

PUBLIC
2026-11-12

SAP BTP Configuration Guide

SAP Subscription Billing

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1 Introduction

This guide leads you step-by-step through the process of onboarding SAP Subscription Billing.

> ⚠ Caution
>
> **This guide is only relevant for customer-managed provisioning and integration. In an SAP-managed model, provisioning, technical setup, and integration is largely automated and described in Provisioning and Integration Guide: SAP-Managed SAP Subscription Billing with SAP S/4HANA Cloud Public Edition.**

Once you've received an email from SAP welcoming you to SAP Subscription Billing, you can start with the first steps.

The technical setup includes the creation of a tenant. Only users with an administrator role for the global account can create tenants. At first, only the recipients of the welcome email have this role. If someone else needs to create a tenant, one of the email recipients must add the relevant user as Administrator for the global account. This is described in the section Add Administrators to Global Account [page 28].

See also the SAP Business Technology Platform (SAP BTP) documentation for an overview of all administration roles: Role Collections and Roles in Global Accounts, Directories, and Subaccounts.

Note that screenshots used in this document were taken using one of the standard SAP visual themes. They may not look the same for you depending on your user settings.

Cloud Availability

We recommend that you go to SAP for Me and add the e-mail addresses of employees of your company whom we can contact with Cloud Availability notifications relating to SAP Subscription Billing. You do this under *Systems & Provisioning*.

> → Tip
>
> Ideally, enter the e-mail addresses of your fellow employees who can work with us in critical situations without delay. For more information, see Get Notified.

Booster

Decide whether you want to use an automation wizard called "booster" for the onboarding of an SAP Subscription Billing tenant, or if you want to follow a manual step-by-step guide.

> **Note**
>
> The booster has some settings that need to be configured carefully, for example regarding subaccounts. Please read the information on the booster carefully.

For the next steps, see:

- Set Up Using Booster Automation [page 7]
- Set Up Using Connectivity Automation [page 15]
- Set Up Using Manual Steps [page 26]

SAP BTP Environment

SAP Subscription Billing runs on the **Cloud Foundry** environment. For more information, see Cloud Foundry Environment in the SAP BTP documentation.

Data Centers

SAP Subscription Billing can be run in the following data center locations (SAP Business Technology Platform regions):

- Europe (Frankfurt)
- Europe (Frankfurt) EU Access
  You can include the option *EU Access* in your contract, in which case processing of personal data is restricted to the European Economic Area (EEA)/Switzerland, provided you create your subaccount (tenant) in the region `eu11`. Creating a subaccount in the region `eu11` without the option active in your contract is not sufficient to restrict processing to EEA/Switzerland.
- US East (VA)
- US Central (IA)

  > **Note**
  >
  > The integration monitoring tool SAP Cloud ALM and the analytics apps *Subscription Analytics* and *Billing Data Analytics* are currently not available in the region “US Central”.

For more information, see Regions in the SAP Business Technology Platform documentation.

> **Note**
>
> Paths in the SAP Subscription Billing documentation usually refer to the region `eu10`. This is just an example region and can be replaced with your own region.
>
> You cannot migrate data in existing tenants from one data center to another.

2 Revision History

Overview of changes to the *SAP BTP Configuration Guide* in the last 12 months.

Date of Update	Change
November 13, 2026	This guide is now only relevant for customer-managed provisioning and integration. For the SAP-managed model, follow the Provisioning and Integration Guide: SAP-Managed SAP Subscription Billing with SAP S/4HANA Cloud Public Edition.
October 26, 2026	The following sections are updated to describe the new approach to authenticate users based on SAP Cloud Identity Services: • Set Up Using Booster Automation [page 7] • Technical Setup [page 26] • Enable UI Access [page 36] A new section Migrate to Authentication Using SAP Cloud Identity Services [page 81] is also added that provides information on how to migrate existing tenants from the current XSUAA-based authentication to the up-to-date IAS-based authentication.
September 14, 2026	Procedure Create a Formation for Next-generation SAP Data Privacy Integration [page 24] added.
August 3, 2026	Section Create a Formation for SAP Master Data Integration [page 20] added. Connectivity setup between SAP Master Data integration and SAP S/4HANA Cloud Public Edition as well as SAP Subscription Billing, is now simplified by the recommended approach to create a system formation.
May 7, 2026	Updated section Set Up Using Booster Automation [page 7] to reflect the availability of region "US Central (IA)" (`cf-us30`) for SAP Subscription Billing, with the platform provider Amazon Web Services (AWS). **Note** The integration monitoring tool SAP Cloud ALM and the analytics apps *Subscription Analytics* and *Billing Data Analytics* are currently not available in this region.
February 9, 2026	Setup steps for the "Price Calculation" service removed as the service has been merged with the "SAP Subscription Billing" service.
December 15, 2025	Information added about changes in procedures after the scheduled merge of the "SAP Subscription Billing" and "Price Calculation" services by SAP. For information about the schedule, see the Post-Merge Steps for Pricing Apps and APIs.

3 Set Up Using Booster Automation

A booster is a set of guided interactive steps that enable you to select, configure, and consume services on SAP BTP to achieve a specific technical goal. Boosters automate processes that otherwise require a high number of manual steps, such as onboarding applications like SAP Subscription Billing.

> ⚠ Caution
>
> **This guide is only relevant for customer-managed provisioning and integration. In an SAP-managed model, provisioning, technical setup, and integration is largely automated and described in the guide Provisioning and Integration Guide: SAP-Managed SAP Subscription Billing with SAP S/4HANA Cloud Public Edition.**

The Onboard SAP Subscription Billing [page 8] booster helps you onboard an SAP Subscription Billing tenant in a new or existing subaccount. If you use the booster, most of the steps mentioned under Set Up Using Manual Steps [page 26] are performed automatically.

> → Recommendation
>
> We recommend using the booster for onboarding SAP Subscription Billing tenants.
>
> If you use the booster for onboarding a **production tenant** or a **test tenant that requires a production-like setup**, note the following:
>
> - All users added as administrators get full authorization for administrative and development tasks as well as full access to the SAP Subscription Billing user interface. If this contradicts your compliance rules for production tenants, add users manually or remove authorizations prior to productive use of the tenant.
> - The booster creates an API client for accessing SAP Subscription Billing APIs with all API scopes. You can manually configure API access with only selected scopes depending on your business needs. For more information, see Update a Service Instance [page 51].

> ⚠ Caution
>
> - Before using booster, you must get your SAP Cloud Identity Services - Identity Authentication tenant and make it available to your global account or establish OIDC trust with the correct Identity Authentication tenant in the existing subaccount to which you will subscribe SAP Subscription Billing. For more details on how to get your SAP Cloud Identity Services and establish OIDC trust, see Get Your Tenant in the SAP Cloud Identity Services documentation and Establish Trust and Federation Between SAP Authorization and Trust Management Service and SAP Cloud Identity Services in the SAP BTP documentation.
> - During the booster configuration, you must decide whether you want to create a **new subaccount** or select an **existing subaccount** to which you want to add SAP Subscription Billing. If you make the wrong selection for your use case, you isn't run into issues further in the onboarding process. For more details on which configuration to select, see step 6 in the section Onboard SAP Subscription Billing [page 8].
> - During the booster configuration, you must select the correct Identity Authentication tenant for *Custom Identity Provider for Applications*. If you make the wrong selection for your use case, the

onboarding process would either fail or it connects the user authentication to the wrong Identity Authentication tenant. If you setup a test or development SAP Subscription Billing tenant, you should select your IAS test tenant. If you setup a productive SAP Subscription Billing tenant, select your productive IAS tenant.

- You can include the option *EU Access* in your contract, in which case processing of personal data is restricted to the European Economic Area (EEA)/Switzerland, provided you create your subaccount (tenant) in the region `eu11`. Creating a subaccount in the region `eu11` without the option active in your contract is not sufficient to restrict processing to EEA/Switzerland.

After the configuration is completed and the booster is started, the booster assigns entitlements, subscribes chosen applications, and creates the relevant service instances and the associated service keys automatically.

When the booster has finished all the processing steps, you can access the user interfaces of SAP Subscription Billing. In addition, you can use the created service key to get OAuth access tokens for the created service instances.

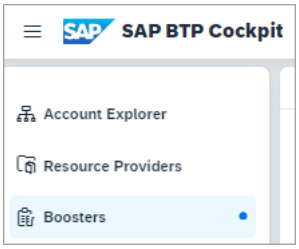
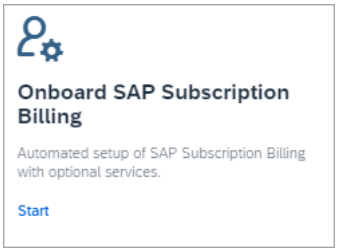
> ⓘ Note
>
> To run the booster on an existing subaccount, make sure you have the **Subaccount Admin** role (part of the **Subaccount Administrator** role collection).

3.1 Onboard SAP Subscription Billing

To start the onboarding of SAP Subscription Billing, follow these step-by-step instructions.

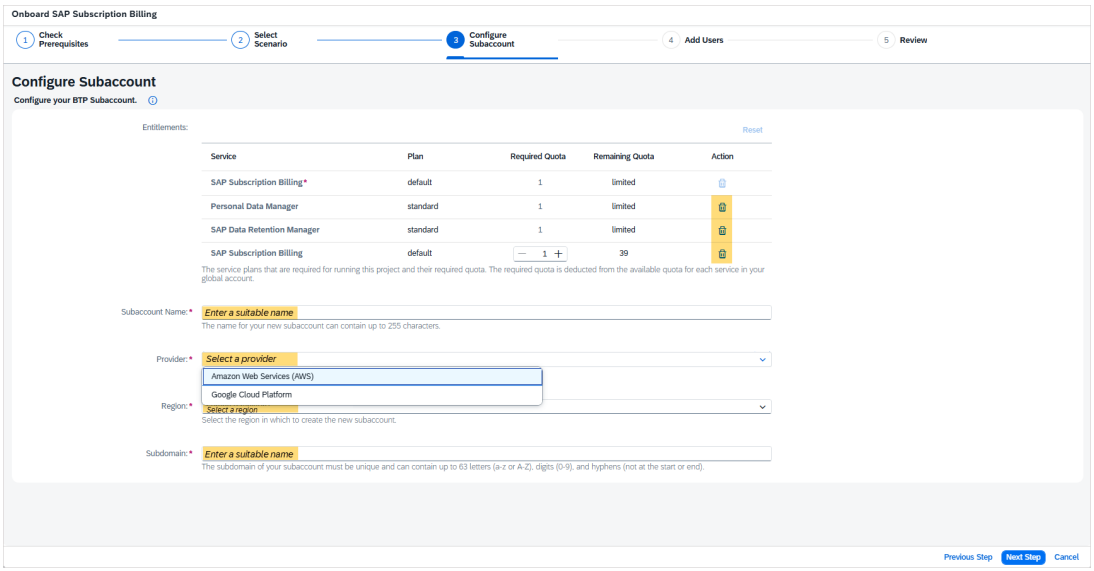
> → Tip
>
> Throughout the booster configuration, choose *Next* to get to the next selection screens or *Previous* to adjust settings you made in the previous screens.

Step	Task
1.	Logon to the SAP BTP Cockpit using either of these URLs depending on your region, your contract, and your special data processing needs: • EMEA: https://emea.cockpit.btp.cloud.sap • Americas: https://amer.cockpit.btp.cloud.sap • Asia-Pacific, Oceania: https://apac.cockpit.btp.cloud.sap • EU Access: https://eu-access.cockpit.btp.cloud.sap • A logon URL in the region closest to you (to avoid latency). See Regions and Regions and API Endpoints Available for the Cloud Foundry Environment in the SAP BTP documentation.

Step	Task
2.	Open the global account that was used to order SAP Subscription Billing. → Tip To find the right global account, you can use the *System & Provisioning* dashboard in SAP for Me (log on with your S-user ID). In the dashboard, you can find the global account ID under *System Name & Number*. In this guide, we use "*SubscriptionBilling Consulting*" as the example account.
3.	Choose *Boosters* in the navigation panel.  Note If you don't see this entry in the navigation panel, you need to have the Global Account Administrator role assigned to your user.
4.	Select the tile *Onboard SAP Subscription Billing* from the *Boosters* overview page and choose *Start*.  The overview page displays: • Information about the booster • Components that are available for the booster • Available additional resources
5.	Choose *Start* to begin the booster process. The booster checks the necessary prerequisites including required authorizations and entitlements. If the prerequisites are met, choose *Next*.

Step	Task
6.	Decide whether you want to create a new subaccount for SAP Subscription Billing or add it to an existing subaccount. **⚠ Caution** This decision has implications for the onboarding of further applications that **MUST** be subscribed in the same subaccount as SAP Subscription Billing, for example *Event Mesh*. Once you have decided, select either *Create Subaccount* or *Select Subaccount* and choose *Next*. Continue with step 6a. or 6b.

Step	Task
6a.	**Create Subaccount** To create a new subaccount, enter the required information and choose *Next* add users. The booster prefills the fields with suggestions you can partially change: • *Entitlements*: Depending on your use case, you can delete optional entitlements of services and applications that you don't want to subscribe. • *Subaccount Name*: You can change the generated name to something more relevant to your use case. • *Provider* and *Region*: Each region has a platform provider. Regions and Providers **Region** / **Provider** Europe (`cf-eu10`) / Amazon Web Services Europe EU Access (`cf-eu11`) / Amazon Web Services You can include the option *EU Access* in your contract, in which case processing of personal data is restricted to the European Economic Area (EEA)/Switzerland, provided you create your subaccount (tenant) in the region `eu11`. Creating a subaccount in the region `eu11` without the option active in your contract is not sufficient to restrict processing to EEA/Switzerland. US East (`cf-us10`) / Amazon Web Services US Central (`cf-us30`) / Google Cloud Platform **Note** The integration monitoring tool SAP Cloud ALM and the analytics apps *Subscription Analytics* and *Billing Data Analytics* are currently not available in the region "US Central". • *Subdomain*: This will be the name of your SAP Subscription Billing tenant. You can deselect optional applications in this step by choosing the *Delete* action. **→ Tip** You can find a brief description of each entitlement under Overview of Entitlements [page 13] below.

Step	Task
	
6b.	**Select Subaccount** To choose an existing subaccount for this booster, select the relevant subaccount from the list under *Subaccount*. **Entitlements**: Depending on your use case, you can delete optional entitlements of applications that you don't want to subscribe. You can deselect optional applications in this step under *Action*.
7.	Select the correct Identity Authentication tenant in *Custom Identity Provider for Applications* and add additional users as administrators or developers. The booster will assign the relevant roles automatically. The user who is configuring the booster is added as administrator and developer automatically. **⚠ Caution** Make sure to select the correct Identity Authentication tenant in *Custom Identity Provider for Applications*, otherwise the onboarding process will either fail or it connects the identity provider to the wrong Identity Authentication tenant. SAP Subscription Billing only supports subscribing with an Identity Authentication tenant.
8.	Review the configuration settings you made, especially regarding the subaccount mode. When you are happy with your choices, choose *Finish*. The booster will make the settings according to your configuration.

Step	Task
9.	When the booster configuration is complete, some settings still have to be made manually, depending on your configuration needs: • As the booster can only create user interface access for Administrators and Developers, other business users have to be added manually. See Enable Authentication and Single Sign-On for Business Users [page 37]. • Define Subaccount Administrators [page 36] • Configure Your SAP Cloud Identity Services Tenant as Identity Provider or Proxy of Your Subaccount [page 38] • Build Role Collections [page 39] • Define Roles to Restrict Authorization by Market (Optional) [page 41] • Assign Role Collections to Users or User Groups [page 43] • To enable the integration of SAP Subscription Billing apps with the SAP Fiori launchpad of SAP S/4HANA Cloud Public Edition, follow the procedure described under Integration with the SAP Fiori Launchpad of SAP S/4HANA Cloud Public Edition (Customer-Managed Provisioning and Integration Only) in the *Setup and Administration Guide*. **Note** API scopes for recently deployed features may not be up to date when you run the booster for the initial onboarding. Missing API scopes need to be added manually. For more information, see Update a Service Instance.

Overview of Entitlements

Entitlement	Provides Access To
SAP Subscription Billing (required)	SAP Subscription Billing application and APIs
Event Mesh	SAP Event Mesh service for event distribution For information about the scenarios in which you use this service, see Integration Using Events in the *Integration Guide*. You require a separate license for SAP Event Mesh.
Event Mesh Subscription	SAP Event Mesh application for event distribution For information about the scenarios in which you use the SAP Event Mesh service, see Integration Using Events in the *Integration Guide*. You require a separate license for SAP Event Mesh.
SAP Cloud Application Event Hub	SAP Cloud Application Event Hub service for event distribution For information about the scenarios in which you use this service, see Integration Using Events in the *Integration Guide*.

Entitlement	Provides Access To
data-privacy-integration-application	The next-generation SAP Data Privacy Integration service for data protection For more information, see Find Personal Data in the *Setup and Administration Guide*.

4 Set Up Using Connectivity Automation

If you're integrating SAP Subscription Billing with SAP S/4HANA Cloud Public Edition, and SAP Master Data Integration, you can automate part of the integration setup by creating formations to define system connectivity.

> ⚠ Caution
>
> **This guide is only relevant for customer-managed provisioning and integration. In an SAP-managed model, provisioning, technical setup, and integration is largely automated and described in the guide Provisioning and Integration Guide: SAP-Managed SAP Subscription Billing with SAP S/4HANA Cloud Public Edition.**

> ⓘ Note
>
> For integrations with SAP S/4HANA Cloud Public Edition, and SAP Master Data Integration, you also need to complete other setup steps described in other guides:

Integration	Integration Setup Guide	SAP Signavio Process Navigator
Subscription Management with Sales Billing (scope item 57Z)	Setup Instructions	57Z Solution Processes
Subscription Management with Convergent Invoicing (scope item 5IK)	Setup Instructions	5IK Solution Processes

4.1 Register Your SAP S/4HANA Cloud Public Edition System in Your Global Account

To connect an SAP S/4HANA Cloud Public Edition system with a global account in SAP BTP, you need to register the system in the corresponding global account.

Prerequisites

You are an administrator of the global account where you want to register your SAP S/4HANA Cloud Public Edition system.

For easier reading, “SAP S/4HANA Cloud” is used in this help section to refer to the software product SAP S/4HANA Cloud Public Edition.

Context

The registration process is based on a registration token that is used for the pairing of the SAP S/4HANA Cloud system and the corresponding global account. You create the token in the global account, and then the tenant administrator of the respective SAP S/4HANA Cloud system uses the token to start the automated registration process on the SAP S/4HANA Cloud system side.

> ⓘ Note
>
> - When registering SAP S/4HANA Cloud systems, you can have up to 1000 tokens per global account ready to be used. Tokens that are already used to register an SAP S/4HANA Cloud system are not included in this number.
>   This means that you cannot have more than 1000 systems on the *Systems* page of type SAP S/4HANA Cloud with an empty status and generated token that is not used yet.
> - You cannot migrate the registered SAP S/4HANA Cloud systems between global accounts.
>   If you want to start using another global account, you will have to register your SAP S/4HANA Cloud systems again.
> - When registering a system or creating a formation, the data you provide in the given input fields is not encrypted with your customer managed key. The data you enter is only encrypted at rest.
> - You can have the same SAP S/4HANA Cloud system registered in two global accounts:
>   - If the two global accounts belong to the same Customer ID, then the SAP S/4HANA Cloud system will be auto discovered in both global accounts.
>   In this case, if you register the SAP S/4HANA Cloud system in one of the global accounts, it will appear registered in the other global account as well. If the communications scenario group with which the SAP S/4HANA Cloud system has been registered in the first global account works for the use case in the second global account, then you can use the same system in a formation in the second global account as well.
>   If the use case in the second global account requires a different communication scenario group, you have to add the SAP S/4HANA Cloud system manually in this global account and register it with the necessary communication scenario group.
>   - If the two global accounts belong to different Customer IDs, the SAP S/4HANA Cloud system will be auto discovered in one of the global account and need to be added manually in the other. Then, you register the system for each of the global accounts.

Procedure

1. In the cockpit, navigate to your global account, and then choose *System Landscape* > *Systems*.
   The term "system" is used in the cockpit as an overall term for systems and tenants.
2. Check if your SAP S/4HANA Cloud system has been auto-discovered and is already in the *Systems* page. If yes, then continue with *step 3.e.* and get the registration token.

   > ⓘ Note
   >
   > If your SAP S/4HANA Cloud system is auto-discovered and you still add it manually and then finish the registration process with the manually added system, you can merge the two entries (see Merge Systems).

3. On the *Systems* page, choose *Add System*.
    a. In the *Type* dropdown list, select *SAP S/4HANA Cloud*.
    b. Enter a name for the system you want to register.

> ⓘ Note
>
> Use only printable ASCII characters.

> → Tip
>
> We recommend that you indicate the type of the system when specifying the system name. For example, **`<mysystem>-S/4HANA-cloud`**. This helps you identify the system type when assigning systems to a formation.

    c. Choose *Add*.
    d. In the *Communication Scenario Groups* dropdown menu, select
        - *Integration with SAP Subscription Billing* to enable connectivity between SAP Subscription Billing and SAP S/4HANA Cloud.
        - *Integration with SAP Master Data Integration* to enable connectivity between SAP Subscription Billing and SAP Master Data Integration.
        - *Eventing Between SAP Cloud Systems* to enable connectivity between SAP Subscription Billing and SAP S/4HANA Cloud via SAP Cloud Application Event Hub.

    Alternatively, you can select *All Communication Scenarios*.
    e. Choose *Get Token*.

    The system generates the registration token.
    f. Copy the registration token and send it to the tenant administrator for the respective SAP S/4HANA Cloud system. You need it for configuring the integration on the extended SAP S/4HANA Cloud system side.

    You can also get the registration token later, once the system appears in the list on the *Systems* page.

    The registration token is valid for 7 days after it has been generated. When a token is not used within its validity period, it is no longer valid and cannot be used for registering an SAP S/4HANA Cloud system. If the validity of the token expires before you use it to configure the integration on the SAP S/4HANA Cloud system side and complete the registration, you need to get a new token. You can then copy it and use it to complete the registration.

> ⓘ Note
>
> A registration token can be used only once, for registering a single SAP S/4HANA Cloud system.

    g. Close the wizard.

    The SAP S/4HANA Cloud system appears in the list of systems on the *Systems* page. Its *Status* field is empty because the registration process is not yet completed.
4. Start the automated registration process on the SAP S/4HANA Cloud system side. To do so, proceed as described in as described below under *Trigger the Registration in the SAP S/4HANA Cloud Tenant*.

> **Note**
>
> You can register a system with the same name only once per global account. Once you have started a registration process for a system with a specified name you can no longer register a system with the same name and connect it with the same global account.

5. Check the status of the registration process. To do so, in the cockpit navigate to your global account, and on the *Systems* page, check if the status of the SAP S/4HANA Cloud system has changed to *Registered*.

   If you are already on the *Systems* page, refresh the page to check if the status has changed.

   For information about registration statuses and about deregistering systems, refer to the generic SAP BTP documentation Register an SAP S/4HANA Cloud System in a Global Account in SAP BTP.

Trigger the Registration in the SAP S/4HANA Cloud Tenant

Use this procedure to trigger the registration process for an SAP S/4HANA Cloud tenant that you want to pair with your global account in SAP BTP.

Prerequisites

You are an SAP S/4HANA Cloud tenant administrator.

Procedure

1. Log on to the SAP S/4HANA Cloud tenant, go to *Administration* > *Communication Management*, and then open the *Maintain Extensions on SAP BTP* app (or search for the app using the app search) .
2. In the *Maintain Extensions on SAP BTP* app, choose *New*.
3. In the *Integration Token* field, enter the content of the registration token from the SAP BTP cockpit.
4. Choose *Save*. A new entry appears in the *Extensions* list with status *Enabling*.
5. After the integration has finished successfully, you can refresh the list.

   The status of the integration should have changed to *Enabled*.

Results

Your SAP S/4 HANA Cloud tenant is now registered in your SAP BTP global account.

4.2 Create Formations for SAP Subscription Billing Integration

If you're integrating SAP Subscription Billing with SAP S/4HANA Cloud Public Edition, and (recommended) SAP Master Data Integration, you can create formations to automate parts of the integration setup. You can also create a formation to define connectivity between your SAP Subscription Billing and next-generation SAP Data Privacy Integration service if you have Data Protection and Privacy requirements.

A formation is a logical grouping of SAP systems that can be integrated. Formations allow you to combine SAP solution systems and a subaccount in SAP BTP to simplify the connectivity setup and to provide a unified view of all components required for the implementation of your integration.

Formation Types

You can create formations of the following type:

Type (Link to Configuration Information)	Purpose	Integrated Systems
SAP Master Data Integration [page 20]	Connectivity for master data replication	SAP S/4HANA Cloud Public Edition SAP Master Data Integration SAP Subscription Billing
SAP Subscription Billing Integration [page 22]	Connectivity for user interface, API, and billing data integration	SAP S/4HANA Cloud Public Edition SAP Subscription Billing
Next-generation SAP Data Privacy Integration [page 24] (Optional)	Connectivity for integration with next-generation SAP Data Privacy Integration service	SAP Data Privacy Integration NextGen SAP Subscription Billing

> ⚠ Caution
>
> If you use both formation types for integration with SAP Master Data Integration and SAP S/4HANA Cloud Public Edition systems, create the formation for SAP Master Data Integration first.

Prerequisites

- You have Global Account Administrator authorization for the global account where you want to create or update the formation, or you have System Landscape Administrator authorization.
- You have registered your SAP S/4HANA Cloud Public Edition tenant in your global account (see Register Your SAP S/4HANA Cloud Public Edition System in Your Global Account [page 15]).

4.2.1 Create a Formation for SAP Master Data Integration

Create a formation to define connectivity between your SAP Subscription Billing, SAP S/4HANA Cloud Public Edition, and SAP Master Data Integration systems if you use SAP Master Data Integration to replicate master data.

For easier reading, “SAP S/4HANA Cloud” is used in this help section to refer to the software product SAP S/4HANA Cloud Public Edition.

Prerequisites

The following applications are subscribed in a subaccount:

Application	Instructions
SAP Master Data Integration Tenant	Creating Tenants
Master Data Integration (Orchestration)	Subscription Process for Business Data Orchestration

→ Recommendation

Use the same subaccount for both applications

Procedure

You need one formation of the type *Integration with SAP Master Data Integration* for each combination of SAP Subscription Billing, SAP S/4HANA Cloud, and SAP Master Data Integration system that you use for the same purpose, such as test and production.

ⓘ Note

Each SAP Subscription Billing tenant and each SAP S/4HANA Cloud Public Edition tenant can only be included in one formation of the type *Integration with SAP Master Data Integration*).

Dependencies

How you set up connectivity and whether you create or update a formation depend on your current system landscape:

- If SAP Master Data Integration is not set up yet, you **create** a formation including all relevant systems for the scenario.
- If SAP Master Data Integration is already set up with SAP S/4HANA Cloud by manual configuration, you can still **create** a formation for integrating SAP Subscription Billing with SAP Master Data Integration.
- If SAP Master Data Integration is already set up with SAP S/4HANA Cloud using a formation, you **include** the respective SAP Subscription Billing tenant in this formation.

Create a New Formation

Step	Task
1.	In your global account, navigate to *System Landscape*.
2.	On the *Formations* tab, choose *Create Formation*.
3.	Follow the guided steps to enter all the required information for your formation: 1. Add a name that helps you identify your formation, and in the *Formation Type* dropdown menu, select *Integration with SAP Master Data Integration*. 2. Select the systems that you want to include in the formation (use the *System Type* filter to quickly find the systems): • SAP Master Data Integration • Business Data Orchestration • SAP S/4HANA Cloud **Note** Don't select SAP S/4HANA Cloud if SAP Master Data Integration was already set up with SAP S/4HANA Cloud by manual configuration. • SAP Subscription Billing 3. Review your selections and choose *Create* to create the formation.

Include SAP Subscription Billing in an Existing Formation

Step	Task
1.	In your global account, navigate to *System Landscape*.
2.	On the *Formations* tab, find the formation of type *Integration with SAP Master Data Integration* that you want to extend and choose *Include Systems*.
3.	1. Under *Include Systems*, use the *System Type* filter to quickly find and select the SAP Subscription Billing tenant that you want to include in the formation. 2. Choose *Next Step*. 3. Review your selections and choose *Include* to update the formation.

Results

- SAP Master Data Integration instances for SAP S/4HANA Cloud and SAP Subscription Billing are created in the SAP Master Data Integration subaccount.
- A destination for integration of SAP S/4HANA Cloud with Business Data Orchestration is created in the SAP Master Data Integration subaccount.
- A destination named `RevenueCloud_MDI` is created for master data replication from SAP Master Data Integration to SAP Subscription Billing in the SAP Subscription Billing subaccount.

Troubleshoot a Formation

If an error occurs for the formation, check the error messages. Errors occur, for example, if the communication scenarios or destinations to be created with the formation already exist in the respective systems through manual configuration. If the error can be resolved, you can restart the synchronization process by choosing *Resynchronize*. If the issue persists, create a support case and include the formation ID along with the relevant technical details.

Delete a Formation

When you delete a formation, the systems are excluded from the formation, the subaccount is unassigned, and finally, the formation is deleted from the formations list completely. All artifacts created via the formation in SAP BTP and in SAP S/4HANA Cloud Public Edition are deleted.

4.2.2 Create a Formation for SAP Subscription Billing Integration

Create a formation to define connectivity between your SAP Subscription Billing and SAP S/4HANA Cloud Public Edition systems.

For easier reading, "SAP S/4HANA Cloud" is used in this help section to refer to the software product SAP S/4HANA Cloud Public Edition.

> ⓘ Note
>
> If you want to use **direct integration** for transferring billing data to Sales Billing in SAP S/4HANA Cloud (scope item 57Z), you **must use a formation** to set up connectivity for that part of the integration. For more information about direct integration, see Replication of Billing Data to Sales Billing in the *Integration Guide*.

> → Recommendation
>
> For setting up **API and UI integration** for SAP Subscription Billing, we strongly recommend that you use configuration automation via a formation. Formations can be updated easily, either in case of connectivity issues or in case a new configuration is required for new features. You can therefore keep your configuration up to date without manual configuration effort.

Configuring the integration using formations creates dedicated artifacts. For example, a new service instance for SAP Subscription Billing API access is created next to other instances that you might have configured manually for integrations with non-SAP applications.

Prerequisite

You have created the formation for SAP Master Data Integration (see Create Formations for SAP Subscription Billing Integration [page 19]).

Procedure

Create a formation of the type *Integration with SAP Subscription Billing* for each pair of SAP Subscription Billing and SAP S/4HANA Cloud tenants that you use for the same purpose, such as test and production.

> ⓘ Note
>
> - A formation can only include one SAP Subscription Billing tenant and one SAP S/4HANA Cloud tenant.
> - Each SAP Subscription Billing tenant and each SAP S/4HANA Cloud tenant can only be included in one formation of the type *Integration with SAP Subscription Billing*.

Step	Task
1.	In your global account, navigate to *System Landscape*.
2.	On the *Formations* tab, choose *Create Formation*.
3.	Follow the guided steps to enter all the required information for your formation: 1. Add a name that helps you identify your formation, and in the *Formation Type* dropdown menu, select *Integration with SAP Subscription Billing*. 2. Select the SAP Subscription Billing and SAP S/4HANA Cloud systems (tenants) that you want to include in the formation. Use the *System Type* filter to quickly find the systems. 3. Review your selections and choose *Create* to create the formation.

Results

- **API-based integration is enabled** for the SAP Subscription Billing service:
  - API access to SAP Subscription Billing set up with a service instance and service binding, and with the default client certificate of the SAP S/4HANA Cloud tenant. A service instance named `subscription-billing-service-integration` is created in the SAP Subscription Billing is subaccount.
  - Communication system and communication arrangement *SAP Subscription Billing – API Integration (SAP_COM_0642)* configured in SAP S/4HANA Cloud.
- **UI integration** is enabled: Communication system and communication arrangement *SAP Subscription Billing – UI Integration (SAP_COM_0845)* configured in SAP S/4HANA Cloud.
- **Direct integration of billing data with Sales Billing** (scope item 57Z) enabled:

- Service-based communication set up by generating a destination certificate, creating a destination for SAP S/4HANA Cloud. A destination named `SubscriptionBilling_S4HANACloud` is created in the subaccount where SAP Subscription Billing is subscribed.
- Communication user, communication system, and communication arrangement *SAP Subscription Billing with Sales Billing Integration (SAP_COM_0095)* configured in SAP S/4HANA Cloud. Trust established via the certificate that is uploaded to the communication user.

Troubleshoot a Formation

If an error occurs for the formation, check the error messages. Errors occur, for example, if the communication scenarios or destinations to be created with the formation already exist in the respective systems through manual configuration. If the error can be resolved, you can restart the synchronization process by choosing *Resynchronize*. If the issue persists, create a support case and include the formation ID along with the relevant technical details.

For formations that are ready, you can recreate the formation by choosing *Reset and Resynchronize*.

Delete a Formation

When you delete a formation, the systems are excluded from the formation, the subaccount is unassigned, and finally, the formation is deleted from the formations list completely. All artifacts created via the formation in SAP BTP and in SAP S/4HANA Cloud Public Edition are deleted.

4.2.3 Create a Formation for Next-generation SAP Data Privacy Integration

> **Note**
>
> This section is optional. It's applicable only if you have Data Protection and Privacy requirements.

Create a formation to define connectivity between your SAP Subscription Billing and next-generation SAP Data Privacy Integration systems.

Prerequisite

The application *SAP Data Privacy Integration* is subscribed in a subaccount (technical application name `data-privacy-integration-application`, technical application plan `ngdpi`).

Procedure

Create a formation of the type *Integration with SAP Data Privacy Integration NextGen* for each SAP Subscription Billing tenant that you use for the same purpose, such as test and production.

> **Note**
>
> - A formation can only include one SAP Subscription Billing tenant and one SAP Data Privacy Integration NextGen tenant.
> - Each SAP Subscription Billing tenant and each SAP Data Privacy Integration NextGen tenant can only be included in one formation of the type *Integration with SAP Data Privacy Integration NextGen*.

Step	Task
1.	In your global account, navigate to *System Landscape*.
2.	On the *Formations* tab, choose *Create Formation*.
3.	Follow the guided steps to enter all the required information for your formation: 1. Add a name that helps you identify your formation, and in the *Formation Type* dropdown menu, select *Integration with SAP Data Privacy Integration NextGen*. 2. Select the SAP Subscription Billing and SAP Data Privacy Integration NextGen (tenants) that you want to include in the formation. Use the *System Type* filter to quickly find the systems. 3. Review your selections and choose *Create* to create the formation.

Results

The connectivity between your SAP Subscription Billing and SAP Data Privacy Integration NextGen tenants is established.

Troubleshoot a Formation

If an error occurs for the formation, check the error messages. If the error can be resolved, you can restart the synchronization process by choosing *Resynchronize*. If the issue persists, create a support case and include the formation ID along with the relevant technical details.

Delete a Formation

When you delete a formation, the systems are excluded from the formation, the subaccount is unassigned, and finally, the formation is deleted from the formations list completely.

5 Set Up Using Manual Steps

The manual steps that you need to perform to set up SAP Subscription Billing depend on whether you did the initial setup using the booster (see Set Up Using Booster Automation [page 7]).

> → Tip
>
> The required roles for performing the manual steps are mentioned in the following instructions. For a full list of roles, see Default Role Collections of SAP BTP.

> ⚠ Caution
>
> **This guide is only relevant for customer-managed provisioning and integration. In an SAP-managed model, provisioning, technical setup, and integration is largely automated and described in the guide Provisioning and Integration Guide: SAP-Managed SAP Subscription Billing with SAP S/4HANA Cloud Public Edition.**

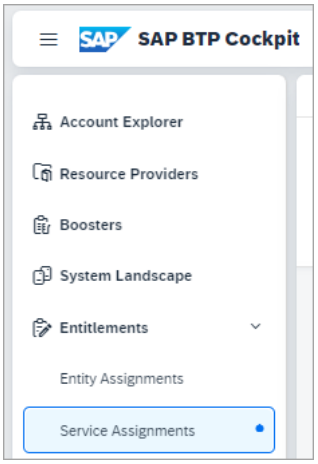
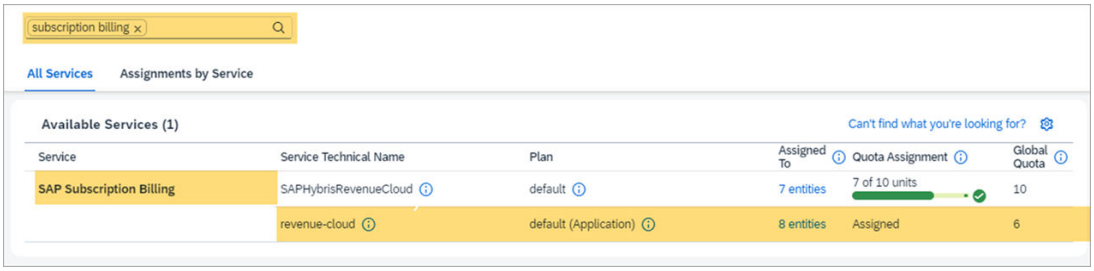
5.1 Technical Setup

Complete the basic setup steps to create your tenants and get access to SAP Subscription Billing.

5.1.1 Check Successful Completion of Provisioning

Log on to the SAP BTP cockpit to check that SAP Subscription Billing is available for your account.

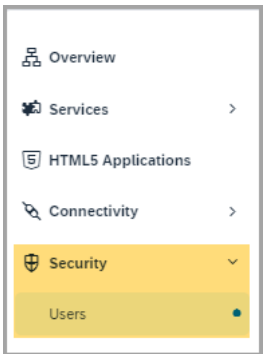
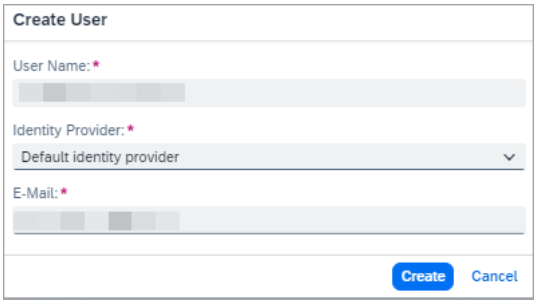
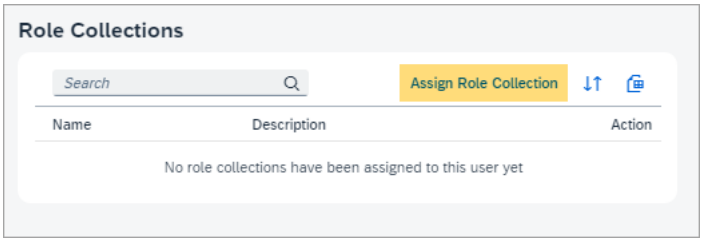
Step	Task
1.	Log on to the SAP BTP Cockpit using one of these URLs depending on your geographical region: • EMEA: https://emea.cockpit.btp.cloud.sap • Americas: https://amer.cockpit.btp.cloud.sap • Asia-Pacific, Oceania: https://apac.cockpit.btp.cloud.sap • EU Access: https://eu-access.cockpit.btp.cloud.sap If you have the option *EU Access* in your contract (to restrict processing of personal data to EEA/Switzerland), log on using this URL. → Tip Use a logon URL in the region closest to you (to avoid latency), unless you use the *EU Access* option in which case use the dedicated URL.

Step	Task
2.	Open the global account that was used to order SAP Subscription Billing. **→ Tip** To find the right global account, you can use the *System & Provisioning* dashboard in SAP for Me (log on with your S-user ID). In the dashboard, you can find the global account ID under *System Name & Number*. In this guide, we use "*SubscriptionBilling Consulting*" as the example account.
3.	Choose *Entitlements* > *Service Assignments* in the navigation panel.  **Note** If you don't see this entry in the navigation panel, you need to have the **Global Account Administrator** role assigned to your user.
4.	In the service overview, search for "SAP Subscription Billing". The service plan with the technical name `revenue-cloud` is for the application user interface. The other service plan is for the use of APIs.  **Note** If the service isn't displayed, please report this to your local SAP contact.

5.1.2 Add Administrators to Global Account

To enable further users to create a tenant, one of the recipients of the welcome email must add the relevant user as a global account administrator. You add administrators by assigning them a predefined role collection.

For more information on the default role collections for administrators, see Role Collections and Roles in Global Accounts, Directories and Subaccounts in the SAP BTP documentation.

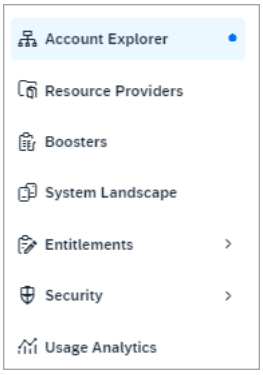
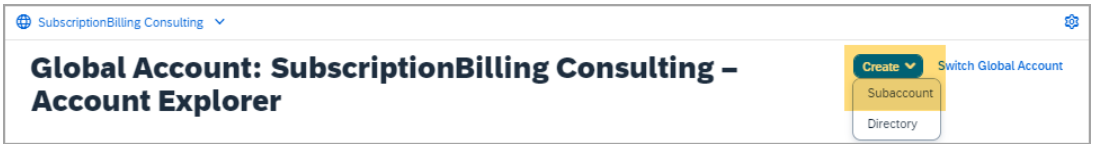
Step	Task
1.	In your global account, choose *Security* > *Users* in the navigation panel. 
2.	Select *Create* to add the user who you want to make administrator.
3.	1. Enter the user name and email address of the user. 2. The identity provider must be **`Default identity provider`**. 3. Select *Create*. 
4.	Optional: If the user isn't part of the identity provider, you're asked to add the user. Complete this action.
5.	In the overview of users, open the new user. Then, under *Role Collections*, select *Assign Role Collection*. 

Step	Task
6.	Assign the role collection **Global Account Administrator**. 
7.	The user has now administrative access to the global account.

5.1.3 Create Subaccounts

Subaccounts on SAP BTP are required for deploying applications and using services. When you create a subaccount and subscribe to SAP Subscription Billing, tenants are created.

You need one subaccount for each tenant to which you are entitled. Repeat the steps below to create each subaccount.

Step	Task
1.	In the navigation panel of your global account, choose *Account Explorer*. 
2.	Select *Create* > *Subaccount*. 

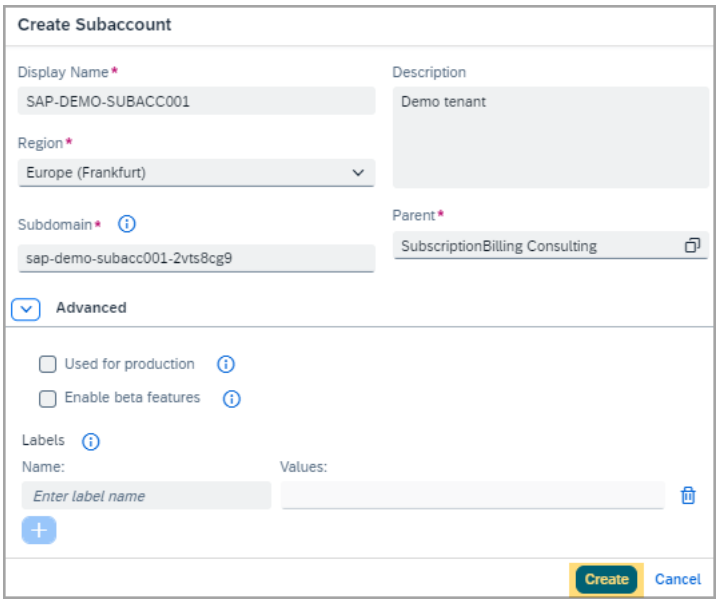
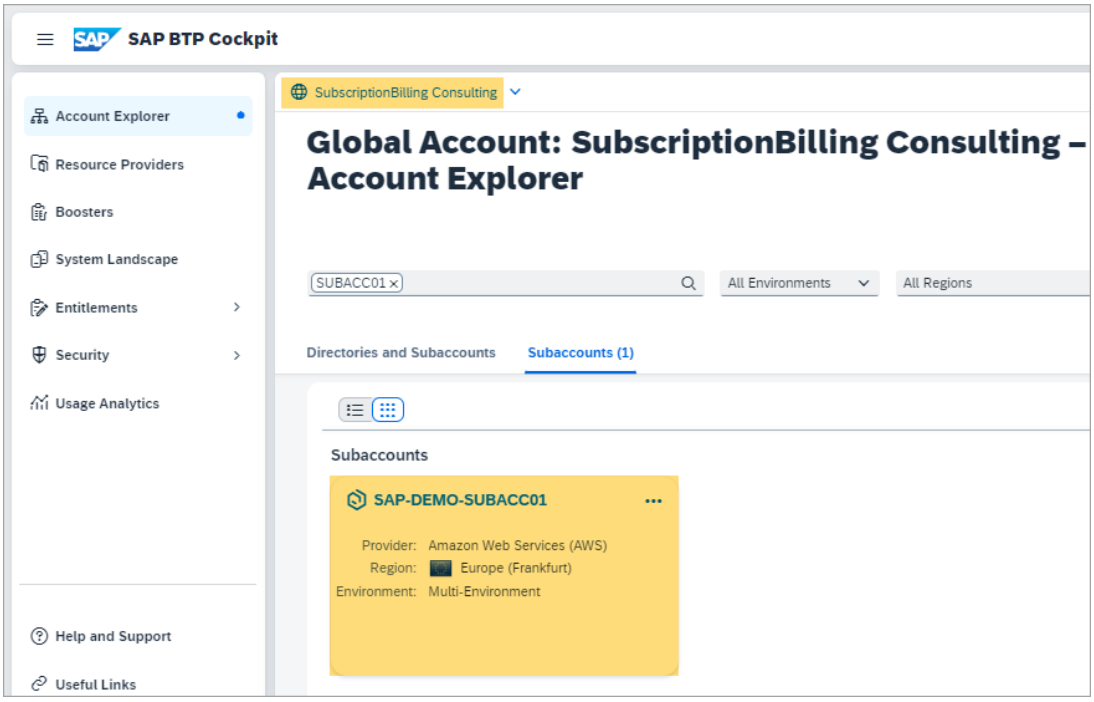
Step	Task
3.	Define the subaccount: 1. Specify a display name and short description. 2. In the *Region* list, scroll to the relevant provider and select your region:

Provider	Region
Amazon Web Services	Europe (`cf-eu10`)
	Europe EU Access (`cf-eu11`) You can include the option *EU Access* in your contract, in which case processing of personal data is restricted to the European Economic Area (EEA)/Switzerland, provided you create your subaccount (tenant) in the region `eu11`. Creating a subaccount in the region `eu11` without the option active in your contract is not sufficient to restrict processing to EEA/Switzerland.
	US East (`cf-us10`)
Google Cloud Platform	US Central (`cf-us30`)

3. Enter a name for your subdomain.

> ⚠ Caution
>
> The subdomain is the tenant name used for login. Once defined, you can't change it later.
>
> The subdomain also becomes part of the application URL for SAP Subscription Billing according to this pattern: `<subdomain>.<region>.revenue.cloud.sap`
>
> The subdomain can contain only letters, digits and hyphens. Hyphens aren't allowed in the beginning or at the end. The subdomain must be unique across all accounts in the same region of the Cloud Foundry environment of SAP BTP.
>
> You can use upper case and lower case letters; however, they can't be used to differentiate subdomains ("SUBDOMAIN" and "subdomain" are considered the same).

4. For productive subaccounts, **don't** select *Enable beta features*.
5. Select *Create*.

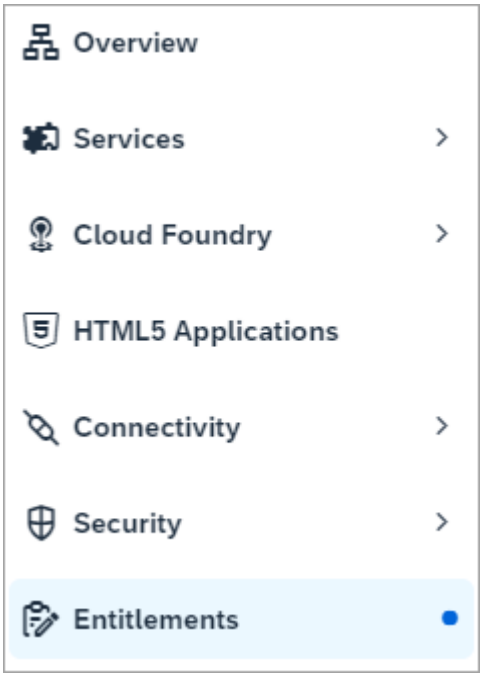
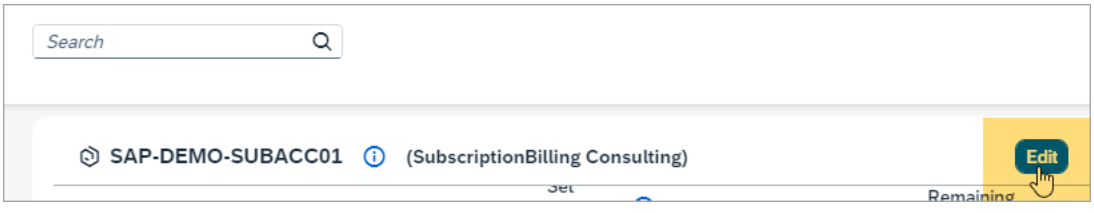
Step	Task
	
4.	You see a tile for your subaccount on the *Subaccounts* tab. Wait for the onboarding process to finish before accessing the subaccount.  **Note** You are automatically assigned to the subaccount as administrator. To learn how to add other users as subaccount administrators, see Define Subaccount Administrators [page 36].

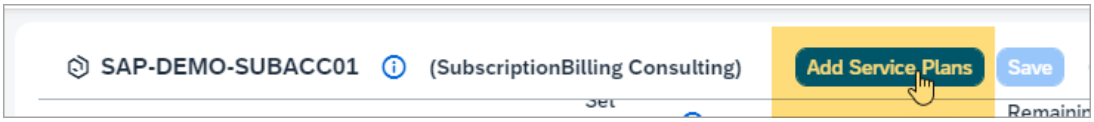
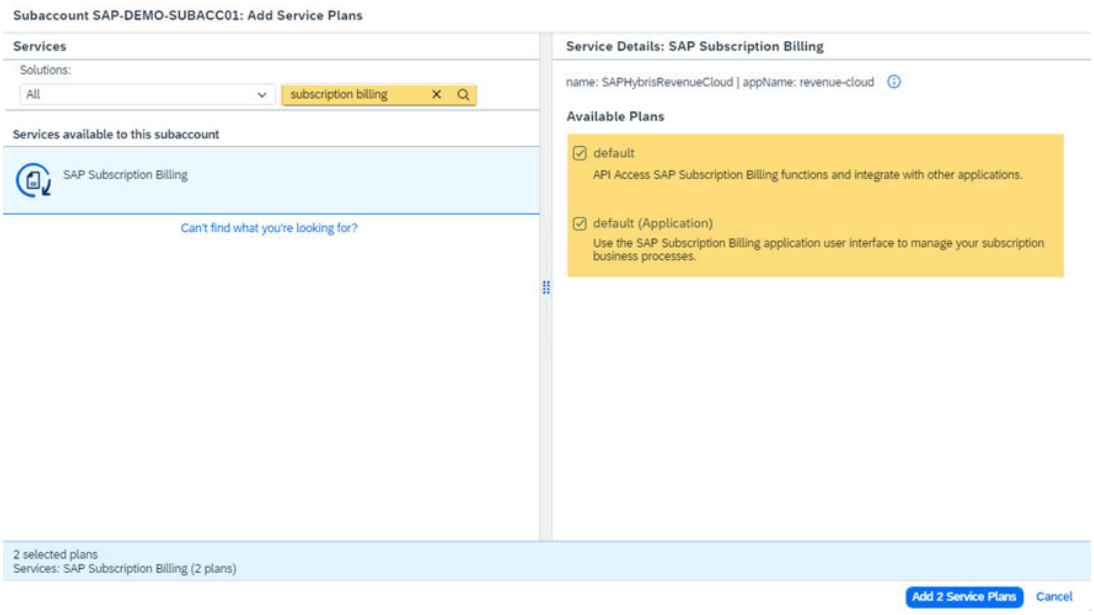
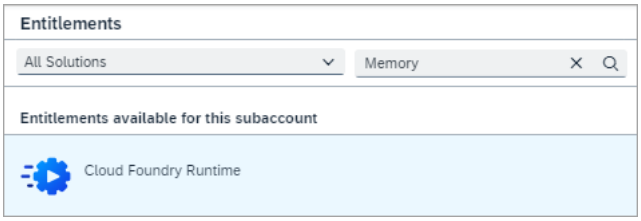
5.1.4 Assign Entitlements

You need to assign entitlements if you want to use SAP Subscription Billing and its APIs.

Your SAP BTP global account has entitlements to use resources, such as services and memory. Distribute quotas of these entitlements to your individual subaccounts (tenants) to define the maximum consumption for each subaccount.

> **Note**
>
> For SAP Subscription Billing, you have a total of 10 entitlements across a maximum of 10 tenants.

Step	Task
1.	In your subaccount, choose *Entitlements* in the navigation panel.  You see the table of subaccount assignments and service plans.
2.	Select *Edit*. 

Step	Task
3.	To open the list of resources that you're entitled to use, choose *Add Service Plans*. 
4.	Search for "SAP Subscription Billing" and select both service plans for the SAP Subscription Billing service (one for the application and one for API use). 
5.	Save the entitlements. Note that 1 quota unit is assigned to the plan for SAP Subscription Billing APIs. 
6.	Optional: If you want to develop your own applications or process extensions on SAP BTP Cloud Foundry, repeat these steps for the entitlement Cloud Foundry Runtime with the service plan "MEMORY". 

You can adjust quotas for only one subaccount at a time. To adjust quotas for multiple subaccounts, complete these steps for each subaccount.

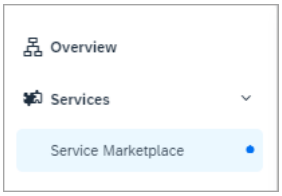
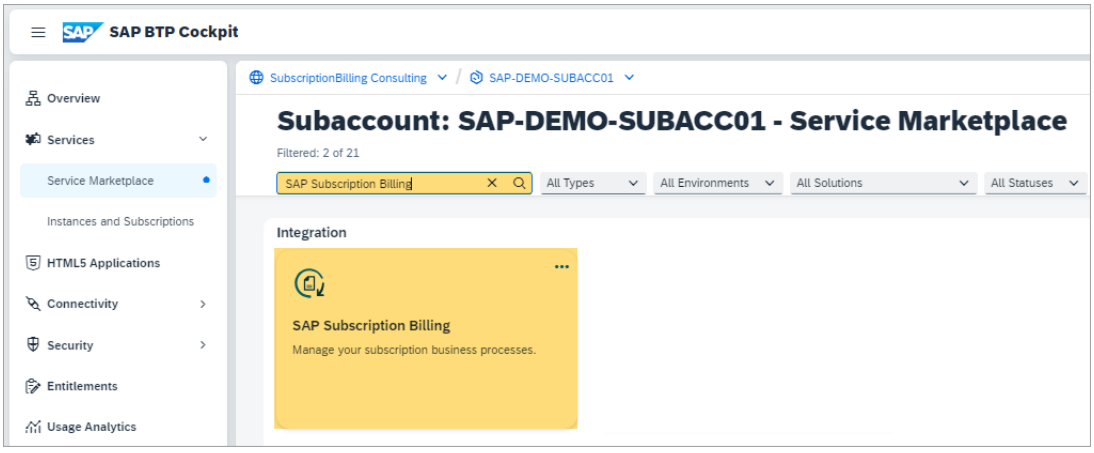
If you have distributed the maximum of your purchased quotas, you can't increase it further. However, you can move quotas between subaccounts in the same global account.

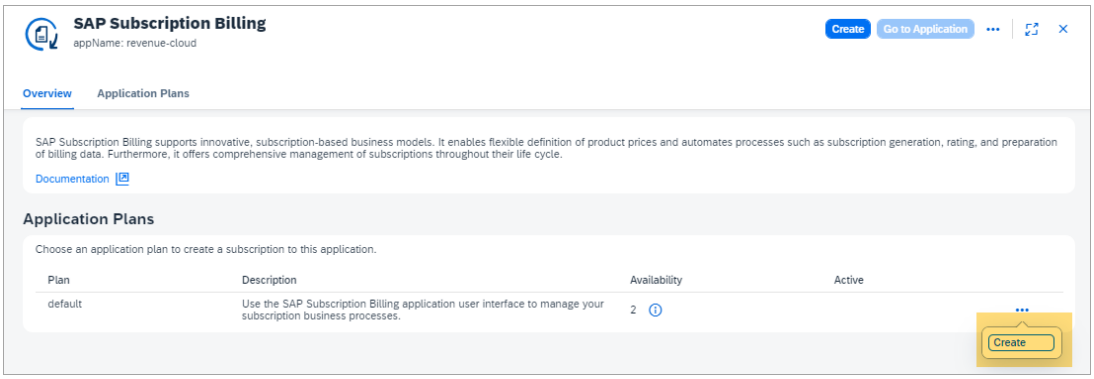
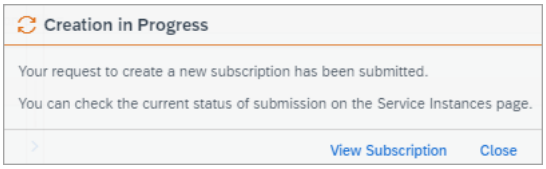
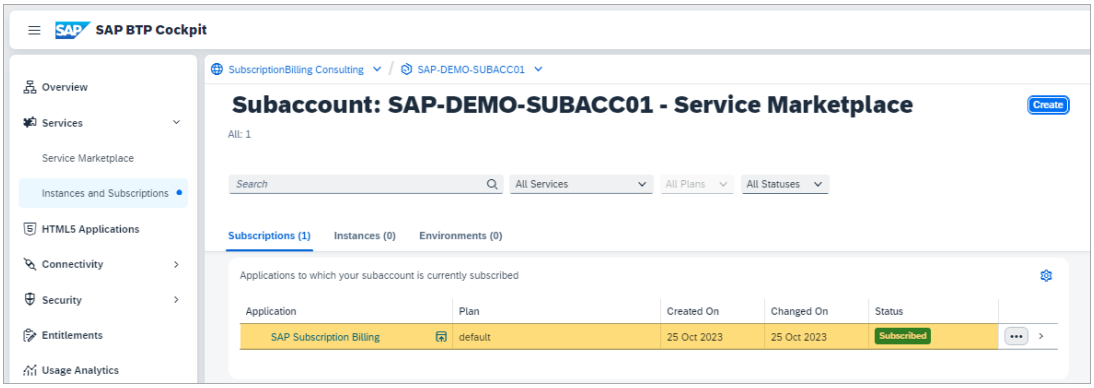
5.1.5 Set Up Trust with SAP Cloud Identity Services

SAP Subscription Billing requires the SAP Cloud Identity Services - Identity Authentication tenant as the custom identity provider for application in the SAP BTP subaccount. Thus, before subscribing to SAP Subscription Billing in your subaccount, you must establish trust with your Identity Authentication tenant in your SAP Subscription Billing subaccount using OpenID Connect (OIDC). For detail steps, see Establish Trust and Federation Between SAP Authorization and Trust Management Service and SAP Cloud Identity Services.

5.1.6 Subscribe to SAP Subscription Billing

To use SAP Subscription Billing, you must subscribe to the corresponding application.

Step	Task
1.	Go to your subaccount and choose *Services* > *Service Marketplace* in the navigation panel. 
2.	You see all the services that are available to you. Search for the service "SAP Subscription Billing" and select it. 

Step	Task
3.	Under *Application Plans*, display the action menu of the plan for which you want to create a subscription and choose *Create*. 
4.	Check the basic info and then choose *Create*.
5.	The creation process starts. Choose *View Subscription* to switch to the *Instances and Subscriptions* screen. 
6.	You're subscribed to the SAP Subscription Billing application. With this step, your SAP Subscription Billing tenant is created.  **→ Tip** The tenant ID is the SAP BTP subaccount ID, the tenant name is the SAP BTP subaccount name (subdomain).

5.2 Enable UI Access

Configure authentication and authorization for the users of your application, thereby enabling them to log on to the SAP Subscription Billing user interface and get access to the appropriate apps and data.

5.2.1 Define Subaccount Administrators

To configure authentication and authorization for business users, you need a SAP BTP user with the role *User and Role Administrator* which is part of the *Subaccount Administrator* role collection. When you create a subaccount, SAP BTP automatically grants this role to your user.

If you want to enable other users to configure authentication and authorization, you can assign the role by adding the users to your subaccount and assigning the role collection *Subaccount Administrator* or another role collection with the *User and Role Administrator* role. Role collections are assigned to users as described in the section Assign Role Collections to Users or User Groups [page 43].

5.2.2 Set Up Your SAP Cloud Identity Services Tenant in Your Subaccount

The business user authentication of SAP Subscription Billing relies on SAP Cloud Identity Services, and you must set up the Identity Authentication tenant in your SAP BTP global account or subaccount before subscribing to SAP Subscription Billing. You can find more information in the SAP BTP documentation under Establish Trust and Federation Between SAP Authorization and Trust Management Service and SAP Cloud Identity Services.

5.2.3 Grant Access to the SAP Subscription Billing UI

To give **yourself** access to the SAP Subscription Billing UI, you need to do the following:

1. Build at least one role collection, as described in the section Build Role Collections [page 39].

   > → Recommendation
   >
   > For the initial setup phase, we recommend the role `ui_applications_all`, which provides you with the complete set of authorizations and allows you to test all apps.

2. Assign at least one role collection to your user, as described in the section Assign Role Collections to Users or User Groups [page 43].
3. Log on to the SAP Subscription Billing application.
4. To enable UI access for further users, repeat steps 1 and 2 for these users to assign the appropriate role.

You find more information on authentication and single sign-on of business users in the sections Enable Authentication and Single Sign-On for Business Users [page 37].

5.2.4 Enable Authentication and Single Sign-On for Business Users

Overview

SAP Subscription Billing relies on the user management features of SAP Business Technology Platform (SAP BTP) integrated with SAP Cloud Identity Services. You must set up your SAP Cloud Identity Services in your SAP BTP global account or subaccount before subscribing to SAP Subscription Billing. Business users always log on to SAP Subscription Billing UI via SAP Cloud Identity Services.

You use your SAP Cloud Identity Services tenant as an identity provider or as proxy to your own identity provider hosting your business users. For each user that you want to enable to log on to SAP Subscription Billing, a copy user called *shadow user* is created in the subscribed SAP BTP subaccount. The authentication of business users to access the SAP Subscription Billing user interface is delegated to the identity provider by SAP Cloud Identity Services, and users can log on with the mechanisms and credentials defined there, for example, with their email address and password. The authorizations of the users are defined with the assignment of role collections to the shadow user in the SAP BTP cockpit. See Working with Users in the SAP BTP documentation.

For more background information, see SAP Authorization and Trust Management Service.

Note: This documentation mainly concentrates on the role of business users. For information about platform users, see Platform Users in the SAP BTP documentation.

Identity Providers for User Authentication

You enable authentication and single sign-on for business users by establishing a trust relationship between your SAP BTP accounts and your SAP Cloud Identity Services - Identity Authentication tenant (IAS tenant). The Identity Authentication tenant is configured as the custom identity provider for applications in your subaccount, and SAP Subscription Billing always authenticates business users either via the Identity Authentication tenant or via the corporate identity provider proxied by the Identity Authentication tenant.

A typical setup of the identity providers in your SAP BTP subaccount could look like this:

- The initial users for setting up and configuring SAP Subscription Billing are provided by the SAP ID service including preconfigured trust. Further platform users with an account in SAP ID service (https://accounts.sap.com/) can be authorized for the initial configuration. We recommend that the platform user in SAP ID Service is only used for the initial configuration.
- Make sure you have your SAP Cloud Identity Services tenant, for example, Identity Authentication tenant (IAS tenant) available in the SAP BTP global account. If not available, follow instructions described in Initial Setup in the SAP Cloud Identity Services documentation.

- The initial users configure trust to SAP Cloud Identity Services in the SAP BTP subaccount in which you will subscribe to SAP Subscription Billing. (This is optional when you use the Booster [page 7], which is the recommended and standard way of subscribing to SAP Subscription Billing). A separate productive IAS tenant must be used for the subaccount where you run SAP Subscription Billing productively.
- You can add users to the Identity Authentication tenant directly, and the Identity Authentication tenant itself is the identity provider. This way, your business users can log in to SAP Subscription Billing with the Identity Authentication tenant.
- If you use corporate identity providers, connect them to your Identity Authentication tenant. This way, these identity providers remain as the origin of the identity information, and your business users can log in to SAP Subscription Billing with their respective credentials or with single sign-on.

Managing Users in the SAP BTP Subaccount

There are different options to create shadow users in your SAP BTP subaccount:

- When setting up trust with the Identity Authentication tenant, it can be configured to allow *Create Shadow Users During Logon* in the global account or in the subaccount. With that, when a user-related action happens, a shadow user is automatically created in SAP BTP global account or subaccount. This creation of shadow users is switched on by default during the trust setup. See Automatic Creation of Shadow Users in the SAP BTP documentation.
- You can manually create shadow users on the user interface in the SAP BTP cockpit. Select the Identity Authentication tenant as the identity provider. See Create Users in the SAP BTP documentation.
- You can use SAP Cloud Identity Services – Identity Provisioning to maintain users. For more information, see Provision Users to SAP BTP Accounts in the SAP BTP documentation.

> → Tip
>
> For more information on user creation in integration scenarios with S/4HANA Cloud Public Edition, see Integration with the SAP Fiori Launchpad of SAP S/4HANA Cloud Public Edition (Customer-Managed Provisioning and Integration Only) in the section *Creation of Business Users*.

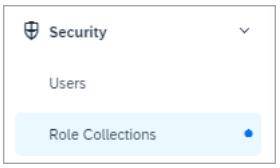
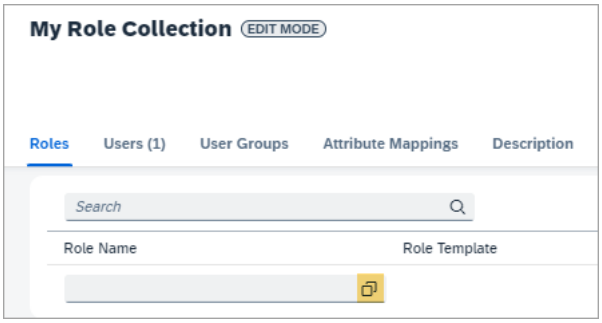
For information on user deletion from SAP BTP, see Delete Users in the SAP BTP documentation.

5.2.5 Configure Your SAP Cloud Identity Services Tenant as Identity Provider or Proxy of Your Subaccount

SAP Subscription Billing always authenticates users via the SAP Cloud Identity Services - Identity Authentication tenant that is trusted in the SAP BTP subaccount using OpenID Connect (OIDC). The SAP Cloud Identity Services - Identity Authentication tenant acts as an identity provider by default, managing users using the underlying Identity Directory service. If you use corporate identity providers and manage users externally to the Identity Authentication tenant, you can configure the Identity Authentication tenant to act as a proxy of the corporate identity provider. For more details of configuring SAP Cloud Identity Services as an identity provider or a corporate identity provider proxy for application login, see SAP Cloud Identity Service Administration.

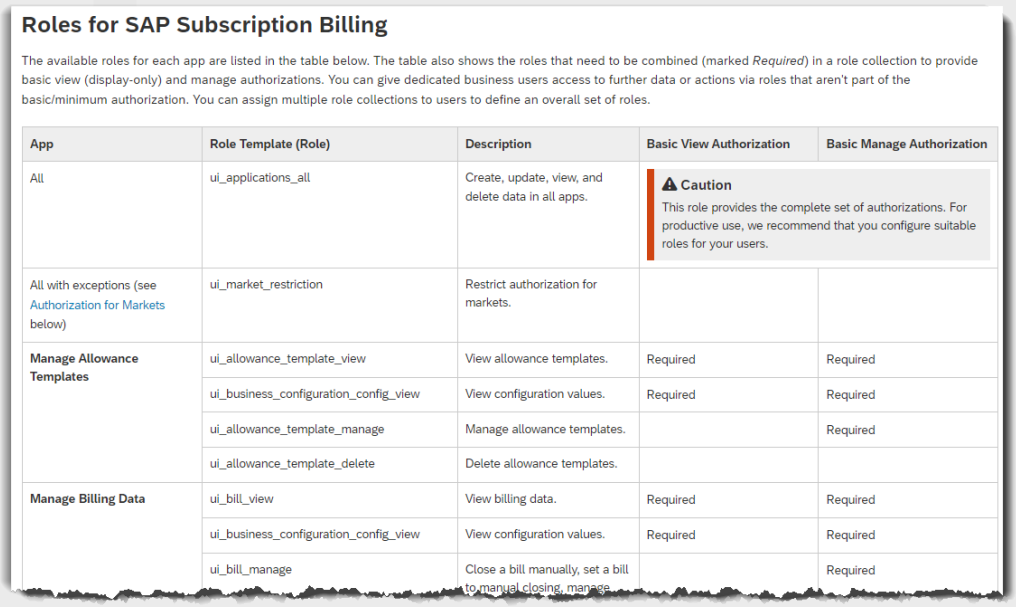
5.2.6 Build Role Collections

You need to define role collections to control user authorization for the SAP Subscription Billing apps and data.

Step	Task
1.	In your global account, open the subaccount. In the navigation panel, choose *Security* > *Role Collections*. 
2.	To create a new role collection, choose *Create*.
3.	Name your role collection and choose *Create*. In this guide, we use “My Role Collection” as the example name.
4.	Select the role collection that you just created.
5.	In the detail view of the role collection, choose *Edit* to open the screen in edit mode.
6.	Under *Roles* > *Role Name*, choose the icon of the input field to open the role selector. 
7.	In the field *Application Identifier*, choose the identifier that begins with “revenue-cloud” to filter the available roles for SAP Subscription Billing. 

Step	Task
8.	In the *Roles* table, you can further filter by roles and templates to reduce the number of rows. Then select the roles that you want in your collection.

> **Note**
>
> You can find information about the available role templates under Build Role Collections in the *Setup and Administration Guide*:

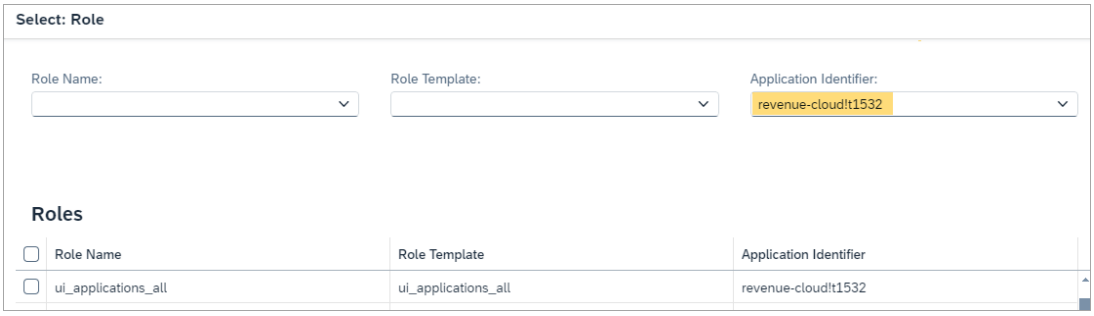


Roles for SAP Subscription Billing

The available roles for each app are listed in the table below. The table also shows the roles that need to be combined (marked *Required*) in a role collection to provide basic view (display-only) and manage authorizations. You can give dedicated business users access to further data or actions via roles that aren't part of the basic/minimum authorization. You can assign multiple role collections to users to define an overall set of roles.

App	Role Template (Role)	Description	Basic View Authorization	Basic Manage Authorization
All	ui_applications_all	Create, update, view, and delete data in all apps.	**Caution** This role provides the complete set of authorizations. For productive use, we recommend that you configure suitable roles for your users.	
All with exceptions (see Authorization for Markets below)	ui_market_restriction	Restrict authorization for markets.		
Manage Allowance Templates	ui_allowance_template_view	View allowance templates.	Required	Required
	ui_business_configuration_config_view	View configuration values.	Required	Required
	ui_allowance_template_manage	Manage allowance templates.		Required
	ui_allowance_template_delete	Delete allowance templates.		
Manage Billing Data	ui_bill_view	View billing data.	Required	Required
	ui_business_configuration_config_view	View configuration values.	Required	Required
	ui_bill_manage	Close a bill manually, set a bill to manual closing, manage		Required

9.	Once you have selected all the roles for the collection, confirm the selection by choosing *Add*.



The screenshot shows the role “ui_applications_all”, which provides the complete set of authorizations, as an example.

For productive use, we recommend that you configure suitable roles for your users.

10.	Choose *Save* to close the edit mode.

Step	Task
11.	Now your role collection shows the assigned roles. Repeat these steps if you want to add further roles to the collection. **Note** Optionally, you can create role collections to restrict a specific market for a user, as described in Define Roles to Restrict Authorization by Market (Optional) [page 41].

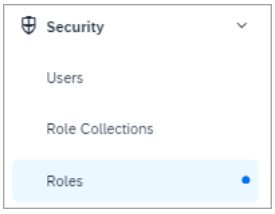
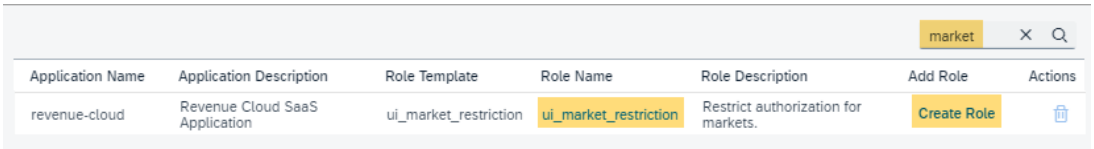
5.2.7 Define Roles to Restrict Authorization by Market (Optional)

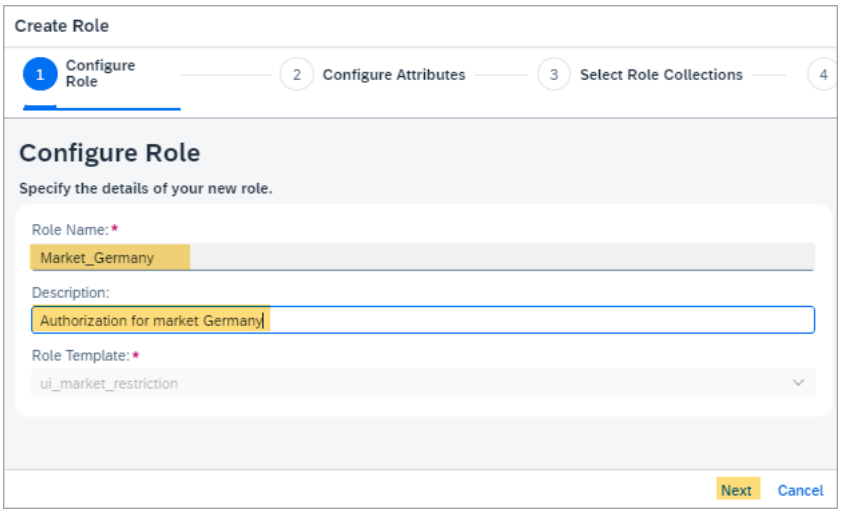
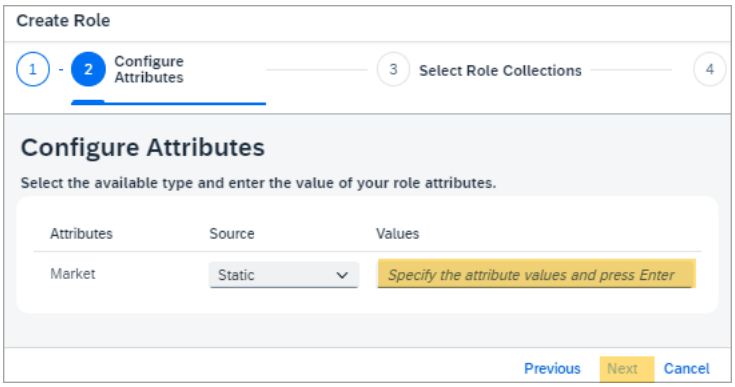
You can restrict user access to data that is associated with certain markets. For example, a user can be allowed to only display billing data for subscriptions or to view or edit the data of a lookup table in a particular market.

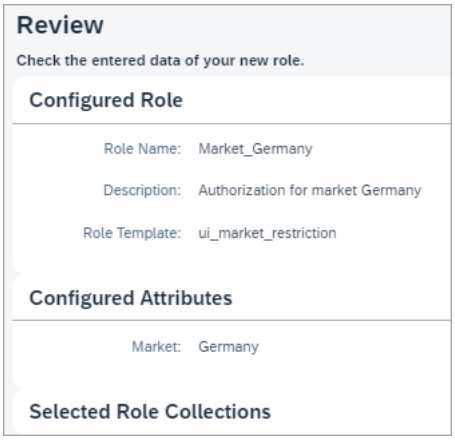
You restrict the markets for which users have authorization by assigning them a role collection that contains at least one role based on the role template `ui_market_restriction`. The role for market authorization restriction doesn't determine whether the user has permission to view or manage data for an object type. Therefore, in the relevant role collections you need to combine the market restriction role with the functional roles (view/manage) for object types.

Users without a role that restricts market authorization have access to data for all markets.

To understand which data is visible to users who are authorized only for certain markets, see Build Role Collections in the *Setup and Administration Guide*.

Step	Task
1.	In the navigation panel, choose *Security* > *Roles*. 
2.	Enter "market" in the search field to find the role that restricts authorization for markets.
3.	In the row that contains the role template `ui_market_restriction`, choose *Create Role* to create a role based on the current role template. 

Step	Task
4.	Follow the guided steps to create a new role with one or several market values. Enter a name and description for the role. Make sure that you clearly identify the markets for which the role restricts authorization. 
5.	Under ▶ *Configure Attributes* ▶ *Values* ▶, enter the IDs of the markets for which the role grants authorization (press `Enter` after entering an ID). Leave the source set as *Static*.  **Note** Make sure that you enter the market IDs exactly as they're defined in Business Configuration.
6.	We recommend that you use separate role collections for market restrictions, rather than using collections that combine market and functional roles (view/manage). By keeping the role types separate, you have more transparency. You can skip this step and create a new role collection for market authorization afterwards.

Step	Task
7.	Review the role data and finish the creation process. 

To create a new role collection for market authorization and assign the roles for markets, follow the steps in the section Build Role Collections [page 39].

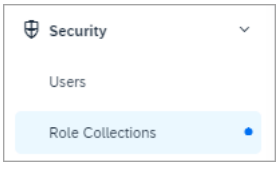
5.2.8 Assign Role Collections to Users or User Groups

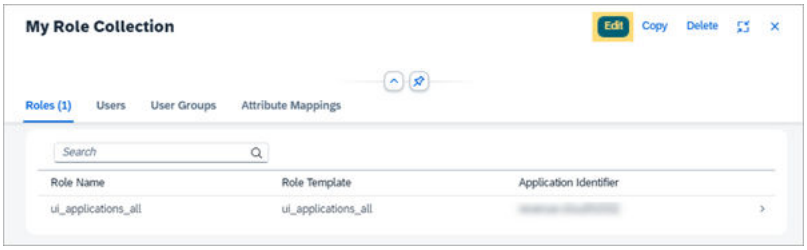
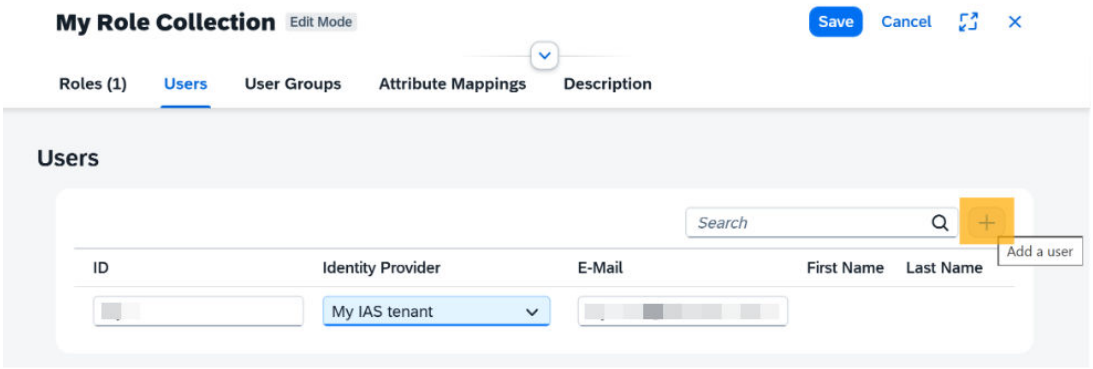
To provide users with authorization, you assign them to role collections.

You can assign role collections to user groups or to users. Both approaches result in the same outcome that the users are eventually granted access to the assigned role collections. Below listed typical ways of assigning role collections, so choose whichever is more convenient:

- Add New or Existing Users to Role Collections [page 43]
- Create Users and Assign them with Role Collections [page 44]
- Assign User Groups with Role Collections [page 46]: Choose this approach if you are using SAP Cloud Identity Services - Identity Authentication as the trusted identity provider.

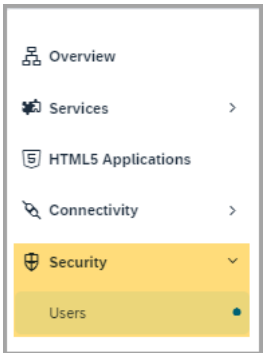
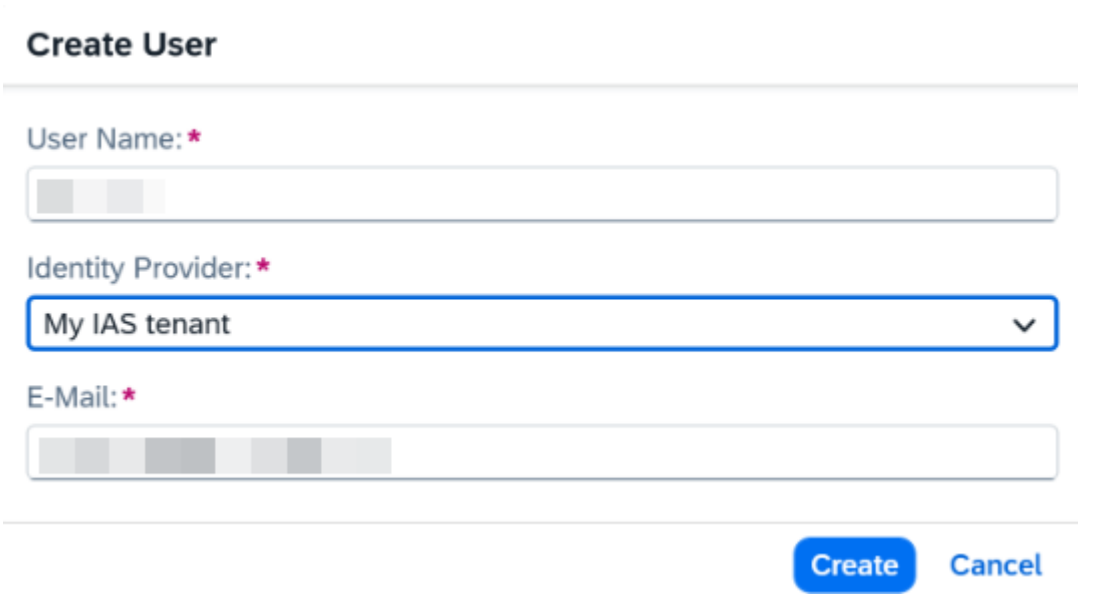
Add New or Existing Users to Role Collections

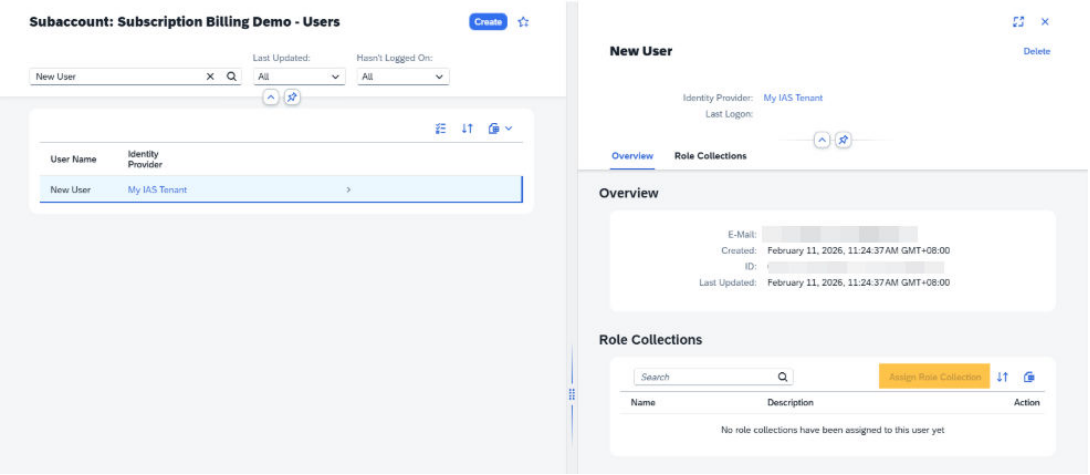
Step	Task
1.	In your global account, open the subaccount. In the navigation panel, choose *Security* > *Role Collections*. 

Step	Task
2.	Create or search for and open a role collection, then choose *Edit*. 
3.	Under *Users*, enter the ID of the user, choose the Identity Authentication tenant as the identity provider and type in the e-mail address. Then choose + (Add User).  The user is created and added.
4.	Repeat the previous steps to add further users to the role collection.
5.	Choose *Save*.

Create Users and Assign them with Role Collections

The following description shows how to assign collections to individual users with the example identity provider that we set up in the section Configure Your SAP Cloud Identity Services Tenant as Identity Provider or Proxy of Your Subaccount [page 38] in this guide.

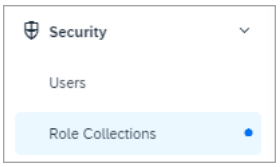
Step	Task
1.	In your subaccount, navigate to *Security* > *Users*. 
2.	To create a new user, choose *Create* and enter the required data. Alternatively, select an existing user from the list in the overview.  **Note** The user created is the shadow user for the user in the actual identity provider hosted or proxied by SAP Cloud Identity Services. Make sure the same user is also in the actual identity provider, and the user attributes are not conflicting.

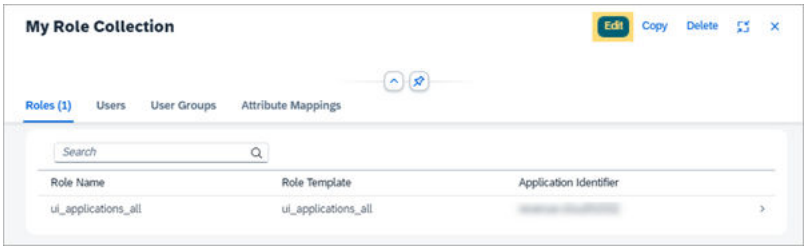
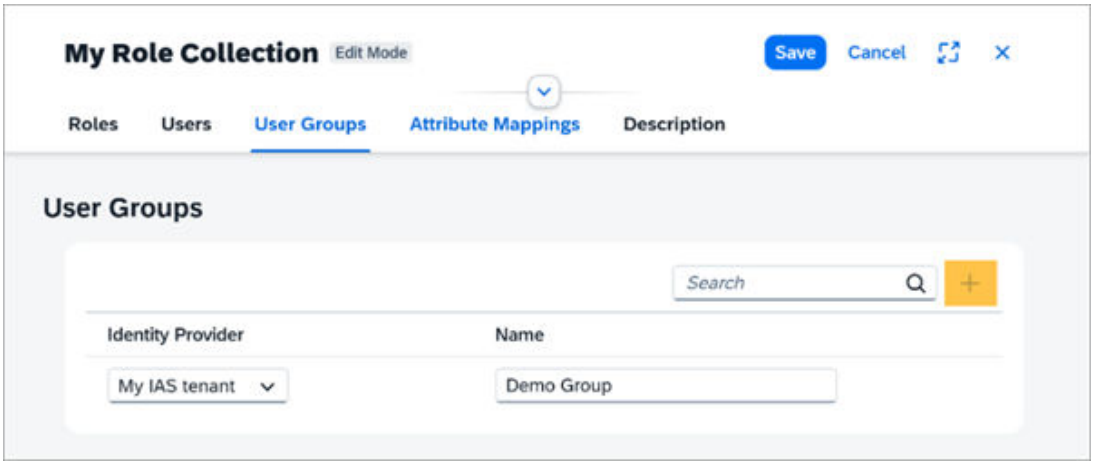
Step	Task
3.	Choose the user to open the details page. In the details under *Role Collections*, choose *Assign Role Collection*. 
4.	Search for the role collection you want to assign, select the role collection, and choose *Assign Role Collection*.
5.	Now the user has at least one role collection assigned.

Assign User Groups with Role Collections

> **Note**
>
> Choose this approach if you are using SAP Cloud Identity Services - Identity Authentication as the trusted identity provider.

You can assign user groups in the identity provider to role collections. In this way the role collection assignments are passed to the users. See Assign User Group to Role Collections in the SAP BTP documentation for more information.

Step	Task
1.	In your global account, open the subaccount. In the navigation panel, choose *Security* > *Role Collections*. 

Step	Task
2.	Create or search for and open a role collection, then choose *Edit*. 
3.	Under *User Groups*, select the Identity Authentication tenant as the identity provider and type in the user group name. Then choose + (Add a user group). 
4.	Choose *Save*.

5.3 Enable API Access

API access to SAP Subscription Billing is based on the OAuth 2.0 specification, implemented by the SAP Authorization and Trust Management service in the Cloud Foundry Environment on SAP Business Technology Platform (SAP BTP). For API access to SAP Subscription Billing, you create service instances that represent the OAuth client. By providing relevant scopes via a JSON parameter, you define which functions and data the OAuth client can retrieve. For more information, see SAP Authorization and Trust Management Service in the SAP BTP documentation.

For the service instances, you create service bindings, which contain the relevant information for retrieving access tokens for the API access. There are two different ways in which a client can authenticate against the token server to retrieve the access token:

- Using client ID and client secret from the service binding
- Using a client certificate from the service binding

If you use a client certificate you provide an “external” certificate when creating the service binding. In case of an integration with SAP S/4HANA Cloud Public Edition, we recommended you use the Client Default certificate provided to the respective tenant. In other cases you bring your own external X.509 certificate.

When using X.509 client certificates from the service binding, access tokens are retrieved with Mutual Transport Layer Security (mTLS). This is considered more secure than a combination of client ID and client secret. Unlike retrieving the access token with client ID and client secret, no secret is shared between calling application and the service instance of the SAP Authorization and Trust Management service. See Retrieving Access Tokens with Mutual Transport Layer Security (mTLS) in the SAP BTP documentation.

The sections Create a Service Binding with Client ID and Client Secret [page 54] and Create a Service Binding with Client Certificate [page 57] describe the setup and the two different options for the service bindings.

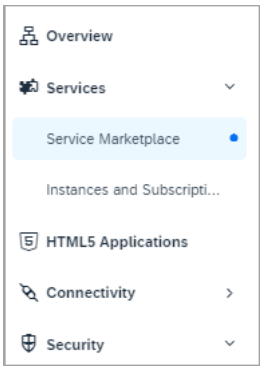
> **Note**
>
> To view the service credentials, users require the role *Subaccount Service Auditor* (part of the default role collection *Subaccount Viewer*).

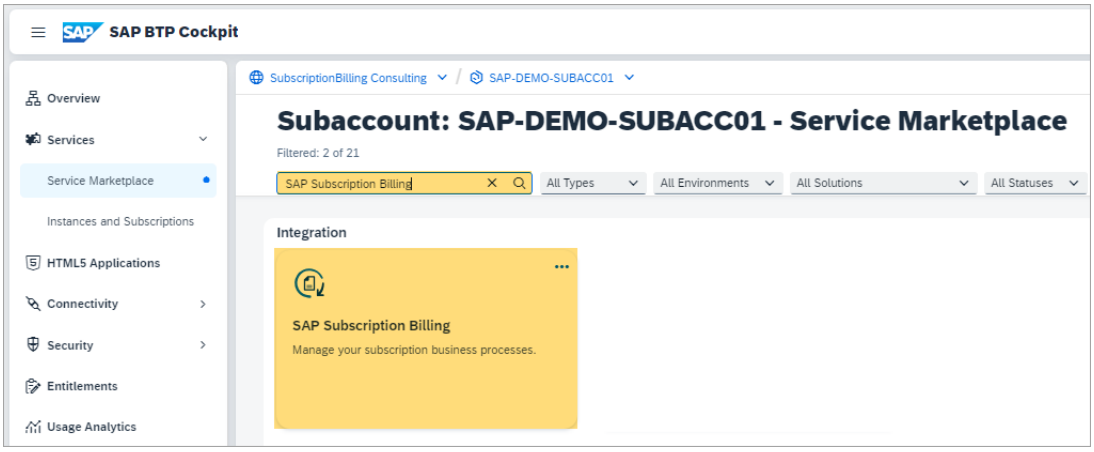
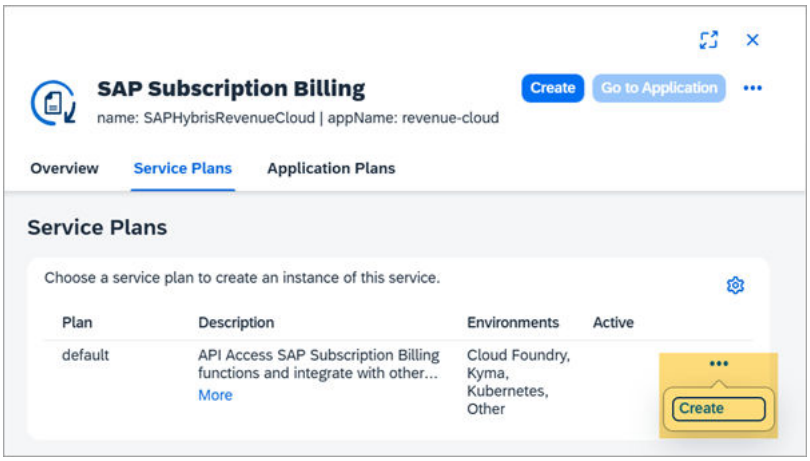
5.3.1 Create a Service Instance

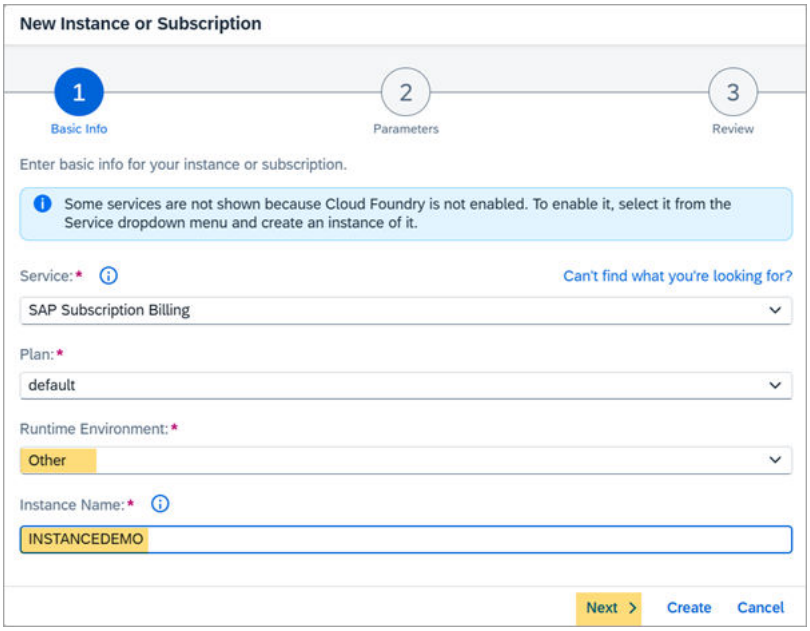
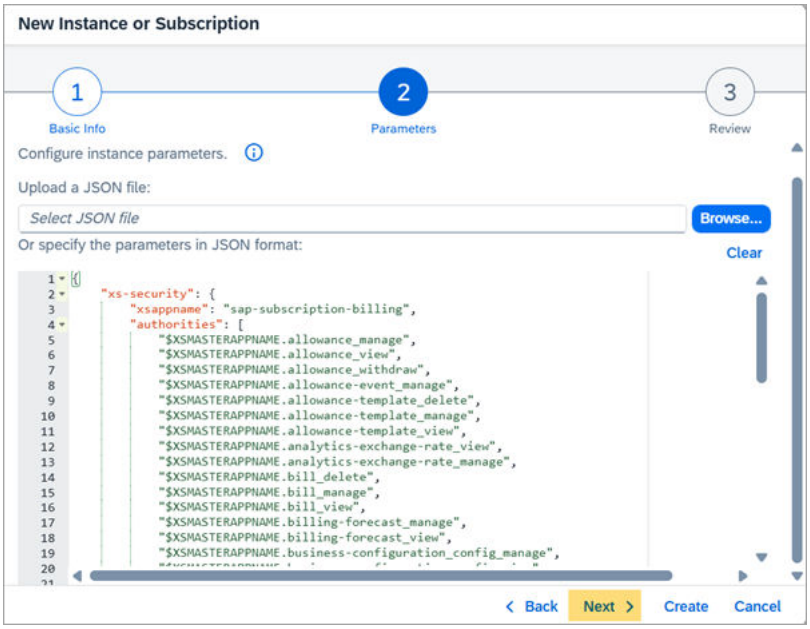
When you create a service instance, you provide a set of scopes that define which of the APIs can be called and which activities can be done using service bindings created for the instance.

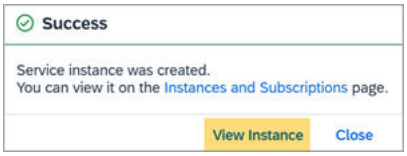
To enable integration and use of SAP Subscription Billing APIs, you must create an instance of the "SAP Subscription Billing" service.

To create an instance, you require the *Subaccount Service Administrator* role. When you create a subaccount, SAP BTP automatically grants this role to your user.

Step	Task
1.	In your subaccount, choose *Services* > *Service Marketplace* in the navigation panel. 

Step	Task
2.	You see all the services that are available to you. Search for and select the service **SAP Subscription Billing**. 
3.	Under *Service Plans*, display the action menu of the plan for which you want to create an instance and choose *Create*.  In this guide, we use the default plan for the example.

Step	Task
4.	Check that the runtime environment *Other* is selected, enter a name for the instance and choose *Next*. In this example, we used “INSTANCEDEMO” as the instance name: 
5.	To define the relevant scopes, upload a JSON file or specify parameters in JSON format. For an up-to-date list of scopes with their descriptions, see SAP Subscription Billing API Scopes in the *API Guide*. The example JSON file contains all the available API scopes. Adjust the file to restrict access according to your requirements. For testing purposes, you may want to start with a complete set up scopes for restricted users. 
6.	After providing the instance parameters, choose *Next*.

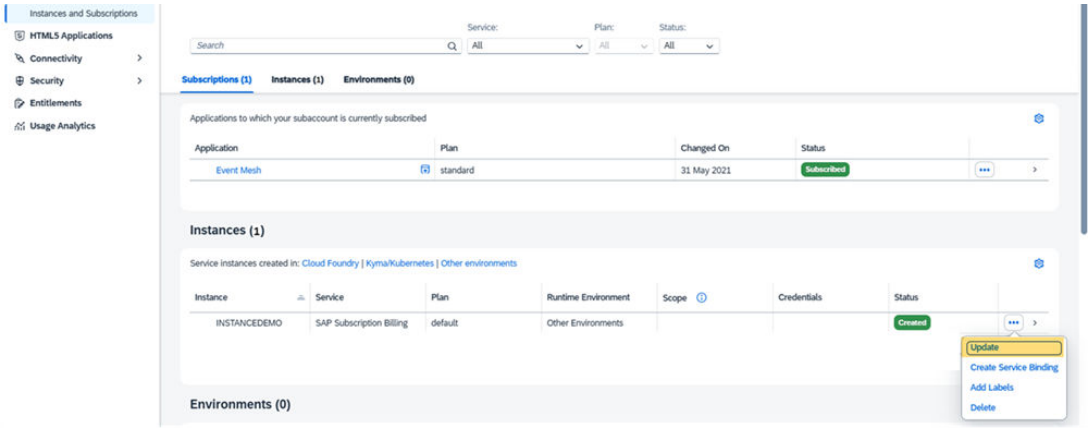
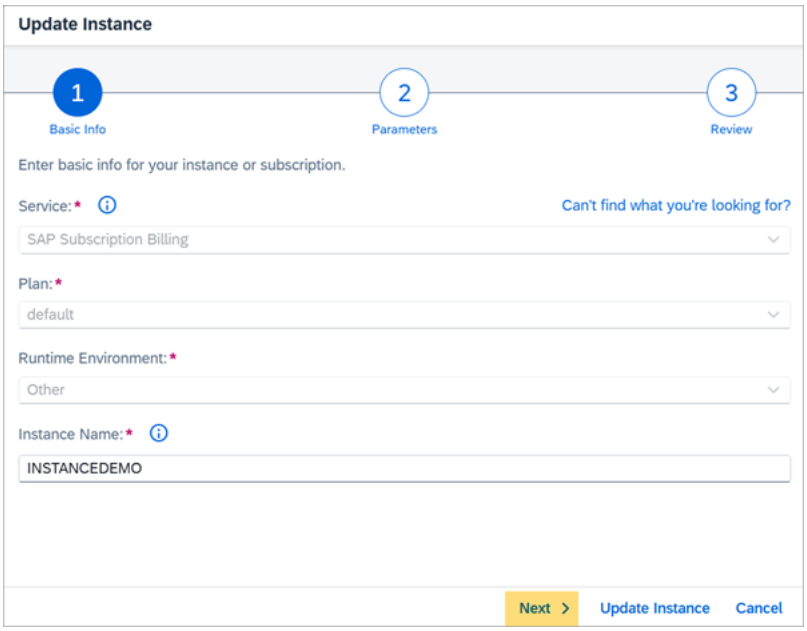
Step	Task
7.	Check that everything is correct and choose *Create*.
8.	The creation process starts. Choose *View Instance* to view the service instance on the *Instances and Subscriptions* page. 
9.	Your instance is created.

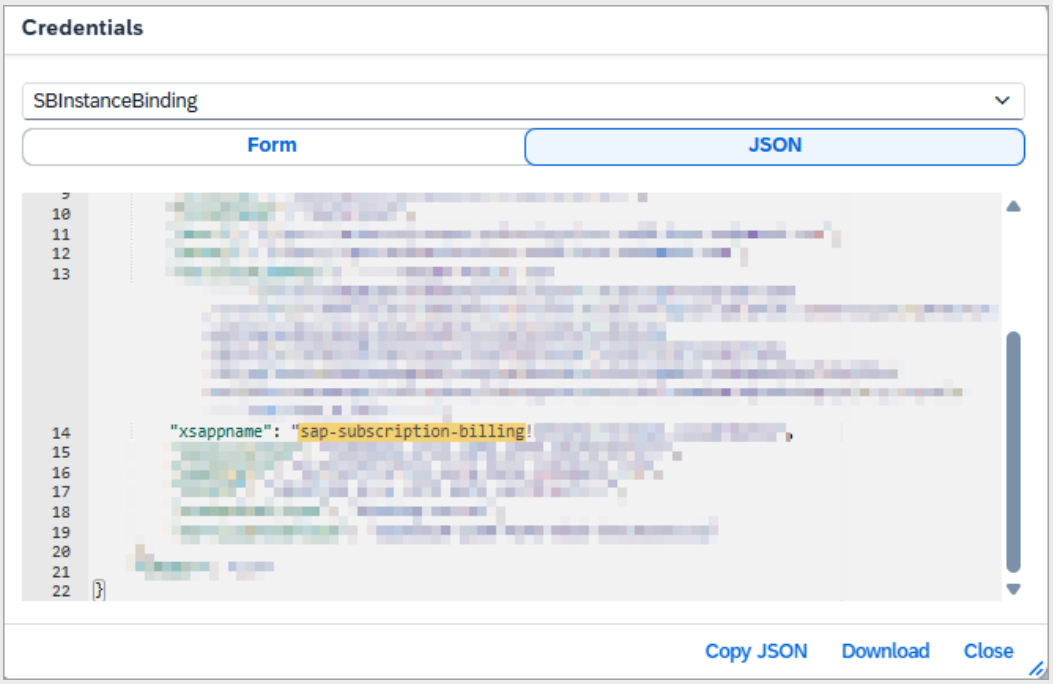
> **Note**
>
> You can create multiple instances to provide different sets of scopes to different users or technical integrations. If you create an additional service instance in the same subaccount, you must use a different value for the attribute `xsappname` in the JSON file that contains the scopes. The `xsappname` value must be unique within the subaccount.

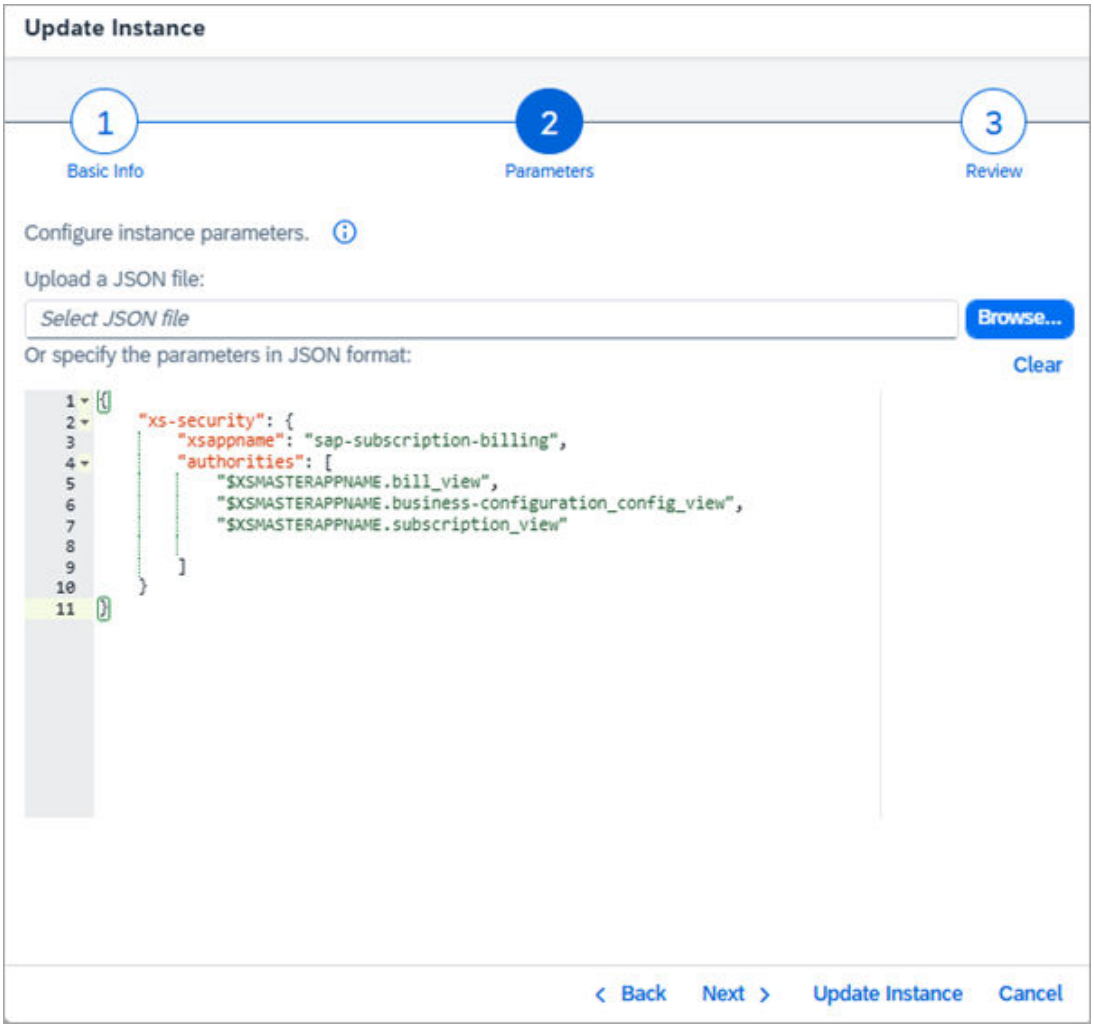
5.3.1.1 Update a Service Instance

In the following cases, you can update an existing service instance to properly reflect the authorizations for the API access provided via the service instance:

- If you want to consume new APIs or new features of SAP Subscription Billing that require further scopes not provided via the JSON file used for the initial creation of the service instance. This can happen if the use case is extended or if a new feature requires a new scope.
- If you use the booster for onboarding to SAP Subscription Billing, the service instance is created with all scopes. If your API access use case doesn't require all scopes, you can change the service instance to adopt a "least privilege" principle. This is recommended for production tenants and test tenants that contain critical data or require a production-like setup.

Step	Task
1.	On the *Instances and Subscriptions* screen, under *Instances*, display the action menu of the instance you want to update and choose *Update*. 
2.	Choose *Next*. 

Step	Task
3.	To define the relevant scopes, upload a JSON file or specify parameters in JSON format. For an up-to-date list of scopes with their descriptions, see SAP Subscription Billing API Scopes in the *API Guide*. The example JSON file contains all the available API scopes. Adjust the file to your updated use case by removing the scopes that are not needed. In the JSON file, you must provide the same value for the attribute `xsappname` as used when creating the instance. **→ Tip** Instances created via the booster are named “subscription-billing-service” and use “subscription-billing” as the `xsappname` in the JSON format. If you don’t know which `xsappname` has been used, you can check the credentials of a service binding created for your existing instance (in the instance details, under *Service Bindings*). Choose *View Credentials* for the service binding, and look for the parameter `xsappname`. From the value of this parameter you require the first part of the string before the exclamation mark.  The following example JSON format provides view access to billing data and subscriptions, with the `xsappname` “subscription-billing”.

Step	Task
	
4.	Choose *Update Instance*. If you've used the wrong `xsappname` value, the update will fail with the error: “Service broker error: ... Error description: Cannot change AppId with update. Old AppId: <your formerly used xsappname>!bxxx|revenue-cloud!bxxx New AppId: <xsappname of your new JSON file>!bxxx|revenue-cloud!bxxx” In this case restart the update process and change the `xsappname` value in the JSON in step 3 to the previously used value.

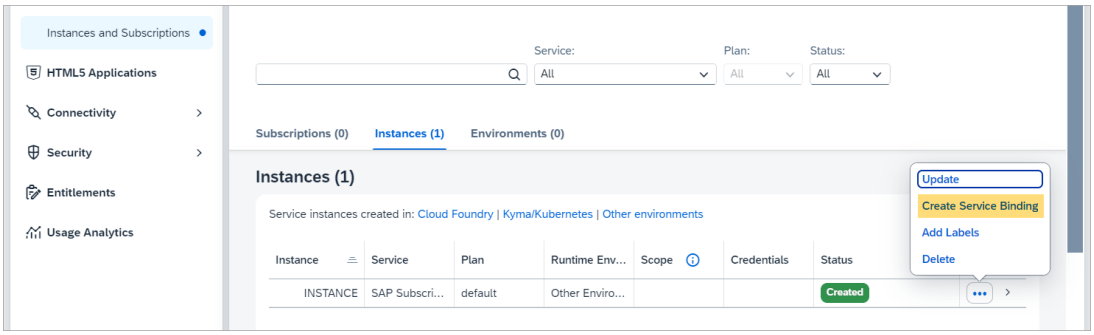
5.3.2 Create a Service Binding with Client ID and Client Secret

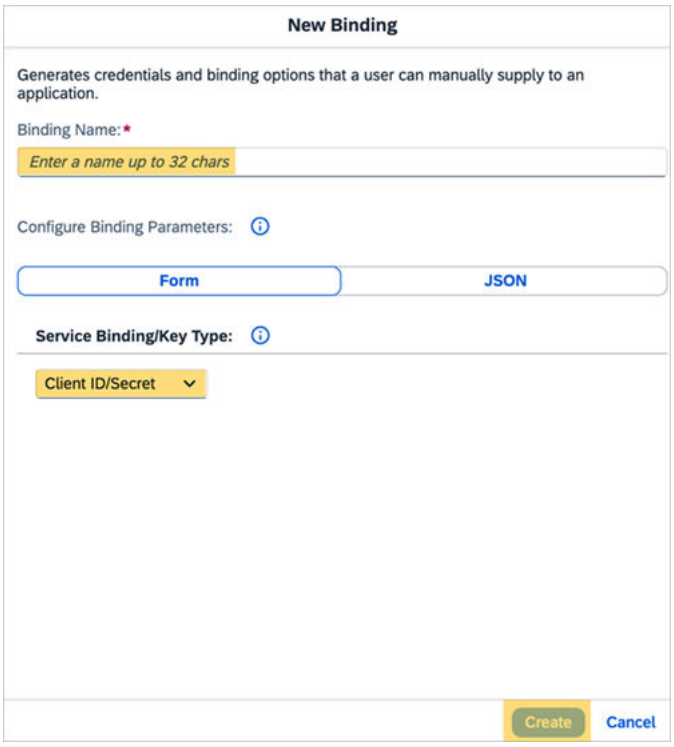
To work with APIs, technical users need a service binding containing the relevant information to get an access token. One way of authenticating against the token server to retrieve the access token is by using the **client**

ID and **client secret** from the service binding. The following steps explain how to create this type of service binding.

Service bindings enable access to APIs with the set of scopes defined in the service instance. If you need API access with different sets of scopes, please create separate instances for it.

> **Note**
>
> "Service binding" and "service key" are used monotonously in SAP BTP.

Step	Task
1.	On the *Instances and Subscriptions* screen, under *Instances*, display the action menu of the instance and choose *Create Service Binding*. 

Step	Task
2.	In the *New Binding* view, follow these steps: For the **SAP Subscription Billing** service: 1. Enter a name under *Binding Name*. 2. Under *Service Binding/Key Type*, keep the selection *Client ID/Secret*. 3. Choose *Create*. 
3.	To see the newly created service binding, display its action menu and choose *View*. **Note** To view the service credentials, users require the role *Subaccount Service Auditor* (part of the default role collection *Subaccount Viewer*).

Step	Task
4.	The details of the service binding are displayed. The service binding contains the information needed to generate an access token to access the APIs.  For information on generating a token, see Generate an Access Token in the *API Guide*.

If you need more details, including explanations of the SAP BTP concepts, refer to the documentation Getting Started with an Enterprise Account in the Cloud Foundry Environment, where you can use the interactive graphics to navigate to more information.

5.3.3 Create a Service Binding with Client Certificate

To work with APIs, technical users need a service binding containing the relevant information to get an access token. One way of authenticating against the token server to retrieve the access token is by using an **X.509 client certificate** from the service binding. The following steps explain how to create this type of service binding.

The alternative way of authenticating is to retrieve the access token is by using a client certificate from the service binding (see Create a Service Binding with Client ID and Client Secret [page 54]).

Service bindings enable access to APIs with the set of scopes defined in the service instance. If you need API access with different sets of scopes, please create separate instances for it.

> **Note**
>
> "Service binding" and "service key" are used synonymously in SAP BTP.

Step	Task

To create a service binding, you need to bring an X.509 client certificate.

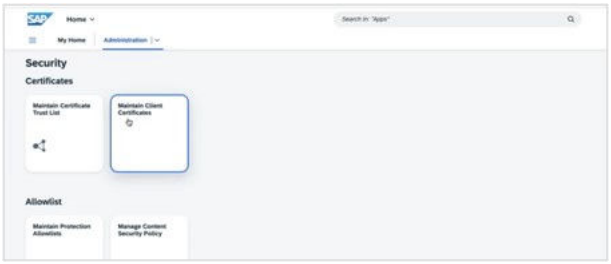
For API access from SAP S/4HANA Cloud Public Edition (communication scenario `SAP_COM_0642`), we recommend using the Client Default certificate from the SAP S/4HANA Cloud tenant. For any other integration you bring your own external certificate.

For easier reading, "SAP S/4HANA Cloud" is used in this help section to refer to the software product SAP S/4HANA Cloud Public Edition.

The following steps 1-4 describe how the *Client Default* certificate can be exported from SAP S/4HANA Cloud.

1. Log on to your SAP S/4HANA Cloud system with the *Administrator* role.

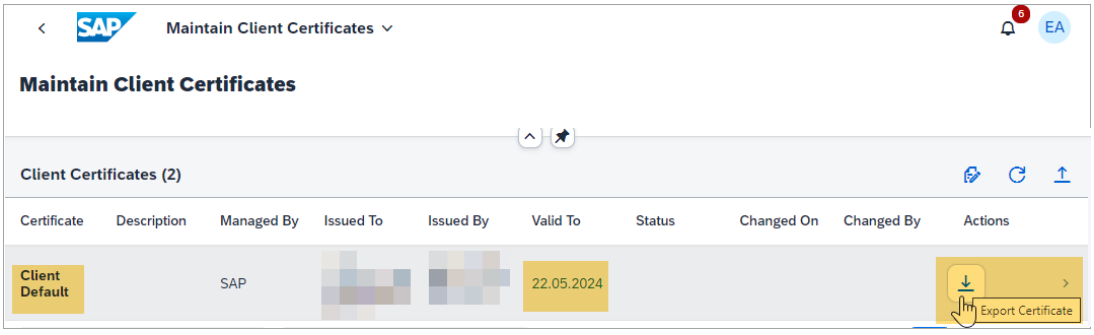
2. Go to the *Maintain Client Certificates* app.



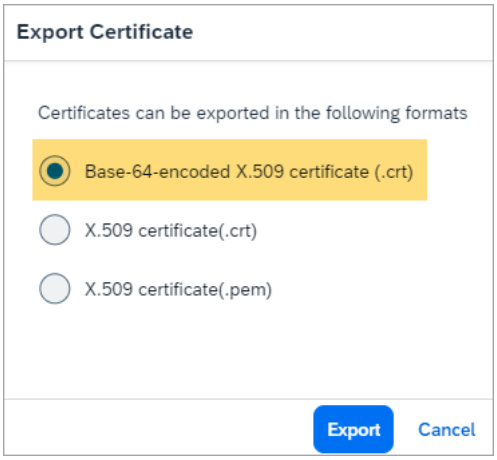
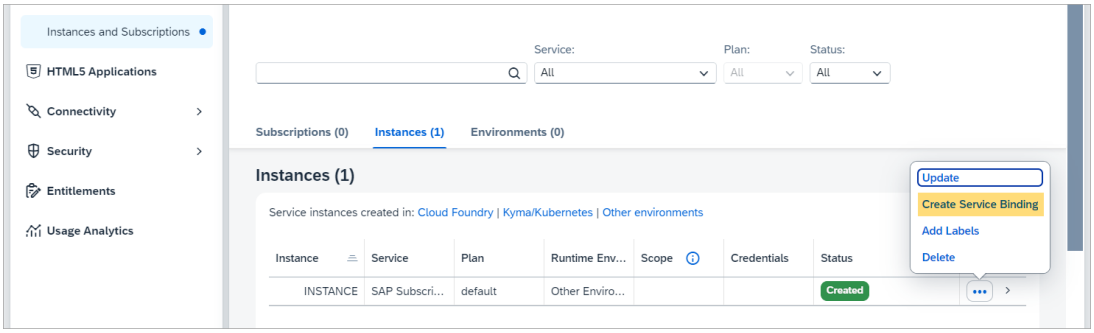
3. In the *Actions* column, download the *Client Default* certificate to your local machine by selecting *Export Certificate*.

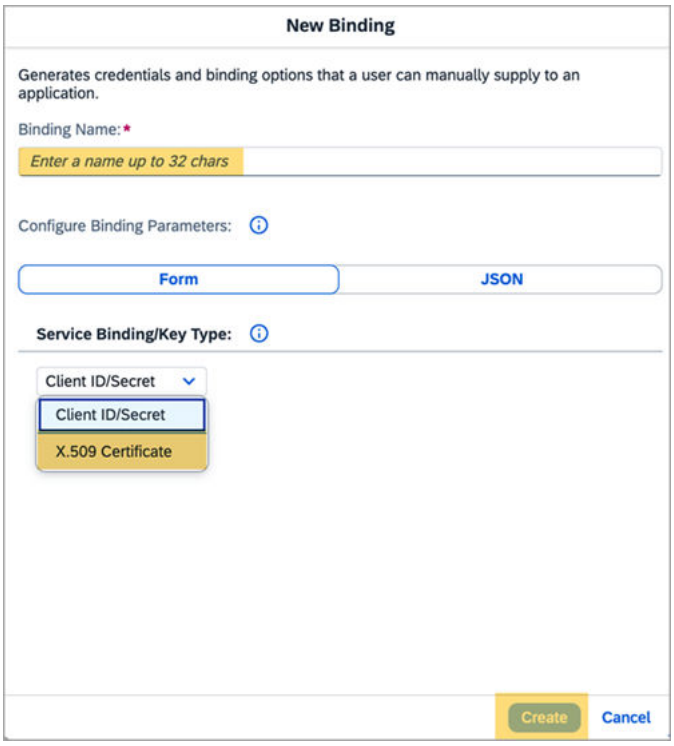
This certificate is provided by SAP for SAP S/4HANA Cloud tenants.

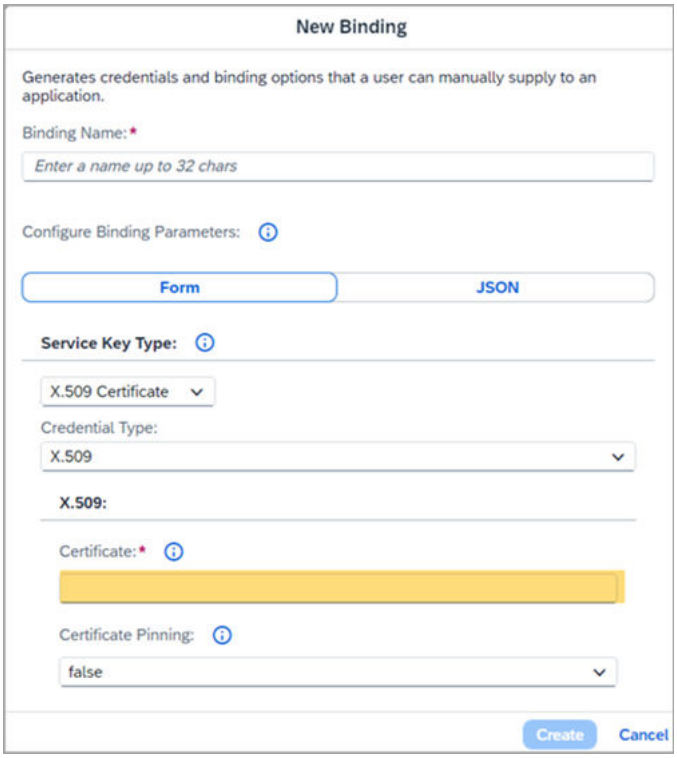
The validity of the certificate is displayed in the *Valid To* column.



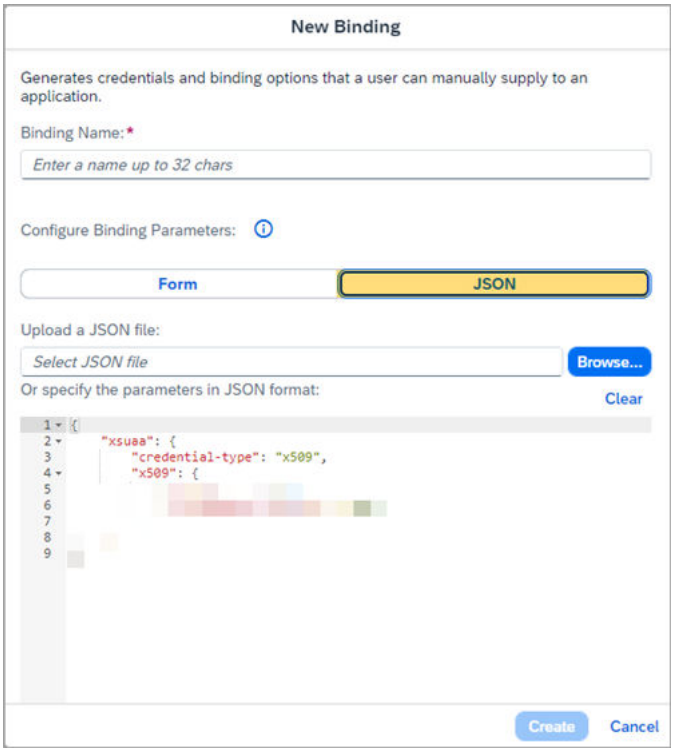
> **Note**
>
> Make sure to renew the certificate before it expires and update the service binding with a new certificate it in case of a configuration update.

Step	Task
4.	Export the *Base-64-encoded X.509 certificate (.crt)* and open the downloaded ".crt" file in a text editor. 
The following steps describe service binding creation in the SAP BTP cockpit.	
5.	On the *Instances and Subscriptions* screen, under *Instances*, display the action menu of the instance and choose *Create Service Binding*. 

Step	Task
6.	In the *New Binding* view: 1. Enter a name for the binding. 2. Under *Service Binding/Key Type*, select *X.509 Certificate*. 

Step	Task
7.	Paste the entire content of the ".crt" file that you opened in the text editor into the *Certificate* field. 

Step	Task
8.	You can switch to the JSON tab in the view to check the format of the form.

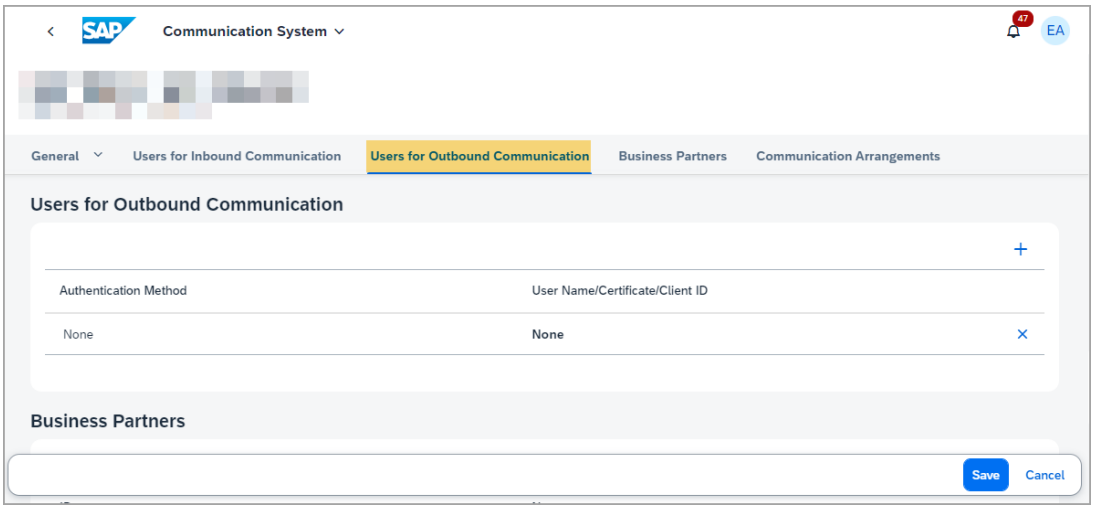
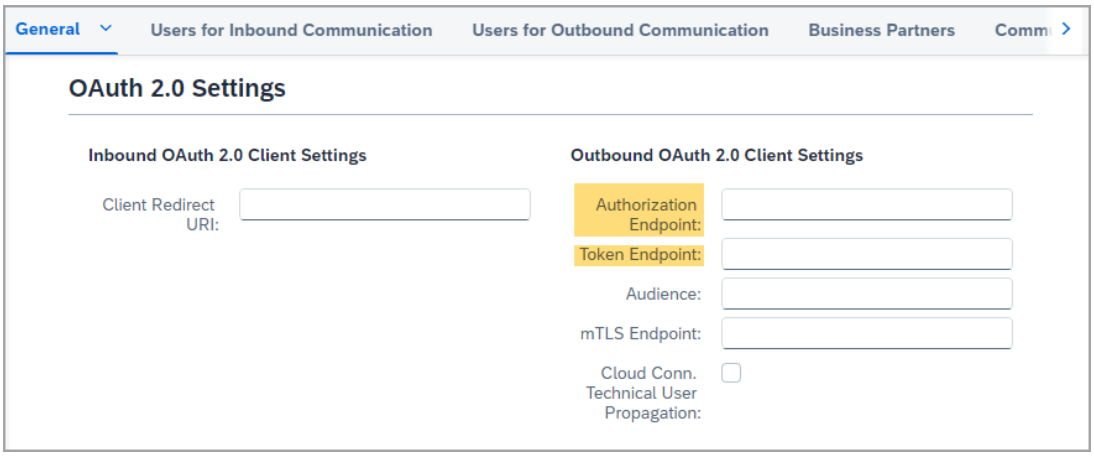


> ⚠ Caution
>
> Don't make any manual changes to the JSON as this might invalidate the certificate and can lead to failures when creating the service binding.

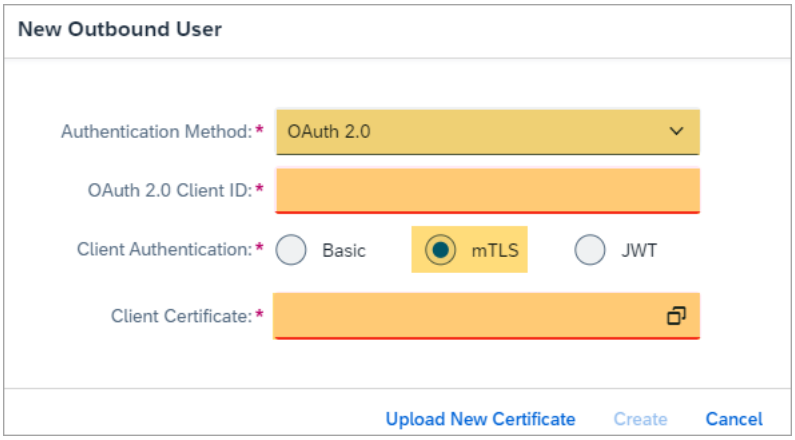
9.	Choose *Create*.

> ⓘ Note
>
> For one external certificate, you can only create one service binding per service instance. If you try to create an additional binding, the creation fails.

The following steps are relevant in case you want to configure API access for the integration of SAP Subscription Billing with SAP S/4HANA Cloud using communication scenario `SAP_COM_0642`.

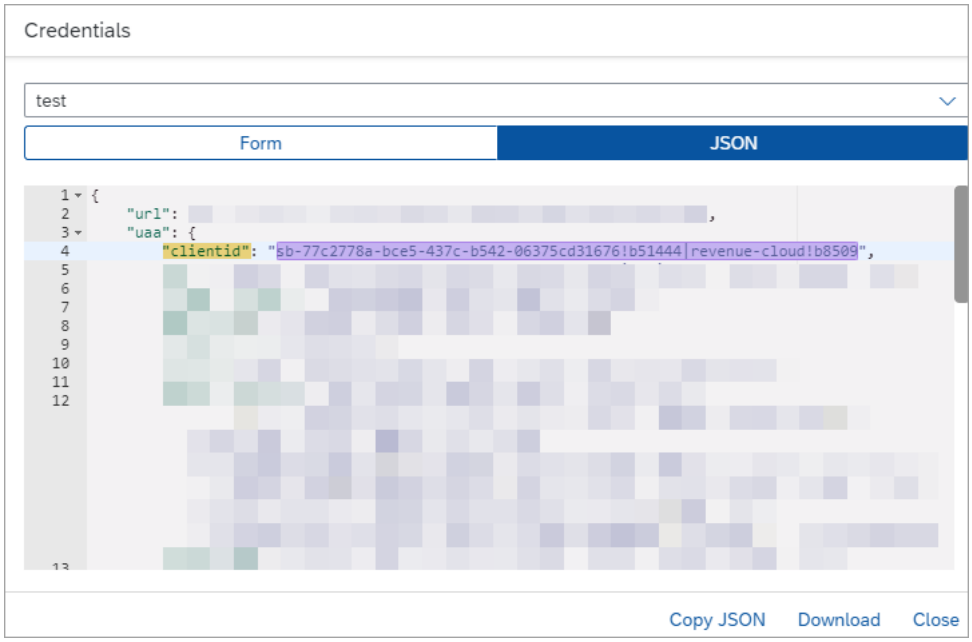
Step	Task
10.	Using the **Administrator** role, log on to your SAP S/4HANA Cloud system and go to the *Communication System* app. 
11.	Create a communication system as described under *Create Communication System for SAP Subscription Billing - API Integration* in the Setup Instructions for Scope Item 57Z or Setup Instructions for Scope Item 5IK. In the *OAuth 2.0 Settings*, enter the URLs using these patterns: • *Authorization Endpoint*: `<certurl>/authorize` • *Token Endpoint*: `<certurl>/oauth/token` **→ Tip** You can find the `url` and `certurl` properties inside the `uaa` object in the service binding that you created for the "SAP Subscription Billing" service. To enter the endpoints correctly, remove `https://` from the URL and add `/authorize` or `/oauth/token` at the end, as shown above.  If you need to create a communication arrangement, follow the procedure described under *Create Communication Arrangement for SAP Subscription Billing - API Integration (SAP_COM_0642)* in the Setup Instructions for Scope Item 57Z or Setup Instructions for Scope Item 5IK.

Step	Task
12.	Create a new *Outbound User* for communication scenario *SAP Subscription Billing - API Integration* (`SAP_COM_0642`).

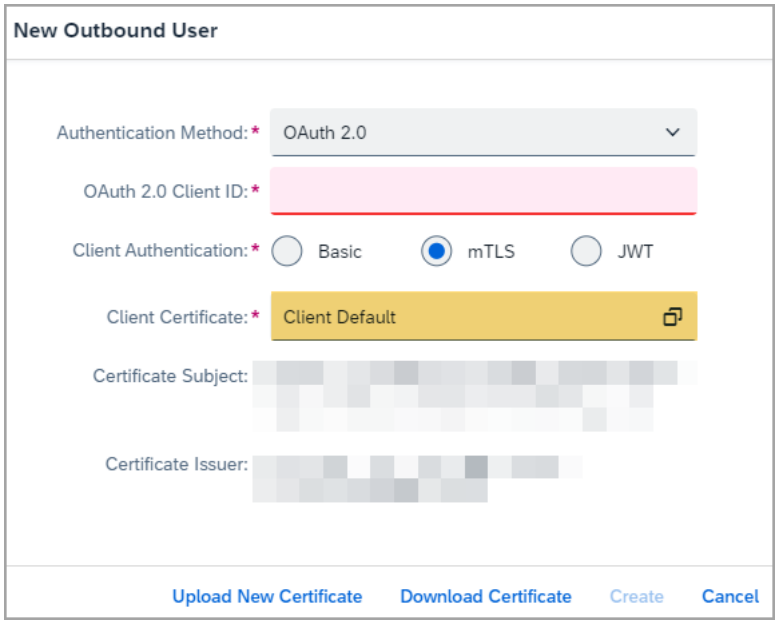


Make the following settings:

1. *Authentication Method*: **`OAuth 2.0`**
2. *OAuth 2.0 Client ID*: Copy the value from the service binding you created earlier. You can view the service binding in the SAP BTP cockpit or download it. You find the relevant value under `clientid`.



3. *Client Authentication*: **`mTLS`**
4. *Client Certificate*: **`Client Default`**

Step	Task
	
13.	Choose *Create*.

> **Note**
>
> To view the service credentials, users require the role *Subaccount Service Auditor* (part of the default role collection *Subaccount Viewer*).

5.4 Set Up SAP Cloud Application Event Hub

Complete the setup described in this section if you are integrating SAP Subscription Billing with SAP S/4HANA Cloud Public Edition and want to use SAP Cloud Application Event Hub to distribute events.

You use SAP Cloud Application Event Hub to distribute events in an integration with SAP S/4HANA Cloud Public Edition if both systems are in the **same operation region**. SAP Cloud Application Event Hub cannot be used in a cross-region setup, for example to connect an SAP Subscription Billing system in a European data center with an SAP S/4HANA Cloud Public Edition system in an APJ region. For event distribution across operation regions, you must use SAP Event Mesh (see Set Up SAP Event Mesh Default Plan [page 71]).
For details and supported regions, refer to Event Distribution and Region Considerations in the SAP Cloud Application Event Hub documentation.

The steps in this section guide you directly through the required setup of SAP Cloud Application Event Hub. If you want to learn more about the service, refer to the SAP Cloud Application Event Hub Service Guide.

5.4.1 Add SAP Cloud Application Event Hub to a Subaccount

Add your entitlement for the standard application plan of SAP Cloud Application Event Hub to either your SAP Subscription Billing subaccount or another subaccount.

Prerequisite

You have Subaccount Administrator authorizations at a minimum.

Procedure

Step	Task
1.	In the subaccount where you want to add your entitlement, choose *Entitlements* in the navigation panel.
2.	To start, choose *Edit*.
3.	Now choose *Add Service Plans*.
4.	Under *Entitlements*, search for **SAP Cloud Application Event Hub**, select the service, and the **standard** application plan.
5.	Confirm the change by choosing *Add 1 Service Plan*.
6.	Assign the quota and choose *Save* to finish.
7.	Verify that the application plan displays in the table of entitlements.

5.4.2 Subscribe to the SAP Cloud Application Event Hub Application

To enable access to the SAP Cloud Application Event Hub application, subscribe to the standard application plan. You'll use the application further on in the setup to enable preconfigured subscription content.

Prerequisites

- You have Subaccount Administrator authorizations at a minimum.
- You have added your entitlement for SAP Cloud Application Event Hub to a subaccount (see Add SAP Cloud Application Event Hub to a Subaccount [page 66]).

Procedure

Step	Task
1.	In the subaccount in which you added SAP Cloud Application Event Hub, choose *Instances and Subscriptions* in the navigation panel.
2.	Choose *Create*.
3.	Scroll through the service list or type in **Event Hub**, select **SAP Cloud Application Event Hub** and the *standard* application plan.
4.	Choose *Create*. The subscription is activated and the *Go to Application* link becomes available in the subscription details. **Note** To access the application, you need to apply roles to your user, which you do in the next activity.

5.4.3 Provide Authorization for the SAP Cloud Application Event Hub Application

You need to assign role-based permissions to each user who needs access to the SAP Cloud Application Event Hub application to enable preconfigured subscription content.

Prerequisites

- You have Subaccount Administrator authorizations at a minimum.
- You have subscribed to the SAP Cloud Application Event Hub standard application plan (see Subscribe to the SAP Cloud Application Event Hub Application [page 66]).

Procedure

Step	Task
1.	In the subaccount in which you added SAP Cloud Application Event Hub, choose *Security* > *Users*.
2.	Choose a user row. The table opens a new column to the right and exposes the role details.

Step	Task
3.	Under *Role Collections*, choose *Assign Role Collection* (if you're working on a small screen, you can find the option by choosing the three dots that represent the options menu).
4.	Choose the role collection *Event Broker Integration Administrator* then choose *Assign Role Collection*.
5.	Verify that the role collection appears in the list for the user.

Results

Once role permissions are assigned to users, they can access the SAP Cloud Application Event Hub application using the link in the row for the subscribed application plan.

5.4.4 Register Your SAP S/4HANA Cloud Tenant in Your Global Account

To connect an SAP S/4HANA Cloud Public Edition tenant with a global account in SAP BTP, you need to register the tenant in the corresponding global account.

Follow the instructions under Register Your SAP S/4HANA Cloud Public Edition System in Your Global Account [page 15].

5.4.5 Create a Formation to Define the Event Sharing Context

When SAP Cloud Application Event Hub distributes events between SAP Subscription Billing and SAP S/4HANA Cloud Public Edition, the data is handled in a secure manner. A formation enforces customer tenant data segregation, or the sharing context, for these applications when they are registered as SAP systems.

Prerequisites

- You have Global Account Administrator or System Landscape Administrator authorizations.
- You have subscribed to the SAP Cloud Application Event Hub application (see Subscribe to the SAP Cloud Application Event Hub Application [page 66]).
- You have registered your SAP S/4HANA Cloud Public Edition system in your global account (see Register Your SAP S/4HANA Cloud Public Edition System in Your Global Account [page 15]).

Procedure

> **Note**
>
> The subaccount where SAP Cloud Application Event Hub is subscribed can only be part of one formation in a global account.
>
> SAP systems can only be added to one formation of type *Eventing Between SAP Cloud Systems* in a global account.

Step	Task
1.	In your global account, navigate to *System Landscape*.
2.	On the *Formations* tab, choose *Create Formation*.
3.	Follow the guided steps to enter all the required information for your formation: 1. Add a name that helps you identify your formation. 2. In the *Formation Type* dropdown menu, select *Eventing Between SAP Cloud Systems*. 3. In the *Subaccount* dropdown menu, select the subaccount where SAP Cloud Application Event Hub is subscribed. 4. Select the systems that you want to include in the formation. For SAP Subscription Billing, systems are tenants. 5. Review your selections and choose *Create* to create the formation.

Result

The formation enables event-based integration by configuring a communication system and a communication arrangement *SAP_COM_0892 (SAP Cloud Application Event Hub Integration)*.

Next Steps

You now need to configure communication in your SAP S/4HANA Cloud Public Edition system. You can find a description of how to do this in the setup instructions for scope item 57Z (Subscription Management with Sales Billing) or 5IK (Subscription Management with Convergent Invoicing): In your SAP S/4HANA Cloud Public Edition system, you create a communication arrangement based on the communication scenario `SAP_COM_0884` (SAP Subscription Billing - Event Consumption Integration).

Next, continue in the current guide with the activity Enable Event Subscriptions [page 70].

Troubleshoot Formation

If an error occurs for the formation, check the error messages. Errors occur, for example, if the communication scenarios or destinations to be created with the formation already exist in the respective systems through manual configuration. If the error can't be resolved, you can restart the synchronization process by choosing *Resynchronize*. If the issue persists, create a support case and include the formation ID along with the relevant technical details.

Remove System from Formation

After you have created a formation, you can edit it and change the included systems. If you want to remove an SAP system from a formation of type *Eventing Between SAP Cloud Systems*, make sure that all active event subscriptions are disabled first in SAP Cloud Application Event Hub. You can check your subscriptions in the SAP Cloud Application Event Hub application on the *Subscriptions* page.

Delete a Formation

When you delete a formation, the systems are excluded from the formation, the subaccount is unassigned, and finally, the formation is deleted from the formations list completely. All artifacts created via the formation in SAP BTP and in SAP S/4HANA Cloud Public Edition are deleted.

5.4.6 Enable Event Subscriptions

Event subscriptions identify the publishing application, the subscribing application, and the type of events that can flow between them. When the event subscription becomes active, the subscribing application immediately begins consuming events.

Prerequisites

- You have Event Broker Integration Administrator authorizations.
- You have subscribed to the SAP Cloud Application Event Hub standard application plan (see Subscribe to the SAP Cloud Application Event Hub Application [page 66]).
- A formation of type *Eventing Between SAP Cloud Systems* was created and includes the subaccount where the SAP Cloud Application Event Hub application is subscribed (see Create a Formation to Define the Event Sharing Context [page 68]).
- You have created a communication arrangement in SAP S/4HANA Cloud, based on the communication scenario **SAP_COM_0884** (SAP Subscription Billing - Event Consumption Integration).

Procedure

Step	Task
1.	In the subaccount in which you added SAP Cloud Application Event Hub, choose *Services* > *Instances and Subscriptions* in the navigation panel.
2.	In the *Subscriptions* table, choose the link next to SAP Cloud Application Event Hub. The SAP Cloud Application Event Hub application displays.
3.	After signing in, choose *Subscriptions*.
4.	From the table of event subscriptions, choose the tab *All Available Subscriptions* and select the subscription *Replication of Subscriptions and Billing Forecasts from SAP Subscription Billing to SAP S/4HANA Cloud*. **Note** If you can't select the row because it's grayed out, then you have an overlapping event subscription enabled. Refer to the *Lifecycle* section of Event Subscriptions in the SAP BTP documentation to see a list of situations when event subscriptions overlap.
5.	Select the red status indicator to enable the event subscription.

Results

The *Status* indicator turns green, which indicates that the event subscription is active. The event subscription also displays in the *My Subscriptions* tab. Subscribing applications begin consuming events immediately.

Note

In some cases, you could experience a slight delay in connectivity while the subscriber associated with the event subscription is activated. Any delays are automatically resolved.

5.5 Set Up SAP Event Mesh Default Plan

Complete the setup described in this section if you need SAP Event Mesh default plan to distribute events from SAP Subscription Billing.

SAP Event Mesh default plan is used for the following integrations.

- Event distribution between SAP Subscription Billing and SAP S/4HANA Cloud Public Edition **if the applications are in different operation regions**.
- Event distribution between SAP Subscription Billing and SAP S/4HANA Cloud Private Edition or SAP S/4HANA.

For an overview of the integration options, see Integration Using Events in the *Integration Guide*.

> **Note**
>
> You require a separate license for SAP Event Mesh default plan. If your use case requires it, please open a support case on the component **CEC-SAL-SB**.

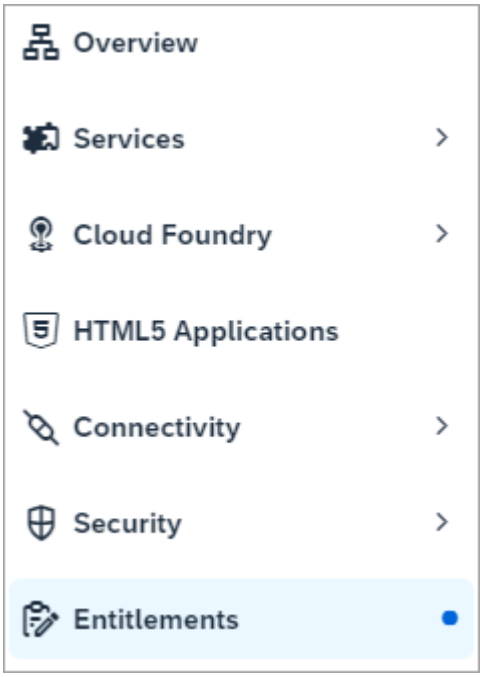
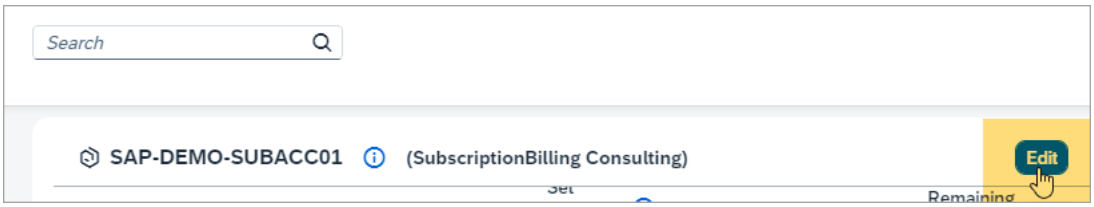
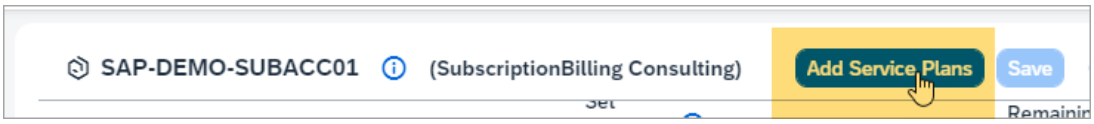
> **Caution**
>
> During setup:
>
> - Entitlements to SAP Event Mesh default plan and SAP Subscription Billing need to be provisioned in the same SAP BTP global account. This requirement needs to be considered during the sales cycle in consultation with your account manager to avoid issues during onboarding.
> - The SAP Event Mesh default plan instance must be created in the same subaccount in which you subscribed to SAP Subscription Billing.

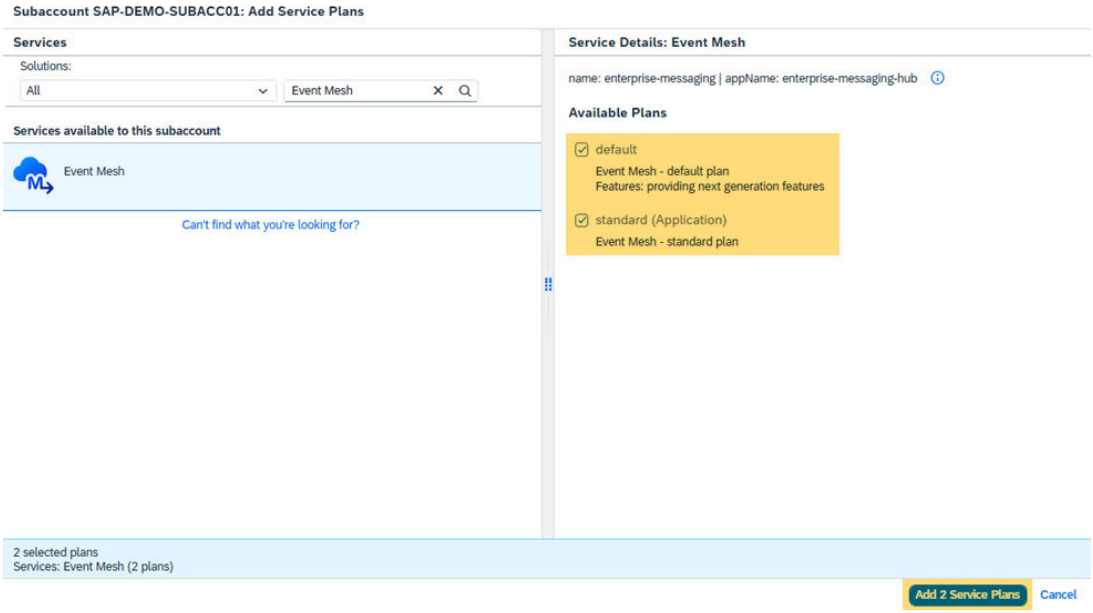
The steps in this section guide you directly through the required setup of SAP Event Mesh default plan. If you want to learn more about the service, see Initial Setup in the SAP Event Mesh documentation.

5.5.1 Assign an Event Mesh Entitlement

You need to assign entitlement quotas to your subaccount.

> **Caution**
>
> Entitlements to the SAP Event Mesh service must be provisioned in the same SAP BTP global account as SAP Subscription Billing.

Step	Task
1.	In your subaccount, choose *Entitlements* in the navigation panel.  **Note** You must use the same subaccount as the one in which you subscribed to SAP Subscription Billing.
2.	To start, choose *Edit*. 
3.	Now choose *Add Service Plans*. 

Step	Task
4.	Search for *Event Mesh*, choose the service, and select the *default* and the *standard (Application)* service plans.  → Tip If you don't see the service in the list, then either you still need to purchase a license, or all the purchased entitlements are used up.
5.	Confirm the change by choosing *Add 2 Service Plans*.
6.	Assign the quota and choose *Save* to finish.

5.5.2 Create an Event Mesh Instance

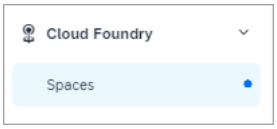
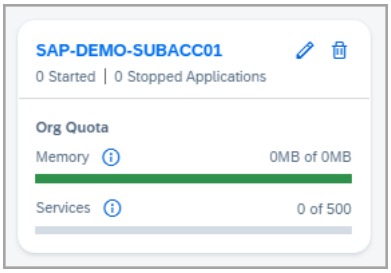
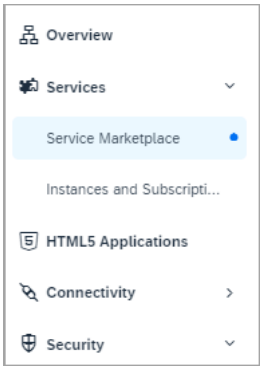
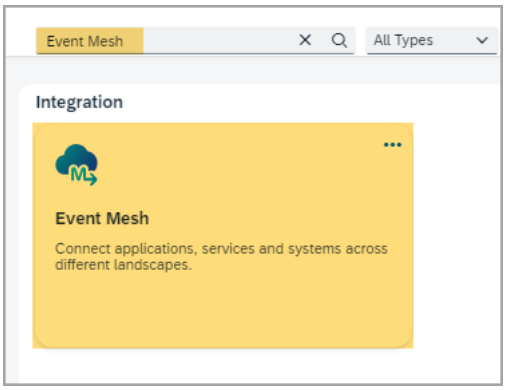
→ Tip

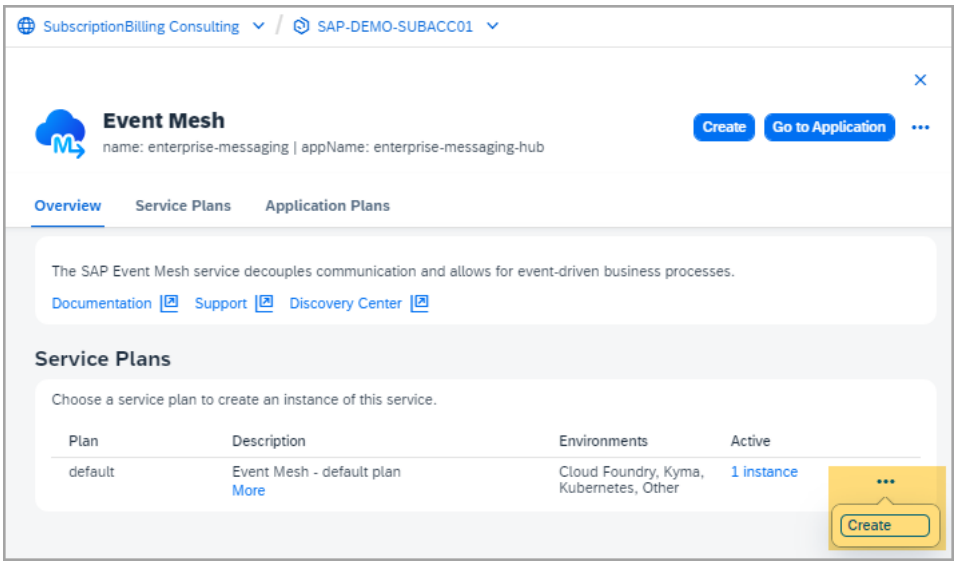
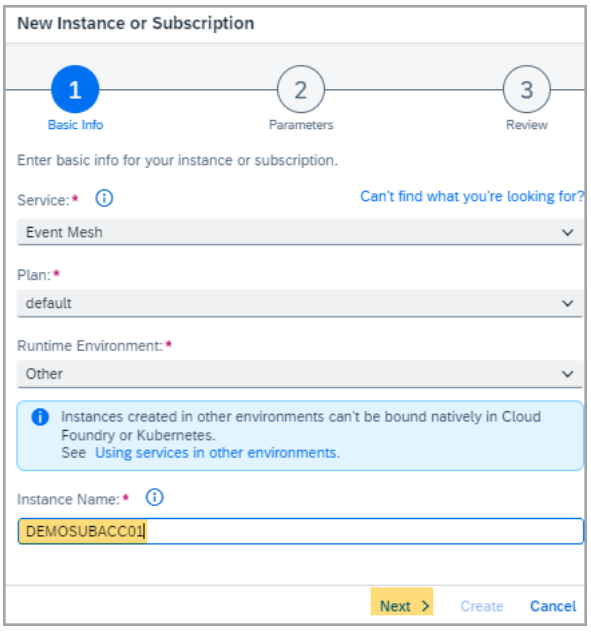
For the consumption of events, the prices set in the SAP Event Mesh price list apply.

You can create a new Event Mesh instance by using the SAP BTP cockpit or by using the Cloud Foundry Command Line Interface. In this section, we provide instructions for the SAP BTP cockpit.

ⓘ Note

Entitlements to the SAP Event Mesh service must have been provisioned in the same SAP BTP global account as SAP Subscription Billing (in Assign an Event Mesh Entitlement [page 72]).

Step	Task
1.	In your subaccount, choose *Cloud Foundry* > *Spaces* in the navigation panel.  **⚠ Caution** You must use the same subaccount as the one in which you subscribed to SAP Subscription Billing.
2.	Open the space in which you want to create a service instance. 
3.	Choose *Services* > *Service Marketplace* in the navigation panel. 
4.	You see all the services that are available to you. Search for and select the service *Event Mesh*. 

Step	Task
5.	Under *Service Plans*, display the action menu of the plan for which you want to create an instance and choose *Create*.  **Note** Your user must be a member of the space and have the role *Space Developer* assigned. If not, you won't see the button *Create*.
6.	Name the instance and choose *Next*.  **Tip** In this guide, we use "DEMOSUBACC01" as the example name for the instance.

Step	Task
7.	Upload a JSON file or specify the parameters in JSON format.



```
{
    "emname": "<yourmessageclientname>",
    "namespace":
"<yourorgname>/<yourmessageclientname>/<uniqueID>",
    "version": "1.1.0",
    "options": {
        "management": true,
        "messagingrest": true,
        "messaging": true
    },
       "rules": {
        "queueRules": {
            "publishFilter": [
                "${namespace}/*"
            ],
            "subscribeFilter": [
                "${namespace}/*"
            ]
        },
        "topicRules": {
            "publishFilter": [
                "${namespace}/*"
            ],
            "subscribeFilter": [
                "sap/billing/sb/*"
            ]
        }
    }
}
```

```
{
    "emname": "<yourmessageclientname>",
    "namespace": "<yourorgname>/<yourmessageclientname>/<uniqueID>",
    "version": "1.1.0",
    "options": {
        "management": true,
        "messagingrest": true,
        "messaging": true
    },
    "rules": {
        "queueRules": {
            "publishFilter": [
                "${namespace}/*"
            ],
            "subscribeFilter": [
                "${namespace}/*"
            ]
        },
        "topicRules": {
            "publishFilter": [
                "${namespace}/*"
            ],
            "subscribeFilter": [
                "sap/billing/sb/*"
            ]
        }
    }
}
```

Provide the parameters for which the placeholders are highlighted in yellow: name of message client, namespace, and connection rules for the message client.

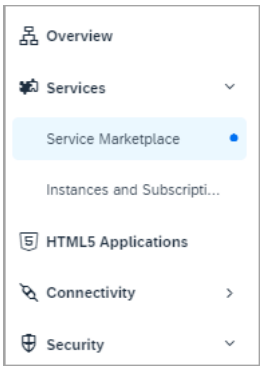
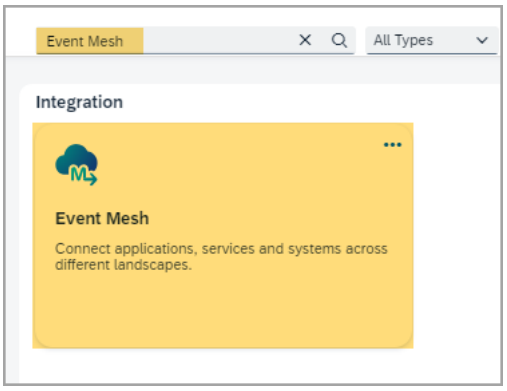
Step	Task
	→ Tip The namespace must contain alphanumeric characters with 3 segments (a/b/c) and have a maximum length of 24 characters. Don't use the term "sap" in your namespace because it's reserved for SAP applications. For more information, see Syntax for Service Descriptor in the SAP Event Mesh documentation. To receive events from SAP Subscription Billing, you must define a `subscribeFilter` rule as highlighted in green in the service description. With this configuration, you specifically subscribe to the topics for SAP Subscription Billing.
8.	After providing the parameters, choose *Next*.
9.	Check that everything is correct and choose *Create*.
10.	The creation process starts. Choose *View Instance* to switch to the *Instances* screen.
11.	Your instance is created.

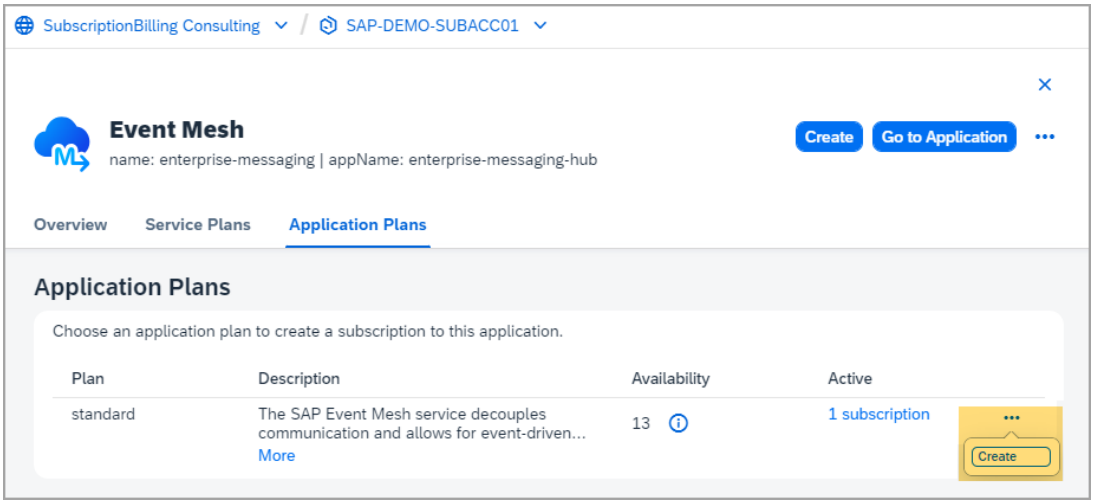
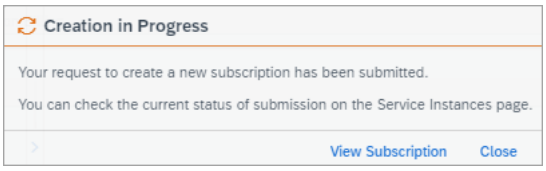
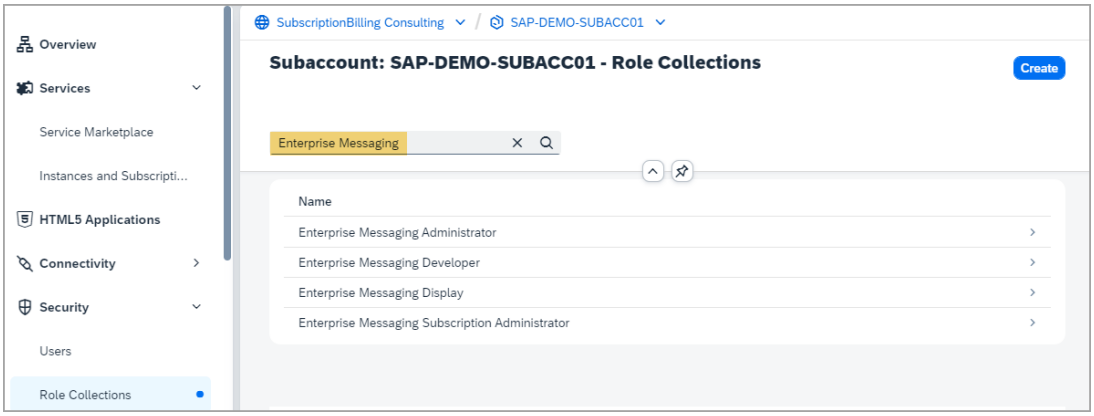
5.5.3 Prepare Access to the SAP Event Mesh Application

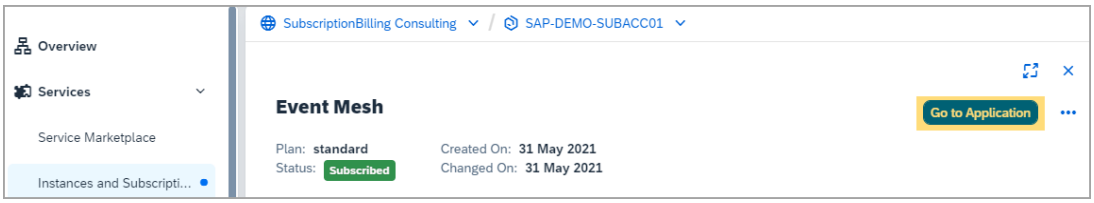
SAP Event Mesh is a software as a service (SaaS) application that allows your authorized business users to manage queues and webhooks. It also allows them to view the connection rules and service descriptor that you provided when you created a service instance. For more information, see Using Event Mesh in the SAP Event Mesh documentation.

→ Tip

Only a security administrator of the subaccount can perform the steps in this section. For detailed information on defining your security administrators, see the section Define Subaccount Administrators [page 36] in this guide.

Step	Task
1.	Subscribe to the Event Mesh application: Go to the subaccount in which you subscribed to SAP Event Mesh and SAP Subscription Billing. Choose *Services* > *Service Marketplace* in the navigation panel. 
2.	You see all the services that are available to you. Search for and select the service *Event Mesh*. 
3.	Under *Application Plans*, display the action menu of the plan for which you want to create a subscription and choose *Create*. **Note** In this guide, we use the standard plan for the example.

Step	Task
4.	Check the basic info and then choose *Create*. 
5.	The creation process starts. Choose *View Subscription* to switch to the *Instances and Subscriptions* screen. 
6.	You're subscribed to the Event Mesh application.
7.	Now give your users access to the application: In your subaccount, choose *Security* > *Role Collections* in the navigation panel. Then filter by "Enterprise Messaging" (former name of Event Mesh). You see the standard role collections for Event Mesh.  For details on the Event Mesh roles, see Assign Roles to Users in the SAP Event Mesh documentation.

Step	Task
8.	Assign your users to the standard role collections according to the necessary authorizations. For example, assign administrators to the collection “Enterprise Messaging Administrator".
9.	Follow the steps described in Assign Role Collections to Users or User Groups [page 43]. If the standard collections are not sufficient, you can also create your own role collections for Event Mesh. See Build Role Collections [page 39] for instructions.
10.	To access the application, return to the overview of your subaccount and choose *Services* > *Instances and Subscriptions*. In the list of subscriptions, choose the *Go to Application* icon of Event Mesh.  **Note** Only the business users that you authorized in the previous step can access the application.
11.	The SAP Event Mesh application displays. You will see a tile for each *Event Mesh* instance of plan *DEFAULT* from your subaccount. To continue, select the tile for your messaging client.

You will see the settings for this messaging client. You can then define queues or webhook subscriptions and display further details.

You need a webhook subscription if you want to receive the events via a push mechanism. The Event Mesh service calls your registered endpoint (webhook URL) via a HTTP post request with the event payload.

5.6 Migrate to Authentication Using SAP Cloud Identity Services

For existing tenants, depending on when the tenant was set up, the tenant might configure SAP ID Service, a corporate identity provider using SAML, or SAP Cloud Identity Services using either SAML or OpenID Connect (OIDC) in the Trust Configuration of the SAP BTP subaccount for user login. The user authentication for existing tenants is handled by the SAP Authorization and Trust Management service (XSUAA) and will eventually delegate the user's login to those trusted identity providers.

SAP Subscription Billing now always handles user login directly to the SAP Cloud Identity Services using OIDC, for example, your Identity Authentication tenant, for more integrated and seamless user experiences across SAP products, such as S/4HANA Cloud Public Edition. During user’s login, the IAS tenant can then either host user directly or act as a proxy to your corporate identity provider.

We recommend that you migrate all existing tenants from the current authentication via SAP Authorization and Trust Management service (XSUAA) to the up-to-date authentication via the Identity Authentication service. You can find how to complete the migration as described below:

1. Check if your tenant is an existing tenant.
   If you have already subscribed to SAP Subscription Billing, you can navigate to your SAP BTP subaccount and open the details of your SAP Subscription Billing subscription. In the detail page, if the *Application Technical Name* in the header section is `revenue-cloud`, then your tenant is an existing tenant; if the *Application Technical Name* is `subscription-billing`, then your tenant is already fully integrated with the SAP Cloud Identity Services.
2. Prepare SAP Cloud Identity Services for your SAP BTP subaccount before requesting the migration process:
   - If you use SAP default identity provider for user login, you must establish trust using OpenID Connect (OIDC) between your SAP BTP subaccount and your SAP Cloud Identity Services and then set up your business users in your SAP Cloud Identity Services. For more details, see Establish Trust for SAP Cloud Identity Services and Enable UI Access.
   - If you have configured custom identity provider using SAML in the Trust Configuration of your SAP BTP subaccount and use the custom identity provider for user login, you must migrate your SAML trust to OpenID Connect (OIDC) trust with the SAP Cloud Identity Services. For more details, follow the steps described in Migration from SAML Trust to OpenID Connect Trust with SAP Cloud Identity Services.
   - If you already use the SAP Cloud Identity Services which uses OIDC for user login, you are already prepared and nothing else needs to be done before migration.

Once the preparation is done, you can request to migrate your SAP Subscription Billing tenant to be fully integrated with the SAP Cloud Identity Services. You request migration by raising a ticket to the component `CEC-SAL-SB`, and we will help you finish the migration process without any additional effort from you.

After the migration, you must verify if your *Application Technical Name* of your SAP Subscription Billing subscription has been changed to `subscription-billing` and then double confirm your user login and user authorization.

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