the move-in date of the previous contract.

4. In the [Edit Move-In](#) dialog, enter the [New Move-In Date](#). Save the changes.
5. In the [Meter Reading](#) process, you can update all the meter readings at once for the installation, or devices in the move-in document. Choose [Submit](#).

## 33.5.9.2 Move-Out Process

Move-out of a service means that a customer is signing off for a utilities service such as gas, electricity, water, and so on.

Move-out is triggered from SAP cloud solution which in turn gets implemented in S/4 HANA and creates the move out document which is then shown on SAP Cloud for Customer.

### 33.5.9.2.1 Create Move-Out

Move-out process is applicable for the active customer under premise.

#### Context

As a service agent follow the steps for guided move-out:

#### Procedure

1. Launch the guided move-out process under *Active* section in *Customer* tab of the *Premise* workspace.

A pop over dialogue box appears to choose the **Contract Account**.

2. **Customer and Premise**

- **Who:** By default, the customer details are auto populated. Once the customer is chosen it displays the corresponding **Total Amount Due, Open and Payable, Payment and Credit Worthiness** card.

#### ⚠ Restriction

If an account has a large number of associated contract accounts, it may lead to performance issues, preventing value calculations for total amount due, open and payable, and payment cards causing a timeout error.

- **Where:** By default, the premise address is updated under the **Move-out Address** field. You can view the further details under Premise Details, Customers, Service Status, and Work Order cards.
  - **When:** Choose the move-out date from the calendar when the customer wants to move-out of the premise.
3. **Service**
    - This step shows the types of services (Electricity/Gas/Water) available for the customer to perform move-out.
    - Enable the **Activate Service** switch against the service which is chosen for move-out.
    - Choose the meter reading available under chosen services and do the necessary actions:
      1. Estimate

2. Validate
3. Override
4. Reset

#### 4. Contract Account

- The Contract account details is auto populated as you have already chosen the contract account for move-out.
- Under Mailing section, specify the mailing address for correspondence with the customer. This can be maintained by any of the following four available options:
  1. **Use Premise Address**- Chooses the premise address as the mailing address.
  2. **Use Customer Address**- Chooses the customer address as the mailing address.
  3. **New Mailing Address**- You can create a new mailing address along with validity dates
  4. **New PO Box**- You can create new PO Box address as the mailing address.

##### ⓘ Note

If you enable the [Premise Address](#) or [Customer Address](#) option, you can only modify the email ID, telephone number, mobile number and fax. To create a new address, you must use the [New Mailing Address](#) option.

If you have chosen [Premise Address](#) or [Customer Address](#), Enhancement Point: EHP\_ISU\_C4C\_ADDRESS\_LOGIC\_MO , Enhancement Spot: ES\_ISU\_C4C\_MOVEOUT\_EDIT to provide the address that you want to make the standard address.

5. **Review:** Review all the details and agree to the terms and conditions.

##### ⓘ Note

If you want to make agreeing to these terms and conditions as mandatory, ensure this setting is configured in the extensibility settings.

6. Choose Submit to create move-out.

##### ⓘ Note

To predefine fields like date limits, default address type, country, currency, and services, configure them under [Setting](#) > [Utilities](#) > [Move Process](#) > [General Settings](#) .

## 33.5.9.2.2 Change Move-Out

Change the date for an existing move-out.

1. Go to the [Central](#) tab. You can see the customers in the [Moving In & Out](#) section. You can also access the customers for which you want to change the date, through the [Customers](#) tab.
2. Choose [✎ \(Edit\)](#).
3. Select the move-out document for which you want to edit the move-out date. If there is only one document available, you are directed to the [Edit Move-Out](#) dialog.

##### ⓘ Note

You cannot enter a date earlier than the move-out date of the previous contract.



4. In the *Edit Move-Out* dialog, enter the *New Move-Out Date*. Save the changes.
5. In the *Meter Reading* process, you can update all the meter readings at once for the installation, or devices in the move-out document. Choose *Submit*.

### 33.5.9.3 Transfer Process

You can transfer the services from an existing a premise to another premise.

#### Context

Transfer is applicable for the active customer.

As a service agent follow the steps for guided transfer:

#### Procedure

1. Launch the transfer process under *Active* section in *Customer* tab of the *Premise* workspace.  
You can also use the *Create* option on the top-right corner of the *Premise* screen. Choose *Transfer* to initiate a transfer of the premise.
2. **Customer and Premise**
  - **Customer:** By default, the customer details are auto populated. Once the customer is chosen it displays the corresponding **Total Amount Due, Open and Payable, Payment and Credit Worthiness** card.
  - **Moving Out Premise:** By default, displays the move-out address. You must select the date of move-out.
  - **Moving In Premise:** Choose the upcoming moving in premise details and date from the calendar to which premise customer wants to transfer.
3. **Service**
  - All the **Move-In Services** and **Move-Out Services** available for that premise are displayed.
  - The security deposit details are transferred if you have enabled the *Automatically transfer security deposit* option in SAP S/4 HANA.
  - Enable the **Activate Service** switch against the service which is chosen for transfer.
  - Choose the meter reading available under chosen services and do the necessary actions:
    1. Estimate
    2. Validate
    3. Override
    4. Reset
4. **Contract Account and Billing:** This section has four parts:
  - **Contract Account:** Choose **Use Existing Account** to use the exiting contract accounts or choose **Create New Contract Account** to create a new contract account.

Use the search feature to find the required contract account associated with your account. You can search using either the contract account name or the contract account ID.

When you choose **Create Contract Account**, the Contract Accounts dialogue screen pops up where you need to fill all the required fields.

- **Security Deposit and Joint Invoicing:** Select the security deposit type and reason, Joint Invoicing and enter the amount.

Choose **Calculate Deposit** which automatically determines the amount and deposit type. If you chooses the option as **Waive** then the security deposit amount will be set to zero.

#### 📘 Note

- When you manually choose a reason for a security deposit, the security deposit and the amount fields are made mandatory.
- The system automatically transfers the security deposit details when moving in to a same premise.
- To calculate the security deposit, you must implement the BAdI `ISU_C4C_V2_SEC_DEPOSIT_CALC`.

- **Mailing Address:** Specify the mailing address for correspondence with the customer. This can be maintained by any of the following four available options:

1. **Premise Address-** Chooses the premise address as the mailing address
2. **Customer Address-** Chooses the customer address as the mailing address
3. **New Mailing Address-** Create a new mailing address along with validity dates
4. **PO Box-** Create new PO Box address as the mailing address

#### 📘 Note

If you enable the [Premise Address](#) or [Customer Address](#) option, you can only modify the email ID, telephone number, mobile number and fax. To create a new address, you must use the [New Mailing Address](#) option.

- **Notes:** (Optional) Enter if you have any notes.

5. **Review:** Review all the details and agree to the terms and conditions.

#### 📘 Note

If you want to make agreeing to these terms and conditions as mandatory, ensure this setting is configured in the extensibility settings.

6. Choose Submit or Submit via MDT to transfer the service.

#### 📘 Note

To predefine fields like date limits, default address type, country, currency, and services, configure them under ► [Setting](#) ► [Utilities](#) ► [Move Process](#) ► [General Settings](#) ►.

## 33.5.9.4 Dry Run

When you move-in, move-out or transfer, you can perform a dry run on some of the values so you can get the required information before submitting the process in the system.

Dry Runs allow users to check data in the SAP Service Cloud V2, Add-On for Utilities, and create validations in SAP S/4 HANA based on the available information.

As service agents, to ensure you receive the right data and make decisions before submitting the process, use the following dry run checkpoints:

- Initial screen, when the process loads.
- Selection of business partner.
- Selection of move-in/move-out dates.
- Selection of premise in move-in address (applicable only for the transfer process).
- [Next](#) option on every screen.
- [Previous](#) option on every screen.

## Alerts

During validation, if you want to display alerts to the service agent, you must fill the **ALERTS** table in the [ISU\\_C4C\\_V2\\_S\\_MOVE\\_DATA](#) structure from SAP S/4HANA.

The table contains the following fields:

- **SEQUENCE\_NUMBER**: This is the sequence of the alert messages.
- **SEVERITY**: Severity of the alert, if it is low, medium, or high
- **TEXT**: The alert message to be displayed.

You must implement the enhancement point **EHP\_ISU\_C4C\_V2\_PRE\_MOVE** in the enhancement spot **ES\_ISU\_C4C\_MOVE** to populate the alerts.

## 33.6 External Alerts

View external alerts in the SAP Service Cloud V2 system in both Contract Accounts and Premises. You can create these alerts in the SAP S/4 HANA system.

### Set Up SAP S/4 HANA

1. Access the demo service in the S/4 system by implementing the SAP note [3618340](#) . You can now see the demo function module **ISU\_C4C\_V2\_ALERTS\_GET**.
2. Create your alerts service by referring to the demo function module for getting external alerts. For more information on alerts see [Alerts](#), and [Alerts System API](#).

### → Tip

Generate the service definition (WSDL file) for the service you created and share it with the integration team to import it into the integration flow.

## Set Up Cloud Platform Integration

1. Refer the sample [Integration Flow Get Alerts](#) available in the standard package : *SAP Service Cloud V2 for Utilities Premise Integration with SAP S/4HANA*.
2. Create the integration flow and deploy it.

### ⓘ Note

- The integration flow provided is for reference only. We recommend you to create your own for any further enhancements.  
Note that you can use the same JSON schema maintained in the sample provided.

## Set Up SAP Service Cloud V2

1. Create your communication configuration by copying the [Integrate Customer Insights with Alerts](#) configuration.
2. Update the API Path based on your requirement and activate it.
3. Open the contract account or premise. In the detail view, go to the adaptation mode.
4. In the left pane, choose [Manage Sections](#), select [Add Alerts](#) from the list and end the session.

### ⓘ Note

You cannot see the Alerts section by default.

## Related Information

[External Alerts \[page 677\]](#)

External Alerts reports important business information sourced from external systems.

[Alerts System API \[page 678\]](#)

[Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

[Manage Fields \[page 80\]](#)

Add, hide, and reorder fields.

## 33.7 Search for Utilities Objects

Use APIs to find all objects specific to Utilities supported by ISU finder in SAP S/4 HANA, and view it in SAP Service Cloud Version 2, Add-On for Utilities.

### Set Up SAP Service Cloud V2

1. Make sure the outbound HTTP communication service **Get Utilities Object IDs** is activated in the communication configuration **Integrate Service Cloud Utilities with SAP S/4HANA - Move**.
2. Create a custom work center.
3. Create a mashup, and add it as a work center.
4. Open the mashup and enter the details of the item you are searching for.

### Set Up SAP Cloud Integration

As a part of completing the end-to-end utilities functionality integration setup, the respective utilities integration packages and iFlows might already be deployed.

The integration flow *Get Utilities Object IDs*, in the package *SAP Service Cloud V2 for Utilities Premise Integration with SAP S/4HANA*, is used to search and retrieve utilities objects from SAP S/4HANA. Ensure that this iFlow is deployed. If not, deploy it using the following steps.

1. Open the integration package *SAP Service Cloud V2 for Utilities Premise Integration with SAP S/4HANA*.
2. Select the iFlow *Get Utilities Object IDs* and choose *Configure*.
3. Under *Sender*, choose the appropriate authorization method as per your requirement.
4. Under *Receiver*, configure the SAP S/4HANA system details.
5. Choose **Deploy**.

### Set Up SAP S/4 HANA

To complete the integration setup between SAP Cloud Integration and the SAP S/4HANA system, you must create a binding for the SOAP service `isu_c4c_v2_object_search`. This is the final step in integrating SAP CPI and SAP S/4HANA.

1. In the SAP S/4HANA system, enter the transaction SOAMANAGER.
2. Navigate to ► *Service Administration* ► *Simplified Web Service Configuration* ►.
3. In the search box, enter the service name `isu_c4c_v2_object_search` and choose *Go*.
4. Select the service and configure the authentication method: either **User Name/Password (Basic)** or **X.509 Client Certificate**, based on your requirement. Then, choose *Save*.

The binding is created. The access URL of the service remains the same as the corresponding Cloud Integration iFlow endpoint URL. You can verify the binding URL by choosing *Display Service*.

For example, consider that you want to search for the object of the type premise (objectType eq PREMISES).

For the query parameter where xxxx is the meter number (serialNo eq xxxx), the complete string is `https://{TENANT_NAME}/sap/c4c/api/v1/utilities-common-integration-service/utilitiesSearch?$filter=objectType eq PREMISES and serialNo eq xxxx`.

Note that you can retrieve the ID for one only one object at a time.

## Related Information

[Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

[Create HTML Mashups \[page 145\]](#)

Create HTML mashups to embed a HTML or JavaScript based web page into a screen of your SAP cloud solution.

[Create a Mashup-Based Custom Service \[page 166\]](#)

As an administrator, you can create a mashup-based custom service.

## 33.8 Audit Logs

Audit Logging is necessary for reproducing malicious behaviors of users and monitoring administrative activities.

The audit log for SAP Service Cloud Version 2 is managed using the table `ISU_C4C_V2_AUDIT` with its corresponding DDL view `ISU_C4C_V2_AUDIT_VIEW`, view `ISU_C4C_V2_ADT_V`, and FM to create change log `ISU_C4C_V2_AUDIT_LOG_CREATE`.

Since SAP Service Cloud Version 2 does not support principal propagation, any change documents created in the S/4HANA system will be recorded against the CPI/Technical user.

To track changes carried out from SAP Service Cloud Version 2, users can refer to the view `ISU_C4C_V2_ADT_V`, which captures all changes along with the SAP Service Cloud Version 2 user responsible for them.

Supported Services and Corresponding Change Objects

| Service Name                   | Change Object |
|--------------------------------|---------------|
| ISU_C4C_V2_BANK_CREATE         | BUPA_BUP      |
| ISU_C4C_V2_BP_SEC_DEP_STAT_UPD | FKK_SEC       |
| ISU_C4C_V2_BUDGET_BILL_DELETE  | ISU_EABP      |
| ISU_C4C_V2_BUDGET_BILL_EDIT    | MKK_BELEG     |
| ISU_C4C_V2_BUDGET_BILL_CREATE  | ISU_EABP      |

| Service Name                   | Change Object                             |
|--------------------------------|-------------------------------------------|
| ISU_C4C_V2_INSTALL_PLAN_CANCEL | MKK_BELEG                                 |
| ISU_C4C_V2_INSTALL_PLAN_CHANGE | MKK_BELEG                                 |
| ISU_C4C_V2_INSTALL_PLAN_CREATE | ISU_C4C                                   |
| ISU_C4C_V2_MDTCA_CRT           | BUPA_BUP<br>DEBI<br>BUPA_ADR<br>MKK_VKONT |
| ISU_C4C_V2_METER_READ_CREATE   | ISU_EABL                                  |
| ISU_C4C_V2_METER_READ_EDIT     | ISU_EABL                                  |
| ISU_C4C_V2_MOVE_CREATE         | ISU_EEINV<br>ISU_EANL<br>ISU_EAUSV        |
| ISU_C4C_V2_ONE_TIME_PAY_CREATE | MKK_BELEG                                 |
| ISU_C4C_V2_PAYMENT_PLAN_CREATE | ISU_EABP                                  |
| ISU_C4C_V2_PAYMENT_PLAN_DELETE | ISU_EABP                                  |
| ISU_C4C_V2_PAYMENT_PLAN_EDIT   | MKK_BELEG                                 |
| ISU_C4C_V2_PPLAN_DEACTIVATE    | ISU_EVER                                  |
| ISU_C4C_V2_P2P_WITHDRAW        | ISUC4C_P2P                                |
| ISU_C4C_V2_P2P_CREATE          | ISUC4C_P2P                                |
| ISU_C4C_V2_P2P_REACTIVATE      | ISUC4C_P2P                                |
| ISU_C4C_V2_P2P_REPLACE         | ISUC4C_P2P                                |
| ISU_C4C_V2_P2P_CHANGE_STATUS   | ISUC4C_P2P                                |
| ISU_C4C_V2_RATE_CATEGORY_CHG   | ISU_EANL                                  |

## Related Information

### [Audit Logs \[page 835\]](#)

Review security-relevant chronological records of user actions.

## 33.9 Agent Desktop

Utilities service agents can use the agent desktop to work on several business processes and communication items simultaneously.

Browse for a contract account and premise by entering the respective *Contract Account ID* and *Premise ID* in the search field.

Once the search result appears you can confirm the customer corresponding to contract account and premise that want to investigate more.

You can create the guided move processes (move-in and move-out) and make payment using the create option on the top of the screen and from the entity level as well.

The guided move processes opens in a wizard with all the necessary validations.

The *Customer* details is auto populated, and the agent should add the *Premise* details manually.

After confirming the customer, the *Customer Hub* screen appears where you can navigate to the quick view of the utility specific entities such as:

- *Contract Account*: View the contract account ID & name, account class, and amount due in the card.

### Note

For the contract accounts where there is active contract then that contract's address is displayed in the card.

- *Premise*: View the premise address and type where the customer has a move-in and the services for which the move-in has happened.

## Related Information

[Agent Desktop \[page 339\]](#)

Customer service agents can use the agent desktop to work on several business processes and communication items simultaneously.

[Customer Hub \[page 361\]](#)

For real-time interactions, customer hub provides a place to access and enter customer information to help you resolve issues quickly.

## 33.10 Utilities Sales Process

Efficiently create, edit, and view utilities sales contracts via an integrated interface, streamlining contract management and improving operational efficiency in utilities sales. Choose it to save time and reduce errors in contract handling.



## 33.10.1 Create Utilities Sales Contract

Create a Utilities Sales Contract to sign up a business partner for an energy, gas, or water supply service at a specific premise.

### Prerequisites

- The Business Partner exists in SAP Service Cloud Version 2 and SAP S/4HANA.

### Context

Use this procedure when a customer requests a utility service connection. The guided wizard collects the product plan, customer and premise details, and billing account information, then submits a utilities sales order to SAP S/4HANA. SAP S/4HANA creates the Utilities Sales Contract.

### Procedure

1. Open the Agent Desktop for the Business Partner or open the Utilities Sales contract list.
2. Navigate to the [Create](#) section and choose [Utilities Sales Contracts](#).  
The guided wizard opens at **Step 1: Plan Selection**.
3. Plan Selection
  - a. Enter the Contract Start Date, the date from which the supply agreement is effective.
  - b. Select the Customer Name.
  - c. **Optional:** Select a Service Address.
  - d. Review the characteristic fields presented for the selected plan (for example, consumption profile, tariff zone, meter type). Enter or adjust values as required.
  - e. Select [Search](#) and choose the utility product or plan from the available offerings.

#### Note

- The available products and the fields shown for each product are driven by scenario configuration in SAP S/4HANA.
- When you change a characteristic value, the pricing for the simulated products may change. See Product Simulation and Pricing for details.

- f. Choose [Next](#).
4. Customer & Premise
    - a. Confirm that the prefilled Customer is correct.
    - b. Confirm or select the Premise (service address) where the utility is to be delivered.
    - c. Review the summary cards displayed for the selected business partner:

- **Total Amount Due:** outstanding balance across all contract accounts.
  - **Open and Payable:** invoices due for payment.
  - **Credit Worthiness:** credit risk indicator from SAP S/4HANA.
- d. Review the premise details: service status, existing device installations, and metering points.

#### Note

If the business partner has a large number of contract accounts, loading the summary cards may take additional time. Agents should wait for the cards to fully load before proceeding.

- e. Choose [Next](#).
5. Contract Account
- Select an existing contract account to bill the contract under, if none is chosen a suitable contract account will be chosen or created automatically in the SAP S/4HANA system.
  - Choose [Next](#).
6. Review
- Review the complete order summary:
    - Selected plans
    - Terms and conditions
    - Customer and premise
    - Mailing address
    - Additional data
  - If Terms and Conditions acceptance is configured for your system, read and select the [I agree to the Terms and Conditions](#) checkbox.

#### Note

The Terms and Conditions step is optional and can be made mandatory through extensibility settings by your system administrator.

7. Choose [Submit](#).

## Results

- A utilities sales order is submitted to SAP S/4HANA.
- In the Contract List a new contract appears with status [Processing](#).
- Once SAP S/4HANA completes processing, the status changes to [Released](#).
- If processing fails, the status changes to [Failed](#). Open the Sales Order Monitor from the contract row to view the error details.

## Related Information

[Utilities Sales Contract List \[page 585\]](#)

The Contract List displays all utility sales contracts associated with a business partner, contract account, premise, or installation, and provides access to the full range of contract operations.

#### [Product Simulation and Pricing \[page 593\]](#)

During the plan selection step of a contract operation, the system automatically calculates a simulated price based on the characteristic values entered by the agent. This gives the agent an estimated cost to present to the customer before the order is submitted.

#### [Characteristic Values and Dynamic UI \[page 595\]](#)

The fields shown during the plan selection and contract change steps are not static. They are driven by scenario metadata retrieved from SAP S/4HANA and rendered dynamically based on the selected product and operation type.

#### [Process Messages \[page 596\]](#)

When a contract operation is submitted or validated, SAP S/4HANA may return process messages alongside the result. These messages provide important information about the outcome of the operation, potential issues, or actions the agent needs to take.

#### [Sales Order Monitor \[page 588\]](#)

The Sales Order Monitor lets agents track the real-time processing status of sales orders submitted to SAP S/4HANA including create, change, and end contract operations.

## 33.10.2 Change Plan of Utilities Sales Contract

Modify or change the product for a plan of an existing active Utilities Sales Contract. Use this procedure when a customer wants to switch to a different energy plan, tariff, or service offering without ending their current contract.

### Prerequisites

- The contract has status *Released* or *Released with Future Changes*.
- You have identified the contract in the *Contract List*.

### Context

A change contract operation creates a sales order in SAP S/4HANA with a specified effective date. The existing product remains active until the change date, at which point the new product for the plan takes effect. The original contract is not terminated, its terms are replaced from the change date onwards.

### Procedure

1. In the *Contract List*, locate the contract you want to change.

2. Open the row action menu and choose [Change Plan](#).  
The guided wizard opens at **Step 1: Plan Selection (Change)**.
3. Plan Selection (Change)
  - a. Enter the [Change Start Date](#), the date from which the new plan becomes effective.

#### 📌 Note

The change start date can't be earlier than the current contract's start date. The system validates this and prevents you from proceeding if the date is invalid.

- b. Select [Search](#) and choose the product. The currently running product will be shown as the first item on each page for comparison.
- c. Review and update the characteristic fields. Fields where the underlying contract attribute is marked as non-changeable are displayed as read-only; only fields explicitly enabled for change are editable.

#### 📌 Note

When you modify a characteristic value, the pricing for the simulated items. See Product Simulation and Pricing for details.

- d. Choose [Next](#).
4. Review
    - a. Review the complete change order summary:
      - Product for the selected plan
      - Change start date
      - Updated characteristic values and simulated price
      - Business partner, premise, and contract account
    - b. Choose [Submit](#).

## Results

- A sales order is submitted to SAP S/4HANA.
- The contract status in the Contract List updates from [Processing](#) to [Released with Future Changes](#), the current plan remains in effect until the change date.
- On the change date, SAP S/4HANA activates the plan and the status returns to [Released](#).
- If processing fails, the status changes to [Failed](#). Open the [Sales Order Monitor](#) from the contract row to view the error details.

## Related Information

[Utilities Sales Contract List \[page 585\]](#)

The Contract List displays all utility sales contracts associated with a business partner, contract account, premise, or installation, and provides access to the full range of contract operations.

[Product Simulation and Pricing \[page 593\]](#)

During the plan selection step of a contract operation, the system automatically calculates a simulated price based on the characteristic values entered by the agent. This gives the agent an estimated cost to present to the customer before the order is submitted.

#### [Characteristic Values and Dynamic UI \[page 595\]](#)

The fields shown during the plan selection and contract change steps are not static. They are driven by scenario metadata retrieved from SAP S/4HANA and rendered dynamically based on the selected product and operation type.

#### [Sales Order Monitor \[page 588\]](#)

The Sales Order Monitor lets agents track the real-time processing status of sales orders submitted to SAP S/4HANA including create, change, and end contract operations.

#### [Change Contract Start Date \[page 583\]](#)

Update the start date of an existing Utilities Sales Contract without changing its product.

#### [Process Messages \[page 596\]](#)

When a contract operation is submitted or validated, SAP S/4HANA may return process messages alongside the result. These messages provide important information about the outcome of the operation, potential issues, or actions the agent needs to take.

## 33.10.3 End Utilities Sales Contract

Terminate an existing active utilities sales contract by setting a contract end date and submitting a sales order to SAP S/4HANA.

### Prerequisites

- The contract has status *Released* or *Released with Future Changes*.
- You have identified the contract in the Contract List.

### Context

Use this procedure when a customer cancels their utility service or moves out of the premises. The end contract operation creates a sales order in SAP S/4HANA that sets a defined end date on the contract. The contract remains visible in the Contract List after termination and shows the end date once processing completes.

### Procedure

1. In the Contract List, locate the contract you want to terminate.
2. Open the row action menu and choose *End Contract*.

The *End Contract* modal opens.

3. Enter the *Contract End Date*, the date on which the utility supply should cease.
4. If SAP S/4HANA returns process messages before the order is submitted, review them carefully:
  - a. **Informational** messages can be acknowledged and you may proceed.
  - b. *Warning* messages indicate a potential issue; review before continuing.
  - c. *Error* messages block submission; resolve the issue or contact your administrator.

#### Note

Process messages are returned in real time from SAP S/4HANA.

5. Choose *Submit*.

## Results

- A sales order is submitted to SAP S/4HANA.
- The contract status in the Contract List changes to *Processing*.
- Once SAP S/4HANA completes processing, the contract end date is set and the status returns to *Released*.
- If processing fails, the status changes to *Failed*. Open the *Sales Order Monitor* from the contract row to view the error details.

## Related Information

### [Utilities Sales Contract List \[page 585\]](#)

The Contract List displays all utility sales contracts associated with a business partner, contract account, premise, or installation, and provides access to the full range of contract operations.

### [Change Contract End Date \[page 584\]](#)

Update the end date of a Utilities Sales Contract that already has an end date set.

### [Process Messages \[page 596\]](#)

When a contract operation is submitted or validated, SAP S/4HANA may return process messages alongside the result. These messages provide important information about the outcome of the operation, potential issues, or actions the agent needs to take.

### [Sales Order Monitor \[page 588\]](#)

The Sales Order Monitor lets agents track the real-time processing status of sales orders submitted to SAP S/4HANA including create, change, and end contract operations.

## 33.10.4 Change Contract Start Date

Update the start date of an existing Utilities Sales Contract without changing its product.

### Prerequisites

- The contract has status *Released*.
- You have identified the contract in the *Contract List*.

### Context

Use this procedure to correct or adjust the effective start date of a contract, for example, when a customer's move-in date changes after the contract was originally created. This operation only modifies the start date; it does not change the product, or any characteristic values.

### Procedure

1. In the *Contract List*, locate the contract whose start date you want to change.
2. Open the row action menu and choose *Change Start Date*.  
The *Change Contract Start Date* dialog opens, showing the current start date.
3. Enter the *New Start Date*.

#### Note

The new start date can't be earlier than the contract's original start date. The system validates the entered date before allowing submission.

4. Choose *Save*.

### Results

- A sales order is submitted to SAP S/4HANA with the updated start date.
- The contract status in the Contract List changes to *Processing*.
- Once SAP S/4HANA completes processing, the new start date is reflected on the contract and the status returns to *Released*.
- If processing fails, the status changes to *Failed*. Open the *Sales Order Monitor* from the contract row to view the error details.

## Related Information

### [Utilities Sales Contract List \[page 585\]](#)

The Contract List displays all utility sales contracts associated with a business partner, contract account, premise, or installation, and provides access to the full range of contract operations.

### [Change Plan of Utilities Sales Contract \[page 579\]](#)

Modify or change the product for a plan of an existing active Utilities Sales Contract. Use this procedure when a customer wants to switch to a different energy plan, tariff, or service offering without ending their current contract.

### [Change Contract End Date \[page 584\]](#)

Update the end date of a Utilities Sales Contract that already has an end date set.

### [Sales Order Monitor \[page 588\]](#)

The Sales Order Monitor lets agents track the real-time processing status of sales orders submitted to SAP S/4HANA including create, change, and end contract operations.

## 33.10.5 Change Contract End Date

Update the end date of a Utilities Sales Contract that already has an end date set.

### Prerequisites

- The contract already has an end date set.
- You have identified the contract in the [Contract List](#).

### Context

Update an end date that was previously set. This is a targeted date-only change and does not affect the product, plan, or characteristic values of the contract.

To terminate a contract immediately or with a specific cancellation end date as part of a move-out process, use [End Contract](#) instead.

### Procedure

1. In the [Contract List](#), locate the contract whose end date you want to change.
2. Open the row action menu and choose [Change End Date](#).  
The [Change Contract End Date](#) dialog opens. The current end date is shown in the modal.
3. Enter the [New End Date](#).



4. Choose [Save](#).

## Results

- A sales order is submitted to SAP S/4HANA with the updated end date.
- The contract status in the Contract List changes to [Processing](#).
- Once SAP S/4HANA completes processing, the new end date is reflected on the contract and the status returns to [Released](#).
- If processing fails, the status changes to [Failed](#). Open the [Sales Order Monitor](#) from the contract row to view the error details.

## Related Information

### [Utilities Sales Contract List \[page 585\]](#)

The Contract List displays all utility sales contracts associated with a business partner, contract account, premise, or installation, and provides access to the full range of contract operations.

### [Change Plan of Utilities Sales Contract \[page 579\]](#)

Modify or change the product for a plan of an existing active Utilities Sales Contract. Use this procedure when a customer wants to switch to a different energy plan, tariff, or service offering without ending their current contract.

### [Change Contract Start Date \[page 583\]](#)

Update the start date of an existing Utilities Sales Contract without changing its product.

### [Sales Order Monitor \[page 588\]](#)

The Sales Order Monitor lets agents track the real-time processing status of sales orders submitted to SAP S/4HANA including create, change, and end contract operations.

## 33.10.6 Utilities Sales Contract List

The Contract List displays all utility sales contracts associated with a business partner, contract account, premise, or installation, and provides access to the full range of contract operations.

Agents use the Contract List as the primary starting point for any contract-related task. The list provides a consolidated view of a customer's utility agreements and surfaces the actions an agent can perform on each contract without navigating to a separate detail page.

The list is embedded in the Contract Account workspace as [Utilities Sales Contracts](#) tab.

## Accessing the Contract List

The Contract List appears in the Contract Account workspace, which shows all Utilities Sales Contracts linked to the Contract Account.

The component accepts the following context parameters, which are supplied automatically by the host workspace:

Supported Context Parameters for Contract Filtering and Navigation

| Parameter              | Description                                               |
|------------------------|-----------------------------------------------------------|
| Sold-To Party ID       | Filters contracts to a specific business partner          |
| Individual Customer ID | Alternative business partner identifier                   |
| Account ID             | Filters contracts to a specific account                   |
| Installation ID        | Filters contracts to a specific metering installation     |
| Premise External ID    | Filters contracts to a specific premise (service address) |
| Utilities Contract ID  | Opens the list pre-filtered to a single contract          |

### Note

These parameters are supplied automatically by the workspace context when you navigate to a customer, account, or premise. No manual input is required.

## What the List Displays

Each row in the Contract List represents one logical contract. The following columns are shown:

Displayed Contract Information

| Column              | Description                                                |
|---------------------|------------------------------------------------------------|
| Product             | The utility product or plan name (electricity, gas, water) |
| Contract Start Date | The date the contract became or becomes effective          |
| Contract End Date   | The date the contract ends; blank if open-ended            |
| Logical Item ID     | The individual metering point at the premise               |
| Contract Account    | The billing account the contract is billed under           |
| Status              | The current processing status (see status reference below) |

### Note

The list aggregates individual contract line items into logical contracts using an internal grouping identifier (logicalItemId). A single logical contract may correspond to multiple line items in SAP S/4HANA. The list displays up to 1,000 contracts at a time.

## Sorting

You can sort the list by any of the following columns:

- Contract Start Date
- Contract End Date
- Logical Item ID
- Status
- Contract Account ID
- Premise Address

Select **↓↑** in a column header to sort ascending; select **↑↓** again to sort descending.

## Row Actions

Each contract row provides the following actions via the row action menu:

Available Contract Row Actions

| Action            | Description                                               |
|-------------------|-----------------------------------------------------------|
| Change Plan       | Open the Change Plan wizard to modify the plan or product |
| End Contract      | Open the End Contract modal to terminate the contract     |
| Change Start Date | Open a modal to update the contract start date            |
| Change End Date   | Open a modal to update the contract end date              |

## Status Reference

Contract Status Definitions

| Status                       | Description                                                            |
|------------------------------|------------------------------------------------------------------------|
| Released                     | Contract is active; no changes pending                                 |
| Released with Future Changes | Contract is active; a future-dated change order has been submitted     |
| Processing                   | An order has been submitted and SAP S/4HANA is processing it           |
| Currently Processed          | SAP S/4HANA is actively processing the order in real time              |
| Failed                       | Processing ended with an error; open the Sales Order Monitor to review |

## Related Information

[Create Utilities Sales Contract \[page 577\]](#)

Create a Utilities Sales Contract to sign up a business partner for an energy, gas, or water supply service at a specific premise.

[Change Plan of Utilities Sales Contract \[page 579\]](#)

Modify or change the product for a plan of an existing active Utilities Sales Contract. Use this procedure when a customer wants to switch to a different energy plan, tariff, or service offering without ending their current contract.

#### [End Utilities Sales Contract \[page 581\]](#)

Terminate an existing active utilities sales contract by setting a contract end date and submitting a sales order to SAP S/4HANA.

#### [Change Contract Start Date \[page 583\]](#)

Update the start date of an existing Utilities Sales Contract without changing its product.

#### [Change Contract End Date \[page 584\]](#)

Update the end date of a Utilities Sales Contract that already has an end date set.

#### [Sales Order Monitor \[page 588\]](#)

The Sales Order Monitor lets agents track the real-time processing status of sales orders submitted to SAP S/4HANA including create, change, and end contract operations.

#### [Contract Quick View \[page 592\]](#)

The Contract Quick View provides a summary of a Utilities Sales Contract without requiring the agent to open a full detail page.

## 33.10.7 Sales Order Monitor

The Sales Order Monitor lets agents track the real-time processing status of sales orders submitted to SAP S/4HANA including create, change, and end contract operations.

Every time an agent submits a contract operation (new, change, end, change start date, change end date), a sales order is created. The monitor provides a detailed, per-order view of what happened during processing, including individual SD (Sales and Distribution) record statuses and any error messages returned by SAP S/4HANA.

Use the monitor when:

- A contract has status Failed and you need to identify the root cause.
- A contract has been in status Processing longer than expected.
- You want to verify that a recently submitted order completed successfully.

### Accessing the Sales Order Monitor

You can open the monitor from the [Utilities Sales Contract Quick View](#). Open the quick view of a Utilities Sales Contract and select the tab [Orders](#). Select the sales order to open the Sales Order Monitor.

The monitor opens as a quick view and displays all processing messages linked to the selected order.

## Monitor Record List

The Utilities Sales Contract List displays a table of SD (Sales and Distribution) monitor records for the selected sales order if they can not be connected to a Utilities Sales Contract. Each row represents one order item and shows the following columns:

SD Monitor Record Fields

| Column                                 | Description                                                                  |
|----------------------------------------|------------------------------------------------------------------------------|
| SD (Sales and Distribution) Order      | The SAP S/4HANA sales order number (opens the Monitor Record Quick View)     |
| SD (Sales and Distribution) Order Item | The item number within the sales order (opens the Monitor Record Quick View) |
| Process Start Time                     | The date and time when processing of this record began                       |
| Product                                | The utility product description                                              |
| Status                                 | Color-coded processing status (see status reference below)                   |

A [Refresh](#) button at the top of the table reloads the record list with the latest data from SAP S/4HANA.

## Monitor Record Quick View

Selecting a SD (Sales and Distribution) Order or SD (Sales and Distribution) Order Item link opens the Monitor Record Quick View, which provides the full processing detail for that order item.

### Header

The Quick View header shows:

Quick View Header Information

| Field                                                                       | Description                                         |
|-----------------------------------------------------------------------------|-----------------------------------------------------|
| SD (Sales and Distribution) Order or SD (Sales and Distribution) Order Item | Combined identifier (for example, 1000001 - 10)     |
| Status                                                                      | Color-coded status tag (see status reference below) |
| Process Start Time                                                          | Timestamp when processing started                   |
| Product                                                                     | Product description                                 |
| Business Partner                                                            | The sold-to party associated with this order item   |
| Installation                                                                | The metering installation ID                        |

### Tabs

The Quick View contains up to three tabs:

- Overview
- Processing Messages
- Sub Process Messages

## Overview

The Overview tab displays three collapsible sections:

### Utilities Sales Order

| Field               | Description                                                    |
|---------------------|----------------------------------------------------------------|
| Order Type          | The SD (Sales and Distribution) order type code                |
| Order Item Category | The SD (Sales and Distribution) item category code             |
| Rejection Reason    | Rejection reason code and text, if the order item was rejected |
| Device              | The device (meter) ID linked to this order item                |

### Contract

| Field                | Description                                     |
|----------------------|-------------------------------------------------|
| Contract Item        | The utilities sales contract ID and item number |
| Contract Item Status | The contract item status code and description   |

#### Note

This section is collapsed by default if no sub-process is present.

### Integration Process

| Field      | Description                                         |
|------------|-----------------------------------------------------|
| Status     | The integration process status code and description |
| Process    | The process short text description                  |
| Process ID | The technical process identifier (UUID)             |

## Sub Process

### Integration Process

| Field      | Description                                 |
|------------|---------------------------------------------|
| Status     | The sub-process status code and description |
| Process    | The sub-process short text description      |
| Process ID | The technical sub-process identifier (UUID) |

#### Note

This section is collapsed by default if no sub-process is present.

## Processing Messages

The [Processing Messages](#) tab displays all messages returned by SAP S/4HANA for the main integration process. See Process Messages for details on message severity levels and recommended actions.

## Sub Process Messages

The [Sub Process Messages](#) tab is shown only when the order item has a linked sub-process (for example, a dependent downstream process in SAP S/4HANA). The tab label reflects the sub-process name. It displays the messages specific to that sub-process.

Order Status Reference

| Status     | Indicator | Description                                                                         |
|------------|-----------|-------------------------------------------------------------------------------------|
| Processing | Grey      | The order has been received; SSAP S/4HANA is currently processing it                |
| Done       | Green     | The order was processed successfully                                                |
| Failed     | Red       | An error occurred during processing; open the Processing Messages tab for details   |
| Outdated   | Yellow    | A newer order for the same contract superseded this one; this order was not applied |

Recommended Actions for Failed Orders

| Situation                                          | Recommended Action                                                           |
|----------------------------------------------------|------------------------------------------------------------------------------|
| Rejection Reason is populated                      | Review the rejection reason; correct the input data and re-submit            |
| Processing Messages tab shows an error             | Read the error text; correct data if possible and retry                      |
| Error indicates an SAP S/4HANA configuration issue | Contact your system administrator                                            |
| Order is stuck in Processing for an extended time  | Contact your system administrator to check the SAP S/4HANA integration queue |
| Status is Outdated                                 | No action required; a newer order superseded this one                        |

## Related Information

### [Utilities Sales Contract List \[page 585\]](#)

The Contract List displays all utility sales contracts associated with a business partner, contract account, premise, or installation, and provides access to the full range of contract operations.

### [Process Messages \[page 596\]](#)

When a contract operation is submitted or validated, SAP S/4HANA may return process messages alongside the result. These messages provide important information about the outcome of the operation, potential issues, or actions the agent needs to take.

## 33.10.8 Contract Quick View

The Contract Quick View provides a summary of a Utilities Sales Contract without requiring the agent to open a full detail page.

Agents use the Utilities Sales Contract Quick View to quickly confirm key contract information, such as the product, dates, and status, while remaining in the current workspace. The Quick View is accessible directly from the Contract List and from related workspace panels.

### Note

The Contract Quick View is read-only. To perform operations on the contract (change, end, update dates), use the row actions in the Contract List.

## Accessing the Contract Quick View

In the [Contract List](#), select the logical item ID in a row.

The Quick View panel opens on the right side of the screen.

## Quick View Display

The Quick View header pane shows:

| Field               | Description                                       |
|---------------------|---------------------------------------------------|
| Product             | The utility plan or product name                  |
| Status              | Current contract status with a status badge       |
| Contract Start Date | The effective start date of the contract          |
| Contract End Date   | The end date of the contract; blank if open-ended |

The Quick View body contains the following sections:

- **Installation:** Installation ID, the metering point or device identifier at the premise.
- **Premise:** Premise address, the service address where the utility is delivered.
- **Contract Account:** Contract Account ID, the billing account reference.

## Available Actions from the Quick View

The following navigation actions are available directly from the Quick View:

| Action                  | Description                                 |
|-------------------------|---------------------------------------------|
| Open Premise Quick View | Open the detail view for the linked premise |



| Action                   | Description                                          |
|--------------------------|------------------------------------------------------|
| Open Customer Quick View | Open the detail view for the linked business partner |

## Related Information

### [Utilities Sales Contract List \[page 585\]](#)

The Contract List displays all utility sales contracts associated with a business partner, contract account, premise, or installation, and provides access to the full range of contract operations.

### [End Utilities Sales Contract \[page 581\]](#)

Terminate an existing active utilities sales contract by setting a contract end date and submitting a sales order to SAP S/4HANA.

## 33.10.9 Product Simulation and Pricing

During the plan selection step of a contract operation, the system automatically calculates a simulated price based on the characteristic values entered by the agent. This gives the agent an estimated cost to present to the customer before the order is submitted.

Product simulation is a real-time pricing estimate triggered by the SAP S/4HANA pricing engine. It is not the final invoice amount, it is an indicative price based on the current characteristic inputs and the plan's configured pricing conditions.

Simulation runs automatically during:

- **Create Contract:** Plan Selection step
- **Change Plan:** Plan Selection (Change) step

## How Simulation Works

### Trigger Conditions

A simulation is triggered automatically when the search button is selected, this triggers a simulation for all products assigned to the plan.

The system runs the calculation for the selected product in the background and updates the displayed price as you edit.

## Simulation Inputs

The following example characteristic keys could drive the pricing simulation. The actual characteristics shown depend on the scenario configuration in SAP S/4HANA:

Simulation Input Characteristics

| Characteristic Key | Description                                                         |
|--------------------|---------------------------------------------------------------------|
| SIM_CONS1          | Primary consumption value (for example, annual kWh for electricity) |
| SIM_CONS2          | Secondary consumption value (for example, off-peak consumption)     |
| SIM_CONS3          | Tertiary consumption value (for example, a third register or meter) |
| SIM_PERIOD         | The billing period used for the simulation (for example, 12 months) |

### Note

These keys are assigned in SAP S/4HANA scenario configuration. Your system may use different or additional keys depending on the utilities product configuration.

## What Is Displayed

Once simulation completes, the Plan Selection step shows:

- Estimated total price for the entered consumption and period.
- A breakdown by price component if configured in SAP S/4HANA.

If simulation can't be completed (for example, because mandatory consumption values have not yet been entered), the price display is blank or shows a placeholder until all required inputs are provided.

## Related Information

### [Create Utilities Sales Contract \[page 577\]](#)

Create a Utilities Sales Contract to sign up a business partner for an energy, gas, or water supply service at a specific premise.

### [Change Plan of Utilities Sales Contract \[page 579\]](#)

Modify or change the product for a plan of an existing active Utilities Sales Contract. Use this procedure when a customer wants to switch to a different energy plan, tariff, or service offering without ending their current contract.

### [Process Messages \[page 596\]](#)

When a contract operation is submitted or validated, SAP S/4HANA may return process messages alongside the result. These messages provide important information about the outcome of the operation, potential issues, or actions the agent needs to take.

## 33.10.10 Characteristic Values and Dynamic UI

The fields shown during the plan selection and contract change steps are not static. They are driven by scenario metadata retrieved from SAP S/4HANA and rendered dynamically based on the selected product and operation type.

When an agent selects a product in the Create Contract or Change Contract wizard, the system loads a scenario from SAP S/4HANA. A scenario defines:

- Which fields (characteristics) are displayed for that product.
- Whether each field is editable or read-only.
- What values are allowed (free text, numeric, dropdown with predefined values).
- The display order and grouping of fields.

This means the set of fields an agent sees depends entirely on how the SAP S/4HANA scenario is configured, not on the SAP Service Cloud Version 2 UI itself. An administrator in SAP S/4HANA controls what agents see.

### Characteristics

A characteristic is a single configurable attribute of a utility product. Examples include:

- Tariff zone or region
- Annual consumption (kWh, m<sup>3</sup>)
- Meter type or register count
- Payment method preference
- Service level

Each characteristic has a type that determines how the agent interacts with it:

Supported Characteristic Types

| Characteristic Type               | UI Representation      |
|-----------------------------------|------------------------|
| Free text                         | Single-line text input |
| Numeric                           | Number input           |
| Predefined values (single-select) | Dropdown list          |
| Date                              | Date picker            |
| Boolean                           | Toggle or checkbox     |

### Predefined Values

For characteristics with a fixed list of allowed values, the system fetches the valid options from SAP S/4HANA when the scenario loads. Agents can select from the list, free-text entry is only permitted when it is defined as such in SAP S/4HANA. The list is refreshed each time the scenario is loaded, so newly added values in SAP S/4HANA are immediately available without a UI deployment.

## Administrator Guidance

All characteristic configuration is managed in SAP S/4HANA. To change which fields appear, their order, their allowed values, or their changeability:

1. Open the relevant scenario configuration in SAP S/4HANA.
2. Modify the characteristic assignments and settings for the product or scenario.
3. Save and activate the scenario.

Changes take effect immediately for all new contract operations in SAP Service Cloud Version 2. No UI redeployment is required.

## Related Information

### [Create Utilities Sales Contract \[page 577\]](#)

Create a Utilities Sales Contract to sign up a business partner for an energy, gas, or water supply service at a specific premise.

### [Change Plan of Utilities Sales Contract \[page 579\]](#)

Modify or change the product for a plan of an existing active Utilities Sales Contract. Use this procedure when a customer wants to switch to a different energy plan, tariff, or service offering without ending their current contract.

### [Product Simulation and Pricing \[page 593\]](#)

During the plan selection step of a contract operation, the system automatically calculates a simulated price based on the characteristic values entered by the agent. This gives the agent an estimated cost to present to the customer before the order is submitted.

## 33.10.11 Process Messages

When a contract operation is submitted or validated, SAP S/4HANA may return process messages alongside the result. These messages provide important information about the outcome of the operation, potential issues, or actions the agent needs to take.

Process messages appear in two contexts:

- **Before submission:** When the system fetches pre-check messages (for example, during the End Contract dialog). These messages allow the agent to review and acknowledge potential issues before confirming the operation.
- **After submission:** When SAP S/4HANA returns messages as part of processing the sales order. These indicate whether the operation succeeded or encountered a problem.

The messages originate either directly from SAP S/4HANA business logic where they reflect conditions in the backend system, or from the SAP Sales and Service Cloud V2 where they represent processing errors.

## Message Severity Levels

### Message Severity Reference

| Severity    | Indicator              | Description                                                                                                                                                                   |
|-------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Information | Blue or Info icon      | The operation completed as expected. The message provides supplementary context (for example, "Contract start date adjusted to next business day"). No agent action required. |
| Warning     | Yellow or Warning icon | The operation was processed, but a condition was detected that the agent should be aware of. Review the message and confirm whether to proceed.                               |
| Error       | Red or Error icon      | The operation could not be completed. The agent must resolve the reported issue before the order can be submitted or resubmitted.                                             |

## Where Process Messages Appear

### End Contract Dialog

When the agent opens the End Contract dialog, the system may retrieve pre-submission messages from SAP S/4HANA based on the contract data. These are displayed within the dialog before the [Submit](#) button is enabled:

- **Information or Warning:** The agent can review and proceed.
- **Error:** The agent can't submit the termination order until the blocking condition is resolved.

### Sales Process Wizard (Create or Change)

During the wizard steps, messages may appear:

- On the [Plan Selection](#) step after a product simulation returns warnings or errors about the selected plan.
- On the [Review](#) step after the agent chooses [Submit](#), if SAP S/4HANA returns a message before finalizing the order.

### Sales Order Monitor

If a submitted order results in a Failed status, the error messages from SAP S/4HANA are visible in the Sales Order Monitor. Each failed SD monitor record shows the specific error text.

## Recommended Agent Actions

### Severity Levels and Recommended Actions

| Message Severity                      | Recommended Action                                                                                                                                                 |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Information                           | Acknowledge and continue                                                                                                                                           |
| Warning                               | Read the message carefully; proceed only if the described condition is acceptable.                                                                                 |
| Error (pre-submission)                | Do not submit; correct the input data or contact the system administrator.                                                                                         |
| Error (post-submission, Failed order) | Open the Sales Order Monitor; review the error text; correct data if possible and retry; escalate to administrator if the error is from SAP S/4HANA configuration. |

## Related Information

### [End Utilities Sales Contract \[page 581\]](#)

Terminate an existing active utilities sales contract by setting a contract end date and submitting a sales order to SAP S/4HANA.

### [Create Utilities Sales Contract \[page 577\]](#)

Create a Utilities Sales Contract to sign up a business partner for an energy, gas, or water supply service at a specific premise.

### [Change Plan of Utilities Sales Contract \[page 579\]](#)

Modify or change the product for a plan of an existing active Utilities Sales Contract. Use this procedure when a customer wants to switch to a different energy plan, tariff, or service offering without ending their current contract.

### [Sales Order Monitor \[page 588\]](#)

The Sales Order Monitor lets agents track the real-time processing status of sales orders submitted to SAP S/4HANA including create, change, and end contract operations.

## 33.11 Extensibility

Extensibility allows you and your partners to extend the software platform without having to modify the original code base. So, you can add to the base functionality, thereby offering new capabilities and outputs.

When you want to create extension fields, there are three phases:

1. Create the custom field for the entity in SAP Service Cloud V2 and generate OpenAPI schema.
2. Create the custom field in SAP S/4HANA and generate the WSDL.
3. Integrate the OpenAPI schema generated from SAP Service Cloud V2 and the WSDL file from SAP S/4HANA.

## 33.11.1 Create Extension Fields

Extension fields are additional fields that you, as an administrator, can add to a cloud solution from SAP.

### Context

Extension fields provide the means to store additional data for specific use cases beyond what is natively present in the solution. You can create these fields for a screen that has been enabled for extension fields.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Extensibility](#) ► [Extensibility Administration](#) ►.

The system opens a new screen and displays a list of all business entities in the left panel. These entities are grouped by services.

2. Select the [Extendable](#) checkbox to view the entities that can be extended.
3. Drill down to the entity that you want to add an extension field to, and select it. The system opens the corresponding worklist.
4. In the [Custom Fields](#) tab, select + [\(Add\)](#) to open the [Create Fields](#) quick create screen.
5. Enter the [Label](#). The system automatically generates the [Technical Name](#). You can edit the technical name if the system displays a duplication error.

#### Note

Technical names must be unique and are not case-sensitive.

6. Select the [Data Type](#) and the corresponding [Data Format](#).
7. (Optional) If the [Data Type](#) is [String](#) and the [Data Format](#) is [UUID](#), you can make this field a standard value help option. To do so, select the [Standard Value Help](#) checkbox, and choose the desired value help from the dropdown list to associate it with the extension field.

#### Note

Standard Value Help has restricted availability and is available only for Sales Quotes and Sales Orders. To request access to this feature, you must create a case with the component CEC-CRM-CZM-EXT.

8. (Optional) If you want to map this field with an existing field in a different entity, turn on the [Default Mapping](#) switch and select [≡+](#) [\(Add from List\)](#).
9. Select the field either from the direct or indirect references.

#### Note

- In the direct references, when the value of the mapped entity changes, the value of custom fields update automatically. There are associated entity references.

- Indirect references are follow-up or create with reference type entity. The value of the custom field remains unchanged until manually updated.

10. (Optional) If you want to mark the custom field that you are creating as a custom reference, enable the [Custom Reference Attribute](#) switch. Based on the data type and data format you enter, you must select the attributes. Any changes made to this standard field is automatically updated in the reference attributes across the referenced entities. You can select both standard fields and extension fields.

#### Note

The following field types are not supported:

- Country/Region
- Amount
- Quantity
- Extension fields of standard OVS
- Custom code lists

11. Select [Apply](#) and save your changes.

The extension field is now created and is listed under the [Custom Fields](#) tab.

#### Note

You can create up to 150 extension fields for root or main entity and up to 30 extensions fields for a child entity.

## Related Information

### [Extension Field Data Types \[page 99\]](#)

Extension Field Data Types refer to the various formats or structures of data that can be used when creating custom fields (extension fields) in an application. These data types define the kind of data the field can store, such as text, numbers, dates, boolean values, amounts, ensuring that the data entered aligns with the intended use and system requirements.

### [Field Attributes \[page 101\]](#)

Field attributes, also known as column attributes or field properties, are characteristics or settings associated with a database field (column) that define various aspects of how data is stored, displayed, and processed within a database. These attributes help ensure data integrity, enforce constraints, and control how the data is used.

### [Delete Extension Fields \[page 106\]](#)

As an administrator, you might delete an extension field to eliminate redundancy, improve system performance, and maintain data accuracy..

## 33.11.1.1 Extension Field Data Types

Extension Field Data Types refer to the various formats or structures of data that can be used when creating custom fields (extension fields) in an application. These data types define the kind of data the field can



store, such as text, numbers, dates, boolean values, amounts , ensuring that the data entered aligns with the intended use and system requirements.

#### Extension Field Data Types

| Data Type | Data Format      | Description                                                                                                                                                                                                                                       |
|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STRING    | STRING (Default) | This data type is used for storing alpha-numeric characters. It can be a single line or a multiline text field.                                                                                                                                   |
|           | UUID             | A UUID (Universally Unique Identifier) is a 128-bit identifier used for unique resource identification, typically represented as a 36-character string.                                                                                           |
|           | EMAIL            | Email data types are designed for storing email addresses and often include validation checks.                                                                                                                                                    |
|           | CODE             | <b>CODE</b> data type is used for code list. Fixed code lists are defined via Enum options. Dynamic code lists are defined via reference to the corresponding entity.                                                                             |
|           | TOKEN            | A <b>TOKEN</b> represents a small piece of data, often a single word, number, or symbol used as a fundamental unit in programming or language processing.                                                                                         |
|           | URI              | A URI (Uniform Resource Identifier) is a text string used to identify a resource, typically consisting of a scheme, authority, path, query, and fragment components. Example: <code>https://www.example.com/resource?param=value#section</code> . |
| NUMBER    | FLOAT (Default)  | Number data types can include integers, decimals, or floats. They are used for storing numeric values. Use <b>FLOAT</b> when memory conservation is critical, and you can tolerate lower precision                                                |
|           | DOUBLE           | The <b>DOUBLE</b> data type is used to represent real numbers with a high level of precision. Double provides a higher level of precision compared to the <b>FLOAT</b> data type. It can represent approximately 15-16 decimal digits accurately. |
| BOOLEAN   |                  | Boolean fields can have only two values - true or false. They are used for binary data or simple yes/no choices.                                                                                                                                  |

#### ⓘ Note

Do not store ID fields as the number data type. Use the string data type for ID values. Even if the IDs consist only of numbers, we recommend that you store them as string type, especially when number formatting is not required.

| Data Type | Data Format        | Description                                                                                                                                                                                                                                                                                                                         |
|-----------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OBJECT    |                    | <b>OBJECT</b> is a versatile and often generic data type that can represent a wide range of values, data structures, or entities.                                                                                                                                                                                                   |
|           | AMOUNT             | <b>AMOUNT</b> stores numerical values that represent quantities, prices, costs, or any other kind of monetary or non-monetary amounts.                                                                                                                                                                                              |
|           | QUANTITY           | <b>QUANTITY</b> typically refers to a numerical value that represents a count, measurement, or amount. Such values are generally represented using standard numeric data types, which can be either integer or floating-point types, depending on the nature of the quantities being measured.                                      |
| INTEGER   | INT32 (Default)    | The <b>INT32</b> data type can store a range of integer values, both positive and negative, within the constraints of a 32-bit binary representation. Int-32 is more memory-efficient than larger integer types like int-64, making it a good choice for applications where memory optimization is a concern.                       |
|           | INT64              | The <b>INT64</b> data type is capable of storing a wide range of integer values, both positive and negative, within the constraints of a 64-bit binary representation. The range of values for a 64-bit integer is extensive, making it suitable for applications where very large or very small integer values need to be handled. |
| DATETIME  | DATETIME (Default) | <b>DATETIME</b> data types store information about both the date (day, month, and year) and time (hours, minutes, seconds, and sometimes fractions of a second).                                                                                                                                                                    |
|           | DATE               | Date fields store date values, including options for time and time zone settings.                                                                                                                                                                                                                                                   |
|           | TIME               | Time fields store time values without date information.                                                                                                                                                                                                                                                                             |

| Data Type | Data Format | Description                                                                                                                                                                                                                                                                                        |
|-----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | DURATION    | Duration fields are used to represent a specific length of time, typically measured in terms of hours, minutes, seconds, and sometimes milliseconds. It allows you to work with time intervals or durations, as opposed to specific points in time, which are handled by date and time data types. |

#### Note

- You can add up to 100 codes in a code list field. For existing static code lists having more than 100 codes, further code addition is restricted. However, other modifications such as activation / deactivation of the codes are allowed.

## 33.11.1.2 Field Attributes

Field attributes, also known as column attributes or field properties, are characteristics or settings associated with a database field (column) that define various aspects of how data is stored, displayed, and processed within a database. These attributes help ensure data integrity, enforce constraints, and control how the data is used.

Available Field Attributes

| Field Attribute | Description                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| creatable       | <p>Createable fields indicate whether a field can be populated with data when inserting a new record (i.e., during the creation of a new record in a database table).</p> <p>If a field is createable, you can provide a value for it when adding a new record to the database. If it's not createable, the field must remain empty or be set to a default value during insertion.</p> |
| updatable       | <p>Updateable fields determine whether a field's value can be modified after the record has been created.</p> <p>If a field is updateable, you can change its value when updating existing records. Fields marked as non-updateable typically remain unchanged after the record's creation, but this behavior can be controlled using field attributes.</p>                            |

| Field Attribute | Description                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| nullable        | <p>A field is nullable if it can contain null values, meaning that it's not required to have a value in every record.</p> <p>If a field is nullable, you can leave it empty (null) when creating or updating a record. If a field is not nullable, it must always have a valid value, and it can't be null. Non-nullable fields are typically used for data that's required and must always have a value.</p> |
| required        | <p>Required fields are those that must have a value in every record, and null values are not allowed.</p> <p>When defining a field as required, you must ensure that it is populated with a valid value whenever a new record is created or an existing record is updated. These fields are essential for data integrity and accuracy.</p>                                                                    |
| hidden          | <p>Hidden fields are not visible to the user by default, but they may contain data that is used for various purposes, such as calculations or internal processing.</p> <p>Hidden fields are often used in forms or data structures where the data is needed for processing but doesn't need to be displayed to the user.</p>                                                                                  |

#### 📘 Note

- You cannot change the `searchable` property for the `OBJECT`, `ARRAY`, `INTEGER`, `NUMBER`, and `DATETIME` datatypes.
- You cannot change the `filterable` and `sortable` properties for the `OBJECT`, `ARRAY`, `INTEGER`, and `NUMBER` datatypes.
- The `required` and `nullable` properties are not applicable for the `BOOLEAN` datatype.
- `OBJECT` `dataType` can not have `dataFormat` as `DEFAULT` or not defined. `dataFormat` `AMOUNT` or `QUANTITY` or `TEXT` are only supported for custom/extension attributes.
- You cannot update `dataType` and `dataFormat`.

## 33.11.2 Create Extension Fields in SAP S/4HANA for Utilities

Extend a standard function module in SAP S/4HANA by adding extension fields to the API request and exposing those fields through the service definition so they are available externally.

### Procedure

1. Identify the relevant function module / RFC used by the utilities integration.
2. Use the transaction SE11 to review the parameter structure that contains the output fields. This structure contains standard fields sent by the API.
3. Extend this structure with custom fields. For this, In the menu bar choose *Goto* and *Append Structure*.
4. Create a new append structure. This append structure will hold your custom fields.
5. Define all required custom fields inside the append structure.
6. Locate the enhancement points provided in the function module code.

These are predefined hooks where customer logic can be implemented. They enable you to insert custom logic without modifying SAP standard code. You may also use implicit enhancements (pre-exit, post-exit) if available.

7. Create an enhancement implementation using the provided enhancement points.
8. Open the corresponding SOAP service proxy and go to the service definition in the edit mode.
9. Perform a syntax check, if extended fields were added, there will be a prompt to regenerate the service metadata.
10. Choose *Regenerate* to refresh the service definition. This ensures the custom fields are included in the external API (SOAP payload).
11. Activate the updated service definition.

Without regenerating the service definition, the custom fields added to the RFC structures will not be visible outside the SAP S/4HANA system.

#### → Tip

To access the list of enhancement spots along with the enhancement points and sections, run the program (report) ISU\_C4C\_V2\_FM\_ENHANCEMENTS using the se38 transaction in SAP S/4HANA.

Select the package as ISU\_C4C\_INT.

## 33.11.3 Cloud Integration (CI)

The platform integration packages include both synchronous integration flows (transactional data) and asynchronous integration flows (master data).

The types of integration flows are as follows:

- **Asynchronous flow:** Initiating from the S4H system in XML format, the integration flow includes mapping that converts XML data into JSON format before sending it to the SAP Service Cloud Version 2 system.

- **Synchronous flow:** These consist of two types: **Get calls** and **Post calls**. Get calls retrieve transactional data from S4H, while Post calls retrieve data and create, update, or delete data in the S4H system.
  - **Get Integration Flow:** Originating from the SAP Service Cloud Version 2 system via HTTP query, this flow uses two Groovy scripts: one processes HTTP query parameters to structure JSON in message headers, and the other converts JSON data into custom XML format stored in the message body. The XML request is then sent to the S4 system, which responds with XML. Response mapping converts the XML response into JSON format.
  - **Post Integration Flow:** Starting from the SAP Service Cloud Version 2 system in JSON format, this flow undergoes request mapping before sending the XML request to the S4H system. The S4H system responds with XML, and response mapping converts the XML response into JSON format before sending it back to the SAP Service Cloud Version 2 system.

All integration flows use either message mapping, Groovy scripts, or a combination of both to map data formats between systems, converting between XML and JSON as needed.

### 33.11.3.1 Custom Extensions

Based on the customers requirements, some enhancements are needed at the mapping level to allow for the transfer of additional information between SAP Service Cloud Version 2 and S4H systems, which are not included in the standard mapping content but are specific to the customers implementation.

#### 📘 Note

One way of handling this is editing the standard integration flows. It is important to note that editing the standard integration flows will result in them no longer receiving updates from SAP. Therefore, it is recommend enabling the extensibility feature which are provided for all the utilities standard integration flows.

### Custom Exists

The integration flows are designed with custom exit points, allowing users or customers to enhance SAP delivered content without modifying the standard integration flow. This ensures that users or customers are always notified of future patches and enhancements for those artifacts.

Each integration flow offers parameters that determine the need for a custom extension: Custom Exit for Asynchronous, Request Exit, and Response Exit for Synchronous. If the parameter value is set to **true**, the source payload is saved to a message header property and makes a call to the local integration flow via the process direct adapter. If the parameter value is set to **false**, the default route is taken, and the standard mapping is applied without further extension.

In the local integration flow, customers or users can specify their requirements without modifying any standard integration flows.

#### 📘 Note

Both standard and custom integration flows are deployed on the same tenant and processed together, communicating with each other using the **Process Direct Adapter**.

## 33.11.3.1.1 Asynchronous Master Data Replication

Let us consider **Replicate Utilities Premise Connection Object from S/4HANA** as an example to understand the flow in detail.

This integration flow replicates Premise and Connection Object master data from SAP S/4HANA to SAP Service Cloud Version 2.

The messages are sent via SOAP (XML) format from S/4HANA to SAP Cloud Integration, where they are converted to JSON format and delivered to the SAP Service Cloud Version 2 system. The integration flow includes a parameter (Custom Exit) that determines if a custom extension is needed. If the parameter is set to **true**, the source payload is saved to a message header property and an exit flow call is made via the **Process Direct** adapter.

The address of the process direct adapter is externalized and can be configured during the integration flow setup. Customers must ensure that the address of the process direct receiver adapter matches the one used in the process direct sender adapter of the local integration flow.

### Note

Due to differing data formats, they cannot be combined into a multi mapping message (which only supports combining messages of a single data format) in the local integration flow. Therefore, a Groovy script is used to enrich the message to meet customer-specific requirements

The sample Groovy code snippet is as below:

### Sample Code

```
import com.sap.gateway.ip.core.customdev.util.Message
import groovy.json.JsonOutput
import groovy.json.JsonSlurper
import groovy.util.XmlSlurper
def Message processData(Message message) {
 def body = message.getBody(java.io.Reader)
 def json = new JsonSlurper().parse(body)
 def xmlString = message.getHeader("sourcePayload", java.io.Reader)
 def xml = new XmlSlurper().parse(xmlString)
 json.messageRequests.eachWithIndex { request, index ->
 // Extracting the first field
 def previousName1 =
xml.PremiseConnObjReplicateRequestMessage[index].PremiseConnectionObject.Premi
seType.text()
 // Extracting the second field
 def previousName2 =
xml.PremiseConnObjReplicateRequestMessage[index].PremiseConnectionObject.Conne
ctionObjectId.text()
 // Extracting the third field
 //def previousName3 =
xml.PremiseConnObjReplicateRequestMessage[index].PremiseConnectionObject.comme
nt2.text()
 // Adding the first field to the extensions array
 request.body.extensions = ["Ext_PremiseType": previousName1]
 // Adding the second field to the extensions array
 request.body.extensions << ["Ext_connectionObjectId": previousName2]
 // Adding the third field to the extensions array
 //request.body.extensions << ["Demo_Tech": previousName2]
 }
 def modifiedJson = JsonOutput.toJson(json)
 message.setBody(modifiedJson)
 return message
}
```

```
}
```

The following codes are executed by the script:

1. **Read the JSON and XML Data:** The script retrieves JSON data from the message body and XML data from the message header.
2. **Extract Information from XML:** It extracts specific information from the XML data.
3. **Add Information to JSON:** The extracted information is then added to each JSON request as additional details.
4. **Update the Message:** The script converts the updated JSON data back to a string format.
5. **Return the Updated Message:** Finally, it sets the updated JSON as the new message body and returns the message.

The modified/enriched JSON is sent to main integration flow which in turn is delivered to target system.

### 33.11.3.1.2 Synchronous Replication

Synchronous extensibility allows users to customize integration flows to meet specific business requirements, such as adding new fields or custom logic to the integration process.

To illustrate this, let's examine the **Create Bank Account for Business Partner Integration Flow**, which handles sending requests from SAP Service Cloud Version 2 to SAP S/4HANA, which then responds with a message back to SAP Service Cloud Version 2.

Messages are initially sent in JSON format from SAP Service Cloud Version 2 to SAP Service Cloud Version 2, where they undergo request mapping to convert them into SOAP (XML) format before being delivered back to the SAP S/4HANA system. The SAP S/4HANA system responds in SOAP (XML) format, and response mapping converts the XML data to JSON format and sends it to the SAP Service Cloud Version 2 system.

The integration flow includes parameters i.e Request Exit and Response Exit, which determines if a custom extension is needed or not. If the parameter is set to true, the source payload is saved to a message header property as **CNSRequestPayload**. A Groovy script in the request mapping is executed to convert the JSON format to XML format, and then the Request Exit flow is called via the process direct adapter.

## Request Exit

In the **Request Exit** integration flow, a Groovy script takes the data stored in the message header property of the main integration flow, extracts specific fields from the header, adds custom fields, and forms the XML body payload. It then returns the updated message, now containing both standard fields and customer extension fields, which is sent back to the main integration flow.

The sample Groovy code snippet is as below:

#### Sample Code

```
import com.sap.gateway.ip.core.customdev.util.Message
import groovy.xml.XmlUtil
import groovy.util.XmlSlurper
import groovy.json.JsonSlurper
```



```

def Message processData(Message message) {
 // Get header value
 def header = message.getHeaders().get("CNSRequestPayload")
 def jsonSlurper = new JsonSlurper()
 def headerValue = jsonSlurper.parseText(header as String)
 // Extract required fields from header
 def BusinessPartnerId = headerValue.extensions.ZbusinessPartnerId
 //def premiseId = headerValue.extensions.ZpremiseId
 // Get existing body payload
 def bodyPayload = message.getBody(String) ?: ''
 def xml = new XmlSlurper().parseText(bodyPayload)
 // Add extracted fields to the XML body
 xml.appendNode {
 IvBusinessPartner(BusinessPartnerId)
 // IvLanguage(premiseId)
 }
 // Convert updated XML back to string
 def updatedPayload = XmlUtil.serialize(xml)
 // Set updated payload to message body
 message.setBody(updatedPayload)
 return message
}

```

The following codes are executed by the script:

1. **Retrieve Header Data:** The script retrieves the value of a specific header from the message, which contains JSON data.
2. **Extract Information from JSON:** It passes this JSON data to extract specific fields, such as the Business Partner ID.
3. **Read Existing XML Body:** It reads and passes the existing XML data from the message body.
4. **Update XML with New Data:** It adds the extracted information from the JSON into the XML data as new elements.
5. **Update and Return Message:** The script converts the updated XML back to a string format, sets this updated XML as the new message body, and returns the message.

## Response Exit

The request XML data is sent to the SAP S/4HANA system via a SOAP adapter, and the system responds with XML containing both standard and custom fields. This data is saved as **S4HResponsePayload** in the main integration flow. The standard response message mapping is then executed, but the output does not include the custom fields. After the response message mapping, a response Exit call is made, which triggers **Response Exit Integration Flow**.

The Response Exit integration flow uses a Groovy script to handle the message by extracting XML data from the header **S4HResponsePayload**, adding specific XML content as an extension to the JSON payload in the message body, and updating the message body with the modified JSON. It then returns the updated message, which now includes both standard and custom fields, to the main integration flow. The main integration flow subsequently sends the response back to SAP Service Cloud Version 2.

The sample Groovy code snippet is as below:

### Sample Code

```

import com.sap.gateway.ip.core.customdev.util.Message
import groovy.json.JsonOutput

```

```

import groovy.json.JsonSlurper
import groovy.util.XmlSlurper
def Message processData(Message message) {
 def body = message.getBody(java.io.Reader)
 def json = new JsonSlurper().parse(body)
 def xmlString = message.getHeader("S4HResponsePayload", java.io.Reader)
 def xml = new XmlSlurper().parse(xmlString)
 // Extracting the first field
 def previousName1 = xml.EsBankDetail.BankName.text()
 // Assuming json is a single record and not a list
 // Adding the extensions segment to the json
 json.value.extensions = [
 zBankName: previousName1.toString()
]
 // Convert the modified JSON object back to a JSON string
 def modifiedJson = JsonOutput.toJson(json)
 message.setBody(modifiedJson)
 return message
}

```

The following codes are executed by the script:

1. **Read the JSON Body:** The script retrieves and reads the JSON data from the message body.
2. **Get XML Data from Header:** It extracts XML data from a specific header in the message.
3. **Extract Data from XML:** The script extracts specific information (e.g., bank name) from the XML.
4. **Update JSON with Extracted Data:** It adds the extracted information as an extension to the JSON data.
5. **Update and Return Message:** The script converts the updated JSON data back to a string format, sets it as the new message body, and returns the message.

# 34 AI Configuration

SAP applies machine learning intelligence to automate business processes.

Machine learning improves the productivity and quality of these processes by making time-efficient decisions and reducing redundant tasks.

## Related Information

[SAP Business AI Features for SAP Service Cloud Version 2](#) 

## 34.1 Narrow AI

Use case data to create and train AI models to recognize similar cases, predict case categories, and sentiment.

Narrow AI categorizes your cases and improves accuracy. Narrow AI predicts the case category and recommends similar cases that can provide you with potential answers for the customer issue. The solution can scan the case text to identify sentiment, translate case text, and identify profane language. The model constantly captures feedback to be retrained for improved accuracy over time.

### 34.1.1 Case Categorization

Use machine learning to automate the case categorization process.

Save agents' time by automatically categorizing cases for your most commonly used case categories. Machine learning analyzes your past cases and category catalog to learn how cases are categorized in your organization. Once you train and activate the model and if the confidence thresholds are met, the system automatically populates the proposals into the case category.

Case categorization increases agent productivity, provides better prioritization of incoming cases and automatic classification based on model accuracy.

Case categorization is currently supported in the following languages:

- Chinese
- English
- French
- German
- Japanese
- Portuguese

- Russian
- Spanish
- Dutch
- Italian

## Prerequisites

- Data volume: Includes minimum 1000 categorized cases and an additional 500 instances of each category or subcategory values
- Data quality: Includes subject, case type, description, and proper category

### 34.1.1.1 Case Intelligence Readiness Report

Use the readiness report to analyze your case data to determine if you can get useful predictions for case categorization.

Before you start creating and training the *Case Categorization* model, you must run the readiness report.

Find the readiness report under ► *System Settings* ► *All Settings* ► *Machine Learning* ► *Intelligent Service* ► *Case Categorization* ►. Select *Readiness Report* at the top right.

When the check is complete, the readiness report displays one of the following status:

- Ready to use machine learning
- Data improvements required
- Requirements not fulfilled

Each readiness factor shows you the minimum required value, the recommended value, and the actual value in your system. You can adjust the data in your system to meet the minimum and recommended thresholds and run the readiness check again. Each check factor should meet the recommended value to ensure reliable prediction results. If the check factor value falls between the minimum value and the recommended value, the report shows a caution. If the value is less than the minimum value, the report shows an error message. You can still proceed with the training, however the prediction result will be of lower accuracy.

#### 📘 Note

The data volume, or total number of objects (cases) shown is an **approximate** number of case records from the previous 12 months that could potentially be used to train the machine learning model.

## Example

Let's look at a simplified example for case categorization readiness.

Suppose you have 10 categories in your service category catalog. The readiness report shows that only 33% (3) of these categories are assigned to the required number of cases to meet the qualification threshold.

The percentage is below the recommended minimum threshold. However, 80% of your qualifying cases are assigned to these three categories. If you train a model based on this data you can potentially automate up to 80% of your incoming cases, despite using only 33% of your category catalog. In this case, machine learning could still yield significant agent productivity gains.

### 34.1.1.2 Configure Case Categorization

As an administrator, you must add, train, test, and activate the Case Categorization model.

#### Procedure

1. Navigate to the [User Menu](#), and select ► [System Settings](#) ► [All Settings](#) ► [Machine Learning](#) ► [Intelligent Service](#) ► [Case Categorization](#) ►.
2. To create a model, click **+**.
3. Enter a name for your model.
4. Use up to four levels of categories to categorize cases.
5. Expand the [Data Selection Criteria](#) section. From the [Training Data Selection](#) dropdown, select one of the training datasets. From the [Inference Eligibility Check](#) section, define a condition for inference check.

#### Note

Data Selection can be performed in two ways, code-based selection and filtering and UI-based selection and filtering methods. If you're enabling the [Training Data Selection](#) and [Inference Eligibility Check](#) switches, ensure that the code method of training data selection and inference eligibility check isn't active. At a time, only one of the methods can be active in the system, either the code-based selection and filtering method or the UI-based filtering and selection method.

#### Note

- The training dataset is the query list, available on the cases UI. Only the training dataset that is chosen from the dropdown is selected for training the model.
- Ensure that the training dataset and the defined inference eligibility check are functionally compatible. If you've chosen the case type dataset under training data selection, ensure that the inference eligibility check also follows the same.

6. In the [Custom Processing Communication Configuration](#) subsection, activate both [Training Data Selection](#) and [Inference Eligibility Check](#) switches.
7. Click [Save](#).

A new model is added with status **Created**.

8. Locate your model and click [Train](#) from [Actions](#) to start training the model.

#### Note

If you update your service category catalog, you must map new category IDs to existing categories and retrain your model.

- a. Select the model for which you want to update the category mapping.
- b. Click [Download Mapping](#) to download the existing category mapping of the model.

#### Note

If the model doesn't have a mapping document, click [Prepare Mapping](#) to create one and then download it.

- c. Edit the category listing as required and upload the updated mapping document.
- d. Click [Save](#).
- e. Select [Train](#) to retrain the model.

The training takes time to complete depending on the volume of the historical data. The mode goes through the following statuses during the training: [Created](#) > [Training in Preparation](#) > [Data Extraction is Pending](#) > [Data Extraction is in Progress](#) > [Data Preprocessing is Pending](#) > [Data Preprocessing is in Progress](#) > [Training Triggered](#) > [Training is Pending](#) > [Training in Progress](#) > [Training Completed or Training Failed](#) > [Active or Inactive](#).

The system stops the training if data extraction fails and updates the status as [Data Extraction Failed](#).

You can refresh and update the training status of the model by selecting the  (refresh) icon.

9. Choose the  (activate) icon to activate the model.

You can deactivate a model by selecting the  (deactivate) icon.

#### Note

You can enable automated recommendations using the [Enable](#) switch in the [Settings](#) tab of your model. Adjust the confidence level for automated prediction. The default value of the confidence level slider is 60 in the solution.

#### Restriction

You can't add new categories from the settings dialog. You can only deselect, or select the categories you included during model creation.

### 34.1.1.3 Test Your Case Categorization Configuration

You can use the test console to test if the model is functioning correctly. Select your model, enter a description in the [Input](#) field, and choose [Test](#).

The test console provides a way to verify the correct functioning of your model. By selecting the desired model and providing a description in the [Input](#) field, you can initiate a test by clicking the [Test](#) button. This process helps ensure that the model behaves as expected before deploying it in a production environment.

The test console invokes the prediction model API using the sample case data that you provide.

- The model considers the content of case [Subject](#), [Case Type](#), and [Description](#) fields. To test, combine text from the fields in the input box, or into one cell in the spreadsheet. For testing purposes, a single entry has a limit of 1000 characters. In actual use, the model analyzes all text in the subject, case type, and description fields. Entries in the upload file don't have a maximum character limit.

- You can test the model quality from the test console by activating the model, but set the automation [Enabled](#) switch to [No](#) in the model settings. With automation disabled, the activated model doesn't start categorizing tickets in your productive system, but can be tested in the console. Testing with automation disabled can be useful if you have data quality issues with your test tenant, but good quality data in your production system.

Case Categorization Test File Example

| Case ID | Description                                     |
|---------|-------------------------------------------------|
| 12341   | Are boxes allowed as checked luggage?           |
| 12342   | The pump is making a loud noise when activated. |
| 12343   | A coffee maker is making cold coffee!           |

### 34.1.1.4 View and Monitor Performance Metrics

View and monitor detailed performance metrics for Case Categorization model.

On the [Performance](#) tab, as an administrator, you can view and monitor performance metrics for the models that are in the [Active](#) state. The [Performance](#) tab in turn consists of two tabs - [Training](#) and [Inference](#). In both the training and inference tabs, each level of category displays **Accuracy**, **F1 score**, and the **confusion matrix**.

#### ⓘ Note

The data in the inference section is displayed only for new cases created after April 9, 2026, and also the data in the training section is displayed only for case categorization models created after April 9, 2026.

#### ⓘ Note

- Accuracy** is the proportion of total predictions made by a classification model that are correct.
- F1 score** is the harmonic mean of precision and recall, measuring a classifier's ability to balance false positives and false negatives.
- A **confusion matrix** is a tabular representation of the performance of a classification model that summarizes the counts of correct and incorrect predictions, categorized by actual class labels and predicted class labels.

The inference tab also contains a comparison result section where you can enter a case ID to check the category results being predicted using the model with confidence scores in comparison to the actual category value for the case.

These results help you analyze the prediction of categories for cases that have been correctly categorized already to ascertain that the model also predicts the same.

### 34.1.1.5 View Case Categorization Prediction

Find category prediction results in cases.

#### Procedure

1. Go to [Cases](#).
2. Create a new case and enter the subject and description fields.
3. Select [Save](#).

Case categorization prediction works for all case creation channels such as manual, e-mail, social media, chat, messaging, and so on. The main usage for case category prediction is for cases generated from incoming e-mail messages. Cases are categorized during case creation. You will only see predictions for cases created after the model is set to active status.

If a model is created with multiple category levels, and is based on the threshold set, the prediction is bottom up, wherever a threshold set. For example, If the threshold is set at 70% for a three-level categorization model, and for a certain case text if the category level prediction is as follows:

- Category Level 1 is predicted with 90%
- Category Level 2 is predicted with 80%
- Category Level 3 is predicted with 65%

In such a scenario, auto categorization predicts results up to two levels. In this scenario, both category level 1 and category level 2 predictions are auto populated.

### 34.1.2 Similar Case Recommendation

Find solutions from similar cases from the past that you can apply to the current case.

#### Note

To ensure accurate similar case recommendations, the model uses a sample dataset of active case types to predict results in real time.

The machine learning algorithm scans the subject and description of categorized cases and returns the top six most similar cases to the current case. The model learns the semantic relationship of words in the description and subject text and uses this context to find cases similar to the current case. This semantic, sentence-level representation of case text yields more accurate results than a simple keyword search. You can check similar cases for possible solutions to the current case.

Similar case recommendation is currently supported in the following languages:

- Dutch
- English
- Finnish
- French



- German
- Greek
- Italian
- Polish
- Slovak
- Spanish

### 34.1.2.1 Configure Similar Case Recommendation

As an administrator, you must add, train, and activate the Similar Case Recommendation model.

#### Procedure

1. Navigate to your user profile, and select ► [System Settings](#) ► [All Settings](#) ► [AI Configuration](#) ► [Narrow AI](#) ► [Similar Case Recommendation](#) ►.
2. To add a mode, click +.
3. Enter a name for your model.
4. Click [Save and Train](#) to save your model and start the training.

The training takes time to complete depending on the volume of the historical data. The mode goes through the following statuses during the training: ► [Created](#) ► [Training in Preparation](#) ► [Data Extraction is Pending](#) ► [Data Extraction is in Progress](#) ► [Data Preprocessing is Pending](#) ► [Data Preprocessing is in Progress](#) ► [Training Triggered](#) ► [Training is Pending](#) ► [Training in Progress](#) ► [Training Completed or Training Failed](#) ► [Active or Inactive](#) ►.

The system stops the training if data extraction fails and updates the status as [Data Extraction Failed](#).

You can refresh and update the training status of the model by selecting the  (refresh) icon.

#### Note

You can also save your model and train your model later.

Locate your model and click [Train](#) from the [Actions](#) to start training the model.

5. After the training is complete, click [Activate](#) from [Actions](#) to activate the model.  
You can deactivate a model by selecting [Deactivate](#).

#### Note

You can use the test console to test if the model is functioning correctly. Select your model, enter a description in the [Input](#) field and click [Test](#).

You can enable similar case recommendation for incoming cases by turning on the [Enable Similar Case Recommendation](#) switch. Testing via console is possible with an active model even when automation is disabled.

## 34.1.2.2 View Similar Case Recommendation

View similar case recommendations in cases.

### Procedure

1. Go to the [Case](#) worklist.
2. Create a new case and enter the subject and description fields.

Similar cases recommendation happens at case creation. Hence, you'll only see predictions for cases created after the model is set to active status. Case details such as account name, contact, and status are used to recommend similar cases and determine whether they belong to the same customer and whether they're open or resolved.

3. Select [Save](#).

Find similar cases in the side pane by clicking the [Similar Cases](#) (🔍) icon. A confidence score of 0–100 shows the level of accuracy of the match.

Case summary displays on hover over the card view or list view of cases in the [Similar Cases](#) section, if case summary is activated and a summary exists for the case.

### 34.1.2.2.1 Similar Cases - Show More

View all similar cases to check for more solutions that apply to your current cases.

To view more similar cases, select [Show More](#) at the top right of the [Recommendations](#) side pane. The [Solution Center](#) opens and displays up to ten similar cases in the top table.

## 34.1.3 NLP Classification

Use Natural language processing (NLP) to identify sentiment from email.

The NLP Classification scenario includes the **Sentiment** output field that determines if the vocabulary used in the email from which a case is created, is positive or negative and the degree of positivity or negativity.

#### ⚠ Restriction

Sentiment analysis only identifies sentiment for cases created from email channels.

NLP sentiment classification returns the following possible values:

- Not Available
- Strong Positive
- Weak Positive

- Neutral
- Weak Negative
- Strong Negative

The sentiment value from an email from which a case is created, indicates the overall emotion.

The magnitude of sentiment indicates how much emotional content is present within the email, and is often proportional to the length of the text.

The natural language algorithm differentiates between positive and negative emotion in a case, but doesn't identify **specific** positive and negative emotions. For example, **angry** and **sad** are both negative emotions. However, the sentiment classification only indicates that the text is **negative**, not sad, or angry.

An email with a neutral value can indicate a low-emotion, or email text expressing mixed emotions; containing both high positive and high negative values that cancel out each other.

### 34.1.3.1 Configure NLP Classification

As an administrator, you must add, train, and activate the NLP Classification model.

#### Procedure

1. Navigate to your user profile, and select ► [System Settings](#) ► [All Settings](#) ► [Machine Learning](#) ► [Intelligent Service](#) ► [NLP Classification](#) ►.
2. To create a new model, click +.
3. Enter a name for your model.
4. Turn on the [Sentiment](#) switch to enable sentiment detection.
5. Click [Save and Train](#) to save your model and start the training.

The model goes through the following statuses during the training: ► [Created](#) ► [Training in Preparation](#) ► [Data Extraction is Pending](#) ► [Data Extraction is in Progress](#) ► [Data Preprocessing is Pending](#) ► [Data Preprocessing is in Progress](#) ► [Training Triggered](#) ► [Training is Pending](#) ► [Training in Progress](#) ► [Training Completed or Training Failed](#) ► [Active or Inactive](#) ►.

You can refresh and update the training status of the model by selecting the  (refresh) icon.

#### Note

You can also save your model and train your model later.

6. Locate your model and click [Train](#) from [Actions](#) to start training the model.
7. After the training is completed, click the  (activate) icon to activate the model.

You can deactivate a model by selecting the  (deactivate) icon.

#### Note

You can adjust the threshold confidence level. The default value of the confidence level is 60.

#### Note

You can use the test console to test if the model is functioning correctly. Select your model, enter a description in the [Input](#) field, and choose [Classify](#). The test console invokes the prediction model API using the sample case data that you provide.

## 34.1.4 Machine Translation

Use machine translation to translate emails and notes.

Machine translation is available for the languages in the following table.

Machine Translation Supported Languages

| Source Language                          | Code | Target Language         | Code |
|------------------------------------------|------|-------------------------|------|
| Arabic                                   | ar   | English (United States) | en   |
| Catalan                                  | ca   | English (United States) | en   |
| Chinese                                  | zh   | English (United States) | en   |
| Danish                                   | da   | English (United States) | en   |
| Dutch                                    | nl   | English (United States) | en   |
| English (US – applicable for below rows) | en   | Arabic                  | ar   |
| English                                  | en   | Bulgarian               | bg   |
| English                                  | en   | Catalan                 | ca   |
| English                                  | en   | Chinese (Simplified)    | zh   |
| English                                  | en   | Chinese (Traditional)   | zf   |
| English                                  | en   | Croatian                | hr   |
| English                                  | en   | Czech                   | cs   |
| English                                  | en   | Danish                  | da   |
| English                                  | en   | Dutch                   | nl   |
| English                                  | en   | Estonian                | et   |
| English                                  | en   | Finnish                 | fi   |
| English                                  | en   | French (France)         | fr   |
| English                                  | en   | German                  | de   |
| English                                  | en   | Greek                   | el   |
| English                                  | en   | Hebrew                  | he   |
| English                                  | en   | Hindi                   | hi   |
| English                                  | en   | Hungarian               | hu   |
| English                                  | en   | Italian                 | it   |

| Source Language | Code | Target Language      | Code |
|-----------------|------|----------------------|------|
| English         | en   | Japanese             | ja   |
| English         | en   | Kazakh               | kk   |
| English         | en   | Korean               | ko   |
| English         | en   | Latvian              | lv   |
| English         | en   | Lithuanian           | lt   |
| English         | en   | Malay                | ms   |
| English         | en   | Norwegian            | no   |
| English         | en   | Polish               | pl   |
| English         | en   | Portuguese (Brazil)  | pt   |
| English         | en   | Romanian             | ro   |
| English         | en   | Russian              | ru   |
| English         | en   | Serbian (Latin)      | sh   |
| English         | en   | Slovak               | sk   |
| English         | en   | Slovenian            | sl   |
| English         | en   | Spanish (Spain)      | es   |
| English         | en   | Swedish              | sv   |
| English         | en   | Thai                 | th   |
| English         | en   | Turkish              | tr   |
| English         | en   | Ukrainian            | uk   |
| English         | en   | Vietnamese           | vi   |
| Finnish         | fi   | English              | en   |
| French (France) | fr   | English              | en   |
| German          | de   | Bulgarian            | bg   |
| German          | de   | Chinese (Simplified) | zh   |
| German          | de   | Croatian             | hr   |
| German          | de   | Czech                | cs   |
| German          | de   | English              | en   |
| German          | de   | French (France)      | fr   |
| German          | de   | Hungarian            | hu   |
| German          | de   | Italian              | it   |
| German          | de   | Polish               | pl   |
| German          | de   | Romanian             | ro   |
| German          | de   | Russian              | ru   |
| German          | de   | Serbian (Latin)      | sh   |

| Source Language     | Code | Target Language | Code |
|---------------------|------|-----------------|------|
| German              | de   | Slovakian       | sk   |
| German              | de   | Slovenian       | sl   |
| German              | de   | Spanish (Spain) | es   |
| Hindi               | hi   | English         | en   |
| Italian             | it   | English         | en   |
| Japanese            | ja   | English         | en   |
| Korean              | ko   | English         | en   |
| Norwegian           | no   | English         | en   |
| Portuguese (Brazil) | pt   | English         | en   |
| Romanian            | ro   | English         | en   |
| Russian             | ru   | English         | en   |
| Spanish (Spain)     | es   | English         | en   |
| Swedish             | sv   | English         | en   |

### 34.1.4.1 Configure Machine Translation

As an administrator, you must add, train, test, and activate the Machine Translation model.

#### Procedure

1. Navigate to your user profile, and select [System Settings](#) > [All Settings](#) > [Machine Learning](#) > [Intelligent Service](#) > [Machine Translation](#).
2. To create a new model, click **+**.
3. Enter a name for your model.
4. Click [Save and Train](#) to save your model and start the training.

The model goes through the following statuses during the training: [Created](#) > [Training in Preparation](#) > [Training Completed or Training Failed](#).

You can refresh and update the training status of the model by selecting the  (refresh) icon.

#### Note

You can also save your model and train your model later.

5. Locate your model and click [Train](#) from [Actions](#) to start training the model.
6. After the training is complete, click [Activate](#) from [Actions](#) to activate the model.  
You can deactivate a model by selecting [Deactivate](#).

#### Note

You can use the test console to test if the model is functioning correctly. Select your model, enter a description in the *Input* field, and choose *Translate*. The test console invokes the prediction model API using the sample case data that you provide.

### 34.1.4.2 View Machine Translated Text

View the translated description for the email in the user logon language.

#### Procedure

1. Navigate to the *Emails* worklist and select an email.

The same feature is available in Case timeline.

2. Select



(Machine Translation) to view the *Machine Translation* popup.

The *Machine Translation* popup has two sections, *Original Text* and *Translated Text*. You can remove some parts of the text in the *Original Text* before translation. This is helpful when you have a mix of languages in an email. For example, when email footer signature or disclaimer text is in a language other than the email content language and is much more in volume as compared to the email content which could be a shorter one or two line which need to be translated. In this scenario, you can remove a part of text which is in different language and translate.

3. To translate the required text, select *Translate* in the *Translated Text* section.

### 34.1.5 Case Summarization

Use Natural Language Processing (NLP) to summarize the text in the subject field and email interactions.

#### Restriction

- Text summarization is tested only for English language texts.
- Text summarization is applicable only for email based interactions between a customer and a service agent.
- Text summarization is available only for email interactions generated from Outlook and Gmail.
- For existing cases, a summary is generated only when a new interaction is added (after model activation).
- There's a delay between sending or receiving interaction and summary updates. Text summarization takes place asynchronously from the email communication. The delay depends on the number of interactions in the queue and the number and size of the interactions.

## 34.1.5.1 Configure Case Summarization

As an administrator, you must add, train, test, and activate the Case Summarization model.

### Procedure

1. Navigate to your User Menu, and select ► [System Settings](#) ► [All Settings](#) ► [Machine Learning](#) ► [Intelligent Service](#) ► [Case Summarization](#) .
2. To create a new model, click + .
3. Enter a name for your model.
4. Click [Save and Train](#) to save your model and start the training.

The model goes through the following statuses during the training: ► [Created](#) ► [Training in Preparation](#) ► [Data Extraction is Pending](#) ► [Data Extraction is in Progress](#) ► [Data Preprocessing is Pending](#) ► [Data Preprocessing is in Progress](#) ► [Training Triggered](#) ► [Training is Pending](#) ► [Training in Progress](#) ► [Training Completed or Training Failed](#) ► [Active or Inactive](#) .

You can also save your model and train your model later.

#### Note

You can refresh and update the training status of the model by selecting the  (refresh) icon.

5. After the training is complete, click [Activate](#) from [Actions](#) to activate the model.

You can deactivate a model by selecting the  (deactivate) icon.

#### Note

You can use the test console to test if the model is functioning correctly. Select your model, enter a Case ID in the [Input](#) field, and choose [Summarize](#). The test console invokes the prediction model API using the sample case data that you provide.

You can enable case summarization for incoming cases by turning on the [Enable text summarization for case](#) switch. When you enable the automation settings, then the system starts summarizing email interactions at case level. Testing via console is possible with an active model even when automation is disabled.

#### Restriction

There's an upper limit on the number of interactions summarized for test purposes. Hence, you may not see all interactions in the summary.



## 34.1.5.2 View Case Summarization

View the case summary results.

### Procedure

1. Log into your solution and go to [Cases](#).
2. Open a case in detailed view using the  icon.
3. Go to the [General](#) tab to view the summary of each interaction.

You can see an overall summary, a summary of agent-generated interactions, and a summary of customer interactions.

If the email interactions and the corresponding case summaries were created in English, and later when you login in a different language, then you can translate the summary to the logged in language by selecting [Show Translation](#).

#### Note

You cannot keep both Generative AI based case summary and classical Machine Learning based case summary (under Intelligent Services) in active state together. If you are activating Generative AI based case summary, then you must deactivate the other one.

Also, while switching from classical machine learning to Generative AI based summary (or vice-versa), case summary generated by the previous approach does not get updated until summary is re-generated.

## 34.1.6 Case Topic Analyzer

Use the [Case Topic Analyzer](#) machine learning model to view trending topics from cases.

The [Case Topic Analyzer](#) machine learning model analyzes keywords from case descriptions and groups cases based on labels assigned to a model. A label is a topic which acts as a heading for a list of similar keywords.

### Prerequisites

To ensure accurate results from the model, your system must contain historical data (cases) in order to train the model. Ideally around 3000 cases (minimum) with cases having meaningful text content in the case description (multiple sentences which conveys the issue).

#### Note

When setting up a demo or test environment, you need to consider the following points:

- If most cases are talking about totally different distinct problems, topic detection will not happen properly.
- Cases must have meaningful text which conveys the issue correctly.

### 34.1.6.1 Configure Case Topic Analyzer

As an administrator, you must add, train, test, and activate the Case Topic Analyzer model.

#### Procedure

1. Navigate to your user profile, and select ► [System Settings](#) ► [All Settings](#) ► [Machine Learning](#) ► [Intelligent Service](#) ► [Case Topic Analyzer](#) ►.
2. Under [Case Topic Analyzer](#), click the create icon (+) to add a model.
3. Enter a name for your model.
4. Click [Save and Train](#) to start training the model.

The model goes through the following statuses during the training: ► [Created](#) ► [Training in Progress](#) ► [Training Completed or Training Failed](#) ► [Active or Inactive](#) ►.

You can refresh and update the training status of the model by selecting the ↻ (refresh) icon.

5. After the training is completed, select your model to assign a label to the list of keywords.

#### Note

A label is a topic which acts as a heading for a list of similar keywords.

You must set an appropriate topic label which matches your business.

6. Select [Settings](#) to see a number of topics with keywords associated with each one and three sample case IDs for each topic.
7. Enter a topic label.
8. Choose [Save](#).
9. Choose the ⚙️ (activate) icon to activate the model.

#### Note

- You can deactivate a model by selecting the ⏻ (deactivate) icon.
- You can use the test console to test if the model is functioning correctly. Select your model, enter a description in the [Input](#) field, and click [Test](#).
- You can enable the case topic analyzer for incoming cases by turning on the [Enable topic analyzer for case](#) switch.
- Only English language is currently supported for the Case Topic Analyzer models.

## 34.1.6.2 View Topic Analyzer

View trending topics from case descriptions.

After you train and activate the case topic analyzer model, you can view trending topics in [Topic Analyzer](#). New cases created in the system are grouped according to the topics they belong to. Existing cases up to a maximum of 12 months are grouped into topics.

You can choose to view the trending topics in the form of cards or lists that display the topic name, the rank, number of cases, and percentage trend. The topics are ranked according to the number of cases for the topics for the calendar year. The percentage trends are calculated on monthly basis.

You can filter trending topics using a date filter with values such as [This week](#), [This Month](#), and [This Year](#). By default, the date filter is set to filter trending topics for the current week. For a selected filter, topics will appear only if it has cases from that selected time period. However, the overall topic rank for the calendar year and percentage trend (month to month) does not change.

The trending topics display information for all topics in the following forms:

- **Bar charts** - displays the number of cases for topics
- **Graphs** - displays topic trends across months.
- **Keywords clusters** - displays list of trending keywords as word clouds and as lists.

When you select a trending topic, the list, graph and keywords display information specific to the selected topic only. You can view the list of associated cases and navigate to specific cases.

## 34.1.7 Case Type Determination

The [Case Type Determination](#) machine learning model determines the case type during the conversion of email to case.

During the conversion of emails to cases, the case type determination model analyzes subject and description. It then establishes the [Case Type](#) for the case creation.

The system inputs the determined case type into the case, initiating the case creation process.

Case type determination is currently supported in the following languages:

- Chinese
- English
- French
- German
- Japanese
- Portuguese
- Russian
- Spanish

## Prerequisites

- Data volume: Includes minimum 1000 cases with case types assigned and an additional 500 instances of each case type.
- Data quality: Includes subject, description, and case type.

### 34.1.7.1 Configure Case Type Determination

As an administrator, you must add, train, test, and activate the Case Type Determination model.

1. Navigate to your user profile, and select ► [System Settings](#) ► [All Settings](#) ► [Machine Learning](#) ► [Intelligent Service](#) ► [Case Type Determination](#) ►.
2. To add a new model, click **+**.
3. In the [Create Model](#) popup, enter a name for the model.
4. Go to [Settings](#).
5. Turn on the [Confidence Level](#) and select the confidence value.
6. Save your changes.
7. Click [Save and Train](#) to save your model and start the training.  
You can also save your model and train your model later.  
The model goes through the following statuses during the training: ► [Created](#) ► [Training in Progress](#) ► or [Training Failed](#).  
You can refresh and update the training status of the model by selecting the  (refresh) icon.
8. Click the  (activate) icon to activate the model.

#### Note

- After you activate the model, ensure that you've enabled the [Case Type Determination From AI](#) switch from the [Determination Rules](#) section in the email channels. For more information, see the Related information section.
- You can deactivate a model by selecting the  (deactivate) icon.
- You can use the test console to test if the model is functioning correctly. Select your model, enter a description in the [Input](#) field, and click [Test](#).

## Related Information

[Configure Case Types \[page 419\]](#)

Customize case types to match the workflow used by your organization.

## 34.1.8 Custom Code Extensions for Machine Learning Scenarios

You can now control the training data set and select which instances must be predicted using the [Custom Code Extensions for ML Scenarios](#) for case categorization. This scenario helps train the model with relevant data and exclude irrelevant ones, making the training process more efficient.

### Note

This scenario is supported explicitly for case categorization only. One year's data is consumed for model training. It's ideal that the data filtering criteria for both training and inferencing are aligned such that the predictions are accurate, to avoid inferencing data which has been excluded from model training as it can yield incorrect predictions

Use the predelivered [Custom Code Extensions for ML Scenarios](#) communication configuration template, along with the synchronous HTTP-data outbound communication configuration [Machine Learning: Custom Processing for Setting Training Data Selection Criteria](#) and [Machine Learning: Custom Processing for Inference Eligibility Check](#) extension points to enable this capability.

## Machine Learning: Custom Processing for Setting Training Data Selection Criteria

The [Machine Learning: Custom Processing for Setting Training Data Selection Criteria](#) extension point enables you to influence the data set used for ML model training. It uses historical case data of one year. As a user, you can adjust the filtering criteria, that is, limit the case data usage to six months or limit the case data usage of specific case types only using the filterable case attributes.

### Request format

The request payload is sent through a POST call in JSON in the following format.

#### Sample Code

```
request payload
{
 "entities" : ["sap.crm.caseservice.entity.case"],
 "scenarioName": "CASE_CATEGORIZATION"
}
```

### Response format

The application expects a response back in JSON in the following format:

#### Sample Code

```
[{ "entity": "sap.crm.caseservice.entity.case", "filter": "adminData/createdOn
ge 2025-04-03T04:23:39.582Z" }]
```

## Machine Learning: Custom Processing for Inference Eligibility Check

The [Machine Learning: Custom Processing for Inference Eligibility Check](#) extension point determines if an incoming case instance qualifies for ML inference. It uses user-defined filters (case type, priority, and so on) compatible with API specifications to decide whether a particular case instance must be categorized using machine learning or must be skipped. Any invalid or incompatible filters result in processing failure.

### Request format

The request payload is sent through a POST call in JSON in the following format.

#### Sample Code

```
request payload
{
 "entity" : "sap.crm.caseservice.entity.case", "entityId": "755724b5-9334-4c81-be78-e8f644aa8603", "entityDisplayId": "12345",
 "scenarioName": "CASE_CATEGORIZATION"
}
```

### Response format

The application expects a response back in JSON in the following format:

#### Sample Code

```
{
 "eligible": true
}
```

## Configure Custom Processing Exit

1. Create a communication system with outbound authentication details for the application endpoint, following the steps in the [Create Communication Systems](#) topic in this guide. You can ignore the inbound configuration. This application endpoint holds the custom logic to determine enabling of Machine Learning scenario.
2. Create a communication configuration by copying the [Machine Learning: Custom Processing for Setting Training Data Selection Criteria](#) and [Machine Learning: Custom Processing for Inference Eligibility Check](#) predelivered templates by following the steps in the [Create Communication Configurations](#) topic in this guide. You can ignore steps related to inbound and outbound configuration.
3. Change the status of the communication arrangement to **Active** by clicking the status and selecting the **Active** radio button.

#### Note

Currently, the exit processing is supported only for ML scenario Case Categorization only.

The endpoint configured in the outbound configuration gets called for the processing the Machine Learning Scenario Case Categorization and Inference Checks.

## Related Information

[Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

[Create Communication Configurations \[page 913\]](#)

Create communication configurations for the integration between SAP Service Cloud Version 2 and external applications.

## 34.1.9 Profanity Check

Use profanity check to define a set of pejorative vocabulary.

Profanity check is currently available only in English.

### 34.1.9.1 Configure Profanity Check

As an administrator, you must add, train, test, and activate the Profanity Check model.

#### Procedure

1. Navigate to your user profile, and select ► [System Settings](#) ► [All Settings](#) ► [Machine Learning](#) ► [Intelligent Service](#) ► [Profanity Check](#) .
2. To create a new model, click **+** .
3. Enter a name for your model.
4. Click [Save and Train](#) to save your model and start the training.

The model goes through the following statuses during the training: ► [Created](#) ► [Training in Preparation](#) ► [Data Extraction is Pending](#) ► [Data Extraction is in Progress](#) ► [Data Preprocessing is Pending](#) ► [Data Preprocessing is in Progress](#) ► [Training Triggered](#) ► [Training is Pending](#) ► [Training in Progress](#) ► [Training Completed or Training Failed](#) ► [Active or Inactive](#) .

You can refresh and update the training status of the model by selecting the  (refresh) icon.

#### Note

You can also save your model and train your model later.

Locate your model and click [Train](#) from [Actions](#) to start training the model.

5. After the training is completed, click the  (activate) icon to activate the model.  
You can deactivate a model by selecting the  (deactivate) icon.

#### Note

You can use the test console to test if the model is functioning correctly. Select your model, enter a description in the [Input](#) field, and choose [Check Profanity](#). The test console invokes the prediction model API using the sample case data that you provide.

## 34.1.9.2 View Profanity Check

View the results of profanity check.

### Procedure

1. Navigate to the [Email](#) worklist.
2. Reply to an email.
3. Draft a reply with profane language.

The system opens a pop up with the profane text.

## 34.1.10 Intelligent Services FAQ

Here are some frequently asked questions (FAQ) and corresponding answers about Machine Learning.

### What are Intelligent Services?

Intelligent Services is a collection of machine learning models and scenarios embedded in SAP Service Cloud CNS. Intelligent Services is not a separate product. You don't require any additional licensing, deployment, or upgrades. You can manage everything through the SAP Service Cloud CNS administrator interface.

### Is there any impact on the system performance as the data is cached?

There's no impact on day-to-day system performance as the data is cached and stored in the solution. All compute-intensive operations, such as training the model, happen outside of your SAP Service Cloud CNS tenant.

### How many models are active at any time?

Only one model can be active in production. However, you can create multiple models.

### Are there extension fields to the model?

Extension fields aren't available right now.

### How many category levels does Case Categorization support?

Case Categorization supports upto four levels.



## Related Information

[Service Ticket Intelligence](#) [Service Ticket Intelligence](#)

## 34.2 Generative AI

Use Generative AI to generate account synopsis, case summary, draft email response for cases, and backend entity extraction.

Generative AI features are available only when you have a valid license for usage of SAP AI Units. To enable Generative AI features, you must raise an incident with the **CEC-CRM-ML** component, mentioning that you have a valid license for SAP AI Units. After you activate the Generative AI features, you must assign the [sap.crm.service.mlScenarioManagementGenAIService](#) service and app to your role.

### Note

- For details on how the metrics consume the credits, see the [SAP AI Services List](#).
- For SAP Service Cloud Version 2, one transaction as per AI services list for each Generative AI capability translates to the following:
  - one account synopsis
  - one email draft
  - one case summaryEvery regeneration for these capabilities also counts as a transaction.
- Generative AI features are tested only for English, German, French, and Spanish language texts.

### 34.2.1 Case Summary

Use Generative AI to summarize text in email interactions for cases.

Case summary is displayed in the [General](#) tab of cases. Case summary is displayed on hover over the card view or list view of cases in the [Similar Cases](#) section, if case summary is activated and a summary exists for the case. Case summary is applicable only for email-based interactions between a customer and a service agent. Case summary is generated only for new interactions that occur after activating [Case Summary](#).

### Note

You can't keep both Generative AI-based case summary and classical Narrow AI-based case summary (under Intelligent Services) in an active state together. If you're activating a Generative AI-based case summary, then you must deactivate the other one.

Also, while switching from classical Narrow-AI to Generative AI-based summary (or conversely), case summary generated by the previous approach doesn't get updated until the summary is re-generated.

A complete case summary consists of two different types of summaries, interaction and resolution summary. Resolution summary is specific to cases that are in either [Closed](#) or [Completed](#) status, while interaction summary is a summary of ongoing interactions within a case.

- **Interaction Summary:** An interaction summary is generated based on email interactions between a customer and the service agent. It includes an [Interaction Summary](#), [Products](#), [Key Dates](#), [Case Sentiment](#) or [Case Sentiment Graph](#). If an interaction summary isn't available for a case, you can choose [Generate Summary](#) on the [General](#) tab of the case to generate it.
- **Resolution Summary:** A resolution summary is generated for cases that are in [Completed](#) or [Closed](#) status only. A resolution summary consists of an [Overview](#), [Resolution](#), [Case Metrics](#), and [Resolution Satisfaction](#) sections based on the resolution provided in the case. You can generate a resolution summary by choosing the [Generate Resolution Summary](#) on the [General](#) tab of completed or closed cases.

## Configure Case Summary

1. As an administrator, navigate to your user profile, and select ► [System Settings](#) ► [All Settings](#) ► [AI Configuration](#) ► [Generative AI](#) ► [Case Summary](#) ►.
2. To activate summary for cases, enable [Activate Case Summary](#), and accept [Acknowledgment](#).
3. Use the [Test Console](#) to test the case summary.
4. To update case summary for your business users, enable [Update Case Summary](#) under [Case Summary Automation](#).

### Note

The administrator can use the test console even if this step isn't performed, however, the summary of a case is available to business users only if [Update Case Summary](#) is enabled.

5. Select one of the following:
  1. **Manual** - to manually generate the summary and update the case summary by regenerating the summary when required. Business users must click [Generate Summary](#) to generate the case summary for the first time, and use [Regenerate](#) to update the case summary with the latest changes.
  2. **Automatic** - to automatically update the case summary for every interaction between the agent and customer.

### Note

Summary generation is an asynchronous process and takes some time for a summary update to be visible in the UI.

6. Go to [Interaction](#). The [Email Interaction](#) and [Description](#) fields are included in the interaction summary by default. Optionally, you can also enable the [Priority Code](#) and [External Case Notes](#) fields by selecting note types to include in the interaction summary.
7. Go to [Resolution](#). The [Email Interaction](#) and [Description](#) fields are included in the case summary by default. Optionally, you can also enable [Internal Case Notes](#) and [External Case Notes](#) fields to include details from these fields in the resolution summary overview.
8. Save your changes.

## View Interaction Summary

### Prerequisite:

- Ensure you've enabled the [Natural Language Processing Classification](#) service from Intelligent Services to display either a [Sentiment Trend](#) for a single inbound interaction or the [Sentiment Graph](#) in cases of multiple inbound interactions. This graph is displayed within the Interaction Summary.
  - Ensure you've created and enabled a [Business Information Extraction](#) scenario from Intelligent Services to display the [Products](#) information and the associated [Key Dates](#) in the interaction summary. For the Products information to be extracted from a case, a business information extraction scenario must be configured and activated including [Product Name](#) [Product ID](#), [Serial ID](#), and linked to a case type. The product information is extracted once the case is logged and also when the case is updated based on subsequent interactions.
1. Open a case in detailed view using the  icon.
  2. Go to .
  3. Select [Generate Summary](#) to generate an interaction summary manually. Once the interaction summary is generated, select [Regenerate](#) to update the summary with latest interactions. This step is applicable if you've selected the [Manual](#) option for [Update Case Summary](#) during configuration. The generated summary includes [Products](#), [Key Dates](#), [Case Sentiment](#) or a [Case Sentiment Graph](#), either of which appear based on single or multiple interactions respectively.

#### Note

- Case summary is generated by Generative AI using case-specific data. You must verify it before making decisions.
- If the email interactions and the corresponding case summaries are created in English, and later when you log on in a different language, you can translate the summary to the logged in language.

4. Choose the  ([Email](#)) icon to share the interaction summary.

## View Resolution Summary

1. Open a closed or a completed case in detailed view using the  icon.
2. Go to .
3. Select [Generate Resolution Summary](#) to generate resolution summary manually. You can view resolution summary only for those cases that are in [Completed](#) or [Closed](#) status only. This step is applicable if you've selected the [Manual](#) option for [Update Case Summary](#) during configuration.
4. Choose the  ([Email](#)) icon to share the resolution summary.

## Related Information

[NLP Classification \[page 618\]](#)

Use Natural language processing (NLP) to identify sentiment from email.

[Business Information Extraction \[page 644\]](#)

Business information extraction is the process of identifying, extracting, and organizing relevant data from business-related content such as text descriptions to create, update, or identify case-related entities.

## 34.2.2 Registered Product Summary

Use Generative AI to generate a registered products summary for the registered products.

Registered product summary provides a summary of registered products and cases created for the registered products in the last three months.

A registered product summary consists of an overview and aggregated cases summary.

- Overview: A summary of when the product was registered, the type of warranty, the warranty coverage, and the location of the product is provided.
- Aggregated Case Insights: Provides consolidated insights of all cases registered in the last three months, their status, SLA for cases, and so on. It also provides a quick information of the acumen of the cases in the last three months.

### Configure Registered Product Summary

1. As an administrator, navigate to your user profile, and select ► [System Settings](#) ► [All Settings](#) ► [Machine Learning](#) ► [Generative AI](#) ► [Registered Product Summary](#) .
2. To activate case summarization, enable [Activate Registered Product Summary](#), and accept [Acknowledgment](#). By default, the [Registered Products Overview](#) and [Related Case Insights](#) is included in the configuration.
3. Save your changes.

## 34.2.3 Email Drafter

Use email drafter from Generative AI to draft email replies or interactions for cases (currently tested in English, German, Spanish, and French).

### Configure Email Drafter

1. Navigate to your user profile and select ► [System Settings](#) ► [All Settings](#) ► [AI Configuration](#) ► [Generative AI](#) ► [Email Drafter](#) .
2. To activate email draft recommendation for business users, enable [Activate Email Drafter](#), and accept the [Acknowledgment](#).
3. Use [Test Console](#) to test email draft recommendation.
4. Go to [Configure](#) and enable the required entities (currently supported only for Cases).

5. To include prompts in the email draft recommendation, enable the required prompts from the following list in [Available Prompts](#):
  - Case Status Update email
  - Update the Service Level timelines
  - Share relevant KB articles
6. To create a custom prompt, select **+** (Create Custom Prompts) icon, enter prompt name, assign business roles from the list, and enter instructions.

#### Note

- You can assign business roles choosing the  (edit) icon under the [Actions](#) column for both standard and custom prompts.
- Up to three business roles can be assigned to a prompt. You can select more than three roles from the selector, however, a maximum of three roles can be assigned to a prompt and is also displayed in the [Assigned Roles](#) section. If a prompt isn't assigned to a particular role, it's available for all business roles in the system.
- Only users assigned to these business roles can access the prompts.
- While writing instructions, you can use the field names from [Dynamic Values](#) as placeholders for providing input context to Generative AI. This action can enhance prompt generation. The maximum length allowed for instructions is 1500 characters.

7. Save your changes.

## View Email Drafter Recommendation

1. To view the email drafter recommendation, open a case in detailed view using the  icon and select [Email](#).
2. Select [Email Drafter](#). The [Email Drafter](#) popup opens.
3. Select a prompt from [Available Prompts](#).
4. Select the style, tone, and length.
5. Select [Generate Draft](#). The recommended email draft appears in the [Draft](#) section.
6. Click [Apply](#) to copy the draft content to the email editor.

#### Note

Draft is generated by Generative AI using the application context data. You must verify the draft thoroughly before using it in the response email. If you want to change the text, style, tone, or purpose, then you must make the changes and click [Generate Draft](#) and [Apply](#).

## 34.2.4 Account Synopsis

Account Synopsis provides all the information related to an account that helps the service agents.

### Configure Account Summary

1. As an administrator, navigate to [User Menu](#) > [System Settings](#) > [All Settings](#) > [AI Configuration](#) > [Generative AI](#) > [Account Summary](#).
2. To activate account summary, enable [Activate Account Summary](#), and accept [Acknowledgment](#).
3. In the [Configure](#) section, you can enable the following aspects of accounts that you want to display in the [AI Synopsis](#) tab within accounts:
  - Overall Information
  - Business Overview
  - Typical Customers
  - Competitive Landscape
  - Culture and Background
  - Business Strategies
4. Save the changes.

### View Account Summary

1. From the Navigation Menu, search for [Accounts](#).
2. In the worklist of the accounts view, select the account name and then click [Open in Detail View](#).
3. Select the [AI Synopsis](#) tab to view the AI-generated summary.

## 34.2.5 Duplicate Check

Duplicate Check leverages Generative AI to check and display the duplicate check results with a confidence score, before creating the new respective entities.

#### Note

[Duplicate Check](#) feature is also available in the system. At once, only one of the versions can be enabled in the system. Ensure that you've enabled only one of these features in your system.

## 34.2.5.1 Account Duplicate Check

Account Duplicate Check leverages Generative AI to check and display the duplicate check results with a confidence score, before creating an account.

Duplicate check for accounts performs a check comparing the configured fields with the list of accounts existing within the system. As an administrator, you can configure the fields for duplicate check. Once duplicate check is configured for accounts, any new account that is to be created is checked against configured fields and the result is displayed, containing a list of the existing accounts with a confidence score. This confidence score enables you to decide whether or not to proceed with the creation.

### Note

*Duplicate Check* (non-AI) feature is also available in the system. At once, only one of the features can be enabled in the system. Ensure that you've enabled only one of these features in your system.

## Configure Account Duplicate Check

1. As an administrator, navigate to your *User Menu*, and select ► *System Settings* ► *All Settings* ► *AI Configuration* ► *Generative AI* ► *Duplicate Check* ► *Account* ►.
2. Enable the *Activate Account Duplicate Check* switch to activate duplicate check.
3. Under *Configure*, include the fields such as *Full Name*, *Role*, *Industry*, *Email*, and so on, that you wish to configure accounts for checking duplicates. You can remove the fields clicking on the delete icon. You can also add more fields by selecting fields from the *Add Fields* option.

### Note

The *Add Fields* section contains additional configurable account fields that you can include in your check configuration. These fields can include custom fields as well, and these custom fields must be set to filterable in *Field Query Properties* of extension fields properties.

4. Save your changes.
5. Use the *Test Console* to check for duplicate accounts. Enter the *Account ID* to check for duplicate accounts. If duplicates exist, a list of duplicates is displayed along with the confidence score.

### Note

Confidence indicates how closely the attributes of the new account match with the duplicates.

## Related Information

### [Duplicate Check \[page 971\]](#)

Duplicate check, once enabled, displays the duplicate check results with a confidence score before creating the instance.

## 34.2.5.2 Individual Customer Duplicate Check

Individual Customer Duplicate Check leverages Generative AI to check and display the duplicate check results with a confidence score, before creating an individual customer.

Duplicate check for individual customers performs a check comparing the configured fields with the list of individual customers existing within the system. As an administrator, you can configure the fields for duplicate check. Once duplicate check is configured for individual customers, any new individual customer that is to be created is checked against configured fields and the result is displayed, containing a list of the existing individual customers with a confidence score. This confidence score enables you to decide whether or not to proceed with the creation.

### Note

*Duplicate Check* (non-AI) feature is also available in the system. At once, only one of the features can be enabled in the system. Ensure that you've enabled only one of these features in your system.

## Configure Individual Customer Duplicate Check

1. As an administrator, navigate to your *User Menu*, and select ► *System Settings* ► *All Settings* ► *AI Configuration* ► *Generative AI* ► *Duplicate Check* ► *Individual Customer* ►.
2. Enable the *Activate Individual Customer Duplicate Check* switch to activate the duplicate check.
3. Under *Configure*, include the fields such as *Name*, *Website*, *Street*, *Role*, *Postal Code*, and so on, that you wish to configure individual customers for checking duplicates. You can remove the fields clicking on the delete icon. You can also add more fields by selecting fields from the *Add Fields* option.

### Note

The *Add Fields* section contains additional configurable individual customer fields that you can include in your check configuration. These fields can include custom fields as well, and these custom fields must be set to filterable in *Field Query Properties* of extension fields properties.

4. Save your changes.
5. Use the *Test Console* to check for duplicate individual customers. Enter the *Customer ID* to check for duplicate individual customers. If duplicates exist, a list of duplicates is displayed along with the confidence score.

### Note

Confidence indicates how closely the attributes of the new individual customer match with the duplicates.

## Related Information

[Duplicate Check \[page 971\]](#)



Duplicate check, once enabled, displays the duplicate check results with a confidence score before creating the instance.

### 34.2.5.3 Contact Duplicate Check

Contact Duplicate Check leverages Generative AI to check and display the duplicate check results with a confidence score, before creating a contact.

Duplicate check for contacts performs a check comparing the configured fields with the list of contacts existing within the system. As an administrator, you can configure the fields for duplicate check. Once duplicate check is configured for contacts, any new contact that is to be created is checked against configured fields and the result is displayed, containing a list of the existing contacts with a confidence score. This confidence score enables you to decide whether or not to proceed with the creation.

#### Note

*Duplicate Check* (non-AI) feature is also available in the system. At once, only one of the features can be enabled in the system. Ensure that you've enabled only one of these features in your system.

### Configure Contact Duplicate Check

1. As an administrator, navigate to your *User Menu*, and select **System Settings** > **All Settings** > **AI Configuration** > **Generative AI** > **Duplicate Check** > **Contact**.
2. Enable the *Activate Contact Duplicate Check* switch to activate duplicate check.
3. Under *Configure*, include the fields such as *Name*, *Department Code*, *Function Code*, *Email*, and so on, that you wish to configure contacts for checking duplicates. You can remove the fields clicking on the delete icon. You can also add more fields by selecting fields from the *Add Fields* option.

#### Note

The *Add Fields* section contains additional configurable contact fields that you can include in your check configuration. These fields can include custom fields as well, and these custom fields must be set to filterable in *Field Query Properties* of extension fields properties.

4. Save your changes.
5. Use the *Test Console* to check for duplicate contacts. Enter the *Contact ID* to check for duplicate contacts. If duplicates exist, a list of duplicates is displayed along with the confidence score.

#### Note

Confidence indicates how closely the attributes of the new contact match with the duplicates.

## Related Information

[Duplicate Check \[page 971\]](#)

Duplicate check, once enabled, displays the duplicate check results with a confidence score before creating the instance.

## 34.2.6 Control Enablement of Generative AI features

You can make context data based Generative AI feature disablement or enablement decision using [Generative AI: Custom Processing Decision Maker](#).

As an administrator, you can introduce your own logic to enable or disable Generative AI scenarios, allowing the use of Generative AI based on document type or business context. Use the pre-delivered [Custom Code Extensions for Generative AI Scenarios](#) communication configuration template, along with the synchronous outbound communication configuration [Generative AI: Custom Processing Decision Maker](#) to enable this capability.

### Configure Enablement of Generative AI features

1. Create a communication system with outbound authentication details for the application endpoint which holds the custom logic to determine enablement of Generative AI scenario by following the steps mentioned in the *Create Communication Systems* topic in this guide. You can ignore the inbound configuration.
2. Create a communication configuration by copying the pre-delivered template configuration [Custom Code Extensions for Generative AI Scenarios](#) by following the steps mentioned in the *Create Communication Configurations* topic in this guide. You can ignore steps related to inbound and outbound configuration.
3. Change the status of the communication arrangement to [Active](#) by clicking the status and selecting the [Active](#) radio button.

The endpoint configured in the outbound configuration gets called before the Generative AI scenario is enabled for a specific document.

#### Request format

The request payload will be sent through a POST call in JSON in the following format.

#### Sample Code

```
{
 "scenarioName": "<Name of Gen AI scenario(English and Caps) in Admin UI
with space replaced by underscore>"
 "id": "<entity uuid>",
 "objectTypeCode": "<context object type code Example: 2886 for case, 72
for Opportunity >"
}
```

#### Response format

The application expects a response back in JSON in the following format:

#### Sample Code

```
{
 "isAllowed": "true/false"
}
```

The Generative AI scenario is allowed for the document only if the `isAllowed` value is returned as true and also if there is no exit configured or the exit endpoint is unavailable.

## Related Information

[Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

[Create Communication Configurations \[page 913\]](#)

Create communication configurations for the integration between SAP Service Cloud Version 2 and external applications.

## 34.2.7 Remove Personally Identifiable Information

You can check and remove Personally Identifiable Information(PII) in Generative AI scenarios by using the [Generative AI: Custom Processing Personally Identifiable Information](#) template.

Use the pre-delivered [Custom Code Extensions for Generative AI Scenarios](#) communication configuration template, along with the synchronous HTTP data outbound communication configuration [Generative AI: Custom Processing Personally Identifiable Information](#) to enable this capability.

The configuration is expected to produce response text with PII data replaced by unique tags and generate a dictionary mapping unique identifier tags to PII data values. This mapping can then be used to associate the data back in the model response, providing users with responses containing PII contextual data.

## Configure Custom Processing Exit

1. Create a communication system with outbound authentication details for the application endpoint which holds the custom logic to determine enablement of Generative AI scenario by following the steps mentioned in the [Create Communication Systems](#) topic in this guide. You can ignore the inbound configuration.
2. Create a communication configuration by copying the pre-delivered template configuration [Custom Code Extensions for Generative AI Scenarios](#) of category All HTTP Data by following the steps mentioned in the [Create Communication Configurations](#) topic in this guide. You can ignore steps related to inbound and outbound configuration.
3. Change the status of the communication arrangement to [Active](#) by clicking the status and selecting the [Active](#) radio button.  
The endpoint configured in the outbound configuration gets called before the Generative AI scenario is enabled for a specific document.

### Request format

The request payload will be sent through a POST call in JSON in the following format.

#### Sample Code

```
request payload
{
 "text": <contextual data with PII>,
 "scenarioName": "SCENARIO_NAME"
}
```

### Response format

The application expects a response back in JSON in the following format:

#### Sample Code

```
{
 "text": <Anonymized contextual data>,
 "piiDataValueMappingDictionary": [
 {
 "identifier": <unique tag used for anonymizing PII>,
 "value": <PII value>
 }
]
}
```

## Related Information

[Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

[Create Communication Configurations \[page 913\]](#)

Create communication configurations for the integration between SAP Service Cloud Version 2 and external applications.

## 34.2.8 Business Information Extraction

Business information extraction is the process of identifying, extracting, and organizing relevant data from business-related content such as text descriptions to create, update, or identify case-related entities.

Use the generative AI-based information extraction capability to extract business information from the subject or description of the case and add that information to the case-related entities.

## Related Information

[Generative AI \[page 633\]](#)

Use Generative AI to generate account synopsis, case summary, draft email response for cases, and backend entity extraction.

[Business Documents \[page 498\]](#)

Business Documents represent back-end records in a semantic way and can create, update, or display those records. Values in the table can be populated automatically using AI services or entered manually.

[Add Business Document to Case Type \[page 437\]](#)

You, as an administrator, can activate business documents for a case type and select a business document to use with each case type and version.

## 34.2.8.1 Configure Business Information Extraction

As an administrator, activate and configure business information extraction for your users.

### Context

To configure business information extraction:

1. Activate Business Information Extraction.
2. Create or include standard elements.
3. Create or include standard classes.
4. Create a scenario, and link the scenario to a case type.

#### Note

You can't keep both Generative AI-based [Business Information Extraction](#) scenario with first level case category element and classical Machine Learning based case categorization (under Intelligent Services) in an active state together.

Business information extraction scenarios can be consumed in the following usage contexts:

- Case: For cases, custom fields (case header levels) are supported in addition to the standard fields such as [Contract Account External ID](#), [Product ID](#), [Product Name](#), [Serial ID](#), and [Category Level 1](#).
- Business Documents: For business documents, custom elements and custom classes are supported.
- Joule: For Joule, the case type of standard class is supported.

### Procedure

1. Go to your [User Menu](#) and select  [System Settings](#)  [All Settings](#)  [Machine Learning](#)  [Generative AI](#)  [Business Information Extraction](#) .
2. Activate business information extraction by enabling the [Activate Business Information Extraction](#) switch, and accept the [Acknowledgment](#). The [Activation Log](#) button displays when the capability is enabled.
3. **If you intend to choose Standard Elements:** Select [Elements](#) from the side panel, activate standard elements such as [Product Name](#), [Product ID](#), and [Serial ID](#), and save your configuration. Enter a [Short](#)

[Sample](#). This short sample is a sample text that helps the system identify your elements. Enter at least one short sample.

4. **If you intend to choose Custom Elements:** Select [Elements](#) from the pane, and click the **+** icon. Enter a name, the same name of the custom field technical name so that extracted value can be populated in an extension field in case. Enter a label and description for your element.
5. **If you intend to choose Standard Classes:** Select [Classes](#), and activate the [Category Level 1](#) and case type standard class. Enter [Short Sample](#). This short sample is a sample text and the corresponding value that helps the system identify the classes. The short sample text has a limit of 150 characters. The short sample value must be of the **Catalog ID#Category ID** format. Save your configuration.

#### Note

For a particular catalog-category combination, multiple samples can be defined.

6. **If you intend to choose Custom Classes:** Select [Classes](#) from the side panel, and click the **+** icon. Enter a name, the same name of the custom field technical name so that classified value can be populated in an extension field in case. Enter a label and a description for your class to define a custom class.

#### Note

For custom fields, only case header fields of type string are currently supported.

7. Select [Scenario](#) from the side panel, and click the **+** icon.
8. Enter a scenario name and scenario description. Choose a [Usage Context: Business Document](#), [Joule](#), or [Case](#) based on your need. Include elements and classes by selecting from [Element Selection](#) and [Class Selection](#) respectively for your scenario.

#### Note

- Case: Custom fields (case header levels of type string) are supported in addition to standard fields such as [Contract Account External ID](#), [Product ID](#), [Product Name](#), and [Serial ID](#).
- Business Documents: Only custom elements and custom classes are supported.
- Joule: Case type of standard class is supported.

9. Perform a test extraction by entering sample text in the text box, and click [Test](#). Once information is extracted, you get the extracted elements and class derivations with confidence percentage values. Choose [Save](#) to save you configuration.

You've now successfully configured [Business Information Extraction](#) capability on your system.

## Related Information

[Business Documents \[page 498\]](#)

Business Documents represent back-end records in a semantic way and can create, update, or display those records. Values in the table can be populated automatically using AI services or entered manually.

[Generative AI \[page 633\]](#)

Use Generative AI to generate account synopsis, case summary, draft email response for cases, and and backend entity extraction.

[Business Information Extraction \[page 644\]](#)

Business information extraction is the process of identifying, extracting, and organizing relevant data from business-related content such as text descriptions to create, update, or identify case-related entities.

[Configure Business Information Extraction in Cases \[page 430\]](#)

The entity-specific information is extracted from the subject and description of a case and is automatically filled and can be quickly accessed by the agent in resolving a case.

## 34.2.9 Utilities Insights

Use Utilities Insights from Generative AI to generate a summary for billed consumption details

1. As an administrator, navigate to your user profile, and select ► [System Settings](#) ► [All Settings](#) ► [Machine Learning](#) ► [Generative AI](#) ► [Utilities Insights](#) .
2. To activate Premise Billed Consumption Summary, enable [Activate Utilities Insights](#), and accept the [Acknowledgment](#). The [Activation Log](#) button displays when the capability is enabled.
3. Save your changes.

### Related Information

[Billed Consumption Details \[page 559\]](#)

This section shows details of the billed consumption of last 12 cycles for the installation or service in both graphical and table views.

## 34.3 Joule

Joule configuration.

### → Remember

[Joule enablement status](#) is enabled only if Joule is already onboarded on to your tenant via BTP configuration.

### Onboarding Prerequisites

The following information is applicable if you intend to enable Joule on your tenant.

- SKUs for Joule: 8019544 or 8019164
- Sign up for EAC on the following page:  
[https://influence.sap.com/go/joule\\_servicecloudv2](https://influence.sap.com/go/joule_servicecloudv2) for SAP Service Cloud Version 2

- Once you have opted for the SKU and the EAC request is accepted, raise an incident against the component **CEC-CRM-JOU**.
- Post activation, follow the onboarding steps as guided by the EAC program team.

## Business Information Extraction Scenario for Case Processing

When you're using Joule for Case Creation, if you wish that case type is determined based on the case content instead of being selected by user manually, select a *Business Information Extraction* scenario, which includes case type as a class in the scenario.

### Note

You can define a business information extraction scenario for selection.

## Related Information

[Configure Business Information Extraction \[page 645\]](#)

As an administrator, activate and configure business information extraction for your users.



## 35 SAP CX AI Toolkit

Use SAP CX AI Toolkit to analyze enterprise data with trusted AI that helps you enhance customer service.

SAP CX AI Toolkit uses the unique SAP data to provide you with output relevant to your solution. You can use SAP CX AI Toolkit to answer any business question you have, for example, to obtain a generated summary of your last conversation with a customer. You can also access tools to assist you with tasks, for example scheduling a meeting, generating a summary, or generating a product description. The answers and texts that the SAP CX AI Toolkit generates are based on the data sources that you connect it to, like PDF documents, Outlook, Excel, OneDrive, and Microsoft Teams.

### → Remember

- Ensure that you have purchased the SAP CX AI Toolkit and have a valid license. For more information, see [Onboarding Guide](#) and [Set Up Guide](#).
- To enable Generative AI features, you must enable SSO.
- SAP CX AI toolkit is available only in limited data center regions. For more information, see [Supported Data Centers](#).

Once you have integrated the toolkit with the solution, the system shows an icon on the shell bar. By clicking the



(CX AI Toolkit) icon, an embedded side panel opens from the right side of the solution, allowing you to adjust its width using drag and drop.

SAP CX AI Toolkit is supported for the following entities:

- Accounts
- Contacts
- Cases

The following are the contextual behaviors of the feature:

- **Contextual Smart Actions:** Currently respond only to a Contact entity in focus. If you are viewing a Contact, you can slide the toggle to [Show Related Insights](#), which will update the Smart Actions list to show any interaction with that person over the past 90 days. The lookup is performed using the Contact email address.
- **Contextual AI Tools:** Work by matching the tool to the entity in focus. If they match, the current record will be pre-populated in the lookup field.

For example:

- Viewing an Account and opening the Account Summary tool.
- Viewing a Contact and opening the Write Personalized Prospecting Email tool.
- Viewing a Case and opening the Write a KB Article tool.
- **AI Tools Fuzzy Search:** The AI tools in the embedded panel also support a fuzzy search that suggests recently viewed entities.

For example, if you have multiple accounts open (but not on the active page), you can type a few letters in the Account Summary lookup, and it will suggest any of the recently viewed accounts containing those letters.

## Related Information

[User Guide for SAP CX AI Toolkit](#)

[Important Notes](#)

## 35.1 Configure SAP CX AI Toolkit

As an administrator, you can configure SAP CX AI Toolkit.

### → Tip

Expand a collapsible section heading to view the mandatory configuration steps.

### 35.1.1 Enable CX AI Toolkit for Business Roles

As an administrator, you must add the CX AI Toolkit business service to your business users.

## Procedure

1. Go to **User Menu** > **System Settings** > **All Settings**, under **Users and Control**, select **Business Roles**.
2. Select a **Business Role ID** to open the details.
3. Under **Business Services**, click **+** to open the **Add Business Services** window.
4. Search for **digitalAssistant** using **Q** and select the following checkboxes:
  - **sap.crm.service.digitalAssistantCxaitkAdminService**: For admins to enable the CX AI Toolkit option on the settings page
  - **sap.crm.service.digitalAssistantCxaitkService**: For users to enable the CX AI Toolkit plugin on the shell bar
5. Select **Add**.

## Results

You've added the service to the selected business user.

## Related Information

[Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

## 35.1.2 Integrate SAP CX AI Toolkit

As an administrator, you must integrate the SAP CX AI Toolkit with the solution to start using the features.

## Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ►.
2. Under [AI Configuration](#), select [CX AI Toolkit](#).
3. Enter the [Organization ID](#) to the field from the settings page of SAP CX AI Toolkit.
4. Save your changes.

## Related Information

[Integrating SAP Sales and Service Cloud Version 2](#)

## 36 Number Range

Number range determine the number of a new entity or a data record.

Number range contains a defined set of unique character strings and is used to provide database records with unique numbers. These numbers can then be used as order numbers or material master numbers. While adding a new entity, you can configure the system to create a document number automatically, or enter a number manually. Note that changing a previously assigned number range can lead to errors in the system. Also, you should create number ranges with sufficient intervals to avoid future complications. With automatic number assignment, the system automatically increments the number of the next entity by one, starting with the current value.

Current value refers to a dynamically calculated value within the specified number range. This value is derived by adding a constant offset (buffer) to the *From* value. Once all numbers within the current value (excluding the value) are consumed, the current value is adjusted by incrementing it (current value) by the offset value. For example, if a number range is defined between 12 to 88 with an offset of 5 and if the last assigned value to an entity is 15, the current value will be 17 (From Value + Offset/Buffer). Once the last assigned number becomes 17, the current value is incremented by the offset value and changes to 22.

# 37 Business Flow

Business flow involves an automated process where tasks or approvals progress seamlessly without manual intervention. Users submit requests, which trigger automatic routing for approval. Approvers receive notifications, review, and respond accordingly. Feedback loops enable communication between stakeholders for effective collaboration and decision-making, streamlining the overall business workflow.

## [Autoflow \[page 653\]](#)

Autoflow enables you to create rules that automatically trigger actions such as sending event notifications to integrated solutions, notifying users in the application, and sending automated emails for business entities.

## [Approval \[page 668\]](#)

Approval is a systematic process of reviewing and authorizing changes or actions before they are integrated into the system. Approvals are routed to your reporting line manager, though there may be multiple levels of approval required for certain objects or conditions.

## [Feedback \[page 674\]](#)

Feedback represents information of a user's response to a survey such as Net Promoter Scores (NPS). Feedback focuses on a user's overall experience for a service availed.

## 37.1 Autoflow

Autoflow enables you to create rules that automatically trigger actions such as sending event notifications to integrated solutions, notifying users in the application, and sending automated emails for business entities.

Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Business Flow](#) ► [Autoflow](#) ►.

All available autoflow rules are listed on this page. You can sort the rules using the following filters:

- Business Entity – Displays rules created for a specific business entity.
- Rule Type – Filter rules as [Custom Rules](#) or other defined rules.
- Status – Filter rules based on whether they are [Active](#) or [Inactive](#).
- Schedule Type – Filter rules as [Scheduled](#) or not by choosing [Yes](#) or [No](#).

You can also perform the following actions:

- Choose 🔍 ([Search](#)) to search for a specific rule.
- Choose ↻ ([Refresh](#)) to refresh the rule list.
- Choose ⋮ ([More](#)) and select [Rule Logs](#) to view execution logs.
- Choose ⚙️ ([Activate](#)) next to a rule to activate it.
- Choose ⏻ ([Deactivate](#)) next to a rule to deactivate it.
- Choose 🗑️ ([Delete](#)) next to a rule to delete it.

#### ⓘ Note

You cannot delete an active rule.

- Choose **+** (*Add*) to create a new rule.

Parent topic: [Business Flow \[page 653\]](#)

## Related Information

[Approval \[page 668\]](#)

Approval is a systematic process of reviewing and authorizing changes or actions before they are integrated into the system. Approvals are routed to your reporting line manager, though there may be multiple levels of approval required for certain objects or conditions.

[Feedback \[page 674\]](#)

Feedback represents information of a user's response to a survey such as Net Promoter Scores (NPS). Feedback focuses on a user's overall experience for a service availed.

[Configure Autoflow](#)

## 37.1.1 Configure Autoflow

### 37.1.1.1 Configure Conditions (with Arrays)

As an administrator, you define the conditions that trigger actions in an autoflow.

## Context

Conditions are structured in groups and include the criteria that must be fulfilled for an Autoflow rule to execute. You can configure multiple conditions using logical operators such as *AND* and *OR*:

- Use the **AND (+)** operator to evaluate multiple conditions within the same group. If all the conditions within a group are met, the condition group is considered fulfilled.
- Use **+ OR Condition** to add a more than one condition, where if at least one group evaluates to True, the Autoflow is triggered.

#### ⓘ Note

- The maximum number of OR conditions allowed per rule is 10.
- The maximum number of AND conditions allowed per rule is 10.

## Procedure

1. Go to the [User Menu](#) and select [System Settings](#) > [All Settings](#) > [Business Flow](#) > [Autoflow](#) .
2. Choose [+ \(Add\)](#) and select [Rule](#).
3. From the [Choose an Entity](#) dropdown, select an entity.
4. Select the [Event Type](#) to define when the Autoflow rule is evaluated.

Common event types include:

- On create - Rule runs when a new record is created.
- On update - Rule runs when a record is updated.
- Explicit Trigger - Rule runs when you choose [Submit](#) in the [Autoflow](#) case step. You must select [Autoflow](#) for step type in case type configuration.

### → Recommendation

- Autoflow rules that are set to **on create** and **on update** are run asynchronously after the transaction object has been saved and the corresponding event is triggered. Defining too many rules can impact overall system performance. Therefore, it is recommended that you consolidate autoflow rules wherever possible. Based on the entity you have selected, there are various event types for managing autoflows.
- Autoflow rules affect all users using the entity within a process. Plan and define the rules accordingly.
- While configuring conditions, It is recommended to not use language-dependent attributes (and are not available in conditions lists). Also, do not configure the attribute [createdByName](#), if you are not a technical user.

5. Select the Field type from the [Select Field](#) dropdown.

When previous value and current value influence the action, choose [Previous Value](#) to consider the value before the event occurred. For example, when the field - [Escalation Status](#) is changed from the previous value of [Not Escalated](#) to [Escalated](#).

6. Define conditions to specify criteria that must be fulfilled to trigger an autoflow.

You can define Autoflow conditions on array (1:N) fields such as Notes, Attachments, Approval ID, and so on. This enables Autoflow sequences to respond to changes in the related child objects, such as any addition of a note or attachment.

### Note

This condition modeling logic is currently supported only for the Case entity and non-scheduled Autoflows.

When selecting the array fields:

- a. Specify how the condition must be evaluated against the array elements using the [Match Type](#) dropdown:
  - [Match Any](#) → Returns True if at least one occurrence of the attribute in the array matches the value. Otherwise, returns False.
  - [Match All](#) → Returns True if every occurrence of the attribute in the array matches the value. Otherwise, returns False.

- b. (Optional) Enable the [Add as Subset](#) toggle. This groups multiple conditions related to array fields into a subset within a larger condition block. This is useful when multiple notes or attachments are being evaluated as a group.
  - c. Add any additional logic or nesting using [AND / OR](#) as needed.
7. The available operators for defining conditions vary depending on whether the selected field is an array, non-array, technical ID, or based on its data type. The following list shows the applicable operators:
- Equal to
  - Not equal to
  - Greater than
  - Greater than or equal to
  - Less than
  - Less than or equal to
  - Contains
  - Does not contain
  - Is Null
  - Is not Null
  - Is Changed
  - In
  - Not In
8. Select the target type from the following options:
- Field
  - Comparator
  - Function (applicable only for date time and date field types). The current date and time displayed are based on UTC.

#### Note

Not all target types can be selected for all operators. Some are restricted based on the selected operator.

9. Specify an appropriate field, value, or function for comparison.

#### Note

You can also create conditions using custom fields. Set up custom fields before you create autoflow rules.

Choose  ([Delete](#)) to delete a condition group.

Choose  ([Dismiss](#)) to remove a condition.

10. Choose [Save](#) to save your condition set.



## 37.1.1.2 Configure Conditions

As an administrator, you define the conditions based on which the actions are triggered for an autoflow.

### Context

Conditions are structured in groups and include criteria that must be fulfilled if a workflow action must be triggered. More than one condition can be defined using logical operators [AND/OR](#). The [AND](#) operator can be defined using condition within the same group. To add more than one condition, use the [OR](#) operator. Add a new group to define the OR operator among the workflow conditions such that if conditions in at least one group are met, then the overall condition is considered fulfilled and the workflow rule has been triggered.

#### 📘 Note

- The maximum number of OR conditions allowed per rule is 15.
- The maximum number of AND conditions allowed per rule is 15.

### Procedure

1. Go to the [User Menu](#) and select [System Settings](#) > [All Settings](#) > [Business Flow](#) > [Autoflow](#) .
2. Choose [+](#) ([Add](#)) and select [Rule](#).
3. From the [Choose an Entity](#) dropdown, select an entity.
4. Select the [Event Type](#).

This determines when an autoflow rule must be evaluated and triggered. Timing is relative to an event that occurs to an entity. For example,

- On create - The rule is applied at every create of an entity.
- On update - The rule is applied at every update of an entity.
- Explicit Trigger -The rule is applied when you choose [Submit](#) in the [Autoflow](#) case step. You must select [Autoflow](#) for step type in case type configuration.

#### → Recommendation

- Autoflow rules that are set to **on create** and **on update** are run asynchronously after the transaction object has been saved and the corresponding event is triggered. Defining too many rules can impact overall system performance. Therefore, it is recommended that you consolidate autoflow rules wherever possible. Based on the entity you have selected, there are various event types for managing autoflows.
- Autoflow rules affect all users using the entity within a process. Plan and define the rules accordingly.
- While configuring conditions, It is recommended to not use language-dependent attributes (and are not available in conditions lists). Also, do not configure the attribute [createdByName](#), if you are not a technical user.

5. Select the Field type from the [Select Field](#) dropdown.
6. Define conditions to specify criteria that must be fulfilled to trigger an autoflow.

The following operators are available for defining conditions, based on the data type of the field:

- Equal to
- Not Equal to
- Greater than
- Greater than or equal to
- Less than
- Less than or equal to
- Contains
- Does not contain
- Is Null
- Is not Null
- Is Changed

Conditions can be based on standard fields or extension fields.

- a. Use the [AND](#) operator to define conditions within the same group. If all the conditions within a group are met, the condition group is considered fulfilled. Choose [+OR Condition](#) to add more than one condition. If all conditions in at least one group are met, then the overall condition for the rule is considered fulfilled. By default, the trigger is set to [Conditions are met](#).
- b. Select the target type from the following options:
  - Field
  - Comparator
  - Value or Field
  - Function (applicable only for date time and date field types). The current date and time displayed are based on UTC.
- c. When previous value and current value influence the action, choose [Previous value](#) to consider the value before the event occurred. The value - [Before Entity Change](#) can be used to define conditions based on field value changes. For example, an email is sent when the field - [Escalation Status](#) is changed from [Not Escalated](#) to [Escalated](#).  
The [Previous Value](#) checkbox is not available for scheduled autoflow rules.
- d. Specify an appropriate operator, and a value.

#### Note

You can also create conditions using custom fields. Set up custom fields before you create autoflow rules.

Choose  ([Delete](#)) to delete a condition group.

Choose  ([Dismiss](#)) to remove a condition.

7. Choose [Save](#).

#### Caution

To prevent infinite loops, the system automatically detects repeated triggers for the same autoflow rule. If multiple event triggers occur for the same autoflow and the same entity instance within a short

time frame, the system identifies a loop, deactivates the autoflow rule, and notifies the tenant owner by email. The email notification is sent manually and may be delayed.

In mass processing scenarios, when a loop is detected, all custom autoflow rules associated with the affected entity are automatically deactivated.

If this occurs, review and update the conditions to eliminate the loop. Then, reactivate the autoflow rule.

To avoid such scenarios, define precise conditions that do not repeatedly trigger the same autoflow for the same record.

### 37.1.1.3 Configure Actions

Once you define the conditions for an autoflow, configure the required actions.

#### Procedure

1. Once the autoflow conditions are defined, choose **+** (*Add*).  
The *Action* dropdown is displayed.
2. Select one of the following actions as required:
  -  (*Send Email*): Sends an email when the conditions are met.
  -  (*Send Event Notification*): Sends an event notification to a third-party communication system.
  -  (*Send Info Notification*): Sends an in-app notification to selected users when the conditions are met.
3. Based on the selected action type, complete the required parameters. For more information, see the *Action Fields and Parameters* section below.
4. Choose *Save*.
5. Choose *Activate*.
6. Choose  (*Delete*) to remove an action.
7. (Optional) *Enable for Bulk Operations*: Enable this switch to allow the actions to run during mass processing scenarios. When enabled, the action is executed even when records are processed in bulk. If disabled, the action runs only for individual record updates and is skipped during bulk operations.

Bulk processing scenarios include:

- Data migration from SAP Cloud for Customer to SAP Service Cloud CNS
- Initial replication of business entity data from SAP Cloud for Customer to SAP Service Cloud CNS
- Delta replication of business entity data from SAP Cloud for Customer to SAP Service Cloud CNS
- Other data replication scenarios from SAP Cloud for Customer to SAP Service Cloud CNS
- Inbound integration via connector service
- Data import and export (Data Impex)
- Data export via events
- External API-based processing

- Data protection and privacy events

### 37.1.1.3.1 Action Fields and Parameters

Based on the selected action type, different fields must be completed to configure an action. This section describes the fields and their purpose.

#### Send Email

| Field Name                                                                                                                                                                                                               | Details                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Subject                                                                                                                                                                                                                  | Specifies the subject line of the email.                                                                                   |
| Template                                                                                                                                                                                                                 | Defines the email template used for the message.                                                                           |
| Sender Name and Email                                                                                                                                                                                                    | Identifies the sender of the email. The available options depend on the email channels configured for the selected entity. |
| Role Based Recipients                                                                                                                                                                                                    | Specifies recipients based on their role. Available roles depend on the selected entity.                                   |
| <div>  <b>Note</b><br/>           If no roles are associated with the entity, role-based recipients are not available.         </div> |                                                                                                                            |
| Recipients                                                                                                                                                                                                               | Specifies recipients regardless of role. Includes accounts, individual customers, and contacts maintained in master data.  |

#### Send Event Notification

| Field Name           | Details                                               |
|----------------------|-------------------------------------------------------|
| Event Name           | Specifies the name of the event.                      |
| Communication System | Defines the target communication system.              |
| Subscribe Path       | Specifies the endpoint URL of the third-party system. |

## Send Info Notification

| Field Name                                                                                                                                              | Details                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Language                                                                                                                                                | Specifies the language of the notification.                    |
| Subject                                                                                                                                                 | Defines the subject of the notification.                       |
| Description                                                                                                                                             | Provides the content of the notification.                      |
| <div><div> ⓘ Note</div><div>Placeholders are supported for <i>Subject</i> and <i>Description</i>.<br/>Enter { to view available attributes.</div></div> |                                                                |
| Role Based                                                                                                                                              | Specifies roles whose assigned users receive the notification. |
| Employee                                                                                                                                                | Specifies individual users who receive the notification.       |

## 37.1.2 Scheduled Autoflow

### 37.1.2.1 Configure Conditions

A scheduled Autoflow rule executes the actions as per the schedule configured by your administrator, when the conditions are met.

## Context

Conditions are structured in groups and include criteria that must be fulfilled if a workflow action must be triggered. More than one condition can be defined using logical operators *AND/OR*. The *AND* operator can be defined using condition within the same group. To add more than one condition, use the *OR* operator. Add a new group to define the OR operator amongst the workflow conditions such that if conditions in at least one group are met, then the overall condition is considered fulfilled and the workflow rule has been triggered.

#### ⓘ Note

- The maximum number of OR conditions allowed per rule is 10.
- The maximum number of AND conditions allowed per rule is 15.
- Custom autoflows are not supported in Sales Orders.

## Procedure

1. Go to the *User Menu* and select ► *System Settings* ► *All Settings* ► *Business Flow* ► *Autoflow* ►.
2. Choose **+** (*Add*) and select *Scheduled Rule*.
3. From the *Choose an Entity* dropdown, select an entity.
4. Select the *Event Type*.

This determines when an autoflow rule must be evaluated and triggered. Timing is relative to an event that occurs to an entity. For example,

- On create - The rule is applied at every create of an entity.
- On update - The rule is applied at every update of an entity.
- Explicit Trigger - The rule is applied when you click *Submit* in the *Autoflow* case step. You must select *Autoflow* for step type in case type configuration.

### → Recommendation

- Autoflow rules that are set to **on create** and **on update** are run synchronously while the transaction object is being created or saved in user session. Too many rules affect system performance. Therefore, it is recommended that you consolidate these rules. Based on the entity you have selected, there are various event types for managing autoflows.
- Autoflow rules affect all users using the entity within a process. Plan and define rules accordingly.
- While configuring conditions, It is recommended to not use language dependent attributes (and are not available in conditions lists). Also, do not configure the attribute *createdByName*, if you are not a technical user.

5. Select the Field type from the *Select Field* dropdown.
6. Define conditions to specify criteria that must be fulfilled to trigger an autoflow.

The following operators are available for defining conditions, based on the data type of the field:

- Equal to
- Not Equal to
- Greater than
- Greater than or equal to
- Less than
- Less than or equal to
- Contains
- Does not contain
- Is Null
- Is not Null
- Is Changed

Conditions can be based on standard fields or extension fields.

- a. Use the *AND* operator to define conditions within the same group. If all the conditions within a group are met, the condition group is considered fulfilled. Choose *+OR Condition* to add more than one condition. If all conditions in at least one group are met, then the overall condition for the rule is considered fulfilled. By default, the trigger is set to *Conditions are met*.
- b. Select the target type from the following options:

- Field
  - Comparator
  - Value or Field
  - Function (applicable only for date time and date field types). The current date and time displayed is based on UTC.
- c. When previous value and current value influence the action, choose *Previous value* to consider the value before the event occurred. The value - *Before Entity Change*, can be used to define conditions based on field value changes. For example, an email is sent when the field - *Escalation Status* is changed from *Not Escalated* to *Escalated*.
- The *Previous Value* checkbox is not available for scheduled autoflow rules.
- d. Specify an appropriate operator, and a value.

#### Note

You can also create conditions using custom fields. Set up custom fields before you create autoflow rules.

Choose  (*Delete*) to delete a condition group.

Choose  (*Dismiss*) to remove a condition.

7. Choose *Save*.

#### Note

To prevent infinite loops, the system automatically detects repeated triggers for the same autoflow rule. If 500 event triggers occur for the same autoflow and the same record within 15 minutes, the system identifies this as a loop and deactivates the autoflow rule.

To avoid such scenarios, ensure that rule conditions are defined carefully so that they are specific and do not repeatedly trigger the same autoflow for the same record.

## Related Information

[Configure Case Types \[page 419\]](#)

Customize case types to match the workflow used by your organization.

## 37.1.2.2 Configure and Schedule Actions

You can define a schedule for an autoflow process to trigger actions automatically based on conditions for business entities.

### Procedure

1. Once the autoflow conditions are defined, choose **+** (*Add*).  
The *Action* dropdown is displayed.
2. Select one of the following actions as required:
  -  (*Send Email*): Sends an email when the conditions are met.
  -  (*Send Info Notification*): Sends an in-app notification to selected users when the conditions are met.



- (*Update Field*): Assigns a field or a value to a field when the conditions are met.
3. In the *Scheduling* section, select values for *Condition* and *Duration*.  
The *Duration* field determines when the autoflow action runs relative to the selected condition date.
    - *Before*: Runs the action a specified number of hours, days, or months before the condition date.
    - *After*: Runs the action a specified number of hours, days, or months after the condition date.
    - *On*: Runs the action exactly at the condition timestamp (UTC), with no time offset.

#### Note

The *On* option is not supported for admin data fields such as *Created On* and *Updated By*, because of the asynchronous nature of the autoflow, these timestamps are already in the past when the action is triggered.

4. Enter a value for *Time Offset*.

#### Note

The allowed range for *Time Offset* is 1 hour to 180 days. The value must be an Integer. This is the recommended limit for all three *Duration* options.

5. Choose *Next*.  
Based on the selected action type, the action fields section is displayed. Enter the required parameters. For more information, see *Action Fields and Parameters*.
6. Save your changes.
7. (Optional) *Enable for Bulk Operations*: Enable this switch to allow the actions to run during mass processing scenarios. When enabled, the action is executed even when records are processed in bulk. If disabled, the action runs only for individual record updates and is skipped during bulk operations.

Bulk processing scenarios include:

- Data migration from SAP Cloud for Customer to SAP Service Cloud CNS
- Initial replication of business entity data from SAP Cloud for Customer to SAP Service Cloud CNS



- Delta replication of business entity data from SAP Cloud for Customer to SAP Service Cloud CNS
- Other data replication scenarios from SAP Cloud for Customer to SAP Service Cloud CNS
- Inbound integration via connector service
- Data import and export (Data Impex)
- Data export via events
- External API-based processing
- Data protection and privacy events

### 37.1.2.2.1 Action Fields and Parameters

Based on the selected action type, different fields must be completed to configure an action. This section describes the fields and their purpose.

#### Send Email

| Field Name                                                                                                                                                                                                               | Details                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Subject                                                                                                                                                                                                                  | Specifies the subject line of the email.                                                                                   |
| Template                                                                                                                                                                                                                 | Defines the email template used for the message.                                                                           |
| Sender Name and Email                                                                                                                                                                                                    | Identifies the sender of the email. The available options depend on the email channels configured for the selected entity. |
| Role Based Recipients                                                                                                                                                                                                    | Specifies recipients based on their role. Available roles depend on the selected entity.                                   |
| <div>  <b>Note</b><br/>           If no roles are associated with the entity, role-based recipients are not available.         </div> |                                                                                                                            |
| Recipients                                                                                                                                                                                                               | Specifies recipients regardless of role. Includes accounts, individual customers, and contacts maintained in master data.  |

#### Send Info Notification

| Field Name | Details                                     |
|------------|---------------------------------------------|
| Language   | Specifies the language of the notification. |
| Subject    | Defines the subject of the notification.    |

| Field Name  | Details                                                                                                                                                                                         |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | Provides the content of the notification.<br><br><div> <i>Note</i><br/> Placeholders are supported for <i>Subject</i> and <i>Description</i>.<br/> Enter { to view available attributes. </div> |
| Role Based  | Specifies roles whose assigned users receive the notification.                                                                                                                                  |
| Employee    | Specifies individual users who receive the notification.                                                                                                                                        |

## Update Field

Use the [Update Field](#) action to assign a field or a value to a field when the conditions are met.

In the [Update Field](#) section (after [Scheduling](#)), you can:

- Assign or calculate a value for a target field.
  - Assign the value of a source field to a target field.
  - Define expressions and calculations in free-style format.
1. Specify the target field first, followed by =, and then the expression. For example: {Status} = ( 'Open' )
  2. To add a field update row, choose + ([Add](#)).
  3. To remove a row, choose × ([Remove](#))
  4. To remove all rows, choose [Clear All](#).

### *Note*

- You can add a maximum of 25 field update rows per field update card.
- Custom fields are supported, including in scheduling conditions (for example, one hour after an extension or due date).

## 37.1.3 Monitor Autoflow Logs

As an administrator, you can monitor logs for autoflow rules.

When the system triggers an autoflow rule, an entry gets added to the [Rule Logs](#). These logs help you monitor rules, troubleshoot errors, and retry failed actions when necessary.

## Access Rule Logs

1. Navigate to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Business Flow](#) > [Autoflow](#).
2. Choose [More](#) and select [Rule Logs](#).

By default, only rules with successful condition evaluation are logged. To log all rules regardless of conditions or triggered actions, turn on the [Log All Rules](#) switch. This switch automatically turns off after five minutes.

You can also switch between [Rules](#) and [Scheduled Rules](#).

The [Rule Logs](#) tab lists all custom rule logs. You can search logs using the [Source Document ID](#) or sort them by the following fields:

- Business Entity – The business entity for which the rule was triggered.
- Source Document ID – The display ID of the associated business entity.
- Event Name – The event that triggered the rule.
- Run Time – The time at which the rule was executed.
- Action Status – The overall status of the rule execution. The action status indicates the outcome of the rule:
  - Not Executed: The rule was triggered but not executed because its condition evaluation was false.
  - Completed: The rule executed successfully.
  - Completed with Errors: The rule executed but encountered errors.
  - Unknown: The rule failed due to an unknown error.

You can also use the following quick filters to filter logs:

- Date – The date based on the selected time interval.
- Business Entity – The entity associated with the rule during its creation.
- Rule Name – The name defined for the rule.
- Action Type – The action type specified for the rule.
- Action Status – The status of the action (In Progress, Triggered, Completed, Completed with Errors, Unknown, or Not Executed).

Selecting a rule from the [Rule Name](#) column opens its log messages, which display the action type, action status, reference ID, and success or error messages.

When you select a rule from the [Rule Name](#) column, [Log Messages](#) displays the status and more details for the actions that were triggered for the rule. You can view the action type, action status, reference ID, and success or error message, for the actions triggered.

For event notifications, the reference ID provides a link to view the event name, event ID, payload, and error message. This can be further checked and retrIGGERED in Event Monitoring.

For every action of either same or different types, there is an entry in [Log Messages](#). For example, if there were two emails and an event notification sent for an autoflow rule, there will be three entries in the log messages for the rule.

## Retry Action in Rule Logs

You can manually retry failed autoflow actions directly from the [Rule Logs](#) tab. You can retry actions either individually or in bulk (up to 30 log entries at a time).

Navigate to [Rule Logs](#), select the entries and click [Retry](#). The retry option is available only for the log entries in the [Rule Logs](#).

- For all actions except [Event Notification](#), retry is available when the status is [Completed with errors](#) or [unknown](#).
- For [Event Notification](#), retry is available only when the status is [Unknown](#).

Once a retry is triggered, the system updates the log status for the selected entries within the autoflow rule:

- **Retry In Progress:** The action has been queued and is currently being retried.
- **Retry Completed:** The retry was successful.
- **Retry Completed with Error:** The retry was attempted but failed again.

### Note

When you trigger a retry from the main monitoring interface, it retries all actions in the autoflow rule with statuses eligible for retry, regardless of any filters applied in the log view.

## 37.2 Approval

Approval is a systematic process of reviewing and authorizing changes or actions before they are integrated into the system. Approvals are routed to your reporting line manager, though there may be multiple levels of approval required for certain objects or conditions.

As an administrator, you can create approvals for streamlining your business processes. By default, once the approval workflow is triggered, the assigned approvers receive in-app notifications.

### Important Facts About Approvals

- For Cases and Opportunities, one business transaction can have multiple active approval processes.
- The approval request notification appears in the notification area of the system for the involved employees and managers.
- If the approver finds an unsatisfactory transaction, the approver can add a comment and return it to the employee for revision. The employee then revises the transaction and submits it again for approval. Once the business transaction is correct, it can be further processed.
- You can only delete approval processes that are in the [Draft](#) or [Active](#) state.

### Note

As an administrator, you can create and modify approval processes only if you are assigned approval services.

Business users must have access to the business entity for which they are added as approvers. For example, if a business user has been added as an approver for case, the case opportunities, the opportunities service must be assigned to this business user.

**Parent topic:** [Business Flow \[page 653\]](#)

## Related Information

[Autoflow \[page 653\]](#)

Autoflow enables you to create rules that automatically trigger actions such as sending event notifications to integrated solutions, notifying users in the application, and sending automated emails for business entities.

[Feedback \[page 674\]](#)

Feedback represents information of a user's response to a survey such as Net Promoter Scores (NPS). Feedback focuses on a user's overall experience for a service availed.

[Notifications \[page 29\]](#)

Notifications are a way to let you know that something new has happened so you don't miss anything that can be worth your attention.

## 37.2.1 Configure Approvals

### 37.2.1.1 Configure Conditions

As an administrator, you define the conditions based on which an approval task is sent to the approvers.

#### Procedure

1. Navigate to [User Menu](#) and choose [System Settings](#) > [All Settings](#) > [Business Flow](#) > [Approval](#).
2. Choose [+ \(Create Approval Process\)](#).
3. Enter a name in the [Process Name](#) field.
4. From the [Business Entity](#) dropdown, select the required entity.
5. To evaluate all steps in a multi-step approval process, enable [Run All Steps](#).
  - When enabled, all steps are evaluated, and only those with fulfilled conditions are triggered. Steps that do not meet the conditions are marked as [Not Applicable](#).
  - When disabled, the approval process stops if any step condition is not met, and both the step and the approval are marked as [Not Applicable](#).
6. Select a language, and enter values in the [Task subject](#) and [Task Description](#) fields.

7. (Optional) To receive notifications, enable [Email Notifications](#).  
The [Select Email Channel](#) field appears. Select an appropriate email channel from the list. Select the [Approval Request Template](#) and [Approval Response Template](#).

#### Note

Administrators must define email templates for [Approval Request](#) and [Approval Response](#) template types for the entities.

8. (Optional) Configure reasons for approval and rejection. This feature enables approvers to select predefined approval or rejection reasons during the approval process.

1. Under the [Configure Reasons for Approval/Rejection](#) section, choose  (Select Reason) in the [Select Reason for Approval](#) field.

2. In the [Approval Reasons](#) window, select the required reason. To view additional details, choose  to expand the reason. Choose [Apply](#).
3. (Optional) Enable the [Set Approval Reason as Required](#) switch to make the approval reason mandatory during approval.
4. Repeat the same steps for the [Select Reason for Rejection](#) field.

9. (Optional) Define conditions to specify the criteria required to trigger approval steps.
  - You can add multiple approval steps using the [Add](#) button and configure conditions and approval for each step.
  - You can define more than one conditions using logical operators [AND/OR](#). Use the [AND](#) operator to define conditions within the same group.
  - When one of the conditions is not met, the approval process ends and the requestor is notified about the same.
  - To add more than one condition, use the [OR](#) operator. Add a new group to define the [OR](#) operator among the approval conditions such that if conditions in at least one group are met, then the overall condition is considered fulfilled and the approval process is triggered.
  - Conditions can be based on standard fields or extension fields.
  - a. Choose [+OR Condition](#). By default, the trigger is set to [Conditions are met](#). While using operands, the first condition can only be defined using the [AND](#) operand.
  - b. Select the field, operator, and the value (or field).
  - c. Specify an appropriate operator, and a value.

The following operators are available for defining conditions, based on the data type of the field:

- Equal to
- Not Equal to
- Greater than
- Greater than or equal to
- Less than
- Less than or equal to
- Contains
- Does not contain
- Is Null

- Is not Null
  - Is Changed
- d. If desired, specify conditions with the following options:
- **+** (*Add*) to add an *AND* expression.  
Conditions within a group are logical *AND* expressions. If all the conditions within a group are met, the condition group is considered fulfilled.
  - **+ OR Condition** to add an *OR* expression.  
If all conditions in at least one group are met, then the overall condition for the rule is considered fulfilled.
  - **🗑** (*Delete*) to delete a condition group.
  - **×** (*Dismiss*) to remove a condition.

#### 📘 Note

- The maximum number of OR conditions allowed per approval rule is 10.
- The maximum number of AND conditions allowed per approval rule is 15.
- The maximum number of steps allowed in an approval process is 15.

### 37.2.1.1.1 Configure Reasons for Approval and Rejection

The approval process supports the configuration and selection of approval and rejection reasons during the approval flow. Administrators can define custom reason codes and assign them to approval processes, while approvers can select the appropriate reason when approving or rejecting a request.

#### Procedure

1. Navigate to *User Menu* and choose **► System Settings ► All Settings ► Business Flow ► Configure Reasons for Approval/Rejection** .  
A list of existing reason lists is displayed. You can edit an existing reason list or create a new one.
2. In the *Reasons List* section, choose **+** (*Create*).  
The *Create Reason List* window is displayed.
3. Enter the details such as *Reason List ID*, *Name*, *Entity*, *Default Language*, *Type*, and *Sorting Option*. Save the reason list.  
The reason is created and added to the list.
4. In the reason details section, choose **+** (*Create Reason*).
5. Enter the reason code and description details.
6. Enable or disable the *Active* switch to the reason as active or inactive.  
Only active reasons are available during approval process configuration.
7. Choose **✓** (*Create*) to add the reason code. Repeat the same steps to create multiple reason codes.
8. (Optional) To edit an existing reason, select the reason from the list and choose **✎** (*Edit*).

## Results

The configured reason list is available for selection during approval process configuration.

### 37.2.1.2 Configure Approvers

Set up approval process with direct or responsible employees as approvers.

## Procedure

1. Select the [Approval Request](#) and [Approval Response](#) template.
2. In the [Define Work Distribution](#) section, define the approvers. You can choose one or both options from the following:
  - [Direct Approvers](#): You can select specific employees responsible as direct approvers, provided that they possess the corresponding access rights to the task type and business transaction. Such approvers also require read access to the relevant business transaction data and write access to the notes of the business transaction.

#### Note

To allow approvers to take action directly from the details of an entity awaiting approval, make the [Actions](#) column visible on the [Approval](#) tab of the related item.

The maximum number of direct approvers per approval rule is 10.

- [Responsibles](#): You can select one or more responsible employees associated with the entity.
3. To include multiple approvers, enable the [All Approvals Required](#) switch. However, sequential approval is not supported.
  4. You can configure automatic approval settings for the approval step. In the [Automatic Approval Settings](#) section:
    - Choose [Automatically approve if no approver is determined](#) to automatically approve the step when no approver can be identified.
    - Select [If no action is taken within](#) to configure an automatic action when an approver does not respond within a specified period. Enter the duration and select the corresponding time unit. Choose one of the following actions:
      - [Auto Approve](#): The approval step is automatically approved when the duration expires.
      - [Auto Reject](#): The approval step is automatically rejected when the duration expires.

#### Note

The duration for automatic approval or rejection can be configured from 1 hour to 10 days.

5. Choose [Save](#) and [Activate](#).  
You can select the approvals that you define here in the [Actions](#) in [Playbook](#).



When the entire approval process is completed, the system sends an in-app notification of type [Info Notification](#) to the approval requester with one of the following statuses so that requestor can proceed with subsequent actions.

- Approved - Conditions are met and approvers have approved the approval request.
- Rejected - Conditions are met, however the approvers have rejected the approval request.
- Not Applicable - Conditions are not and hence the approval process ends.
- Auto Approved - Conditions are met, however the approver can't be determined (approver is not maintained at the opportunity step), and the [Automatic Approval](#) switch is enabled while setting up the approval process.

## Related Information

[Notifications \[page 29\]](#)

Notifications are a way to let you know that something new has happened so you don't miss anything that can be worth your attention.

## 37.2.2 Configure External Approval

As an administrator, you can configure external approval process for your business.

### Prerequisites

To configure external approval process, you must integrate the SAP Service Cloud Version 2 system with SAP Build Process Automation system and create a business process.

#### 📘 Note

External approval process is applicable only for Cases, and customers having BPA license will have to request external approval process activation via an incident on CEC-CRM-APR.

### Procedure

1. Go to your user menu and select [Settings](#) [All Settings](#) [Business Flow](#) [Approval](#).
2. Select [+](#) and choose [Create External Approval Process](#).
3. Select a project, business entity, and process.
4. Click [Save](#).

## Related Information

[Integration with SAP Build Process Automation](#)

## 37.3 Feedback

Feedback represents information of a user's response to a survey such as Net Promoter Scores (NPS). Feedback focuses on a user's overall experience for a service availed.

A feedback object can link to any business service such as a case, contact, an account, and so on.

In general, a feedback object can refer to any data structure that stores or displays feedback results from a Qualtrics survey.

**Parent topic:** [Business Flow \[page 653\]](#)

## Related Information

[Autoflow \[page 653\]](#)

Autoflow enables you to create rules that automatically trigger actions such as sending event notifications to integrated solutions, notifying users in the application, and sending automated emails for business entities.

[Approval \[page 668\]](#)

Approval is a systematic process of reviewing and authorizing changes or actions before they are integrated into the system. Approvals are routed to your reporting line manager, though there may be multiple levels of approval required for certain objects or conditions.

### 37.3.1 Configure and Create Feedback Flow

Define workflow rules to send out feedback surveys for different milestones of ticket processing.

## Context

Configure the feedback flow to decide the path through which feedback flows in the system.

## Procedure

1. Log in to the system as an administrator.
2. Navigate to user profile on the right-top corner, and access the [Settings](#) page.
3. Go to ► [All Settings](#) ► [Business Flow](#) ► [Feedback Flow](#) ►.
4. Click the add icon ( + ) on the [Feedback Flow](#) page, choose a [Business Entity](#) from the dropdown and enter a description for the business entity.

### Note

Currently, only Case is supported while selecting a business entity when creating the feedback flow.

5. In the [Email Template](#) section, enter a subject in the subject line and then select a preconfigured email template.
6. Choose a sender name and email ID from the preconfigured email channel.
7. Select a role-based recipient for the feedback flow, and click [Save](#).
8. Choose [Activate](#) to activate your feedback flow.

## Related Information

### [Create Email Templates \[page 350\]](#)

Email templates streamline email messaging with preset text, graphics, signatures, and attachments.

Create templates for service responses, signatures, branding, and campaigns by uploading an HTML-based layout file.

### [Case-Closed Feedback Scenario with Qualtrics](#)

## 38 Business Alerts

Business Alerts generate proactive report about important business information, enabling teams to stay informed about critical business situations. These alerts ensure that key updates are communicated promptly, enhancing operational efficiency and response time.

[View Business Alerts \[page 676\]](#)

View business alerts in the system.

[External Alerts \[page 677\]](#)

External Alerts reports important business information sourced from external systems.

[Internal Alerts \[page 680\]](#)

Internal alerts allows you to set up conditional rules based on business data to generate proactive updates .

### 38.1 View Business Alerts

View business alerts in the system.

You can view important alerts, such as about invalid email addresses, outstanding cases, and essential business updates, in the [Alerts](#) section under the [Overview](#) tab in [Agent Desktop](#). You can categorize these alerts into subgroups based on priority, or display them as a flat list, helping you prioritize the most urgent business situations.

You can view alerts in the collapsed view and select [Show More](#) to access additional alerts.

**Parent topic:** [Business Alerts \[page 676\]](#)

### Related Information

[External Alerts \[page 677\]](#)

External Alerts reports important business information sourced from external systems.

[Internal Alerts \[page 680\]](#)

Internal alerts allows you to set up conditional rules based on business data to generate proactive updates .

## 38.2 External Alerts

External Alerts reports important business information sourced from external systems.

### Note

External Alerts is supported for *Account*, *Contract Accounts*, *Premise*, *Contact*, and *Individual Customer* entities in Agent Desktop only.

**Parent topic:** [Business Alerts \[page 676\]](#)

### Related Information

[View Business Alerts \[page 676\]](#)

View business alerts in the system.

[Internal Alerts \[page 680\]](#)

Internal alerts allows you to set up conditional rules based on business data to generate proactive updates .

### 38.2.1 Configure External Alerts

As an administrator, you configure and manage external alerts for the system.

#### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ►.
2. Create a communication system.
3. Create a communication configuration.
4. Edit the API endpoint and other fields as needed. Link the communication system to the configuration.
5. Check the integration setup by ensuring the API endpoint returns the correct data.

### Related Information

[Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

[Create Communication Configurations \[page 913\]](#)

Create communication configurations for the integration between SAP Service Cloud Version 2 and external applications.

## 38.2.2 Alerts System API

The communication system exposes an API path for you to integrate with. You can set up sending alert message lists using CPI or other methods. These messages appear in the [Alerts](#) view in the same order they are sent. You need to generate and collect the alerts, then send them to the system using the exposed API path.

The following attribute values are provided from the system as part of the request entity, which can be utilized in your alert generation.

Attributes

| Attributes                                                                                                                                                       | Description                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| userid                                                                                                                                                           | Logged in user/agent                                                                                                                    |
| loggedInLanguage                                                                                                                                                 | Login language for the user.                                                                                                            |
| <div><div>📘 Note</div><div>Alerts can be sent in the selected language, if needed.</div></div>                                                                   |                                                                                                                                         |
| contextType                                                                                                                                                      | Always set to <b>INDIVIDUAL_CUSTOMER</b>                                                                                                |
| <div><div>📘 Note</div><div>ContextType is deprecated, and the field will be removed by the end of third quarter, instead use contextEntity-FullName.</div></div> |                                                                                                                                         |
| contextEntityFullName                                                                                                                                            | For Individual customer: sap.crm.md.individualcustomerservice.entity.individualCustomer For Account: sap.crm.md.accounts.entity.account |
| contextId                                                                                                                                                        | UUID of the individual customer                                                                                                         |
| displayId                                                                                                                                                        | Display ID of the individual customer                                                                                                   |

### Request

The following is the request entity in JSON format:

```
{
 "userId": "<< UUID of the user>>",
 "loggedInLanguage": "en", // The alerts can be sent in this language if required
 "contextType": "INDIVIDUAL_CUSTOMER",
 "contextId": "<< UUID of individual customer in V2 >>",
 "contextDisplayId": "12345" // ID from V2
 ...
}
```

## Response

The following is an example of the response returned by the system in JSON format:

```
{
 "count": 2,
 "alerts": [
 {
 "signalType": "extAlert",
 "object": {
 "objectType": "INDIVIDUAL_CUSTOMER",
 "displayId": "4501391",
 "objectId": "<< UUID of the individual customer >>"
 },
 "groupText": "High", (Text used for grouping in UI)
 "icon": "",
 "color": "",
 "message": "Fraud",
 "source": {
 "url": "<< navigation URL >>"
 }
 },
 {
 "signalType": "extAlert",
 "object": {
 "objectType": "INDIVIDUAL_CUSTOMER",
 "displayId": "4501391",
 "objectId": "<< UUID of the individual customer >>"
 },
 "icon": "",
 "color": "",
 "groupText": "Medium", (Text used for grouping in UI)
 "message": "Photo not approved",
 "source": {
 "url": "<< navigation URL >>"
 }
 }
]
}
```

The following attributes are mandatory in the response structure:

| Attribute           | Description                                                                                                                                                                                                                                                                                        |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| signalType          | Type of signal returned in the response.                                                                                                                                                                                                                                                           |
| object              | Object associated with the response.                                                                                                                                                                                                                                                               |
| message             | Message included in the response.                                                                                                                                                                                                                                                                  |
| icon                | The icon to be displayed on the response, for example, <b>error_filled</b> , <b>warning_filled</b> , or <b>info_filled</b> .                                                                                                                                                                       |
| color               | The available colors in the response are red, yellow, and green.                                                                                                                                                                                                                                   |
| default group icons | If a group does not have an icon explicitly set, a default icon will now be assigned based on the associated color: <ul style="list-style-type: none"><li>• <b>Green</b> → <b>info_filled</b></li><li>• <b>Yellow</b> → <b>warning_filled</b></li><li>• <b>Red</b> → <b>error_filled</b></li></ul> |

#### Note

In cases where a user sets an undefined or non-standard color (for example, purple), the system now defaults the color to green (icon: info\_filled), treating it as a low-priority alert.

This is a runtime API call from the UI component. Each time the UI component loads, it makes this call to fetch the latest alerts.

## 38.3 Internal Alerts

Internal alerts allows you to set up conditional rules based on business data to generate proactive updates .

#### Note

Ensure that your administrator user has the **sap.crm.service.alertsService** business service and the respective apps **sap.crm.businessalertsservice.uiapp.businessAlertsAdmin** and **sap.crm.businessalertsservice.uiapp.businessAlertsTypeAdmin** enabled.

Parent topic: [Business Alerts \[page 676\]](#)

### Related Information

[View Business Alerts \[page 676\]](#)

View business alerts in the system.

[External Alerts \[page 677\]](#)

External Alerts reports important business information sourced from external systems.

### 38.3.1 Configure Alert Groups

Configure alert groups to be used in alert types.

### Context

As an administrator, configure alert groups to use them in alert types to define alerts for your representatives.



## Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Business Alerts](#) ► [Alert Groups](#) ►.
2. Choose the + (Create Group) icon to create a new alert group and enter a [Code](#), [Description](#), select a [Color Band](#) from the dropdown, and save the alert group.

## 38.3.2 Configure Alert Types

Configure alert types for your users based on entities and the predefined conditions.

## Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Business Alerts](#) ► [Alert Types](#) ►.
2. Choose the + (Create New Alert Type) icon to create a new alert type. Enter a [Name](#), select an alert group from the [Alert Group](#) dropdown, select an entity from the [Entity](#) dropdown, select [Event](#) from the [Lifecycle](#) dropdown, and then enter a message in the [Alert Type Message](#) field.

### Note

- [Contact](#), [Individual Customer](#), and [Account](#) are the supported entities for alert types.
- [Alert Type Message](#) is the actual message that appears to your users under the selected alert group.

3. Choose the [Alert Type Rule](#) icon to define conditions for your alert and save your changes. While defining an alert rule, if you select an array value in the condition block dropdown, the **function** option is enabled. This option lets you choose between [Match Any](#), [Match All](#), and [Count](#).

### Note

The [Alert Type Message](#) is shown only for those events that have fulfilled the condition defined in [Alert Type Rule](#).

4. When either creating or editing an alert type, ensure that you choose a saved filter of the respective entity in the [Test Evaluation Criteria](#) field so that the alert applies to a limited set of records. This filtering prevents the system from unnecessarily updating alerts for all records (without actual events occurring).

### Note

For a test tenant, the selected [Test Evaluation Criteria](#) must contain fewer than 100 records. For a production tenant, there are no restrictions, however, any modifications made to the alert rule will reflect after the weekend run.

5. On the [Alert Type](#) screen, click the search and add icon to add the roles which must view the alert message, and save your changes. You've now configured alert types for your users.
6. To deactivate an alert, disable the [Active](#) switch corresponding to a particular alert.

## Results

Once you deactivate an alert type, the alert type is no longer visible for an account, individual customer, or a contact.

## 39 Emails

Learn about how you can leverage the email functionality of your system to manage email channels, maintain templates as per different scenarios and automatically generate cases that are sent to service agents for processing.

### 39.1 Configure Emails

Administrators can configure emails in [Settings](#).

You can find [Settings](#) in the user profile menu at the top of the screen.

#### 39.1.1 Configure Email Channels

As an administrator, you can configure email channels to send and receive emails from SAP Sales Cloud and SAP Service Cloud Version 2 tenant.

#### Prerequisites

Before configuring the email channel in the SAP Sales Cloud and SAP Service Cloud Version 2 tenant, your email infrastructure administrator must set up a mailbox in your own email system (for example, Outlook 365, Exchange, Google Workspace, Proofpoint, or any SMTP/IMAP environment) for every inbound channel (including Inbound Only and Inbound and Outbound channels). This mailbox will serve as the public-facing email address for your organization.

##### Note

SAP Sales Cloud and SAP Service Cloud Version 2 does not host your organization's customer-facing mailbox. Emails must first arrive through your organization owned email and then be forwarded to the SAP Sales Cloud and SAP Service Cloud Version 2 channel for processing (case creation, routing, interactions, etc.).

Perform the following steps to set-up mailbox with auto-forwarding:

1. Create or use an existing mailbox for every channel you want to set up in SAP Sales Cloud and SAP Service Cloud Version 2.
2. Configure a server-side auto-forwarding rule on this mailbox to forward all incoming messages to the tenant email address generated in SAP Sales Cloud and SAP Service Cloud Version 2.
3. Ensure that auto-forwarding preserves original sender, message ID, and full MIME body (HTML, attachments, inline images)

## Context

When an email message is received in the solution, the system routes the email to the corresponding email channel. If you implement routing rules, the solution routes the email for the selected channel as specified.

### Note

As a prerequisite to configuring email channels, you need to allow the MIME type text/html in the application. You can do this through ► [System Settings](#) ► [All Settings](#) ► [Data Administration](#) ► [MIME Types for Attachments](#) ►.

## Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [Channels](#) ►
2. Choose the + [\(Create\)](#) at the top of the table to create a new channel.
3. Enter a channel name and channel email address.
4. Choose the direction of the email channel:
  - [Inbound and Outbound](#): This email channel shall be used for both inbound and outbound emails.

### Note

You can configure up to 20 email channels with the direction as Inbound and Outbound if you are using the default pre-configured MTA (Mail Transfer Agent). This limit does not apply if you are using your own SMTP server for outbound emails. For more information on setting up your own MTA, see [Configure Mail Transfer Agent \(MTA\)](#) [page 687].

The size limit for Inbound and Outbound emails is 30 MB.

- [Inbound](#): This email channel shall be used for inbound emails only for case and entity types of campaign.

### Note

You can have unlimited number of inbound email channels configured in your tenant and these inbound email channels doesn't appear in the email composer, autoflow and feedback scenarios for sending emails.

1. If you chose the direction of the email channel as Inbound and Outbound, you can optionally maintain the following information:
  - [BCC for Outbound Emails](#): Enter the BCC channel email address for outbound emails to which copies of all outbound messages are sent for purposes such as auditing or compliance.
  - [Sender Name](#): If you select [User Input](#), enter a Sender Name that is identified as the sender of the email instead of the email address. If you select [Logged-in user](#), then the logged-in user's sender name is displayed.
  - [Reply-To](#): Select if the Reply-To ID displayed in the email must be default or if it should be the ID of the logged-in user.

2. If you chose the direction of the email channel as Inbound, you can optionally maintain the Default Outbound Channel for sending emails. This channel is defaulted when you reply to an email sent on the corresponding inbound email channel
5. Choose the object type.
6. *Organizational Units*  
If you want the email channel to be used only by users in a specific organizational unit, select the *Search and Add Organizational Unit* icon to assign an organization unit to an email channel.  
Also, maintain the restriction rule for the roles intended to be assigned to non-admin users by navigating to **► User Menu ► System Settings ► All Settings ► Roles ►** by performing the following steps:
  1. Choose a role assigned to a non-admin user.
  2. Search for business service with Business Service ID *sap.crm.service.emailChannelService*.
  3. Set the read and write access as *Restricted*.
  4. Choose *Unassigned* and select the required restriction rule.For more information, see [Create Business Roles and Assign a Business User \[page 234\]](#).
7. *Save* and *Activate* your channel.  
Once the channel is activated, you can enable auto creation of an individual customer for the email channel and also set Case determination rules. For more information, see [Configure Service Level Determination \[page 427\]](#).

## 39.1.2 Configure Email Templates

Administrator can set up and maintain HTML-based templates for outgoing email messages.

### Context

Branding templates are applied to all outbound email messages sent from the channel, adding it around the response prepared by the agent.

A branding template is a simple HTML file with a *##text##* placeholder. The placeholder is usually located between a standard header and footer. The header and footer can include your brand logos and any standard text or disclaimers. Create the branding template file with your preferred HTML editor. You can configure a different branding template for each channel.

#### 📘 Note

As a prerequisite to configuring email templates, you need to allow the MIME type text/html in the application. You can do this through **► Settings ► Data Administration ► MIME Types for Attachments ►**.

## Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [Templates](#) ►
2. Choose the + [\(Create\)](#) at the top to create a new template.
3. Enter a template name followed by the template type and channel type.

You can also enter more details about this template in the description field.

4. Upload your HTML template file and save your template.

### ⓘ Note

As an administrator, you can control access to templates (read or write) for agents and other administrators, ensuring that only the necessary templates are available to them. To configure the restrictions:

- Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Users and Control](#) ► [Roles](#) ► [sap.crm.service.templateService](#) ► and set Read Access, Write Access, and Restriction Rules.
- Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [Templates](#) ► [Business Restrictions](#) ► [Search and Add Organizational Units](#) ►.

## 39.1.3 Monitor Inbound Emails

As an administrator, you can easily monitor and verify that email messages are received successfully using the inbound monitoring option under settings. You can also [Reprocess](#) inbound emails after reviewing the error information.

## Context

Use inbound monitoring to verify that email messages are transmitted successfully.

## Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [Inbound Monitoring](#) ►

Use the error information available against each email to take corrective measures.

2. Select an email and click [Reprocess](#) to send the mail.

### ⓘ Note

UTF-7 encoded emails won't be accepted in the system due to security reasons. Also, UTF-7 encoding is considered obsolete and not recommended.

## 39.1.4 Monitor Outbound Emails

As an administrator, you can easily monitor and verify that email messages are sent successfully using the outbound monitoring option under settings.

### Context

Use outbound monitoring to verify that email messages are transmitted successfully.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [Outbound Monitoring](#) ►

Use the error information available against each email to take corrective measures.

2. You can use the  ([Refresh](#)) icon to refresh the list.

## 39.1.5 Configure Mail Transfer Agent (MTA)

As an administrator, you can configure a Mail Transfer Agent (MTA) in SAP Sales Cloud and SAP Service Cloud Version 2 to send emails through your company's Simple Mail Transfer Protocol (SMTP) server or to use SAP's pre-configured MTA, Amazon Simple Email Service (AWS SES), which is selected by default.

### Context

When to choose between SAP SES and your own SMTP:

- Use SAP SES if:
  - You want a quick and easy setup.
  - You want better deliverability of emails sent from service cloud
  - You don't require routing through your internal systems.
  - You can delegate domain control to SAP (optional, for DKIM alignment).
  - You prefer SAP to manage retries and email queues.
- Use Customer SMTP if:
  - You require compliance monitoring, for example, archiving.
  - You want all emails to go through your corporate SMTP.
  - You want tighter domain control.
  - You have specific security or branding needs.

- With your own SMTP setup, DKIM, SPF and DMARC policies are taken care by default.

### Note

SAP Sales Cloud and SAP Service Cloud Version 2 currently has a limit of 20 outbound emails channels. If you need more than 20 outbound email channels, then configure your own SMTP.

The procedure below details the steps to configure your own SMTP.

## Procedure

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Emails](#) > [MTA Configuration](#) and select  (Edit) icon.
2. Choose [SMTP](#) from the [Outbound Email MTA Provider Type](#) drop-down list.

### Note

- If you choose [DEFAULT](#) (default setting) from the [Outbound Email MTA Provider Type](#) drop-down list, then emails are sent through the default MTA (AWS SES) used by SAP Sales Cloud and SAP Service Cloud Version 2. To increase the deliverability of your emails, use custom mail-from.
- If you are using the default Mail Transfer Agent (AWS SES), a rolling limit of 8,000 outbound emails per 24-hour period applies. This means emails will be sent as long as the total number sent in the past 24 hours remains below 8,000. Upon reaching this limit, no additional emails can be sent until the quota becomes available again, at which point the system will resume sending new emails. Please note that any emails queued when the limit was reached must be processed manually.
- You can change the [Outbound Email MTA Provider Type](#) only when all the email channels are inactive.
- If you want to change [Outbound Email MTA Provider Type](#) from [SMTP](#) to [DEFAULT](#), you must deactivate all the email channels in your tenant by navigating to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Emails](#) > [Channels](#).
- You can redirect all outbound emails from a tenant to a central email address for testing purposes by entering an address in the Outbound Email Address to Redirect field. This helps prevent emails from being inadvertently sent to real email addresses if the tenant is later copied to a non-productive system.

### ⚠ Restriction

This feature is not recommended to be used in productive system as it will impact delivery of business emails.

3. Choose [Save](#).
4. Configure the MTA Provider Configuration by following the steps:
  1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Emails](#) > [MTA Provider Configuration](#)
  2. Select [+](#) (Add) to add the SMTP MTA provider in the tenant to send emails.
  3. Enter the following information for your SMTP MTA Provider:
    - Enter the [Provider Name](#).



- By default, SMTP is selected as the *MTA Type*.
  - Enter your server's *SMTP Domain*.
  - Enter your server's *SMTP Port*.
  - By default, the *Status* is set to *INACTIVE*.
  - By default, the *Authentication Type* is set to *BASIC*.
  - Enter the credentials to connect to your SMTP server in the *Username* and *Password* fields.
4. Choose *Save*.  
The message MTA provider saved is displayed.
  5. Choose *Activate* to activate the MTA Provider.
  5. Configure an email channel by navigating to ► *User Menu* ► *System Settings* ► *All Settings* ► *Emails* ► *Channels* ►.

While configuring an email channel, a new field MTA Provider is added, where you can choose a SMTP MTA provider from the list of active SMTP providers that you configured so that the emails are sent via the SMTP provider.

6. Select *Save* to save the email channel and *Activate* to activate the email channel.
7. Verify the OTP that is sent to the email address configured.

#### ⓘ Note

If the SMTP MTA provider is used by an active email channel, you cannot deactivate the SMTP MTA provider. You can only deactivate the SMTP MTA Provider if all the associated channels are in INACTIVE state.

## 39.1.6 Configure Custom MAIL FROM Domain

As an administrator, you can create your own custom MAIL FROM domain to address issues involving the outbound email delivery of your emails to your customer's spam or quarantined folders.

### Context

You can configure a custom MAIL FROM domain for an email channel and configure TXT (SPF) record and MX record so that your email can receive any auto-replies (bounce and complaint notifications).

### Procedure

1. Go to ► *User Menu* ► *System Settings* ► *All Settings* ► *Emails* ► *Channels* ►.
2. Select an active email channel that you want to create the MAIL FROM domain for or create a new channel.
3. Select *Mail-From* and follow the onscreen information.

## 39.1.7 Handling DKIM/ DMARC Failures in Inbound Emails

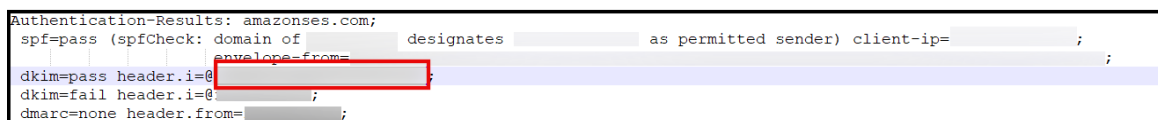
As an administrator, you have the ability to maintain a list of trusted sender domains (auto forward domain address).

### Context

On receiving an inbound email, your application checks the MIME for the mention of this trusted domain in the authentication check done by AWS SES. If the DKIM signature is successful but the DKIM/DMARC has failed, your application still allows the creation of an email interaction.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [Inbound Monitoring](#) ► to check the DKIM/DMARC verification status of your emails.
2. Select the failed record with the error message MTA DKIM Verdict Failed. MTA DMARC Verdict Failed.
3. Select [Download](#) to download its MIME.
4. In the downloaded file, locate the authentication information and copy the domain address as highlighted in the image below:



```
Authentication-Results: amazonses.com;
spf=pass (spfCheck: domain of [redacted] designates [redacted] as permitted sender) client-ip=[redacted];
dkim=pass header.i=@[redacted];
dkim=fail header.i=@[redacted];
dmarc=none header.from=[redacted];
```

Ensure to exclude the @ symbol from the domain address and enter the copied domain address in the Authorized Signing Domains section of the Email MTA configuration screen. You can access this screen by navigating to ► [User Menu](#) ► [Settings](#) ► [All Settings](#) ► [Emails](#) ► [MTA Configuration](#) ►.

## 39.1.8 Configuring to Ignore DKIM and DMARC Checks for Inbound Emails

As an administrator, you can choose to ignore DKIM and DMARC checks for inbound emails.

### Context

Once configured, the inbound emails are then accepted and processed based only on the SPF check. If the SPF check is a Pass and the domain is maintained as a trusted domain, the emails arrive in the system.

## Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [MTA Configuration](#) ►.
2. Choose  ([Edit](#)) at the bottom of the screen.
3. Under the [Trusted Domains](#) section, maintain the trusted domain of the Envelop-From (retrieved from the MIME).
4. Under the [Inbound Configuration](#) section, select the switch [Ignore DKIM and DMARC checks](#).
5. Choose [Confirm](#) to acknowledge that you have read the risks of ignoring DKIM and DMARC checks for inbound emails.

### Note

Risks involved in enabling SPF verdict checks for DKIM and DMARC failed emails are as follows:

- This can hamper data integrity, leading to vulnerabilities.
- A man-in-the-middle attack (between an SAP customer's email server and SAP Sales Cloud and SAP Service Cloud Version 2) cannot be detected or prevented. DKIM and DMARC checks are the only mechanisms by which SAP Sales Cloud and SAP Service Cloud Version 2 can verify the authenticity of the sender and the integrity of the email data.
- If an attacker or spoofer acquires the channel's tenant forwarding address, they can directly send emails to SAP Sales Cloud and SAP Service Cloud Version 2, impersonating SAP's customer by manipulating the MIME. As a result, we will be unable to recognize or prevent such emails from entering the tenant.

6. Choose [Save](#).

If SPF check passes and the envelop-from domain matches the trusted domain, the inbound emails are accepted and processed in SAP Sales Cloud and SAP Service Cloud Version 2 tenant.

## 39.1.9 Configure Custom Date and Time Format in Email Templates

Learn how to configure multiple date and time formats in an email template.

As an administrator, you need to upload an email template maintaining the following details:

- Configurations specifying the combination of **Format Locale** and **Timezone**.
- Placeholders for date-time fields specifying either the **Format Locale** or both.

The various configurations must be maintained in the following format:

### Sample Code

```
{{templateConfiguration
name='<CONFIGURATION_NAME>'
value='{
"locale": "<LOCALE>",
"format": "<FORMAT>",
"timeZone": "<TIME_ZONE>"
}'
}}
```

As per the above configuration, the date is formatted according to the format "<FORMAT>", the locale "<LOCALE>", and the time zone "<TIME\_ZONE>".

You can use this configurations against a date placeholder in the following format:

```
{{formatTemplateDate <DATE_TIME_FIELD> configurationName='<CONFIGURATION_NAME>'}}
```

Where the date in '<DATE\_TIME\_FIELD>' is formatted according to the configuration maintained in '<CONFIGURATION\_NAME>'

### An example template with its corresponding output:

#### Sample Code

```
{{templateConfiguration
 name="firstDateFormat"
 value= '{
 "locale": "de",
 "format": "d MMMM yyyy",
 "timeZone": "Europe/Berlin"
 }'
}}

{{templateConfiguration
 name='secondDateFormat'
 value= '{
 "format": "d MMMM yyyy",
 "locale": "en_GB"
 }'
}}

{{templateConfiguration
 name="thirdDateFormat"
 value= '{
 "locale": "de",
 "timeZone": "Europe/Berlin"
 }'
}}

<html>
<body>
<h3>DateFormat Scenarios</h3>

DateFormat when format locale and timeZone are passed as variable inputs:

{{formatTemplateDate adminData.createdOn
configurationName="firstDateFormat"}}

<hr>
DateFormat when format and locale are passed as variable inputs:

{{formatTemplateDate adminData.createdOn
configurationName='secondDateFormat'}}

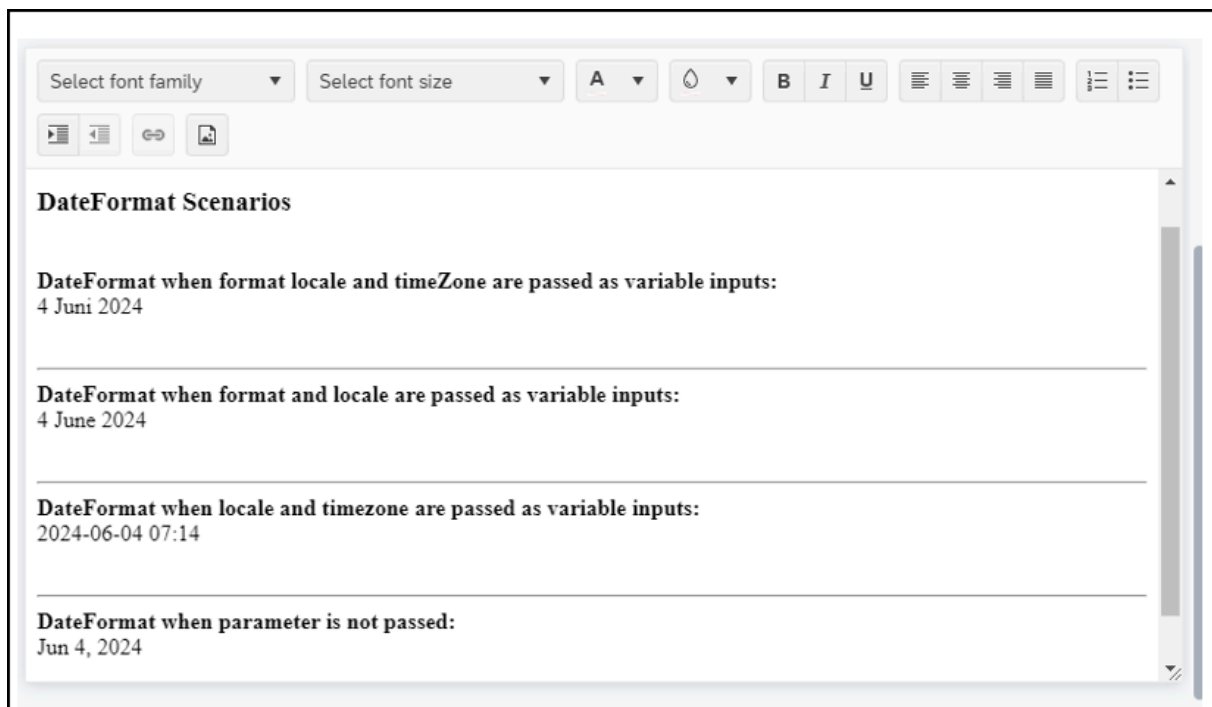
<hr>
DateFormat when locale and timezone are passed as variable inputs:

{{formatTemplateDate adminData.createdOn
configurationName='thirdDateFormat'}}

<hr>
DateFormat when locale and timezone are passed as variable inputs:

{{formatTemplateDate adminData.createdOn }}

</body>
</html>
```



## Date-Time Field Formatting

To support different date-time formats in a template, you can upload template content that preserves configurations and placeholders for date-time fields with specific formatting requirements.

Configurations must specify the format, locale, and time zone. Placeholders for date-time fields must reference one of these configurations if a specific pattern is required. In default scenarios where `templateConfiguration` is not set, the format defaults to `yyyy-MM-dd HH:mm`, the locale defaults to the user's locale, and the time zone defaults to UTC.

### Note

Date-time formatting is supported only for date-time objects in the full UTC standard date-time format (`yyyy-MM-dd'T'HH:mm:ss.SSS'Z'`) or in the standard date-only format (`yyyy-MM-dd`).

If the passed attribute is a date-only field and the format includes time-based placeholders, the value will be assumed to be `yyyy-MM-ddT00:00:00.000Z`, and the format will reflect the value accordingly.

Note that time zones may change the resulting values of the time fields.

The various configurations must be maintained in the following format:

### Sample Code

```
{{templateConfiguration
name='<CONFIGURATION_NAME>'
value='{
 "locale": "<LOCALE>",
 "format": "<FORMAT_OR_PATTERN>",
 "timeZone": "<TIMEZONE>"
}
```

```
}'
}}
```

The maintained configurations can be used against a date-time placeholder using the following syntax:

```
{{formatTemplateDate <DATE_TIME_FIELD> configurationName='<CONFIGURATION_NAME>'}}}
```

This indicates that the date-time value in <DATE\_TIME\_FIELD> will be formatted according to the configuration defined in <CONFIGURATION\_NAME>.

**An example template with its corresponding output:**

#### Sample Code

```
{{templateConfiguration
name="firstDateTimeFormat"
value= '{
 "locale": "de",
 "format": "d MMMM yyyy",
 "timeZone": "Europe/Berlin"
'
}}
{{templateConfiguration
name='secondDateTimeFormat'
value= '{
 "format": "d MMMM yyyy",
 "locale": "en_GB"
'
}}
{{templateConfiguration
name="thirdDateTimeFormat"
value= '{
 "locale": "de",
 "timeZone": "Europe/Berlin"
'
}}
<html>
<body>
<h3>DateTimeFormat Scenarios</h3>

DateTimeFormat when format locale and timeZone are passed as variable
inputs:

{{formatTemplateDate adminData.createdOn
configurationName="firstDateTimeFormat"}}

<hr>
DateTimeFormat when format and locale are passed as variable inputs:</
b>

{{formatTemplateDate adminData.createdOn
configurationName='secondDateTimeFormat'}}

<hr>
DateTimeFormat when locale and timezone are passed as variable inputs:</
b>

{{formatTemplateDate adminData.createdOn
configurationName='thirdDateTimeFormat'}}

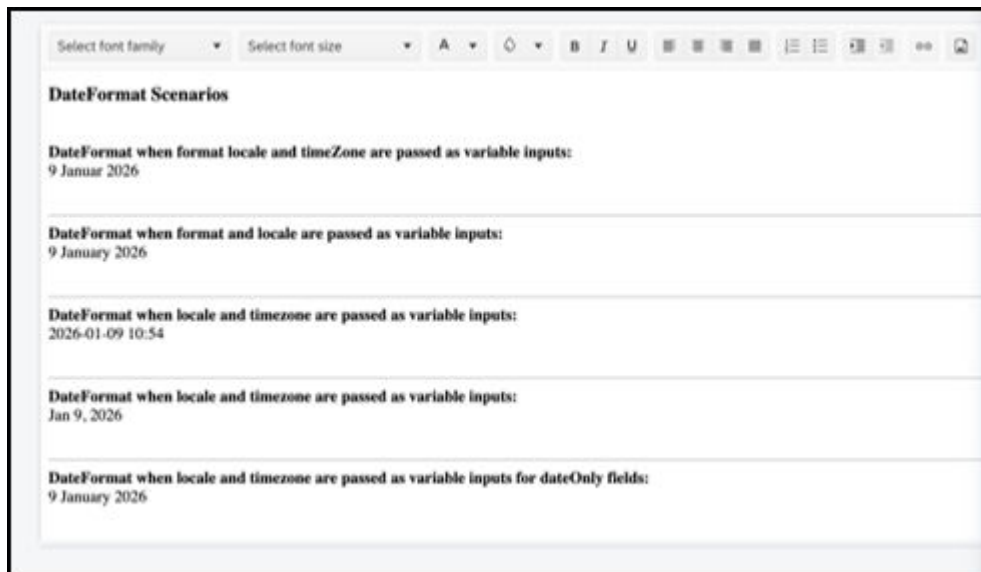
<hr>
DateTimeFormat when locale and timezone are passed as variable inputs:</
b>

{{formatTemplateDate adminData.createdOn }}

<hr>
DateTimeFormat when locale and timezone are passed as variable inputs for
dateOnly fields:

{{formatTemplateDate birthDate configurationName='secondDateTimeFormat'}}

</body>
</html>
```



## 39.1.10 Configure Custom Number Format in Email Templates

Learn how to configure custom number format in an email template

You can upload template content that preserves format and locale configurations to support different number formats in a template.

Configurations must specify the format and locale. Placeholders for number fields must reference one of these configurations if a specific pattern is required. In default scenarios where `templateConfiguration` is not set, the format defaults to integer and the locale defaults to the user's locale.

### Note

Format is a mandatory configuration for number formatting to recognize values as currency, integer, percentage, or a specific pattern. If the format is not provided, it defaults to integer.

The various configurations must be maintained in the following format:

### Sample Code

```
{{templateConfiguration
name='<CONFIGURATION_NAME>'
value='{
"locale": "<LOCALE>",
"format": "<FORMAT_OR_PATTERN>"
}'
}}
```

The `templateConfiguration` structure indicates that users can apply number formatting using the specified `<FORMAT_OR_PATTERN>` and locale `<LOCALE>` by referencing this configuration name.

The maintained configurations can be used against a date-time placeholder using the following syntax:

```
{{formatTemplateName <NUMBER_FIELD> configurationName='<CONFIGURATION_NAME>'}}}
```

This indicates that the value in <NUMBER\_FIELD> will be formatted according to the configuration defined in <CONFIGURATION\_NAME>.

**An example template with its corresponding output:**

#### Sample Code

```
{{templateConfiguration
 name="firstNumberFormat"
 value= '{
 "locale": "de_DE",
 "format": "currency"
 }'
}}
{{templateConfiguration
 name="secondNumberFormat"
 value= '{
 "locale": "fr_FR",
 "format": "0.000"
 }'
}}
<html>
<body>
<h3>NumberFormat Scenarios</h3>

<hr>

Number format without pattern:

{{formatTemplateName extensions.TestNumber}}

<hr>
Number format with format property set as pattern:

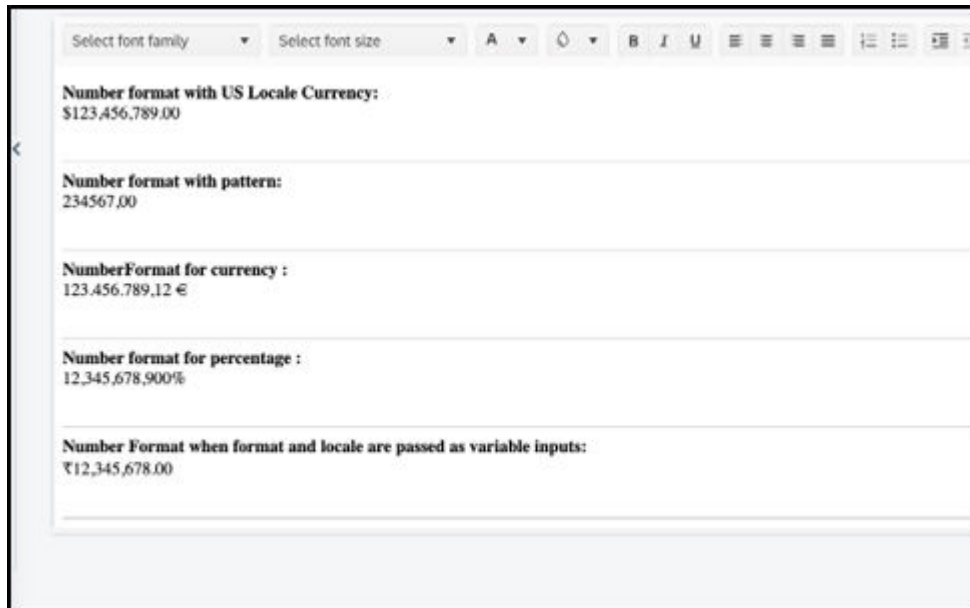
{{formatTemplateName extensions.TestNumber
configurationName="secondNumberFormat"}}

<hr>
Number Format when format and locale are passed as variable inputs:

{{formatTemplateName extensions.TestNumber
configurationName="firstNumberFormat" }}

<hr>
</body>
</html>
```





## 39.1.11 Configure Multiple Channel Support in Inbound Emails

As an administrator, you can configure the system to generate multiple interaction emails for multiple support addresses.

### Context

When a customer sends an email to multiple support addresses, the system identifies the support addresses in the To, Cc, and Bcc fields, and for each of these identified addresses, it creates a separate Interaction Email for the corresponding channel.

### Procedure

1. Send emails to your channel addresses in the To, Cc, and Bcc fields. Emails sent to the To and Cc fields will pass, while those sent to the Bcc field will fail with an invalid channel message.
2. Go to [Emails](#), download the MIME, and look for the channel address to which the email was sent.

#### Note

The MIME header (for example, Delivered-To or Resent-From) represents or contains the channel from which the email was forwarded, not the original sender. The same MIME header is used when the channel address has auto-forward set up for the To and Cc fields.

3. Once you have identified the MIME header, go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Emails](#) > [MTA Configuration](#) and enter the MIME header.

#### Note

The MIME header separator is required only when you have additional alphanumeric characters after the channel address. You can set the field to [None](#) if there are no characters following the channel address.

4. Choose [Enable Bcc Inbound Emails](#) to enable channel addresses in Bcc, create an interaction email, and then trigger the channel service for the address,
5. Choose [Add Bcc Channel Address to Bcc Recipient List](#) to add the address to the Bcc field in the interaction email.
6. Once the configuration is completed, send the email to the channel addresses in the To, Cc, and Bcc fields. If the email fails, you can try using a different MIME header.

#### → Tip

To Confirm Forwarded Mailbox MIME header:

- Compare multiple forwarded emails to spot a consistent header.
- Use the BCC scenario: If the channel address is in the BCC field, it won't appear in the To or Cc headers. This is the most recommended way to find the right MIME header for forwarding to the mailbox.
- Start from the bottom-most Received header to trace the actual mail flow. Every time an email passes through a mail server (like Gmail, Outlook, or Proofpoint), that server adds a Received header at the top of the MIME header section. So, multiple Received headers mean multiple hops. The top Received header is the most recent hop (the last one before the inbox), and the bottom Received header is the earliest hop (the first server after the sender).

## 39.1.12 Configure Recipient's Language in Email Templates for Autoflow

Configure an autoflow so that agents and customers receive email communications in the language set in their master data as their communication language.

### Prerequisites

Ensure that the communication language is set at the masterdata level and the corresponding language templates are maintained.

## Context

When recipients share the same communication language, the system selects the email template based on that language. If a template in the selected language is available, it is used to send the email. If no such template exists, the system defaults to the standard template.

When recipients have different communication languages, the system identifies multiple languages among them and uses the default template for all recipients.

In cases where no default template is maintained, the email is sent in English.

## Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [Templates](#) ►.
2. Choose a template from the list and go to [Documents](#).
3. Choose the edit button and add the templates and languages.
4. Set the default languages.
5. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Business Flow](#) ► [Autoflow](#) ►.
6. Choose [Rules](#).
7. Choose an entity.
8. Choose event types.
9. Set conditions.
10. Go to the + ([Add](#)) icon and select [Send Emails](#).
11. Enter a subject for the email.
12. Add email templates.
13. Add the sender name and email.
14. Set the role based recipients or specific recipients.
15. Choose the recipients.
16. Choose [Save](#).

## 39.1.13 Configure Email Access Restriction by Channel Organization

Restrict email access for employees based on the organizational units assigned to the sales or service channels.

### Context

As an administrator, you can restrict email access for employees based on the organizational units assigned to the sales or service channels.

For emails sent to or from channel email IDs, the channel organization takes precedence and is determined in the interaction email. The sender's or receiver's employee organization is not determined for such emails. You can configure email access restrictions using the business service `sap.crm.service.emailService` under user roles. This allows you to restrict email access within the email work center and across other sales and service objects.

For restricted users, emails appear in the email worklist or in sales and service objects only for users whose service or sales organization, as determined by `sap.crm.service.emailService`, matches the channel organization determined in the email. Roles that require access to emails through the email work center or within case or sales objects must have the necessary authorization for the Email Work Center.

Agents or sales representatives assigned to a case or sales object can access all emails associated with that entity. Access is governed by the corresponding case or sales object, such as a lead or opportunity. Their access does not need to be restricted if they do not require access to the email work center.

For emails not sent to or from a channel, such as sales correspondence, visibility is determined by the employee organizations already resolved on the email. A user must belong to one of these organizations to view the email.

In addition to the channel's assigned organizations, the user who sent the email and their corresponding employee will always have access, even if their own organizations are not listed. If a channel has no organizations assigned, the system will instead use the organizations of all employees associated with the email. For all new emails, the system automatically adds every organization that is assigned to the channel.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [Channels](#) ►.
2. Create an email channel or select an existing one.
3. Add the organizational units and select [Save](#).
4. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Users and Control](#) ► [User](#) ►.
5. Choose a business user.
6. Go to [Assigned Business Roles](#) and select a role.
7. Search for and add the service under the Business Services section.

8. You can choose to restrict or unrestrict the read and write access.
9. Under the restriction rule, assign the organizational units.
10. Choose [Save](#).

#### Note

To update organization on an existing emails using email UUID:

The system does not automatically assign channel-level organizations to emails created before this feature is activated. To apply email access restrictions to them, you must manually update these older emails with the appropriate organizations, as they are not automatically inherited from the channel during the patch call mentioned in point c.

Follow these steps to update organizations for older emails. Note that this update cannot be made using data import and export.

1. Send a GET request to the `/sap/c4c/api/v1/email-service/emails/{id}` endpoint to get the email by its UUID. From the response, capture the `updatedAt` value.
2. Prepare update payload.
3. Send a PATCH request to the same `/sap/c4c/api/v1/email-service/emails/{id}` endpoint. Set the `If-Match` header to the `updatedAt` value captured in the first step.
4. Verify update.

## 39.1.14 Blocking Emails from External Email Addresses and Domains

Administrators can block emails from external addresses and domains. Incoming emails are evaluated and matching emails are blocked from further processing.

### Context

When an email from a blocked email address or a blocked email domain is received, it is handled by the Mail Transfer Agent (MTA), but no interaction email is created in the system. The email is logged in Inbound Monitoring as a failed email and is not enabled for auto-reprocessing. However, an administrator can manually reprocess the email by navigating to Inbound Monitoring, selecting the failed email, and triggering reprocessing. All blocked emails are visible in Inbound Monitoring. Any changes to the blocked email configurations are tracked and recorded in Change History. During configuration, email addresses must be in a valid email format and duplicate entries are not allowed based on a case-insensitive check. Similarly, domains must be valid domain formats, case-insensitive duplicates are not allowed, and subdomains cannot be added once a domain is saved.

## Procedure

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Emails](#).
2. Choose [MTA Configuration](#).
3. Choose [edit](#).
4. Block email addresses and domain addresses.
5. Choose [Save](#).

### 39.1.15 Change Project for Emails

You can add Mail Transfer Agent (MTA), channels, and templates to change project.

All MTA related configurations are transported to the target system. This includes outbound and inbound email configurations, trusted domains, blocked domains and addresses, and MTA provider configurations (if configured). After transport, the outbound email redirect address must be reviewed and modified or removed in the target system as required.

All channel configurations are transported to the target system, excluding Determination Rules and Business Restrictions. Transported channels must be activated and verified in the target system. Additionally, auto-forwarding must be configured for the new tenant email address.

All template configurations, excluding business restrictions, are transported to the target system. HTML documents and attachments are not transported.

#### Note

- Autoflow specific email actions are transported together with autoflow rules. Before using autoflow rules in the target system, channels and templates must be adjusted according to the above guidelines.
- Direct recipients configured in the email action are not transported as part of the change project. This needs to be re-maintained at the target.

## Related Information

[Configure Change Project \[page 936\]](#)

As an administrator, you can configure settings required to create a change project.

[Service-Specific Details \[page 941\]](#)

This section describes initial load behavior and change project behavior that are specific to the services available under change project.

## 39.1.16 Configure Cross-Object Reference in Email Templates

Learn how to configure cross-object reference in email templates.

### Context

Cross-object reference is enabled in Case for template usage in autoflow. Fields configured through extensibility can be referenced in email templates used in autoflow.

#### Note

- Static code lists are not supported.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [Extensibility](#) ► [Extensibility Administration](#) ► [Case Services](#) ► [Case](#) ► [Reference Field Usage](#) ►.
2. Choose [Automated Email Template](#) from the drop-down menu.
3. Choose or create a keygroup.
4. To view the corresponding fields, go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [Templates](#) ► [Placeholder](#) ►.

## 39.1.17 Send Visit Summary as an Attachment in Autoflow Emails

Learn how to send visit summary as an attachment in autoflow emails.

### Prerequisites

Before configuring autoflow for automated visit summary distribution, ensure that autoflow is enabled in the system, a standard visit summary PDF template is available, an email template is configured and active, and the administrators have authorization to configure autoflow rules.

#### Note

This feature has restricted availability. To request access to this feature, you must create a case with the CEC-CRM-EML component.

## Procedure

1. Go to **User Menu** > **System Settings** > **All Settings** > **Business Flow** > **Autoflow**.
2. Create an autoflow rule and define conditions.
3. Add an action of type **Send Email**.
4. Maintain the following:
  - Email subject
  - Email template
  - Sender name and sender email address
5. Define recipients using:
  - Role-based recipients (Manager, Attendees)
  - Specific users or external email addresses.
6. Choose a PDF form template.
7. Choose a PDF variant language.

### Note

To send the email attachment, you must select a PDF form template and PDF variant language. The system determines both the form template and variant language from the configured entity. If the system cannot determine these values from the visit, it will use the configured default values.

8. Save the autoflow rule.
9. Activate the rule to enable automation for visits.

## 39.1.18 Handle Duplicate Microsoft Exchange Online Multi-Channel Email Processing

Ensure reliable multi-channel email processing when using Microsoft Exchange Online (O365) with SAP Sales Cloud Version 2 and Service Cloud Version 2.

This capability enables the use of multiple inbound email aliases to bypass duplicate suppression performed by Microsoft Exchange Online when an inbound email is sent to multiple channels and forwarded to SAP Sales Cloud Version 2 and SAP Service Cloud Version 2.

Microsoft Exchange Online may suppress duplicate emails when identical messages are forwarded to the same destination address, resulting in only a single email being delivered. With this enhancement:

- You can configure unique inbound alias addresses for each forwarding mailbox.
- Exchange treats each alias as a separate recipient.
- Multiple copies of the same email are delivered to the system.
- Each email is processed independently for channel determination and case creation.

SAP Sales Cloud Version 2 and SAP Service Cloud Version 2 tenants can utilize email aliases to manage complex forwarding scenarios. For example, if the primary tenant email address is abc@xyz.com, each source mailbox should configure forwarding rules using unique alias addresses.



| Source Forwarding Mailbox         | Inbound Alias Address          |
|-----------------------------------|--------------------------------|
| Support1@<SAP_MAIL_SYSTEM_DOMAIN> | abc_1@<SAP_MAIL_SYSTEM_DOMAIN> |
| Support2@<SAP_MAIL_SYSTEM_DOMAIN> | abc_2@<SAP_MAIL_SYSTEM_DOMAIN> |

Because both aliases map to the same SAP Sales Cloud Version 2 and SAP Service Cloud Version 2 tenant, they are processed through the same inbound email infrastructure. When Microsoft Exchange Online forwards identical emails to distinct alias addresses, Exchange recognizes them as separate recipients and does not suppress duplicate deliveries. Consequently, the tenant receives multiple copies of the email and processes each one independently for email ingestion, channel determination, and case creation.

#### Use Case:

Consider a scenario where a company maintains two distinct email channels:

- Technical Support
- Billing Support

Both channels must receive and process incoming emails sent to a shared mailbox.

#### Scenario A: Setup Without Multiple Inbound Aliases

Forwarding Rules:

- Technical Support mailbox- abc@<SAP\_MAIL\_SYSTEM\_DOMAIN>
- Billing Support mailbox - abc@<SAP\_MAIL\_SYSTEM\_DOMAIN>

Behavior: Microsoft Exchange Online detects the duplicate destination address and may deliver only a single copy of the email.

Result: Only one SAP Sales Cloud Version 2 or SAP Service Cloud Version 2 channel receives the email, breaking expected multi-channel processing workflows.

#### Scenario B: Setup With Multiple Inbound Aliases

Forwarding Rules:

- Technical Support mailbox- abc\_1@<SAP\_MAIL\_SYSTEM\_DOMAIN>
- Billing Support mailbox - abc\_2@<SAP\_MAIL\_SYSTEM\_DOMAIN>

Behavior: Microsoft Exchange Online treats the distinct alias destinations as different recipients.

Result: Both emails are successfully delivered to SAP Sales Cloud Version 2 and SAP Service Cloud Version 2. Each message is processed independently, allowing both channels to create and route cases according to their specific configurations.

#### Restrictions/Limitations:

- Alias addresses must belong to the same tenant and cannot be shared across tenants.
- Alias addresses are not visible in the inbound email content.
- Existing email threading behavior remains unchanged.
- This setting only supports multi-channel processing for inbound emails and you should configure multi-channel set up in SAP Sales Cloud Version 2 and SAP Service Cloud Version 2.

## 39.2 Manage Emails

Learn about how you can get the best out of the email functionality in your application.

You have a wide variety of options for classifying and organizing emails in the solution. Your administrator defines many of these options based on how your organization uses emails.

### 39.2.1 Email Worklist

The *Email* worklist displays all emails in the solution.

Choose *Emails* from the app menu (≡) to view all emails that currently exist in the solution. You can search (Q) for an email by keyword, such as subject of the email, or address. Use the  (*Filter*) icon to view a specific set of emails. You can filter by:

- Direction (all, inbound, outbound)
- Entity Type
- Related Entity Display ID
- Date (Created On)
- Subject
- Recipient
- Sender
- Business User

### 39.2.2 Email Preview

You can preview emails before sending them to customers.

#### Context

This functionality allows you to check the correctness of branding templates, signatures, and other relevant changes before sending the emails.

#### Procedure

1. Go to ≡ (*Navigation Menu*).
2. Search for *Emails*.

3. Choose the required email.

The reader pane opens.

4. Choose  ([Reply](#)),



([Reply All](#)), or  ([Forward](#)).

The email composer opens.

5. Enter the relevant details and write the email.
6. Choose  ([Preview](#)) at the bottom of the email composer.

The [Email Preview](#) window opens. You can see a preview of your email before sending it to the customer.

## 39.2.3 Email Drafts

Save your emails as drafts and reuse when needed.

### Context

Based on the organization you are assigned to, you can access the drafts of all the employees in that organization. However, if you aren't assigned to any particular organization, then you can see only the drafts saved by you.

### Procedure

1. Choose an email from your emails list and open the email editor.
2. Enter the details in the [From](#) and [To](#) fields.

You need to enter the details in the [From](#) and [To](#) field of the email to activate the [Save as Draft](#) button.

3. Choose [Save as Draft](#) to save the email as draft.
4. Choose the [View Drafts](#) icon to use your saved drafts while responding to an email.

#### Note

Emails with status as draft are not shown in the timeline.

## 39.2.4 Use Email Templates

Email templates streamline email messaging with preset text, graphics, signatures, and attachments. Use templates for service responses, signatures, branding, and campaigns.

You can make your responses to emails appear professional by easily applying your company branding templates with custom header and footer. You can apply a template while creating a new email or responding to one in the email editor either from the email list or case list.

### Selecting an Email Response Template as Favorite

You can select and mark an email response template that you frequently use as a favorite so that you can easily find them and apply when drafting emails.

To choose an email response template as a favorite item, follow the steps:

1. Navigate to an object (for example: case or opportunity) and launch the email editor.
2. Select the [Add Template](#) icon.
3. From the template selection quick view, select the star icon to mark an email response template as favorite from the [All Templates](#) tab.
4. Navigate to the [Favorites](#) tab to view the email response template that you marked as favorite and apply the same in the email editor.

#### Note

You can also unfavorite an email response template by clicking on the star icon again from [All Templates](#) tab or [Favorites](#) tab.

### 39.2.4.1 Configure Email Templates

Administrator can set up and maintain HTML-based templates for outgoing email messages.

#### Context

Branding templates are applied to all outbound email messages sent from the channel, adding it around the response prepared by the agent.

A branding template is a simple HTML file with a `##text##` placeholder. The placeholder is usually located between a standard header and footer. The header and footer can include your brand logos and any standard text or disclaimers. Create the branding template file with your preferred HTML editor. You can configure a different branding template for each channel.

### Note

As a prerequisite to configuring email templates, you need to allow the MIME type text/html in the application. You can do this through ► [Settings](#) ► [Data Administration](#) ► [MIME Types for Attachments](#) ►.

## Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [Templates](#) ►
2. Choose the + [\(Create\)](#) at the top to create a new template.
3. Enter a template name followed by the template type and channel type.

You can also enter more details about this template in the description field.

4. Upload your HTML template file and save your template.

### Note

As an administrator, you can control access to templates (read or write) for agents and other administrators, ensuring that only the necessary templates are available to them. To configure the restrictions:

- Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Users and Control](#) ► [Roles](#) ► [sap.crm.service.templateService](#) ► and set Read Access, Write Access, and Restriction Rules.
- Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [Templates](#) ► [Business Restrictions](#) ► [Search and Add Organizational Units](#) ►.

## 39.2.5 Emails in Case

As an agent, you can create, add, view, and link emails within a case in the Case Timeline.

To create and send a new email within a case, go to ► [Cases](#) ► [Case Timeline](#) ► [Create](#) ► [Email](#) ►. You can also send an email using the ✉ [Email](#) icon from the case panel.

Once the email is sent, you can launch the quick view of emails within the case timeline by clicking on any email card. It provides information about emails, such as Involved Parties and Related Entities. You can also choose to add a Mashup to emails based on your requirements.

To create a new case related to an inbound email, open the email interaction card from the case timeline and select + [Create Related Entities](#). To link an existing case to an email, open the email card from the case timeline and select ➡ [Add Related Entities](#).

## Related Information

[Configure Mashups \[page 144\]](#)

Administrators can configure mashups in [Settings](#).

## 39.2.6 Emails in Agent Desktop

View email interactions on the [Agent Desktop](#) timeline.

To view email interactions in the [Agent Desktop](#) timeline, go to  ([Navigation Menu](#)) and search for [Agent Desktop](#). Click [Agent Desktop](#), and confirm an account, contact, or individual customer.

Navigate to .

You can now view email interactions in the [Timeline](#) tab.

This functionality allows you to:

- View email events and filter email interactions on the [Agent Desktop](#) timeline.
- Expand email card to view emails.
- Preview emails, attachments, and response options.
- Reply, reply all, and forward emails.
- View Machine Learning features such as Sentiment Analysis and Language Translation based on the email content.

## 39.2.7 Email API

As an administrator, you can manage email interactions via Email API.

Email API on SAP API Business Hub helps you perform operations on emails such as creating, reading, updating, querying, and deleting email interactions.

### Related Information

<https://api.sap.com/package/SAPSalesServiceCloudV2/overview> 

## 39.2.8 Unassigned Entities for Emails, Channels, and Templates

Unassigned entities are no longer visible to restricted users.

This ensures consistent and predictable access control across channels, templates, and interaction emails. Specifically, restricted users can no longer access interaction emails created without inheriting any organization, email channels without assigned sales or service organizations or organizational units, and email templates without assigned sales or service organizations or organizational units.

### Note

Organizations for interaction emails are determined in the following order:

- Channel Organization
- Employee-Based Organization (Fallback)

If no organization is assigned at the channel level and the email does not involve an employee in the case of inbound emails, the employee's organizations cannot be applied. In such a scenario, the email becomes an unassigned entity.

In the previous version,

- Users with restricted access to `sap.crm.service.emailService` were able to see interaction emails without any organization determined via the employee or the channel.
- Users with restricted access to `sap.crm.service.emailChannelService` were able to see channels without any organization assigned in the From drop-down of emails.
- Users with restricted access to `sap.crm.service.templateService` were able to see templates without any organization assigned.

Now, restricted users can only view interaction emails with organizational assignments, see only channels with organizational assignments in the From drop-down, and access only templates with organizational assignments.

Unrestricted users continue to see all interaction emails, channels, and templates regardless of organizational assignments.

## 39.2.9 Use of the First Channel in Inbound Emails for Case Creation

When an email is sent to multiple email channels, the system now creates a case using the case type associated with the first channel listed in the To or Cc field

Previously, when an email was sent to multiple channels, the system selected the oldest created channel, which led to incorrect case types, wrong routing and queues, manual reassignment by agents, and non-deterministic behavior. The system now selects the first matching channel based on the recipient order, ensuring predictable case creation.

When an inbound email contains multiple recipients, the system evaluates recipients in the order received, with To recipients evaluated first, followed by CC. The first matching configured channel is then selected, and case creation uses only that channel's configuration.

### Note

- This applies only when multi-channel functionality is not activated.
- This feature has restricted availability. To request access to this feature, you must create a case with the CEC-CRM-EML component.

## 39.3 Setup SMTP OAuth for Microsoft Exchange Online

Learn how SAP Sales Cloud Version 2 and Service Cloud Version 2 supports OAuth 2.0 authentication using certificates for SMTP outbound emails.

Prerequisites:

- Install OpenSSL or Windows PowerShell.
- Access to Microsoft Azure portal with application administrator or global administrator role.
- Administrator access to Microsoft Exchange Online PowerShell.
- An active Microsoft 365 mailbox that is Exchange Online hosted.
- Access to SAP Sales Cloud Version 2 and SAP Service Cloud Version 2 tenants.

### Note

### Restrictions/Limitations

This feature has restricted availability. To request access to this feature, you must create a case with the CEC-CRM-EML component.

### 39.3.1 Generate a Certificate

Generate a self-signed certificate containing a private key for use by SAP Sales Cloud and a public certificate to be uploaded to Azure.

#### Option A: Using open SSL:

Generate the certificate and private key:

```
openssl req -x509 -newkey rsa:2048 \
-keyout smtp-oauth.key \
-out smtp-oauth.cer \
-days 730 \
-nodes \
-subj "/CN=SalesCloud-SMTP-OAuth/O=YourCompanyName/C=DE"
```

Create the PFX file:

```
openssl pkcs12 -export \
-out smtp-oauth.pfx \
-inkey smtp-oauth.key \
-in smtp-oauth.cer
```

Extract the certificate thumbprint:

```
openssl x509 -in smtp-oauth.cer -fingerprint -sha1 -noout
```



#### Option B: Using Windows PowerShell:

Run the following commands:

```
$cert = New-SelfSignedCertificate -Subject "CN=SalesCloud-SMTP-OAuth" `
 -CertStoreLocation "Cert:\CurrentUser\My" `
 -KeyExportPolicy Exportable -KeySpec Signature `
 -KeyLength 2048 -HashAlgorithm SHA256 `
 -NotAfter (Get-Date).AddYears(2)

Export-Certificate -Cert $cert -FilePath "smtp-oauth.cer" -Type CERT

$password = ConvertTo-SecureString -String "YourPfxPassword" -Force -AsPlainText
Export-PfxCertificate -Cert $cert -FilePath "smtp-oauth.pfx" -Password $password
```

## 39.3.2 Register an Application in Microsoft Azure

### Procedure

1. Log in to the Microsoft Azure Portal.
2. Go to [Microsoft Entra ID](#) and select [App Registrations](#).
3. Choose [New Registration](#)
4. Configure the application settings by entering a name and the supported account type as single tenant.
5. Complete Registration

## 39.3.3 Upload Certificate to Azure

### Procedure

1. Go to ► [App Registration](#) ► [Certificate and Secrets](#) ► [Certificates](#) ►
2. Upload the .cer file.
3. Save the certificate.

## 39.3.4 Assign API Permissions

### Procedure

1. Go to ► [App Registration](#) ► [API Permissions](#) ►
2. Add permissions for Microsoft Office 365 Exchange Online
3. Choose [Application Permissions](#)
4. Add [SMTP.SendsAsApp](#), [Mail.Send](#), and [User.Read](#) (Delegated).
5. Grant administrator consent.

## 39.3.5 Enable SMTP Authentication for the Mailbox

### Option A: Admin Center

1. Go to ► [Microsoft 365 Admin Center](#) ► [Users](#) ► [Active Users](#) ►
2. Choose the mailbox.
3. Enable [Authenticated SMTP](#).

### Option B: PowerShell

```
Set-CASMailbox <mailbox> -SmtpClientAuthenticationDisabled $false
```

Result

## 39.3.6 Configure Exchange Online Service Principal

### Procedure

1. Connect to Microsoft Exchange Online: `Connect -ExchangeOnline`
2. Verify service principal: `Get-ServicePrincipal`
3. Create service principal, if available: `New-ServicePrincipal -AppId <CLIENT_ID> -ObjectId <OBJECT_ID>`
4. Assign mailbox permissions: `Add-MailboxPermission -Identity <mailbox> -User <OBJECT_ID> -AccessRights FullAccess`  
  
`Add-RecipientPermission -Identity <mailbox> -Trustee <OBJECT_ID> \ -AccessRights SendAs -Confirm:$false`

## 39.3.7 Upload Certificate to SAP Sales and Service Cloud V2

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [MTA Provider Configuration](#) ►
2. Create a new provider configuration.
3. Enter [Provider Name](#) and [Provider Type](#)
4. Provide the details of SMTP domain server and SMTP port.
5. Choose [OAuth 2.0 - Certificate](#) as the authentication method.
6. Provide the details.
7. Upload the .pfx file.
8. Enter the PFX password.
9. Save the configuration and activate.

### Next Steps

Enable the channel.

When creating a channel to be used for outbound SMTP emails, select the MTA provider that was created above.

## 39.3.8 Additional Steps for Shared Mailboxes

Learn how to enable shared mailbox for OAuth-based SMTP operations.

### Procedure

1. Assign Exchange Online license.
2. Enable SMTP AUTH explicitly
3. Verify mailbox configuration

## 39.3.9 Troubleshooting and Additional Information

### Troubleshooting:

- Token acquired but SMTP connection fails
  - Cause: Missing service principal or incorrect permissions.
  - Action: Verify configurations.
- API permissions not active
  - Cause: Admin consent is missing for the application registration.
  - Action: Grant the required admin consent within the Azure Portal.
- Certificate authentication fails
  - Cause: Mismatched cryptographic keys or duplicate certificates exist in the system.
  - Action: Regenerate the self-signed certificate and re-upload it to both platforms.
- Configuration fails immediately after setup
  - Cause: Standard Azure Active Directory or Exchange Online replication and propagation delays.
  - Action: Wait a few minutes for the settings to sync across networks, then retry.

### Additional Information:

- Monitor certificate expiration: Track validity dates closely and renew all certificates well before they expire.
- Prevent downtime during updates: Upload new certificates before removing active ones to ensure uninterrupted email delivery.
- Maintain configuration alignment: Ensure settings remain perfectly synchronized between SAP Sales Cloud, Azure, and Exchange Online.

# 40 Products

Products worklist helps you to maintain the various aspects of products in the application.

A product is the item offered for sale and it can be a service or a physical item. A product can be of real or virtual form. Each product is made at a cost and sold at a price and the price depends on the quality, market, the marketing, and the targeted segment. In the application, generally, products have a status, name, and ID.

As a service agent, you can use the SAP Service Cloud Version 2 to work with products as a criterion for categorizing, routing, or analyzing the text of customer tickets and perform appropriate action.

## 40.1 Configure Products

Administrators must create business roles and assign business users to necessary business services to use the Product service and app.

- Add the business service [Product](#) to the business role to activate products service.
- Enable the application [sap.crm.md.service.productService](#) to access the products app in the navigation menu. Based on the business role, you can choose to enable the application either with administrator rights or without it.

### Note

By default users are granted unrestricted read and write authorizations. Hence, ensure to verify the read and write access based on whether you want to restrict a user's read and write permissions by assigning a preferred [Restriction Rule](#).

## Related Information

[Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

## 40.1.1 Configure Unit of Measure

As an administrator, you can define new units of measurement and physical units of measurement to be maintained as predefined units in the application.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Products](#) ► [Units of Measure](#) ►.
2. Choose + [\(Add\)](#) at the top of the table to add a new unit of measure.
3. Enter a code, description, and decimals for your unit of measure.
4. Turn on the **Visible** switch to activate the unit of measurement.

You can delete a unit of measurement by choosing  [\(Delete\)](#) in the [Action](#) column.

#### Note

Turn on the **Translate** switch to translate the description into any of the supported languages.

## 40.1.2 Configure Sales Status Schema

As an administrator, you can create sales status for each product status of a product.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Products](#) ► [Sales Status Schema](#) ►.
2. Choose + [\(Add\)](#) at the top of the table to add a new sales status code.
3. Enter a unique code, description and select the status. You can select one of the following statuses:
  1. In Preparation
  2. Active
  3. Blocked
  4. Obsolete
4. Use the [Default](#) switch to set this code as the default sales status.

#### Note

Only one default sales status is allowed for a product status.

5. Use the **Visible** switch to determine whether you want this sales status code to be visible on the UI.  
You can delete a sales status code by choosing  [\(Delete\)](#) in the [Action](#) column.

#### Note

Use the **Translate** switch to translate the description into any of the supported languages.

## 40.1.3 Configure Language

As an administrator, you can select the languages that are to be used in the Products worklist. The selected languages are used for translating the contents on the system and communication.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [General](#) ► [Language & Region](#) ►.
2. Select the [Language](#) tab.
3. Use the switch under [System Language](#) and [Communication Language](#) against each language to enable or disable.

## 40.1.4 Configure Number Range

Number range determine the number of a new entity or a data record.

Number range contains a defined set of unique character strings and is used to provide database records with unique numbers. These numbers can then be used as order numbers or material master numbers. While adding a new entity, you can configure the system to create a document number automatically, or enter a number manually. Note that changing a previously assigned number range can lead to errors in the system. Also, you should create number ranges with sufficient intervals to avoid future complications. With automatic number assignment, the system automatically increments the number of the next entity by one, starting with the start number.

To configure the number range, navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Products](#) ► [Number Range for Products](#) ►.

### Related Information

[Number Range \[page 652\]](#)

Number range determine the number of a new entity or a data record.

## 40.1.5 Configure Replication of Products from S/4HANA

As an administrator, you can manually create products or upload the products data from SAP S/4HANA using the migration process found under [Settings](#).

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ► [Inbound Configuration](#) ►.
2. Select the inbound configuration [Replicate Product from SAP S/4HANA](#).

## 40.1.6 Configure GTIN

GTIN (Global Trade Item Number) is a standardized unit that uniquely identifies a product relating to a unit of measure or type of packaging.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Products](#) ► [GTIN](#) ►.
2. Choose + [\(Add\)](#) at the top of the table to add a new GTIN.
3. Select the [Product](#) and [Unit of Measure](#).
4. Enter the GTIN and use the [Main](#) switch to indicate whether this GTIN is the main one for the selected product.  
You can delete a GTIN by choosing [\(Delete\)](#) in the [Action](#) column.

## 40.1.7 Configure Billing Cycle

As an administrator, you can manage all billing cycles for subscription-type products in the system. You can create, edit, and delete both locally created billing cycles and those replicated from connected systems.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Products](#) ► [Billing Cycle](#) ►.
2. Choose + [\(Add\)](#) at the top to add a new billing cycle.



## 40.2 Create Products

You can create a product from the Products worklist.

In the Products worklist:

1. Choose **+** (*Create*) to create a new product  
The *Product Name*, *Unit of Measure*, and *Status* fields are mandatory.
2. Click *Save*, the status of the product is set to *In Preparation* by default.  
Based on your requirement, you can change the status of a product to *Active*, *Blocked*, or *Obsolete*.

### Note

Products that are manually created can neither be migrated to external system such as SAP S/4HANA nor influence any changes to the product in the external system.

## 40.3 Manage Products

Explore all the options to manage your products and product groups in the solution.

You have multiple options such as filtering, searching, and adding products in the solution. Your administrator configures many of these options based on how your organization uses products.

### 40.3.1 Products Worklist

The *Products* worklist displays all products in the solution.

Choose *Products* from the app menu () to view all products that are currently maintained in the solution. Use the search () option to search for a product by keyword, such as ID, External ID, or name. Filter all the maintained products either by *Status* or *Product Group* to view a specific set of products. You can filter the status as per:

- In Preparation
- Active
- Blocked
- Obsolete

### Products Quick View

Products quick view allows you to access information about a product without having to leave the products worklist.

Click on the name of a product to launch the quick view and a new tile opens with details such as product description, sales information and change log. You can also edit the status, product group, unit of measure and other field values inline.

## Products Detail View

Open a more detailed view of a product. Select the *Open in Detailed View*  icon next to a product or in a product's quick view to launch the detailed view of the product. You can expand the header section by clicking the (⌵) icon to view information such as created on, created by, updated on, and updated by. You can also edit fields such as:

- Name
- Status
- Unit of Measure
- Product Group
- Description

In this view, you get a detailed insight into a product and all its attributes through the various tabs. The different tabs and their functions are as follows:

### 40.3.1.1 General

The tab *General* has further sections where you can view and modify the various properties associated with a product, it includes information on sales organization, plants, quantity conversion and so on.

#### 40.3.1.1.1 Sales Organizations

Select the add icon (+) to add a new sales organization.

##### Note

When the status of the product within a sales organization is active and if you change the status of the product to blocked in the header section, then the status of the product in all associated sales organization is also set to blocked. However, if you revert the status of the product to active in the header section, then status in the sales organization doesn't change. You need to set the status of the product to active in the sales organization, case by case.

If the status of a product is blocked in the header section, then you can't change the product's status for corresponding sales organization.

##### Customer Part Number

Customer Part Numbers belong to the product sales distribution chain and can be uniquely configured per sales area. Product or component names may vary by customer or region, reflecting different marketing strategies for the same item.

As an administrator, you can add customer part numbers to the sales data of your products.

To add a customer part number, follow the steps:

1. Open a product in detail view.
2. Go to the *General* tab and under the section *Sales Organizations*, select  in the sales organization that you want to add the customer part number in.
3. Under the section *Customer Part Numbers*, select  to add a customer part number.
4. Enter the details and *Save*.

## 40.3.1.1.2 Plants

Plants are replicated from SAP S/4HANA and you can assign a plant to a product.

You can also view stock information for products synchronized from SAP S/4HANA.

Stock information is obtained at the plant level and is displayed in the Stock Overview tab. The Stock Overview tab can be viewed from the product details overview tab and quick view.

### Note

The data is only synchronized from a connected SAP S/4HANA.

You can select a plant based on stock results to get a better product availability in sales order or sales quote. You can also give stock information to a customer.

## 40.3.1.1.3 Quantity Conversion

In the *Quantity Conversion* section, you can maintain multiple conversion rates for a product. Click the icon (+) to add a new entry. Enter the quantity and choose the unit from the dropdown and enter the corresponding quantity and choose the corresponding unit from the dropdown.

During pricing, the quantity conversion takes effect if the unit of measure requested in the document differs from the price unit maintained in the price list. As a prerequisite, the quantity conversions must be maintained in the product master data.

#### 40.3.1.1.4 Names

In the [Names](#) section, you can manage your product names and its translation in different supported languages.

Select the add icon (+) to add a new name and language.

#### 40.3.1.1.5 Descriptions

In the [Description](#) section, you can edit the description or add additional textual information to a product. The description maintained here can be part of the external communication with your customers, for example, in output forms. You can also save the information in any of the supported languages.

Click the add icon (+) to add a new description. Use the filter icon (🔍) to filter the information based on languages.

#### 40.3.1.1.6 External IDs for Integration

In the [External IDs for Integration](#) section, you can view the external ID, Type and Communication System ID details.

#### 40.3.1.1.7 Attachments

In the [Attachments](#) section, you can manage all the attachments of a product such as documents, images, and certificates. Based on the usage, you can upload an attachment type, for example, an image to represent the product in header section or a supporting document for the product.

#### 40.3.1.2 Changes

In the [Changes](#) tab, you can view the change history associated with the product in a chronological order. You can see various change details such as changed by, date and time, value changes and so on.

Select the icon (🔄) to refresh the list or select the download icon (📄) and select the file type you want the data exported to, either [.CSV](#) or [Excel](#).

## 40.3.2 Customization of Products View

As an administrator, you can change the look and feel of the products worklist for all users by changing layout settings. You can add or remove columns and fields based on your organization's requirement.

### Related Information

[Adaptation \[page 80\]](#)

As an administrator, you can change the look and feel of the solution for all users by changing layout settings, adding mashups and fields, as well as defining extension fields.

[Manage Fields \[page 80\]](#)

Add, hide, and reorder fields.

[Add and Manage Sections \[page 87\]](#)

Add, hide, show, and reorder sections.

## 40.3.3 Deleting a Product

Users can delete products from the Products worklist.

Select  (*Delete*) from *Actions* in the list view.

The delete action performs a logical deletion rather than removing the record entirely. The status of the product is updated to Deleted, but the data remains in the system for reference purposes. Deleted products remain accessible from transactional records, for example Opportunities or Leads where they were previously used.

### Note

Logically deleted products are hidden from standard selection lists such as worklists and value help and cannot be selected or reused in new transactions or master data, however, they remain visible in change logs under the *Deletions* section for reference.

# 41 Product Group

A product group is a group of products categorized based on the shared attributes like usage, features, production processes and so on. A product group can also be the market or customer segment in which the products are sold or the prices at which they're offered.

## 41.1 Configure Product Groups

You must create business roles and assign business users to necessary business services to enable product groups.

- Add the business service [Product Group](#) to the business role to activate product group workspace.
- Enable the application [sap.crm.md.service.productGroupService](#) to access the product group workspace.

### Procedure

1. Navigate to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Product](#) > [Product Groups](#).
2. Choose + [\(Add\)](#) at the top of the table to add a new product group.
3. Enter a name and ID for your new product group.
4. Choose ✓ [\(Confirm\)](#) to save changes.

## 41.2 Configure Replication of Product Groups from S/4HANA

As an administrator, you can manually create product groups or upload the product groups data from SAP S/4HANA using the migration process found under [Settings](#).

### Procedure

1. Navigate to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Integration](#) > [Inbound Configuration](#).
2. Select the inbound configuration [Replicate Product Group from SAP S/4HANA](#).

# 42 Output Management

Output management comprises all activities related to the output of documents. Form-based documents can be output on an ad hoc basis or as an integrated part of a business process.

## 42.1 Main Templates

As an administrator, you can create company-specific main templates for use in form templates.

Form main templates are used to define the logo, header, sender address, and language-dependent footer that are used in form-based business documents.

SAP provides one default form main template for your solution. If you require a different logo or sender address for different companies or org units in your organization, you can create additional form main templates. These can then be assigned to the relevant company/org unit.

If you do not want to use any form main template for a business document, you can deactivate the use of main templates in the form template. If you specify that a main template must not be used for a form template, then you can alternatively create a unique header, logo, and footer for the form template using Adobe® LiveCycle Designer.

When a business document is output, the system uses the following logic to determine which form main template to use:

- The system searches for a form main template assigned to the company/org unit in which the business document was created. For example, if an invoice is created in the invoicing unit *Sales US West Coast* and is to be sent by email, the system tries to find a main template assigned to the org unit *Sales US West Coast*.
- If no match is found, the system searches upwards in the organizational structure for a main template assigned to a higher-level org unit.
- If no match is found, the system uses the default main template.

### 42.1.1 Create Main Templates

If you use templates, creating company-specific main templates makes all templates consistent, saving you time. You can define company-specific main templates to use as a basis for other forms.

#### Procedure

1. Navigate to ► *User Menu* ► *System Settings* ► *All Settings* ► *Output Management* ► *Maintain Main Template* ►.

2. Choose **+** (*Create*)..
3. Enter a name and assign org unit (if any) for your new main template.

Use the *Is Default* toggle button to mark the template as the default template.

4. In the *Design Main Template* tab, enter the header and footer information.
  - a. In the *Header* tab, upload a logo.

Adjust the size and alignment of the logo, as required. The file formats .gif, .bmp, .jpg, .png, and .tif are supported. The logo must be lesser than 40 mm in width and 20 mm in height. If you upload a graphic that is larger than 40 mm x 20 mm, it is resized automatically.

- b. Use the *Header Divider* toggle button to add a graphical divider on your form.
  - c. Enter your company's address as the sender address. The sender address is shown above the recipient's address in a letter.
  - d. In the *Footer* tab, choose the number of footer columns you want to display.

Enter the footer text exactly as you would like it to appear on the form. You can maintain up to four footer blocks with a maximum of 10 lines per footer.

Note that the width of each footer block is equally divided over the available space. If a line of text in the footer is too long for the current font size, the system automatically enters a line break. If this automatic line break does not meet your needs, you can enter the text after the line break as a separate line.

5. Preview your changes by refreshing the screen.
6. Save your changes.

You can now assign the main template to one or more companies, org units, or output channels.

## 42.1.2 Edit Form Main Templates

As an administrator, you can update the main template design or assign organizational units to the template.

### Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Output Management** > **Maintain Main Template**.
2. Select any main template that you want to edit and choose **Edit**.
3. Update the name and org unit details in the *Create Main Template View* tab or the header and footer details in the *Design Main Template* tab.
4. Save your changes.



## 42.2 Form Templates

Use form templates to define the content and layout of documents that can be output from the system.

Form templates are in the form of print forms that are read-only portable document format (PDF) documents that are generated from data stored in the system. Print forms can be printed, sent as an email attachment, or faxed to business partners.

### Variants

Variants of a form template are copies of the content displayed in other languages, or with information specific to that country/region. Language variants are used to provide translations of form templates into other languages.

When a document is output from the system, the system automatically determines which language version to use. Most form templates are intended for internal review. Therefore the system uses the form template matching the language selected by the user on the log on screen. Certain objects are intended for review by a business partner or customer, and the system selects a template based on the recipient language.

**Language variants** are determined by the user log-on language, or in certain cases, by the preferred language of the receiving business partner. For example, if a customer in a German company sends product information to a business partner in France, the system searches for a French language variant of the form template and uses this to generate the document. If a language variant is not available in the recipient's language, then the form template in the fallback language English is used.

You can use the appropriate buttons to delete form templates or variants.

#### ⚠ Restriction

It is not possible to delete a form template that has already been used to output a document because that template is referenced in a document's output history.

### 42.2.1 Create Form Templates

You can create custom form templates, but we recommend editing templates provided by SAP, which saves you setup time.

### Context

#### → Recommendation

While it's possible to create new form templates using this procedure, we recommend that you edit form templates provided by SAP or partners instead. Editing provided templates means that you don't have

to adapt any output settings. It is not possible to copy or edit print forms that contain legally-sensitive content.

## Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Output Management** > **Maintain Form Template**.
2. Choose a predelivered template, choose **...** and select **Copy Template**.
3. Enter a name and description and select a language.
4. If you are creating a form template specific to a language, select the language. If the template is not specific to language, leave this field blank.
5. Turn on the **Form Main Template** switch button to use master templates to determine the layout of the template.
6. Save and publish your changes.

When a new version of a predelivered template is released, the new version of the predelivered template is automatically set to active. To avoid any changes to the existing version, create a copy of the predelivered template and use the custom template while selecting the form template. If you want to make changes in the newer predelivered templates, create a copy of the same and start using it. Else, continue using the existing custom template.

## 42.2.2 Edit Form Templates

As an administrator, you can update the name and description of a form template, upload a form template variant, or download a template and make changes using Adobe LiveCycle Designer.

## Prerequisites

You have installed Adobe LiveCycle Designer and installed SAP CNSADDINS (SUPPORT PACKAGES AND PATCHES). To download and install or update the Adobe LiveCycle Designer, follow the instructions in the SAP note [2187332](#) (download and installation of version 11.0).

## Context

### → Recommendation

We recommend that you edit form templates provided by SAP or partners instead of creating new form templates. Editing provided templates means that you do not have to adapt any output settings and

you can also manage all versions of the template. Form template versions that you customize are not overwritten by SAP or partner upgrades.

## Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Output Management](#) ► [Maintain Form Template](#) ►.
2. Click ⋮ and select [Edit](#).
3. Update the name and description of a form template, upload a form template variant, or download a template and make changes using Adobe LiveCycle Designer.

By default, the [Form Main Template](#) switch is on. If you do not want to use company-specific main templates, turn off the switch. Note that only .xdp files can be uploaded.

4. Save and publish your changes.

In the Adobe LiveCycle Designer, you can make changes such as the following:

- Change position of title, logo, and fields
- Change alignment of title and logo (unless you define these with main templates)
- Change title and template texts
- Change sender address, number, and content of footers (unless you define these with main templates)
- Change style and size of font
- Change line style and add borders
- Adjust visibility of fields, change field labels, and the sequence of fields
- Adjust visibility of columns, change column order, and column headers
- Add standard fields available in the form data structure  
If you want to add new fields that are not available in the form data structure, you can add extension fields. Other fields require support from the SAP Cloud Service Center.
- Add placeholders to free text blocks
- Add new texts or captions
- Show and hide page numbers or folder marks

### Note

If you require complex changes to a print form, you can also contact the SAP Cloud Service Center. They can assist you with complex scripting such as dynamically displaying or hiding fields, sorting table rows, adding new or extension fields to a form, or creating a completely new form. For more information, see the [Business Center for Cloud Solutions from SAP](#) 🌐.

For more information about using Adobe LiveCycle Designer, see the Adobe product documentation.

## 42.2.3 Create Language Variants

Variants are copies of an existing form template that are defined in other languages. You can use variants to create translations of forms in other languages.

### Procedure

1. Navigate to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Output Management](#) > [Maintain Form Template](#) .
2. Click [...](#) and select [Copy Variant](#).
3. In the dialog box that appears, select a language.
4. By default, the [Form Main Template](#) switch is on. If you do not want to use company-specific main templates, turn off the switch.
  - If you use a main template, some of the elements are predefined by the main template, which creates consistency among documents.
  - If you do not use a main template, then you can define the template's header, footers, logo, and sender address individually for this template.
5. Save and publish your changes.

## 42.2.4 Download Template Variants

Download a template variant either to edit it offline or to use it as sample data to preview a form template.

### Procedure

1. Navigate to [User Menu](#) > [Settings](#) > [All Settings](#) > [Output Management](#) > [Maintain Form Template](#) .
2. Select the template you want and choose [Download](#).
3. Save the archive file using [.zip](#) as the file extension.

The ZIP file contains the following files:

- An XML data package (XDP) file containing the selected form template variant.
- An XML schema definition (XSD) file that defines the structure of the XML document. This is required for offline editing.
- If available, XML files containing sample data for previewing your changes.

#### Note

If no sample data files are available, you can also create your own sample data files using the [View XML Data](#) button on a document's output history.

## 42.2.5 Create Form Template Rule

Administrators can create rules to determine which form template is used for the output of a business document. If you create new templates, you must create a form template rule to define when the templates are used.

### Context

You can either define a form template rule that applies to all instances of the selected business document, or you can use the parameters provided to create more complex rules. If you have created more than one rule for a document, you also need to define the sequence of the rules. The system processes the rules in the order in which they appear in the table until a rule is found for which the conditions are met. Therefore, enter more specific rules at the top of the list and generic rules at the bottom. If you create a rule and leave a parameter blank, then this is handled as a wildcard, and any value is considered as having fulfilled the condition.

#### Note

In some cases, a business document represents a group of related document types. For example, the business document Customer Invoice includes invoices, credit memos, correction invoices, and down payments.

### Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Output Management** > **Select Form Template**.
2. Select the **Entity** and **Type**.
3. Click **Add**.
4. From the **Form Template** drop-down list, select a form template.
5. Under **Parameter Settings**, enter the parameters for which you want this rule to apply.
6. Use the **Rearrange** icon to adjust the sequence in which the form template rules are applied in order to ensure that the required rule is applied by the system.
7. Save your changes.

# 43 Data Import and Export

This document describes how you can use Data Import and Export to import data into your solution and export data from your solution.

## Note

Ensure that your business user has `sap.crm.service.dataImpexService` service assigned to use Data Import and Export.

You can use Data Import and Export to import the following:

- Data from a legacy system into SAP Service Cloud Version 2. For example, you can transfer all the existing data from any Cloud CRM system to SAP Service Cloud Version 2.
- Operational data from third-party systems into SAP Service Cloud Version 2.
- Data that is manually maintained in a CSV file (data file) into SAP Service Cloud Version 2. For example, customer and product information collected from a campaign and maintained in a data file.

As an administrator, you are expected to understand the following:

- Your business requirement and knowledge of data imported to SAP Service Cloud Version 2.
- Sequence in which the entities must be imported. For information on each of the entities, see entity documentation.

Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Data Import and Export](#) ► [Import and Export Data](#) ►.

You can use the filters to view all tasks, your tasks, and application tasks. Application tasks are import and export tasks triggered from the respective entity workspaces.

Once a task is triggered, it goes through the following stages:

- **New** indicates that a new task is triggered.
- **In Process** indicates that the task is being processed.
- **Completed** indicates that the task is processed without any errors.
- **Completed With Errors** indicates that the task is completed but with errors.  
Error files are generated and the task moves to Completed With Errors. Errors generated, if any, are available for download. The error file specifies the error message along with the specific root causes for the error. For example, if data validation failed due to an invalid character and incorrect ID, an error message Data Validation Failed: Account name contains an invalid character, Account ID is incorrect is displayed. If there are multiple errors the errors are displayed as comma separated values. Verify the file and import it again.
- **Failed** indicates that the task failed because of technical errors.  
Technical errors could be due to incorrect file format or invalid data type for any of the fields in the import file. The error count for tasks in failed status will be zero.

## Note

Tasks older than 30 days are automatically removed from Monitor, irrespective of task status.

In cases where you want to retain information beyond one month (such as external keys used for an entity during import), we recommend you to maintain local copies of such information.

You can view all tasks triggered in your tenant.

## Prerequisites

| Type       | Task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technical  | <p>Template files can be downloaded from the system. To check if the file is in an acceptable format, do the following:</p> <ol style="list-style-type: none"><li>1. Open the CSV file in Notepad.</li><li>2. Click  <b>File</b> &gt; <b>Save As</b> &gt; </li><li>3. In the <b>Save As</b> dialog, choose <b>Encoding</b> as UTF-8. Keep the file extension as <b>.CSV</b>.</li><li>4. Once the file is saved, check if the content is displayed correctly.</li></ol> |
| Functional | <p>You understand the business requirement of the data to be imported.</p> <p>For each entity you want to import data into, you understand the dependency within the entity section of the respective entity document.</p>                                                                                                                                                                                                                                                                                                                                                                                                                 |

## 43.1 Create Data Using Import

You can create new data and import it to the system.

Templates are available by default for each entity type for administrators who have a business understanding of the fields that need to be mapped between systems. This ensures consistency in mapping across all users.

Typical tasks of an administrator include:

- Downloading templates for various entities and nodes
- Preparing data to an accepted format
- Importing data

### → Tip

It's recommended to download the template from the system for every import create instead of using a locally saved template version. Also, never rename the templates that are downloaded from the system. Once you make the necessary changes and you import the template, ensure that your uploaded template name is the same name as the downloaded one.

Administrator data, such as created by, created on, updated by, and updated on, for the data being imported will be based on the user performing the task and the time of import. Existing administrator data can't be retained for historical data imports or migrated data imported through the [Data Import and Export](#) functionality.

## 43.1.1 Download Template

You can download templates to prepare data for importing.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Data Import and Export](#) ► [Import and Export Data](#) ►.
2. Select [Download Template](#).
3. Select the entity for which you want to import the data.
4. Select the [File Type](#) between [Comma Separated Values \(.csv\)](#) and [Excel Workbook \(.xlsx\)](#).
5. Turn on the [Complete Entity](#) switch to import the root entity and all its subentities. Disable it if only the root entity or root entity with selected subentities is to be imported.

When [Complete Entity](#) is selected, the system downloads a zip file with multiple csv and xlsx template files (one file each for the root entity and individual subentities).

When [Complete Entity](#) is deselected, you can select subentities based on your import requirement along with root entity template, considering that only root entity is to be imported or a root entity with selected child entities is to be imported.

- If no subentity is selected, a single csv/excel template file of the root entity is made available for download.
- If certain subentities are selected, a zip file with multiple csv/xlsx template files (one file each for root entity and every selected subentity) is available for download.

6. Select [Download Template](#).

#### ⓘ Note

The template is downloaded in the same language as of the user's login language.

7. Update the downloaded template with data to be imported.

#### ⓘ Note

Only comma and semicolon are supported as value separators.



## 43.1.2 Prepare Data

Data that is either downloaded from a legacy system, a third-party system, or manually maintained in a data file, it must be cleansed to ensure that it's in as per the Data Import and Export template.

For example, you must ensure that all the technical IDs are maintained based on the dependency, and also check if the data is as per the Data Import and Export template.

### Instructions

- The login language while importing data and the template language used while creating data using import must be the same.
- For date fields, follow these instructions:
  - Use format yyyy-mm-dd. For example, 2015-11-25.
  - To import a timestamp field, use format yyyy-mm-ddThh:mm:ssZ. For example, 2021-12-31T23:59:59Z. Enter the UTC time.

#### Note

Date and currency fields get auto converted in excel when entering the data, ensure that the format is in the expected format after data entry by changing the data type of the cell to Text/General.

- If you have a Boolean entry, ensure that the value is entered either as true or false in small case.

#### Accepted Values

- true
- True
- TRUE

- false
- False
- FALSE

#### Note

Any blank boolean field is treated as undefined.

- Columns with numbers that are treated as text.  
Data of a few columns that display numbers is treated as text. Refer to the code list in the templates for fields that have a specific list of values.

#### → Remember

Use a notepad application to modify the CSV data file before importing. This action avoids any format changes to the CSV data file.

When using any excel application to modify the CSV data file, make sure to import the **.csv** file using **UTF-8** character encoding.

Only comma and semicolon are supported as value separators.

- In addition to the import data fields, you must also provide the following:
  - An `external_key` in the root entity file
  - A `parent_external_key` in the root entity file for hierarchical entity structure
  - A `parent_external_key` in the subentity files  
Add the parent record's `external_key` as `parent_external_key` for child records to define the parent-child relationship between records.
- For hierarchy entities, ensure that a value is maintained in the `external_key` column for all records, and the `external_key` value must be unique for each record in the import file.
- The `external_key` and `parent_external_key` fields are string type fields used by data impex for processing the respective import tasks. It doesn't reflect in the entity records created in the system via import. Data impex doesn't store these field values as they're used only for a particular import task.

| catalogId | parentId | displayId | imageUrl | name | description | language-Code | external_key | parent_external_key |
|-----------|----------|-----------|----------|------|-------------|---------------|--------------|---------------------|
|-----------|----------|-----------|----------|------|-------------|---------------|--------------|---------------------|

In this example, `external_key` is a unique non-null value.

- Even if subentities aren't being used, you must include the template files for those subentities during import.

### Note

Reordering of the column names is supported for templates and export files, however, with the following restrictions:

- Reordering is supported only for imports triggered from the [Data Import and Export](#) user interface and not by other UIs.
- Reordering isn't supported by decision tables and ID-mapping functionalities.
- The column position for Data Import and Export custom attributes such as `external_key`, `parent_external_key`, `to_be_deleted`) must not be modified. Their position must remain the same as in the downloaded template/export file.
- If a file contains `parent_external_key` column, ensure that the position of the column remains as the last column then even after re-ordering.

The primary key (ID/Display ID/Technical ID) of the respective entity is different from the `external_key` and `parent_external_key` fields. The primary key (ID/Display ID/Technical ID) of the entity is generated when the entity records imported are created in the tenant. Hence, when new records are created during import, this field has to be left blank in the template.

Administrator data like created by, created on, updated by, and updated on for the data being imported is based on the user performing the task and the time of import. Existing administrator data can't be retained for historical data imports or migrated data imported through Data Import and Export.

#### 📘 Note

To import only the root entity, use a single CSV/excel file. To import a complete entity or a root entity along with select subentities, use a .zip file that includes multiple CSV/excel files. Don't create a zip file by zipping a folder that contains the entity files. To prepare a zip file, select all CSV/excel files (except the codelist files) to include in the .zip file, right-click, and create a zipped folder. Don't create a zipped folder directly from the parent folder that was downloaded.

#### 📘 Note

Extension field label names must not contain either a "," (comma) or ";" (semicolon).

Attachments present in the template can't be imported via Data Import and Export. However, include the CSV/excel blank template in the zip file to import the complete entity.

#### → Tip

It's recommended to import only a maximum of 25,000 records in an Excel file or 50,000 records in a CSV file.

## 43.1.3 Create Data

You can create new data and import it to the system.

### Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Data Import and Export** > **Import and Export Data**.
2. Select **Import** > **Create**.
3. Select **Complete Entity** if you want to create the root entity and all its subentities or select **Individual Entities** if you want to import only the root entity or root entity with selected subentities.
4. Turn on the **Initial Load** switch to relax checks and reduce errors during initial migration.
5. Turn on the **Simulation Mode** switch to simulate and view errors.

#### 📘 Note

Simulation mode performs a basic validation to identify file upload errors. Errors related to hierarchical relationships aren't validated in simulation mode.

6. Select the **File Type** between **Comma Separated Values (.csv)** and **Excel Workbook (.xlsx)**.

#### → Remember

Use that latest template file for create.

7. Select the *File Type* between *Comma Separated Values (.csv)* and *Excel Workbook (.xlsx)*.
8. Browse for the \*.zip prepared data file you want to upload.

#### ⓘ Note

Once you upload the file, an option to *Preview Sample Data* appears, using which you can view the preview of the first 10 entries in your uploaded file.

#### ⓘ Note

Maintaining an external key is mandatory for import of the complete entity.

9. Click *Import Data*.

## Results

The system validates the first 10 entries in the import file for data type and file type errors. Errors, if any, are displayed in the *Import and Export Data* screen. You can't import the file without resolving the errors. The system displays a message on the status of the import.

#### ⓘ Note

If the error message reads "Operation failed. Please contact the support team", try importing the file again. If the issue persists, raise a support ticket.

## 43.2 Export Data

You can export data from your solution.

### Procedure

1. Navigate to your *User Menu* and select ► *System Settings* ► *All Settings* ► *Data Import and Export* ► *Import and Export Data* ►.
2. Select *Export*.
3. Select the entity for which you want to export the data.
4. Select the subentities and fields from *Entity and field selection*.

#### ⓘ Note

The attribute notId\_HTML\_content is removed from the export file for any entities that contained it.

5. Select the *File Type* between *Comma-Separated Values (.csv)* and *Excel Workbook (.xlsx)*.

6. Select [Apply Filter](#) to filter based on the values available for the respective entities. For administrative data, you can further narrow down your results using the date filter.
  - a. Select [Define Conditions](#) to add specific filter conditions.

#### Note

- While defining conditions, the conditions are evaluated using **OR** logic. For example: Filters such as "ProductId starts with 1 AND not equal to 1001 and 1002" aren't supported. Instead, evaluated using **OR** conditions: "ProductId starts with 1 OR not equal to 1001 OR not equal to 1002."
- While defining conditions, when using the [Is Any Of](#) filter for filtering values, ensure that you don't exceed 500 comma-separated values. For example: If both **Account ID** and **Contact ID** filters use the [Is Any Of](#) filter, the combined total of values from both the filters must be within the 500 limit.  
Also, ensure that the total number of filtered values across all filter queries doesn't exceed 1000.

- b. Select [Add Condition Group](#) to add more conditions.
7. Select entities that need to be downloaded as part of the export file.

#### Note

The [Editable](#) column in the [Field Definitions](#) tab of the downloaded excel file lists whether a particular field is updatable or not.

8. Select [Export Data](#).

The system displays the status of the export in the [Import and Export Data](#) screen.

#### Note

- You can export only a maximum of 50,000 records per export task in a single file.
- A maximum of 50 parallel import or export jobs can run per tenant, and 100 per cluster. Jobs exceeding the tenant limit remain in the [New](#) status and automatically change to [In Process](#) as running jobs complete.

9. Once the export job is complete, a link appears under the [Task](#) column to download the .zip file. Download the zip file to edit and further update the CSV files within them.

## 43.3 Bulk Export Data

You can use Bulk Export to export large data records in a single task from your solution. Bulk export is ideal if you want to export large amount of data that then needs to be imported into another analytical tool such as SAP Datasphere or Azure Data Lake.

### Context

#### 📘 Note

Bulk Export is in the testing stage and enabled for select customers only. Depending on the number of exports initiated and the data volume, the performance may get affected. In such a scenario, we will update the guidelines to ensure the smooth functioning of tenants and the cluster.

Before you begin note that:

- If a bulk export is already in progress for a tenant, you can't initiate another bulk export for that tenant. Based on the data volumes, some enforcement occurs, which can delay processing or don't allow you to trigger new jobs.
- If the total bulk export count is greater than 0 (across tenants) or if the request is outside of non peak hours (00:00 to 05:00 UTC), the job remains in *New* status.
- Even though the bulk export count is 0, a job doesn't start during peak hours. A job starts only when it's outside of peak hours and no other job is in progress.

### Procedure

1. Navigate to ► *User Menu* ► *System Settings* ► *All Settings* ► *Data Import and Export* ► *Import and Export Data* .
2. Select *Bulk Export*.
3. Select the entity for which you want to export the data.

#### 📘 Note

Bulk export only supports CSV file format.

4. Select the subentities and fields from *Entity and field selection*.
5. Select *Apply Filter* to filter based on the values available for the respective entities.
  - a. Select *Define Conditions* to add specific filter conditions.

#### 📘 Note

While defining conditions, when using the *Is Any Of* filter for filtering values, ensure that you don't exceed 500 comma-separated values. For example: If both **Account ID** and **Contact ID** filters use the *Is Any Of* filter, the combined total of values from both the filters must be within the 500 limit.

Also, ensure that the total number of filtered values across all filter queries doesn't exceed 1000.

- b. Select [Add Condition Group](#) to add more conditions.
6. Select entities that need to be downloaded as part of the export file.
7. Select [Export Data](#).

#### Note

If your entity contains more than 50,000 records, the records are chunked into different files of 50,000 records each by appending numerals 1, 2, 3, and so on. For example, your export filenames can be *Appointments\_1.zip*, *Appointments\_2.zip*, and so on.

The system displays the status of the export in the [Import and Export Data](#) screen. You can use the [Bulk Export](#) task type to filter tasks exported using bulk export. The bulk export task takes up to 24 hours depending on system resource allocations and the volume of data.

8. Select the task to view and download the export files.  
Bulk export files are available as individual files that contain up to 50,000 records.
9. Select the check box next to the file and choose the [Download](#) icon to download the zip file.  
You can select up to 10 different files in the same page using the check box. Use the check box in the header to select all the files in the page. Navigating to the next page will clear the existing selection.
10. Choose [Download Selected](#) to download the selected files or choose [Download All](#) to download all files.

## 43.4 Prepare Data for Import Update

You can update existing data records and import them to the system.

To update existing data records, you must first export the data from the system.

1. Navigate to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Data Import and Export](#) > [Import and Export Data](#).
2. Select [Export](#).
3. Select the entity for which you want to update the data.
4. Select the subentities and fields from [Entity and field selection](#).
5. Select the [File Type](#) between [Comma Separated Values \(.csv\)](#) and [Excel Workbook \(.xlsx\)](#).
6. Select [Apply Filter](#) to filter based on the values available for the respective entities.  
Select [Define Conditions](#) to add specific filter conditions and [Add Condition Group](#) to add more conditions.
7. Select entities that need to be downloaded as part of the export file.
8. Select [Export Data](#).

The system displays the status of the export in the [Import and Export Data](#) screen.

#### → Remember

Use that latest export file for update. If an old export file is used, existing data will be overwritten considering update file data as the latest data. Data which is not to be updated can be left unchanged in the complete entity file. Update is only supported for the complete entity or root entity. If only certain subentities need an update, modify only those entities and upload the complete entity file without altering the other data. It is recommended to export only a maximum of 50,000 records in a single file.

Add a column with header **to\_be\_deleted** column in the export file and set the value as true to delete subnode entities. If the column value is blank or false, updated data, if any, would be considered. Administrator data like created by, created on, updated by, and updated on for the data being imported will be based on the user performing the task and the time of import. Existing administrator data cannot be retained for historical data imports or migrated data imported through Data Import and Export.

## 43.4.1 Update Data

Once the exported file is updated with the necessary information, you can import it back into the system.

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Data Import and Export](#) ► [Import and Export Data](#) ►.
2. Select ► [Import](#) ► [Update](#) ►.

### Note

The *Editable* column in the *Field Definitions* tab of the downloaded excel file lists whether a particular field is updatable or not. Update only those fields which have value *True*.

### Note

For hierarchy entities, ensure that the `external_key` value is maintained for all records, and the `external_key` value must be unique for each record.

3. Select the entity for which you want to update the data.
4. Select *Complete Entity* if you want to import the root entity and all its subentities or select *Root Entity* if you want to import only the root entity.

### Note

- Scenario 1: Updating an Existing Note.  
Updating an existing Note is no longer supported.
- Scenario 2: Adding a New Note to a Parent Record.  
Complete the following steps:
  1. Download the Exported File: Obtain the exported file that contains the records.
  2. Download the Template File for the Same Entity: Download the corresponding template file for the same entity to ensure compatibility with the exported records.
  3. Copy the HTML Content from the Notes Template File: In the template file, locate the column labeled **Note\_ID\_HTML\_CONTENT** (or similar, depending on your file structure), and copy the entire column.
  4. Paste the Copied HTML Content column into the Exported File:
    1. Open the exported file and locate the **Note\_ID** and **Parent\_Technical\_Key** columns.
    2. Paste the copied HTML content column between the **Note\_ID** and **Parent\_Technical\_Key** columns in the exported file. Ensure that the column is accurately placed in the same order, as instructed.
  5. Add New HTML Content in the Pasted Column: Enter the new HTML content you want to associate with the parent record in the newly created column.



6. Prepare the File for Import Update: Before importing, ensure that you choose the **Ignore** option in the **Ignore or Overwrite Blank Values** section of the import tool.

→ Remember

If you select **Overwrite**, any existing HTML content for records that do not have new HTML content will be removed. Double-check the **Ignore or Overwrite Blank Values** section to prevent any accidental data loss.

7. Proceed to Import: Your file is now ready for import. Proceed with the import update process to add the new Note to the parent record.

5. Select *Ignore* or *Update* to ignore or overwrite blank values, respectively.

### ⓘ Note

Reordering of the column names is supported for templates and export files, however, with the following restrictions:

- Reordering is supported only for imports triggered from the *Data Import and Export* UI and not from other UIs.
- Reordering isn't supported by decision tables and ID-mapping functionalities.
- The column position for Data Import and Export custom attributes such as `external_key`, `parent_external_key`, `to_be_deleted` must not be modified. Their position must remain the same as in the downloaded template or the export file.
- If a file contains `parent_external_key` or `to_be_deleted` columns, ensure that the positions of these columns remain as the last column then even after re-ordering.

### ⓘ Note

Extension field label names must not contain either a "," (comma) or ";" (semicolon).

6. Turn on the *Initial Load* switch to relax checks and reduce errors during initial migration.
7. Turn on the *Simulation Mode* switch to simulate and view errors.
8. Select the *File Type* between *Comma-Separated Values (.csv)* and *Excel Workbook (.xlsx)*.
9. Browse for the \*.zip prepared data file you want to upload.

### ⓘ Note

Once you upload the file, an option to *Preview Sample Data* appears, using which you can view the preview of the first 10 entries in your uploaded file.

10. Click *Import Data*.

The system validates the first 10 entries in the import file for data type and file type errors. Errors, if any, are displayed in the *Import and Export Data* screen. You can't import the file without resolving the errors. The system displays a message on the status of the import.

### ⓘ Note

- If the error message reads "Operation failed. Please contact the support team," try importing the data again. If the issue persists, raise a support ticket.
- A maximum of 50 parallel import or export jobs can run per tenant, and 100 per cluster. Jobs exceeding the tenant limit remain in the *New* status and automatically change to *In Process* as running jobs complete.

## 43.5 Prepare Data for Import Delete

You can delete existing data records from the system.

To delete existing data records, you must first export the data from the system.

1. Navigate to your *User Menu* and select ► *System Settings* ► *All Settings* ► *Data Import and Export* ► *Import and Export Data* ►.
2. Select *Export*.
3. Select the entity for which you want to delete the data.
4. Select the subentities and fields from *Entity and field selection* and the root node.
5. Select the *File Type* between *Comma Separated Values (.csv)* and *Excel Workbook (.xlsx)*.
6. Select *Apply Filter* to filter records that are to be deleted based on the values available for the respective entities.  
Select *Define Conditions* to add specific filter conditions and *Add Condition Group* to add more conditions.
7. Select *Export Data*.  
The system displays the status of the export in the *Import and Export Data* screen.

### → Remember

Use that latest export file for delete. Ensure that the file contains records that need to be deleted from the system. Other records, if any, can be removed from the file.

### 43.5.1 Delete Data

You can delete existing data records using Data Import and Export.

1. Navigate to *User Menu* and select ► *System Settings* ► *All Settings* ► *Data Import and Export* ► *Import* ► *Delete* ►.
2. Select the entity.
3. Select the file type.

### ⓘ Note

Reordering of the column names is supported for templates and export files, however, with the following restrictions:

- Reordering is supported only for imports triggered from the *Data Import and Export* user interface and not by other UIs.
- Reordering isn't supported by decision tables and ID-mapping functionalities.
- The column position for Data Import and Export custom attributes such as `external_key`, `parent_external_key`, `to_be_deleted` must not be modified. Their position must remain the same as in the downloaded template/export file.
- If a file contains `parent_external_key` or `to_be_deleted` columns, ensure that the positions of these columns remain as the last column then even after re-ordering.

#### Note

For hierarchy entities, ensure that the `external_key` value is maintained for all records, and the `external_key` value must be unique for each record.

4. Upload the export file that contains records that you want to delete.

#### Note

Once you upload the file, an option to [Preview Sample Data](#) appears, using which you can view the preview of the first 10 entries in your uploaded file.

#### Note

You can only delete the complete entity. Upload the root entity file.

5. Choose [Import Data](#).

The system validates the first 10 entries in the import file for data type and file type errors. Errors, if any, are displayed in the Import and Export Data screen. You can't import the file without resolving the errors. The system displays a message on the status of the import.

#### Note

If the error message reads "Operation failed. Please contact the support team", try again. If the issue persists, raise a support ticket.

## 43.6 ID Mapping

If an external key is not maintained or retained previously, you can maintain external keys against the Technical IDs or UUIDs of existing records using the template file that contains a common Technical ID and external key columns for all entities. For example, records imported via Data Import and Export before ID mapping activation or via other sources.

ID Mapping is currently available for the following entities:

- Accounts
- Competitors
- Competitor Products
- Contacts
- Employees
- Individual Customers
- Organizational Unit
- Products
- Product Groups

1. Navigate to  [User Menu](#)  [Settings](#)  [All Settings](#)  [Data Import and Export](#)  [ID Mapping](#) .
2. Select [Download Template](#) to download the ID mapping template.

## 43.6.1 Configure ID Mapping

As an administrator, you can activate ID mapping for an entity. Once you activate ID mapping for an entity, the external keys used in the Import Create mode file for the entity are retained and can be reused instead of Technical IDs to make subsequent updates and to cross reference in other entities via Import Update mode.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Data Import and Export](#) ► [ID Mapping](#) ► [Configuration](#) ►.
2. Turn on the [Enable ID Mapping](#) switch to enable ID mapping for the respective entities.

After activating ID mapping for an entity, the external keys used in the Import Create mode file for that entity will be retained and can be reused instead of Technical IDs and for cross references in other entities.

For example, if ID mapping is activated for the Accounts entity, external key of Accounts can be used while importing opportunities instead of Account Technical UUIDs.

## 43.6.2 Create ID Mapping Using Import

You can create a new ID Mapping for existing entity records and use these IDs for subsequent updates or as cross references in related entities.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Data Import and Export](#) ► [ID Mapping](#) ► [ID Mapping](#) ►.
2. Select [Download Template](#) and choose the file type.  
Update the template file with the external key and UUID of the entities.
3. Select ► [Import](#) ► [Create Records](#) ►.
4. Select the entity and the file type.
5. Upload the completed ID-Mapping template.
6. Choose [Import ID Mapping](#).

## 43.6.3 Update ID Mapping Using Import

You can update existing ID Mapping information using import.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Data Import and Export](#) ► [ID Mapping](#) ► [ID Mapping](#) ►.
2. Choose [Export](#).
3. Select the entity and the file type.
4. Choose [Export ID Mapping](#)

Update the external keys as required. Add a column with the header to\_be\_updated in the export file and set the value as true to update ID mappings.

To remove an ID mapping, add a column with the header to\_be\_updated in the export file, set the value as true, and clear the external key.

5. Choose ► [Import](#) ► [Update Records](#) ►.
6. Select the entity and the file type.
7. Upload the updated ID Mapping file.
8. Choose [Import ID Mapping](#).

## 43.6.4 Export ID Mapping

You can export existing ID mapping information.

### Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Data Import and Export](#) ► [ID Mapping](#) ► [ID Mapping](#) ►.
2. Choose [Export](#).
3. Select the entity and the file type.
4. Choose [Export ID Mapping](#)

## 43.7 Entity-Specific Information

This section describes the entity-specific information available in Data Import and Export.

Data Import and Export supports the following entities:

Supported Entities

| Entity                     | Import Create | Import Update<br>- Complete Entity | Import Update<br>- Root Entity | Initial Load | Simulation<br>Mode | Export |
|----------------------------|---------------|------------------------------------|--------------------------------|--------------|--------------------|--------|
| Accounts                   | Yes           | Yes                                | Yes                            | No           | No                 | Yes    |
| Cases                      | Yes           | Yes                                | No                             | No           | Yes                | Yes    |
| Chat                       | Yes           | Yes                                | No                             | Yes          | Yes                | Yes    |
| Competitors                | Yes           | Yes                                | No                             | No           | Yes                | Yes    |
| Competitor Products        | Yes           | Yes                                | No                             | No           | Yes                | Yes    |
| Contacts                   | Yes           | Yes                                | Yes                            | No           | No                 | Yes    |
| Email                      | Yes           | No                                 | No                             | No           | No                 | Yes    |
| Employees                  | Yes           | Yes                                | Yes                            | No           | No                 | Yes    |
| Exchange Rate              | Yes           | No                                 | No                             | No           | No                 | Yes    |
| Functional Location        | Yes           | Yes                                | No                             | No           | Yes                | Yes    |
| Individual Customers       | Yes           | Yes                                | Yes                            | No           | No                 | Yes    |
| Installed Base             | Yes           | Yes                                | No                             | No           | Yes                | Yes    |
| Organizational Unit        | Yes           | Yes                                | No                             | No           | Yes*               | Yes    |
| Phone Call                 | Yes           | Yes                                | No                             | Yes          | Yes                | Yes    |
| Products                   | Yes           | Yes                                | No                             | No           | No                 | Yes    |
| Product Groups             | Yes           | No                                 | No                             | No           | Yes*               | Yes    |
| Product Installation Point | Yes           | Yes                                | No                             | No           | Yes                | Yes    |
| Registered Products        | Yes           | Yes                                | No                             | No           | Yes                | Yes    |
| Service Catalog            | Yes           | Yes                                | No                             | No           | Yes                | Yes    |
| Service Category           | Yes           | Yes                                | No                             | No           | Yes*               | Yes    |
| Task                       | Yes           | Yes                                | No                             | No           | No                 | Yes    |
| User                       | Yes           | Yes                                | No                             | No           | No                 | Yes    |
| Warranty                   | Yes           | Yes                                | No                             | No           | Yes                | Yes    |

\* indicates that the entity is a hierarchical entity.

#### [Account \[page 752\]](#)

Account management capabilities offer a holistic view of the customer, and allow you to capture, monitor, store and track all critical business information about customers, prospects and partners.

#### [Account Hierarchy \[page 760\]](#)

Account hierarchy is a collection of accounts linked to each other through a parent-child relationship.

#### [Case Overview and Structure \[page 762\]](#)

Overview of the Case entity and the structure in the solution.

#### [Competitors \[page 767\]](#)

Use Competitors to create new competitors and maintain competitor information.

#### [Competitor Products \[page 769\]](#)

Competitor Products enables you to create and maintain comprehensive records of competitor offerings. Leverage this data to effectively compare and strategically position your own products.

#### [Contact Person \[page 770\]](#)

Use contacts to represent the relationship between contacts and accounts. Contacts can be maintained only for corporate accounts.

#### [Emails \[page 774\]](#)

Learn about how you can leverage the email functionality of your system to manage email channels, maintain templates as per different scenarios and automatically generate cases that are sent to service agents for processing.

#### [Employee \[page 774\]](#)

Employee Master Data capabilities offer a holistic view of internal employees (a business partner person with valid employee type "INTERNAL").

#### [Functional Location \[page 779\]](#)

#### [Individual Customer \[page 784\]](#)

Individual Customers represent persons with whom business is done.

#### [Installed Base \[page 791\]](#)

Installed base is a hierarchical arrangement of items installed at your customer's location.

#### [Organizational Unit \[page 794\]](#)

Organizational unit containing a hierarchy that represents the hierarchical structure of the organization.

#### [Product \[page 801\]](#)

A product is the item offered for sale and it can be a service or a physical item. A product can be of real or virtual form. Each product is made at a cost and sold at a price and the price depends on the quality, market, the marketing, and the targeted segment.

#### [Product Group \[page 805\]](#)

A product group is a group of products categorized based on the shared attributes like usage, features, production processes and so on. A product group can also be the market or customer segment in which the products are sold or the prices at which they're offered.

#### [Product Installation Point \[page 806\]](#)

An installation point is the physical location of the object that requires servicing or maintenance based on the service or maintenance plan for that object.

#### [Service Categories Overview and Structure \[page 810\]](#)

Overview of the Service Category entity and the structure in the solution.

#### [Service Catalogs \[page 812\]](#)

Overview of the Service Catalog entity and the structure in the solution.

#### [Registered Products \[page 815\]](#)

A registered product is an instance of a product that is associated with a specific customer and generally has a unique serial number. The registered product information allows the service agent to identify the customer product and any associated warranties or service entitlements

#### [Warranty \[page 819\]](#)

Warranty is assigned to a registered product or installation point, and you can determine its coverage in a ticket.

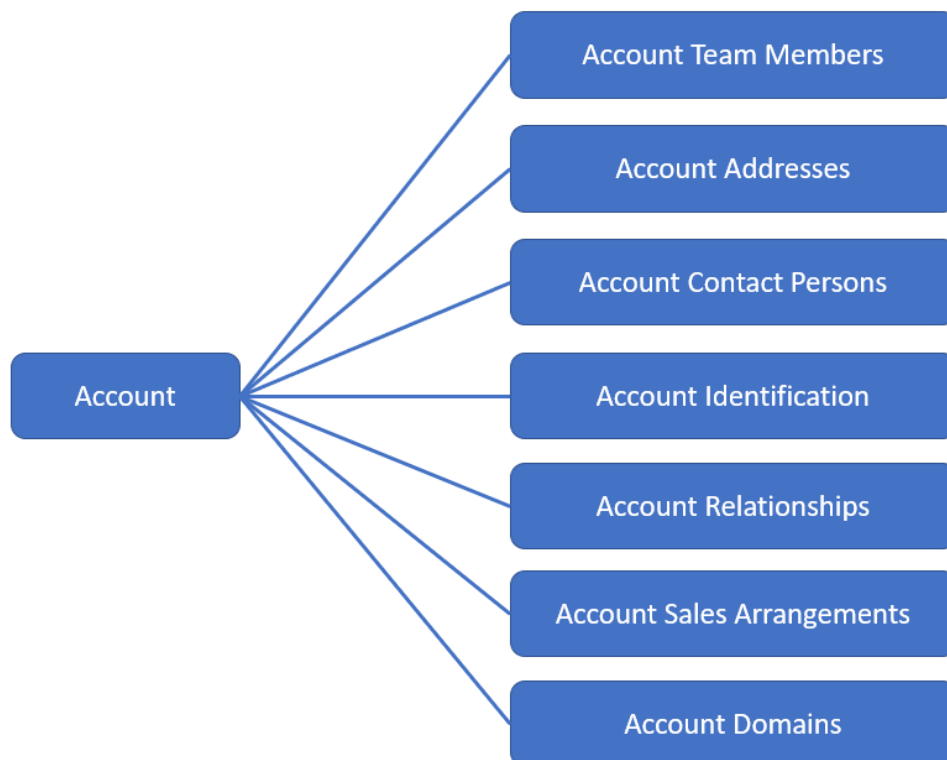
#### [Users \[page 820\]](#)

Users in the system refers to employees, business users and other users such as partner contacts. Users are assigned to business roles and access controls in the system are implemented on business roles.

## 43.7.1 Account

Account management capabilities offer a holistic view of the customer, and allow you to capture, monitor, store and track all critical business information about customers, prospects and partners.

Use this information to focus on your most profitable customers, maintain satisfaction and loyalty and consistent interaction across all channels.





## 43.7.1.1 Account Dependencies

### Dependencies on Other Entities

| Entity                | Description                                                                                                                                                                           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact Person        | Used in Account Contact Persons to assign a Contact to Corporate account(s)                                                                                                           |
| Employee              | Used in Account Team Members to assign internal and external employees to the account                                                                                                 |
| Organizational Unit   | Used in Account Team to assign the employees to a specific Sales Organization to Corporate account(s)<br><br>Used in Account Sales Data to assign a Sales Organization to the account |
| Account Relationships | The related Business Partner, and in case it is provided, the related Sales Organization must exist before creating a relationship to the account                                     |

### Dependencies within the Entity

| Entity                  | Description                                                                                                        |
|-------------------------|--------------------------------------------------------------------------------------------------------------------|
| Account Addresses       | The default address can either be maintained in Account or Account Addresses but not in both places simultaneously |
| Account Contact Persons | Default address maintained at Account or Account Addresses must exist to fill workplace address fields             |

## 43.7.1.2 Account Fields

Download the template from [Data Import and Export](#) for the field level information.

### 43.7.1.2.1 Account

The Account header entity contains all central information of a corporate account.

It contains information about the account name, main address with communication data like email, ABC classification and blocking information. Use the address fields in the Account header entity in case only the

default account address is to be maintained. It is highly recommended to fill the Country field even if you do not provide full address details.

| Template Header                      | Data Type | Notes                                                                                                  |
|--------------------------------------|-----------|--------------------------------------------------------------------------------------------------------|
| external_key                         | STRING    |                                                                                                        |
| Technical ID                         | STRING    |                                                                                                        |
| Account ID                           | STRING    | If this is not provided a number from a number range is drawn. Display ID of Account                   |
| Prospect                             | BOOLEAN   | A prospect is someone who may become a customer.                                                       |
| Role                                 | STRING    | This field is mandatory<br>Use CRM000 for customer<br>Or BUP002 for prospect<br>Or any specific Z-code |
| ABC Classification                   | STRING    | ABC classification of a customer                                                                       |
| Nielsen ID                           | STRING    |                                                                                                        |
| Status                               | STRING    | ACTIVE will be determined by the system if not explicitly specified.                                   |
| Natural Person                       | BOOLEAN   |                                                                                                        |
| Source Lead Technical ID             | STRING    |                                                                                                        |
| Blocking Reasons_Billing Block       | STRING    |                                                                                                        |
| Blocking Reasons_Delivery Block      | STRING    |                                                                                                        |
| Blocking Reasons_Order Block         | STRING    |                                                                                                        |
| Blocking Reasons_Sales Support Block | BOOLEAN   |                                                                                                        |
| Name                                 | STRING    | This field is mandatory<br>Name of the account holder                                                  |
| Additional Name                      | STRING    |                                                                                                        |
| Additional Name 2                    | STRING    |                                                                                                        |
| Additional Name 3                    | STRING    |                                                                                                        |
| Industry                             | STRING    | Primary business activity of the company                                                               |
| Legal Form                           | STRING    |                                                                                                        |
| Contact Permission                   | STRING    |                                                                                                        |
| D-U-N-S                              | STRING    |                                                                                                        |
| Owner Technical ID                   | STRING    | Technical ID of the Account Owner (Employee) part of the Account Team                                  |
| Main Address_Country/Region          | STRING    | The country of the account main address                                                                |

| Template Header                    | Data Type | Notes                                             |
|------------------------------------|-----------|---------------------------------------------------|
| Main Address_State_State           | STRING    | The region (federal state, county) of the address |
| Main Address_Postal Code           | STRING    | Postal code for the street address                |
| Main Address_City                  | STRING    | City of the address                               |
| Main Address_Street                | STRING    | Street                                            |
| Main Address_House Number          | STRING    |                                                   |
| Main Address_County                | STRING    |                                                   |
| Main Address_District              | STRING    | District of the address                           |
| Main Address_Address Line 1        | STRING    |                                                   |
| Main Address_Address Line 2        | STRING    |                                                   |
| Main Address_Address Line 4        | STRING    |                                                   |
| Main Address_Address Line 5        | STRING    |                                                   |
| Main Address_P.O. Box              | STRING    |                                                   |
| Main Address_P.O. Box Address      | BOOLEAN   |                                                   |
| Main Address_Latitude              | NUMBER    |                                                   |
| Main Address_Longitude             | NUMBER    |                                                   |
| Main Address_Internal Geo Location | BOOLEAN   |                                                   |
| Main Address_Language              | STRING    |                                                   |
| Main Address_Best Reached By       | STRING    |                                                   |
| Main Communication Data_Email      | STRING    | Email address                                     |
| Main Communication Data_Website    | STRING    |                                                   |
| Main Communication Data_Fax        | STRING    |                                                   |
| Main Communication Data_Phone      | STRING    |                                                   |
| Main Communication Data_Mobile     | STRING    |                                                   |

## 43.7.1.2.2 Account Team Members

The Account Team entity allows access to the account team. Here you can assign employees with a specific role to the corporate account.

| Template Header       | Data Type | Notes                                               |
|-----------------------|-----------|-----------------------------------------------------|
| parent_external_key   | STRING    |                                                     |
| Employee Technical ID | STRING    | This field is mandatory<br>Technical ID of Employee |

| Template Header                 | Data Type | Notes                                                                                                                             |
|---------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------|
| Employee ID                     | STRING    | Employee display ID can be used to reference an employee alternatively to Employee Technical ID. (Either of the two can be used.) |
| Role                            | STRING    | This field is mandatory<br>The type of responsibility the employee has for the account.                                           |
| Sales Organization Technical ID | STRING    | Technical ID of the Sales Organization. It is required for Sales Area dependent Account Team.                                     |
| Distribution Channel            | STRING    |                                                                                                                                   |
| division                        | STRING    |                                                                                                                                   |
| Main                            | BOOLEAN   | Main indicator for given party role, sales area and validity period                                                               |
| Valid From                      | DATETIME  | Start date of the validity of the account                                                                                         |
| Valid To                        | DATETIME  | End date of the validity of the account                                                                                           |

### 43.7.1.2.3 Account Addresses

The Account Addresses entity offers access and maintenance of the corporate accounts addresses.

The address includes postal address details as well as communication data details like email or phone number. You can specify for an individual address whether it should be the main address. Use the Account Addresses entity only in case of multiple addresses. If you want to maintain only the main address, then use the Account entity.

| Template Header     | Data Type | Notes                                             |
|---------------------|-----------|---------------------------------------------------|
| parent_external_key | STRING    |                                                   |
| Main                | BOOLEAN   | Specification of main address                     |
| Country/Region      | STRING    | The country/region of the address                 |
| State_State         | STRING    | The region (federal state, county) of the address |
| City                | STRING    | City or district of the address                   |
| Street              | STRING    | Street of the address                             |
| House Number        | STRING    |                                                   |
| Postal Code         | STRING    | Postal code for the street address                |
| County              | STRING    |                                                   |
| District            | STRING    | District of the address                           |

| Template Header       | Data Type | Notes         |
|-----------------------|-----------|---------------|
| Address Line 1        | STRING    |               |
| Address Line 2        | STRING    |               |
| Address Line 4        | STRING    |               |
| Address Line 5        | STRING    |               |
| P.O. Box              | STRING    |               |
| P.O. Box Address      | BOOLEAN   |               |
| Latitude              | NUMBER    |               |
| Longitude             | NUMBER    |               |
| Internal Geo Location | BOOLEAN   |               |
| Language              | STRING    |               |
| Best Reached By       | STRING    |               |
| Email                 | STRING    | Email address |
| Website               | STRING    |               |
| Fax                   | STRING    |               |
| Phone                 | STRING    |               |
| Mobile                | STRING    |               |

## 43.7.1.2.4 Account Contacts Persons

The Account Contact Persons entity offers access to the corporate accounts contact data.

With this entity you can assign contacts to an account and add business address details like communication data email, phone or mobile number. The relationship to the account will always be established based on the main address of the account.

| Template Header      | Data Type | Notes                                                                                                                                    |
|----------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------|
| parent_external_key  | STRING    |                                                                                                                                          |
| Technical ID         | STRING    |                                                                                                                                          |
| Contact Technical ID | STRING    | This field is mandatory                                                                                                                  |
| Contact ID           | STRING    | The Contact display ID can be used to reference a contact person alternatively to Contact Technical ID. (Either of the two can be used.) |
| Main                 | STRING    | Specifies that the assigned Contact person is the main contact for this Account.                                                         |

## 43.7.1.2.5 Account Identification

The Account Identification entity offers access to the corporate accounts identification data.

| Template Header         | Data Type | Notes                                                                                                                                                |
|-------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| parent_external_key     | STRING    |                                                                                                                                                      |
| ID Type                 | STRING    | This field is mandatory<br>A code representation of the type of an identification number                                                             |
| ID Number               | STRING    | This field is mandatory<br>The identification number itself                                                                                          |
| Valid From              | DATETIME  |                                                                                                                                                      |
| Valid To                | DATETIME  |                                                                                                                                                      |
| Institution Responsible | STRING    | Name of the institution (government agency, registry office), company (Dun & Bradstreet), an organization (UN) that issued the identification number |
| Entry Date              | DATETIME  |                                                                                                                                                      |
| Country/Region          | STRING    |                                                                                                                                                      |
| State_State             | STRING    |                                                                                                                                                      |

## 43.7.1.2.6 Account Relationships

The Account Relationships entity offers access to the corporate accounts relationship data.

Relationships from the account can be established to other business partners by providing the Business Partner Technical ID and the Relationship Role, which classifies the relationship.

| Template Header                    | Data Type | Notes                                                                                                                                                 |
|------------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| parent_external_key                | STRING    |                                                                                                                                                       |
| Technical ID                       | STRING    |                                                                                                                                                       |
| Business Partner Relationship Role | STRING    | This field is mandatory<br>A coded representation of the type of Relationship.                                                                        |
| Business Partner Technical ID      | STRING    | This field is mandatory                                                                                                                               |
| Business Partner ID                | STRING    | The Business Partner ID can be used to reference an Business Partner alternatively to Business Partner Technical ID. (Either of the two can be used.) |

| Template Header                 | Data Type | Notes                                                                                                                               |
|---------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| Sales Organization Technical ID | STRING    | For Sales Area dependent relationships the Sales Organization Technical ID must be provided.                                        |
| Distribution Channel            | STRING    |                                                                                                                                     |
| Division                        | STRING    |                                                                                                                                     |
| Main Relationship               | BOOLEAN   | Indicates whether the relationship for the provided Business Partner Relationship Role and the Sales Area is the main relationship. |

## 43.71.2.7 Account Sales Arrangements

The Account Sales Data entity allows access to the corporate accounts sales data.

| Template Header                 | Data Type | Notes                                                                                                                                        |
|---------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------|
| parent_external_key             | STRING    |                                                                                                                                              |
| Sales Organization Technical ID | STRING    | This field is mandatory<br>Technical ID of the Sales Organization.                                                                           |
| Sales Organization ID           | STRING    |                                                                                                                                              |
| Distribution Channel            | STRING    | If you provide a distribution channel you need to provide Sales Organization ID                                                              |
| Division                        | STRING    | If you provide a division you need to provide distribution channel and Sales Organization ID                                                 |
| Marked for Deletion             | BOOLEAN   | Use this to mark a Sales Area for deletion. Required in integrated environments where physical deletion of sales arrangements is not allowed |
| Sales Office Technical ID       | STRING    |                                                                                                                                              |
| Sales Office ID                 | STRING    |                                                                                                                                              |
| Sales Group Technical ID        | STRING    |                                                                                                                                              |
| Sales Group ID                  | STRING    |                                                                                                                                              |
| Delivery Priority               | STRING    |                                                                                                                                              |
| Complete Delivery               | BOOLEAN   |                                                                                                                                              |
| Currency                        | STRING    |                                                                                                                                              |
| Customer Group                  | STRING    |                                                                                                                                              |
| Price List                      | STRING    |                                                                                                                                              |
| Price Group                     | STRING    |                                                                                                                                              |

| Template Header                      | Data Type | Notes |
|--------------------------------------|-----------|-------|
| Cash Discount Terms                  | STRING    |       |
| Incoterms_Incoterms                  | STRING    |       |
| Incoterms_Incoterms Location         | STRING    |       |
| Blocking Reasons_Billing Block       | STRING    |       |
| Blocking Reasons_Delivery Block      | STRING    |       |
| Blocking Reasons_Order Block         | STRING    |       |
| Blocking Reasons_Sales Support Block | BOOLEAN   |       |

## 43.7.1.2.8 Account Domains

The Account Domains entity offers access and maintenance of the corporate accounts' (web) domains.

You can assign additional (web) domains to an account apart from the address of the website that is maintained. As address maintenance only allows one website per address, this domain information enables multi-domain assignment to an account.

This information can then be used to identify accounts by domain information from Email conversations if multiple domains are in use.

| Template Header     | Data Type | Notes                                                     |
|---------------------|-----------|-----------------------------------------------------------|
| parent_external_key | STRING    |                                                           |
| Domain              | STRING    | This field is mandatory. Enter the domain of the account. |

## 43.7.2 Account Hierarchy

Account hierarchy is a collection of accounts linked to each other through a parent-child relationship.

Use account hierarchy to:

- Map complex organizational structures of a business partner (for example, buying group, co-operative or chain of retail outlets).
- Map the complex organizational structure of a large customer with multiple levels of subsidiaries.

### 43.7.2.1 Account Hierarchy Fields

Download the template from [Data Import and Export](#) for the field level information.



## 43.7.2.1.1 Account Hierarchy

This is the main entity file that contains all the account hierarchies, sub hierarchies, and their linkage.

Account Hierarchy

| Template Header                          | Data Type | Notes                                                                                                                                                   |
|------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| external_key                             | STRING    |                                                                                                                                                         |
| Technical ID                             | STRING    | This is a mandatory field.                                                                                                                              |
| Sales Organization Technical ID          | STRING    |                                                                                                                                                         |
| Distribution Channel Code                | STRING    |                                                                                                                                                         |
| Division Code                            | STRING    |                                                                                                                                                         |
| Parent Account Technical ID              | STRING    | This field can be left blank for the top account.                                                                                                       |
| Parent Account Sales Organization ID     | STRING    | This field is not mandatory but is used in combination with Distribution Channel and Division. Hence, all three fields must be maintained.              |
| Parent Account Distribution Channel Code | STRING    | This field is not mandatory but is used in combination with Sales Organization ID and Division. Hence, all three fields must be maintained.             |
| Parent Account Division Code             | STRING    | This field is not mandatory but is used in combination with Sales organization ID and Distribution Channel. Hence, all three fields must be maintained. |
| Is Rebate Relevant                       | BOOLEAN   |                                                                                                                                                         |
| Is Pricing Determination Relevant        | BOOLEAN   |                                                                                                                                                         |
| Usage Type Code                          | STRING    | This is a mandatory field. The usage type should be same for the entire hierarchy.                                                                      |

## 43.7.2.1.2 Account Hierarchy External IDs

The sub entity file contains the External IDs of the account hierarchies and the source system information.

External IDs

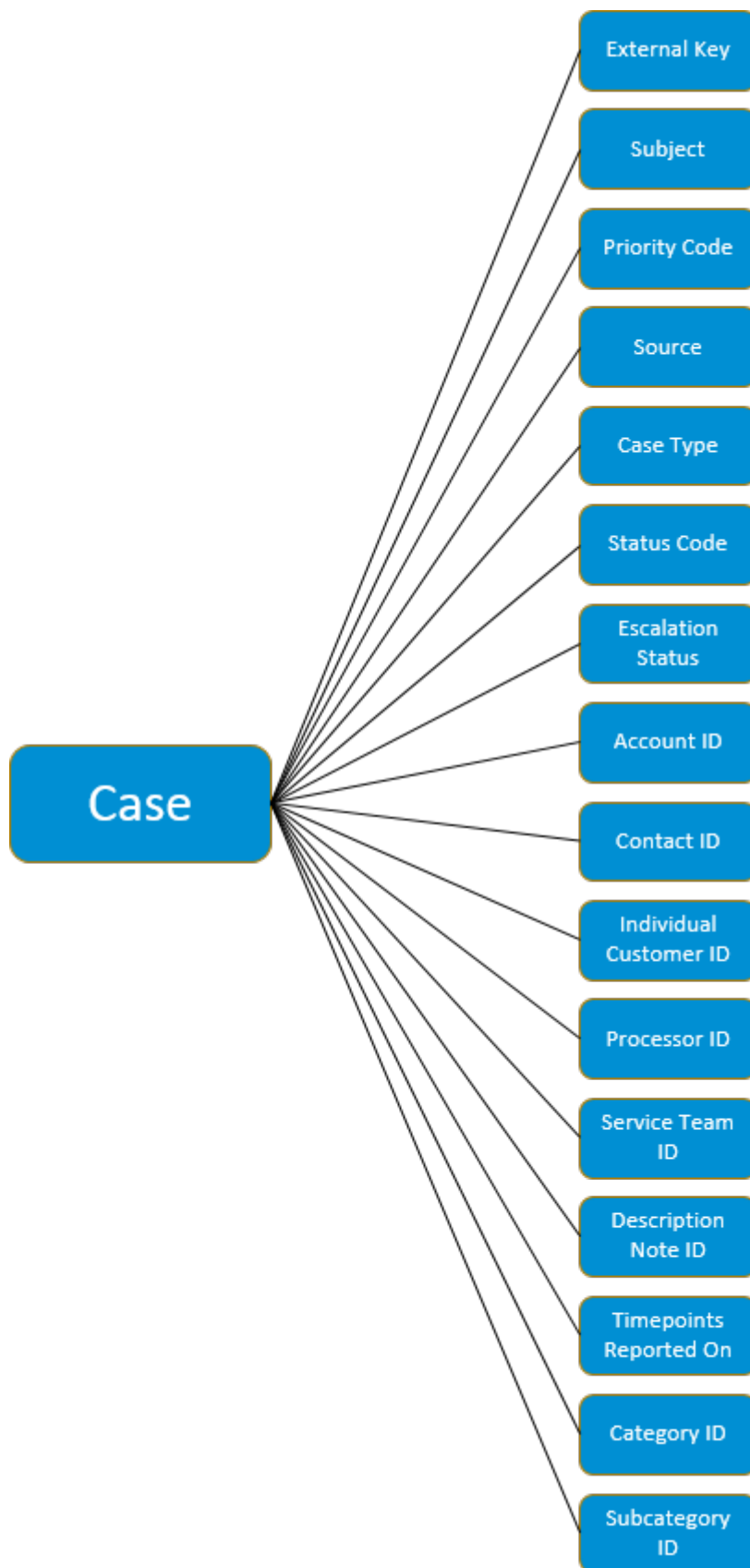
| Template Header              | Data Type | Notes                                    |
|------------------------------|-----------|------------------------------------------|
| external_key                 | STRING    |                                          |
| External ID                  | STRING    | This is the ID in the source system.     |
| Business System Technical ID | STRING    | This is the UUID of the business system. |
| Business System ID           | STRING    | This is the ID of the business system.   |

| Template Header | Data Type | Notes                                                                                                 |
|-----------------|-----------|-------------------------------------------------------------------------------------------------------|
| ID Type         | STRING    | ID Type is constant for account hierarchy. The field value is <b>sap.oitc.985</b>                     |
| Main            | BOOLEAN   | If there are multiple External IDs, you can use this field to mark an external ID as main or default. |

## 43.7.3 Case Overview and Structure

Overview of the Case entity and the structure in the solution.

Cases are a record of a request for some type of service or support from an account, customer, or employee. This record allows you to track interactions with the service requester. Cases also record details like how much time has passed since the case was created, what actions were taken to resolve the issue, priority, associated products, or warranties, and much more. Cases are sometimes referred to as service requests.



## 43.7.3.1 Case Dependencies

Case has dependencies on the following entities.

| Entity      | Notes                                                           |
|-------------|-----------------------------------------------------------------|
| Hypernotes  | Hypernotes are used for the case description and notes content. |
| Attachments |                                                                 |

## 43.7.3.2 Supported Operations for Case

Data import and export supports the following operations for the case entity.

| Complete Entity Import | Insert | Update | Delete |
|------------------------|--------|--------|--------|
| Yes                    | Yes    | Yes    | No     |

## 43.7.3.3 Case Fields

Download the template from Data Import and Export for the field level information.

### 43.7.3.3.1 Case

| Template Header    | Data Type | Notes |
|--------------------|-----------|-------|
| external_key       | STRING    |       |
| Subject            | STRING    |       |
| Priority Code      | STRING    |       |
| Source             | STRING    |       |
| Case Type          | STRING    |       |
| Status Code        | STRING    |       |
| Escalation Status  | STRING    |       |
| Language           | STRING    |       |
| Account_Account ID | STRING    |       |
| Contact_Contact ID | STRING    |       |

| Template Header                                            | Data Type | Notes |
|------------------------------------------------------------|-----------|-------|
| Individual Customer_Individual Customer ID                 | STRING    |       |
| Processor_Processor ID                                     | STRING    |       |
| Service Team_Service Team ID                               | STRING    |       |
| Supplier_Supplier ID                                       | STRING    |       |
| Employee_Employee ID                                       | STRING    |       |
| Supplier Contact_Supplier Contact ID                       | STRING    |       |
| Bill-To Account_Bill-To Account ID                         | STRING    |       |
| Bill-To Individual Customer_Bill-To Individual Customer ID | STRING    |       |
| Bill-To Supplier_Bill-To Supplier ID                       | STRING    |       |
| Ship-To Account_Ship-To Account ID                         | STRING    |       |
| Ship-to Individual Customer_Ship-To Individual Customer ID | STRING    |       |
| Ship-To Supplier_Ship-To Supplier ID                       | STRING    |       |
| Payer Account_Payer Account ID                             | STRING    |       |
| Payer Individual Customer_Payer Individual Customer ID     | STRING    |       |
| Payer Supplier_Payer Supplier ID                           | STRING    |       |
| Description_Note ID_HTML_CONTENT                           | STRING    |       |
| Description_Note ID                                        | STRING    |       |
| TimePoints_Reported on                                     | DATETIME  |       |
| Incident Category Level 1_Category Level 1 ID              | STRING    |       |
| Incident Category Level 1_Category Level 1 Display ID      | STRING    |       |
| Category Level 2_Category Level 2 ID                       | STRING    |       |
| Category Level 2_Category Level 2 Display ID               | STRING    |       |
| Category Level 3_Category Level 3 ID                       | STRING    |       |
| Category Level 3_Category Level 3 Display ID               | STRING    |       |
| Category Level 4_Category Level 4 ID                       | STRING    |       |
| Category Level 4_Category Level 4 Display ID               | STRING    |       |
| Company_Company ID                                         | STRING    |       |
| Irrelevant Indicator                                       | BOOLEAN   |       |

### 43.7.3.3.2 Case Approvers

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| Approver ID         | STRING    |       |

### 43.7.3.3.3 Case Functional Locations

| Template Header        | Data Type | Notes |
|------------------------|-----------|-------|
| parent_external_key    | STRING    |       |
| Functional Location ID | STRING    |       |

### 43.7.3.3.4 Case Installed Bases

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| Installed Base ID   | STRING    |       |

### 43.7.3.3.5 Case Notes

| Template Header      | Data Type | Notes |
|----------------------|-----------|-------|
| parent_external_key  | STRING    |       |
| Note ID_HTML_CONTENT | STRING    |       |
| Note ID_NOTE_TYPE    | STRING    |       |
| Note ID              | STRING    |       |

### 43.7.3.3.6 Case Product Install Points

| Template Header          | Data Type | Notes |
|--------------------------|-----------|-------|
| parent_external_key      | STRING    |       |
| Product Install Point ID | STRING    |       |

### 43.7.3.3.7 Case Registered Products

| Template Header       | Data Type | Notes |
|-----------------------|-----------|-------|
| parent_external_key   | STRING    |       |
| Registered Product ID | STRING    |       |

## 43.7.4 Competitors

Use Competitors to create new competitors and maintain competitor information.

### 43.7.4.1 Competitor Dependencies

Download the template from Data Import and Export for the field level information.

#### 43.7.4.1.1 Competitors

The Competitor header entity contains all information about the competitor.

| Template Header   | Data Type | Notes                                 |
|-------------------|-----------|---------------------------------------|
| external_key      | STRING    |                                       |
| Competitor ID     | STRING    | Value must be in alphanumeric format. |
| Status            | STRING    | Value must be in code format.         |
| Name              | STRING    | This is a mandatory field.            |
| Additional Name   | STRING    |                                       |
| Additional Name 2 | STRING    |                                       |

| Template Header                         | Data Type | Notes                          |
|-----------------------------------------|-----------|--------------------------------|
| Additional Name 3                       | STRING    |                                |
| Default Address_Country/Region          | STRING    |                                |
| Default Address_Region_Country/Region   | STRING    | Value must be in code format.  |
| Default Address_Region_State            | STRING    | Value must be in code format.  |
| Default Address_Region_Postal Code      | STRING    | Value must be in code format.  |
| Default Address_Region_City             | STRING    |                                |
| Default Address_Street                  | STRING    |                                |
| Default Address_House Number            | STRING    |                                |
| Default Address_County                  | STRING    |                                |
| Default Address_District                | STRING    |                                |
| Default Address_Address Line 1          | STRING    |                                |
| Default Address_Address Line 2          | STRING    |                                |
| Default Address_Address Line 4          | STRING    |                                |
| Default Address_Address Line 5          | STRING    |                                |
| Default Address_P.O. Box                | STRING    |                                |
| Default Address_P.O. Box Address        | BOOLEAN   |                                |
| Default Address_P.O. Box Postal Code    | STRING    |                                |
| Default Address_Company Postal Code     | STRING    |                                |
| Default Address_P.O. Box City           | STRING    |                                |
| Default Address_P.O. Box Country/Region | STRING    | Value must be in code format.  |
| Default Address_P.O. Box State          | STRING    | Value must be in code format.  |
| Default Address_Latitude                | NUMBER    |                                |
| Default Address_Longitude               | NUMBER    |                                |
| Default Address_Language                | STRING    | Value must be in code format.  |
| Default Address_Best Reached By         | STRING    | Value must be in code format.  |
| Default Address_Different City          | STRING    |                                |
| Default Address_Additional House Number | STRING    |                                |
| Default Address_C/O                     | STRING    |                                |
| Default Communication_Email             | STRING    | Value must be in email format. |
| Default Communication_Website           | STRING    | Value must be in URL format.   |
| Default Communication_Fax               | STRING    |                                |
| Default Communication_Phone             | STRING    |                                |
| Default Communication_Mobile            | STRING    |                                |



## 43.7.4.1.2 Competitor External IDs

| Template Header                      | Data Type | Notes |
|--------------------------------------|-----------|-------|
| parent_external_key                  | STRING    |       |
| External ID                          | STRING    |       |
| Technical ID of Communication System | STRING    |       |
| Communication System ID              | STRING    |       |
| ID Type                              | STRING    |       |
| Main                                 | BOOLEAN   |       |

## 43.7.5 Competitor Products

Competitor Products enables you to create and maintain comprehensive records of competitor offerings. Leverage this data to effectively compare and strategically position your own products.

### 43.7.5.1 Competitor Product Dependencies

#### Dependencies on other Entities

| Entity     | Description                                                                |
|------------|----------------------------------------------------------------------------|
| Product    | Used in competitor product root to assign a product to competitor product. |
| Competitor | Used in competitor product to assign competitor to competitor product.     |

### 43.7.5.2 Competitor Product Fields

Download the template from Data Import and Export for the field level information.

## 43.7.5.2.1 Competitor Product

| Template Header               | Data Type | Notes |
|-------------------------------|-----------|-------|
| external_key                  | STRING    |       |
| Technical ID                  | STRING    |       |
| Competitor Product ID         | STRING    |       |
| Status Code                   | STRING    |       |
| Competitor Technical ID       | STRING    |       |
| Competitor ID                 | STRING    |       |
| Competitor Product Name       | STRING    |       |
| Top Selling                   | BOOLEAN   |       |
| List Price/ Currency_Price    | NUMBER    |       |
| List Price/ Currency_Currency | STRING    |       |
| Unit of Measure Code          | STRING    |       |
| Product Technical ID          | STRING    |       |
| Product ID                    | STRING    |       |
| Comparison Code               | STRING    |       |

## 43.7.6 Contact Person

Use contacts to represent the relationship between contacts and accounts. Contacts can be maintained only for corporate accounts.

Contact Persons are individuals you are having direct interactions with for your business to be successful. Contacts mostly have a relationship with a corporate account and they may be involved in business processes like activities, orders, opportunities, and so on. Contact Person Relationships can only be maintained for corporate accounts whereas in general a contact can also exist without any account assignment yet. With the contact entity and its dedicated sub-entities you can access and modify all central and related information of a contact (master data).



## 43.7.6.1 Contact Person Dependencies

### Dependencies on Other Entities

| Entity          | Description                                                                                                           |
|-----------------|-----------------------------------------------------------------------------------------------------------------------|
| Account         | Used in Contact Person (Root) and (Is) Contact Person For entity to assign a Contact to existing Corporate Account(s) |
| Account Address | Used as basis and prerequisite for the contacts business address based communication and workplace data               |

### Dependencies within the Entity

| Entity                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (Is) Contact Person For | <p>The contacts main account relationship data can either be maintained in Contact Person (Root) or (Is) Contact Person For entity not in both places simultaneously.</p> <p>Recommendation is to maintain this Business Address based details like communication data email, phone or mobile number for the main account at the Contact Person (Root) entity whereas non-main-account information needs to be handled via the specific sub-entity.</p> |

## 43.7.6.2 Contact Person Fields

Download the template from [Data Import and Export](#) for the field level information.

### 43.7.6.2.1 Contact Person

The Contact Person entity allows you access to all central information for a contact person such as Contact Name and assignment of the contact to the main account (including the business address details of that relationship). The assignment to an account is mandatory in case you want to maintain any workplace details like "Email", "Phone", "Mobile", "Fax", "Building", "Floor", "Room", etc. based on the business address. Use the address fields in the Contact Person header entity in case only the workplace address to the main account is to be maintained.

| Template Header               | Data Type | Notes                                                                                                                                              |
|-------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| external_key                  | STRING    |                                                                                                                                                    |
| Technical ID                  | STRING    |                                                                                                                                                    |
| Contact ID                    | STRING    | Human-readable identifier of a contact person. The Contact ID is internally determined by the system via number range if not explicitly specified. |
| Last Name                     | STRING    | This field is mandatory.<br>Family name of a contact person                                                                                        |
| First Name                    | STRING    | Given name of a contact person                                                                                                                     |
| Middle Name                   | STRING    |                                                                                                                                                    |
| Date of Birth                 | DATETIME  |                                                                                                                                                    |
| Gender                        | STRING    |                                                                                                                                                    |
| Title                         | STRING    |                                                                                                                                                    |
| Academic Title                | STRING    |                                                                                                                                                    |
| Language                      | STRING    |                                                                                                                                                    |
| Status                        | STRING    | ACTIVE will be determined by the system if not explicitly specified.                                                                               |
| Account Technical ID          | STRING    | UUID of the main account to which the contact is assigned to                                                                                       |
| Account ID                    | STRING    | Display ID of the main account to which the contact is assigned to (Read Only)                                                                     |
| Department                    | STRING    |                                                                                                                                                    |
| Department From Business Card | STRING    |                                                                                                                                                    |
| Job Title                     | STRING    | Description of the function of the Contact Person within the main accounts company                                                                 |
| Function                      | STRING    |                                                                                                                                                    |
| VIP Contact                   | STRING    |                                                                                                                                                    |
| Building                      | STRING    | Building maintained for the assignment to the main account                                                                                         |
| Floor                         | STRING    |                                                                                                                                                    |
| Room                          | STRING    |                                                                                                                                                    |
| Phone                         | STRING    | Conventional phone number for the contact person's workplace with main account                                                                     |
| Mobile                        | STRING    | Mobile phone number for the contact person's workplace with main account                                                                           |
| Email                         | STRING    | Email address for the contact person's workplace with main account                                                                                 |

| Template Header    | Data Type | Notes |
|--------------------|-----------|-------|
| Best Reached By    | STRING    |       |
| Contact Permission | STRING    |       |

## 43.7.6.2.2 Contact Person for

The 'Contact Person Is Contact Person For' sub-entity offers access to the contact account relationship data. With this entity you can assign contacts to accounts and add business address details like communication data email, phone or mobile number. The relationship to the account will always be established based on the main address of the account. This specific entity has to be used in case a contact person serves as contact for multiple accounts and the referred account is not the main one. The related information for the contacts' main account can also be maintained at the Contact Person (root) entity.

| Template Header               | Data Type | Notes                                                                                                                        |
|-------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------|
| parent_external_key           | STRING    |                                                                                                                              |
| Technical ID                  | STRING    |                                                                                                                              |
| Account Technical ID          | STRING    | This field is mandatory for the sub-entity<br>UUID of the account to which the contact is assigned to                        |
| Account ID                    | STRING    |                                                                                                                              |
| Main Contact                  | BOOLEAN   | Indicates whether the account is the contact person's main account (in case of multiple account assignments for the contact) |
| Function                      | STRING    |                                                                                                                              |
| Department                    | STRING    |                                                                                                                              |
| VIP Contact                   | STRING    |                                                                                                                              |
| Department From Business Card | STRING    |                                                                                                                              |
| Job Title                     | STRING    | Description of the function of the contact person within the assigned accounts company                                       |
| Building                      | STRING    | Building maintained for the assignment to the assigned account                                                               |
| Floor                         | STRING    |                                                                                                                              |
| Room                          | STRING    |                                                                                                                              |
| Phone                         | STRING    | Conventional phone number for the contact person's workplace with assigned account                                           |

| Template Header | Data Type | Notes                                                                    |
|-----------------|-----------|--------------------------------------------------------------------------|
| Mobile          | STRING    | Mobile phone number for the contact person's workplace with main account |
| Email           | STRING    | Email address for the contact person's workplace with main account       |
| Best Reached By | STRING    |                                                                          |

## 43.7.7 Emails

Learn about how you can leverage the email functionality of your system to manage email channels, maintain templates as per different scenarios and automatically generate cases that are sent to service agents for processing.

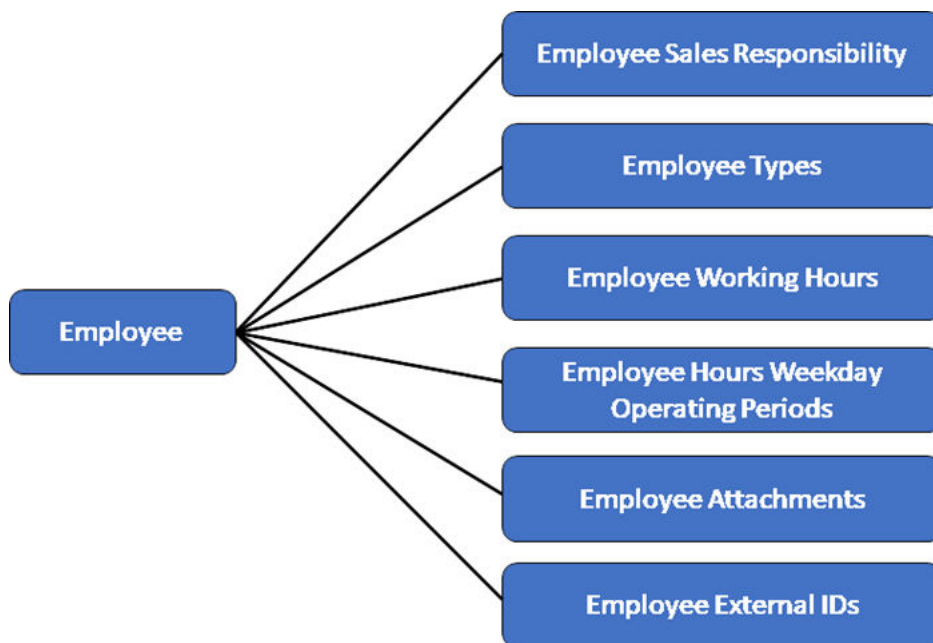
### 43.7.7.1 Email Dependencies

### 43.7.7.2 Email Fields

## 43.7.8 Employee

Employee Master Data capabilities offer a holistic view of internal employees (a business partner person with valid employee type "INTERNAL").

It allows you to maintain all relevant data for your internal employees such as basic data (name, workplace address, communication data), organizational data (manager assignment, department), sales responsibility data, working hours information, and so on.



### 43.7.8.1 Employee Dependencies

#### Dependencies on Other Entities

| Entity              | Description                                                                                                |
|---------------------|------------------------------------------------------------------------------------------------------------|
| Organizational Unit | Used in Employee Sales Responsibility to assign the employees to a specific Sales Organization and OrgUnit |

#### Dependencies within the Entity

| Entity                                          | Description                                                                       |
|-------------------------------------------------|-----------------------------------------------------------------------------------|
| Employee Type                                   | The employee type address can be maintained in Employee                           |
| Employee Working Hours Weekday Operating Period | The Employee Working Hours Weekday Operating Period can be maintained in Employee |

## 43.7.8.2 Employee Fields

Download the template from [Data Import and Export](#) for the field level information.

### 43.7.8.2.1 Employee

The Employee header entity contains all central information of a employee. It contains information about the account name and workplace address with communication data like email.

| Template Header                  | Data Type | Notes                                                                                    |
|----------------------------------|-----------|------------------------------------------------------------------------------------------|
| external_key                     | STRING    |                                                                                          |
| Technical ID                     | STRING    |                                                                                          |
| Business Partner ID              | STRING    | A proprietary identifier for a business partner; alternative identifier for the employee |
| Employee ID                      | STRING    | This field is mandatory<br>An identifier for an Employee                                 |
| Title                            | STRING    |                                                                                          |
| Academic Title                   | STRING    |                                                                                          |
| First Name                       | STRING    | Given name of a person                                                                   |
| Middle Name                      | STRING    |                                                                                          |
| Last Name                        | STRING    | This field is mandatory<br>Family name of a person                                       |
| Additional Last Name             | STRING    |                                                                                          |
| Date of Birth                    | DATETIME  | The date on which the employee was born.                                                 |
| Nationality                      | STRING    |                                                                                          |
| Marital Status                   | STRING    |                                                                                          |
| Gender                           | STRING    |                                                                                          |
| Language                         | STRING    |                                                                                          |
| Workplace Address_Street         | STRING    | Street of the address                                                                    |
| Workplace Address_House Number   | STRING    | House number of the address                                                              |
| Workplace Address_City           | STRING    | City of the address                                                                      |
| Workplace Address_Postal Code    | STRING    | Postal code for the street address                                                       |
| Workplace Address_Country/Region | STRING    | The country/region of the address                                                        |
| Workplace Address_State_State    | STRING    | The state of the address                                                                 |



| Template Header                  | Data Type | Notes                       |
|----------------------------------|-----------|-----------------------------|
| Workplace Address_District       | STRING    | The district of the address |
| Workplace Address_Latitude       | NUMBER    |                             |
| Workplace Address_Longitude      | NUMBER    |                             |
| Workplace Address_Building       | STRING    |                             |
| Workplace Address_Floor          | STRING    |                             |
| Workplace Address_Room           | STRING    |                             |
| Workplace Address_Phone          | STRING    |                             |
| Workplace Address_Mobile         | STRING    |                             |
| Workplace Address_Email          | STRING    | Email address               |
| Workplace Address_Address Line 1 | STRING    |                             |
| Workplace Address_Address Line 2 | STRING    |                             |
| Workplace Address_Address Line 4 | STRING    |                             |
| Workplace Address_Address Line 5 | STRING    |                             |

### 43.7.8.2.2 Employee Sales Responsibility

The Employee Sales Responsibility entity allows the employee to maintain the sales data.

| Template Header                 | Data Type | Notes                                                                                     |
|---------------------------------|-----------|-------------------------------------------------------------------------------------------|
| parent_external_key             | STRING    |                                                                                           |
| Sales Organization Technical ID | STRING    |                                                                                           |
| Distribution Channel            | STRING    | A coded representation of a distribution channel                                          |
| Division                        | STRING    | A coded representation of a division                                                      |
| Default Sales Responsibility    | BOOLEAN   | An indicator to mark one Employee Sales Responsibility-record as default for the employee |

### 43.7.8.2.3 Employee Types

The Employee Types entity offers the possibility to maintain the type of the employee (internal or external) and the validity.

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |

| Template Header   | Data Type | Notes                   |
|-------------------|-----------|-------------------------|
| Internal Employee | BOOLEAN   | This field is mandatory |
| Valid From        | DATETIME  | This field is mandatory |
| Valid To          | DATETIME  | This field is mandatory |

## 43.7.8.2.4 Employee External IDs

The Employee External IDs entity displays the external ids for employee records.

| Template Header              | Data Type | Notes |
|------------------------------|-----------|-------|
| parent_external_key          | STRING    |       |
| External ID                  | STRING    |       |
| Business System Technical ID | STRING    |       |
| Business System ID           | STRING    |       |
| ID Type                      | STRING    |       |
| Main                         | BOOLEAN   |       |

## 43.7.8.2.5 Employee Working Hours

The Employee Working Hours entity offers access to the working hours data.

| Template Header      | Data Type | Notes                                                            |
|----------------------|-----------|------------------------------------------------------------------|
| parent_external_key  | STRING    |                                                                  |
| Type                 | STRING    | A coded representation of a working hours type                   |
| Valid From           | DATETIME  | The period from which the operating hours are valid              |
| Valid To             | DATETIME  | The period till which the operating hours are valid              |
| Time Zone            | STRING    | Time zone in which the operating hours are specified             |
| Working Day Calendar | STRING    | Calendar with general working days in a week and public holidays |

## 43.7.8.2.6 Employee Working Hours Operating Periods

The Employee Working Hours Operating Periods entity offers access to the operating period data. With this entity you can assign working hours operating period to working hours.

| Template Header     | Data Type | Notes                                           |
|---------------------|-----------|-------------------------------------------------|
| parent_external_key | STRING    |                                                 |
| Weekday             | STRING    |                                                 |
| Start Time          | DATETIME  | An active time period of a day in a day program |
| End Time            | DATETIME  | An active time period of a day in a day program |

## 43.7.9 Functional Location

### 43.7.9.1 Functional Location Dependencies

#### Dependencies on Other Entities

| Entity              | Description                                                                  |
|---------------------|------------------------------------------------------------------------------|
| Account             | Used as Customer, Ship To, Bill To, Owner and Payer                          |
| Individual Customer | Used as Customer, Ship To, Bill To, Owner and Payer                          |
| Contact             | Used as Main contact of Customer, Ship To, Bill To, Owner and Payer Accounts |
| Employee            | Used as Service Technician and Employee Responsible                          |
| Organizational Unit | Used as Responsible Planner, Service Technician Team, Sales Org              |
| Warranty            |                                                                              |

### 43.7.9.2 Functional Location Fields

Download the template from Data Import and Export for the field level information.

## 43.7.9.2.1 Functional Location

| Template Header                                              | String Type | Notes |
|--------------------------------------------------------------|-------------|-------|
| external_key                                                 | STRING      |       |
| Valid From                                                   | DATETIME    |       |
| Valid To                                                     | DATETIME    |       |
| Account_Contact UUID                                         | STRING      |       |
| Account_Account UUID                                         | STRING      |       |
| Bill-to Account_Bill-To Contact UUID                         | STRING      |       |
| Bill-to Account_Bill-To Account UUID                         | STRING      |       |
| Ship-to Account_Ship-To Contact UUID                         | STRING      |       |
| Ship-to Account_Ship-To Account UUID                         | STRING      |       |
| Payer Account_Payer Contact UUID                             | STRING      |       |
| Payer Account_Payer Account UUID                             | STRING      |       |
| Owner Account_Owner Contact UUID                             | STRING      |       |
| Owner Account_Owner Account UUID                             | STRING      |       |
| Individual Customer_Individual Customer UUID                 | STRING      |       |
| Bill-To Individual Customer_Bill-To Individual Customer UUID | STRING      |       |
| Ship-to Individual Customer_Ship-To Individual Customer UUID | STRING      |       |
| Payer Individual Customer_Payer Individual Customer UUID     | STRING      |       |
| Owner Individual Customer_Owner Individual Customer UUID     | STRING      |       |
| Service Technician Team_Service Technician Team UUID         | STRING      |       |
| Responsible Planner_Responsible Planner UUID                 | STRING      |       |
| Service Technician_Service Technician UUID                   | STRING      |       |
| Employee Responsible_Employee Responsible UUID               | STRING      |       |
| Warranty_Warranty UUID                                       | STRING      |       |
| Warranty_Warranty End Date                                   | DATETIME    |       |
| Warranty_Warranty Start Date                                 | DATETIME    |       |
| Status                                                       | STRING      |       |
| ID                                                           | STRING      |       |
| Address_Postal Address_Building                              | STRING      |       |
| Address_Postal Address_City                                  | STRING      |       |
| Address_Postal Address_Country/Region Code                   | STRING      |       |

| Template Header                                          | String Type | Notes |
|----------------------------------------------------------|-------------|-------|
| Address_Postal Address_State Code                        | STRING      |       |
| Address_Postal Address_County                            | STRING      |       |
| Address_Postal Address_District                          | STRING      |       |
| Address_Postal Address_Floor                             | STRING      |       |
| Address_Postal Address_House Number                      | STRING      |       |
| Address_Postal Address_Additional House Number           | STRING      |       |
| Address_Postal Address_Room                              | STRING      |       |
| Address_Postal Address_Street                            | STRING      |       |
| Address_Postal Address_Street Postal Code                | STRING      |       |
| Address_Postal Address_Time Zone                         | STRING      |       |
| Address_Postal Address_Street Prefix                     | STRING      |       |
| Address_Postal Address_Street Suffix                     | STRING      |       |
| Address_Postal Address_Additional Street Prefix          | STRING      |       |
| Address_Postal Address_Additional Street Suffix          | STRING      |       |
| Address_Postal Address_C/O                               | STRING      |       |
| Address_Postal Address_P.O. Box City                     | STRING      |       |
| Address_Postal Address_P.O. Box Country/Region           | STRING      |       |
| Address_Postal Address_P.O. Box                          | STRING      |       |
| Address_Postal Address_P.O. Box Postal Code              | STRING      |       |
| Address_Postal Address_P.O. Box State                    | STRING      |       |
| Address_Geographical Location_Latitude                   | STRING      |       |
| Address_Geographical Location_Longitude                  | STRING      |       |
| Sales Office_Sales Office UUID                           | STRING      |       |
| Sales Group_Sales Group UUID                             | STRING      |       |
| Sales Organization_Sales Organization UUID               | STRING      |       |
| Division Code                                            | STRING      |       |
| Distribution Channel Code                                | STRING      |       |
| Type                                                     | STRING      |       |
| Parent Registered Product_Parent Registered Product UUID | STRING      |       |
| Parent Installation Point_Parent Installation Point UUID | STRING      |       |
| Parent Installed Base_Parent Installed Base UUID         | STRING      |       |
| Extensions_asdD                                          | STRING      |       |
| Extensions_z_bool_search_ref                             | BOOLEAN     |       |

## 43.7.9.2.2 Functional Location Customer Information

| Template Header     | String Type | Notes |
|---------------------|-------------|-------|
| parent_external_key | STRING      |       |
| content             | STRING      |       |
| languageCode        | STRING      |       |

## 43.7.9.2.3 Functional Location Descriptions

| Template Header     | String Type | Notes |
|---------------------|-------------|-------|
| parent_external_key | STRING      |       |
| content             | STRING      |       |
| languageCode        | STRING      |       |

## 43.7.9.2.4 Functional Location External IDs

| Template Header           | String Type | Notes |
|---------------------------|-------------|-------|
| parent_external_key       | STRING      |       |
| id                        | STRING      |       |
| External ID               | STRING      |       |
| Communication System ID   | STRING      |       |
| Communication System UUID | STRING      |       |
| Type                      | STRING      |       |
| Default                   | BOOLEAN     |       |

## 43.7.9.2.5 Functional Location Notes

| Template Header     | String Type | Notes |
|---------------------|-------------|-------|
| parent_external_key | STRING      |       |
| content             | STRING      |       |

| Template Header | String Type | Notes |
|-----------------|-------------|-------|
| languageCode    | STRING      |       |

### 43.7.9.2.6 Functional Location Account Custom Parties

| Template Header     | String Type | Notes |
|---------------------|-------------|-------|
| parent_external_key | STRING      |       |
| Role Code           | STRING      |       |
| Contact UUID        | STRING      |       |
| Account UUID        | STRING      |       |

### 43.7.9.2.7 Functional Location Employee Custom Parties

| Template Header     | String Type | Notes |
|---------------------|-------------|-------|
| parent_external_key | STRING      |       |
| Role Code           | STRING      |       |
| Employee UUID       | STRING      |       |

### 43.7.9.2.8 Functional Location\_Individual Customer Custom Parties

| Template Header          | String Type | Notes |
|--------------------------|-------------|-------|
| parent_external_key      | STRING      |       |
| Role Code                | STRING      |       |
| Individual Customer UUID | STRING      |       |

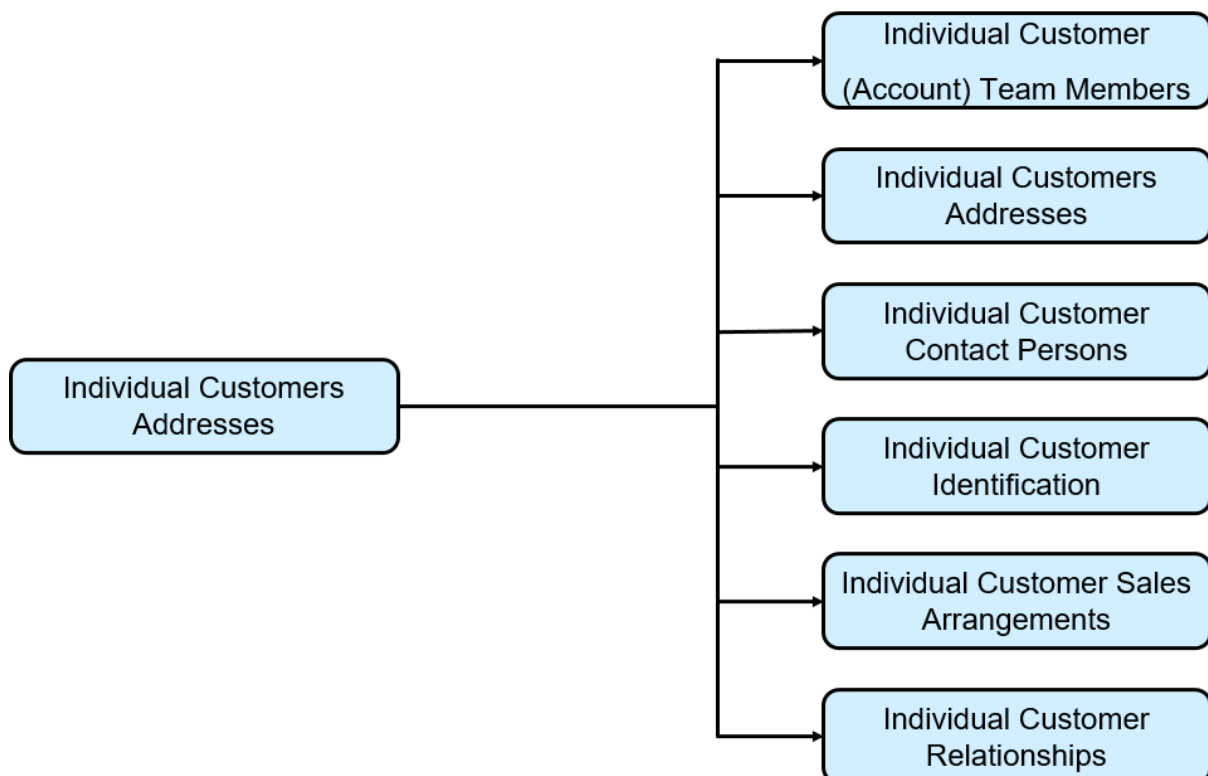
## 43.7.9.2.9 Functional Location Organization Custom Parties

| Template Header     | String Type | Notes |
|---------------------|-------------|-------|
| parent_external_key | STRING      |       |
| Role Code           | STRING      |       |
| Organization UUID   | STRING      |       |

## 43.7.10 Individual Customer

Individual Customers represent persons with whom business is done.

Similar to account management capabilities for accounts with this entity a holistic view of the Individual Customer is offered, that allows you to capture, monitor, store and track all critical business information about customers and prospects. The Individual Customer thereby directly represents a person with whom your business is done, whereas an account is always an organization. Use this information to focus on your most profitable individual customers, maintain satisfaction and loyalty and consistent interaction across all channels.





## 43.7.10.1 Individual Customer Dependencies

### Dependencies on Other Entities

| Entity              | Description                                                                                                                                                              |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact Person      | Used in Individual Customer Contact Persons entity to assign a Contact to individual customers                                                                           |
| Employee            | Used in Individual Customer (Root) and Individual Customer Account Team Members to assign internal and external employees e.g. as owner to the Individual Customer       |
| Organizational Unit | Used in Individual Customer Account Team Members and Individual Customer Sales Data to assign data relevant for a specific Sales Organization to the Individual Customer |

### Dependencies within the Entity

| Entity                                   | Description                                                                                                                                                                                |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Individual Customer Addresses            | The default address can either be maintained in the Individual Customer (Root) or Individual Customer Addresses entity but not in both places simultaneously.                              |
| Individual Customer Account Team Members | The owner for the individual customer can either be maintained in the Individual Customer (Root) or Individual Customer Account Team Members entity but not in both places simultaneously. |

## 43.7.10.2 Individual Customer Fields

Download the template from [Data Import and Export](#) for the field level information.

### 43.7.10.2.1 Individual Customer

The Individual Customer header entity contains all central information of an individual customer. It contains information about the customers name, main address with communication data like email, ABC classification and blocking information. Use the address fields in the individual customer header entity in case only the

default address is to be maintained. It is recommended to fill the Country field even if you do not provide full address details.

| Template Header                      | Data Type | Notes                                                                                                                                                    |
|--------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| external_key                         | STRING    |                                                                                                                                                          |
| Technical ID                         | STRING    |                                                                                                                                                          |
| Customer ID                          | STRING    | Human-readable identifier of an Individual Customer. The Customer ID is internally determined by the system via number range if not explicitly specified |
| Prospect                             | BOOLEAN   | A prospect is someone who may become a customer.                                                                                                         |
| Role                                 | STRING    | This field is mandatory<br>Use CRM000 for customer<br>Or BUP002 for prospect<br>Or any specific Z-code                                                   |
| ABC Classification                   | STRING    | ABC classification of a customer                                                                                                                         |
| Status                               | STRING    | ACTIVE will be determined by the system if not explicitly specified.                                                                                     |
| Blocking Reasons_Billing Block       | STRING    |                                                                                                                                                          |
| Blocking Reasons_Delivery Block      | STRING    |                                                                                                                                                          |
| Blocking Reasons_Order Block         | STRING    |                                                                                                                                                          |
| Blocking Reasons_Sales Support Block | BOOLEAN   |                                                                                                                                                          |
| Date of Birth                        | DATETIME  | The date of birth                                                                                                                                        |
| Language                             | STRING    |                                                                                                                                                          |
| Nationality                          | STRING    | Identifies the nation to which the customer belongs                                                                                                      |
| Gender                               | STRING    |                                                                                                                                                          |
| Title                                | STRING    | A form of address, for example, Mr. or Ms.                                                                                                               |
| Academic Title                       | STRING    | Identifies the academic degree                                                                                                                           |
| First Name                           | STRING    | Given name of an individual customer                                                                                                                     |
| Middle Name                          | STRING    |                                                                                                                                                          |
| Last Name                            | STRING    | This field is mandatory<br>Family name of an individual customer                                                                                         |
| Contact Permission                   | STRING    | An indicator that defines whether it is allowed to contact the customer                                                                                  |
| Owner Technical ID                   | STRING    | Technical ID of the Account Owner (Employee) as part of the Individual Customer (Account) Team                                                           |

| Template Header                 | Data Type | Notes                                                        |
|---------------------------------|-----------|--------------------------------------------------------------|
| Main Address_Country/Region     | STRING    | The country of the customer's address                        |
| Main Address_State_State        | STRING    | The region (federal state, county) of the customer's address |
| Main Address_Postal Code        | STRING    | The postal code for the customer's street address            |
| Main Address_City               | STRING    | The city of the customer's address                           |
| Main Address_Street             | STRING    | The street of the customer's address                         |
| Main Address_House Number       | STRING    | The house number of the customer's address                   |
| Main Address_County             | STRING    |                                                              |
| Main Address_District           | STRING    | District of the address                                      |
| Main Address_Address Line 1     | STRING    |                                                              |
| Main Address_Address Line 2     | STRING    |                                                              |
| Main Address_Address Line 4     | STRING    |                                                              |
| Main Address_Address Line 5     | STRING    |                                                              |
| Main Address_Latitude           | NUMBER    |                                                              |
| Main Address_Longitude          | NUMBER    |                                                              |
| Main Address_Best Reached By    | STRING    |                                                              |
| Main Communication Data_Email   | STRING    |                                                              |
| Main Communication Data_Website | STRING    |                                                              |
| Main Communication Data_Fax     | STRING    |                                                              |
| Main Communication Data_Phone   | STRING    | Phone number of the customer                                 |
| Main Communication Data_Mobile  | STRING    |                                                              |

## 43.7.10.2.2 Individual Customer Account Team Members

The Individual Customer (Account) Team Members entity allows access to the Individual Customer Team. Here you can assign employees with a specific party role to the individual customer. These assignments can even be done sales organization dependent.

| Template Header       | Data Type | Notes                                                            |
|-----------------------|-----------|------------------------------------------------------------------|
| parent_external_key   | STRING    |                                                                  |
| Employee Technical ID | STRING    | This field is mandatory<br>Technical ID of the assigned Employee |
| Employee ID           | STRING    |                                                                  |

| Template Header                 | Data Type | Notes                                                                                                     |
|---------------------------------|-----------|-----------------------------------------------------------------------------------------------------------|
| Role                            | STRING    | This field is mandatory<br><br>The type of responsibility the employee has for the business partner.      |
| Sales Organization Technical ID | STRING    | Technical ID of the Sales Organization. It is required for Sales Area dependent Individual Customer Team. |
| Distribution Channel            | STRING    |                                                                                                           |
| Division                        | STRING    |                                                                                                           |
| Main                            | BOOLEAN   | Main indicator for given party role, sales area and validity period                                       |
| Valid From                      | DATETIME  | Start date of the validity of the customer team assignment of the employee                                |
| Valid To                        | DATETIME  | End date of the validity of the customer team assignment of the employee                                  |

### 43.7.10.2.3 Individual Customer Addresses

The Individual Customer Addresses entity offers access and maintenance of the individual customer addresses. The address includes postal address details as well as communication data details like email or phone number. You can specify for a dedicated address whether it should be the main address for the individual customer. Use the Individual Customer Addresses entity in case of multiple addresses. If you want to maintain/change only the main address, then use the Individual Customer header entity.

| Template Header     | Data Type | Notes                                                        |
|---------------------|-----------|--------------------------------------------------------------|
| parent_external_key | STRING    |                                                              |
| Main                | BOOLEAN   | Specification of main address                                |
| Country/Region      | STRING    | Country/region of the customer's address                     |
| State_State         | STRING    | The region (federal state, county) of the customer's address |
| City                | STRING    | City of customer's address                                   |
| Street              | STRING    | Street of customer's address                                 |
| House Number        | STRING    | House number of customer's address                           |
| Postal Code         | STRING    | Postal code of the customer's street address                 |
| County              | STRING    |                                                              |
| District            | STRING    | District of customer's address                               |
| Address Line 1      | STRING    |                                                              |

| Template Header | Data Type | Notes         |
|-----------------|-----------|---------------|
| Address Line 2  | STRING    |               |
| Address Line 4  | STRING    |               |
| Address Line 5  | STRING    |               |
| Latitude        | NUMBER    |               |
| Longitude       | NUMBER    |               |
| Best Reached By | STRING    |               |
| E-mail          | STRING    | Email address |
| Website         | STRING    |               |
| Fax             | STRING    |               |
| Phone           | STRING    |               |
| Mobile          | STRING    |               |

## 43.7.10.2.4 Individual Customer Identifications

The Individual Customer Identification entity offers access to the individual customers identification data.

| Template Header         | Data Type | Notes                                                                                                                                                |
|-------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| parent_external_key     | STRING    |                                                                                                                                                      |
| ID Type                 | STRING    | This field is mandatory<br>A code representation of the type of an identification number                                                             |
| ID Number               | STRING    | This field is mandatory<br>The identification number itself                                                                                          |
| Valid From              | DATETIME  |                                                                                                                                                      |
| Valid To                | DATETIME  |                                                                                                                                                      |
| Institution Responsible | STRING    | Name of the institution (government agency, registry office), company (Dun & Bradstreet), an organization (UN) that issued the identification number |
| Entry Date              | DATETIME  |                                                                                                                                                      |
| Country/Region          | STRING    |                                                                                                                                                      |
| State_State             | STRING    |                                                                                                                                                      |

## 43.7.10.2.5 Individual Customer Sales Arrangements

The Individual Customer Sales Data entity allows access to the individual customers sales data.

| Template Header                      | Data Type | Notes                                                                                                                                        |
|--------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------|
| parent_external_key                  | STRING    |                                                                                                                                              |
| Sales Organization Technical ID      | STRING    | This field is mandatory<br>Technical ID of the Sales Organization.                                                                           |
| Sales Organization ID                | STRING    |                                                                                                                                              |
| Distribution Channel                 | STRING    |                                                                                                                                              |
| Division                             | STRING    |                                                                                                                                              |
| Marked for Deletion                  | BOOLEAN   | Use this to mark a Sales Area for deletion. Required in integrated environments where physical deletion of sales arrangements is not allowed |
| Sales Office Technical ID            | STRING    |                                                                                                                                              |
| Sales Office ID                      | STRING    |                                                                                                                                              |
| Sales Group Technical ID             | STRING    |                                                                                                                                              |
| Sales Group ID                       | STRING    |                                                                                                                                              |
| Delivery Priority                    | STRING    |                                                                                                                                              |
| Complete Delivery                    | BOOLEAN   |                                                                                                                                              |
| Currency                             | STRING    |                                                                                                                                              |
| Customer Group                       | STRING    |                                                                                                                                              |
| Price List                           | STRING    |                                                                                                                                              |
| Price Group                          | STRING    |                                                                                                                                              |
| Cash Discount Terms                  | STRING    |                                                                                                                                              |
| Incoterms_Incoterms                  | STRING    |                                                                                                                                              |
| Incoterms_Incoterms Location         | STRING    |                                                                                                                                              |
| Blocking Reasons_Billing Block       | STRING    |                                                                                                                                              |
| Blocking Reasons_Delivery Block      | STRING    |                                                                                                                                              |
| Blocking Reasons_Order Block         | STRING    |                                                                                                                                              |
| Blocking Reasons_Sales Support Block | BOOLEAN   |                                                                                                                                              |

## 43.7.10.2.6 Individual Customer Relationships

The Individual Customer Relationships allows establish relationships between business partners.

| Template Header                    | Data Type | Notes                   |
|------------------------------------|-----------|-------------------------|
| parent_external_key                | STRING    |                         |
| Technical ID                       | STRING    | This field is mandatory |
| Business Partner Relationship Role | STRING    |                         |
| Business Partner Technical ID      | STRING    |                         |
| Business Partner ID                | STRING    |                         |
| Sales Organization Technical ID    | STRING    |                         |
| Sales Organization ID              | STRING    |                         |
| Sales Group Technical ID           | STRING    |                         |
| Distribution Channel               | STRING    |                         |
| Division                           | STRING    |                         |
| Main Relationship                  | STRING    |                         |

## 43.7.11 Installed Base

Installed base is a hierarchical arrangement of items installed at your customer's location.

### 43.7.11.1 Installed Base Dependencies

#### Dependencies on Other Entities

| Entity              | Description                                                                  |
|---------------------|------------------------------------------------------------------------------|
| Account             | Used as Customer, Ship To, Bill To, Owner and Payer                          |
| Individual Customer | Used as Customer, Ship To, Bill To, Owner and Payer                          |
| Contact             | Used as Main contact of Customer, Ship To, Bill To, Owner and Payer Accounts |
| Employee            | Used as Service Technician and Employee Responsible                          |
| Organizational Unit | Used as Responsible Planner, Service Technician Team, Sales Org              |

## 43.7.11.2 Installed Base Fields

Download the template from Data Import and Export for the field level information.

### 43.7.11.2.1 Installed Base

| Template Header                                              | String Type | Notes |
|--------------------------------------------------------------|-------------|-------|
| external_key                                                 | STRING      |       |
| Account_Contact UUID                                         | STRING      |       |
| Account_Account UUID                                         | STRING      |       |
| Bill-to Account_Bill-To Contact UUID                         | STRING      |       |
| Bill-to Account_Bill-To Account UUID                         | STRING      |       |
| Ship-to Account_Ship-To Contact UUID                         | STRING      |       |
| Ship-to Account_Ship-To Account UUID                         | STRING      |       |
| Individual Customer_Individual Customer UUID                 | STRING      |       |
| Bill-To Individual Customer_Bill-To Individual Customer UUID | STRING      |       |
| Ship-to Individual Customer_Ship-To Individual Customer UUID | STRING      |       |
| Status                                                       | STRING      |       |
| ID                                                           | STRING      |       |
| Address_Postal Address_Building                              | STRING      |       |
| Address_Postal Address_City                                  | STRING      |       |
| Address_Postal Address_Country/Region Code                   | STRING      |       |
| Address_Postal Address_State Code                            | STRING      |       |
| Address_Postal Address_County                                | STRING      |       |
| Address_Postal Address_District                              | STRING      |       |
| Address_Postal Address_Floor                                 | STRING      |       |
| Address_Postal Address_House Number                          | STRING      |       |
| Address_Postal Address_Additional House Number               | STRING      |       |
| Address_Postal Address_Room                                  | STRING      |       |
| Address_Postal Address_Street                                | STRING      |       |
| Address_Postal Address_Street Postal Code                    | STRING      |       |
| Address_Postal Address_Time Zone                             | STRING      |       |
| Address_Postal Address_Street Prefix                         | STRING      |       |



| Template Header                                          | String Type | Notes |
|----------------------------------------------------------|-------------|-------|
| Address_Postal Address_Street Suffix                     | STRING      |       |
| Address_Postal Address_Additional Street Prefix          | STRING      |       |
| Address_Postal Address_Additional Street Suffix          | STRING      |       |
| Address_Postal Address_C/O                               | STRING      |       |
| Address_Postal Address_P.O. Box City                     | STRING      |       |
| Address_Postal Address_P.O. Box Country/Region           | STRING      |       |
| Address_Postal Address_P.O. Box                          | STRING      |       |
| Address_Postal Address_P.O. Box Postal Code              | STRING      |       |
| Address_Postal Address_P.O. Box State                    | STRING      |       |
| Address_Geographical Location_Latitude                   | STRING      |       |
| Address_Geographical Location_Longitude                  | STRING      |       |
| Payer Account_Payer Contact UUID                         | STRING      |       |
| Payer Account_Payer Account UUID                         | STRING      |       |
| Payer Individual Customer_Payer Individual Customer UUID | STRING      |       |
| Owner Account_Owner Contact UUID                         | STRING      |       |
| Owner Account_Owner Account UUID                         | STRING      |       |
| Owner Individual Customer_Owner Individual Customer UUID | STRING      |       |
| Service Technician Team_Service Technician Team UUID     | STRING      |       |
| Responsible Planner_Responsible Planner UUID             | STRING      |       |
| Service Technician_Service Technician UUID               | STRING      |       |
| Employee Responsible_Employee Responsible UUID           | STRING      |       |

## 43.7.11.2.2 Installed Base Descriptions

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| content             | STRING    |       |
| languageCode        | STRING    |       |

### 43.7.11.2.3 Installed Base Notes

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| content             | STRING    |       |
| languageCode        | STRING    |       |

## 43.7.12 Organizational Unit

Organizational unit containing a hierarchy that represents the hierarchical structure of the organization.

### 43.7.12.1 Organizational Unit Dependencies

#### Dependencies on Other Entities

| Entity               | Description                                |
|----------------------|--------------------------------------------|
| Organizational Unit  | Assign a parent org unit                   |
| Employee Assignments | You can assign an employee to the org unit |

### 43.7.12.2 Organizational Unit Fields

Download the template from [Data Import and Export](#) for the field level information.

#### 43.7.12.2.1 Organizational Unit

##### Note

Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields.

| Template Header                        | Data Type | Notes                                                                                                                                                               |
|----------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| external_key                           | STRING    |                                                                                                                                                                     |
| Technical ID                           | STRING    |                                                                                                                                                                     |
| Valid From                             | DATETIME  | If not provided, defaulted to current date                                                                                                                          |
| Valid To                               | DATETIME  | If not provided, defaulted to the maximum end date, 31-December-9999                                                                                                |
| Organizational Unit ID                 | STRING    | This field is mandatory                                                                                                                                             |
| Name                                   | STRING    |                                                                                                                                                                     |
| Status                                 | STRING    |                                                                                                                                                                     |
| Current Functions_Company              | BOOLEAN   | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Current Functions_Sales Organization   | BOOLEAN   | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Current Functions_Service Organization | BOOLEAN   | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Current Functions_Sales Office         | BOOLEAN   | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Current Functions_Sales Group          | BOOLEAN   | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Current Functions_Sales                | BOOLEAN   | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Current Functions_Service              | BOOLEAN   | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Current Functions_Currency             | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Manager_Manager Technical ID           | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |

| Template Header                      | Data Type | Notes                                                                                                                                                               |
|--------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parent Unit_Parent Unit Technical ID | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address_Country/Region               | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address__State                       | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address__State                       | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address_Postal Code                  | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address_City                         | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address_Street                       | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address_House Number                 | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address_County                       | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address_District                     | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address_Address Line 1               | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address_Address Line 2               | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |

| Template Header            | Data Type | Notes                                                                                                                                                               |
|----------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Address_Address Line 4     | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address_Address Line 5     | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address_Latitude           | NUMBER    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Address_Longitude          | NUMBER    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Communication Data_Email   | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Communication Data_Website | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Communication Data_Fax     | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Communication Data_Phone   | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |
| Communication Data_Mobile  | STRING    | Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields. |

## 43.7.12.2.2 Organizational Unit Employee Assignments

### Note

Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields.

| Template Header       | Data Type | Notes                                                                                                                                                                                                     |
|-----------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| parent_external_key   | STRING    |                                                                                                                                                                                                           |
| Technical ID          | STRING    |                                                                                                                                                                                                           |
| Valid From            | DATETIME  |                                                                                                                                                                                                           |
| Valid To              | DATETIME  |                                                                                                                                                                                                           |
| Employee Technical ID | STRING    | <p>The employee should be present in the system.</p> <p>This field or the employee display ID is mandatory.</p> <p>The employee must be valid during the period given in the Valid From and Valid To.</p> |
| Role                  | STRING    |                                                                                                                                                                                                           |

### 43.7.12.2.3 Organizational Unit External IDs

| Template Header              | Data Type | Notes |
|------------------------------|-----------|-------|
| parent_external_key          | STRING    |       |
| Technical ID                 | STRING    |       |
| External ID                  | STRING    |       |
| Business System Technical ID | STRING    |       |
| Business System ID           | STRING    |       |
| ID Type                      | STRING    |       |
| Main                         | BOOLEAN   |       |

### 43.7.12.2.4 Organizational Unit Functions

#### Note

Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields.

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| Technical ID        | STRING    |       |

| Template Header      | Data Type | Notes                                                                                   |
|----------------------|-----------|-----------------------------------------------------------------------------------------|
| Valid From           | DATETIME  |                                                                                         |
| Valid To             | DATETIME  |                                                                                         |
| Company              | BOOLEAN   |                                                                                         |
| Sales Organization   | BOOLEAN   |                                                                                         |
| Service Organization | BOOLEAN   |                                                                                         |
| Sales Office         | BOOLEAN   |                                                                                         |
| Sales Group          | BOOLEAN   |                                                                                         |
| Sales                | BOOLEAN   |                                                                                         |
| Service              | BOOLEAN   |                                                                                         |
| Currency             | STRING    | Recommended to maintain a currency either for the company or for the Sales Organization |

## 43.7.12.2.5 Organizational Unit Name and Address

### Note

Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields.

| Template Header      | Data Type | Notes                              |
|----------------------|-----------|------------------------------------|
| parent_external_key  | STRING    |                                    |
| Technical ID         | STRING    |                                    |
| Valid From           | DATETIME  |                                    |
| Valid To             | DATETIME  |                                    |
| Name                 | STRING    | Recommended to maintain this field |
| Address Technical ID | STRING    |                                    |
| Country/Region       | STRING    |                                    |
| _Country/Region      | STRING    |                                    |
| _State               | STRING    |                                    |
| City                 | STRING    |                                    |
| Street               | STRING    |                                    |
| House Number         | STRING    |                                    |
| Postal Code          | STRING    |                                    |
| County               | STRING    |                                    |

| Template Header | Data Type | Notes |
|-----------------|-----------|-------|
| District        | STRING    |       |
| Address Line 1  | STRING    |       |
| Address Line 2  | STRING    |       |
| Address Line 4  | STRING    |       |
| Address Line 5  | STRING    |       |
| Latitude        | NUMBER    |       |
| Longitude       | NUMBER    |       |
| Email           | STRING    |       |
| Website         | STRING    |       |
| Fax             | STRING    |       |
| Phone           | STRING    |       |
| Mobile          | STRING    |       |

## 43.7.12.2.6 Organizational Unit Parent Units

### Note

Do not upload the root field information simultaneously with the sub node fields as it will lead to inconsistencies. Please use only root fields or subnode fields.

| Template Header          | Data Types | Notes                                                                                |
|--------------------------|------------|--------------------------------------------------------------------------------------|
| parent_external_key      | STRING     |                                                                                      |
| Technical ID             | STRING     |                                                                                      |
| Valid From               | DATETIME   |                                                                                      |
| Valid To                 | DATETIME   |                                                                                      |
| Parent Unit Technical ID | STRING     | Recommended to maintain a valid Parent Unit Technical ID or a Parent Unit Display ID |
| Reporting Line           | BOOLEAN    | There can be only one reporting line parent org unit at the same point in time.      |



## 43.7.12.2.7 Organizational Unit Allowed Sales Areas

| Template Header      | Data Types | Notes |
|----------------------|------------|-------|
| parent_external_key  | STRING     |       |
| Technical ID         | STRING     |       |
| Distribution Channel | STRING     |       |
| Division             | STRING     |       |

## 43.7.13 Product

A product is the item offered for sale and it can be a service or a physical item. A product can be of real or virtual form. Each product is made at a cost and sold at a price and the price depends on the quality, market, the marketing, and the targeted segment.

### 43.7.13.1 Product Dependencies

#### Dependencies on Other Entities

| Entity              | Description                                                                  |
|---------------------|------------------------------------------------------------------------------|
| Product Group       | Used in product root to assign a product group to product(s)                 |
| Organizational Unit | Used in product sales distribution chains to assign sales data to product(s) |

### 43.7.13.2 Product Fields

Download the template from Data Import and Export for the field level information.

## 43.7.13.2.1 Product

| Template Header            | Data Type | Notes                                                                                                                                                                         |
|----------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| external_key               | STRING    |                                                                                                                                                                               |
| Technical ID               | STRING    |                                                                                                                                                                               |
| Product ID                 | STRING    | Mandatory field                                                                                                                                                               |
| Status Code                | STRING    | Mandatory field. If no value is provided, then the default will be In_PREPARATION                                                                                             |
| Unit of Measure Code       | STRING    | Mandatory field                                                                                                                                                               |
| Name                       | STRING    | Mandatory field                                                                                                                                                               |
| Description                | STRING    | Do not enter the root field information along with the sub-node fields of product descriptions as leads to inconsistencies. Use either the root field or the sub-node fields. |
| Product Group Technical ID | STRING    | Technical ID of the product group created in the system.                                                                                                                      |
| Product Group ID           | STRING    | Display ID of the product group created in the system.                                                                                                                        |

## 43.7.13.2.2 Product Descriptions

Do not enter the sub-node field information simultaneously with the Description field of the root node product as it leads to inconsistencies. Use either the root field or the sub-node fields.

| Template Header     | Data Type | Notes                                                                                                                |
|---------------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| parent_external_key | STRING    |                                                                                                                      |
| Technical ID        | STRING    |                                                                                                                      |
| Description         | STRING    | A user-defined language-dependent text that provides more information about the product.<br><br>Maximum length: 5000 |
| Language Code       | STRING    |                                                                                                                      |

## 43.7.13.2.3 Product External IDs

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| Technical ID        | STRING    |       |

| Template Header              | Data Type | Notes                                       |
|------------------------------|-----------|---------------------------------------------|
| External ID                  | STRING    |                                             |
| Business System Technical ID | STRING    | Technical GUID of the Communication System. |
| Business System ID           | STRING    | Display ID of the Communication System.     |
| ID Type                      | STRING    |                                             |
| Main                         | BOOLEAN   |                                             |

## 43.7.13.2.4 Product Names

| Template Header     | Data Type | Notes                                                                     |
|---------------------|-----------|---------------------------------------------------------------------------|
| parent_external_key | STRING    |                                                                           |
| Technical ID        | STRING    |                                                                           |
| Name                | STRING    | Definition of product names in multiple languages.<br>Maximum length: 255 |
| Language Code       | STRING    |                                                                           |

## 43.7.13.2.5 Product Sales Distribution Chains

| Template Header                             | Data Type | Notes                                                                                                                                                                                                                                                                                     |
|---------------------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| parent_external_key                         | STRING    |                                                                                                                                                                                                                                                                                           |
| Technical ID                                | STRING    |                                                                                                                                                                                                                                                                                           |
| Sales Organization Technical ID             | STRING    | Organizational Unit Technical ID which is created in the system.<br>This is a mandatory field.                                                                                                                                                                                            |
| Distribution Channel Code                   | STRING    | This is a mandatory field.                                                                                                                                                                                                                                                                |
| Sales Unit Of Measure Code                  | STRING    |                                                                                                                                                                                                                                                                                           |
| Minimum Order Quantity_Quantity             | NUMBER    |                                                                                                                                                                                                                                                                                           |
| Minimum Order Quantity_Unit of Measure Code | STRING    | Minimum Order Quantity Unit of Measure Code must be equal to the field Unit of Measure Code of the entity Product. If it is not maintained during the creation of the corresponding Product Sales Distribution Chains entry, then it defaults to the Unit of Measure Code of the Product. |
| Sales Status Code                           | STRING    | Sales status code that is defined in administrator settings > sales status schema                                                                                                                                                                                                         |

## 43.7.13.2.5.1 Customer Part Numbers

Customer Part Numbers is a sub-entity of product sales distribution chain.

| Template Header         | Data Type | Notes                      |
|-------------------------|-----------|----------------------------|
| parent_external_key     | STRING    |                            |
| Technical ID            | STRING    |                            |
| Customer Technical ID * | STRING    | This is a mandatory field. |
| Customer ID             | STRING    |                            |
| Customer Part Number *  | STRING    | This is a mandatory field. |
| Description             | STRING    |                            |

## 43.7.13.2.6 Product Unit of Measure Conversion

| Template Header                    | Data Type | Notes |
|------------------------------------|-----------|-------|
| parent_external_key                | STRING    |       |
| Technical ID                       | STRING    |       |
| Quantity                           | NUMBER    |       |
| Unit of Measure Code               | STRING    |       |
| Corresponding Quantity             | NUMBER    |       |
| Corresponding Unit of Measure Code | STRING    |       |

## 43.7.13.2.7 Product Unit of Measure

| Template Header      | Data Type | Notes |
|----------------------|-----------|-------|
| parent_external_key  | STRING    |       |
| Technical ID         | STRING    |       |
| Unit of Measure Code | STRING    |       |

## 43.7.13.2.7.1 Global Trade Item Numbers

Global Trade Item Numbers is a sub-entity of product units of measure.

| Template Header          | Data Type | Notes |
|--------------------------|-----------|-------|
| parent_external_key      | STRING    |       |
| Technical ID             | STRING    |       |
| Global Trade Item Number | STRING    |       |
| Main                     | BOOLEAN   |       |

## 43.7.14 Product Group

A product group is a group of products categorized based on the shared attributes like usage, features, production processes and so on. A product group can also be the market or customer segment in which the products are sold or the prices at which they're offered.

For the field level information of product group, download the product group template from ► [User Menu](#)  
► [System Settings](#) ► [Monitoring](#) ► [Data Import and Export](#) ►.

| Template Header                   | Data Type | Notes                                                           |
|-----------------------------------|-----------|-----------------------------------------------------------------|
| parent_external_key               | STRING    |                                                                 |
| external_key                      | STRING    |                                                                 |
| Technical ID                      | STRING    |                                                                 |
| Product Group ID                  | STRING    | Mandatory field                                                 |
| Parent Product Group Technical ID |           | Technical ID of the parent product group created in the system. |
| Name                              | STRING    | Mandatory field                                                 |
| Parent Product Group ID           | STRING    | Display ID of the parent product group created in the system.   |

### 43.7.14.1 Product Group External IDs

| Template Header              | Data Type | Notes |
|------------------------------|-----------|-------|
| parent_external_key          | STRING    |       |
| Technical ID                 | STRING    |       |
| External ID                  | STRING    |       |
| Business System Technical ID | STRING    |       |

| Template Header    | Data Type | Notes |
|--------------------|-----------|-------|
| Business System ID | STRING    |       |
| ID Type            | STRING    |       |
| Main               | BOOLEAN   |       |

## 43.7.14.2 Product Group Names

| Template Header     | Data Type | Notes                                                                           |
|---------------------|-----------|---------------------------------------------------------------------------------|
| parent_external_key | STRING    |                                                                                 |
| Technical ID        | STRING    |                                                                                 |
| Name                | STRING    | Definition of product group names in multiple languages.<br>Maximum length: 255 |
| Language Code       | STRING    |                                                                                 |

## 43.7.15 Product Installation Point

An installation point is the physical location of the object that requires servicing or maintenance based on the service or maintenance plan for that object.

### 43.7.15.1 Product Installation Point Dependencies

#### Dependencies on Other Entities

| Entity              | Description                                                                  |
|---------------------|------------------------------------------------------------------------------|
| Account             | Used as Customer, Ship To, Bill To, Owner and Payer                          |
| Individual Customer | Used as Customer, Ship To, Bill To, Owner and Payer                          |
| Contact             | Used as Main contact of Customer, Ship To, Bill To, Owner and Payer Accounts |
| Employee            | Used as Service Technician and Employee Responsible                          |
| Organizational Unit | Used as Responsible Planner, Service Technician Team, Sales Org              |
| Product             |                                                                              |

## 43.7.15.2 Product Installation Point Fields

Download the template from Data Import and Export for the field level information.

### 43.7.15.2.1 Product Installation Point

| Template Header                                              | Data Type | Notes |
|--------------------------------------------------------------|-----------|-------|
| external_key                                                 | STRING    |       |
| Reference Product_Product UUID                               | STRING    |       |
| Type                                                         | STRING    |       |
| Quantity_Quantity                                            | NUMBER    |       |
| Quantity_Unit of Measure                                     | STRING    |       |
| Account_Contact UUID                                         | STRING    |       |
| Account_Account UUID                                         | STRING    |       |
| Bill-to Account_Bill-To Contact UUID                         | STRING    |       |
| Bill-to Account_Bill-To Account UUID                         | STRING    |       |
| Ship-to Account_Ship-To Contact UUID                         | STRING    |       |
| Ship-to Account_Ship-To Account UUID                         | STRING    |       |
| Payer Account_Payer Contact UUID                             | STRING    |       |
| Payer Account_Payer Account UUID                             | STRING    |       |
| Owner Account_Owner Contact UUID                             | STRING    |       |
| Owner Account_Owner Account UUID                             | STRING    |       |
| Individual Customer_Individual Customer UUID                 | STRING    |       |
| Bill-To Individual Customer_Bill-To Individual Customer UUID | STRING    |       |
| Ship-to Individual Customer_Ship-To Individual Customer UUID | STRING    |       |
| Payer Individual Customer_Payer Individual Customer UUID     | STRING    |       |
| Owner Individual Customer_Owner Individual Customer UUID     | STRING    |       |
| Service Technician Team_Service Technician Team UUID         | STRING    |       |
| Responsible Planner_Responsible Planner UUID                 | STRING    |       |
| Service Technician_Service Technician UUID                   | STRING    |       |
| Employee Responsible_Employee Responsible UUID               | STRING    |       |

| Template Header                                          | Data Type | Notes |
|----------------------------------------------------------|-----------|-------|
| Status                                                   | STRING    |       |
| ID                                                       | STRING    |       |
| Address_Postal Address_Building                          | STRING    |       |
| Address_Postal Address_City                              | STRING    |       |
| Address_Postal Address_Country/Region Code               | STRING    |       |
| Address_Postal Address_State Code                        | STRING    |       |
| Address_Postal Address_County                            | STRING    |       |
| Address_Postal Address_District                          | STRING    |       |
| Address_Postal Address_Floor                             | STRING    |       |
| Address_Postal Address_House Number                      | STRING    |       |
| Address_Postal Address_Additional House Number           | STRING    |       |
| Address_Postal Address_Room                              | STRING    |       |
| Address_Postal Address_Street                            | STRING    |       |
| Address_Postal Address_Street Postal Code                | STRING    |       |
| Address_Postal Address_Time Zone                         | STRING    |       |
| Address_Postal Address_Street Prefix                     | STRING    |       |
| Address_Postal Address_Street Suffix                     | STRING    |       |
| Address_Postal Address_Additional Street Prefix          | STRING    |       |
| Address_Postal Address_Additional Street Suffix          | STRING    |       |
| Address_Postal Address_C/O                               | STRING    |       |
| Address_Postal Address_P.O. Box City                     | STRING    |       |
| Address_Postal Address_P.O. Box Country/Region           | STRING    |       |
| Address_Postal Address_P.O. Box                          | STRING    |       |
| Address_Postal Address_P.O. Box Postal Code              | STRING    |       |
| Address_Postal Address_P.O. Box State                    | STRING    |       |
| Address_Geographical Location_Latitude                   | STRING    |       |
| Address_Geographical Location_Longitude                  | STRING    |       |
| Parent Registered Product_Parent Registered Product UUID | STRING    |       |
| Parent Installation Point_Parent Installation Point UUID | STRING    |       |
| Parent Installed Base_Parent Installed Base UUID         | STRING    |       |



## 43.7.15.2.2 Product Installation Point External IDs

| Template Header           | Data Type | Notes |
|---------------------------|-----------|-------|
| parent_external_key       | STRING    |       |
| id                        | STRING    |       |
| External ID               | STRING    |       |
| Communication System ID   | STRING    |       |
| Communication System UUID | STRING    |       |
| Type                      | STRING    |       |
| Default                   | BOOLEAN   |       |

## 43.7.15.2.3 Product Installation Point Customer Information

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| content             | STRING    |       |
| languageCode        | STRING    |       |

## 43.7.15.2.4 Product Installation Point Notes

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| content             | STRING    |       |
| languageCode        | STRING    |       |

## 43.7.15.2.5 Product Installation Point Descriptions

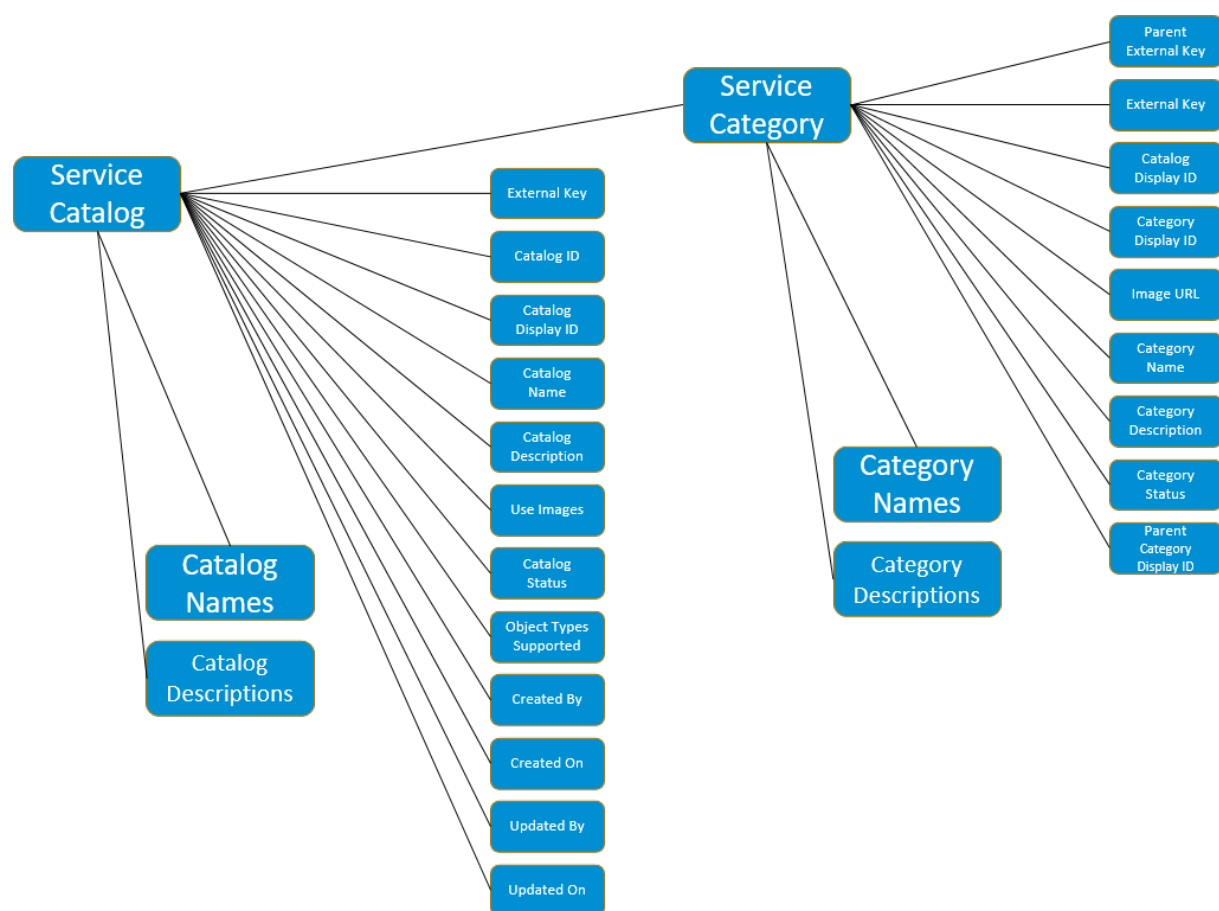
| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| content             | STRING    |       |

| Template Header | Data Type | Notes |
|-----------------|-----------|-------|
| languageCode    | STRING    |       |

## 43.7.16 Service Categories Overview and Structure

Overview of the Service Category entity and the structure in the solution.

Creating and defining categories helps build valuable knowledge about the customer and also collects data that can be analyzed to understand business requirements and market demands.



## 43.7.16.1 Service Categories Dependencies

### Dependencies on Other Entities

| Entity          | Description                                                     |
|-----------------|-----------------------------------------------------------------|
| Service Catalog | Each service category must be associated with a service catalog |

### Dependencies within the Entity

| Entity                | Description                                 |
|-----------------------|---------------------------------------------|
| Category Names        | Provide name values in different languages  |
| Category Descriptions | Provide descriptions in different languages |

## 43.7.16.2 Service Category Fields

Download the template from [Data Import and Export](#) for the field level information.

### 43.7.16.2.1 Service Category

Enter each category in a separate row. The **Name** and **Description** values entered in this root file are stored for English. Use the **Category Names** and **Category Descriptions** files to enter translations for these values in additional languages.

| Template Header     | Data Type | Notes                                                                                |
|---------------------|-----------|--------------------------------------------------------------------------------------|
| parent_external_key | STRING    | Enter the external key of the parent category. Leave blank for top-level categories. |
| external_key        | STRING    |                                                                                      |
| Catalog Display ID  | STRING    | required                                                                             |
| Category Display ID | STRING    | required                                                                             |
| Image URL           | STRING    |                                                                                      |

| Template Header            | Data Type | Notes                                                                              |
|----------------------------|-----------|------------------------------------------------------------------------------------|
| Category Name              | STRING    | required                                                                           |
| Category Description       | STRING    |                                                                                    |
| Category Status            | STRING    | Enter status codes as provided in category status file                             |
| Parent Category Display ID | STRING    | Enter the display ID of the parent category. Leave blank for top-level categories. |

## 43.7.16.2.2 Category Names

Use Category Names to enter name values for different languages. Prepare a file for all category names to be translated into different languages and enter each language translation in a separate row.

| Template Header     | Data Type | Notes                                                   |
|---------------------|-----------|---------------------------------------------------------|
| parent_external_key | STRING    | Enter the external key of the category to be translated |
| content             | STRING    | Enter the translated name here                          |
| languageCode        | STRING    | Use language codes provided in the Language-Code file   |

## 43.7.16.2.3 Category Descriptions

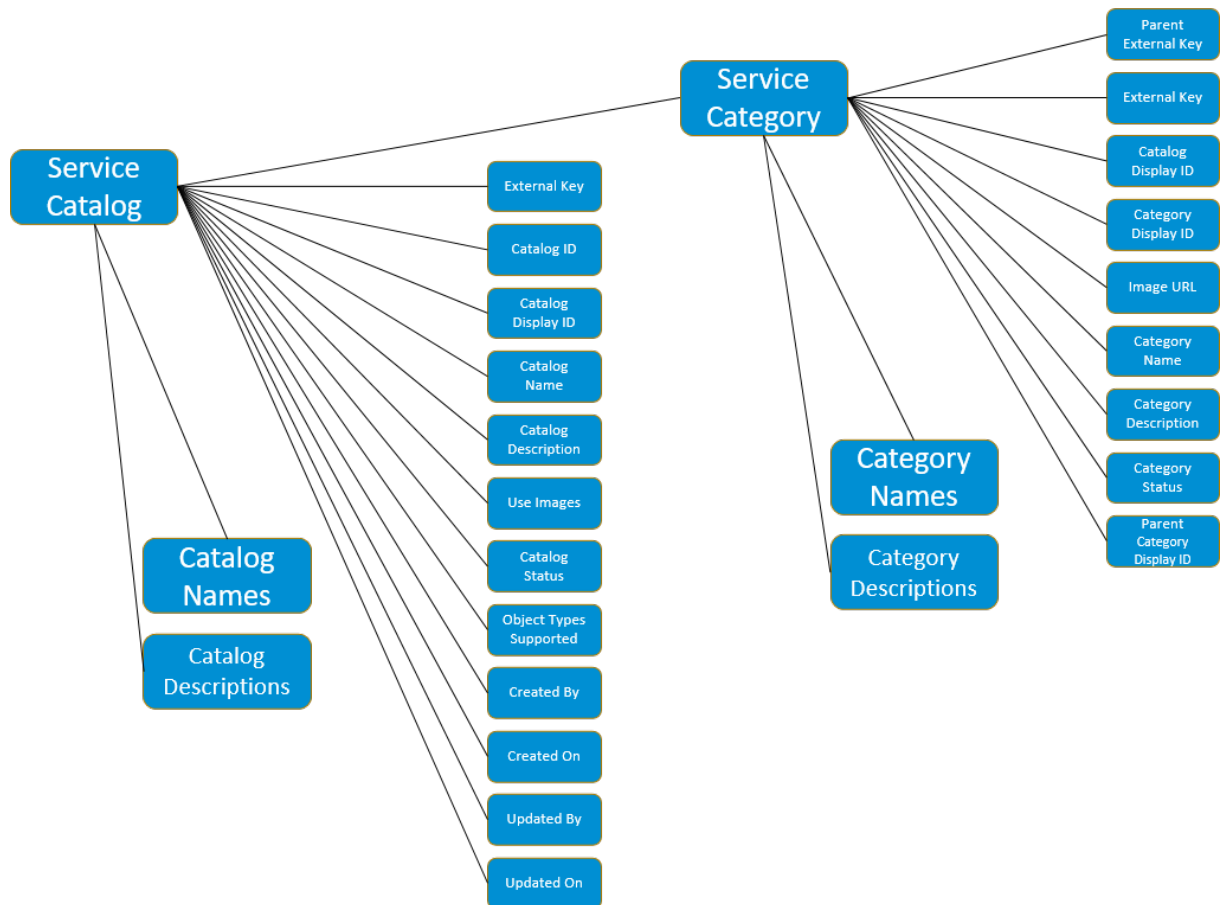
Use Category Descriptions to enter description values for different languages. Prepare a file for all category descriptions to be translated in different languages and enter each language translation in a separate row.

| Template Header     | Data Type | Notes                                                   |
|---------------------|-----------|---------------------------------------------------------|
| parent_external_key | STRING    | Enter the external key of the category to be translated |
| content             | STRING    | Enter the translated description here                   |
| languageCode        | STRING    | Use language codes provided in the Language-Code file   |

## 43.7.17 Service Catalogs

Overview of the Service Catalog entity and the structure in the solution.

Service catalogs are collections of service categories. Each service category must be assigned to a service catalog.



## 43.7.17.1 Service Catalog Dependencies

### Dependencies within the Entity

| Entity               | Description                                 |
|----------------------|---------------------------------------------|
| Catalog Names        | Provide name values in different languages  |
| Catalog Descriptions | Provide descriptions in different languages |

## 43.7.17.2 Service Catalog Fields

Download the template from [Data Import and Export](#) for the field level information.

## 43.7.17.2.1 Service Catalog

Enter each Catalog to be imported in a separate row. The **Name** and **Description** values entered in this root file are stored for English. Use the **Catalog Names** and **Catalog Descriptions** files to enter translations for these values in additional languages.

| Template Header                        | Data Type | Notes                                                                                                                                                                                                                    |
|----------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| external_key                           | STRING    |                                                                                                                                                                                                                          |
| Catalog ID                             |           | required - unique technical ID for the catalog                                                                                                                                                                           |
| Catalog Display ID                     | STRING    | required                                                                                                                                                                                                                 |
| Catalog Name                           | STRING    | required                                                                                                                                                                                                                 |
| Catalog Description                    | STRING    |                                                                                                                                                                                                                          |
| Use Images                             | BOOLEAN   |                                                                                                                                                                                                                          |
| Catalog Status                         | STRING    | Enter status codes provided in the catalog status file                                                                                                                                                                   |
| Object Types Supported                 | ARRAY     | <ul style="list-style-type: none"><li>• Case: 2886</li><li>• Phone: 86</li><li>• Chat: 1976</li><li>• Email: 39</li></ul> <p>If the catalog is used for all object types, enter "2886","86","1976","39" in the field</p> |
| Catalog Administration Data_Created By | STRING    |                                                                                                                                                                                                                          |
| Catalog Administration Data_Created On | DATETIME  |                                                                                                                                                                                                                          |
| Catalog Administration Data_Updated By | STRING    |                                                                                                                                                                                                                          |
| Catalog Administration Data_Updated On | DATETIME  |                                                                                                                                                                                                                          |

## 43.7.17.2.2 Catalog Names

Use Catalog Names to enter name values for different languages. Prepare a file for all catalog names to be translated into different languages and enter each language translation in a separate row.

| Template Header     | Data Type | Notes                                                  |
|---------------------|-----------|--------------------------------------------------------|
| parent_external_key | STRING    | Enter the external key of the catalog to be translated |
| content             | STRING    | Enter the translated name here                         |
| languageCode        | STRING    | Use language codes provided in the Language-Code file  |

## 43.7.17.2.3 Catalog Descriptions

Use Catalog Descriptions to enter description values for different languages. Prepare a file for all catalog descriptions to be translated in different languages and enter each language translation in a separate row.

| Template Header     | Data Type | Notes                                                  |
|---------------------|-----------|--------------------------------------------------------|
| parent_external_key | STRING    | Enter the external key of the catalog to be translated |
| content             | STRING    | Enter the translated description here                  |
| languageCode        | STRING    | Use language codes provided in the Language-Code file  |

## 43.7.18 Registered Products

A registered product is an instance of a product that is associated with a specific customer and generally has a unique serial number. The registered product information allows the service agent to identify the customer product and any associated warranties or service entitlements

### 43.7.18.1 Registered Product Dependencies

#### Dependencies on Other Entities

| Entity              | Description                                                                  |
|---------------------|------------------------------------------------------------------------------|
| Account             | Used as Customer, Ship To, Bill To, Owner and Payer                          |
| Individual Customer | Used as Customer, Ship To, Bill To, Owner and Payer                          |
| Contact             | Used as Main contact of Customer, Ship To, Bill To, Owner and Payer Accounts |
| Employee            | Used as Service Technician and Employee Responsible                          |
| Organizational Unit | Used as Responsible Planner, Service Technician Team, Sales Org              |
| Product             |                                                                              |
| Warranty            |                                                                              |

## 43.7.18.2 Registered Product Fields

Download the template from Data Import and Export for the field level information.

### 43.7.18.2.1 Registered Product

| Template Header                                              | Data Type | Notes |
|--------------------------------------------------------------|-----------|-------|
| external_key                                                 | STRING    |       |
| ID                                                           | STRING    |       |
| Status                                                       | STRING    |       |
| Account_Contact UUID                                         | STRING    |       |
| Account_Account UUID                                         | STRING    |       |
| Individual Customer_Individual Customer UUID                 | STRING    |       |
| Ship-to Account_Ship-To Contact UUID                         | STRING    |       |
| Ship-to Account_Ship-To Account UUID                         | STRING    |       |
| Ship-to Individual Customer_Ship-To Individual Customer UUID | STRING    |       |
| Bill-to Account_Bill-To Contact UUID                         | STRING    |       |
| Bill-to Account_Bill-To Account UUID                         | STRING    |       |
| Bill-to Individual Customer_Bill-To Individual Customer UUID | STRING    |       |
| Payer Account_Payer Contact UUID                             | STRING    |       |
| Payer Account_Payer Account UUID                             | STRING    |       |
| Payer Individual Customer_Payer Individual Customer UUID     | STRING    |       |
| Owner Account_Owner Contact UUID                             | STRING    |       |
| Owner Account_Owner Account UUID                             | STRING    |       |
| Owner Individual Customer_Owner Individual Customer UUID     | STRING    |       |
| Service Technician Team_Service Technician Team UUID         | STRING    |       |
| Responsible Planner_Responsible Planner UUID                 | STRING    |       |
| Service Technician_Service Technician UUID                   | STRING    |       |
| Employee Responsible_Employee Responsible UUID               | STRING    |       |
| Address_Postal Address_Building                              | STRING    |       |
| Address_Postal Address_City                                  | STRING    |       |



| Template Header                                              | Data Type | Notes |
|--------------------------------------------------------------|-----------|-------|
| Address_Postal Address_Country/Region Code                   | STRING    |       |
| Address_Postal Address_State Code                            | STRING    |       |
| Address_Postal Address_County                                | STRING    |       |
| Address_Postal Address_District                              | STRING    |       |
| Address_Postal Address_Floor                                 | STRING    |       |
| Address_Postal Address_House Number                          | STRING    |       |
| Address_Postal Address_Additional House Number               | STRING    |       |
| Address_Postal Address_Room                                  | STRING    |       |
| Address_Postal Address_Street                                | STRING    |       |
| Address_Postal Address_Street Postal Code                    | STRING    |       |
| Address_Postal Address_Time Zone                             | STRING    |       |
| Address_Postal Address_Street Prefix                         | STRING    |       |
| Address_Postal Address_Street Suffix                         | STRING    |       |
| Address_Postal Address_Additional Street Prefix              | STRING    |       |
| Address_Postal Address_Additional Street Suffix              | STRING    |       |
| Address_Postal Address_C/O                                   | STRING    |       |
| Address_Postal Address_P.O. Box City                         | STRING    |       |
| Address_Postal Address_P.O. Box Country/Region               | STRING    |       |
| Address_Postal Address_P.O. Box                              | STRING    |       |
| Address_Postal Address_P.O. Box Postal Code                  | STRING    |       |
| Address_Postal Address_P.O. Box State                        | STRING    |       |
| Address_Geographical Location_Latitude                       | STRING    |       |
| Address_Geographical Location_Longitude                      | STRING    |       |
| Registered Product category_Registered Product Category Code | STRING    |       |
| Reference Product_Product UUID                               | STRING    |       |
| Parent Registered Product_Parent Registered Product UUID     | STRING    |       |
| Parent Installation Point_Parent Installation Point UUID     | STRING    |       |
| Parent Installed Base_Parent Installed Base UUID             | STRING    |       |
| Reference Date                                               | DATETIME  |       |
| Serial ID                                                    | STRING    |       |
| Warranty_Warranty UUID                                       | STRING    |       |
| Warranty_Warranty End Date                                   | DATETIME  |       |
| Warranty_Warranty Start Date                                 | DATETIME  |       |

| Template Header                            | Data Type | Notes |
|--------------------------------------------|-----------|-------|
| Sales Office_Sales Office UUID             | STRING    |       |
| Sales Group_Sales Group UUID               | STRING    |       |
| Sales Organization_Sales Organization UUID | STRING    |       |
| Division Code                              | STRING    |       |
| Distribution Channel Code                  | STRING    |       |

## 43.7.18.2.2 Registered Product External IDs

| Template Header           | Data Type | Notes |
|---------------------------|-----------|-------|
| parent_external_key       | STRING    |       |
| id                        | STRING    |       |
| External ID               | STRING    |       |
| Communication System ID   | STRING    |       |
| Communication System UUID | STRING    |       |
| Type                      | STRING    |       |
| Default                   | BOOLEAN   |       |

## 43.7.18.2.3 Registered Product Descriptions

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| content             | STRING    |       |
| languageCode        | STRING    |       |

## 43.7.18.2.4 Registered Product Notes

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| content             | STRING    |       |

| Template Header | Data Type | Notes |
|-----------------|-----------|-------|
| languageCode    | STRING    |       |

## 43.7.18.2.5 Registered Product Customer Information

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| content             | STRING    |       |
| languageCode        | STRING    |       |

## 43.7.19 Warranty

Warranty is assigned to a registered product or installation point, and you can determine its coverage in a ticket.

### 43.7.19.1 Warranty Fields

Download the template from Data Import and Export for the field level information.

#### 43.7.19.1.1 Warranty

| Template Header | Data Type | Notes |
|-----------------|-----------|-------|
| external_key    | STRING    |       |
| Status          | STRING    |       |
| Duration        | DATETIME  |       |

## 43.7.19.1.2 Warranty External IDs

| Template Header           | Data Type | Notes |
|---------------------------|-----------|-------|
| parent_external_key       | STRING    |       |
| id                        | STRING    |       |
| External ID               | STRING    |       |
| Communication System ID   | STRING    |       |
| Communication System UUID | STRING    |       |
| Type                      | STRING    |       |
| Default                   | BOOLEAN   |       |

## 43.7.19.1.3 Warranty Descriptions

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| content             | STRING    |       |
| languageCode        | STRING    |       |

## 43.7.20 Users

Users in the system refers to employees, business users and other users such as partner contacts. Users are assigned to business roles and access controls in the system are implemented on business roles.

Each business user must actively possess at least one assigned business role that governs their access to the system.

### 43.7.20.1 User Fields

Download the template from [Data Import and Export](#) for field level information.

#### 43.7.20.1.1 Users

The Users header entity contains all central information of a user.

| Template Header              | Data Type | Notes                                                                                  |
|------------------------------|-----------|----------------------------------------------------------------------------------------|
| external_key                 | STRING    | Unique field used by data import and export for processing the respective import tasks |
| Technical ID                 | STRING    | Technical reference ID for user based on integration scenarios                         |
| System Specific ID           | STRING    |                                                                                        |
| User Name                    | STRING    | Name of the user                                                                       |
| Status                       | STRING    | Status of the user                                                                     |
| Given Name                   | STRING    | First name of the user                                                                 |
| Family Name                  | STRING    | Last name of the user                                                                  |
| User Type                    | STRING    |                                                                                        |
| Employee ID                  | STRING    |                                                                                        |
| Security Policy_Technical ID | STRING    |                                                                                        |
| Valid From                   | DATETIME  |                                                                                        |
| Valid Until                  | DATETIME  |                                                                                        |
| Admin Data_Created By        | STRING    |                                                                                        |
| Admin Data_Created On        | DATETIME  |                                                                                        |
| Admin Data_Changed By        | STRING    |                                                                                        |
| Admin Data_Changed On        | DATETIME  |                                                                                        |

## 43.7.20.1.2 User Roles

The User Roles entity contains all the information of a user role.

| Template Header     | Data Type | Notes |
|---------------------|-----------|-------|
| parent_external_key | STRING    |       |
| Technical ID        | STRING    |       |
| Role ID             | STRING    |       |

# 44 Data Administration

As an administrator, you can maintain and manage the files attached to an entity as additional information and check when and by whom an entity was modified.

## 44.1 Manage Attachment and Link Types

As an administrator, define and manage the allowed types of attachments and links in the system.

### Procedure

1. Log in to the system as an administrator.
2. Navigate to the [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
3. Go to ► [All Settings](#) ► [Data Administration](#) ► [Attachment and Link Types](#) ▾.
4. Click the add icon ( + ), enter a code type, choose from either [Link](#) or [Document](#) from the dropdown, enter a description, and select the accept icon ( ✓ ) under [Actions](#) column to save the document type.

#### ⓘ Note

Ensure that your document code starts with the capital alphabet Z when defining the document type.

### Results

You've now successfully defined an attachment or a link type. You can further assign these attachment/link types to different business services in the [Attachment and Link Types Assignment](#) settings.

## 44.2 Assign Attachment or Link Types

Assign attachment or link types to business services.

### Context

All the attachment and link types created in the [Attachment and Link Types](#) settings can be assigned to a document or link type.

### Procedure

1. Log in to the system as an administrator.
2. Navigate to the [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
3. Go to ► [All Settings](#) ► [Data Administration](#) ► [Attachment and Link Type Assignment](#) ►.
4. Select a business service from the list of business services in the left pane and assign it to one or more than one document types under [Available Document and Link Types](#) section, and click [Save](#).

### Results

You've now assigned attachment and link types to business services. These attachment and link types defined here can be further used by the respective business services.

## 44.3 Define MIME Types for Attachments

As an administrator, you can define additional MIME types for attachments for your users in your organization.

### Procedure

1. Log in to the system as an administrator.
2. Navigate to the [User Menu](#) on the right-top corner, and access the [System Settings](#) page.
3. Go to ► [All Settings](#) ► [Data Administration](#) ► [MIME Types for Attachments](#) ►.
4. Click the [add](#) icon (+) enter the MIME Type, and add a description for your MIME type.

5. Select or unselect the *Allowed* switch, and then click the accept icon (✓) to save the MIME type.
6. You can further choose add activity icon (✓) to add extension types to your MIME type.

## Results

You've now defined MIME types for your attachments.

### 44.3.1 Predelivered MIME Types for Attachments

Lists the various predelivered MIME types for attachments in the system.

The following table lists the predelivered MIME types available for attachments.

Predelivered MIME Types for Attachments

| MIME Type                                             | Description                              |
|-------------------------------------------------------|------------------------------------------|
| application/pdf                                       | Portable Document Format                 |
| application/pdi                                       | Portable Database Image                  |
| application/dwf                                       | Design Web Format                        |
| application/dxf                                       | Drawing Exchange Format                  |
| application/json                                      | JavaScript Object Notation               |
| application/mif                                       | FrameMaker Interchange Format            |
| application/msonenote                                 | Microsoft OneNote                        |
| application/msword                                    | Microsoft Office Word Document           |
| application/octet-stream                              | Octet Stream                             |
| application/oda                                       | Open Document Architecture               |
| application/pdf                                       | Adobe Portable Document Format Document  |
| application/pkcs7-mime                                | Single PKCS #7 object of type signedData |
| application/pkcs7-signature                           | PKCS#7 Signature                         |
| application/postscript                                | Postscript                               |
| application/rtf                                       | Rich Text Format                         |
| application/vnd.adobe.xdp+xml                         | XML Data Package                         |
| application/vnd.hp-PCL                                | Printer Command Language                 |
| application/vnd.hp-PCLXL                              | Printer Command Language XL              |
| application/vnd.ms-excel.addin.macroEnabled.12        | Microsoft Office Excel Add-In            |
| application/vnd.ms-excel.sheet.binary.macroEnabled.12 | Microsoft Office Excel-Binary Worksheet  |
| application/vnd.ms-excel.sheet.macroEnabled.12        | Microsoft Office Excel-Macro             |



| MIME Type                                                                 | Description                              |
|---------------------------------------------------------------------------|------------------------------------------|
| application/vnd.ms-excel.template.macroEnabled.12                         | Microsoft Office Excel-Macro Template    |
| application/vnd.ms-mediapackage                                           | Microsoft Media Package                  |
| application/vnd.ms-officetheme                                            | Microsoft Office Theme                   |
| application/vnd.ms-package.relationships+xml                              | Microsoft Package Relationships          |
| application/vnd.ms-pki.certstore                                          | Microsoft PKI Certification Store        |
| application/vnd.ms-pki.pko                                                | Microsoft PKI PKO                        |
| application/vnd.ms-pki.seccat                                             | Microsoft PKI Cat                        |
| application/vnd.ms-pki.stl                                                | Microsoft PKI STL                        |
| application/vnd.ms-powerpoint                                             | Microsoft Office PowerPoint              |
| application/vnd.ms-powerpoint                                             | Microsoft Office PowerPoint Slide        |
| application/vnd.ms-powerpoint.addin.macroEnabled.12                       | Microsoft Office PowerPoint Add-In       |
| application/vnd.ms-powerpoint.presentation.macroEnabled.12                | Microsoft Office PowerPoint Presentation |
| application/vnd.ms-powerpoint.slide.macroEnabled.12                       | Microsoft Office PowerPoint Presentation |
| application/vnd.ms-powerpoint.slideshow.macroEnabled.12                   | Microsoft Office PowerPoint Presentation |
| application/vnd.ms-powerpoint.template.macroEnabled.12                    | Microsoft Office PowerPoint Presentation |
| application/vnd.ms-project                                                | Microsoft Projects                       |
| application/vnd.ms-publisher                                              | Microsoft Office Publisher Document      |
| application/vnd.ms-visio.viewer                                           | Microsoft Office Visio Drawing           |
| application/vnd.ms-word.document.macroEnabled.12                          | Microsoft Office Word Document           |
| application/vnd.ms-word.template.macroEnabled.12                          | Microsoft Office Word Document           |
| application/vnd.ms-wpl                                                    | Windows Media Playlist                   |
| application/vnd.ms-xpsdocument                                            | XPS Document                             |
| application/vnd.msaccess                                                  | Microsoft Access Database File           |
| application/vnd.oasis.opendocument.formula                                | OpenDocument Formula                     |
| application/vnd.oasis.opendocument.graphics                               | OpenDocument Drawing                     |
| application/vnd.oasis.opendocument.presentation                           | OpenDocument Presentation                |
| application/vnd.oasis.opendocument.spreadsheet                            | OpenDocument Spreadsheet                 |
| application/vnd.oasis.opendocument.text                                   | OpenDocument Text                        |
| application/vnd.oasis.opendocument.text-master                            | OpenDocument Master Document             |
| application/vnd.oasis.opendocument.text-web                               | HTML Document Template                   |
| application/vnd.openofficeorg.extension                                   | OpenOffice.org Extension                 |
| application/vnd.openxmlformats-officedocument.presentationml.presentation | Microsoft Office PowerPoint Presentation |
| application/vnd.openxmlformats-officedocument.presentationml.slide        | Microsoft Office PowerPoint Slide        |

| MIME Type                                                               | Description                              |
|-------------------------------------------------------------------------|------------------------------------------|
| application/vnd.openxmlformats-officedocument.presentationml.slideshow  | Microsoft Office PowerPoint Presentation |
| application/vnd.openxmlformats-officedocument.presentationml.template   | Microsoft Office PowerPoint Template     |
| application/vnd.openxmlformats-officedocument.spreadsheetml.sheet       | Microsoft Office Excel Sheet             |
| application/vnd.openxmlformats-officedocument.spreadsheetml.template    | Microsoft Office Excel Template          |
| application/vnd.openxmlformats-officedocument.wordprocessingml.document | Microsoft Office Word Document           |
| application/vnd.openxmlformats-officedocument.wordprocessingml.template | Microsoft Office Word Template           |
| application/vnd.sap_kw.itutor                                           | SAP ITutor                               |
| application/vnd.visio                                                   | Microsoft Office Visio Drawing           |
| application/winhelp                                                     | Help File                                |
| application/wordperfect5.1                                              | Word Perfect                             |
| application/x-bat                                                       | Batch File                               |
| application/x-director                                                  | Adobe Shockwave Player Video             |
| application/x-dvi                                                       | DVI Movie                                |
| application/x-futuresplash                                              | Shockwave Flash Object                   |
| application/x-gzip                                                      | ZIPArchive                               |
| application/x-javascript                                                | Javascript File                          |
| application/x-latex                                                     | LaTeX-File                               |
| application/x-msmetafile                                                | Open APK File                            |
| application/x-perl                                                      | Perl Script                              |
| application/x-rar-compressed                                            | RAR Archive                              |
| application/x-sapshortcut                                               | SAP Shortcut                             |
| application/x-screencam                                                 | RAR Archive                              |
| application/x-shockwave-flash                                           | Shockwave Flash Object                   |
| application/x-stuffit                                                   | Stuffit Expander                         |
| application/x-tar                                                       | Tape Archive                             |
| application/x-tex                                                       | TeX File                                 |
| application/x-x509-ca-cert                                              | Private Keys and Certificates            |
| application/x-zip-compressed                                            | ZIP Archive                              |
| application/xhtml+xml                                                   | XHTML                                    |
| application/xml                                                         | XML File                                 |
| application/xslt+xml                                                    | XSLT                                     |

| MIME Type            | Description                |
|----------------------|----------------------------|
| application/zip      | Zip Archive                |
| audio/basic          | Basic Audio                |
| audio/mid            | MIDI Sequence              |
| audio/mp4            | MP4                        |
| audio/mpeg           | MPEG Audio                 |
| audio/x-aiff         | AIFF Audio                 |
| audio/x-pn-realaudio | RealAudio                  |
| audio/x-wav          | WAV File                   |
| flup                 | Flip                       |
| image/bmp            | Bitmap Image               |
| image/cgm            | Computer Graphics Metafile |
| image/gif            | GIF Image                  |
| image/ico            | Icon                       |
| image/ief            | IEF Image                  |
| image/jpeg           | JPEG Image                 |
| image/jpg            | JPEG Image                 |
| image/pjpeg          | Progressive JPEG           |
| image/png            | PNG Image                  |
| image/prs.btif       | BTIF Image                 |
| image/svg+xml        | SVG Image                  |
| image/tiff           | TIFF Image                 |
| image/vnd.fpx        | FlashPix                   |
| image/vnd.xiff       | eXtended Image File        |
| image/x-dwg          | AutoCAD Drawing            |
| image/x-rgb          | eXtended RGB               |
| image/x-xbitmap      | eXtended Bitmap            |
| message/rfc822       | E-mail                     |
| model/iges           | IGESModel                  |
| model/mesh           | Finite Element Model       |
| model/vrml           | VRML Model                 |
| text/asp             | Active Server Page         |
| text/calendar        | Calender                   |
| text/css             | CSS Style Sheet            |
| text/csv             | Comma-Separated Values     |

| MIME Type                | Description                     |
|--------------------------|---------------------------------|
| text/html                | HTML Document                   |
| text/html                | HTML Text                       |
| text/plain               | Text Document                   |
| text/richtext            | Rich Text Format                |
| text/thtml               | HTML Document                   |
| text/vnd.ms-mediapackage | Microsoft Media Package         |
| text/vnd.wap.sml         | WAP File Extension              |
| text/vnd.wap.wbmp        | Wireless Bitmap                 |
| text/vnd.wap.wml         | Wireless Markup Language        |
| text/vnd.wap.wmlscript   | Wireless Markup Language Script |
| text/x-datev             | Datev File                      |
| text/x-vcalendar         | vCalendar                       |
| text/x-vcard             | vCard                           |
| text/xml                 | XML File                        |
| video/avi                | AVI Video Clip                  |
| video/mpeg               | MPEG Video Clip                 |
| video/quicktime          | Quicktime Movie                 |
| video/vdo                | VDO Movie                       |
| video/vnd.vivo           | Vivo Video                      |
| video/x-flv              | Flash Video                     |
| video/x-ms-asf           | Windows Media Audio/Video       |
| video/x-ms-wmv           | Windows Media Video             |

## 44.4 Configure Attachments

As an administrator, you can configure various parameters for your attachments.

### Context

Configure the maximum file size of your attachments that your business users can upload to the system.

## Procedure

1. Log in to the system as an administrator.
2. Navigate to the [User Menu](#) on the top-right corner, and access the [System Settings](#) page.
3. Go to ► [All Settings](#) ► [Data Administration](#) ► [Attachment Configuration](#) ►
4. Enter the file size in the [Enter File Size Limit](#), and click [Save](#) to configure the attachment size.

### Note

The maximum file size of your attachments must be restricted to 200 MB.

5. Enable uploading password-protected files and also enable thumbnails for read access logs by using the respective switches.

### Note

SAP doesn't recommend setting upload password-protected files as default. However, you can do so at your own discretion, by activating the [Enable Uploading Password-Protected Files](#) switch.

6. Configure pre-signed URL validity for attachment downloads (in minutes). You can choose one of the available options or choose [Custom](#) and enter your own value in minutes.

### Note

The maximum validity duration for downloading attachments is 10 minutes.

## Results

You've now configured different parameters for your attachments.

### 44.4.1 Search Attachments

Search attachments by name.

Search functionality in attachments can be accessed by clicking the search icon. You can perform a search operation in your attachments by the attachment name.

### Note

By default, search functionality is disabled in quick create for attachments, however, it is enabled when there are more than two attachments present.

## 44.5 Manage Note Types

As an administrator, you can define and manage the allowed types of notes in the system.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Data Administration](#) ► [Note Types](#) ►.
2. Click the add icon ( + ) in the [Custom Note Types](#) section, enter a note type and a description, and select the accept icon ( ✓ ) under [Actions](#) column to save the note type.

#### ⓘ Note

- Ensure that the custom note type code starts with Z and is two to four characters long.
- You cannot delete custom note types that are already in use.
- You can now restrict the reuse of custom note types across entities. Once a custom note type is assigned to an entity, it cannot be used for other entities.

### Related Information

[Changes \[page 837\]](#)

Review detailed configuration changes with effective filtering capability.

[Deletions \[page 839\]](#)

Review the details of deleted entities.

## 44.6 Assign Note Types

Assign note types to business services.

### Context

Assign the custom note types that you created in [Note Types](#) settings to notes.

## Procedure

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Data Administration](#) > [Note Types Assignment](#).
2. Select a business service from the left pane to view its assigned standard note types.
3. Click the add icon ( + ) in the [Assigned Note Types](#) section.
4. Select the custom note type from the [Assigned Note Types](#) section.
5. Turn on [Enabled](#) to activate the note type.
6. Turn on [Internal](#) if the note type should be classified as an internal note.
7. In the [Updatable By](#), select who can edit the note type: All, Self, or None.
8. Turn on [Update Latest Only](#) if only the most recently created note should be editable.
9. In the [Deletable By](#), select who can delete the note type: All, Self, or None.
10. Turn on [Delete Latest Only](#) if only the most recently created note should be deletable.
11. Set the [Max Count](#) to define how many notes can be created.

### Note

For sales orders, [Max Count](#) is set to 1, and it cannot be modified.

12. Select the accept icon ( ✓ ) under [Actions](#) column to save the note type.

### Note

- You cannot unassign or delete a note type once an instance is created with it.
- When [Delete Latest Only](#) is enabled, you can delete only the most recently created note. After you delete the latest note, only newly created notes can be deleted.

## Related Information

### Changes [page 837]

Review detailed configuration changes with effective filtering capability.

## 44.7 Create Note Template

A Note Template is a predefined structure that helps users create consistent, standardized notes across the system. It provides a starting point for notes, ensuring uniformity and reducing repetitive typing.

### Prerequisites

- To enable note template, you need to enable the toggle from Feature Activation Hub.
- Enable the following applications:
  - **sap.crm.templateservice.uiapp.template**: To allow access to the templates selector.
  - **sap.crm.templateservice.uiapp.templateAdmin**: To allow access to the templates in admin settings.

### Context

You can select a template when adding a note, and it will automatically populate default text, headings, or formatting. This improves documentation quality, saves time, and ensures important information is consistently captured across entities.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Data Administration](#) ► [Note Template](#) ►.
2. Add a new template. Select the create icon ( + ) at the top of the [Templates](#) list to create a new template.
3. Enter a [Template Name](#) for your new template.
4. [Template Type](#), [Object Type](#), and [Channel Type](#) are automatically defaulted based on the context.
5. Enter a description.
6. Set up the formatting for your template.
  - [Viewer](#): Shows a preview of the template as it appears in the note. Placeholders are shown where relevant data is filled in once the template is applied.
  - [Documents](#): Upload or change the HTML file defining the template layout here. Use any HTML editor you prefer to create your template layout.
  - [Placeholder](#): Displays a list of available data fields associated with the object type you selected for your template. Consult this list when creating your HTML layout file to insert placeholders for object data. Placeholders are formatted as the technical field name surrounded by double curly braces. For example: {{familyName}}, {{givenName}}.
  - [Business Restrictions](#): As an administrator, you can control access to templates (read or write) for agents and other administrators, ensuring that only the necessary templates are available to them. To configure the restrictions.  
Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Emails](#) ► [Templates](#) ► [Business Restrictions](#) ► [Search and Add Organizational Units](#) ►.



Templates that are not assigned to any specific organization are accessible to all agents and administrators.

- [Changes](#): You can view the change history associated with the product in a chronological order. You can see various change details such as changed by, date and time, value changes and so on.

7. Save your changes.

## Related Information

[Feature Activation Hub \[page 59\]](#)

View critical and majors changes that you, as an administrator, can activate in your system before they're activated in your system by default.

## 44.8 Use Note Template

You can use the note template while creating notes in Cases.

### Prerequisites

- To enable note template, you need to enable the toggle from Feature Activation Hub.
- Create template in Note templates in ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Data Administration](#) ► [Note Template](#) ►.

### Procedure

1. Navigate to Case and launch the note editor.
2. Choose [+](#) ([Add](#)) in the Notes section.
3. Select a [Note Type](#).
4. Choose [Add Template](#) icon and select the note template which you want to use.
5. Save your changes.

## Related Information

[Feature Activation Hub \[page 59\]](#)

View critical and majors changes that you, as an administrator, can activate in your system before they're activated in your system by default.

#### [Create Note Template \[page 832\]](#)

A Note Template is a predefined structure that helps users create consistent, standardized notes across the system. It provides a starting point for notes, ensuring uniformity and reducing repetitive typing.

# 45 Logs and Changes

A record of events that occur within the solution.

Logs and changes are essentially text-based files or streams that capture important information about the software's execution, including errors, warnings, informational messages, user interactions, system status updates, and performance metrics.

The benefits of logs and changes in your solution include the following:

- Efficient trouble shooting and issue resolution
- Performance optimization
- Real-time monitoring to avoid security threats
- Use of compliance and auditing purposes
- Effective security and historical analysis

[Audit Logs \[page 835\]](#)

Review security-relevant chronological records of user actions.

[Changes \[page 837\]](#)

Review detailed configuration changes with effective filtering capability.

[Deletions \[page 839\]](#)

Review the details of deleted entities.

## Related Information

[Depersonalization Logs](#)

### 45.1 Audit Logs

Review security-relevant chronological records of user actions.

## Context

Audit logs help monitor important changes in the SAP Sales and Service Cloud V2 system. This includes changes to configuration settings, modifications to critical data, and unexpected behaviors.

## Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings**.
2. Under **Logs and Changes**, select **Audit Logs**.

A detailed list of audit logs opens. There are two tabs to help you view the audit logs based on the time.

- **Recent**: Logs up to seven days are displayed in this tab.
- **Archived**: Logs older than 7 days are displayed here.

You can define the retention period of the logs from 7 to 14 months. By default, it is considered as 7 months.

Download both recent and archived logs using **Export**.

You can download archived data for up to 30 days at a time. Downloading of files is allowed only once in 24 hours.

Messages and data in the downloaded audit logs are Base64 encoded. Each record in the log has an associated event type denoted by a number based on the following table:

Event Type Code

| Code | Event                  |
|------|------------------------|
| 0    | Login                  |
| 1    | Logout                 |
| 2    | Login failed           |
| 3    | User created           |
| 4    | User updated           |
| 5    | Password updated       |
| 6    | Configuration changed  |
| 7    | Personal data accessed |
| 8    | Personal data modified |
| 10   | Authorization denied   |

To verify the integrity of the downloaded file, there is an additional column **Checksum** which is calculated using SHA-256. The result is a hexadecimal string of (*id* + *timestamp* + *eventType* + *sourceIp* + *message* + *service* + *tenantId* + *userId* + *data*).

### Note

The following conditions should be considered for calculating the checksum.

- *eventType* is integer.
- For archived logs *Message* and *Data* are first decoded from Base64.
- Only the first 50 characters of *Message* are considered.

The event type **Authorization Granted** appears only under **Recent**, and will not be archived. For future use, you can download the logs from **Recent**.

3. In the **Recent** tab, use the filters based on time, event type, and service. In the **Archived** tab, use the date range filter for accurate data.

4. To get more information about a specific log entry, click  (Show Data) available in the [Data](#) column.

## 45.2 Changes

Review detailed configuration changes with effective filtering capability.

### Context

Change history refers to a record of alterations made to business entities over time. It captures details such as when changes were made, who made them, and what specific modifications occurred. This history provides a chronological account of revisions, ensuring transparency, accountability, and the ability to track the evolution of data or content. Unlike Audit Logs, this feature provides more information regarding the configuration changes.

From the list view of [Changes](#), you can select IDs and users' names, where navigation is available, to open them in quick view. Select



(Open in Detail View) to open them in a new tab with more details.

This feature displays records of changes for the following entities:

- Accounts
- Account Hierarchy
- Activity Assignment Rules
- Activity Plans
- Appointments
- Call Lists
- Campaign
- Cases
- Change Projects
- Chats
- Competitors
- Competitor Products
- Contract Accounts
- Delivery Points
- Emails
- Functional Locations
- In-Person Interactions
- Installed Base
- Installation Points
- Key Account Plans

- Leads
- Letter Interactions
- Partners
- Partner Contacts
- Phone Calls
- Plants
- Premise
- Product Installation Points
- Contact Person
- Employee
- Individual Customers
- Organizational Unit
- Products
- Product Groups
- Product Lists
- Opportunities
- Registered Products
- Return Orders
- Roles
- Route Groups
- Sales Orders
- Sales Playbook
- Sales Quotes
- Sales Territories
- Service Catalogs
- Service Categories
- Service Orders
- Service Quotations
- Target Groups
- Tasks
- Users
- Visits

#### → Remember

The list of change history includes data based on your access restrictions to these entities.

## Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ►.
2. Under [Logs and Changes](#), select [Changes](#).

3. Change the type of the data storage based on the following:

- [Recent Data](#): To view data up to six months ago
- [Older Data](#): To view data older than six months. This data will be deleted after three years.

#### Restriction

The attributes filter is only available for recent data. Older data is stored differently and the attributes information isn't available for filtering.

4. Select a business entity from the drop-down menu.

5. Use the other filter options such as [Changed By](#), [Changed On](#), and so on, to get the accurate data in the list.

6. Optional: Use the following options based on your requirements:

- To export the list of changes, select  (Export). Choose the file type and then select [Export](#). The system displays the progress in the [Task Progress](#) section. Once the status changes to [Completed](#), you can select the task to download it.
- To search for changes, use  (Search).
- To refresh the list, select  (Refresh).

#### Note

- View the same information in all the supported business entities by navigating to the [Administrative Data](#) tab.
- When an entity is deleted, all change history entries for this entity are also deleted.
- When a data subject gets depersonalized, their corresponding change history records are also deleted.

## Related Information

[Data Protection and Privacy](#)

## 45.3 Deletions

Review the details of deleted entities.

### Context

It captures details such as when the entities were deleted, who deleted them, and so on.

You can select users' names, where navigation is available, to open them in quick view. Select



(Open in Detail View) to open them in a new tab with more details.

This feature displays records of deletions for the following entities:

- Account Hierarchy
- Activity Assignment Rules
- Activity Plans
- Appointments
- Call Lists
- Campaigns
- Change Projects
- Chats
- Emails
- Functional Locations
- Installed Base
- Leads
- Letter Interactions
- Opportunities
- Person Interactions
- Phone Calls
- Plants
- Premises
- Product Groups
- Product Installation Points
- Products
- Registered Products
- Roles
- Route Groups
- Sales Orders
- Sales Playbooks
- Sales Quotes
- Sales Territories
- Service Orders
- Target Groups
- Tasks
- Users
- Visits

## Procedure

1. Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ►.
2. Under [Logs and Changes](#), select [Deletions](#).
3. Select a business entity from the drop-down menu.



4. Use the other filter options such as *Deleted By* and *Deleted On* to get the accurate data in the list.

# 46 System Usage and Monitoring

Monitor your solution's usage of system services such as API response time and how often API calls exceed your allocated limit.

Usage statistics provide application usage insights for administrators. This data can be used to improve usability, performance, and management of the system. You can monitor these statistics in system settings.

## 46.1 Dynatrace Integration

Real User Monitoring (RUM) in Dynatrace™ is a passive monitoring process that captures and analyzes the actual, real-time interactions and experiences of users as they engage with the application.

### Context

#### → Remember

Real User Monitoring by Dynatrace is a third-party product and SAP doesn't provide technical support for this product. Contact Dynatrace directly for any support questions you have regarding their products.

### Procedure

1. Log into the system as a user.
2. Navigate to **User Menu** > **System Settings** > **All Settings** > **Usage and Statistics** > **External RUM Integration**.
3. Switch on the **Use Dynatrace** option.
4. Enter the Dynatrace URL for integration.
5. Choose **Save**.

#### ⓘ Note

This feature has restricted availability. To request for access to this feature, you must create a case with the component CEC-CRM-SHL.

## 46.2 API Metrics

You, as an administrator, can monitor API calls made to your tenant. Information includes any usage above the allowances specified by your license.

Find the API Metrics dashboard in system settings. Go to your user menu and choose: ► [System Settings](#) ► [Usage and Statistics](#) ► [API Metrics](#) . The dashboard includes information such as: your daily API limit, average response time, number of times your daily limit is exceeded, if you currently have an exemption from the daily API limit, and more. Filter by date range and specific service.

- The daily API limit for a test tenant is 30,000.
- The daily API limit for a production tenant is 150,000 plus 1,500 times the total number of unit licenses.

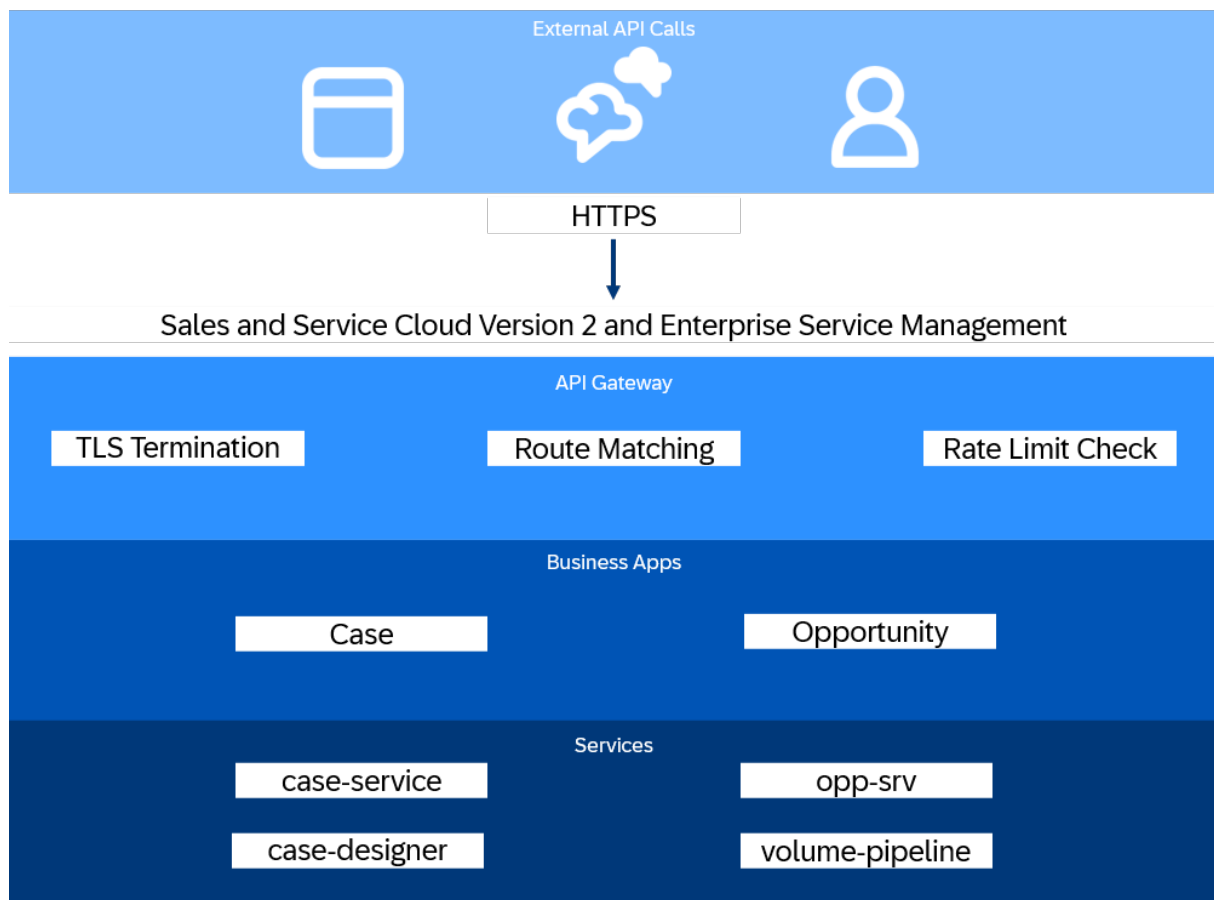
For example: a tenant with 400 licenses has a limit of 150,000 plus 1,500 times 400, which equals 750,000.

### Note

- For SAP Sales Cloud and SAP Service Cloud Version 2, a unit represents one (1) full licensed user.
- For SAP Enterprise Service Management, a unit represents a block of 1000 transactions.

You can find this information in the supplemental documentation at the SAP Trust Center. Search for **Version 2** and select the document titled: **SAP Sales Cloud and SAP Service Cloud Version 2 Supplement**.

The HTTP 429 response code indicates that too many requests have been made to a server within a specific period. For SAP Sales Cloud and SAP Service Cloud Version 2, this period is 24 hours. This rate limiting is an industry standard for cloud products. It ensures fair use of resources for all customers and helps prevent overload, abuse, or malicious activities such as distributed denial-of-service (DDoS) attacks. For SAP Sales Cloud and SAP Service Cloud Version 2, your solution triggers 429 responses if all **external** API calls for your tenant exceed the daily API limit set for that tenant. External API calls are defined as any API calls that originate outside of your SAP Sales Cloud and SAP Service Cloud Version 2 tenant. For example, API calls could come from a custom service created in BTP.



#### 📌 Note

The services shown above for business apps are representational and may not reflect the actual business application.

All external API traffic entering the cloud solution is routed through the API gateway. The gateway is the first point of contact before any inbound request reaches the internal services. Business applications, for example, opportunity or case, can be composed of one or more services, and each service has one or more REST API endpoints. The API gateway captures every call without grouping by service or application making it easy to isolate which API or service is causing rate limit issues.

The [API Metrics](#) dashboard shows the external API activity of all services. The dashboard captures every inbound call passed through the API gateway, providing a real-time view of which service endpoints are consumed by external systems.

This design provides the following benefits.

- Precise isolation: Pinpoints exactly which service is hitting rate limits or generating errors.
- Service-level visibility: Tracks multiple services independently within the same business application
- Transparency and faster troubleshooting: Exposes every external call. No calls are hidden inside a group like a business application.

### Note

The [API Metrics](#) dashboard is currently available by request only. To activate this feature in your tenant, submit a support ticket requesting access using the component CEC-CRM-CO-OPS.

## Related Information

[SAP Trust Center](#) 

# 47 Analytics

Analytics is integrated in the solution to support and monitor business processes, helping you to make informed decisions.

By default, the system is available with a prepackaged integration with SAP Analytics Cloud (SAC), offering an embedded SAC to all users. With this prepackaged embedded SAC, you can use all features of embedded SAC in the system.

## Features

The following are the SAP Analytics Cloud, Embedded Edition features available in the system:

- *Query Designer*: This feature is an SAC OEM-specific feature available for applications Embedding SAC with extended HANA live type of connectivity.
- *Linked Analysis*: This feature can be used to drill through hierarchical data or create filters that simultaneously update multiple charts in a story.

## Limitations

The following are the limitations of Analytics:

- You can build stories only on standard analytical models. Also, you can't create stories from data sources from any other SAP products apart from SAP Service Cloud Version 2.
- Reusing models across multiple stories
- ID-based sorting in SAC stories

## Planned Features

The following list of features are currently not supported, however, they'll be addressed in a future release.

- Embedding tiles on the home page or other UIs on the system
- Viewing hierarchical data
- Currency and unit conversion
- Multi-code list selection values
- Relative selection
- Tenant lifecycle management scenarios

## Related Information

[Query Designer for SAP Analytics Cloud Stories](#)  
[Creating a Linked Analysis](#)  
[Launching the Explorer from a Story Canvas](#)  
[Running a Forecast in a Time Series or Line Chart](#)  
[Create Restricted Measures](#)

## 47.1 Configure Single Sign-On for SAP Analytics Cloud

Administrators can configure single sign-on for the system to ensure that your users can seamlessly connect to SAP Analytics Cloud (SAC) to access, create, and manage stories.

### SAC Tenant Onboarding

To onboard an SAC tenant, choose the [Onboard SAC Tenant](#) button. The onboarding status displayed as *In Progress* when onboarding is in progress, which takes about 20-30 minutes. If onboarding fails, the status is reset after one hour, post, which you can retrigger the onboarding choosing the [Onboard SAC Tenant](#) button.

## Enable Single Sign-On for SAC

To enable Single Sign-On for SAC, you've to connect the identity provider to the SAC tenant. To do so, start by downloading the service provider metadata of the SAC tenant from the system and then upload the metadata XML file to your identity provider. Later, download the configured metadata XML from your identity provider and upload this XML to the system to start using SAC seamlessly.

### Prerequisites:

- Ensure your admin user has the **analyticsSACSPSetupService** business service assigned and the **sap.crm.service.analyticsSACSPSetupService** app enabled to configure single sign-on for SAP Analytics Cloud.
- Ensure that you've successfully onboarded an SAC tenant.
- Identity provider is configured on your system and is in active status. Only active identity providers can be selected while linking IdP metadata to the system.

### Download System Metadata

1. Log in to the system as an administrator.
2. Navigate to user profile on the top-right corner, and access the [System Settings](#) page.
3. Go to [All Settings](#) > [Analytics](#) > [SSO Configuration for SAP Analytics Cloud](#).
4. Click [Download Metadata](#). A zip file containing two (BTP\_account\_sp\_metadata.xml and SAC\_sp\_metadata.xml) XML files is downloaded to your local drive.

## Configure Metadata in Your Identity Provider (IdP) on SAC Tenant

### Note

Use this procedure to configure the IdP provided by SAP Identity Authentication Service (IAS). You can follow similar steps to configure external IdPs as well.

1. Log on to [SAP Cloud Identity Services - Identity Authentication](#) as an administrator. You can also use an external identity provider.
2. On the Identity Authentication screen, navigate to ► [Applications & Resources](#) ► [Applications](#) ►, and click [Add](#) to create a new application for the SAC service provider.
3. In the [Add Application](#) pop-up window, enter a name and click [Save](#). A new application page opens.
4. Under ► [Trust](#) ► [Single Sign-On](#) ►, configure the following settings:
  - Click [Type](#), and select SAML 2.0
  - Click [SAML 2.0 Configuration](#), and upload the SAC metadata XML (SAC\_sp\_metadata.xml) from your local drive.
  - Click [Subject Name Identifier](#), and configure the attribute, which the application uses to identify the users.  
Ensure that you use the same attribute that is maintained in your system. For example, if your system-specific application in the IdP is configured as **Login Name**, then use the same value in SAC-specific application as well.
  - Click ► [Assertion Attributes](#) ► [+ Add](#) ►, maintain the following user attributes and assertion attributes, and then click [Save](#).

| User Attribute | Assertion Attribute |
|----------------|---------------------|
| Language       | preferredLanguage   |
| Display Name   | displayName         |
| Last Name      | familyName          |
| First Name     | givenName           |
| E-mail         | email               |

## Configure Metadata in Your Identity Provider (IdP) on BTP Tenant

### Note

Use this procedure to configure the IdP provided by SAP Identity Authentication Service (IAS). You can follow similar steps to configure external IdPs as well.

1. Log on to [SAP Cloud Identity Services - Identity Authentication](#) as an administrator. You can also use an external identity provider.
2. On the Identity Authentication screen, navigate to ► [Applications & Resources](#) ► [Applications](#) ►, and click [Add](#) to create a new application for the BTP service provider.
3. In the [Add Application](#) pop-up window, enter a name and click [Save](#). A new application page opens.
4. Under ► [Trust](#) ► [Single Sign-On](#) ►, configure the following settings:
  - Click [Type](#), and select SAML 2.0
  - Click [SAML 2.0 Configuration](#), and upload the BTP metadata XML (BTP\_account\_sp\_metadata.xml) from your local drive.



- Click [Subject Name Identifier](#), and configure the attribute as Email, which the application uses to identify the users.

## Download Metadata XML

Once you've configured your IdP metadata, choose [Download Metadata File](#) to download the configured IdP metadata file for both SAC and BTP configured metadata XML files.

## Link or Upload IdP Metadata to the System

1. Log in to the system as an administrator.
2. Navigate to user profile on the top-right corner, and access the [System Settings](#) page.
3. Go to [All Settings](#) > [Analytics](#) > [SSO Configuration for SAP Analytics Cloud](#).
4. Click [+](#). If you select [SAP SAP Cloud Identity Services](#) then select an IdP that needs to be linked from the [Link IdP Metadata](#) quickview list. The metadata and the subject name identifier are populated from the system IdP metadata. If you select [Microsoft Entra ID](#), then under the [Upload IdP Metadata](#) quickview, enter an Alias, and upload the configured metadata XML file (downloaded from your IdP) by either dropping or browsing to upload from the system for both SAC and BTP systems.
5. Use the refresh icon [↻](#) to view the status of IdP metadata linking. The status gets updated once both the IdP and users synchronization is successful.

### Note

Don't link any further IdP entries when the existing IdP linking is in progress.

You've now configured Single Sign-On to the SAC system, where your users can design stories seamlessly.

## Related Information

[Configure Identity Provider \[page 269\]](#)

Administrators can configure identity provider to enable Single-Sign-On (SSO) for the system.

[Access Admin Console](#)

## 47.2 Non-Replicated SAC Users

Users are replicated from the system to the SAC system once IdP is linked and also when users are created or updated.

Replication of users could fail for some users. You can view a list of such users on the [Non-Replicated SAC Users](#) page.

The [Non-Replicated SAC Users](#) page displays the total number of non-replicated users. For each non-replicated user, the [User Name](#), [Name](#), [Failed On](#), and the [Reason for Failure](#) is displayed.

### Note

For a particular user, check the corresponding reason for failure and take appropriate corrective action.

You can select one or more non-replicated users, and choose the [Replicate](#) button to retrigger the user replication from IdP to the SAC system. You can view the replication status next to [Last Replication Status](#) option on the top-right corner.

#### Note

The [Last Replication Status](#) refers to the replication job and not to the status of users. For example, if 10 users are selected and the job is triggered, and at the end of the replication, if the replication fails for five users and is successful for five users, [Last Replication Status](#) is displayed as successful. Here, the overall status displays as successful since it's the status of the job and not the status of an individual user replication.

For example, the execution of the job could be successful but there can be a new set of users listed as failed users because of user sync failures that could have occurred. If a user is having any login-related issues, ensure that the user isn't part of non-replicated users' list.

## 47.3 Embedded SAC Stories

Stories are interactive dashboards from SAP Analytics Cloud (SAC) that are embedded within SAP Sales & Service Cloud Version 2 to visualize and share data insights across multiple pages.

Embedded SAC Stories are interactive dashboards from SAP Analytics Cloud that are accessible within SAP Sales & Service Cloud Version 2 to help you tell the story of your sales and service data. These embedded stories allow you to explore and share business insights through charts, tables, geo maps, and other visualizations directly within your Sales & Service Cloud Version 2 interface. Stories can contain multiple data sources relevant to your business processes and provide filtering capabilities to focus on the most relevant customer, opportunity, case, or account information. Within the embedded environment, stories support various user roles, from BI Content Creators who build basic visualizations to Application Creators who can implement advanced features.

#### [Design Stories \[page 851\]](#)

Create and design stories on the SAC user interface.

#### [View Stories \[page 855\]](#)

View analytical stories assigned to your user.

#### [Standard Stories \[page 858\]](#)

Lists the SAP-delivered standard analytical stories available in the system.

## 47.3.1 Design Stories

Create and design stories on the SAC user interface.

### Prerequisites

Ensure that you have **sap.crm.service.analyticsUserStoriesService** business service and the corresponding *Design Stories* app assigned to your business role to enable you to design stories on the interface.

### Context

A story is a presentation-style document that uses charts, visualizations, text, images, and pictograms to describe data. Once you create or open a story, you can add and edit pages, sections, and elements.

### Procedure

1. Log in to the system as an administrator.
2. Navigate to user profile on the top-right corner, and access the *System Settings* page.
3. Go to ► *All Settings* ► *Analytics* ► *Design Stories* ►.

#### ⓘ Note

A popup appears once you choose *Design Stories*. If you have pop-up blockers enabled on your web browser, allow the popup to successfully log in to SAC.

4. Click *New* to create a new story. The query designer loads in the SAP Analytics Cloud interface.
5. In the right pane, under *Available Data*, select an analytical model and drag and drop it to add it to the query designer.
6. Click the table icon (📊) to select fields from the data source that you want to include in the model. If you want to create a widget showing the count, select *Counter* field as well. It's suggested to use *Counter* field instead of *Count* field.
7. Once you move an analytical model to the query designer, only data sources joined or related to that analytical model appear in the *Available Data* section.

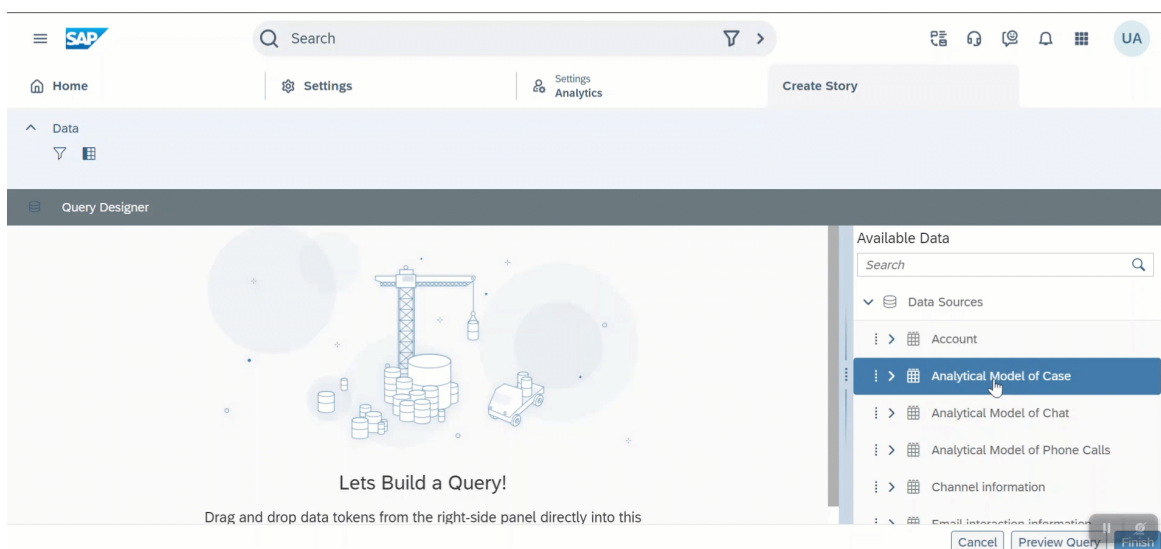
#### ⓘ Note

- Once a related object is added to the Query Designer, all objects related to the new object appear in the *Available Data* section and can be included by clicking the (+) icon on the main data source as well. You can then create complex queries involving multiple data sources and objects.
- User-defined extension fields are also available as a separate, related, extension object in the *Available Data* section. These extension fields can also be added to the Query Designer interface

in the same manner. These data sources can be joined with the standard data sources using Free Joins.

These extension fields have the following restrictions:

- Code descriptions aren't shown in SAC Stories, but only code values are displayed.
- Language translation for labels isn't supported.
- Currency code (within the Amount field), data format for duration field, and multiselect code list values in extension fields aren't supported.



8. Optional: Click [Preview Query](#) to view the preview of your story.
9. Click [Finish](#). In the popup window, enter a name for your new SAC model. The system opens the story designer where you can add charts, tables, and so on.
10. Select [Enable Optimized View](#) mode, and click the [Save](#) icon (💾). In the popup window, enter a name and description for your new story. The story is now available on the [Design Stories](#) page.

#### Note

For more information, see: [Enable Optimized Story Experience](#).

11. Navigate to the [Design Stories](#) page, select a story, click the [Assign/Unassign Roles](#) button, search for a role, select a role and choose [Save](#) to assign a story to users with business roles. The users assigned to these business roles can now view these stories in the [Analytical Stories](#) view in the left navigation.

#### Note

- [Assign/Unassign Roles](#) functionality is supported only for one story at a time, and multiple story selections at a time isn't supported.
- You can access these stories only through the system. Also, accessing the SAP Analytics Cloud tenant independently isn't possible.

12. You can edit or delete stories by selecting them and then choosing [Edit](#) and [Delete](#) buttons respectively on the [Design Stories](#) page.

## Related Information

[Creating a New Story \(All the features discussed here may not be applicable for in-built Analytics\)](#)

[View Stories \[page 855\]](#)

View analytical stories assigned to your user.

[Getting started with Embedded analytics in SAP Service Cloud Version 2](#) 

[Multilevel Data Source Support \[page 853\]](#)

Multilevel data source is supported in query designer for master data referencing.

### 47.3.1.1 Multilevel Data Source Support

Multilevel data source is supported in query designer for master data referencing.

Fields of referenced models in an analytical model or a data source are merged with the main fields and displayed as referenced models of the main data source only. The models referenced by the referenced data sources aren't displayed, thus limiting the possibilities of building advanced data models and richer stories.

With multilevel data source support, once you double-click or drag and drop an analytical model to the query canvas, the data sources referenced by it appear in the [Available Data Sources](#) section. You can then move any or all the data sources to the query canvas as well, repeating this process multiple times by just selecting any data source already present on the query canvas. In this manner, fields of multiple, joined data sources can be included in the main query model of a story. You can also specify the type of join between a model and its referenced data source.

## Free Joins

Free joins enable you to define the joins between standard data sources. Free joins enable you to extend standard data sources with additional fields.

Before creating a free join:

- Check if master data referencing exists. If it exists, do not create a free join. For example: Case and accounts data sources are available as a pre-delivered join. In such a case, do not create a free join for the same data sources.
- Ensure to map the correct UUID field when a join is created across the data sources. If any related tables must be joined with another data source, then you must create the join explicitly.

## Impact on Existing Stories

By default, there is no impact for executing stories which have already been created in the system and are using fields from referenced data sources in them. However, if an administrator edits the data source from the story interface (query builder screen of an existing story), the analytical stories are impacted.

If a query builder screen is launched, all the fields from the referenced data sources are deleted from the data model. These fields must be added again by including referenced data sources in the query builder. Once new fields are added and the data model is saved to return to the story interface, all the fields from referenced data sources are deleted in the story as well. These fields must be added again to the tiles and the story.

## Related Information

[Free Joins](#)

### 47.3.1.2 Convert Stories to Optimized Design Experience (ODE) Format

The Optimized Design Experience enables content within an SAP Analytics Cloud story to load quickly. Newly-created stories will be in ODE format, except the stories that are created by using [Save As](#) from the existing classic stories. Existing stories that are in classic mode will remain in the classic format until they are converted to ODE format.

## Context

To convert the existing stories to ODE format:

## Procedure

1. Navigate to [System Settings](#) > [All Settings](#) > [Analytics](#) > [Design Stories](#).
2. Select a story from the list, and choose [Edit](#).
3. Go to [More](#) > [Save](#) > [Convert to Optimized Design Experience](#), and then click [Convert](#).

Check for the success message and ensure that the story renders as expected after the conversion. However, if there are any issues in conversion due to ODE limitations, the story will continue to work in full classic view mode. Save the story once the conversion is complete.

#### Note

Currently, a message appears in the [Design Stories](#) UI regarding the conversion from SAC stories to ODE format. This message will continue to display even after the conversion has been completed successfully. If you have already converted an SAC story to ODE format, you can ignore this message.

## Related Information

[Optimized Story Experience](#)

[How to Enable Optimized Design Experience – Convert an Existing Story](#)

[How to Enable Optimized Design Experience – Create a New Story](#)

## 47.3.2 View Stories

View analytical stories assigned to your user.

### Prerequisites

To view the stories assigned to your user, ensure you have **sap.crm.service.analyticsBusinessUserStoriesService** business service and the corresponding *Analytical Stories* app assigned to your business role.

### View the Assigned Stories

You can view all the stories assigned to your user by clicking the hamburger icon in the left navigation, and then selecting Analytical Stories. You can also view the stories in the SAP Sales Cloud Mobile App.

#### ⓘ Note

A popup appears once you choose *Analytical Stories*. If you have pop-up blockers enabled on your web browser, allow the popup to successfully log in to SAC.

#### ⓘ Note

If you're unable to view any of the stories, verify role level assignments at a story level and also verify if that specific role is assigned to your user.

### 47.3.2.1 Story Features

Use the following features when working with analytical stories.

## 47.3.2.1.1 Intent-Based Navigation

Intent-based navigation refers to the capability to navigate from an SAC story to UI instances of business entities.

With intent-based navigation, you can:

- Easily navigate between analytics and the application UIs.
- Act on a specific entity instance after analysis is complete in an SAC Story.

### Getting Started

1. Log in to the system.
2. Navigate to [Analytical Stories](#) and select a story to run.
3. Right-click on a table or chart and choose [Jump To](#) to view the available navigation options for intent-based navigation.
4. Select a navigation option to open the entity instance in a new tab in the [Sales and Service Cloud](#) user interface.

#### Note

This feature works only when you right-click on an [ID/Display ID](#) field. The [Jump To](#) option is disabled for non-ID fields.

## 47.3.2.1.2 Extension Data Sources

Extension data sources enable you to join extension fields with existing data sources when creating stories in the Query Designer.

Previously, extension fields were stored in separate data sources, unavailable for joins. Extension data sources are accessible within the Query Designer.

Extension data sources contain custom extension fields that users create for specific services or entities. For example:

- All extension fields created for accounts are stored in an **Account** extension data source list.
- Extension fields for other entities follow a similar pattern, such as **Leads** and **Opportunities**.

### How Extension Data Sources Work

You can find extension data sources within the Query Designer, as a separate list when compared to standard data sources:

- Navigate to ► [Design Stories](#) ► [Add \(Create Story\)](#) ► [Query Designer](#) ►. The extension data sources appear in a list below data sources.



- When working in the Query Designer, choose [Define Joins](#), select the domain you are working with, then select [Extension Data Sources](#).

Any extension fields you create through the [Fields](#) interface automatically become available as an extension data source. This includes custom fields.

### 47.3.2.1.3 Metadata Translation

Metadata translations enable field names, labels, and other UI metadata elements in analytical stories to be displayed in different languages, configured in the Language Adaptation settings.

Analytical stories support metadata translations for all field-related elements that appear in the user interface. This includes field names (such as [Account](#), [Division](#), [Distribution Channel](#)), list labels, and other analytical metadata like [Name](#), [ID](#), and [Owner](#).

Configure translation settings in ► [System Settings](#) ► [Extensibility](#) ► [Language Adaptation](#) ► for your applications. These translations are then automatically applied to stories.

### 47.3.2.1.4 Currency Conversion

Compare financial data across multiple currencies in your analytics stories by converting values to a common target currency.

This feature enables you to analyze and compare financial data across different currencies by changing the [Target Currency](#) within the Query Designer as well as the Story Designer.

The system creates an input variable for the [Target Currency](#) that is available in stories where measures with currency are used. For example, when you want to report on measures such as expected sales that are recorded in different currencies, you can convert the currency unit to a common currency to accurately compare expected sales performance.

#### 📘 Note

Currency conversion is not available by default in standard stories delivered with the system. To enable currency conversion in a standard story, you must first copy the standard story, make any placeholder modification, and save it to the underlying data source.

## Prerequisites

- Currency conversion rates must be maintained in your SAP Sales and Service Cloud, Version 2 system preferences. For more information, see [Language, Region, and Currency \[page 57\]](#).
- Stories must contain measures with currency units to see the conversions.

## Using Currency Conversion

1. In your analytics story, select ► **Tools** ► **Edit Prompts** ►.
2. Select the object you want to change.
3. In the *Set Variables for [object name]* popup that appears, click to select a *Target\_Currency*.
4. Choose your desired target currency from the available list. You can also filter or search currencies by *ID*, *Description*, or both.
5. Select **Set** to confirm the target currency.

The system automatically converts all currency values to the target currency using the exchange rates maintained in your SAP Sales & Service Cloud, Version 2 system for the current date.

### 47.3.3 Standard Stories

Lists the SAP-delivered standard analytical stories available in the system.

Analytics stories use charts, visualizations, texts, and pictograms to convert data to information. These KPI metrics help to fine-tune an organization's strategy to be more efficient.

With these standard stories:

- You get an instant access to real-time information of Cases, Email Interactions, and Related objects.
- As a service manager, you can add evaluate your agents performance and add unique goals and metrics.

The following standard stories are available in the system:

- Case Insights
- Agents Performance Metrics
- Case Escalation Metrics
- SLA Compliance Metrics

#### Note

- These standard stories start with *SAP\_<StoryName>*.
- These stories are editable to help you to save private copies of these stories. Don't make modifications to these stories because they'll be overridden as soon as SAP updates these stories again.

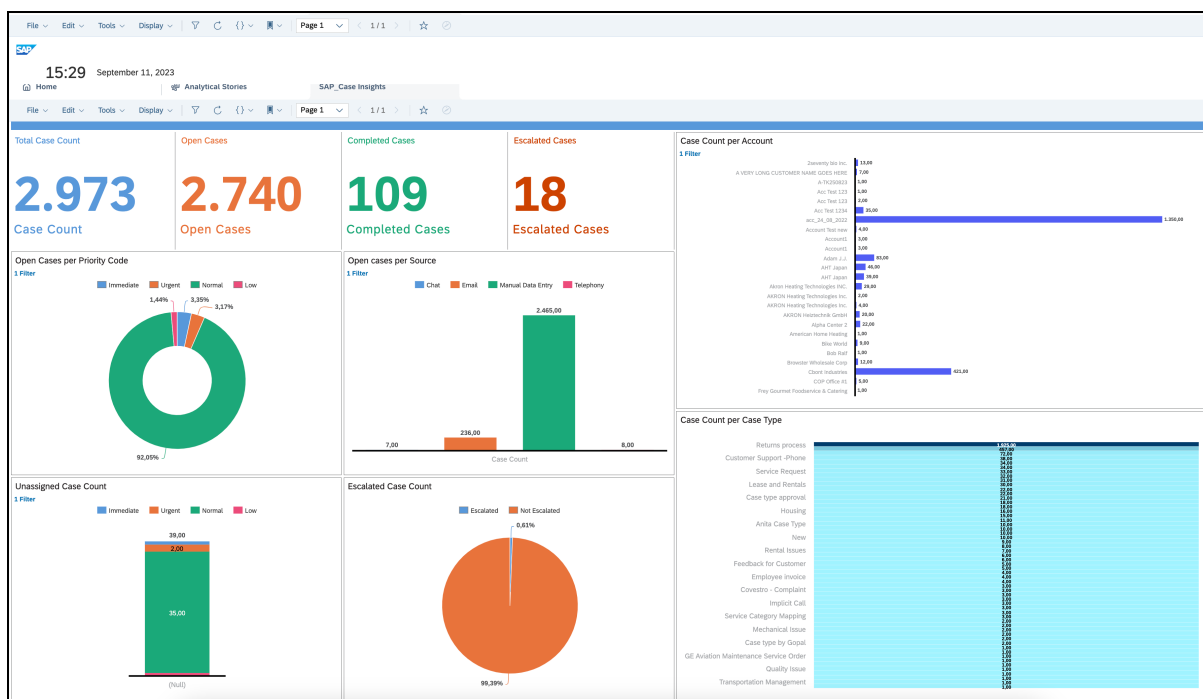
### 47.3.3.1 Case Insights

Provides high-level visibility into the overall status of cases.

#### Business Purpose

This story provides a high-level overview of your overall situation of cases. The Case Insights dashboard displays summary data on case backlog and shows how efficiently your team resolves cases and how

quickly the backlogs are growing. You can view the volume of cases that are being analyzed against sources, priority, account, and case type in your team. You can also get a quick view of the unassigned and escalated cases.



## Note

Screenshots in this document are examples and available in English only. Your data, your authorizations, and your system version might produce a different look.

Case Insights story helps you:

- to prioritize and investigate cases and take appropriate action
- to identify potential staffing gaps
- focus on various sources or channels that are likely to grow in demand

From the analytical story, you can fetch an overview of:

- total number of cases
- total number of open cases
- total number of completed
- total number of escalated cases

The analytical story also helps you get answers to questions such as:

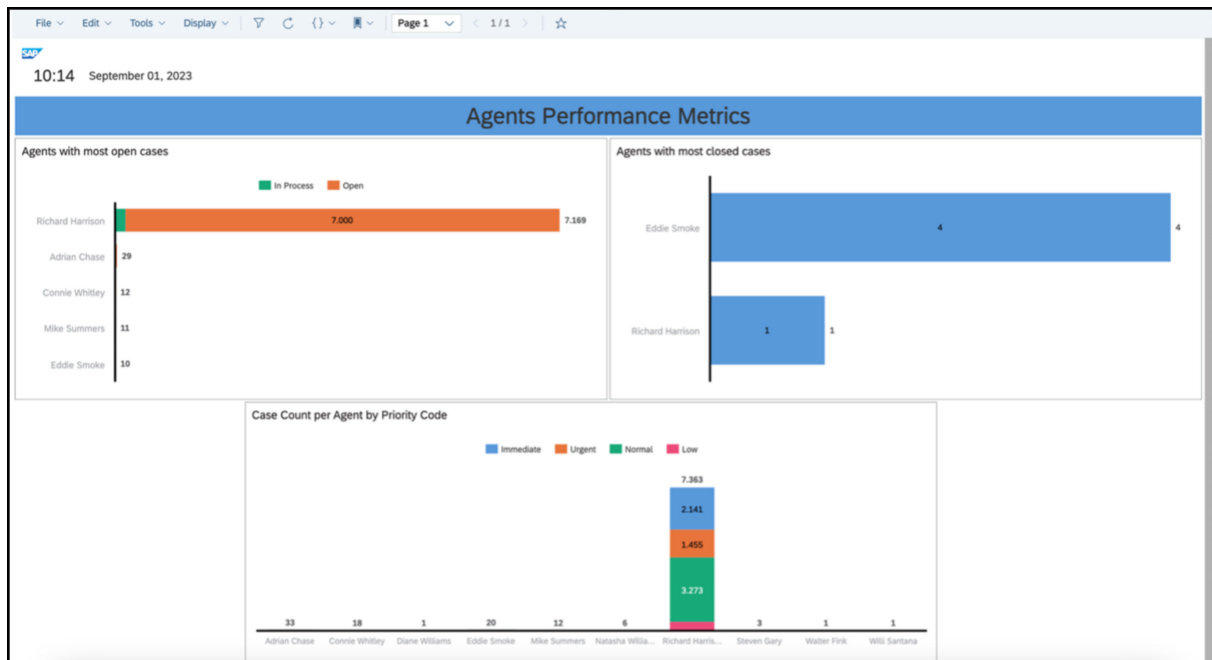
- What is the case count for an account?
- How many open cases per priority code?
- How many open cases per source?
- What is the unassigned case count?
- What is the escalated case count?

## 47.3.3.2 Agents Performance Metrics

Provides a dashboard to track your service agents' performance.

### Business Purpose

This story provides a dashboard to track your service agents' performance, which demonstrates an agent's and your team's performance in relation to case handling. The dashboard displays information focusing on agents workload distribution and productivity by comparing the volume of cases, which agents are handling against different stages and priority of cases.



#### Note

Screenshots in this document are examples and available in English only. Your data, your authorizations, and your system version might produce a different look.

Case Insights story helps you:

- to equally distribute the workload and gain visibility on highest and least productive agents
- to improve the performance of the agents
- to ensure better success rate of case completion

From the analytical story, you can fetch an overview of:

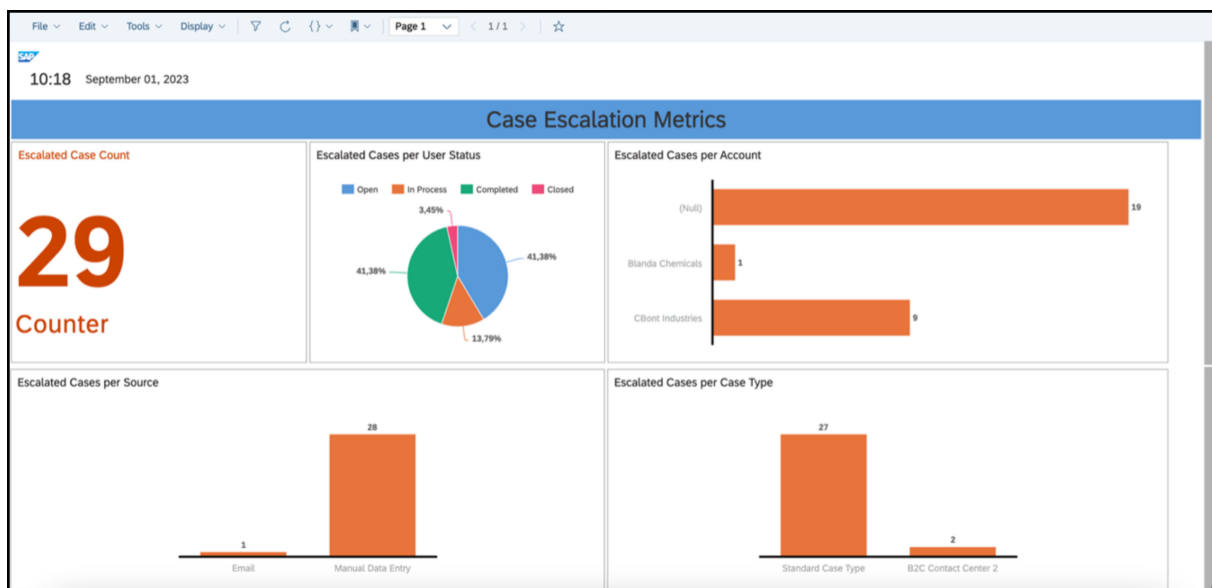
- the agents with most open cases
- the agents with most closed cases
- case count per agent with priority code

### 47.3.3.3 Case Escalation Metrics

Provides a drilldown into specific cases or accounts and raise awareness of important customer issues.

#### Business Purpose

This story displays the current open case workload to help you prioritize, investigate problematic cases, and view escalations.



#### Note

Screenshots in this document are examples and available in English only. Your data, your authorizations, and your system version might produce a different look.

Case Escalation Metrics story provides a focused attention towards escalated accounts, case type, or source through which cases are raised. The metrics from the dashboard help you facilitate communication and track progress towards resolution for escalating cases or accounts.

From the analytical story, you can fetch an overview of:

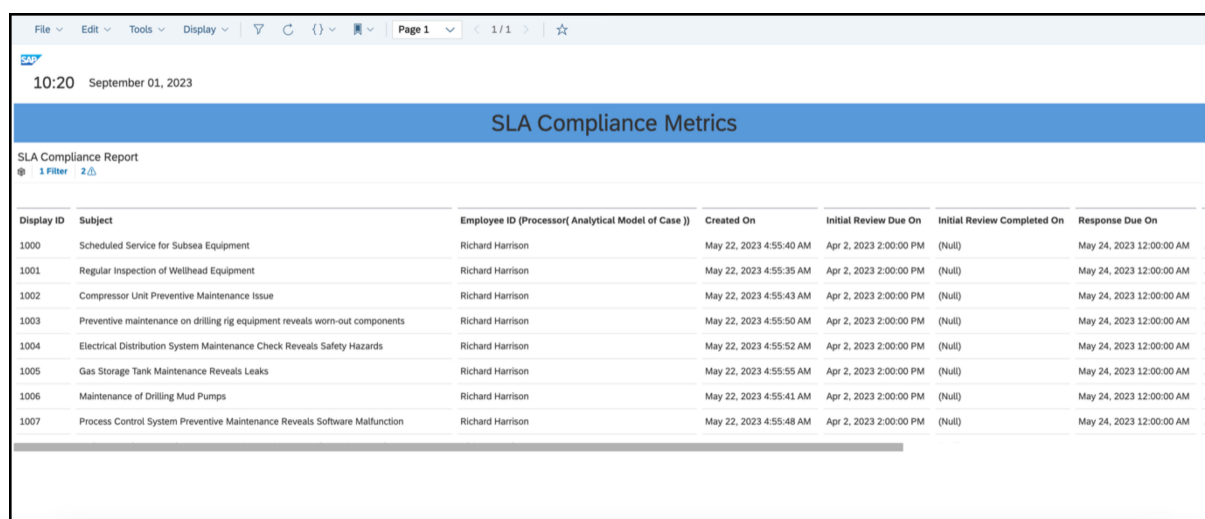
- the total number of escalated cases
- the status of escalated cases per user
- escalated cases per account
- escalated cases per source
- escalated cases per case type

## 47.3.3.4 SLA Compliance Metrics

Provides detailed insights to the cases that have remained open, past service level agreement (SLA) timeframe.

### Business Purpose

This story provides a dashboard that helps to find out the details of cases that have remained open, past the time required by the SLA. The story provides detailed insights to the case updates that triggered changes during the lifecycle of a case SLA. The main attributes such as *Initial Review Due On*, *Initial Response Due On*, *Initial Resolution Due On*, and *Completion Due On* determines the SLA compliance for a particular case.



| Display ID | Subject                                                                      | Employee ID (Processor( Analytical Model of Case )) | Created On              | Initial Review Due On  | Initial Review Completed On | Response Due On          |
|------------|------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------|------------------------|-----------------------------|--------------------------|
| 1000       | Scheduled Service for Subsea Equipment                                       | Richard Harrison                                    | May 22, 2023 4:55:40 AM | Apr 2, 2023 2:00:00 PM | (Null)                      | May 24, 2023 12:00:00 AM |
| 1001       | Regular Inspection of Wellhead Equipment                                     | Richard Harrison                                    | May 22, 2023 4:55:35 AM | Apr 2, 2023 2:00:00 PM | (Null)                      | May 24, 2023 12:00:00 AM |
| 1002       | Compressor Unit Preventive Maintenance Issue                                 | Richard Harrison                                    | May 22, 2023 4:55:43 AM | Apr 2, 2023 2:00:00 PM | (Null)                      | May 24, 2023 12:00:00 AM |
| 1003       | Preventive maintenance on drilling rig equipment reveals worn-out components | Richard Harrison                                    | May 22, 2023 4:55:50 AM | Apr 2, 2023 2:00:00 PM | (Null)                      | May 24, 2023 12:00:00 AM |
| 1004       | Electrical Distribution System Maintenance Check Reveals Safety Hazards      | Richard Harrison                                    | May 22, 2023 4:55:52 AM | Apr 2, 2023 2:00:00 PM | (Null)                      | May 24, 2023 12:00:00 AM |
| 1005       | Gas Storage Tank Maintenance Reveals Leaks                                   | Richard Harrison                                    | May 22, 2023 4:55:55 AM | Apr 2, 2023 2:00:00 PM | (Null)                      | May 24, 2023 12:00:00 AM |
| 1006       | Maintenance of Drilling Mud Pumps                                            | Richard Harrison                                    | May 22, 2023 4:55:41 AM | Apr 2, 2023 2:00:00 PM | (Null)                      | May 24, 2023 12:00:00 AM |
| 1007       | Process Control System Preventive Maintenance Reveals Software Malfunction   | Richard Harrison                                    | May 22, 2023 4:55:48 AM | Apr 2, 2023 2:00:00 PM | (Null)                      | May 24, 2023 12:00:00 AM |

#### Note

Screenshots in this document are examples and available in English only. Your data, your authorizations, and your system version might produce a different look.

This story helps decide how long an employee or customer must wait for their issue to be resolved.

## 47.4 Embedded SAC Widgets

Widgets are individual SAP Analytics Cloud (SAC) visualization components embedded into SAP Sales & Service Cloud Version 2 interfaces to provide focused sales and service analytics at a glance.

Embedded SAC widgets are individual visualization components from SAP Analytics Cloud that are integrated into the SAP Sales & Service Cloud Version 2 Homepage interface. Each widget functions as a single analytics tile that brings relevant sales and service data insights directly into your daily workflow. These widgets leverage all the capabilities of Query Designer to display focused analytics about customers, opportunities, cases, and

other business objects within your Sales & Service Cloud applications, and can also be utilized in Mashups to create integrated analytical experiences.

#### Note

Embedded SAC widgets are currently available as a restricted release. If you are interested in enabling this feature, please create a case on [CEC-CRM-ANA](#).

## Limitations

- A maximum of 5 embedded SAC widgets can be displayed on the Homepage interface.

#### [Design Widget Models \[page 863\]](#)

Designing widget models allows you to create reusable data models based on available V2 data sources. These models are created using the Query Designer in SAP Analytics Cloud (SAC) and can be used as data sources when designing widgets.

#### [Design Widgets \[page 864\]](#)

Designing widgets allows you to create a single visualization based on a widget model. Each widget is built on a model created within SAP Analytics Cloud (SAC) and supports various chart types, filters, and display options.

#### [Embed and View Widgets \[page 865\]](#)

Embed SAC widgets into SAP Sales & Service Cloud Version 2 interfaces and utilize them within Mashups to create integrated analytical experiences.

## 47.4.1 Design Widget Models

Designing widget models allows you to create reusable data models based on available V2 data sources. These models are created using the Query Designer in SAP Analytics Cloud (SAC) and can be used as data sources when designing widgets.

The [Design Widget Models](#) user interface provides a similar look and feel to the Query Designer used for creating analytics stories. It also allows you to directly create a widget from an existing model.

### Prerequisites

Ensure that you have **sap.crm.service.analyticsUserStoriesService** business service and the corresponding [Design Widget Models](#) app assigned to your business role to enable you to design widget models on the interface.

### Procedure

1. Navigate to ► [System Settings](#) ► [All Settings](#) ►
2. In the navigation panel, locate [Analytics](#) and select [Design Widget Models](#).  
The list of existing widget models (if any) is displayed.
3. Choose [New](#).  
The [Create Model](#) screen opens using the Query Designer interface.

4. Select a data source from the side navigation menu.
  - Choose a data source from the dropdown list.
  - You can also select custom data sources, if available.
5. Define the data model.
  - Drag the data source into the Query Designer workspace.
  - Add the required dimensions and measures.
6. Choose [Save](#).
7. Enter the model details.
  - Provide a [Name](#) for the model (required).
  - Optionally, enter a description for the model.
8. Confirm by choosing [Save](#).
  - The model is saved and appears in the list when navigating back to [Design Widget Models](#).
9. (Optional) Create a widget from the model by selecting the model and choosing [New Widget](#).

For more information about creating widgets using your widget models, see [Design Widgets \[page 864\]](#).

## 47.4.2 Design Widgets

Designing widgets allows you to create a single visualization based on a widget model. Each widget is built on a model created within SAP Analytics Cloud (SAC) and supports various chart types, filters, and display options.

The widget design experience is similar to creating an analytics story, but it is limited to a single visualization and uses a simplified layout when selecting dimensions and measures.

### Prerequisites

Ensure that you have **sap.crm.service.analyticsUserStoriesService** business service and the corresponding [Design Widgets](#) app assigned to your business role to enable you to design widgets on the interface.

### Procedure

1. Navigate to ► [System Settings](#) ► [All Settings](#) ►.
2. In the navigation panel, locate [Analytics](#) and select [Design Widget Models](#).
3. Select a widget model from the list and click on the checkbox next to the model name.
4. Choose [New Widget](#).  
The widget creation screen opens with the selected model.
5. Select a display type.  
Choose a chart type such as bar, column, stacked bar, stacked column, and more.
6. Configure the widget data.  
From [Available Objects](#), select dimensions and measures for your widget, then add them to the builder area to define the visualization.
7. (Optional) Apply filters.  
Select the filter button to refine the displayed data.
8. Choose [Save](#).
9. Enter the widget details.
  - Provide a [Name](#) (required).



- Optionally, enter a [Description](#).
10. Confirm by choosing [Save](#).
  11. View the saved widget by navigating back to ► [Analytics](#) ► [Design Widgets](#) ► to see a list of created widgets.

### Next Steps

After creating a widget, you can integrate it into your application using mashups. For more information, see [Mashups \[page 144\]](#).

## 47.4.3 Embed and View Widgets

Embed SAC widgets into SAP Sales & Service Cloud Version 2 interfaces and utilize them within Mashups to create integrated analytical experiences.

Once you have designed your widget models and widgets, you can embed them into the SAP Sales & Service Cloud home page interface. Embedded widgets provide focused analytics directly within your business workflows, displaying relevant sales and service data insights at a glance. Additionally, these widgets can be incorporated into Mashups.

### Mashup Integration

Embedded SAC widgets can be incorporated into Mashups to integrate analytics with external web services and applications. For detailed information on creating and managing Mashups with analytics components, see [Create Analytics Mashups \[page 154\]](#).

### Related Information

[Mashups \[page 144\]](#)

Learn how to configure, use, and access mashups.

## 47.5 Custom Service Entities in Analytics

Custom service entities can be used as data sources in SAP Analytics Cloud (SAC) once they are marked as analytics relevant. After enabling this option, the system automatically creates corresponding data sources that are available in the Query Designer for analytics stories and widget models.

#### 📘 Note

Custom service entities in analytics is currently available as a restricted release. If you are interested in enabling this feature, please create a case on [CEC-CRM-ANA](#).

These custom data sources can be used in the same way as standard data sources, including combining them with other data sources.

## Enabling Custom Service Entities for Analytics

To use a custom service entity in SAC, you must first mark it as *Analytics Relevant*. For more information, see [Supported Features \[page 212\]](#).

*Analytics Relevant* data sources appear under *Custom Data Sources* in the Query Designer when creating analytics stories or designing widget models.

Custom data sources can be combined with standard data sources.

## Limitations

- There is a total data upload or replication limit of **3 million records** across all *Analytics Relevant* custom service entities.
- There is no separate limit for individual custom services beyond this overall limit.
- If the limit is reached, you must initiate a delete event to purge older data before adding new data.

For more information about creating and managing custom service entities, see [Create an Entity-Based Custom Service \[page 167\]](#).

## 47.6 Usage Statistics

Your solution collects API calls, aggregates data by client and browser type, and presents it in the **Aggregated API Statistics** data source. Use this data source to monitor API usage, identify trends, and ensure fair use of resources to prevent overload and abuse.

The data size, volume, and dashboards vary, depending on your specific scenarios. This specific example shows you how to use embedded SAP Analytics Cloud capabilities to build a simple dashboard to monitor the 429 responses for services and the current API call volume.

The HTTP 429 response code indicates that too many requests have been made to a server within a specific period. For SAP Sales Cloud and SAP Service Cloud Version 2, this period is 24 hours. This rate limiting is an industry standard for cloud products. It ensures fair use of resources for all customers and helps prevent overload, abuse, or malicious activities such as distributed denial-of-service (DDoS) attacks. For SAP Sales Cloud and SAP Service Cloud Version 2, your solution triggers 429 responses if all **external** API calls for your tenant exceed the daily API limit set for that tenant.

- The daily API limit for a test tenant is 30,000.
- The daily API limit for a production tenant is 150,000 plus 1,500 times the total number of user licenses.

For example: a tenant with 400 licenses has a limit of 150,000 plus 1,500 times 400, which equals 750,000.

You can find this information in the supplemental documentation at the SAP Trust Center. Search for **Version 2** and select the document titled: **SAP Sales Cloud and SAP Service Cloud Version 2 Supplement**.

## Related Information

[SAP Trust Center](#) 

### 47.6.1 Dynatrace Integration

Real User Monitoring (RUM) in Dynatrace™ is a passive monitoring process that captures and analyzes the actual, real-time interactions and experiences of users as they engage with the application.

## Context

### → Remember

Real User Monitoring by Dynatrace is a third-party product and SAP doesn't provide technical support for this product. Contact Dynatrace directly for any support questions you have regarding their products.

## Procedure

1. Log into the system as a user.
2. Navigate to **User Menu** > **System Settings** > **All Settings** > **Usage and Statistics** > **External RUM Integration**.
3. Switch on the **Use Dynatrace** option.
4. Enter the Dynatrace URL for integration.
5. Choose **Save**.

### ⓘ Note

This feature has restricted availability. To request for access to this feature, you must create a case with the component CEC-CRM-SHL.

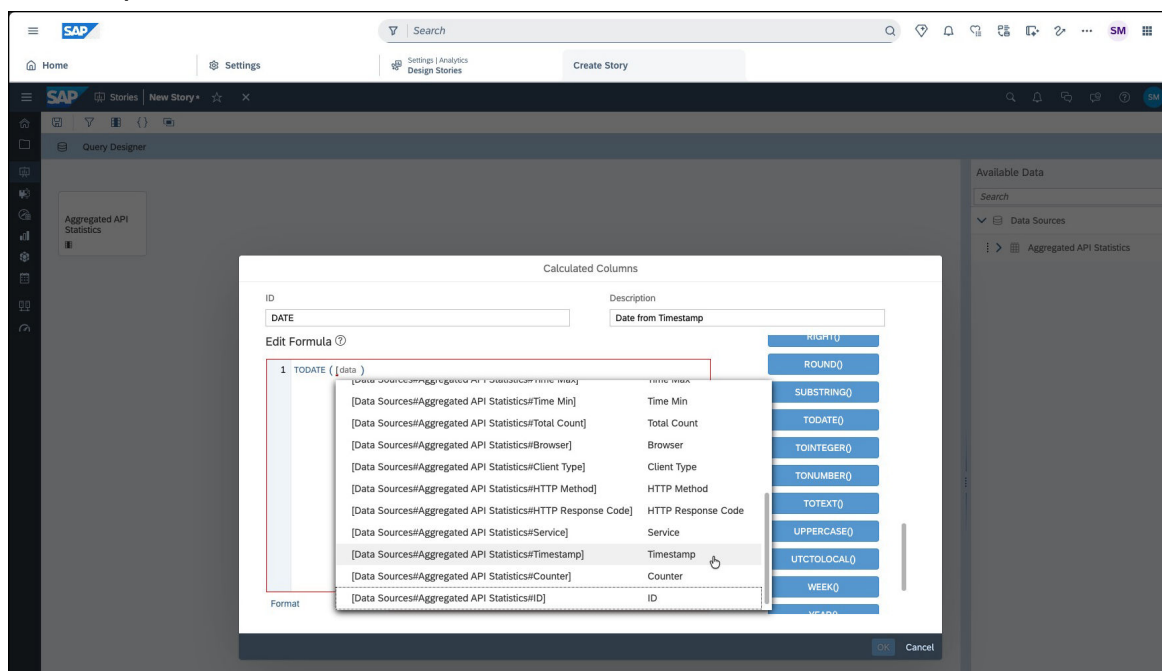
## 47.6.2 Create Analytics Story to Monitor Over Usage Errors

Create an analytics story to monitor over usage errors by tracking and analyzing API statistics data sources.

### Procedure

1. Log in as an administrator, open your profile menu and select ► [System Settings](#) ► [Analytics](#) ► [Design Stories](#) ►.
2. Create a new Story by selecting [New](#) and choose [Aggregated API Statistics](#) data sources.
3. Select all the fields except [Counter](#) and [ID](#).
  - [Counter](#) signifies the number of rows of data entries.
  - [ID](#) is a unique identifier for each row.
4. Extract just the **Date** from the **TimeStamp**.

In the Query Designer, select the icon to [Create Calculated Column](#) and use the **TODATE** function to derive the date from the time stamp as a **column** and ensure it's selected. For example, the column: **Date from Timestamp**



5. Select [Finish](#) in the query designer and save the story with a name of your choice.
6. Create a cross-table to hold the usage data. Choose ► [Edit More](#) ► [Widgets](#) ► [Table](#) ► and choose the table structure: [Cross-Table](#).  
Set up the cross-table with these rows, columns, and filters:

#### Cross-Table Setup

| Rows                 | Columns                | Filters                              |
|----------------------|------------------------|--------------------------------------|
| Browser              | Measures - Total Count | Client Type – select all             |
| Service              |                        | HTTP Method – select all             |
| Date from Time Stamp |                        | HTTP Response Code – select all      |
|                      |                        | Service – select all                 |
|                      |                        | Date from Timestamp – select monthly |

#### Note

High data volume can cause SAC errors, so start with a monthly date range.

7. Save the story.

## 47.6.2.1 Filter 429 Responses

Filter error responses to identify and analyze all services that received 429 errors and the dates when the error occurred.

### Context

To filter all 429 calls across the different services, set the following parameters on the filters defined in the previous procedure:

### Procedure

1. Filter *Service* for services which contain the word **service** the name. Search for **service** and select all matching results.
2. Filter *HTTP Response Code* for **429**.
3. Filter *Client Type* for **unknown**.  
In this case, **unknown** represents all external calls to your tenant.
4. Filter *Date from Timestamp* for a value of your choice.

## Results

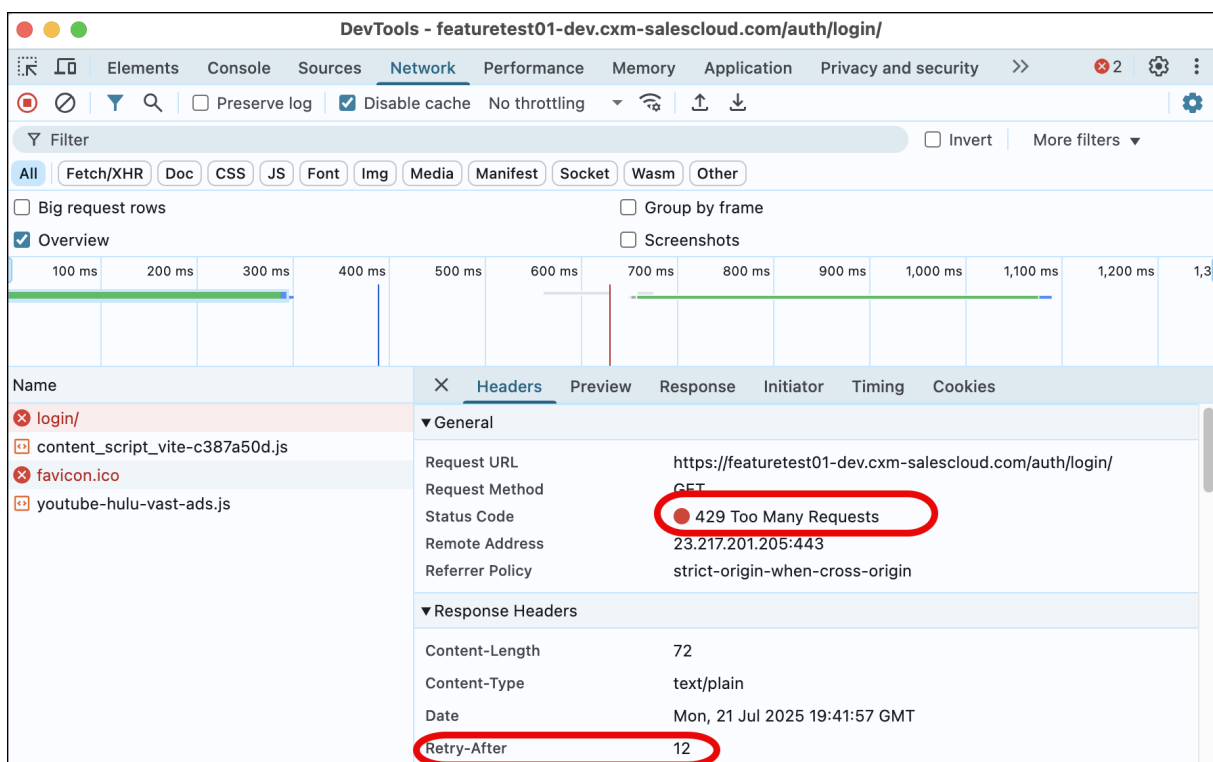
The preceding filter values return all services that received a 429 error response upon exceeding the rate limits and the dates when the error response occurred.

### 47.6.2.2 The Retry-After Tag in Header

The **RETRY-AFTER** header in a 429 response helps you improve client behavior. This header tells you how many seconds to wait before retrying your request.

This retry delay is useful if your client can automatically pause and retry requests. It helps reduce traffic spikes.

You can find the **RETRY-AFTER** header in Dev Tools, Curl responses, and ambassador logs. It appears after the **SUI** header in requests that are rate limited and return a 429 response code.



#### Note

You can encounter 429 rate limit errors for standard API calls in rare scenarios. For example, if you configure an external mashup within an application screen such as Case, the mashup can trigger UI events. The standard UI responds to these events and then calls the Case API. Because the Case UI calls the API, it's logged as a standard API call, even though the source is an external mashup. Mashups containing unoptimized code or malicious content that generates many UI events, can result in a large number of standard API calls and overload the infrastructure. In these cases, the 429 error rate response is triggered to protect your tenant and the infrastructure.

## 47.6.3 Relevant Fields in the Aggregated API Statistics Data Source

Reference table of fields in the Aggregated API Statistics data source.

Descriptions of the fields from **Aggregated API Statistics**.

| Field Name       | Short Description                                                                                                                            |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| id               | Unique identifier for this aggregated record                                                                                                 |
| browser          | Browser family extracted from the User-Agent (for example, Chrome, Safari, Edge).                                                            |
| httpMethod       | HTTP method of the request (for example, GET, POST, PUT, DELETE).                                                                            |
| httpResponseCode | HTTP response status code returned by the API (for example, 200, 404, 500).                                                                  |
| service          | Name of the back-end service that processed the request.                                                                                     |
| clientType       | Client type calling the API; known standard clients are labeled. Non-standard clients appear as "unknown" and can be subject to rate limits. |
| timestamp        | Timestamp for the aggregation window (UTC).                                                                                                  |
| totalCount       | Total number of API calls in the aggregation window.                                                                                         |
| inboundBytesAvg  | Average request payload size (bytes) across calls in the window.                                                                             |
| inboundBytesMax  | Largest request payload size (bytes) in the window.                                                                                          |
| inboundBytesMin  | Smallest request payload size (bytes) in the window.                                                                                         |
| inboundBytesSum  | Cumulative request payload size (bytes) across calls in the window.                                                                          |
| outboundBytesAvg | Average response payload size (bytes) across calls in the window.                                                                            |
| outboundBytesMax | Largest response payload size (bytes) in the window.                                                                                         |
| outboundBytesMin | Smallest response payload size (bytes) in the window.                                                                                        |
| outboundBytesSum | Cumulative response payload size (bytes) across calls in the window.                                                                         |
| timeAvg          | Average server-side response time (ms) across calls in the window.                                                                           |
| timeMax          | Longest server-side response time (ms) in the window.                                                                                        |
| timeMin          | Shortest server-side response time (ms) in the window.                                                                                       |

## 47.7 Integration with External Systems

This section provides an overview of ways administrators can integrate SAP Sales & Service Cloud systems to external systems such as SAP Analytics Cloud, Enterprise edition.

### 47.7.1 Integration with SAP Analytics Cloud, Enterprise Edition

Integrate SAP Sales & Service Cloud with SAP Analytics Cloud, Enterprise edition for advanced analytics capabilities and extended reporting.

#### Note

Integration with SAP Analytics Cloud, Enterprise edition is currently available as a restricted release. If you are interested in enabling this feature, please create an incident on [CEC-CRM-ANA](#).

The integration between SAP Sales & Service Cloud and SAP Analytics Cloud, Enterprise edition uses a live connection architecture that provides real-time access to your business data without data replication. Data is fetched directly from SAP Sales & Service Cloud during story execution, resulting in the following benefits:

- **Data Security:** Data always remains in your Sales & Service Cloud system, and is discarded once the story is closed.
- **Complete Data Access:** SAP Analytics Cloud, Enterprise edition customers can access all data sources available in their Sales & Service Cloud systems.
- **Advanced Modeling:** Use SAP Sales & Service Cloud data for further data modeling and story creation in SAP Analytics Cloud, Enterprise edition.

For detailed setup and configuration information, see the SAP Analytics Cloud documentation:

- [Connecting to SAP Sales and Service Cloud Version 2](#)
- [Create a Model from an SAP Cloud Application Connection for SAP Sales and Service Cloud Version 2](#)

## 47.8 SAP Analytics Cloud FAQ

This section answers some of the commonly asked questions about SAP Analytics Cloud.

1. **Issue:** The user account not active in the popup when accessing Design Stories or Analytical Stories.  
**Solution:**
  1. Verify if the subject name identifier set in IdP and the one set in the system are the same.
  2. If your subject name identifier is User Name, verify if the user's User Name in the system and the Login Name in IdP are the same (including the case).
  3. If your subject name identifier is Email, verify if the user's email in the system and the email maintained in IdP are the same (including the case).



4. If the Email of the user is already used by some other user, then change the user's email in the existing user. Ensure that a unique email ID is updated for each of your users.
2. **Issue:** The user account is inactive for the new user created after IdP upload.  
**Solution:** This scenario can occur if the email of the existing user was previously used or changed in any other user. For example, If a user1 is created with email test101@test.com, later is changed to test102@test.com, and now user2 is created with test101@test.com then for user2 the status displays as user inactive. Update Assertion Attributes for the SAC tenant in the IdP system and update the email ID of user1 in IdP to test102@test.com and now the user1 must log in to the system and access any of the existing stories. After a successful logon by the user1, create a user2 with test101@test.com and activate user2.
3. **Issue:** The user account is inactive at the time of creating or viewing SAC stories.  
**Solution:** If your identity authentication is:

- Microsoft Active Directory Federation Services (AD FS): Complete the steps listed in the [KBA](#) (from Step 2 onwards).

#### Note

All steps performed on Azure AD are out scope of SAP Support and any reference links provided are for informative purposes only. Check with your Microsoft AD administrators and confirm if the User ID or E-mail that would be authenticated with SAC is same as User Name and E-mail as mentioned in Manage Users for SAC screen.

- Microsoft Azure Directory: Complete the steps listed in the [KBA](#) (from Step 2 onwards).

#### Note

All steps performed on Azure AD are out scope of SAP Support and any reference links provided are for informative purposes only. Check with your Microsoft AD administrators and confirm if the User ID or E-mail that would be authenticated with SAC is same as User Name and E-mail as mentioned in Manage Users for SAC screen.

- Any other IdP service: Ensure that correct subject name identifier for SAC application is selected. Check with your SSO administrator that the User Name or E-mail for a specific user is matching with the user provided on the [Manage Users for SAC](#) screen.
4. **Issue:** I don't want to share my business users' SSO credentials when I raise incidents for Embedded SAC.  
**Solution:** Analyzing issues in Embedded SAC is difficult as the integration involves login via a SSO user. SAP can reproduce issues in the SAP Service Cloud Version 2 by generating support users to access customer tenants. However, this approach doesn't work for Embedded SAC since a generated support user isn't present in IdP systems, used by the customers. Sharing credentials of business users over channels such as incidents is risky.  
To strike a balance between the two, we recommend the following approach, especially for your test or QA tenants:
    - You must create a dummy user in both SAP Service Cloud Version 2 and IdP systems.
    - This user must have no services assigned to it. This means that anyone logging in with this user will not be able to see any data.
    - If you raise an incident against Embedded SAC, this user should be assigned the same services as the business user facing the issue.
    - You must then share the credentials of this user securely through the incident in the Secure Credentials area.
    - Once the incident is closed, you must remove all services assigned to the user so that no data is accessible.

### Note

This recommendation is to process any incidents related to Embedded SAC faster, but not mandatory for customers to implement. In case if you've enabled two-factor authentication in addition to SSO, this approach doesn't work, and this recommendation must be ignored.

5. *Issue:* Design Stories UI and Analytics Stories UI doesn't load on Edge browser.

*Solution:* To fix the error, complete the following steps:

1. Open the Edge browser settings, navigate to [Privacy, search, and services](#). By default recommended option for Tracking prevention is [Balanced](#).
2. Click [Blocked Trackers](#) to verify if SAP Service Cloud Version 2 tenant or IdP tenant URL is shown in blocked trackers. If yes, remove them.
3. Navigate to [Exceptions](#), and choose [Add a site](#) button to add the SAP Service Cloud Version 2 and URL in [\[\\*.\]cloud.sap](#) and add the IdP URL, if not added already.
4. Close all the tabs, and open a new tab to access the story.

# 48 Microsoft Teams Integration

An embedded in-app integration of the solution with Microsoft Teams.

With this integration, you can share workspaces with Microsoft Teams. The real-time and automated data updates ensure transparency, consistency, and collaboration of the cases for the service teams.

## → Remember

The solution is best displayed at a screen resolution of 1920 x 1080 and 100% scale.

## 48.1 Configure Microsoft Teams Integration

As an administrator, configure Microsoft Teams integration.

To enable the Microsoft Teams integration, administrators must complete the following configuration steps:

- Add the business service `sap.crm.service.msteamsService` to activate Microsoft Teams features.
- Ensure that you have a Microsoft Office 365 Exchange Online license.
- In the [Cross-Site Request Forgery Settings](#), the *Strict* mode is enabled by default for third-party integrations. Change this setting to *None*. For details, see [Cross Site Request Forgery Settings](#).

Administrators must add the domain `teams.cloud.microsoft` to the [Frame Source](#) under the [Content Security Policy](#) section. This configuration is required for Microsoft Teams to host the application tabs within our interface.

Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [System Preferences](#) ► [Content Security Policy](#) ►. Under [Frame Source](#), add `teams.cloud.microsoft`.

### 48.1.1 Add SAP Sales and Service Cloud App in Teams

You can add SAP Sales and Service Cloud app in the Microsoft Teams app.

## Procedure

1. Log in to Microsoft Teams admin center.
2. From the home page, expand the navigation menu and go to ► [Teams apps](#) ► [Manage apps](#) ►.
3. Search and select the [SAP Sales and Service Cloud](#) app from the list.
4. Choose [Allow](#). A new window opens.

5. Choose [Allow](#) again.

## 48.1.2 Enable and Consent to Teams Integrated Features

You can enable Microsoft Teams integrated features by providing consent.

### Procedure

1. Navigate to the [User Menu](#) and choose ► [System Settings](#) ► [All Settings](#) ▾.
2. Under [Communication & Information Exchange](#), select [Microsoft Teams Integration](#).
3. Enable the following features based on your requirements:
  - [Share Workspace and Collaboration Room](#)  
You can enable [Collaboration Room](#) and [Share Workspace](#) separately.  
If you enable [Create Teams](#), the system allows you to create a new team while using the [Share Workspace](#) feature.  
If you enable [Post Sync](#), all the posts in the associated teams channel from the [Posts](#) tab are synced to SAP Sales Cloud Version 2.

#### 📘 Note

The [Post Sync](#) feature is applicable only for [Collaboration Rooms](#).

There are two permission types that you can choose from:

- **Application Permission:** Your administrator must consent on behalf of all the users.
- **Delegated Permission:** Your administrator must consent on behalf of your organization. To know more, see [Application Permissions vs. Delegated Permissions \[page 877\]](#).  
If you're using the features such as Share Workspace, and Collaboration Rooms with delegated permission, the system shows a window where you must allow the permissions and login to your Microsoft Teams account. The validity of this permission is 30 days. Hence, you must allow the permissions and login to Microsoft Teams again when the permission expires.  
In the case of delegation permission type, your administrator has to select the check box [Consent on behalf of your organization](#) available at the end of all the permissions listed.

#### 📘 Note

The application and user delegation consent provided by the administrator must be renewed once in three years.

- [Teams Meeting](#): Only application permission is supported.
  - [Outbound Calls](#): No consent is required.
4. Choose [Provide Consent](#) for the feature that you want to use.

#### 📘 Note

- You can map multiple SAP Sales and Service Cloud V2 tenants to one Azure tenant.

- The domain of the logged in user (xxx@abc.com) and admin user (yyy@abc.com) providing consent must be the same.

5. Sign in with your Microsoft 365 username and password.

A new window opens for consent.

6. Review the permissions and click [Accept](#).

As an admin, you must grant consent to any feature before using it.

#### Note

There is no consent required for [Outbound Calls](#).

You can see the details of the user who provided consent, and the time of consent on the [Microsoft Teams Integration](#) page.

## 48.1.3 Application Permissions vs. Delegated Permissions

The permission type defines how an application accesses resources—either through administrator consent (application permission) or user consent (delegated permission).

Understanding the distinction between **Application Permission** and **Delegated Permission** is essential when determining how permissions should be managed. These two models define how the application interacts with Microsoft Graph and other services.

The following comparison highlights the key differences between Application Permission and Delegated Permission models.

Application Permission vs. Delegated Permission

| Key Considerations | Application Permission                                                                                                                                                  | Delegated Permission                                                                                                                                                                                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Consent            | Admin grants access on behalf of all users. Consent is given once, regardless of how many users access the application. If not used, the consent expires after 30 days. | Each user must individually give consent. For large user bases (for example, 1000 users), all users must consent. The consent flow should be integrated with first-time feature use—typically during appointment creation or modification.                                           |
| Token Flow         | The application does not require a signed-in user. It can generate tokens using the client ID and secret via a back-end API.                                            | Users must sign in. Tokens need to be securely stored, and a background process must run using the user's token. To avoid repeated logins, a refresh token must be stored and used to renew the access token. This may require a background process or prompt users to log in again. |

| Key Considerations                                                                       | Application Permission                                                                                                                                                                                                                                                                                                                                                                  | Delegated Permission                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Security by Azure                                                                        | Once consented, the application can create appointments in any user's calendar within the assigned group. Azure admins can control access, see <a href="#">Limiting app permissions to specific Exchange Online mailboxes</a>  . Admin can also have different sub tenants for the application itself. | Users grant access only to their own calendars. Any Azure admin restrictions also apply here.                                                                                                                                                                            |
| User Experience                                                                          | Seamless for users. Appointments created in Sales and Service Cloud automatically appear in Teams with no further action needed.                                                                                                                                                                                                                                                        | Users must log into the Teams application during actions like sharing a workspace or creating a meeting. If tokens expire, background processes fail, and meetings won't be created. Bulk meeting creation only works if all users have logged in and have valid tokens. |
| Can someone other than the Sales and Service Cloud user create meetings via application? | No. The API only grants tokens to users with a valid SUT, meaning only valid Sales and Service Cloud application users can access it.                                                                                                                                                                                                                                                   | No. A valid token from the user is required.                                                                                                                                                                                                                             |
| Are client ID and secret exposed to clients?                                             | No. The hosted solution keeps the client ID and secret hidden from consuming tenants.                                                                                                                                                                                                                                                                                                   | Token authentication and validation are managed by the user and their IT department. They control and own the credentials.                                                                                                                                               |

For supported permissions, see [Permissions \[page 880\]](#).

## 48.1.4 Configure Microsoft Teams Application Access Policy

Configure an application access policy in Microsoft Teams to allow an Azure AD application to securely access Teams meeting artifacts using Microsoft Graph APIs.

### Prerequisites

- You have administrator access (Global Admin or Teams Admin).
- Windows PowerShell version 5.1 or higher is installed.
- You have an active internet connection.
- The Azure AD application (Client ID) is available.
- Ensure required Microsoft Graph API permissions are granted to the application.

## Procedure

1. Open *Windows PowerShell* as an administrator: Choose *Start*, search for *Windows PowerShell*, and right-click and choose *Run as administrator*.
2. Verify the PowerShell version by running the following command:  
`$PSVersionTable`
3. Install the required modules by executing the following commands:  
`Install-Module -Name PowerShellGet -Force -AllowClobber`  
`Install-Module -Name MicrosoftTeams -Force -AllowClobber`
4. Verify that the Microsoft Teams module is installed:  
`Get-Module -ListAvailable -Name MicrosoftTeams`
5. Import the Microsoft Teams module:  
`Import-Module MicrosoftTeams`
6. Connect to Microsoft Teams using administrator credentials:  
`$userCredential = Get-Credential`  
`Connect-MicrosoftTeams -Credential $userCredential`  
Enter your admin username and password when prompted.
7. Create the application access policy by running the following command:  
`New-CsApplicationAccessPolicy`  
`-Identity TestMeetingAccess-policy`  
`-AppIds "your-app-client-id"`  
`-Description "Get Online Meeting Artifact Access Policy"`  
Here, specify a policy name for Identity, provide the Azure AD Application (Client ID) for AppIds, and add a suitable description.
8. Assign the policy globally to all users, if required:  
`Grant-CsApplicationAccessPolicy`  
`-PolicyName TestMeetingAccess-policy`  
`-Global`
9. Assign the policy to specific users by providing their Azure AD User Object IDs:  
`Grant-CsApplicationAccessPolicy`  
`-PolicyName TestMeetingAccess-policy`  
`-Identity "UserObjectID1", "UserObjectID2"`

## Results

The application access policy is created and assigned successfully. The Azure AD application can now access Microsoft Teams meeting artifacts securely.

#### Note

- Policy propagation may take up to 30 minutes.

## Retrieve Application (Client) ID

1. Log in to the Azure Portal: <https://portal.azure.com/>
2. Navigate to  [Azure Active Directory](#)  [Enterprise Applications](#) .
3. Search *SAP Sales and Service Cloud API Version 2 - Teams meeting*.
4. Open the application and copy the Application (Client) ID.

## 48.1.5 Permissions

To use Microsoft Teams with SAP Sales and Service Cloud Version 2, certain permissions must be granted by an administrator. The following tables outline the required permissions for a successful integration.

### Application Permissions

#### Teams Meeting/Transcript: For Creating Appointments

| Permission Name                           | Description                                                             |
|-------------------------------------------|-------------------------------------------------------------------------|
| Calendars.ReadWrite                       | Read and write calendars in all mail boxes                              |
| TeamsTab.Create                           | Create tabs in Microsoft Teams                                          |
| TeamsAppInstallation.ReadWriteForChat.All | Manage Teams apps for all chats                                         |
| TeamsTab.ReadWriteForChat.All             | Allow the Teams app to manage all tabs for all chats                    |
| User.Read.All                             | Read all users' full profiles                                           |
| OnlineMeetingArtifact.Read.All            | Read online meeting artifacts                                           |
| OnlineMeetings.Read.All                   | Read online meeting details                                             |
| OnlineMeetingTranscript.Read.All          | Read all transcripts of online meetings                                 |
| TeamsAppInstallation.ReadWriteForTeam.All | Manage Teams apps for all teams                                         |
| TeamSettings.ReadWrite.All                | Read and change all teams' settings                                     |
| TeamsTab.ReadWriteSelfForTeam.All         | Allow the Teams app to manage only the tabs it created across all teams |
| User.Invite.All                           | Invite guest users to the organization                                  |



## Share Workspace and Collaboration Room

| Permission Name                           | Description                                                |
|-------------------------------------------|------------------------------------------------------------|
| Channel.Create                            | Create channels                                            |
| Channel.ReadBasic.All                     | Read the names and descriptions of all channels            |
| ChannelMember.ReadWrite.All               | Add and remove members from all channels                   |
| ChannelSettings.Read.All                  | Read the names, descriptions, and settings of all channels |
| Group.ReadWrite.All                       | Read and write all groups                                  |
| GroupMember.ReadWrite.All                 | Read and write all group memberships                       |
| Team.Create                               | Create teams                                               |
| Team.ReadBasic.All                        | Get a list of all teams                                    |
| TeamMember.ReadWrite.All                  | Add and remove members from all teams                      |
| TeamsAppInstallation.ReadWriteForTeam.All | Manage Teams apps for all teams                            |
| TeamSettings.Read.All                     | Read all teams' settings                                   |
| TeamsTab.Create                           | Create tabs in Microsoft Teams                             |
| TeamsTab.ReadWriteForTeam.All             | Allow the Teams app to manage all tabs for all teams       |
| User.Invite.All                           | Invite guest users to the organization                     |
| User.Read.All                             | Read all users' full profiles                              |
| ChannelMessage.Read.All                   | Read all channel messages                                  |
| Files.Read.All                            | Read files in all site collections                         |
| TeamsTab.Read.All                         | Read tabs in Microsoft Teams                               |

## Delegated Permissions

### Share Workspace and Collaboration Room

| Permission Name                       | Description                                            |
|---------------------------------------|--------------------------------------------------------|
| Channel.Create                        | Create channels                                        |
| Channel.ReadBasic.All                 | Read the names and descriptions of channels            |
| ChannelMember.ReadWrite.All           | Add and remove members from channels                   |
| ChannelSettings.Read.All              | Read the names, descriptions, and settings of channels |
| Group.ReadWrite.All                   | Read and write all groups                              |
| GroupMember.ReadWrite.All             | Read and write group memberships                       |
| Team.Create                           | Create teams                                           |
| Team.ReadBasic.All                    | Read the names and descriptions of teams               |
| TeamMember.ReadWrite.All              | Add and remove members from teams                      |
| TeamsAppInstallation.ReadWriteForTeam | Manage installed Teams apps in teams                   |

| Permission Name               | Description                                              |
|-------------------------------|----------------------------------------------------------|
| TeamSettings.Read.All         | Read teams' settings                                     |
| TeamsTab.Create               | Create tabs in Microsoft Teams                           |
| TeamsTab.ReadWriteSelfForTeam | Allow the Teams app to manage only its own tabs in teams |
| User.Invite.All               | Invite guest users to the organization                   |
| User.Read.All                 | Read all users' full profiles                            |
| ChannelMessage.Read.All       | Read user channel messages                               |
| Files.Read.All                | Read all files that user can access                      |
| TeamsTab.Read.All             | Read tabs in Microsoft Teams.                            |

## Permissions Mapping based on Functionality

| Permission Name                                                                                           | Functionality          |
|-----------------------------------------------------------------------------------------------------------|------------------------|
| Team.ReadBasic.All, TeamSettings.Read.All, TeamSettings.ReadWrite.All                                     | Get Team               |
| Team.Create                                                                                               | Create Team            |
| TeamSettings.ReadWrite.All                                                                                | Update Team            |
| TeamMember.Read.All, TeamMember.ReadWrite.All                                                             | List members of Team   |
| TeamMember.ReadWrite.All                                                                                  | Add members to Team    |
| GroupMember.ReadWrite.All, Group.ReadWrite.All and Directory.ReadWrite.All                                | Add members to group   |
| Team.ReadBasic.All, TeamSettings.ReadWrite.All, TeamSettings.Read.All, User.Read.All, User.ReadWrite.All  | List the Teams joined  |
| Channel.ReadBasic.All, ChannelSettings.Read.All, ChannelSettings.ReadWrite.All                            | List Channels          |
| Channel.Create                                                                                            | Create Channel         |
| ChannelMember.ReadWrite.All                                                                               | Add members to Channel |
| TeamsAppInstallation.ReadWriteSelfForTeam.All, TeamsAppInstallation.ReadWriteForTeam.All                  | Add apps to Team       |
| TeamsAppInstallation.ReadWriteSelfForChat.All, TeamsAppInstallation.ReadWriteForChat.All                  | Add apps to chat       |
| TeamsTab.Create, TeamsTab.ReadWriteSelfForTeam.All, TeamsTab.ReadWriteForTeam.All, TeamsTab.ReadWrite.All | Add tab to channel     |
| TeamsTab.Create, TeamsTab.ReadWriteSelfForChat.All, TeamsTab.ReadWriteForChat.All, TeamsTab.ReadWrite.All | Add tab to chat        |
| User.Invite.All, User.ReadWrite.All, Directory.ReadWrite.All                                              | Create Invitation      |

| Permission Name                                                                                                                                                                                                                                                                                                                      | Functionality      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| OnlineMeetingArtifact.Read.All, OnlineMeetings.Read.All, OnlineMeetingTranscript.Read.All                                                                                                                                                                                                                                            | Read transcript    |
| To use application permissions for this API, tenant administrators must create an <a href="#">application access policy</a> and assign it to a user. This policy authorizes the configured app to retrieve online meetings and/or meeting artifacts on behalf of the specified user (identified by the user ID in the request path). |                    |
| ChannelMessage.Read.All, Group.Read.All, Group.Read-Write.All                                                                                                                                                                                                                                                                        | Read a chat        |
| File.Read.Group, Files.ReadWrite.All, Group.Read.All, Group.ReadWrite.All                                                                                                                                                                                                                                                            | Read an attachment |

#### Note

These permissions are also applicable to Deal Room in SAP Sales Cloud Version 2.

For details on each of these permissions, see [Microsoft Permission Reference](#). To know more about delegation types, see [Application Permissions vs. Delegated Permissions \[page 877\]](#).

## Permissions for Specific Mailbox

To restrict app access to specific mailboxes, administrators can create an application access policy using the [New-ApplicationAccessPolicy](#) PowerShell cmdlet. For more details, see [Microsoft Docs](#).

## 48.2 Use Microsoft Teams Integration

Learn how you can use the features using MS Teams integration.

#### Note

- Ensure that your administrator enables Microsoft Teams integration by following the configurations in [Configure Microsoft Teams Integration \[page 875\]](#).
- Ensure that the domain of the logged in user (xxx@abc.com) and the domain of the admin user (yyy@abc.com) providing the consent are the same.

#### Log In Using Single Sign-On [page 884]

Log in to the SAP Sales and Service Cloud application in Microsoft Teams using Single Sign-On (SSO) to access business data across chats, tabs, and workspaces without repeated logins.

#### Create Appointments [page 885]

Create an appointment with Microsoft Teams collaboration.

#### [Create Visits \[page 886\]](#)

As a sales representative, you can meet customers virtually.

#### [Share Workspaces \[page 887\]](#)

Share any list or detail view of your supported entities on Microsoft Teams.

#### [Create Resolution Rooms \[page 889\]](#)

Share cases on Microsoft Teams.

#### [Make Outbound Calls \[page 889\]](#)

Use Microsoft Teams to make your outbound calls.

#### [Microsoft Teams Chat \[page 890\]](#)

Access and collaborate in Microsoft Teams chats directly from SAP Service Cloud Version 2 and SAP Sales Cloud Version 2.

#### [Message Extension \[page 893\]](#)

Use message extensions to quickly share business data from SAP Sales and Service Cloud as cards within chats.

## 48.2.1 Log In Using Single Sign-On

Log in to the SAP Sales and Service Cloud application in Microsoft Teams using Single Sign-On (SSO) to access business data across chats, tabs, and workspaces without repeated logins.

### Context

Use Single Sign-On (SSO) in Microsoft Teams to securely access the SAP Sales and Service Cloud app using your corporate credentials, eliminating the need to enter login details repeatedly and enabling quick access across tabs and chats. However, SSO prompts you to sign in again after a certain time interval for security purposes.

#### Accessing SAP Sales and Service Cloud Application and Using Single Sign-On

The SAP Sales and Service Cloud application is available in the Microsoft Teams App Store. To add it:

- Choose the [Apps](#) in Teams, or
- In any chat, select **+** ([Actions and Apps](#)) > [Get more apps](#), and search for SAP Sales and Service Cloud.

Once the application is added and you've signed in with your profile credentials, SSO automatically authenticates you each time you access it.

Currently, SSO is supported in the following scenarios:

- **From a new chat** : Start a chat with one or more users, choose **+** ([Actions and Apps](#)), search for and select the SAP Sales and Service Cloud application. Sign in using SSO to access the application entities such as Accounts, Contacts, Opportunities, and so on.
- **From an existing tab**: Go to an existing workspace tab where the application is already added and continue using it without logging in again.
- **For a message extension**: Access the entities directly in message extensions with SSO authentication in place.

## 48.2.2 Create Appointments

Create an appointment with Microsoft Teams collaboration.

### Procedure

1. Navigate to [Appointments](#).
2. Choose **+** ([Add](#)) to create a new appointment.
3. Update the necessary fields such as [Subject](#), [Start Date/Time](#), and so on.
4. Check whether the Microsoft Teams collaboration is enabled or not. If not, turn the [Teams Meeting](#) switch on.
5. Go to [Attendees](#) and choose the **+** ([Add](#)) icon to search and select the required attendees.

#### Note

- You must add at least one attendee to create a Microsoft Teams meeting.
- When creating an event using Microsoft Graph APIs, changes made to the attendee type do not reflect in the Outlook Application. This appears to be a known issue with Microsoft.

6. Choose [Save](#).

#### Note

- You can't remove Microsoft Teams collaboration from the appointment once it is saved.
- To view transcripts after your meeting has ended, you must enable the following settings in Microsoft Teams:
  - Enable the Transcript option in your Microsoft Teams admin center.
  - Configure the application access policy and allow the application to access online meetings with application permission.

#### Note

For Notes, only *Customer Information* notes are supported for synchronization. Once the appointment status is set to **Completed**, notes do not sync, regardless of the admin settings.

### 48.2.2.1 Join Microsoft Teams Meeting

You can join a Microsoft Teams meeting either from solution or from Microsoft Teams.

## From Solution

Join a Teams meeting by clicking either the Microsoft Teams icon or the link provided on the following screens:

- Appointments worklist
- Appointment's quick view
- Appointment's object detail view

## From Microsoft Teams

1. Go to [Calendar](#), select an appointment and then click [Join](#) to enter a meeting before it's started, or one that's in-progress.
2. Select [Join now](#).

## 48.2.3 Create Visits

As a sales representative, you can meet customers virtually.

### Procedure

1. Navigate to [Visits](#).
2. Choose [+](#) ([Create](#)) to create a visit.
3. Update the necessary fields such as [Subject](#), [Start Date/Time](#), and so on.
4. Check whether the Microsoft Teams collaboration is enabled or not. If not, turn the [Teams Meeting](#) switch on.
5. Go to [Attendees](#) and choose [+](#) ([Add](#)) to search and select the required attendees.

#### Note

- You must add at least one attendee to create a Microsoft Teams meeting.
- When creating an event using Microsoft Graph APIs, changes made to the attendee type do not reflect in the Outlook Application. This appears to be a known issue with Microsoft.

6. Choose [Save](#).

#### Note

- You can't remove Microsoft Teams collaboration from the visit once it is saved.
- To view transcripts after your meeting has ended, you must enable the following settings in Microsoft Teams:
  - Enable the [Transcript](#) option in your Microsoft Teams admin center.

- Configure the application access policy and allow the application to access online meetings with application permission.

#### 📘 Note

For Notes, only *Customer Information* notes are supported for synchronization. Once the visit status is set to **Completed**, notes do not sync, regardless of the admin settings.

## 48.2.4 Share Workspaces

Share any list or detail view of your supported entities on Microsoft Teams.

Only cases are supported.

### 48.2.4.1 Share Workspace from Solution

You can share any list or detail view of your supported entities on Microsoft Teams from your solution.

#### Procedure

1. Navigate to any of the supported entities that you want to share on Microsoft Teams.
2. Choose  (*Share Workspace*).

#### → Remember

If you're using this feature for the first time or the delegated permission expires, the system shows a pop-up window where you must allow the permissions and login to your Microsoft Teams account.

This permission allows you to use all the Microsoft Teams integrated features until the permission expires.

3. If the workspace is already shared, the system shows a window with a list of existing teams and channels where you can join directly if you have not already joined, or you can choose [Create a Team](#) and proceed.

#### ⚠️ Restriction

You can't see these details if you have delegated permission.

4. If the workspace is not shared, a new window opens and choose [Next](#).
5. In the [Team](#) tab, you can either select an existing team from the dropdown or select [Create a team](#) and enter a name. The system generates the [Tab Name](#) depending on the object that you select. You can edit it if required.
6. Choose [Next](#).

7. In the *Channel tab*, you can either select an existing channel from the dropdown or select *Create a channel* and edit the name if required.

You can't use the existing channels if you have created a new team.

8. Choose *Next* to move to the next tab.
9. To add members to the team, enter their email ID and press *Enter*.

#### Note

If you are adding guest users, it may take up to 24 hours to reflect on Microsoft Teams.

10. Choose *Next* to review the updated information.
  11. Once you finish, choose *Save*.
- The system generates a link.
12. Choose the link to open the existing or new team on Microsoft Teams.

## 48.2.4.2 Share Workspace from Microsoft Teams

You can share any list or detail view of your supported entities directly from Microsoft Teams.

### Procedure

1. Sign in to Microsoft Teams.
2. Choose *Apps* and select SAP Service Cloud Version 2 application.
3. Choose one of the following options:
  - Add to a team
  - Add to a meeting
4. Search and select a team or meeting from the dropdown based on the previous selection.
5. Choose *Set up a tab*.
6. Enter the *Tenant URL*, *User ID*, and *Password*.

If you have multiple SAP Sales and Service Cloud V2 tenants with one Azure tenant, ensure that each user is a part of one tenant only. When you enter the URL, you can see the list of available tenant URLs in the drop-down from which you can choose the one you require.

7. If required, you can edit the default *Tab Name* from *SAP Service Cloud*.
8. Choose *Save* to move to the sign in page.
9. Choose *Sign in* to view the entity from your solution.

#### Restriction

If you try to include users outside the team to a private channel of Microsoft Teams, they may not be added.



## 48.2.5 Create Resolution Rooms

Share cases on Microsoft Teams.

You can create multiple Resolution Rooms with internal and external members for collaboration. While creating a resolution room, you can use the toggle button to include all the internal and external involved parties instantly.

Your administrator can enable this feature via adaptation.

Follow these steps to create a resolution room.

1. Once you log in to the application, choose [Cases](#) from the navigation menu.
2. Select a case.
3. Go to the [Resolution Room](#) tab.
4. Choose [New](#).
5. In the tab that appears, fill the name and description. Define the name of the channel. You can search and add multiple owners for the resolution room.
6. Select the [Type](#) as [Private](#) or [Public](#) based on your requirement.
7. Use the toggle buttons to include the following:
  - [Invite Service Team](#): All the members of the service team specific to the case are invited.
  - [Invite Contacts](#): All the contacts specific to the case are invited.
8. Use the [Invite Others](#) option to add other members by entering their email IDs.

### Note

It can take up to 24 hours for external members to appear in Microsoft Teams.

9. Choose [Save](#).

### Note

- You can launch Microsoft Teams directly by clicking the items in the list of resolution rooms.
- Resolution room owners can add or delete members and delete the resolution rooms. If you're a member of a resolution room, you can only view the list of members.

You can now see the Teams channel on the Microsoft Teams application. You can also see the [SAP Sales and Service Cloud](#) tab in it.

When you open a resolution room in an opportunity, you can see the list of [Related Attachments](#). These attachments are the documents shared on chat via Microsoft Teams and also the ones uploaded in the [Files](#) tab of the specific resolution room.

## 48.2.6 Make Outbound Calls

Use Microsoft Teams to make your outbound calls.

### Note

Ensure that you've the required Microsoft Teams license for outbound calls.

To use this feature, you must disable the following options:

- Computer Telephony Integration (CTI) if it's configured in your solution.
- Pop-up blocker in your browser settings.

## 48.2.7 Microsoft Teams Chat

Access and collaborate in Microsoft Teams chats directly from SAP Service Cloud Version 2 and SAP Sales Cloud Version 2.

The *Chat* feature enables you to view and access Microsoft Teams conversations directly from within the application. With this integration, you can collaborate with colleagues in real time without leaving the application.

### 48.2.7.1 Enable Chat

Enable the chat feature on the SAP Service Cloud Version 2 and SAP Sales Cloud Version 2.

#### Procedure

1. Navigate to ► *User Menu* ► *System Settings* ► *All Settings* ► *Microsoft Teams Integration* ►.
2. Turn on the *Chat* switch.

When Microsoft Teams integration is enabled, the  (*MS Teams*) icon appears on the home screen.

Choose the  (*MS Teams*) icon on the home screen to open the chat window. The chat interface provides an experience similar to Microsoft Teams.

#### Note

If chat is disabled by an administrator, the icon is hidden and the feature is unavailable.

### 48.2.7.2 Use Chat

After enabling Microsoft Teams integration, you can use the Chat feature to communicate and collaborate with colleagues directly within the application. The chat window provides access to Microsoft Teams conversations

and allows you to share business data, manage participants, and view chats related to business entities and appointments.

## Start a Conversation

1. Choose **+** (*Add*).
2. Enter a chat name and add participants in the respective fields.

### Note

When a chat is created directly from an entity, the default chat name is generated using the entity name and its ID. You can modify this name as required.

3. Type your message in the message field.
4. (Optional) Choose  (*Add Entity*), select the required entity, and add it (applicable only for group chats with three or more participants).

Chats can also be created through appointments. When a meeting is scheduled and a user initiates a chat during the meeting, the chat is automatically created and can be accessed in the chat window or in Microsoft Teams. If no one starts a conversation, no chat is created for the meeting.

## Chat history

Select a conversation from the list of recent chats to view its history. Chats are categorized as:

- *Connected Chats*: Displays chats associated with the entity currently open in the application.
- *Other Chats*: Displays all remaining chats.

### Note

The Connected Chats list is automatically refreshed when you navigate to a different entity or page.

- To leave the conversation, choose  (*More*) and select *Leave*.

### Note

Leaving a chat applies only to you and does not affect other participants. You can choose to retain or delete the chat history.

- To open the same conversation in MS Teams, choose  (*More*) and select *Open in Teams*.

## Add Participants

1. Open the required chat.
2. Choose  (*Add Participant*).

3. In the [Add participants](#) window, select the required participants. You can use [Q \(Search\)](#) to find a particular contact. You can also invite individuals by entering their email addresses.
4. Select an option under [Chat History](#) to define how much history new participants can view.
5. (Optional) Add any required entity and save. The selected related entity is automatically added as a new tab in the Microsoft Teams chat, enabling users to view the entity details directly within the chat.

#### Note

The entity details are displayed in read-only mode. Editing or performing any other actions on the entity is not supported.

## Other Actions

Open the required chat. Perform any of the following actions as required:

- Choose [📎 \(Attachments\)](#) to add files to the chat. Either choose the required files from your device or from the SAP Sales and Service Cloud library.

#### Note

Attachments are stored only in the shared space in Microsoft Teams and not in the SAP Sales and Service Cloud repository.

#### Note

The types of attachments that can be added are predefined by administrators.

- Choose [+ \(Add\)](#) to add adaptive cards. Sharing adaptive cards enables you to quickly share entity data from SAP Sales and Service Cloud as adaptive cards within chats.
- Choose [✎ \(Edit\)](#) to update any chat name.

## Permissions and Delegation

The Chat feature supports only delegated permissions. Admin must provide consent before using the feature. For details, see [Related Links](#).

#### Note

You must authenticate with Microsoft Teams during the first login and again when the authentication token expires (after one month).

## 48.2.7.3 Collaboration Rooms

You can now view and participate in collaboration rooms directly within the chat window. Choose [Collaboration Room](#) tab. You can access collaboration rooms linked to opportunities and cases in one place. Currently, the feature is view-only, which means you can only view the available collaboration rooms and their conversations.

### Note

The administrator must provide consent for [Chats](#) again to use this feature.

### Note

Add the business service `feature.mssteams.collaborationroom.enabled` to activate the feature.

## Related Information

[Enable and Consent to Teams Integrated Features \[page 876\]](#)

You can enable Microsoft Teams integrated features by providing consent.

## 48.2.8 Message Extension

Use message extensions to quickly share business data from SAP Sales and Service Cloud as cards within chats.

The message extension allows you to search and share SAP Sales and Service Cloud entities directly within Microsoft Teams chats. You can insert business entity information as a card into your messages without opening the full application interface.

You can invoke the message extension in two ways:

- **From the chat compose space:** In any chat, click the **+** icon and select the SAP Sales and Service Cloud application. Sign in using Single Sign-On (SSO) or basic authentication. Once authenticated, search for the business entity you want to share (such as Accounts, Contacts, or Opportunities) and insert it as a card.
- **Using the global search bar:** Use a slash command (/) in the search bar at the top of the Teams window. Then, search for the SAP Sales and Service Cloud application, sign in if needed, and search for the entity you want to share.

Tap [View Details](#) on the card to open the corresponding entity in SAP Sales and Service Cloud. This allows you to view complete details of the entity or edit it, as direct editing is not supported on the card.

# 49 Library

You can use [Library](#) to store, organize, and share files and folders.

[Library](#) offers you the following:

- Efficient management of files, such as documents and multimedia objects, for your daily business activities
- Searching, viewing, uploading, and downloading files, creating folder structures to organize them, and controlling access to them
- Provision of attaching files to sales processes such as sales quotes
- Quick and safe way to share and exchange files for collaboration among sales team members
- Public and private folders. You can set access control for private files and folders.
- Table view and tile view of all the files and folders in the right pane
- Collapsible tree view that shows folder structures in the left pane

## 49.1 Configure Library

Administrators can create file type filter categories and manage access restrictions for [Library](#).

### 49.1.1 Create File Type Filter Category

Administrators must create file type categories for users to filter files.

#### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Library](#) ► [File Type Filter Configuration](#) ►.
2. Choose + ([Create](#)).

#### ❗ Note

The standard SAP system delivers file type filter categories without file types added to them. You can modify them with the required file types or delete them.

To add file types to a standard filter category, allow the file types at ► [System Settings](#) ► [Data Administration](#) ► [MIME Types for Attachments](#) ► if they are not allowed.

3. In the [Create File Type Filter Category](#) pane, enter *Title*.

4. Choose



(*Search and Add*) to add the supported file types.

5. Choose [Save](#).

The new file type filter category gets added in *File Type Filter Categories*.

#### Note

- To delete a file type configuration, click  (*Delete*) in *File Type Filter Categories*.
- You can also modify file types added to an existing file type filter category.
- Turn off the file type filter categories to disable them from the filter values in the *File Type* filter in *Library*.

## Related Information

[Define MIME Types for Attachments \[page 823\]](#)

As an administrator, you can define additional MIME types for attachments for your users in your organization.

## 49.1.2 Manage Access Restrictions

Administrators can provide users with restricted access to the library.

### Context

With this access context, read and write access to folders and files can be restricted based on sales area and employee.

Sub folders inherit access restrictions of their parent folder. You can also set sub folders' access to *Private* and set restrictions that apply to only sub folders.

These access restrictions also apply to attachments added from the library. Files added to the library and referenced in a business object, such as account, are visible to all under the *Attachments* section. However, unauthorized users cannot navigate to further details. Restricted documents are not listed in *Attachments*. Attachments from outside of the library are not subject to access restrictions.

### Procedure

1. Create a business role.

2. Add the *Library* (*sap.crm.service.libraryService*) business service.
3. Enable the *sap.crm.libraryservice.uiapp.libraryAdminApp* and *sap.crm.libraryservice.uiapp.libraryApp* apps.

## Related Information

### [Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

## 49.2 Organize Files and Folders

You can organize files and folders based on your organizational and business needs. This helps you find the right files quickly for your business processes.

Library offers you various operations to keep your files and folders organized.

### Note

You can perform these operations only if you are authorized.

### 49.2.1 Create Folders

You can create folders and folder structures to collect, group, and organize files and folders.

## Context

Organizing files in folders helps you easily and quickly find and share them.

A navigation path that appears above the contents of a folder allows you to keep track of your current location and easily navigate back to an upper level folder in the hierarchy.

### Note

- You can build only five levels of folders.
- If you add a file within a folder, the file inherits the permissions of the parent folder.



## Procedure

1. From the home page, expand the [Navigation Menu](#) and go to [Library](#).
  2. Choose [+](#) ([Create](#)).
  3. Select [Create Folder](#).
  4. In the [Name](#) field, enter the name for the folder.
  5. Do one of the following:
    - To provide access to all users, go to [step 6 \[page 897\]](#).
    - To provide access to the restricted sales area, employee, and territory do the following:
      1. Turn off the [Public](#) switch.
      2. Do the following as required:
        - To restrict access to the required sales area, choose [Sales Area](#) and [+](#) ([Add](#)) the required [Sales Org](#), [Distribution Channel](#), and [Division](#).
        - To restrict access to the required employees and territories, choose [Employees](#) and [Territories](#) respectively and  ([Search and Add](#)).
  6. Choose [Save](#).
- The folder is created, and it appears in [Library](#).

## 49.2.2 Upload Files

You can upload files from your local drive to [Library](#) and organize them in folders. You can also select multiple files for mass upload.

## Procedure

1. From the home page, expand the [Navigation Menu](#) and go to [Library](#).
2. Choose [+](#) ([Create](#)) at the required folder level.
3. Choose [Add Files](#).
4. In [Upload Files](#) panel, do one of the following:
  - Drag and drop the files
  - Browse the files and click [Open](#).

### Note

- You can edit the name of the file.
- The number of files in mass upload is restricted to six.

- You cannot upload a document if another document has the same name at the same level. We recommend that you upload the document with a different name and edit the title later.
- The size limit for files is as configured by your administrator. Contact your administrator to change the limit.

5. Do one of the following:

- To provide access to all users, go to [step 6 \[page 898\]](#).
- To provide access to the restricted sales area, employee, and territory, do the following:
  1. Turn off the [Public](#) switch.
  2. Do the following as required:
    - To restrict access to the required sales area, choose [Sales Area](#) and **+** ([Add](#)) the required [Sales Org](#), [Distribution Channel](#), and [Division](#).
    - To restrict access to the required employees and territories, click [Employees](#) and [Territories](#) respectively and



(*Search and Add*).

To provide administration rights to the employee, turn on the [Owner](#) switch.

6. Choose [Save](#)

The files are uploaded, and they appear in [Library](#).

## Related Information

[Configure Attachments \[page 828\]](#)

As an administrator, you can configure various parameters for your attachments.

## 49.2.3 Delete Files and Folders

You can delete files and folders that are no longer valid or those you uploaded by mistake.

### 49.2.3.1 Delete Files

#### Procedure

1. From the home page, expand the [Navigation Menu](#) and go to [Library](#).
2. Do one of the following:

- Choose [⋮ \(Show More\)](#) on the file and then choose  [\(Delete\)](#).

#### Note

You can also select the file and then choose [⋮ \(Show More\)](#).

- Select multiple files and choose  [\(Delete\)](#) on the top right.

The files are deleted from [Library](#).

## 49.2.3.2 Delete Folders

### Procedure

1. From the home page, expand the [Navigation Menu](#) and go to [Library](#).
2. Click [⋮ \(Show More\)](#) on the folder.
3. Click  [\(Delete\)](#).

#### Note

You cannot delete folders if they have contents.

The folder is deleted from [Library](#).

## 49.2.4 Download Files

You can download files onto your local drive from [Library](#).

### Procedure

1. From the home page, expand the [Navigation Menu](#) and go to [Library](#).
2. Do one of the following:
  - Click [⋮ \(Show More\)](#) on the file and then click  [\(Download\)](#).

#### Note

You can also select the file and then click [⋮ \(Show More\)](#).

- Select the required files and then click  [\(Download\)](#) on the top right.

The files are downloaded to your local drive.

#### Note

If you download multiple files simultaneously, the files are first consolidated into a single zip folder and then downloaded to your local drive.

## 49.2.5 Move Files

When you organize your files, you can move them to folders at any level.

### Procedure

1. From the home page, expand the [Navigation Menu](#) and go to [Library](#).
2. In the table view or the tile view, select the required files and click



(Move) on the right.

#### Note

- If you are moving a single file, you can also drag and drop the file to the required folder. You cannot drag and drop multiple files.
- You cannot drag and drop files in the table view. You can drag and drop files only in the tile view.
- You can drag and drop files from the tile view to the tree view.
- You cannot drag and drop files within the tree view.
- You can move only files into a folder. You cannot move folders into a folder.
- You can only select multiple files that are on the same folder level.
- If you move a file into a folder, the access restrictions on the file change and it inherits the access restrictions of the new parent folder.

3. In the [Move Files](#) panel, select the required folder.
4. Click [Move](#).

The file is moved to the required folder.

## 49.2.6 Search and Filter Files and Folders

You can look for specific files and folders using the search option. Filters help you narrow down the displayed files and folders.

### Procedure

1. From the home page, expand the [Navigation Menu](#) and go to [Library](#).
2. Click  ([Search](#)).
3. Enter the keyword.

Files and folders with your keyword in their names are displayed.

#### Note

- The system searches both the parent folders and subfolders to display results.
- Search results are based on access control.

4. To filter the search results, select the required option from the standard SAP system views, [File Types](#), [Upload Date](#), [Uploaded By](#), or [Access](#).

-  **Restriction**

The standard SAP system views are only used to filter top-level documents and folders in the library. For example, if you switch the view from [Created by Me](#) to [Changed by Me](#) within a folder, you will be directed back to the top level in the library and a list of top-level documents and folders that have been changed by you are displayed.

- You can also filter files and folders without searching for a particular keyword, but the scope is restricted to the current folder.

## 49.2.7 Rename Files and Folders

You can rename the files and folders that are already in [Library](#).

### Procedure

1. From the home page, expand the [Navigation Menu](#) and go to [Library](#).
2. Click  ([Show More](#)) on the folder or the file.
3. Click  ([Rename](#)).

The file or the folder is renamed.

## 49.3 Manage Access to Files and Folders

If you have unrestricted edit authorization or if you are an owner, you can define whether the file or folder is public or private. Access to a private file or folder can be restricted to specific sales areas and employees.

### Context

You can authorize other employees to access the file or the folder in [Manage Access](#).

Users who have access to a parent folder can access all the subfolders and files within the folder. Users with such [Inherited Access](#) cannot be edited or deleted.

#### Note

- You cannot change the administration right (the [Owner](#) switch in [Manage Access](#)) for an employee with inherited access. In a case like this, you must add the employee explicitly for editing.
- You can configure access to files and folders when you upload or create them respectively. For more information, see [Create Folders \[page 896\]](#) and [Upload Files \[page 897\]](#).

Inherited access can also be granted due to access control that has been configured by your administrator.

Sales organization-based access restrictions can be configured at the role level. For more information, see [Create Business Roles and Assign Business Users \[page 234\]](#)

### Procedure

1. From the home page, expand the [Navigation Menu](#) and go to [Library](#).
2. Click  ([More](#)) on the required file or the folder.
3. Click [Manage Access](#).
4. Do one of the following:
  - To provide unrestricted access, switch on [Public](#).
  - To provide access to the restricted sales area or employee or both, do the following:
    1. Turn off the [Public](#) switch.
    2. Click  ([Edit](#)).
    3. Do the following as required:
      - To restrict access to the required sales area, click [Sales Area](#) and  ([Add](#)) the required [Sales Org](#), [Distribution Channel](#), and [Division](#).
      - To restrict access to the required employees, click [Employee](#) and  ([Search and Add](#)).
4. Click [Save](#).

## 49.4 Share Links to Files and Folders

You can share links to files or folders.

### Procedure

1. From the home page, expand the *Navigation Menu* and go to *Library*.
2. Click  (*More*) on the folder or the file.
3. Click  (*Link*).

### Results

The URL is copied to the clipboard to be shared.

When you open a shared link to a private folder or document, you must have permission to access the folder or the file to see the content.

#### Note

- When you open a shared link to a folder, you can view the content within the shared folder displayed under your default view and the available actions on the right.
- When you open a shared link to a file, you can view the preview of the file along with the details of the file and available actions above it.

# 50 Integration

Configure settings for integrating SAP Service Cloud Version 2 with other SAP solutions.

Many SAP Service Cloud Version 2 business applications have requirements to integrate with other business applications. Therefore, these applications must be connected to run business processes end-to-end. To enable cloud native applications developed in SAP Service Cloud Version 2 to connect with other business applications (within SAP or outside of SAP), you must make technical settings and monitor data messages on a regular basis. To implement integration, see the integration set up guides.

## Related Information

[Integrate](#)

## 50.1 Configure User Roles for Integration

Create users with the roles and services that are necessary to perform integration relevant tasks and settings.

### Procedure

1. Create the business role and add the following business services:

| Business Service ID                          | Name                         |
|----------------------------------------------|------------------------------|
| sap.crm.service.adminService                 | adminService                 |
| sap.crm.service.dataConnectorService         | dataConnectorService         |
| sap.crm.service.inboundDataConnectorService  | inboundDataConnectorService  |
| sap.crm.service.outboundDataConnectorService | outboundDataConnectorService |
| sap.crm.service.homepageService              | homepageService              |
| sap.crm.service.valueMappingService          | Value Mapping                |
| sap.crm.service.externalNavigationService    | External Link                |



| Business Service ID                      | Name                |
|------------------------------------------|---------------------|
| sap.crm.service.externalIdMappingService | External ID Mapping |
| sap.crm.service.securityPolicyService    | Security Policy     |
| sap.crm.md.service.employeeService       | Employee            |
| sap.crm.service.userService              | User                |
| sap.crm.service.roleService              | Role                |

### Note

You must turn on the [Admin](#) switch.

2. Enable the following apps for the business role:

| Business Service ID                           | App Name                                                 |
|-----------------------------------------------|----------------------------------------------------------|
| sap.crm.service.adminService                  | sap.crm.adminservice.uiapp.admin                         |
| sap.crm.service.adminService                  | sap.crm.adminservice.uiapp.adminconsole                  |
| sap.crm.service.dataConnectorService          | Communication Systems                                    |
| sap.crm.service.dataConnectorService          | Data Connector Configurations                            |
| sap.crm.service.dataConnectorService          | Message Monitoring                                       |
| sap.crm.service.outboundDataConnector-Service | Event Monitoring                                         |
| sap.crm.service.homepageService               | sap.crm.homepageservice.uiapp.homepage                   |
| sap.crm.service.valueMappingService           | Value Mapping                                            |
| sap.crm.service.externalNavigationService     | External Link                                            |
| sap.crm.service.externalIdMappingService      | External ID Mapping                                      |
| sap.crm.service.homepageService               | sap.crm.homepageservice.uiapp.homepageadmin              |
| sap.crm.service.securityPolicyService         | sap.crm.securitypolicy.service.uiapp.securityPolicyAdmin |
| sap.crm.service.userService                   | sap.crm.userservice.uiapp.userAdmin                      |
| sap.crm.service.roleService                   | sap.crm.roleservice.uiapp.roleAdmin                      |
| sap.crm.md.service.employeeService            | Employee                                                 |

#### Note

The status of the business role must be *Active*.

3. Create the employee.
4. Create the business user with the employee and the business role.

## Related Information

### [Create Employees \[page 74\]](#)

You can create employee records manually or upload employee data via migration tool in the implementation project activity.

### [Create Business Users and Assign Business Roles \[page 225\]](#)

Administrators can create business users and provide appropriate authorizations by assigning business roles.

### [Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

## 50.2 Monitor Messages

Monitor all incoming and outgoing messages and view their status with *Message Monitoring*.

### Context

Outbound messages have the data that is sent from SAP Service Cloud Version 2 to external systems. Inbound messages have the data that SAP Service Cloud Version 2 receives from external systems.

### Procedure

1. Go to  [User Menu](#)  [System Settings](#)  [All Settings](#)  [Integration](#)  [Message Monitoring](#) .

Inbound message requests are displayed.

- Choose *Outbound* to view outbound message requests.
- Use the  (*Search*) and  (*Filter*) options to look for specific messages and narrow down the displayed messages respectively. You can filter both external and internal events by *Entity ID* and *Display ID*. You can also retry processing the message requests.

- Choose  ([Export](#)) to export messages to the local drive. Use filters to download specific messages.

#### Note

You cannot select messages for export. The system exports all messages or all filtered messages.

The exported zip file contains two sets of Excel files, one each for field definitions and details of messages and message requests. The [Message ID](#) in the message file corresponds to the [Parent\\_Technical\\_Key](#) in the message request file, which facilitates in analysis.

- In the worklist, you can view the status of the message and the corresponding message request status count.
  - If the status of the message is [Error](#), you can choose [Retry](#) to reattempt message processing. Use the filter and search functionalities to find specific messages with errors.
2. Choose the required message request to view its details. Choose the message header against the message request to view all the associated message requests and also the [SAP Passport](#).

Choose  to view and copy the payload. In inbound messages, payload has the data that SAP Service Cloud Version 2 receives from external systems. In outbound messages, payload has the data that SAP Service Cloud Version 2 sends to external systems.

Choose



to view [Target Entity Data](#). Target entity data contains the values in receiver systems that correspond to those in sender systems.

For the messages with the status [Error](#), choose  to view the details of the error.

#### Note

You can also view message requests in SAP Cloud ALM. For more information, see [Available Monitoring Content](#).

## 50.3 Monitor Events

Learn how to monitor the events you've subscribed for.

Navigate to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ► [Event Monitoring](#) ►.

You can see notifications for failed and successful events on this page.

View events based on whether they are inbound or outbound. This option is available in the quick filters. When you select an event from the list, you can view the [Payload](#) and [Error Message](#), and copy them if required.

You can further filter the event records based on status, or also based on the when the event occurred. Whether in the past hour, last 24 hours, or last week.

For outbound events, you can also resend event notifications from this page. Select one or more events on the page, and click [Resend](#). Then, refresh the list to see the latest notifications.

## 50.4 Manage Communication Systems

Create and manage communication systems.

### Context

You can create and edit communication systems to exchange data between SAP Service Cloud Version 2 and external systems. A communication system contains all the information about the external system that SAP Service Cloud Version 2 connects to or the information for the external system to connect to SAP Service Cloud Version 2. Communication systems establish connections to specified hostnames using the chosen authentication method.

Outbound communication systems connect SAP Service Cloud Version 2 to external systems for sending data, and inbound communication systems connect external systems to SAP Service Cloud Version 2 for receiving data.

On the [Communication Systems](#) page, you can filter the communication systems by status and authentication type.

### 50.4.1 Create Communication Systems

Create communication systems to connect source systems and target systems during integration.

### Procedure

1. Go to [User Menu](#) > [System Settings](#) > [All Settings](#) > [Integration](#) > [Communication Systems](#).
2. Click [+](#) ([Create](#)).
3. In the [Display ID](#) field, enter the display ID for the communication system.

#### Note

- Display ID must be the business system ID of the external system.
- You can't create a new communication system with the same ID as an existing one until the existing communication system is permanently deleted.

4. In the [Description](#) field, enter a meaningful description for the communication system.
5. Do one of the following:
  - In the [Inbound](#) tab, click the [+ Create](#) button, enter a password in the [Set Password](#) field or upload certificates using the [Drop or Browse Files](#) option.

### Note

- Ensure that your password meets the password criteria or your certificates are valid. You can upload only certificates generated from the certificate authority listed in the following note: <https://launchpad.support.sap.com/#/notes/2801396>.
- You can browse and upload more than one certificate for an inbound system. Accordingly, you can also delete the certificates that you no longer need. Until you explicitly save your changes after deleting the certificate, the deletion won't be effective.
- You must use communication user only for accessing the specific communication scenario for which it has been created. Using the communication user, you can generate a token, however, authorization is granted for the user for a specific communication scenario only.

When you set a password, the display ID you add is taken as the username and the password you set is used as the communication user's password.

The user generated here can be viewed in ► *Users and Control* ► *Users* ► *Technical Users* ►. The external system uses this user to connect to the system.

### Note

If inbound communication user creation throws an error, you can't view the communication user ► *Users and Control* ► *Users* ► *Technical Users* ►. Also, if you're using a certificate for inbound user creation, ensure that your certificate is unique.

- In the *Outbound* tab:
  1. Click the + (*Create*) button.
  2. Select the protocol. The options are:
    - http
    - https
  3. In the *Host Name* field, enter the host name of the outbound system.

### Note

Ensure that your host name doesn't contain an underscore (\_).

4. From the *Authentication Method* dropdown, select the authentication method for the host name.

### Note

*None* is selected by default.

The options available for authentication are:

- *Basic Authentication*
- *Client SSL Certificate Authentication*
- *OAuth 2.0 Client Credentials Grant*
- *OAuth 2.0 SAML Bearer Assertion*
- *OAuth 2.0 Token Exchange*

### Recommendation

Don't use the authentication method *Basic* in productive tenants for security reasons.

6. Click [Save](#) or [Save and Activate](#).

To activate inactive communication systems, in the communication system worklist, update their status using [✎ \(Edit\)](#).

## Results

You've created the communication system.

## Related Information

[OAuth 2.0 SAML Bearer Assertion Authentication \[page 910\]](#)

Configure a communication system in SAP Sales and Service Cloud V2 using [OAuth 2.0 SAML Bearer Assertion](#) authentication. You can use this procedure for any system that supports OAuth 2.0 SAML authentication with principal propagation. In this topic, we are using SAP Cloud Platform Integration as an example.

### 50.4.1.1 OAuth 2.0 SAML Bearer Assertion Authentication

Configure a communication system in SAP Sales and Service Cloud V2 using [OAuth 2.0 SAML Bearer Assertion](#) authentication. You can use this procedure for any system that supports OAuth 2.0 SAML authentication with principal propagation. In this topic, we are using SAP Cloud Platform Integration as an example.

## Prerequisites

- A trust relationship is established between SAP BTP (Cloud Integration) and the Sales Cloud Identity Provider (IDP).
- A service instance for the SAP Cloud Integration runtime is available (service instance of plan integration-flow).
- The user being propagated exists in both the systems with the same ID or email address.
- The user has the necessary roles in BTP to use the integration flow (iFlow).
- A valid private key and certificate to sign the SAML assertion.

## Context

The SAML Bearer Assertion defines a user context that can be propagated between different systems in a communication scenario known as Principal Propagation. This contains a user and a public certificate that

identifies the user at a custom identity provider. The SAML Bearer Assertion enables a component to request an access token from a resource server for the given user context.

## Procedure

1. Download SAML 2.0 metadata.
  - a. [From SAP BTP Cockpit](#), navigate to your subaccount.
  - b. Locate your SAP Cloud Integration instance.
  - c. Download the **SAML metadata XML** file. It contains the [URL](#) and [Entity ID](#) needed.
2. Retrieve the service key.
  - a. In [SAP BTP Cockpit](#), navigate to [Instances](#) in the [Subscriptions](#) page.
  - b. Select your integration flow plan.
  - c. Select the [Service Key](#) to retrieve the client ID and client secret from the credentials.
3. Create the communication system in SAP Sales and Service Cloud V2.
  - a. Log in to SAP Sales and Service Cloud V2 and navigate to [Communication Systems](#).
  - b. Create a communication system and select [OAuth 2.0 SAML Bearer Assertion](#) as the authentication method.
  - c. Upload the certificate from your key pair for signing the SAML assertion.
  - d. Fill the required fields based on the information provided in the following table.

| Parameter               | Details                                                                                                                                                       |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hostname                | Runtime URL of the target system (SAP Cloud Integration endpoint).                                                                                            |
| Passphrase              | Passphrase for the private key used to sign the SAML assertion.                                                                                               |
| Client ID               | ID provided in the BTP service key.                                                                                                                           |
| Client Secret           | Secret provided in the BTP service key.                                                                                                                       |
| Token URL               | The Assertion Consumer Service (ACS) URL from the BTP metadata. This should also include the protocol.                                                        |
| Audience                | Entity ID of the BTP service (from the metadata).                                                                                                             |
| Issuer                  | Entity ID of the IDP (configured in BTP). This is available in the details of the trust configuration.                                                        |
| Subject Name Identifier | Email ID (or User ID) of the user being propagated.                                                                                                           |
| Additional Parameters   | If you are using principal propagation between SAP Sales and Service Cloud V2 and Business Technology Platform, you can add up to five additional parameters. |

## Related Information

[OAuth 2.0](#)

## 50.4.2 Delete Communication Systems

You, as an administrator, can delete communication systems.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ► [Communication Systems](#) ►.
2. Under [Actions](#), choose  ([Delete](#)).

#### Note

You can delete only inactive communication systems.

The communication system is moved to [Deleted Communication Systems](#), where it is stored for 60 days. After 60 days, it is permanently deleted and cannot be recovered.

To manage deleted communication systems, under [Actions](#), choose the required action from the following:

-  ([Undo](#)) to restore the deleted communication system during the 60-day period.
-  ([Delete](#)) to delete the communication system permanently.

#### Note

Communication systems cannot be recovered once they are deleted from [Deleted Communication Systems](#).

## 50.4.3 Determine Communication Systems

For outbound configurations, you can determine the receiver of the message based on logic and attributes of the entity that is integrated with the receiver system.

### Context

Define conditions for determining the communication system when you want to target your messages to specific systems. For example, a sales quote can be sent either to an SAP S/4HANA Cloud Public Edition system, or a different ERP system based on the sales organization. You must define conditions based on which the decision of sending the sales quote can be made.



## Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ►.
2. Choose + [\(Create\)](#). In the window that appears, select the [Type](#) and [Outbound Configurations](#).
3. To create rules, go to the [Rules](#) section and choose + [\(Create\)](#).
4. Select the property, operator, and value.
5. Add communication systems. You can also add all the communication systems available.

### ⚠ Caution

For asynchronous sales process integrations such as replication of sales orders, sales quotes, and sales contracts, follow-up entity creations, and so on, ensure that you create rules that determine a single receiver system. If multiple receiver systems are determined, the sales document is replicated to each of them, which may lead to data inconsistencies or corruption.

6. (Optional) Create multiple condition groups based on your requirement. You can either create a new group or a default condition group. If none of the conditions defined are met, the messages are directed to the systems mentioned in the default condition group.

### ℹ Note

- If you activate a rule without adding communication systems, the message is not sent to any system.
- If you don't activate rules for an outbound configuration category, the messages are sent to the communication system configured in [Outbound Configuration](#).
- For outbound configurations where [Multicast](#) is not applicable, if condition groups resolve to more than one communication system at runtime, the message is not sent.

7. Choose [Save](#). If you want to make further changes, you can also save and close this page.
8. Set the rule to active. Note that for one outbound configuration category, only one rule can be active at a time.

## 50.5 Create Communication Configurations

Create communication configurations for the integration between SAP Service Cloud Version 2 and external applications.

### Context

Communication configuration comprises all the required information for integrating SAP Service Cloud Version 2 with other applications. It contains the communication system, mapping of code values, and all inbound and outbound configurations that must be run for integration. Inbound configurations are required to receive inbound messages from external systems and outbound configurations are required to send outbound messages to external systems.

The standard SAP system provides preconfigured communication configurations, which include the required inbound configurations, asynchronous outbound configurations, and HTTP data. They are inactive by default and cannot be modified directly. To customize them, copy and modify them as needed. To view these configurations, use the filter [SAP-Delivered Communication Configurations](#). You can also create communication configurations based on requirements.

If multiple external SAP systems are integrated with SAP Service Cloud Version 2, data replicated to SAP Sales Cloud Version 2 from a system is automatically synchronized with the other integrated systems, provided they support the data.

## Procedure

1. Go to  [User Menu](#)  [System Settings](#)  [All Settings](#)  [Integration](#)  [Communication Configurations](#) .
2. Choose the required communication configuration template.

You can also choose  [\(Create\)](#) to create a communication configuration for your requirements.

### Note

In the SAP-delivered templates [Integrate Master Data with SAP S/4HANA](#) and [Integrate Master Data with SAP ERP](#), the default value mapping group is selected by default.

3. Choose  [\(Copy\)](#).  
The copied communication configuration opens in a new tab.
4. Edit [Communication System](#) and select the name of the system to which you must connect.
5. Edit [Value Mapping Group](#) and select the value mapping group to map the code values between SAP Sales Cloud Version 2 and the external system.

### Note

For [Integrate Master Data with SAP S/4HANA](#) and [Integrate Master Data with SAP ERP](#), the default value mapping group is selected by default, but you can select the required value mapping group.

6. In the [Inbound Configurations](#) section, use the search icon to select the required inbound configurations.  
Source entity is the structure in which the source sends the data to the connector. [Source Entity API Path](#) is the URL of the source system.
7. In the [Asynchronous Outbound Configurations](#) section, edit [Target Message Entity API Path](#) for the required outbound communication scenarios.  
Target message entity is the structure in which the target system expects the data to arrive. [Target Entity API Path](#) is the URL of the target system.

### Note

The [Target Message Entity API Path](#) must match the corresponding integration flow endpoints.

8. In the [Scheduled Asynchronous Outbound Configurations](#) section, use the search icon to select the required outbound configurations and do the following:
  - a. Under [Actions](#), select  [\(Create Schedule\)](#).

### Note

To schedule multiple replications at once, select the required configurations and choose  ([Create Schedule](#)) above the rows.

- b. Enter the run details.

You can schedule replication from external systems with the following options:

- Immediate Run: Initiates replication upon saving the schedule.
- One-Time Run: Initiates replication at the specified date and time.
- Recurring Run: Initiates replication on the specified recurring schedule.

The [Delete codes that are unavailable in the external system](#) switch is turned on by default, and during replication, the codes in SAP Service Cloud Version 2 that do not exist in SAP S/4HANA Cloud Public Edition are deleted from SAP Service Cloud Version 2. If you turn off the switch, the codes are only created and updated, without any deletions.

### Note

[Delete codes that are not available in the external system](#) is applicable to the replication of all code lists except units of measurement and employees. Employee replication is not a code list replication.

- c. Choose [Save](#)



To cancel a schedule, choose  ([Cancel Schedule](#)).

9. In the [HTTP Data](#) section, use the search icon to select the required configurations and edit [API Path](#) for the corresponding communication scenarios.

### Note

You can select the required HTTP header data from the following:

- Normal: Standard method to save HTTP header value.
- Protected: Secure method to save HTTP header value.

10. Choose the [Properties](#) tab and turn the [Value](#) switch on for the required properties.

### Note

Properties are displayed based on the inbound configurations and the outbound configurations added to the communication configuration.

11. To activate the communication configuration, in the header, choose [Inactive](#) and then choose [Active](#).

## 50.6 View Inbound Configurations

View preconfigured inbound configurations.

### Context

Inbound configurations are the standard SAP configurations for inbound messages and APIs of a business entity. You can use these inbound configurations in communication configurations. Inbound configurations are required to receive messages from external systems. [Inbound Configuration](#) is a repository of inbound configurations.

### Procedure

- Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ► [Inbound Configurations](#) ►.

## 50.7 View Outbound Configurations

View preconfigured outbound configurations.

### Context

Outbound configurations are the standard SAP configurations for outbound messages and APIs of a business entity. You can use these outbound configurations in communication configurations. Outbound configurations are required to send messages to external systems. [Outbound Configuration](#) is a repository of outbound configurations.

Outbound configurations are of two types: asynchronous and synchronous. Synchronous configurations are called HTTP data. Both types are included in SAP-delivered configurations.

### Procedure

- Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ► [Outbound Configurations](#) ►.

## 50.8 Create Value Mappings

Create value mapping to map code lists and their values between SAP Service Cloud Version 2 and the application you are integrating it with.

### Context

Value mappings match code values of SAP Service Cloud Version 2 to the values of external systems to ensure smooth data transfer.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ► [Value Mapping](#) ►.
2. In the [Mapping](#) pane, click [+ \(Create\)](#).
3. In the [Create Mapping Definitions](#) pane, do the following:

- a. From the [Mapping Group](#) dropdown, select a mapping group.

To add a new mapping group, click [Add New Mapping Group](#).

SAP provides the read-only, default mapping group [Integration with SAP S/4HANA](#) for party role and partner number type. To customize value mappings, you must create new mapping groups and assign the default group as the parent mapping group.

- b. In the [Description](#) field, enter a description for the mapping.
- c. **Optional:** From the [Parent Mapping Group](#) dropdown, select the parent mapping group.

Parent mapping groups have the code mappings that are common to most integration scenarios.

Code mappings are added to the mapping group in one of the following cases:

- If you must use specific code mappings that are not part of the parent mapping group
- If you must use deviations from the common code mappings in the parent mapping group

If the specific code mappings or the deviations are not added to the mapping group, SAP Service Cloud Version 2 selects the parent mapping group.

- d. From the [Value Name](#) dropdown, select the data type name.

#### Note

For the [Region](#) data type name, select the country from [Local Context](#).

- e. From [Rule for Missing Mapping](#), select the rule that SAP Service Cloud Version 2 must follow if code mappings are not added.

The choices are:

- [Pass-Through](#): SAP Service Cloud Version 2 considers the available internal or external value for integration and shows no error messages.

- [Raise Error](#): SAP Service Cloud Version 2 considers only explicit code mappings for integration and shows the error message.
4. Click [Save](#).
  5. In the [Code Mapping](#) pane, enter the required values and click ✓ (Accept).

## 50.9 View and Modify External ID Mapping

You, as an administrator, can view and modify ID mapping for master data.

### Context

ID mapping for most objects is performed automatically during the initial load of data into the system, and it need not be done manually. However, it can be reviewed and modified in this view as well.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ► [External ID Mapping](#) ►.
2. From the [Mapping of](#) dropdown, select the required entity and ID mapping.
3. From the [Communication System ID](#), select the ID of the communication system for the external system.
4. Choose [Search](#).

All the ID mappings are listed.

#### ⓘ Note

- Choose [Reset](#) to clear the search criteria and the results.
- If you have the ID and the name or the description of the entity instance in SAP Sales Cloud Version 2 and SAP Service Cloud Version 2 or the external ID, enter the values in the [ID](#), [Name](#), and [External ID](#) fields respectively, and then choose [Search](#).

5. In [External ID](#) column, add or modify the required IDs.

## 50.10 Create External Links

Create links to the objects in the external systems.

### Context

The external links are used in the objects of SAP Service Cloud Version 2 to navigate to the corresponding objects in the external system.

### Procedure

1. Go to ► *User Menu* ► *System Settings* ► *All Settings* ► *Integration* ► *External Link* ►.
2. Click **+** *(Create)*.
3. Select the object in the external system to which you must navigate.
4. Select the communication system used for the external system.
5. Enter the link to the object in the external system.

#### Note

The link must be in the `<deeplink to the object in the external system>{displayId}` format.

During navigation, `{displayId}` is replaced with the ID of the object in the external system. This ID is available in the external ID field in the object of SAP Service Cloud Version 2.

For example, `https://my300470.s4hana.ondemand.com/ui#SalesQuotation-display?&SalesQuotation= ${displayId}`.

6. Click **✓** *(Confirm)*.

## 50.11 Create Extension Mappings

Create mappings between fields of SAP S/4HANA Cloud Public Edition and extension fields of SAP Sales Cloud Version 2.

### Prerequisites

- Your contract includes *SKU 8014761 (GROW PREMIUM)* and *8019461 (FINANCE PREMIUM)*, and it stipulates that SAP provides integration setup services.

- You have created the required extension field in SAP Sales Cloud Version 2.

## Context

### Note

Extension mapping requires fields to be at the same level. For example, you can only map header level fields of SAP S/4HANA Cloud Public Edition to header level fields of SAP Sales Cloud Version 2 and item level fields of SAP S/4HANA Cloud Public Edition to item level fields of SAP Sales Cloud Version 2.

## Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ► [Extension Mappings](#) ►.
2. Choose [+](#) ([Create](#)).
3. Select the required communication system and the API.
4. Choose [Save](#).
5. In the [Mappings](#) section, enter the source field path and the target field path in [Source Field Name](#) and [Target Field Name](#) respectively.

### Note

For XML messages, provide XPath. For JSON messages, provide JSONPath. You can also obtain the source field path from payload.

For example, during product replication from SAP S/4HANA Cloud Public Edition to SAP Sales Cloud Version 2, to map the field `PreviousName` to the extension field `Z0ldMaterialNumber`:

- For the XML message [ProductMDMBulkReplicateRequest\\_Out.wsdl](#) , the source field path is `/ns2:ProductMDMBulkReplicateRequestMessage/ProductMDMReplicateRequestMessage/Product/PreviousName`.
  - For the JSON message [productS4ReplicationIn.json](#) , the target field path is `extensions.Z0ldMaterialNumber`.
6. Choose [✓](#) ([Accept](#)).
  7. Choose [Sync](#).

## Results

The extension field mapping is performed in SAP managed middleware during replication. You can view the result in the corresponding message payload in the [Message Monitoring](#) of the target system.



## Related Information

[Create Extension Fields](#)

[SAP Sales Cloud Version 2 Integration Guide for SAP S/4HANA Cloud Public Edition](#)

## 50.12 Configure Outbound Event Processing

Dispatch outbound events to external systems and monitor them for effective communication and error handling respectively.

### Context

Assign the **sap.crm.service.eventBridgeService** business service to your business role and in turn to your business user, create a Communication System, configure Send Events to External Systems, enable Standard Events, and monitor the outbound events.

### Procedure

1. Assign the **sap.crm.service.eventBridgeService** business service to your user to enable *Standard Events* and *Standard Events Monitoring* UI in the Admin Settings.
2. For dispatching outbound events to external systems, complete the following steps:
  - a. Go to **User Menu** > **System Settings** > **All Settings** > **Integration** > **Communication Systems**.
  - b. Create a *Communication System* and maintain the hostname and the credentials of the external system to which the events must be dispatched. Activate the communication system.
  - c. Next, in the *Communication Configuration* page *Send Events to External Systems* needs to be configured.
3. Open the **Communication Configuration** > *Send Events to External Systems*, and select *Copy*.
4. In the copied *Communication Configuration*, select the *Communication System* created already.
5. In the same *Communication Configuration*, under the *HTTP Data* section, maintain the *API path* of the external system and *Activate* the *Communication Configuration*. The {host\_name of the Communication System + API Path} is where the outbound events is dispatched. The event payload is dispatched to the configured endpoint as an HTTP POST call.
6. Under **Admin Settings** > **Integration** > *Standard Events*, enable the events to be dispatched. You've now configured the event processing, and the events raised by the application services are dispatched to the configured end point.

#### Note

Any configuration changes might take up to 15 minutes for it to reflect, as configuration is cached and the cache is refreshed once in 15 minutes.

7. Navigate to ► [Admin Settings](#) ► [Integration](#) ► [Standard Events Monitoring](#) ► to monitor the outbound events, if in case of any errors.

#### 📘 Note

Outbound events are always dispatched in order. If for a given entity, an earlier event failed to be processed successfully, even after retry, then such events are moved to ABORTED status. Subsequent events for the same entity instance remain in PENDING status. The resend functionality is only enabled for ABORTED events. With the resend functionality, such ABORTED events can be retried manually from the Standard Events monitoring and if the retry succeeds, then, the subsequent PENDING events corresponding to the entity instance are dispatched automatically later by the system.

## Related Information

[Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

## 50.13 Enable Custom Inbound Events

You must enable custom inbound events to allow your custom services to send external data into the system through secure inbound API calls.

### Prerequisites

- Create the **custom services** to receive the external inbound event data.
- Create the **communication system** to authorize inbound API calls from the custom services.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Integration](#) ► [Inbound Custom Events](#) ►
2. Search for and select the custom service you created.
3. Select the created communication system.
4. Turn on the required events you want to enable.

## Related Information

### [Create an Entity-Based Custom Service \[page 167\]](#)

Create a custom service to integrate external functionality into the SAP Sales Cloud and SAP Service Cloud Version 2 systems without modifying the core application.

### [Create Communication Systems \[page 908\]](#)

Create communication systems to connect source systems and target systems during integration.

## 50.14 Configure Pre-Delivered Event Hub Integration

Event Hub integration enables the application to publish outbound events to the SAP BTP Cloud Application Event Hub. These events can be consumed by SAP cloud applications or SAP BTP-based applications through subscriptions. Only one target system can be configured for event delivery at a time.

### Prerequisites

- **Note**

This feature is released through the Feature Activation Hub, where administrators can activate features on their system before they are enabled by default. The changes will be automatically activated on April 4, 2026. You may enable this feature earlier and adapt it according to your requirements.

After you activate this feature, the value of the `source` attribute in the Outbound Event Header changes based on the tenant's provisioning location. The values are as follows,

- For tenants provisioned in the **Frankfurt** cluster: `/XAF/sap.ssc/tenantID`
- For tenants provisioned in the **Sydney** cluster: `/XAS/sap.ssc/tenantID`
- For tenants provisioned in the **Virginia** cluster: `/XA1/sap.ssc/tenantID`
- For tenants provisioned in the **Brazil** cluster: `/XAP/sap.ssc/tenantID`

This feature is not supported for tenants provisioned in the **Mumbai (IN)** cluster.

- Assign the **sap.crm.service.eventBridgeService** business service to your business role and in turn to your business user.
- Ensure that you have an enterprise account in SAP BTP.
- Ensure that your global account in SAP BTP cockpit has an entitlement for SAP Cloud Application Event Hub standard application plan, which is the user interface for the event hub service.
- Ensure the necessary pre-requisites and rules are checked in the **SAP BTP Cloud Application Event Hub** help page.

## Context

Use Event Hub integration to centrally distribute application events using the **SAP BTP Cloud Application Event Hub**. When this integration is enabled, events generated by application services are sent to the Event Hub, where subscribed consumer applications can receive and process them. Enabling Event Hub integration disables event delivery to other external systems.

## Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Standard Events](#) ►.
2. Turn on the [Activate Event Hub](#), to enable Event Hub Integration.
3. Choose [Yes](#) in the confirmation box. Once enabled, events are published to the SAP BTP Event Hub, provided the required configurations are completed in the Event Hub.
4. Under ► [Admin Settings](#) ► [Integration](#) ► [Standard Events](#) ►, enable the events to be dispatched. You've now configured the event processing, and the events raised by the application services are dispatched to the configured end point.

### Note

- Any configuration changes might take up to 15 minutes for it to reflect, as configuration is cached and the cache is refreshed once in 15 minutes.
- You can publish events to the Event Hub or to an external system. Publishing to both at the same time is not supported.

5. Go to ► [Admin Settings](#) ► [Integration](#) ► [Standard Events Monitoring](#) ► to monitor the outbound events, if in case of any errors.
6. Create formation of type **Eventing Between SAP Cloud Systems** in the SAP BTP cockpit global account System Landscape page. Follow the instructions in **Creating Formations in SAP BTP cockpit to Define Event Sharing Context**.
7. You can enable, disable, or apply filters to event subscriptions in the SAP BTP Cloud Application Event Hub application. These settings determine which events are delivered to consumer applications.

## Related Information

### [Configure Outbound Event Processing \[page 921\]](#)

Dispatch outbound events to external systems and monitor them for effective communication and error handling respectively.

### [SAP BTP Cloud Application Event Hub](#)

### [Creating Formations in SAP BTP cockpit to Define Event Sharing Context.](#)

### [Feature Activation Hub \[page 59\]](#)

View critical and majors changes that you, as an administrator, can activate in your system before they're activated in your system by default.

# 51 Phone Calls

Phone calls are inbound and outbound calls that are created from appointments or tasks.

In the list view, you can filter phone calls based on the following:

- All Phone Calls
- My Phone Calls
- Last 7 Days
- Last 30 Days
- Last 365 Days

You can also filter phone calls based on the direction (outbound or inbound), accounts, and employee. Select a phone call to open it in the quick view. The quick view displays information such as subject, phone call ID, direction, duration, account, contact, employee, start date and time, and end date and time.

You can schedule and log calls via appointments and tasks.

## [Configure Phone Calls \[page 925\]](#)

Administrators must create business roles and assign business users to necessary business services to use phone calls.

## [Make Outbound Phone Calls \[page 927\]](#)

You can use the tool of your choice to make outbound phone calls in SAP Sales Cloud and SAP Service Cloud Version 2.

## [Log Phone Calls \[page 928\]](#)

You can log a phone call that you have already made.

## Related Information

### 51.1 Configure Phone Calls

Administrators must create business roles and assign business users to necessary business services to use phone calls.

- Add [phoneService](#) to the business role to activate phone calls.
- Enable [sap.crm.phoneservice.uiapp.phone](#) to access the [Phone Calls](#) application.

## 51.1.1 Add Call Result

Your administrators can add call results from settings.

### Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings**.
2. Select **Call Results** under **Phone Calls**.
3. Choose **+** (**Add**).
4. Enter the **Code** and **Description**.
5. Choose **Save**.

## 51.1.2 Enable Computer Telephony Integration (CTI)

Administrators can integrate SAP Sales Cloud V2 with third-party phone systems to make phone calls directly from the solution via the third-party system.

- Add the business service **ctiService** to the business role to enable CTI.
- Enable the application **sap.crm.ctiservice.uiapp.ctiAdmin** to enable administrators to access the CTI configuration settings.
- Enable the application **sap.crm.ctiservice.uiapp.cti** to enable access to the CTI login and interaction screens.

### Related Information

[Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

## 51.1.3 Configure Computer Telephony Integration (CTI)

As an administrator, you must configure Computer Telephony Integration (CTI) to embed the third-party communication provider into your solution.

### Procedure

1. Navigate to your [User Menu](#) > [System Settings](#) > [All Settings](#) > [CTI](#) > [CTI Configuration](#) .
2. Enter the name of the provider, provider ID, and the provider URL.
3. Save your changes.

After completing the CTI configuration, you must add the provider domain as a script source in [Content Security Policy Settings](#)

4. Navigate to your [User Menu](#) > [System Settings](#) > [All Settings](#) > [General](#) > [Content Security Policy Settings](#) .
5. Add the provider domain as a script source.

## 51.2 Make Outbound Phone Calls

You can use the tool of your choice to make outbound phone calls in SAP Sales Cloud and SAP Service Cloud Version 2.

To make a phone call:

1. Choose the [Call](#) button.
2. Select the phone number you want to call.

The call is made using the tool configured in your SAP Sales Cloud and SAP Service Cloud Version 2. You can use the following tools:

- Microsoft Teams: [Make Outbound Calls \[page 889\]](#)
- Computer Telephony Integration (CTI)

If you make the call outside the system, choose [Log Call](#) button.

### Related Information

[Log Phone Calls \[page 928\]](#)

You can log a phone call that you have already made.

## 51.3 Log Phone Calls

You can log a phone call that you have already made.

### Procedure

1. Click  *(Call)* button.
2. Select *Log Call*.  
*Log Call* window appears.
3. Enter the call details. Most of the fields are automatically filled.
4. From the dropdown, select the call result.  
If you select *Callback Required*, specify the callback date and time.
5. Provide additional notes if necessary and click *Save*.



## 52 Task Manager

You can manage all your tasks in SAP Service Cloud V2 using the [Task Manager](#) worklist. You can organize your tasks in a list.

Tasks are organized as [My Day](#), [My Planned](#), and [My Important Tasks](#) list. Task lists are collapsible panes consisting of predefined lists. Tasks are grouped into different categories and displayed accordingly in the list view. Each task group is collapsible and displays the number of tasks within each group as a task card.

Each task card has the following information:

- Subject
- Priority
- Status
- Date
- Start or Due Date and Time
- Related Items

The [Notes](#) icon in the task card indicates that notes are present in the task. The [Attachments](#) icon indicates that attachments exist in the task.

Use the **...** icon to change the status of a task to **In Process** or **Canceled**. By default, the cards don't display the completed tasks. Use the [Status](#) filter and select [Completed](#) to view completed tasks.

### Note

- You can adapt up to five fields in task cards based on your business requirements across sections such as [My Day](#), [My Plan](#), and [My Important Tasks](#).
- You can use the new **Business Parties** field to display account, individual customer, and contact information dynamically based on the selected business party type.
- You can adapt the [Create](#) button and choose to hide it when required.

### 52.1 My Day

[My Day](#) displays all tasks that are overdue and require your attention today. This includes all tasks that are open, in progress, and completed.

By default, tasks in [My Day](#) are grouped into [Overdue](#) tasks and tasks for [Today](#). You can also group tasks based on their status and priority using the [Group By](#): dropdown list.

Overdue tasks group consists of all Open and In Process tasks that are past their due date. Tasks for the day consist of all tasks that start today or are due today. The card also displays tasks that have a past start day and a due date in the future. This card displays all Open, In Process, and Completed tasks.

Tasks grouped by status are grouped as open tasks, in process tasks, completed tasks, and canceled tasks. Tasks grouped by priority are grouped as immediate, urgent, normal, and low. In the [Today](#) section, you can use

the *Due Today Only* to only show the tasks that are due today. Tasks can be sorted based on *Changed On*, *Due Date/Time*, and *Start Date/Time*.

## 52.2 My Planned

*My Planned* displays all overdue and upcoming tasks owned and organized by the logged in user. This includes all tasks that are active.

Tasks under *My Planned* are by default grouped as follows:

- Due Earlier: All tasks due in the past
- Due Last Week: All tasks due last week
- Due Yesterday: All tasks due yesterday.
- Due Today: All tasks due today.
- Due Tomorrow: All tasks due tomorrow.
- Due Later This Week: All tasks due later this week.
- Due Next Week: All tasks due next week
- Due This Month: All tasks due this month
- Due Next Month: All tasks due next month
- Due In the Future: All tasks due after next month

You can also group tasks based on their status and priority using the *Group By*: dropdown list. Tasks grouped by status are grouped into open tasks, in process tasks, completed tasks, and canceled tasks. Tasks grouped by priority are grouped into immediate, urgent, normal, and low. Tasks grouped by status can be sorted based on the *Changed on*, *Due Date/Time* and *Start Date/Time* attributes. When a task is created in any of the section, the status is automatically applied to the task.. Tasks grouped by priority can be sorted based on the *Changed on*, *Due Date/Time* and *Start Date/Time* attributes. When a task is created in any section of this group, the priority is automatically applied to the task.

When task is created in any of the section the status is carried into that task.

### ⚠ Restriction

You cannot drag and drop tasks from one group to another.

## 52.3 My Important

*My Important* displays all tasks with priority urgent or immediate.

You can filter the tasks based on the status, due date, priority, and category. You can also sort the tasks based on the ascending or descending order of last modified date and time, due date and time, and start date and time.

## 52.4 Define User Settings

You can maintain your own default settings while creating tasks and choose the default filters for *My Day* and *My Planned* task lists in the Task Manager.

1. Navigate to the *Task Manager* worklist and select *User Settings*.
2. Define the default settings for *New Task*, *My Day* tasks and *My Planned* task lists.
3. Save your changes.

## 52.5 Create Tasks from Task Manager

You can create tasks directly from the *My Day*, *My Planned*, and views in the task manager.

1. Navigate to *Task Manager* and click **+** (*Create*) in the *My Day*, *My Planned*, or *My Important* section.
2. Enter the subject.  
If the subject is not maintained, it will be defaulted to **Activity Task**.
3. Add accounts and primary contact.  
The primary contact will be defaulted from the account if it exists for that account.
4. Enter the category, start date and time, due date date and time, related items, and priority.

### Note

The following values are set by default:

- Category: General Task
- Priority: Normal
- Due Date: Today
- Owner and Organizer: Logged in user
- Status: Open

You can change the default values by configuring the general settings.

5. Save your changes.

## Related Information

## 53 Party Processing

As an administrator, learn how to configure and use involved parties—the people you interact with in business transactions.

You can determine involved parties for business transactions using party roles and the connected determination rules. This determination allows you to streamline team assignments. It also ensures that business partners are correctly assigned to business documents in a way that matches your company process.

Business partner is the collective term for all the companies, the people and organizational data you interact with in your business, and includes accounts, contacts, partners, employees, and individual customers. When you create a document, you can designate a business partner as an involved party and assign them a role.

You can designate roles for sales quotes, leads, opportunities, tasks, appointments, orders and so on. You can then automatically determine involved parties for these business transactions using determination rules and master data.

### Example

You can create a sales quote and add the employee as the **Ship-to** party. In this case, the employee is the business partner, and **Ship-to** is the party role.

### 53.1 Configure Party Processing

As an administrator, you must create business roles and assign users to necessary business services so that they can use Party Processing.

You must add the following service and applications:

- Add the business services **sap.crm.service.partyProcessingService** to the business role to activate party processing.
- Enable the application **sap.crm.partyprocessingservice.uiapp.partyProcessingApp** to access party processing.
- Enable the application **sap.crm.partyprocessingservice.uiapp.partySchemeApp** to access party schema.

### Related Information

[Create Business Roles and Assign Business Users \[page 234\]](#)

Administrators can create business roles with appropriate authorizations and assign them to business users.

## 53.1.1 Configure Party Roles

Administrators can configure new party roles to add to party schemas. By defining party roles, you can define and assign relationships such as specific account team members. When creating new party role entries, the *Party Role* must begin with the letter Z.

### Context

#### ❗ Note

Adding all custom party roles to all party schemas depends on the entity using the party schema.

### Procedure

1. Go to ► *User Menu* ► *System Settings* ► *All Settings* ► *Party Processing* ► *Party Roles* ►.
2. Choose + (*Create*).
3. Enter the *Code* and *Description*.

#### ❗ Note

*Party Roles* must begin with Z. In the *Description* field, you can rename existing party roles. A change of description is valid for all assigned entities.

4. Select the *Party Category*

The party category defined will control the value help and validation of the selected party role determination logic when configuring party schemas. The following party categories are available:

- Custom All Parties: This includes all business partner roles
- Custom Organizational Unit Party
- Custom Account Party
- Custom Individual Customer Party
- Custom Contact Person Party
- Custom Employee Party
- Custom Supplier Party
- Custom Supplier Contact Party
- Custom All Customers Party: This includes accounts and individual customers
- Custom All Persons Party: This includes contacts, individual customers, and employees.
- Custom Competitor Party

5. Select the *Relationship Type* and *Source Party Description*.

Relationship Type can be assigned to your newly created party role. This allows you to use party determination based on the account's relationship maintained in the account master record. If the party

role is part of the party schema and corresponding determination step is active, then the main relationship to Account can be copied to the transaction.

#### ❖ Example

You can define a relationship as **Project Manager** in the account master and maintain the relationship **has Project Manager** in the customer master between your accounts A1, A2, and so on and your project manager M1, M2 and so on.

To automatically determine the project managers when creating a transaction for a certain account, define a party role **Project Manager** and use source party role **Account** with the relationship type **has Project Manager**. Assign the party role to the respective party scheme and activate determination steps *From Business Partner Relationship*.

6. Choose ✓ (*Accept*) to save your changes.

## 53.1.2 Party Schema

Party schema defines the use of party roles that are relevant for a specific document (business transactions like leads, opportunities and so on). These party roles can be internal and external involved parties. A party role describes a person or an organization that is involved in your specific transaction and is visible and selectable on the involved party views. Also, these party roles are determined based on the determination steps assigned.

Administrators can add party roles configured in Party roles settings and also edit assigned standard Party roles and their determination steps.

1. Navigate to ► *User Menu* ► *System Settings* ► *All Settings* ►.
2. Navigate to the respective entity, for example, lead or opportunity and select *Party Schema*.
3. You can either edit an existing party role in the schema or can add a custom party role that is already configured in Party role settings by clicking the + (*Create*) button.
4. Select the *Party Role* and turn on the switch to set the status of the party role to *Active*, *Mandatory*, and *Unique*.
  - Select *Active* to make the party role visible while defining party roles. Party Roles that are not used in your business transactions should be deactivated. You cannot configure some roles for certain pre-delivered content with their fields being greyed out.

#### 📘 Note

The party role selection can be controlled through ► *Settings* ► *All Settings* ► *Extensibility* ► *Code List Restrictions* ►. This can be helpful in case a party role depends on the document type. The party schema itself is not document type dependent.

- Select *Mandatory* to make the party role mandatory. If a mandatory party role is not added to the document, an error message will show up. This is the defined system behavior and will not prevent you from saving the transaction and you can completely save your data entry in the document. However, with mandatory party role missing, the document will be inconsistent. For example, creation of a follow-up sales order from a sales quote can be hampered.
- Select *Unique* to ensure that only one party role can be maintained. Party role can exist only once in the document. If parties are determined through an account's relationship, then the system copies

only the main relationship into the document. If the party role exceeds one entry, an error message shows up, but the system allows you to save the inconsistent transaction.

#### Note

For custom party roles, the determination sequence is as follows:

- From Business Rules: This determination step is used for the party if the respective transactional entity supports business rules with decision tables.
- From Business Partner Relationship: If the party is not determined from business rules, this determination step is used when the party has an assignment to a relationship in the party role definition.
- From Logon User: If the party is not determined from rules or relationships, this determination step is used provided the party role category for the party role has a reference to the employee master data.

5. Choose values from the *Copy From* dropdown if you do not want to copy the party role assignment. By default, all party role assignments are copied from the predecessor entity to the successor entity. The available values are as follows:
  - Exclude: The party role will not be copied from the predecessor entity to the successor entity.
  - Exclude if external: The party role will not be copied if it is manually changed or if the determination method is an external source.

#### Note

The *Copy From* option is currently available only for Cases.

6. Click *Create*.
7. To activate or deactivate party role determination steps of the party role, click  (*Show Determination Steps*) and check or uncheck the *Active* checkbox based on your usage.
8. Choose  (*Create*) to add a custom party determination step and then select the determination method and source party role.

#### Note

The ability to create custom party determination steps in party schema for custom parties has restricted availability. To request for access to this feature, you must create a case with the component CEC-CRM-PAP.

If an active determination step is based on the *From Business* rules, then you need to maintain business rules for that specific entity. For example, in case of Leads, for a party role Sales Employee, one of the determination step is based on From Business rules. You can maintain these business rules by navigating to  *User Menu*  *Settings*  *All Settings*  *Leads*  *Lead Routing to Employee* .

# 54 Change Project

Change Project allows you to record and transport configuration changes from a source system to target systems.

Changes are recorded on a source system such as a staging system and transported to target systems such as a testing system or a production system. Change project supports multi-tier architecture. You can assign one source and multiple target systems for a customer ID.

## 54.1 Configure Change Project

As an administrator, you can configure settings required to create a change project.

You must add the following service and applications:

- Add the business services **sap.crm.service.changeProjectService** to the business role to activate change project.
- Enable the application **sap.crm.changeprojectservice.uiapp.changeProjectApp** to access change project from Settings.

### 54.1.1 Configure Source and Target Systems

As an administrator, you must configure the source system and the target systems for your customer ID.

#### Context

Change project supports multi-tier architecture. You can assign one source and multiple target systems for a customer ID. If you had previously configured a two-tier architecture with one source system and one target system and want to change to a multi-tier architecture, you must first log on to the respective systems and set the *System Type* as *Not Applicable* in all the target systems.

#### Procedure

1. Navigate to your user settings and choose ► [System Settings](#) ► [All Settings](#) ► [Change Project](#) ► [Administration](#) ►.

All systems with the same Customer ID are displayed in the Administrator screen.



2. Set the systems as source and target using values provided in the [System Type](#) dropdown.

The administrator must log on to each system separately and set the system as Source, Target or Not Applicable.

The [Registered Services](#) tab displays the list of services that currently support Change Project. The [Changes](#) tab displays the list of users who changed the [System Type](#).

## 54.1.2 Configure Landscapes

Create and configure transport lanes by selecting source and target systems to ensure that the changes you make are transported to specific systems only.

### Context

You can create your own landscapes, and define them using a unique code list. Use them to create multiple, independent transport lanes. As an administrator, you can make any of the landscapes available in other systems, based on the ID. If you have previously set up source and target systems, log in to each system and set the [System Type](#) to [Not Applicable](#) on all target systems before you assign a landscape.

### Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [General Settings](#) ► [Administrator Settings](#) ► [Change Project](#) ► [Administration](#) .
2. In the [System Settings](#) section select ... [\(More\)](#), [Landscape Management](#) and choose + [\(Add\)](#).
3. In the window that appears, enter a code which has two to three alphanumeric characters starting with Z. Provide a name for the landscape and choose [Save](#). You can see the new landscapes in the [System Settings](#) page.
4. In the [System Type](#) column, use the dropdown option against each system to mark it as a source or target.

## 54.1.3 Configure Initial Load

As an administrator, you must trigger an initial load that records all existing changes in a service before creating a change project.

### Context

You must trigger the initial load for every service. You can trigger the initial load either from the source system or the target system. However, you can only trigger the initial load once. The [Trigger Initial Load](#) button is disabled in both the systems after you trigger the initial load.

Once you have reconfigured the source and target systems to switch from a two-tier architecture to a multi-tier architecture, it is recommended to trigger the initial load again for all registered services from the former source system as this will have all the changes.

#### Note

If you prefer using the configuration settings in the production system, it is recommended to trigger the initial load from the production system.

### Procedure

1. Navigate to your user settings and choose [System Settings](#) [All Settings](#) [Change Project](#) [Administration](#).
2. Select [Trigger Initial Load](#) to record all existing changes for the service.
3. Save your changes.

### Results

Once the initial load is triggered and completed, a system generated project is created. This project must be manually transported and activated in all the target systems. You cannot make any configuration changes for that service before creating a change project.

## 54.1.4 Publish, Transport and Activate Initial Load

Depending on where you configured the initial load from, you must publish and transport the initial load from the source system to the target systems or vice versa. You must then activate the initial load.

### Procedure

1. Log on to the system where you triggered the initial load.
2. Navigate to your user settings and choose ► *System Settings* ► *All Settings* ► *Change Project* ► *Change Project* ►.
3. Choose *Publish* to publish the changes.  
The status of your project changes from *Work in Progress* to *Publish in Progress* and after refreshing to *Published*.
4. Choose *Transport* to transport the changes from the source system to the target system.  
The status of your project changes from *Published* to *Transported*.
5. Log on to the system where you want to activate the initial load.
6. Navigate to your user settings and choose ► *System Settings* ► *All Settings* ► *Change Project* ► *Change Project* ►.
7. Choose *Publish* to activate the transported changes.  
The status of your project changes from *Imported* to *Publish in Progress* and after refreshing to *Published*.

## 54.2 Create Change Project

Once you trigger the initial load for a service, you must create a new change project before making any configuration changes.

### Procedure

1. Navigate to the *User Menu* and choose ► *System Settings* ► *All Settings* ► *Change Project* ►.
- All change projects are listed. The *Activity* tab displays all the change project activities and the respective statuses.
2. Choose *Create New Project*.
3. Enter a name and description.  
The *Checkout* checkbox is by default selected.
4. Save your changes.

Once you create a change project, you can make configuration changes in the [Settings](#) page. After making necessary configuration changes, publish and transport your project.

Select the



([Open in Detail View](#)) to open the Change Project dashboard. The [Changed Objects](#) tab displays the list of services and corresponding objects that were changed in the change project, name of the user who made the changes, and the timestamp of the change. The [Checkouts](#) tab displays the list of users who are currently working on the change project.

You can also add notes to your change projects as [Change Memos](#). These can be added both in the source and target system, and are editable by the creator. When the change project containing the change memo is transported to the source, the change memo is copied as a [Transported Memo](#). This cannot be edited.

## 54.3 Publish, Transport, and Activate Change Project

Once you create a change project, you can start making configuration changes. You must then publish your change project.

### Procedure

1. Navigate to the user menu and choose ► [System Settings](#) ► [All Settings](#) ► [Change Project](#) ► [Change Project](#) ►.

2. Choose your project and select [Publish](#).

The status of your project changes from [Work in Progress](#) to [Published](#).

3. Choose [Transport](#) to transport the changes from the source system to the target systems.

The status of your project changes from [Published](#) to [Transported](#).

#### Note

You must first transport all previously published projects before transporting a new project.

4. Log on to the system where you want to activate the initial load.

5. Navigate to the user menu and choose ► [System Settings](#) ► [All Settings](#) ► [Change Project](#) ► [Change Project](#) ►.

6. Choose [Publish](#) to activate the transported changes.

The status of your project changes from [Imported](#) to [Publish in Progress](#) and after refreshing to [Published](#).

#### Note

You must first activate all previously transported projects before activating a new project.



## 54.4 Parallel Change Projects

Parallel change projects allow teams to work on different business functionalities in the source system, and transport their changes independently to the target systems.

When there are multiple change projects, you can select the project that you want to record your changes in, and choose [Checkout](#).

To work on parallel change projects, follow the steps below:

1. In the source system, navigate to the [User Menu](#), choose ► [System Settings](#) ► [All Settings](#) ► [Administration](#) ► [Transport Management](#) ► [Change Project](#) ►.
2. For a new change project, use the [+ \(Create\)](#) option. This change project is checked out by default. You can create multiple change projects if required.  
Any changes that you make in the source system are automatically recorded in the currently checked out change project.  
If you want to record changes in a different change project, you must checkout that project. The current one is automatically checked in.
3. Choose [Publish](#) and then transport your changes to the target system.
4. In the target system, publish the transported project. If a change is not visible in the target, check whether all the related projects are published in the source and target systems.

Some areas such as mashups can only be edited by one change project at a time. If another project tries to modify the same mashup, you can see an error indicating that you cannot make any changes. You can either check out the original project, and make the changes in it, or publish the original project before you make your changes in the current one.

Other items such as extension fields can be used across projects. However, they must be sequenced carefully.

## 54.5 Service-Specific Details

This section describes initial load behavior and change project behavior that are specific to the services available under change project.

The entities that are supported by change project are as follows:

- Extensibility
- Mashups
- Phone Calls
- Cases
- Case Types
- CTI Configurations
- Sales Orders
- Value Mapping
- Tasks
- Appointments

- Calendar
- Utilities
- Distribution Channel
- Division
- Mail Transfer Agent
- Channels
- Templates
- Integration Common Parts
- Visits. You must transport the visit type before transporting the visit rules.
- Service Orders
- Service Quotes
- Opportunities
- Customer Returns
- Language, Region, and Currency. You can transport all the settings except [Exchange Rates](#).

#### Note

Change Project only supports the transport of associated codes and not the instance data.

During delta transport, if additional items are present in the target system, the system displays an error message. You must manually delete or re-create them in the source tenant. In such cases, the initial load fails, and you must trigger it again.

The process to transport your changes from source to target systems is the same for all the entities mentioned. However, some additional information specific to them are mentioned in the following sections.

#### → Remember

You must first transport [Extensibility Administrator](#) and [Roles](#) to the target system.

## 54.5.1 Integration Common Parts

This section describes the important points to be considered while using the change project for integration common parts.

During the initial load, only communication configurations, including inbound and outbound configurations, that you created directly from the [Communication Configuration](#) screen are included in the change project. Any items created using other services are not included.

On publishing the initial load change project of any service, all the configurations that you created in the target tenant for this service are deleted automatically. This is replaced with the source tenant configurations. For example, any external hooks created directly in the target tenant are deleted, and the external hooks transported from the source tenant are created in the target tenant.

However, the communication configurations related to the deleted configurations are retained in the target system and must be deleted.

Go to ► [User Menu](#) ► [System Settings](#) ► [Integration](#) ► [Communication Configuration](#) ►. From the quick filters, select [Service Generated Communication Configurations](#). You must then [Deactivate](#) and [Delete](#) the communication configuration.

#### ⓘ Note

You can use the [API Path](#) mentioned in the communication configuration that was not deleted, and copy it to the transported configuration.

The list of services that create communication configurations are as follows:

- Extensibility - custom services
- Custom Logic
- Autoflow

## 54.5.2 Extensibility

This section describes the important points to be considered while using change project to transport extensibility settings.

#### ⓘ Note

Extensibility Administration is transported with extensibility and includes Custom Fields, Field Attributes, Page Layouts, Assignment Rules, Reference Fields, and Data Privacy. Language Adaptation is not yet supported.

## Configuring Initial Load

- The system recreates extension fields that are missing in the target system.
- The system does not overwrite extension fields that already exists in the target system with same data type or format.
- If extension fields with the same name but different data type or format exist in the target system, the system displays an error message. You must manually delete the field either in the source or the target system and recreate the field with same data type, format and other parameters. In such cases, the initial load will fail and you must trigger it again after recreating the field.
- When transporting a custom query, mismatched Technical IDs can cause failures. To prevent this, you must maintain the same Display ID across both source and target systems.
- If additional extension fields are present in target system, the system displays an error message. You must manually delete these fields or recreate them in the source system. In such cases, the initial load will fail and you must trigger it again after recreating the field.

#### ⓘ Note

During the initial-load publishing process, the target system undergoes a complete cleanup, all existing custom logic in the target tenant is deleted as a part of this process.

## 54.5.3 Mashups

This section describes the important points to be considered while using change project to transport Mashup settings.

### 54.5.3.1 Edit URL and Parameter Value for Transported Mashups

As an administrator, you can manually enter the URL and parameter value for mashups in the target system.

#### Context

When you transport a mashup to the target system, the URL field and parameter value are not transported and remains empty. As a result, any screen where the mashup is used displays a warning message indicating that no URL is added. To ensure the mashup works correctly, you must manually enter the URL and parameter value in the target system.

#### Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** and under **Extensibility**, select **Mashup Authoring**.
2. Select the transported mashup for which you need to enter a URL.
3. Choose **Edit**, located on the top-right corner of the screen.
4. Under **Input Parameters**, enter the URL of the website in the field.
5. Under **Parameters and Value Binding** edit the values for **Constant** and **System Parameter**.
6. Select **Save**.

See the related link section for information on transporting configuration changes from a source tenant to a target tenant.

#### Related Information

[Change Project \[page 936\]](#)

Change Project allows you to record and transport configuration changes from a source system to target systems.



## 54.5.3.2 Features with Restricted Availability

When moving a configuration to the target system using change project, ensure that the feature is also enabled in the target system. Else, the feature may not work in the target system.

The following features have restricted availability:

- Retain Mashup State
- Create Web Components Mashups

Create a case with the **CEC-CRM-PM-PF** component to enable these features in the source system.

## 54.5.4 Cases

Change project supports the following code list configurations when transporting cases:

- Status Dictionary Entries
- Status Schemas
- Priorities
- Source Settings

## Important Considerations

When you perform the initial load, the system imports all existing configurations for the selected service, including configurations created before the change project existed. As a result:

- The initial load must be initiated separately for each service.
- Case and case type each require their own independent initial load. Run the initial load for **case** service first, then run the initial load for **case type**. The order is important.

## Initial Load Behavior

Before initiating the initial load, it's important to understand how the target tenant reacts to the incoming configuration if the initial load is done in the source to target direction.

- New configurations in the target are **added**.
- Configurations that currently exist in both source and target systems are **updated**.
- Configurations not present in the source system but that are present in the target system are **deleted**.

Before deleting any configuration, the system performs a usage check. If a configuration is actively used in case transactions or referenced by other configurations, the initial load fails, indicating that the configuration can't be removed.

If an initial load fails because a configuration is still in use you, as an administrator, can re-create the same configuration in the source tenant and then retry the initial load.

## 54.5.5 Case Types

Case types have several attributes that are transported in change projects. There are also several required services that must be transported before transporting case types.

Change project supports the following attributes when transporting cases:

- Code list for case type
- Template versions for case type
- Action catalog

### ⚠ Restriction

The initial load for **case type** can only proceed after the initial load of all dependent services is completed. Loading the dependent services first ensures that all necessary underlying data is already present in the target tenant before case type configurations are transported.

The Case Type service depends on these services:

- Approval
- Autoflow
- Mashup
- Extensibility
- Form Administration

## Important Considerations

When you perform the initial load, the system imports all existing configurations for the selected service, including configurations created before the change project existed. As a result:

- The initial load must be initiated separately for each service.
- Case and case type each require their own independent initial load. Run the initial load for **case** service first, then run the initial load for **case type**. The order is important.
- Since **catalog** is a master data entity and is referenced within **case type** configurations, it's important that you maintain the same catalog display ID across all tenants before implementing change projects for case type. The system relies on matching catalog display IDs between the source and target tenants when validating and transporting data, and this alignment is required for both the initial load and delta load processes for case type.
- Service levels and entity extraction scenarios are not included in the change project scope.
- Decision table configurations such as service level determination, case routing to employee, and case routing to team are not transported through change projects because they may contain tenant-specific data. You can export and import these configurations using a TSV file.
- The decision table **IDs** for case routing to team and case routing to employee within the case template version **are** transported. Therefore, you need to re-create the corresponding decision tables in the target tenant using the same display ID.
- The **number range** name is included in the change project for case types. However, the actual number range values may differ between source and target tenants. The number range in the target tenant remains editable under: [System Settings](#) > [Case Management](#) > [Number Range](#).

- Organizational units must be maintained with the same IDs in both the source and target tenants.
- Party schemas and business documents are not included as hard dependencies. If these services are part of your business process, ensure they are both transported to the target tenants before the initial load for case type.

## Initial Load Behavior

Before initiating the initial load, it's important to understand how the target tenant reacts to the incoming configuration if the initial load is done in the source to target direction.

- New configurations in the target are **added**.
- Configurations that currently exist in both source and target systems are **updated**.
- Configurations not present in the source system but that are present in the target system are **deleted**.

For case type specifically, the preceding points mean that:

- Any existing case types in draft status in the target tenant are removed. The draft version from the source tenant becomes the new draft version in the target tenant.
- All existing template versions in the target are moved to inactive status, and the prefix **CHT** is added. This change aligns both tenants to the same configuration baseline. The prefix provides an easy way to correlate the versions.
- All incoming template versions from the source tenant (draft, active, or inactive) are created in the target in exactly the same version status as in the source.

Before deleting any configuration, the system performs a usage check. If a configuration is actively used in case transactions or referenced by other configurations, the initial load fails, indicating that the configuration can't be removed.

If an initial load fails because a configuration is still in use you, as an administrator, can re-create the same configuration in the source tenant and then retry the initial load.

## 54.5.6 Custom Logic

This section describes the important points to be considered while using the change project to transport custom logic settings.

### Note

To enable this feature, create a case with the CEC-CRM-PM-PF component using the subject **Enable Change Project Support for Custom Logic**.

## Prerequisites

- Avoid using technical IDs (UUIDs) in your validations, determinations, or condition or assignment blocks as they differ between source and target tenants and can cause transported logic to fail. For example, if a

condition is defined as: if (accountId == "e3588a4b-8d58-4cc1-b23f-67064ce51b31"), it may work in the source tenant but fail after transport, because the same account can have a different UUID in the target tenant.

- Always use stable IDs that are consistent across tenants.
- Ensure that the code values used in the source tenants are present in the target tenant.
- Ensure to either **Enable** or **Disable** the custom logic instance in the source tenant as it's not possible to disable it in the target tenant.
- You must activate the newly created External Hooks from *Manual Action Required* by maintaining the *API Path* and *Communication System* otherwise it can lead to errors in runtime.
- To avoid runtime errors in the target tenant, you can disable External Hooks in the source tenant and transported to the target tenant; after maintaining the *API Path* and *Communication System*. You can enable it from the source tenant through a delta transport load.

#### ⓘ Note

Ensure that the data is consistent with involved dependencies when disabled External Hook is transported to the target.

## Transport Inclusions

- Determinations
- Validations
- External Hooks

## Transport Initial Load

**Before you begin:** Ensure you've performed an initial load on extensibility service. For detailed information, see information in the Related Information section.

- All custom logic in the target tenants is deleted and is replaced with source tenant content.
- Determinations, validations, and dynamic property rules are copied from source to target and activated automatically.
- Enabling or disabling custom logic can be performed in the source tenant only. The status of the custom logic is transported to the target tenants.
- External hooks are partially transported; all fields other than API path and communication system are transported to the target tenants.
- During an initial load, when the change project is imported and published in the target tenants, the external hooks are in *Manual Action Required* status. An administrator has to open the external hook, enter the API path and the communication system and save it. The external hook is then activated.

#### ⓘ Note

Data connector objects created for External Hooks aren't automatically deleted from the target tenant.

## Transport Delta Load

- Any changes made to determinations, validations, and dynamic property rules are transported to target tenants using the delta transport, activated automatically.
- For external hooks, the behavior is as follows:
  - If a new external hook is created and transported to the target tenant, the transport is like the initial load. The hook is created in the target tenant with *Manual Action Required* status. An administrator must enter the API path and the communication system.
  - If an external hook that has already been transported, an administrator can change the *Description* and *Event* in the source tenant and transport the changes as delta changes to the target. These changes are applied in the target, and the hooks are activated.
  - For an external hook that has already been transported, if an administrator changes the *API Path* or *Communication System* in the source system, the changes stay locally within the system and these changes aren't transported to the target tenant. So, the *API Path* and the *Communication System* maintained in the target tenant aren't overwritten with the changes made in the source tenant.

## Related Information

[Configure Initial Load \[page 938\]](#)

As an administrator, you must trigger an initial load that records all existing changes in a service before creating a change project.

## 54.5.7 Roles

This section describes the important points to be considered while using the change project to transport roles.

### Configuring Initial Load

#### For Business Roles

- Role name and description are copied. Role name is unique and is used as a key for dependent services.

#### ⓘ Note

If a business role with the same name already exists in the target tenant, the synchronization process updates (overwrites) the existing role in the target tenant instead of creating a duplicate. This change is applicable when a role with the same name exists in both the source and target tenants during synchronization.

#### Initial Load Behavior

| Scenario                                                                                                                    | Behavior                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| A role exists in the source tenant but not in the target tenant.                                                            | A new role is created in the target tenant using the role data from the source tenant.                                                         |
| A role with the same name exists in both the source and target tenants.                                                     | The existing target role is updated with the source role data. The target role UUID is retained. No duplicate role is created.                 |
| A role exists in the target tenant but not in the source tenant.                                                            | No action is taken. The target role remains unchanged.                                                                                         |
| Roles exist in both source and target tenants with names that differ only by letter case. For example, Manager and MANAGER. | Role names are treated as case-insensitive. The target role is updated using the source role data and role name. No duplicate role is created. |

#### Delta Load Behavior

| Scenario                                                                                                                                      | Behavior                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A new role is created in the source tenant after the initial load.                                                                            | A corresponding new role is created in the target tenant during delta synchronization.                                                                         |
| A role exists in both source and target tenants, and the source role is modified. For example, changes to description, applications, or ACLs. | The delta changes from the source role are applied to the corresponding role in the target tenant. The existing target role is updated rather than re-created. |

- Business Role ID is generated in the target tenant.
- Admin toggle continues to be the same as in the source.
- The status of the role in the target remains the same as in the source.
- SKUs – the selection that's available in the source is copied.
- Business services – if the tenant scoping is the same, then all selected services and restrictions are copied.

#### Note

For specific restriction rules such as *Specific Employees* or *Specific Organizational Units* in a role, since the IDs are tenant-specific, these IDs won't be available in the target. Such restrictions have to be manually modified in the target tenant.

- Applications – are copied, and the same toggle settings is maintained.
- User assignment – isn't transported as users can't be transported as well. User assignment must be done in the tenant.
- Changes – The source and target tenants record an entry about when the transport occurred.

## 54.5.8 Emails

You can add Mail Transfer Agent (MTA), channels, and templates to change project.

All MTA related configurations are transported to the target system. This includes outbound and inbound email configurations, trusted domains, blocked domains and addresses, and MTA provider configurations (if configured). After transport, the outbound email redirect address must be reviewed and modified or removed in the target system as required.

All channel configurations are transported to the target system, excluding Determination Rules and Business Restrictions. Transported channels must be activated and verified in the target system. Additionally, auto-forwarding must be configured for the new tenant email address.

All template configurations, excluding Business Restrictions, are transported to the target system. HTML documents and attachments are not transported.

#### Note

Autoflow specific email actions are transported together with autoflow rules. Before using autoflow rules in the target system, channels and templates must be adjusted according to the above guidelines.

## 54.5.9 Service Orders

Change project supports the following entities in service orders:

- Service Order Type
- Priority
- User Status
- Item Status
- Item Category
- Rejection Reason

## 54.5.10 Service Quotes

Change project supports the following entities in service quotes:

- Service Quotation Type
- Priority
- Item Categories
- Rejection Reason

## 54.5.11 Opportunities

Change project supports the following entities in opportunities:

- Document Type
- Sources
- Sales Cycle
- Categories
- Reason for Status
- Forecast Category

- Contact Role
- Status

## 54.5.12 Customer Returns

Change project supports the following entities in customer returns:

- Return Order Type
- Return Reason
- Item Return Reason
- Cancellation Reason



# 55 Change Project (Enhanced Version)

The enhanced version of change project allows you to manage landscapes, registered services, record and transport configuration changes from a source system to target systems.

Changes are recorded on a source system such as a staging system and transported to target systems such as a testing system or a production system. Change project supports multi-tier architecture. You can assign one source and multiple target systems for a customer ID.

To use the enhanced version of change project, you must enable this feature through the [Feature Activation Hub](#).

You must activate this feature for all tenants at the same time. Else, the UI will appear inconsistent across tenants where it hasn't been enabled. Also, once it has been activated for a tenant, you cannot revert to the old UI.

## 55.1 Configure Transport Management

As an administrator, you can configure settings required for change project.

You must add the following service and applications:

- Add the business services **sap.crm.service.changeProjectService** to the business role to activate change project.
- Enable the application **sap.crm.changeprojectservice.uiapp.changeProjectApp** to access change project from [Settings](#).

### 55.1.1 Configure Source and Target Systems

As an administrator, you must configure the source system and the target systems for your customer ID.

#### Context

Change project supports multi-tier architecture. You can assign one source and multiple target systems for a customer ID. If you had previously configured a two-tier architecture with one source system and one target system and want to change to a multi-tier architecture, you must first log on to the respective systems and set the [System Type](#) as [Not Applicable](#) in all the target systems.

## Procedure

1. Navigate to your user settings and choose ► [System Settings](#) ► [All Settings](#) ► [Change Project](#) ► [Administration](#) ►.
2. Set the systems as source and target using values provided in the [System Type](#) dropdown.  
The administrator must log on to each system separately and set the system as [Source](#), [Target](#) or [Not Applicable](#).  
The [Changes](#) tab displays the list of users who changed the [System Type](#).  
The [Registered Services](#) tab displays the list of services that currently support change project.

## 55.1.2 Configure Landscapes

Create and configure transport lanes by selecting source and target systems to ensure that the changes you make are transported to specific systems only.

## Context

You can create your own landscapes, and define them using a unique code list. Use them to create multiple, independent transport lanes. As an administrator, you can make any of the landscapes available in other systems, based on the ID. If you have previously set up source and target systems, log in to each system and set the [System Type](#) to [Not Applicable](#) on all target systems before you assign a landscape.

## Procedure

1. Go to ► [User Menu](#) ► [System Settings](#) ► [All Settings](#) ► [Change Project](#) ► [Administration](#) ►.
2. In the [System Settings](#) section select ... ([More](#)), [Landscape Management](#) and choose + ([Add](#)).
3. In the window that appears, enter a code which has two to three alphanumeric characters starting with Z. Provide a name for the landscape and choose [Save](#). You can see the new landscapes in the [System Settings](#) page.
4. In the [System Type](#) column, use the dropdown option against each system to mark it as a source or target.

## 55.1.3 Configure Initial Load

As an administrator, you must trigger an initial load that records all existing changes in a service before creating a change project.

### Context

You must trigger the initial load for every service. You can trigger the initial load either from the source system or the target system. However, you can only trigger the initial load once.

Once you have reconfigured the source and target systems to switch from a two-tier architecture to a multi-tier architecture, it is recommended to trigger the initial load again for all registered services from the former source system as this will have all the changes.

#### Note

If you prefer using the configuration settings in the production system, it is recommended to trigger the initial load from the production system.

### Procedure

1. Navigate to  [User Menu](#)  [System Settings](#)  [All Settings](#)  [Change Project](#)  [Registered Services](#) .
2. Turn on the [Enable](#) switch against the required services to record all existing changes and trigger the initial load.

### Results

Once the initial load is triggered and completed, a system generated project is created. This project must be manually transported and activated in all the target systems. You cannot make any configuration changes for that service before creating a change project.

## 55.1.4 Publish, Transport and Activate Initial Load

Depending on where you configured the initial load from, you must publish and transport the initial load from the source system to the target systems or vice versa. You must then activate the initial load.

### Procedure

1. Log on to the system where you triggered the initial load.
2. Navigate to your user settings and choose **System Settings** > **All Settings** > **Change Project**.
3. In the **Change Project** section, choose **(Publish)** to publish the changes.  
The status of your project changes from *Work in Progress* to *Publish in Progress*, and after refreshing to *Published*.



4. Choose **(Transport)** to transport the changes from the source system to the target system.  
The status of your project changes from *Published* to *Transported*.
5. Log on to the system where you want to activate the initial load.
6. Navigate to **User Menu** > **System Settings** > **All Settings** > **Change Project** > **Change Project**.
7. Choose **Publish** to activate the transported changes.

The status of your project changes from *Imported* to *Publish in Progress* and after refreshing to *Published*.



Use the **(View Logs)** option to view the logs of the change project.

## 55.2 Create Change Project

Once you trigger the initial load for a service, you must create a new change project before making any configuration changes.

### Procedure

1. Navigate to **User Menu** > **System Settings** > **All Settings** > **Change Project** > **Change Project**.  
All change projects are listed.

2. Choose [+](#) (*Create*).
3. Enter a name and description. Select the type of change project you want to create.

| Type         | Details                                                                                                                                                                  |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Delta Change | Changes in configuration that must be recorded and transported.                                                                                                          |
| Bug Fix      | Corrections to delta changes that were created. They can be transported irrespective of the order of delta changes. However, bug fixes maintain a sequence of their own. |

#### → Recommendation

Check the logs before publishing any of the change projects and check for any warnings or errors. If there are conflicts, a warning is added to the [Logs](#).

4. Save your changes.

Once you create a change project, you can make configuration changes in the [Settings](#) page. After making necessary configuration changes, publish and transport your project.

Select the change project to view the list of services and corresponding objects that were changed in the change project, name of the user who made the changes, and the timestamp of the change. The [Checkouts](#) tab displays the list of users who are currently working on the change project.

You can also add notes to your change projects as [Change Memos](#). These can be added both in the source and target system, and are editable by the creator. When the change project containing the change memo is transported to the source, the change memo is copied as a [Transported Memo](#). This cannot be edited.

## 55.3 Publish, Transport, and Activate Change Project

Once you create a change project, you can start making configuration changes. You must then publish your change project.

### Procedure

1. Navigate to the user menu and choose [System Settings](#) [All Settings](#) [Change Project](#) [Change Project](#).

2. Choose your project and select [Publish](#).

The status of your project changes from [Work in Progress](#) to [Published](#).

3. Choose [Transport](#) to transport the changes from the source system to the target systems.

The status of your project changes from [Published](#) to [Transported](#).

#### ⓘ Note

You must first transport all previously published projects before transporting a new project.

4. Log on to the system where you want to activate the initial load.
5. Navigate to the user menu and choose ► [System Settings](#) ► [All Settings](#) ► [Change Project](#) ► [Change Project](#) ►.
6. Choose [Publish](#) to activate the transported changes.

The status of your project changes from *Imported* to *Publish in Progress* and after refreshing to *Published*.

#### Note

You must first activate all previously transported projects before activating a new project.



## 55.4 Use Parallel Change Projects

Parallel change projects allow teams to work on different business functionalities in the source system, and transport their changes independently to the target systems.

When there are multiple change projects, you can select the project that you want to record your changes in, and choose [Checkout](#).

To work on parallel change projects, follow the steps below:

1. In the source system, navigate to the [User Menu](#), choose ► [System Settings](#) ► [All Settings](#) ► [Administration](#) ► [Change Project](#) ► [Change Project](#) ►.
2. For a new change project, use the + [Create](#) option. This change project is checked out by default. You can create multiple change projects if required.  
Any changes that you make in the source system are automatically recorded in the currently checked out change project.  
If you want to record changes in a different change project, you must checkout that project. The current one is automatically checked in.
3. Choose [Publish](#) and then transport your changes to the target system.
4. In the target system, publish the transported project. If a change is not visible in the target, check whether all the related projects are published in the source and target systems.

Some areas such as mashups can only be edited by one change project at a time. If another project tries to modify the same mashup, you can see an error indicating that you cannot make any changes. You can either check out the original project, and make the changes in it, or publish the original project before you make your changes in the current one.

Other items such as extension fields can be used across projects. However, they must be sequenced carefully.

## 55.5 Service-Specific Details

This section describes initial load behavior and change project behavior that are specific to the services available under change project.

The entities that are supported by change project are as follows:

- Extensibility
- Mashups
- Phone Calls
- CTI Configurations
- Sales Orders
- Value Mapping
- Tasks
- Appointments
- Calendar
- Utilities
- Organizational Unit Configurations
- Plant Configurations
- Mail Transfer Agent
- Channels
- Templates
- Integration Common Parts

### Note

Change Project only supports the transport of associated codes and not the instance data. Navigate to [User Menu](#) > [System Settings](#) > [Company](#) to find the Organizational Unit and Plants configurations data.

During delta transport, if additional items are present in the target system, the system displays an error message. You must manually delete or re-create them in the source tenant. In such cases, the initial load fails, and you must trigger it again.

The process to transport your changes from source to target systems is the same for all the entities mentioned. However, some additional information specific to them are mentioned in the following sections.

### Remember

You must first transport [Extensibility Administrator](#) and [Roles](#) to the target system.

## 55.5.1 Integration Common Parts

This section describes the important points to be considered while using the change project for integration common parts.

During the initial load, only communication configurations, including inbound and outbound configurations, that you created directly from the [Communication Configuration](#) screen are included in the change project. Any items created using other services are not included.

On publishing the initial load change project of any service, all the configurations that you created in the target tenant for this service are deleted automatically. This is replaced with the source tenant configurations. For example, any external hooks created directly in the target tenant are deleted, and the external hooks transported from the source tenant are created in the target tenant.

However, the communication configurations related to the deleted configurations are retained in the target system and must be deleted.

Go to ► [User Menu](#) ► [System Settings](#) ► [Integration](#) ► [Communication Configuration](#) ►. From the quick filters, select [Service Generated Communication Configurations](#). You must then [Deactivate](#) and [Delete](#) the communication configuration.

### Note

You can use the [API Path](#) mentioned in the communication configuration that was not deleted, and copy it to the transported configuration.

The list of services that create communication configurations are as follows:

- Extensibility - custom services
- Custom Logic
- Autoflow

## 55.5.2 Extensibility

This section describes the important points to be considered while using change project to transport extensibility settings.

### Note

Extensibility Administration is transported with extensibility and includes Custom Fields, Field Attributes, Page Layouts, Assignment Rules, Reference Fields, and Data Privacy. Language Adaptation is not yet supported.

## Configuring Initial Load

- The system recreates extension fields that are missing in the target system.



- The system does not overwrite extension fields that already exists in the target system with same data type or format.
- If extension fields with the same name but different data type or format exist in the target system, the system displays an error message. You must manually delete the field either in the source or the target system and recreate the field with same data type, format and other parameters. In such cases, the initial load will fail and you must trigger it again after recreating the field.
- When transporting a custom query, mismatched Technical IDs can cause failures. To prevent this, you must maintain the same Display ID across both source and target systems.
- If additional extension fields are present in target system, the system displays an error message. You must manually delete these fields or recreate them in the source system. In such cases, the initial load will fail and you must trigger it again after recreating the field.

#### Note

During the initial-load publishing process, the target system undergoes a complete cleanup, all existing custom logic in the target tenant is deleted as a part of this process.

## 55.5.3 Mashups

This section describes the important points to be considered while using change project to transport Mashup settings.

### 55.5.3.1 Edit URL and Parameter Value for Transported Mashups

As an administrator, you can manually enter the URL and parameter value for mashups in the target system.

#### Context

When you transport a mashup to the target system, the URL field and parameter value are not transported and remains empty. As a result, any screen where the mashup is used displays a warning message indicating that no URL is added. To ensure the mashup works correctly, you must manually enter the URL and parameter value in the target system.

#### Procedure

1. Navigate to  [User Menu](#)  [System Settings](#)  [All Settings](#)  and under [Extensibility](#), select [Mashup Authoring](#).

2. Select the transported mashup for which you need to enter a URL.
3. Choose  ([Edit](#)), located on the top-right corner of the screen.
4. Under [Input Parameters](#), enter the URL of the website in the field.
5. Under [Parameters and Value Binding](#) edit the values for [Constant](#) and [System Parameter](#).
6. Select [Save](#).

See the related link section for information on transporting configuration changes from a source tenant to a target tenant.

## Related Information

### [Change Project \[page 936\]](#)

Change Project allows you to record and transport configuration changes from a source system to target systems.

## 55.5.3.2 Features with Restricted Availability

When moving a configuration to the target system using change project, ensure that the feature is also enabled in the target system. Else, the feature may not work in the target system.

The following features have restricted availability:

- Retain Mashup State
- Create Web Components Mashups

Create a case with the **CEC-CRM-PM-PF** component to enable these features in the source system.

## 55.5.4 Autoflow

This section describes the important points to be considered while using change project to transport autoflow rules.

## Prerequisites

- To use the different features in autoflow, you must configure the following:

| Feature             | Initial Load to be Triggered                          |
|---------------------|-------------------------------------------------------|
| Email action        | templateService<br>emailActionService<br>emailChannel |
| Field update        | fieldUpdateService                                    |
| Info notifications  | approvalService                                       |
| Event notifications | dataConnectorService                                  |

- The fields *CreatedBy* and *UpdatedBy* must be the user publishing changes.
- The fields *CreatedOn* and *UpdatedOn* must reflect the time the changes are published.
- The stable IDs such as *Rule ID*, *Condition ID*, *Employee Display ID*, *Schedule ID*, *Action ID* must be the same in the source and target.
- For info notifications and direct approvers, you must create employees with the same display ID, in the target before transporting the changes.
- For event notifications, communication system and subscriber path are not transported. You must enter these details in the target system.
- For email notifications, email recipients are not transported. You must enter these details in the target system.
- You can only edit event notifications and email cards in the autoflow rule in the target.

#### Note

If additional autoflow rules are present in target system, the system displays an error message. You must manually delete these fields or recreate them in the source tenant. In such cases, the initial load will fail, and you must trigger it again.

## 55.5.5 Approvals

This section describes the important points to be considered while using change project to transport approvals.

### Prerequisites

- To use the email features in approvals, you must configure `templateService`.
- The fields *CreatedOn* and *UpdatedOn* must reflect the time the changes are published. You must validate this in the target system.
- The stable IDs such as *Process Definition ID*, *Condition ID*, *Employee Display ID*, and *Step Definition ID* must be the same in the source and target.
- For emails, the templates are transported. You must upload the html file in the target tenant.
- You must create the employees with the same *Employee ID* in the target system.

#### Note

If additional approvals are present in target system, the system displays an error message. You must manually delete these fields or recreate them in the source tenant. In such cases, the initial load will fail, and you must trigger it again.

You cannot delete approvals associated to business entities in the target system, even if they are deleted in the source.

## 55.5.6 Cases

Change project supports the following code list configurations when transporting cases:

- Status Dictionary Entries
- Status Schemas
- Priorities
- Source Settings

### Important Considerations

When you perform the initial load, the system imports all existing configurations for the selected service, including configurations created before the change project existed. As a result:

- The initial load must be initiated separately for each service.
- Case and case type each require their own independent initial load. Run the initial load for **case** service first, then run the initial load for **case type**. The order is important.

### Initial Load Behavior

Before initiating the initial load, it's important to understand how the target tenant reacts to the incoming configuration if the initial load is done in the source to target direction.

- New configurations in the target are **added**.
- Configurations that currently exist in both source and target systems are **updated**.
- Configurations not present in the source system but that are present in the target system are **deleted**.

Before deleting any configuration, the system performs a usage check. If a configuration is actively used in case transactions or referenced by other configurations, the initial load fails, indicating that the configuration can't be removed.

If an initial load fails because a configuration is still in use you, as an administrator, can re-create the same configuration in the source tenant and then retry the initial load.

## 55.5.7 Case Types

Case types have several attributes that are transported in change projects. There are also several required services that must be transported before transporting case types.

Change project supports the following attributes when transporting cases:

- Code list for case type
- Template versions for case type
- Action catalog

### ⚠ Restriction

The initial load for **case type** can only proceed after the initial load of all dependent services is completed. Loading the dependent services first ensures that all necessary underlying data is already present in the target tenant before case type configurations are transported.

The Case Type service depends on these services:

- Approval
- Autoflow
- Mashup
- Extensibility
- Form Administration

## Important Considerations

When you perform the initial load, the system imports all existing configurations for the selected service, including configurations created before the change project existed. As a result:

- The initial load must be initiated separately for each service.
- Case and case type each require their own independent initial load. Run the initial load for **case** service first, then run the initial load for **case type**. The order is important.
- Since **catalog** is a master data entity and is referenced within **case type** configurations, it's important that you maintain the same catalog display ID across all tenants before implementing change projects for case type. The system relies on matching catalog display IDs between the source and target tenants when validating and transporting data, and this alignment is required for both the initial load and delta load processes for case type.
- Service levels and entity extraction scenarios are not included in the change project scope.
- Decision table configurations such as service level determination, case routing to employee, and case routing to team are not transported through change projects because they may contain tenant-specific data. You can export and import these configurations using a TSV file.
- The decision table **IDs** for case routing to team and case routing to employee within the case template version **are** transported. Therefore, you need to re-create the corresponding decision tables in the target tenant using the same display ID.
- The **number range** name is included in the change project for case types. However, the actual number range values may differ between source and target tenants. The number range in the target tenant remains editable under: [System Settings](#) > [Case Management](#) > [Number Range](#).

- Organizational units must be maintained with the same IDs in both the source and target tenants.
- Party schemas and business documents are not included as hard dependencies. If these services are part of your business process, ensure they are both transported to the target tenants before the initial load for case type.

## Initial Load Behavior

Before initiating the initial load, it's important to understand how the target tenant reacts to the incoming configuration if the initial load is done in the source to target direction.

- New configurations in the target are **added**.
- Configurations that currently exist in both source and target systems are **updated**.
- Configurations not present in the source system but that are present in the target system are **deleted**.

For case type specifically, the preceding points mean that:

- Any existing case types in draft status in the target tenant are removed. The draft version from the source tenant becomes the new draft version in the target tenant.
- All existing template versions in the target are moved to inactive status, and the prefix **CHT** is added. This change aligns both tenants to the same configuration baseline. The prefix provides an easy way to correlate the versions.
- All incoming template versions from the source tenant (draft, active, or inactive) are created in the target in exactly the same version status as in the source.

Before deleting any configuration, the system performs a usage check. If a configuration is actively used in case transactions or referenced by other configurations, the initial load fails, indicating that the configuration can't be removed.

If an initial load fails because a configuration is still in use you, as an administrator, can re-create the same configuration in the source tenant and then retry the initial load.

## 55.5.8 Custom Logic

This section describes the important points to be considered while using the change project to transport custom logic settings.

### Note

To enable this feature, create a case with the CEC-CRM-PM-PF component using the subject **Enable Change Project Support for Custom Logic**.

## Prerequisites

- Avoid using technical IDs (UUIDs) in your validations, determinations, or condition or assignment blocks as they differ between source and target tenants and can cause transported logic to fail. For example, if a

condition is defined as: if (accountId == "e3588a4b-8d58-4cc1-b23f-67064ce51b31"), it may work in the source tenant but fail after transport, because the same account can have a different UUID in the target tenant.

- Always use stable IDs that are consistent across tenants.
- Ensure that the code values used in the source tenants are present in the target tenant.
- Ensure to either **Enable** or **Disable** the custom logic instance in the source tenant as it's not possible to disable it in the target tenant.
- You must activate the newly created External Hooks from *Manual Action Required* by maintaining the *API Path* and *Communication System* otherwise it can lead to errors in runtime.
- To avoid runtime errors in the target tenant, you can disable External Hooks in the source tenant and transported to the target tenant; after maintaining the *API Path* and *Communication System*. You can enable it from the source tenant through a delta transport load.

#### Note

Ensure that the data is consistent with involved dependencies when disabled External Hook is transported to the target.

## Transport Inclusions

- Determinations
- Validations
- External Hooks

## Transport Initial Load

**Before you begin:** Ensure you've performed an initial load on extensibility service. For detailed information, see information in the Related Information section.

- All custom logic in the target tenants is deleted and is replaced with source tenant content.
- Determinations, validations, and dynamic property rules are copied from source to target and activated automatically.
- Enabling or disabling custom logic can be performed in the source tenant only. The status of the custom logic is transported to the target tenants.
- External hooks are partially transported; all fields other than API path and communication system are transported to the target tenants.
- During an initial load, when the change project is imported and published in the target tenants, the external hooks are in *Manual Action Required* status. An administrator has to open the external hook, enter the API path and the communication system and save it. The external hook is then activated.

#### Note

Data connector objects created for External Hooks aren't automatically deleted from the target tenant.

## Transport Delta Load

- Any changes made to determinations, validations, and dynamic property rules are transported to target tenants using the delta transport, activated automatically.
- For external hooks, the behavior is as follows:
  - If a new external hook is created and transported to the target tenant, the transport is like the initial load. The hook is created in the target tenant with *Manual Action Required* status. An administrator must enter the API path and the communication system.
  - If an external hook that has already been transported, an administrator can change the *Description* and *Event* in the source tenant and transport the changes as delta changes to the target. These changes are applied in the target, and the hooks are activated.
  - For an external hook that has already been transported, if an administrator changes the *API Path* or *Communication System* in the source system, the changes stay locally within the system and these changes aren't transported to the target tenant. So, the *API Path* and the *Communication System* maintained in the target tenant aren't overwritten with the changes made in the source tenant.

## Related Information

[Configure Initial Load \[page 938\]](#)

As an administrator, you must trigger an initial load that records all existing changes in a service before creating a change project.

## 55.5.9 Roles

This section describes the important points to be considered while using the change project to transport roles.

### Configuring Initial Load

#### For Business Roles

- Role name and description are copied. Role name is unique and is used as a key for dependent services.

#### ⓘ Note

If a business role with the same name already exists in the target tenant, the synchronization process updates (overwrites) the existing role in the target tenant instead of creating a duplicate. This change is applicable when a role with the same name exists in both the source and target tenants during synchronization.



#### Initial Load Behavior

| Scenario                                                                                                                    | Behavior                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| A role exists in the source tenant but not in the target tenant.                                                            | A new role is created in the target tenant using the role data from the source tenant.                                                         |
| A role with the same name exists in both the source and target tenants.                                                     | The existing target role is updated with the source role data. The target role UUID is retained. No duplicate role is created.                 |
| A role exists in the target tenant but not in the source tenant.                                                            | No action is taken. The target role remains unchanged.                                                                                         |
| Roles exist in both source and target tenants with names that differ only by letter case. For example, Manager and MANAGER. | Role names are treated as case-insensitive. The target role is updated using the source role data and role name. No duplicate role is created. |

#### Delta Load Behavior

| Scenario                                                                                                                                      | Behavior                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A new role is created in the source tenant after the initial load.                                                                            | A corresponding new role is created in the target tenant during delta synchronization.                                                                         |
| A role exists in both source and target tenants, and the source role is modified. For example, changes to description, applications, or ACLs. | The delta changes from the source role are applied to the corresponding role in the target tenant. The existing target role is updated rather than re-created. |

- Business Role ID is generated in the target tenant.
- Admin toggle continues to be the same as in the source.
- The status of the role in the target remains the same as in the source.
- SKUs – the selection that's available in the source is copied.
- Business services – if the tenant scoping is the same, then all selected services and restrictions are copied.

#### Note

For specific restriction rules such as *Specific Employees* or *Specific Organizational Units* in a role, since the IDs are tenant-specific, these IDs won't be available in the target. Such restrictions have to be manually modified in the target tenant.

- Applications – are copied, and the same toggle settings is maintained.
- User assignment – isn't transported as users can't be transported as well. User assignment must be done in the tenant.
- Changes – The source and target tenants record an entry about when the transport occurred.

## 55.5.10 Code List Restrictions

This section describes the important points to be considered while using change project to transport code list restrictions.

- You must trigger the initial load of all the associated action card services before triggering the initial load.
- You cannot edit a code list restriction in the target system.

- You can activate or deactivate code list restrictions only at the source system. You must then trigger a delta change.

## 55.5.11 Emails

You can add Mail Transfer Agent (MTA), channels, and templates to change project.

All MTA related configurations are transported to the target system. This includes outbound and inbound email configurations, trusted domains, blocked domains and addresses, and MTA provider configurations (if configured). After transport, the outbound email redirect address must be reviewed and modified or removed in the target system as required.

All channel configurations are transported to the target system, excluding Determination Rules and Business Restrictions. Transported channels must be activated and verified in the target system. Additionally, auto-forwarding must be configured for the new tenant email address.

All template configurations, excluding Business Restrictions, are transported to the target system. HTML documents and attachments are not transported.

### Note

Autoflow specific email actions are transported together with autoflow rules. Before using autoflow rules in the target system, channels and templates must be adjusted according to the above guidelines.

# 56 Duplicate Check

Duplicate check, once enabled, displays the duplicate check results with a confidence score before creating the instance.

Duplicate check for accounts performs a check comparing the configured fields with the list of existing accounts in the system. As an administrator, you can configure the duplicate check configuration for accounts. If a duplicate check is configured for accounts, any new account that is to be created is checked against configured fields and the result is displayed, containing a list of the existing accounts with a confidence score. This confidence score enables you to decide whether or not to proceed with the creation.

Duplicate check for individual customers performs a check comparing the configured fields with the list of existing individual customers in the system. As an administrator, you can configure the duplicate check configuration for individual customers. If a duplicate check is configured for individual customer, any new individual customer that is to be created is checked against configured fields and the result is displayed, containing a list of the existing individual customer with a confidence score. This confidence score enables you to decide whether or not to proceed with the creation.

Duplicate check for contacts performs a check comparing the configured fields with the list of existing contacts in the system. As an administrator, you can configure the duplicate check configuration for contacts. If a duplicate check is configured for contacts, any new contact that is to be created is checked against configured fields and the result is displayed, containing a list of the existing contacts with a confidence score. This confidence score enables you to decide whether or not to proceed with the contact creation.

Duplicate check for leads performs a check comparing the configured fields with the list of existing leads in the system. As an administrator, you can configure the duplicate check configuration for leads. If a duplicate check is configured for leads, any new lead that is to be created is checked against configured fields and the result is displayed, containing a list of the existing leads with a confidence score. This confidence score enables you to decide whether or not to proceed with the lead creation.

## Note

*Account Duplicate Check*, *Individual Customers Duplicate Check*, *Contacts Duplicate Check*, and *Leads Duplicate Check* from Generative AI is also available in the system. In a tenant, at once, only one flavor (Gen AI or non-Gen AI) features can be enabled in the system. Ensure that you've enabled only one set of these features in your system.

## Limitations

The following are some of the limitations of the duplicate check functionality:

- Percentage-based confidence scores are not supported, as elastic scores are unbounded.
- Match explanations and contributing factors are not currently available.
- The methodology used for calculating matching scores is not disclosed.

## Note

For better results and outcomes, it is suggested to use Gen-AI-based Duplicate check.

## 56.1 Configuration Check for Accounts

Configure Duplicate Check for Accounts.

### Prerequisites

Ensure you've added the following service and application:

- Add the business service **sap.crm.service.duplicateCheckService** to the administrator's business role.
- Enable the application **sap.crm.duplicateCheckservice.uiapp.DuplicateCheckAdmin** to access the administrator settings.

### Procedure

1. As an administrator, navigate to your *User Menu*, and select ► *System Settings* ► *All Settings* ► *Duplicate Check* ► *Check Configuration* .
2. To activate the check configuration for Accounts, enable the *Activate Duplicate Check* switch.
3. Under *Configure*, include the fields such as *Full Name*, *Role*, *Industry*, *Email*, and so on, that you wish to configure for checking duplicates. You can remove the fields clicking on the delete icon. You can also add more fields by selecting fields from the *Add Fields* option.

#### Note

The *Add Fields* section contains additional configurable account fields that you can include in your check configuration.

4. Specify the *Minimum Match %* and *Weightage* for the fields.

#### Note

- You can specify *Minimum Match %* and *Weightage* only for non-codelist fields. The codelist fields such as *Industry*, *Role*, *Country/Region*, and so on, act as filters while performing a check for duplicate accounts, filtering out the results that don't match.
- *Minimum Match %* is the numeric percentage that a particular field must match the entered details. This percentage value is applicable only for fields that contain user-defined text. *Weightage* defines the priority of the configured field. The range for the weightage field varies from 0.1 to 10. The higher is the weightage number, the higher is the priority. For example, a weightage 10 has a higher priority than 1.8.

5. You can add more fields to include in the check by choosing the fields from the *Add Fields* section.
6. Save your changes.
7. Use the *Test Console* to check for duplicate accounts. Enter the *Account ID* to check for duplicate accounts. If duplicates exist, a list of duplicates is displayed along with the confidence score.

#### Note

Confidence indicates how closely the attributes of the new account match with the duplicates.

## Related Information

### [Account Duplicate Check \[page 639\]](#)

Account Duplicate Check leverages Generative AI to check and display the duplicate check results with a confidence score, before creating an account.

## 56.2 Configuration Check for Individual Customers

Configure Duplicate Check for Individual Customers.

## Prerequisites

Ensure you've added the following service and application:

- Add the business service **sap.crm.service.duplicateCheckService** to the administrator's business role.
- Enable the application **sap.crm.duplicateCheckservice.uiapp.DuplicateCheckAdmin** to access the administrator settings.

## Procedure

1. As an administrator, navigate to your *User Menu*, and select  *System Settings*  *All Settings*  *Duplicate Check*  *Check Configuration* .
2. To activate the check configuration for Individual Customers, enable the *Activate Duplicate Check* switch.
3. Under *Configure*, include the fields such as *Full Name*, *Role*, *Industry*, *Email*, and so on, that you wish to configure for checking duplicates. You can remove the fields clicking on the delete icon. You can also add more fields by selecting fields from the *Add Fields* option.

#### Note

The *Add Fields* section contains additional configurable individual customer fields that you can include in your check configuration.

4. Specify the *Minimum Match %* and *Weightage* for each of the fields.

#### Note

- You can specify *Minimum Match %* and *Weightage* only for non-codelist fields. The codelist fields such as *Industry*, *Role*, *Country/Region*, and so on, act as filters while performing a check for duplicate individual customers, filtering out the results that don't match.
- *Minimum Match %* is the numeric percentage that a particular field must match the entered details. This percentage value is applicable only for fields that contain user-defined text. *Weightage* defines the priority of the configured field. The range for the weightage field varies from 0.1 to 10. The higher is the weightage number, the higher is the priority. For example, a weightage 10 has a higher priority than 1.8.

5. You can add more fields to include in the check by choosing the fields from the *Add Fields* section.
6. Save your changes.
7. Use the *Test Console* to check for duplicate individual customers. Enter the *Individual Customer ID* to check for duplicate individual customers. If duplicates exist, a list of duplicates is displayed along with the confidence score.

#### Note

Confidence indicates how closely the attributes of the new individual customers match with the duplicates.

## Related Information

[Individual Customer Duplicate Check \[page 640\]](#)

Individual Customer Duplicate Check leverages Generative AI to check and display the duplicate check results with a confidence score, before creating an individual customer.

## 56.3 Configuration Check for Contacts

Configure Duplicate Check for Contacts.

### Prerequisites

Ensure you've added the following service and application:

- Add the business service **sap.crm.service.duplicateCheckService** to the administrator's business role.
- Enable the application **sap.crm.duplicateCheckservice.uiapp.DuplicateCheckAdmin** to access the administrator settings.

## Procedure

1. As an administrator, navigate to your [User Menu](#) and select ► [System Settings](#) ► [All Settings](#) ► [Duplicate Check](#) ► [Check Configuration](#) ►.
2. To activate the check configuration for Contacts, enable the [Activate Duplicate Check](#) switch.
3. Under [Configure](#), include the fields such as [Full Name](#), [Role](#), [Industry](#), [Email](#), and so on, that you wish to configure for checking duplicates. You can remove the fields clicking on the delete icon. You can also add more fields by selecting fields from the [Add Fields](#) option.

### Note

The [Add Fields](#) section contains additional configurable contact fields that you can include in your check configuration.

4. Specify the [Minimum Match %](#) and [Weightage](#) for each of the fields.

### Note

- You can specify [Minimum Match %](#) and [Weightage](#) only for non-codelist fields. The codelist fields such as [Industry](#), [Role](#), [Country/Region](#), and so on, act as filters while performing a check for duplicate contacts, filtering out the results that don't match.
- [Minimum Match %](#) is the numeric percentage that a particular field must match the entered details. This percentage value is applicable only for fields that contain user-defined text. [Weightage](#) defines the priority of the configured field. The range for the weightage field varies from 0.1 to 10. The higher is the weightage number, the higher is the priority. For example, a weightage 10 has a higher priority than 1.8.

5. You can add more fields to include in the check by choosing the fields from the [Add Fields](#) section.
6. Save your changes.
7. Use the [Test Console](#) to check for duplicate contacts. Enter the [Contact ID](#) to check for duplicate contacts. If duplicates exist, a list of duplicates is displayed along with the confidence score.

### Note

Confidence indicates how closely the attributes of the new contact match with the duplicates.

## Related Information

### [Contact Duplicate Check \[page 641\]](#)

Contact Duplicate Check leverages Generative AI to check and display the duplicate check results with a confidence score, before creating a contact.

## 56.4 Configuration Check for Leads

Configure Duplicate Check for leads.

### Prerequisites

Ensure you've added the following service and application:

- Add the business service **sap.crm.service.duplicateCheckService** to the administrator's business role.
- Enable the application **sap.crm.duplicateCheckservice.uiapp.DuplicateCheckAdmin** to access the administrator settings.

### Procedure

1. As an administrator, navigate to your *User Menu*, and select ► *System Settings* ► *All Settings* ► *Duplicate Check* ► *Check Configuration* .
2. To activate the check configuration for leads, enable the *Activate Duplicate Check* switch.
3. Under *Configure*, include the fields such as *Name*, *Individual Customer*, *Account*, *Industry Code*, and so on, that you wish to configure for checking duplicates. You can remove the fields clicking on the delete icon. You can also add more fields by selecting fields from the *Add Fields* option.

#### Note

The *Add Fields* section contains additional configurable lead fields that you can include in your check configuration.

4. Specify the *Minimum Match %* and *Weighting* for each of the fields.

#### Note

- You can specify *Minimum Match %* and *Weighting* only for non-codelist fields. The codelist fields such as *Industry*, *Role*, *Country/Region*, and so on, act as filters while performing a check for duplicate leads, filtering out the results that don't match.
- *Minimum Match %* is the numeric percentage that a particular field must match the entered details. This percentage value is applicable only for fields that contain user-defined text. *Weighting* defines the priority of the configured field. The range for the weighting field varies from 0.1 to 10. The higher is the weighting number, the higher is the priority. For example, a weighting 10 has a higher priority than 1.8.

5. You can add more fields to include in the check by choosing the fields from the *Add Fields* section.
6. Save your changes.
7. Use the *Test Console* to check for duplicate leads. Enter the *Lead ID* to check for duplicate leads. If duplicates exist, a list of duplicates is displayed along with the confidence score.



#### Note

Confidence indicates how closely the attributes of the new lead match with the duplicates.

## Related Information

## 57 Rule Table

Rule tables allow applications to define tables, where columns represent attributes and rows specify conditions. When the conditions in a row are met, the corresponding output is returned in the response.

Various entities such as case, territories, and opportunities make use of rule tables to allow routing.

For example, in territory routing, the application assigns a territory to an account based on the account's attributes. A sequence of conditions is applied to these attributes, and if a condition evaluates to true, the corresponding output (such as a territory ID) is returned. Another example is ticket routing, where the application defines a set of rules to determine how a ticket should be routed.

In SAP Sales and Service Cloud V2, rule tables are used in territories, cases, leads and opportunities. In each of the rule tables, you can see a list of rules in a sequence.

You can add rules to the table using [+](#) (*Add*) or also import from Excel.

You can change the sequence of the rules, delete them, apply filters, and adapt input columns too. To view the description of [Main Address/Country/Region Code](#) instead of codes, turn on the [Show Description](#) switch.

When you update a rule table, you can save the latest version using the [Save Active Version](#) option. You can save a maximum of 20 versions. After this limit is reached, the oldest version is deleted. Use the [View Versions](#) option to view all the saved versions and their details. To restore the previous version, choose [Restore](#) against the required version.

### 57.1 Create Rules

Create rules in rule tables and use them in your entities.

#### Procedure

1. Choose [+](#) (*Add*) to add a new rule. This is added as the first row in the table. A sequence number is automatically assigned. The output columns are highlighted in yellow.
2. Click to view the names of the rows and columns.
3. Click the \* to select the operator and value, choose Apply. Choose the [Between](#) operator to maintain a range of values as the input. The options are listed based on the selected columns.
4. Choose [✓](#) (*Save*) to save your changes to the row.
5. Use the [Swap Rows](#) option to change the position of the selected row.
6. Use the [⋮](#) (*More*) option to insert a new rule above or below the current row.
7. Choose [Activate](#) to activate the rule table once you've made all the required changes.

# 58 SAP Service Cloud Version 2 on Tablet Devices

Access SAP Service Cloud Version 2 on supported iPad and Android tablet devices to stay productive while working remotely, traveling, or visiting customers. The tablet experience provides a responsive and optimized interface that helps users efficiently perform daily tasks on a larger touch-enabled screen.

Tablet access helps organizations extend business flexibility by enabling users to securely access business data and key functionality from virtually anywhere. With convenient access to important information and essential tools, you can stay informed, respond quickly to business needs, and continue core business processes without interruption.

## Limitations

Administrative settings and access management are not available in the tablet application. Use the desktop version to perform administrator tasks and manage system settings.

## 58.1 System Requirements

This section outlines the minimum system, network, and device requirements for using the tablet application. Ensuring these requirements are met helps provide optimal performance and a stable user experience.

Meeting the recommended specifications helps optimize application performance, including faster data synchronization, improved responsiveness, and seamless navigation. If the minimum requirements are not met, users may experience degraded performance or limited functionality.

Before installing or using the application, verify that your device configuration and network connectivity comply with the requirements described in this section.

### 58.1.1 Network Requirements

Meeting the minimum network requirements helps maintain optimal responsiveness and reduces delays during data processing. Poor network conditions may result in slower performance or interruptions in application functionality.

The following minimum network requirements must be met:

- Upstream Bandwidth: Minimum 10 Mbps
- Downstream Bandwidth: Minimum 10 Mbps

- Latency: 200 ms or lower

A network connection is required for communication with the server. You can use either a Wi-Fi or a cellular network:

- For Wi-Fi connections, ensure the minimum bandwidth requirements listed above are met.
- For cellular networks, a 4G/LTE connection or higher is required.

## 58.1.2 Device Requirements

This section provides information about the supported and recommended tablet devices and operating system requirements for using the application.

The list of supported and recommended devices is reviewed periodically and may change based on application and platform requirements.

| Supported Operating System | Recommended Device Model      | Supported Device Model                               | Minimum Hardware Specification                      | End of Support                                                |
|----------------------------|-------------------------------|------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------|
| iPadOS 18 and above        | Apple iPad Pro (M1 and above) | Apple iPad Pro (11-inch, 1st generation) and above   | Minimum 3 GB RAM<br>A10 Fusion/A12 Bionic and above | Based on Apple iPadOS support policy and device compatibility |
|                            |                               | Apple iPad Pro (12.9-inch, 3rd generation) and above |                                                     |                                                               |
|                            |                               | Apple iPad Air (3rd generation) and above            |                                                     |                                                               |
|                            |                               | Apple iPad (7th generation) and above                |                                                     |                                                               |
|                            |                               | Apple iPad mini (5th generation) and above           |                                                     |                                                               |
| Android 11 and above       | Samsung Galaxy Tab S10+       | Samsung Galaxy Tab S8 and above                      | 8 GB RAM, Octa-core CPU, 64 GB storage              | TBD                                                           |

### Note

The listed iPad models represent recommended devices for optimal performance and do not include all devices supporting iPadOS 18.

## 58.2 Sign In to the Application

After downloading and installing the application on your supported tablet device, sign in using your company credentials to access available business data and functionality. Depending on your organization's

configuration, you can sign in using single sign-on (SSO), a username and password, or biometric authentication.

## Prerequisites

- Ensure that your device is connected to the internet.
- Download and install the latest version of the application.
- Have the system URL and sign-in credentials provided by your administrator.

## Procedure

1. Open the application. On the welcome screen, choose *Sign In*.
2. Enter the tenant URL.
3. Choose one of the available sign-in methods: *Sign In Using SSO* or with a *Username* and *Password*.

### Note

The *Sign In* button is disabled if the entered tenant URL is not an allowed domain. You cannot proceed with an invalid URL.

4. Enter your username and password, if prompted.
5. Complete the authentication process based on your company setup.
6. Create a passcode to secure application access, if required.
7. (Optional) Enable biometric authentication, such as Face ID or fingerprint recognition, if supported on your device.

## Results

You are signed in to the application and can access available features, business data, and functionality based on your assigned authorizations.

After logging in, the application loads the SAP Service Cloud Version 2 application within a WebView container

### Note

Your device language is used as the default language for the application.

## 58.3 Application Settings

After signing in, configure the application settings to personalize your experience and control how data is managed on your tablet device. These settings help you tailor notifications, downloads, synchronization, and appearance based on your preferences.

### Procedure

1. Choose  (*Settings*) in the login screen.
2. On the *Settings* page, configure the following options:
  - *Theme*: Choose Light mode, Dark mode, or use the device theme.

### Results

Your preferences are applied.

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