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SAP Service and Asset Manager
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SAP Service and Asset Manager User Guide - Maintenance Persona

THE BEST RUN SAP

Content

Document History

Before you begin reading this guide, be sure that you have the latest version. Find the latest version at https://help.sap.com/docs/SAP_SERVICE_ASSET_MANAGER.

The following table provides an overview of the most important document changes.

Document Version	Date	Description of Changes
1.0	JUN 2023	Original release of the *SAP Service Asset Manager User Guide - Maintenance Technician Persona*, version 2305

1 About this Guide

The SAP Service and Asset Manager User Guide is provided for end users of the SAP Service and Asset Manager application.

The contents of this guide reflect the behavior and functionality of the SAP Service and Asset Manager application as provided by SAP through the software installers for the application. SAP Service and Asset Manager is developed and deployed on the Mobile Development Kit.

One of the benefits of the Mobile Development Kit platform is the ability to configure the behavior of the SAP Service and Asset Manager application. Therefore, it is likely that differences will exist between the information documented in the *User Guide* and the final behavior of the application for your implementation. In some implementations, the differences between the guide and the actual configuration of the application will be significant.

2 SAP Service and Asset Manager Overview

The SAP Service and Asset Manager application manages work orders, notifications, condition monitoring, material consumption, time management, and failure analysis.

SAP Service and Asset Manager is a predictive asset management application that encompasses a series of processes required to assure superior asset performance. Through using SAP Service and Asset Manager, you can achieve operational excellence by collaborating on asset information, predictive maintenance, and procurement of spares and services.

A typical SAP Service and Asset Manager technician process is as follows:

1. Technician downloads work orders generated through planned, predictive, or corrective processes.
2. Technician travels to location of equipment under maintenance.
3. Technician captures field data while performing equipment maintenance work.
4. Technician reports time and material consumption.
5. Technician interacts with crew, team leads, suppliers, contractors, and back office colleagues.

2.1 How SAP Applications Work on Your Mobile Device

A client application runs on your mobile device. The application tracks your work, time spent on your work, as well as other measurements, depending on the application.

When you enter new measurements into the SAP Service and Asset Manager client application, the client saves that information on the mobile device. To update the SAP database with those new measurements, you perform a sync, or transmit to the back end.

A sync is a connection between the mobile device and a component of SAP Service and Asset Manager called the SAP Business Technology Platform. The SAP Business Technology Platform connects to the SAP database and updates it with the new information entered on your mobile device. The SAP Business Technology Platform also downloads any new information from the SAP Mobile Add-On database and passes it back to your mobile device.

When the client application and SAP Business Technology Platform connect, the client sends the SAP Business Technology Platform any changes you made on the application since the last sync. The SAP Business Technology Platform updates these changes to the SAP Mobile Add-On database. The SAP Business Technology Platform also retrieves any new information related to your work, including work orders, locations, or equipment since the last time you performed a sync. Once the transmit is complete, you will see the new information displayed on your client.

During a sync, the SAP Business Technology Platform can add or change functionality on your mobile client application. The changes can alter the appearance of the client, such as adding a new button or a new screen. These changes are possible, as the client application is easily modified by developers to keep the application up to date with your current needs and responsibilities. No special actions are required when you receive application changes during a sync. For example, you do not need to restart the client on your mobile device. Your job site should notify you ahead of time when application changes occur, and provide training on these changes.

Your mobile device does need access to your work network when performing a sync. Be sure you can access your work network through a modem connection, a network card and cable, or a wireless connection when you sync. How to transmit is discussed in the Syncing to the SAP Back End [page 25] topic.

2.2 SAP Service and Asset Manager Functionality

SAP Service and Asset Manager leverages the digital core using either SAP S/4HANA or SAP ERP in conjunction with Asset Intelligence Network as the Internet of Things (IoT) platform for managing assets.

The SAP Service and Asset Manager application supports technicians who maintain enterprise assets. It allows them to perform their jobs using complex information and business logic that is always available whether they are connected to the network or working in offline environments.

The following are the main components of the SAP Service and Asset Manager application. All of the following are discussed in more detail further on in the *User Guide*.

Maintenance Orders

Maintenance orders are assigned to you from the back end. A maintenance order is assigned to you because of a customer issue or a planned repair job.

Notifications

A notification is assigned to you when there is an unplanned malfunction with objects you require to perform your planned work that you need to repair. A notification could also be assigned to you when you perform maintenance work at a site.

Maps

The map feature allows you to see where your jobs and notifications are in relation to where you are currently located.

Supporting Route in the Map

You can view the route you need to take on the map. The stops of the route will be arranged according to the earliest scheduled start and to the latest scheduled start, allowing you to easily plan your trip. Note that routes will appear on the overview and map detail pages.

Location Tracking in the Background

The application allows administrators to track your current location on the map, even when the application is in the background.

Equipment

Equipment are used in both jobs and notifications. They are individual, physical, objects, such as tools, computers, or buildings.

Measuring Points and Readings

Measuring points are associated with meters and sensors. Meters and sensors are always associated with assets attached to a job or notification.

Linear Asset Management

Linear assets are technical systems with a linear infrastructure whose condition and properties can vary from section to section (dynamic segmentation). You can see linear asset data associated with various objects such as work orders, operations, technical objects, and notifications. LAM enables you to create linear assets as technical objects (such as functional locations and equipment) and store linear data. You can carry out maintenance tasks for these technical objects, which result in notifications, work orders, and measurement documents.

Time Sheets

While you are working on your jobs and notifications, they are automatically tracking your time for you. However, you can manually modify your time using the Time Sheet tab.

Quality Management

The Quality Management (QM) component supports tasks associated with quality planning, quality inspection, and quality control. In addition, it controls the creation of quality certificates and manages problems with the help of quality notifications.

2.2.1 Understanding the EAM Phase Model

A phase-based maintenance process, or EAM phase model, supports you in the maintenance of technical objects.

> **Note**
>
> It's important to mention the EAM phase model in this user guide. If the EAM phase model is enabled or disabled, you may see or interact with the app in different ways. However, an end user of the application can't enable or disable the phase model through the app. If you have questions about the EAM phase model, talk to your app administrator.

Work orders or notifications are processed with additional approval, preparation, and execution steps. These additional steps are reflected in changed or additional statuses. There are two types of maintenance if the phase model is enabled on the app:

- **Reactive maintenance:** You're performing maintenance when a breakdown or failure occurs. Reactive maintenance helps you reduce the downtime of an asset and increase productivity.
- **Proactive maintenance:** You're preventing the failure or breakdown of an asset by implementing preventative maintenance and using proactive measures. This ensures that the assets are well utilized and available. It encourages optimal performance of assets and reduces cost by minimizing breakdowns.

If the EAM phase model is enabled, you'll see different statuses in notifications and operations. For example, notifications, operations, and work orders don't show the *Received* status when they initially appear on your device.

The following objects or features are changed or unavailable when the EAM phase model is enabled:

- Work orders: *Create* and *Edit* are disabled. Only assignment type 2 (operation person responsible) and assignment type 6 (operation work center) are supported.
- Operations and suboperations: Only *Edit* is enabled.
- Notifications: Only *Edit* is enabled. Task status updates are disabled. Only notification type 5 (header work center) and D (dependency) are supported.
  A *minor work notification* is available:
  - Minor notification: Status transition is limited from *Started* to *Completed*. You can create a minor work notification on the app. You cannot create a minor work notification from the back end. A new minor notification is created with the status set to *Started*.
  - Regular notification: New notifications are initially set to *Submitted*. Newly created notifications require approval when the EAM phase model is enabled.
- CATS timesheet
- Supervisor mode

The following objects or features are available when the EAM phase model is enabled:

- PM confirmation
- Clock In Clock Out

2.3 Supported Languages

The SAP Service and Asset Manager application supports the following languages:

- ar001 - Arabic
- bg_BG - Bulgarian
- zh_hans - Simplified Chinese
- zh_hant - Traditional Chinese
- csCZ - Czech Republic
- daDK - Danish
- nlBE - Dutch
- elGR - Greek
- enUS - English
- frFR - French
- deDE - German
- heIL - Hebrew
- hrHR - Croatian
- huHU - Hungarian
- inID - Indonesian
- itIT - Italian
- jaJP - Japanese
- koKR - Korean
- nbNO - Norwegian
- plPL - Polish
- ptBR - Portugese
- roRO - Romanian
- RuRU - Russian
- srSP - Serbian
- skSK - Slovak
- slSL - Slovenian
- esES - Spanish
- svSE - Swedish
- thTH - Thai
- trTR - Turkish
- viVN - Vietnamese

3 Personas

Personas allow you to perform different activities in the SAP Service and Asset Manager app based on your roles and authorizations. Knowing the different available personas helps you to understand the app.

> **Note**
>
> Your site may not use all personas listed, or you may not have permissions granted for all the personas. Talk to your site administrator if you have questions.

The following table describes various personas and the key tasks they can perform in SAP Service and Asset Manager:

Persona	Description	Key Tasks
Maintenance Technician	• Manage your existing work and asset data whether you're online, offline, or occasionally connected	• Demand processing with notifications • Work execution with maintenance orders • Capture asset measurement readings • Asset information and asset history time, and material confirmations
Service Technician	• Use workflow steps to guide service technicians through the work execution process. • Integrates with the Field Service Management solution, part of the Customer Service module.	• Follow a schedule and mapping directions to travel to assigned service order sites throughout the work day • Service report generation during completion of service orders • Expense and mileage reporting • Update service order status changes and information on technician locations, which is transmitted to the Field Service Management planning board on the back end

Persona	Description	Key Tasks
Inventory Clerk	Provides flexible and automated support in processing all goods movements and in managing stocks in your storage location.	• Goods issues against a work order, production order, reservation, stock transport order (STO), outbound delivery, and ad-hoc goods issues • Goods receipts against a purchase order, production order, stock transport order (STO), or inbound delivery, and ad-hoc goods receipts • Transfer stock from plant-to-plant or within a plant from one storage location to another, or within storage location from on stock type to another • Perform physical inventory counts at storage location, or create a physical inventory document and perform counts • Create and view purchase requisitions
Safety Technician	Provides the safety of personnel by implementing and maintaining lockout and tagout procedures to prevent accidental start-up of machinery and equipment.	• Record lockout and tagout activity (working with tags digitally) • Record untagging activity • Create notifications • Check status of LOTO related safety certificates, work permits, work orders, required approvals, safety measures

A user guide is available for each of the personas:

- SAP Service and Asset Manager User Guide - Maintenance Technician Persona
- SAP Service and Asset Manager User Guide - Service Technician Persona
- SAP Service and Asset Manager User Guide - Inventory Clerk Persona
- SAP Service and Asset Manager User Guide - Safety Technician Persona

3.1 Switching Between Personas

If you're assigned multiple personas, you can switch personas based on your assigned work. Different personas show different work.

Context

On your initial sync, the default persona assigned to you determines what screens and functions you see on the app. This way, you only see the information that you need to perform your tasks. When you log out, the app retains your current persona setting. When you log back on, you'll have the same persona selected. If you reset the app, your default persona displays.

The name of the persona you're currently using appears underneath your profile picture and name on the app.

For example, the maintenance technician persona views and works with work orders, while the inventory clerk persona views and works with goods and stock. Your job requires you to maintain equipment while also working with inventory used to maintain the equipment. In this example, you'll use the inventory clerk persona to pull the correct inventory and log it in the system. Then, you'll switch to the maintenance technician persona to complete the work order assigned to you about the equipment.

> **Note**
>
> If only one persona is enabled on the back end, or if your user is only assigned to one persona, won't see the *Switch Persona* option. If you have questions, talk to your site administrator.

To switch personas:

Procedure

1. Tap the  icon at the top left of the screen to access the *Side* menu. Tap *Profile Settings*.

   The *Profile Settings* screen displays.
2. Tap the *Switch Persona* option.

   The *Switch Persona* screen displays. Personas that are assigned to you're available for selection.
3. Tap your desired persona.

Results

The app syncs to the back end, to get data for the selected persona as well as any objects assigned to you. When the sync completes, you'll have access to the specific screens you need to work with your selected persona.

4 Installing the SAP Service and Asset Manager Client

When you first install and start the SAP Service and Asset Manager application, a demo version is loaded, complete with demo data. Use the demo version to acclimate yourself to the app before connecting to the SAP Business Technology Platform.

Prerequisites

- A connection to the internet is required so you can download the SAP Service and Asset Manager application.
- **iOS**:
  - Your iOS mobile device version must be 15.x or 16.x.
  - We recommend iOS devices that have been released in the past two years.
- **Android**:
  - Your Android mobile device version must be 11.x, 12.x, or 13.x.
  - We recommend Android devices with the following specifications:
    - At least 4 GB RAM.
    - Quad-core or Octa-core processor.
    - At least 64 GB storage.
- See 3342977: *Software Release Note - SAP Service and Asset Manager 2305*, for a complete list of back end and device requirements for the SAP Service and Asset Manager 2305 mobile application.

Context

Download the SAP Service and Asset Manager application to your mobile device from the App Store (iOS) or SAP Software Download Center (Android). A demo version is initially loaded. When you are ready to begin working with the true application, exit the demo, log in, and begin working.

Procedure

1. In the App Store Search box, type **`SAP Asset Manager`** and tap *Search*.

   The application description opens.
2. Tap *Free* and then tap *Install*.

   The SAP Service and Asset Manager client application is downloaded from the store. After the download, an SAP Service and Asset Manager application icon appears on the mobile device.

3. Tap the icon to open the application.

Results

The SAP Service and Asset Manager client is installed on your mobile device. See the Initial Log In to the SAP Service and Asset Manager Application [page 17] procedure for information on how to access the application and begin work.

> **Note**
>
> To check the version of the client software, tap the *Information* icon on the *Module* screen of the mobile device.

Next Steps

Dark mode is available for the SAP Service and Asset Manager client application. Access the *Settings* menu for your iOS or Android device. Find the dark mode setting in the *Display* menu.

4.1 Initial Log In to the SAP Service and Asset Manager Application

During the initial logon process, set a numerical passcode to unlock the application without having to enter your user name and password each time the application or the mobile device is locked.

Context

To work with your application, first log in with a corporate user name and password. Then, set a secondary personal passcode known only to you to easily unlock the application when it is locked on your device. You do not need to enter your user name and password after the initial log on, only the passcode.

Touch ID is supported on iOS and Android models with the capability and with users who choose to implement the Touch ID feature.

Procedure

1. Tap on the app icon to open the application.

   The application splash screen appears.

> **Note**
>
> You can try out the app in demo mode before using it productively with your business data. To launch the app in demo mode, tap on *Try the Demo*, and ignore the remaining steps.

2. On the initial screen of the application, read the End-User License Agreement and click *Agree* to accept.
3. Scan the QR code provided to you by your administrator.

> **Note**
>
> **For Administrators:** You can generate an application QR code through the *APIs* tab in the SAP BTP cockpit.

4. Log in using your SAP BTP email address and password credentials.
5. Choose your device passcode. Reconfirm the passcode when prompted.

Results

The application performs an initial transmit to bring down all of your assigned objects, such as work orders, notifications, or equipment. Depending on the size of your application, the transmit could take several minutes. When finished, the main *Overview* screen is shown and you are ready to begin to work with the application.

> **Note**
>
> If your customer site has enabled digital registration, a pop-up wizard appears. See the Registering Digital Signature [page 30] procedure for information on how to register.

5 Common Functions for SAP Asset Manager

5.1 Logging in to SAP Service and Asset Manager

To perform any work on the SAP Service and Asset Manager application, log in with your passcode.

Tap on the SAP Service and Asset Manager icon on your device to start the application.

> ⓘ Note
>
> If this is your first time logging on to the application, see the Initial Log In to the SAP Service and Asset Manager Application [page 17] procedure for more details.

5.1.1 Multi-User Overview

Network Connection Available

Unsynced data from the previous user is uploaded into SAP, before switching users. If the first user's data can't be uploaded or uploaded with errors, user login fails with relevant feedback, including the previous user's username. If the second user logs in successfully, the user-relevant transactional and master data is downloaded. The user can sync pending requests before logging out. When you log out, you have the following options:

- **Continue without Syncing:** The app attempts to upload the pending transactions of the previous user when the next user tries to log in. If it fails, the next user is presented with a message that the previous user - with usernmae had pending transaction errors and must fix them before login.
- **Continue:** The app uploads the pending transaction and logs out, if any errors, sync error is displayed and then lets the user log out.
- **Cancel:** allows you to quit the logout process.

You can reset your data, regardless of whether other users use the app. However, if you log in again using the same device, you need to log in as a new user. *Log Off* and *Reset* are separate actions.

Network Connection Not Available

When network connection isn't available, the previous user's unsynced data remains on the client, and the next user login fails with appropriate feedback. The following user must wait until the previous user's data is synced succesfully.

5.1.1.1 Adding a New User or Logging in as an Existing User on a Multi-User Supported Device

When multi-user support is enabled, a device can be shared by a pool of users.

Context

When you log into a device with multi-user support enabled, you'll choose your user at the log in screen, or create a new user. Perform the following steps to log into a device with multi-user support:

Procedure

1. If you're a new user, do the following:
   a. Add user if you haven't used SAP Service and Asset Manager before.
   b. Log in to SAP Service and Asset Manager and download the relevant data.

   The new user onboarding flow is available at *EULA* > *Welcome* > *Login* > *Passcode* > *Initial screen* .
2. If you're an existing user, do the following:
   a. Select the user you want to log in as from the list of added users.
   b. Log in to SAP Service and Asset Manager on a shared device that you've used before, using your passcode saved during onboarding.
3. Log in to SAP Service and Asset Manager and continue using the SAP Service and Asset Manager app where you left off.

5.2 Using the Side Navigation Bar

Access the side navigation panel by tapping on the upper left icon. The navigation panel that appears is also known as a **hamburger menu**.

The side navigation bar icon is available on the main *Overview* screen and all of the main object screens.

Use the hamburger menu to access the following in SAP Service and Asset Manager:

- Map
- Orders
- Notifications
- Equipment
- Functional Locations
- Reminders
- Timesheets / Confirmations

Additional detail screen options may display if your site is using specific solutions or features (for example, Meter Management).

Tapping on a selection takes you to the main detal screen for that object. You can also access your profile settings or error messages through the hamburger menu.

Tap anywhere outside of an object selection of the hamburger menu to slide it out of view.

5.3 Using the Contextual Menu

You can swipe left or right on certain objects to display a contextual menu. A contextual menu shows only the available actions you can take on the object. For example, if a work order is started, you can swipe right to show the *Add Confirmation* action. If a work order is completed and you swipe right, the *Add Confirmation* action is not available.

The contextual menu is an addition to the normal navigation menu found on the top right of your application. You can use either the contextual menu or the normal navigation menu to acess actions.

The following objects use contextual menus:

- Work order
- Operation
- Suboperation
- Notification
- Equipment
- Functional location
- Timesheet
- Confirmations
- Documents
- Measurement documents
- Reminders
- Errors

5.4 SAP Service and Asset Manager Overview Screen

After you log into SAP Service and Asset Manager, the application takes you to your personalized Overview screen.

If extra components are installed (Customer Service, Meter Management, Crew Management and Field Operations Worker), and depending on which objects are included in the service or work orders assigned to you, you may not see all of the sections described in this topic on your Overview screen.

At the top left of the screen is a small circle with your selected profile picture. Tap the circle to access your profile settings. See Profile Settings Overview [page 24] and the subtopics for more information.

Next, you see a map of your immediate surroundings. You can view your assigned work orders and notifications on the map. Tap on an icon to view more details about the work order or notification. See Maps Overview and Settings Options [page 86] and associated topics for more information.

Below the map is your *High Priority Work Orders*. Here, you find a list of all of your high and very high priority work orders. Unless your administrator has configured the SAP Service and Asset Manager application differently out of the box, you see the priority, due date, and order ID of the work order.

> **Note**
>
> If the Customer Service component is used, the section is labeled *High Priority Orders*.

Following the *Time Sheets* section are multiple subsections. Tapping on a subsection takes you to the detail screen for the object. For example, tap on *Notifications* to access the Notifications Detail screen. If your assignments do not contain any of the objects, the subsection does not appear on your device. That is, until a work order contains a note, you do not see the *Notes* subsection on your Overview screen.

- **Work Orders:** See the *Working with Work Orders* chapter
- **Operations:** See the How to Work with an Operation or Suboperation Maintenance Activity [page 46] topic and subtopics
- **Notifications:** See the *Working with Notifications* chapter
- **Equipment:** See the *Working with Equipment* chapter
- **Reminders:** See the Adding and Editing Reminders [page 22] topic
- **Functional Locations:** See the Functional Location Overview [page 101] topic

5.4.1 Adding and Editing Reminders

Use the *Reminders* section on the SAP Service and Asset Manager Overview screen much like you would a To Do list or a PostIt note to yourself.

Access your main Reminders list from the SAP Service and Asset Manager Overview screen. Here, you can add additional reminders or edit the current reminders. You can also add or edit reminders from any job or notification detail screen.

Adding a Reminder

You can add a reminder from the main SAP Service and Asset Manager Overview screen, an individual work order details screen, or an individual notification details screen:

- From the main SAP Service and Asset Manager Overview screen, tap in the *Reminders* section to access the main Reminders screen. Then tap the + icon to add a new reminder.
- From the main Work Order detail screen, tap on a single work order to access the details screen for the work order. Then tap the + icon and select *Add Reminder*.
- From the main Notifications detail screen, tap on a single notification to access the details screen for the notification. Then tap the + icon and select *Add Reminder*.

No matter which path you take to add your reminders, they all are saved to one main list; the Reminders list, which is located on the main SAP Service and Asset Manager Overview screen. Unlike notes, your reminders are not saved to a particular work order or notification, though you may start the process of adding your reminder from a work order or notification.

Once you reach the Add Reminder screen, type a *Name* for your reminder in the `<Name>` field. If you are working within a notification or a work order, you may consider adding the work order or notification number in the name. Then, add your description in the `<Description>` field and tap *Save*.

> **Note**
>
> The `<Description>` field has a limit of 40 characters.

Your reminder is saved to the Reminders list, viewable on the main SAP Service and Asset Manager Overview screen.

Editing a Reminder

You can edit any reminder on your Reminder list. To edit a reminder, navigate to the main SAP Service and Asset Manager Overview screen and tap on the Reminder list to access the full list of reminders. Find the reminder you wish to edit and tap on it. Tap *Edit*. Make your changes, then tap *Save* to save your changes.

Discarding a Reminder

To discard a reminder, tap the desired reminder you wish to discard, then tap *Edit* to enter edit mode. Tap *Discard* at the bottom of the screen to discard the reminder. Tap *OK* in the confirmation window to confirm the discard. The reminder is no longer in your list of reminders.

You can also swipe a selected reminder row to access the contextual menu with the discard option.

5.4.2 Profile Settings Overview

Use the *Profile Settings* option to access the following in SAP Service and Asset Manager:

- *Passcode*. Refer to the Changing Your Passcode [page 24] chapter for more information.
- *Support*. Refer to the Get Support for SAP Service and Asset Manager [page 25] chapter for more information.
- *Activity Log*. Refer to the Working with Activity Logs [page 27] chapter for more information.
- *Privacy Policy*. Read the SAP Privacy Statement to understand what personal data is processed by SAP and what rights it has in this context.
- *Sync*. Refer to the Syncing to the SAP Back End [page 25] chapter for more information.
- *Check for App Updates*. Check if there is a new version of the app or if you must update the app.
- *Reset*. Refer to the Resetting the SAP Service and Asset Manager for Windows Application [page 27] chapter for more information.

5.4.2.1 Changing Your Passcode

If you feel your application was compromised, you can change your passcode.

Context

At times, you may want to change the passcode you use to access the SAP Service and Asset Manager application. Or, your company may have a policy requiring you to change your passcode at regular intervals.

Procedure

1. On the top right of the *Overview* screen, tap *Profile Settings*.

   The *Profile* screen displays.
2. Enter your current passcode in the *Change Passcode* field and tap either *Next* or *Done* to continue.
3. Choose a new passcode with a minimum of four digits and type it into the passcode field. Tap *Next* to continue.
4. Confirm your passcode by typing the same four digits you just typed in the previous step into the passcode field. Tap *Done* to complete changing your passcode.

Results

A popup message displays confirming that the passcode change is successful.

5.4.2.2 Get Support for SAP Service and Asset Manager

If you need additional help with the application, user assistance for SAP Service and Asset Manager is a quick phone call, e-mail, or a FaceTime chat away.

At times, you may sync to the back end and SAP returns an error message to your device that is difficult to troubleshoot. Or, you might need some additional information that this *User Guide* does not cover, perhaps due to customizations on the application for the specific needs of your work orders. In these cases, SAP has provided you with a way to easily access customer support, in the way that you find most helpful. To access customer support:

1. On the top right of the *Overview* screen, tap *Profile Settings*.
   The *Profile* screen displays.
2. On the *Profile* screen, tap *Support*. The *Support* screen displays.

Contact Us has three ways to get support:

- Tap  to call customer support.
- Tap  to start a FaceTime call with customer support
- Tap  to e-mail to customer support

When you tap an icon, the call, FaceTime call, or e-mail begins automatically, so be alert to the fact in case you are not in a good area or ready to call.

5.4.2.3 Syncing to the SAP Back End

Sync to the back end after you finish your work day, or after you have created local objects on your client and want to transmit them.

Context

You can sync anytime you're online and a network connection is available. A sync is needed when you see the following symbol next to an object: 

When Sync Is Disabled

If a sync is already in progress, if you tap the *Sync* icon, a banner at the top of the screen appears stating that *Sync is already in progress*. A second sync doesn't occur and the original sync continues. Once the original sync finishes, you can start a new sync if desired.

If a sync is in progress, and you select to download a document, a message appears stating *Sync is in progress, will download after sync is complete*. After the sync finishes, your selected document download automatically starts.

> **Note**
>
> The 2305 version of SAP Service and Asset Manager for Windows does not support automatic synchronization.

Procedure

Tap the *Sync* icon from the top right corner of the *Overview* screen.

While synchronizing from the *Profile Settings* screen, you will see a time and date stamp below the synchronization field. This stamp indicates when you last performed the synchronisation.

The application synchronizes with the back end. If any errors occur during the synchronization process, you can view them by tapping on the *Sync Errors* field.

Next Steps

If errors occur during the sync, continue to the topic Error Handling [page 28]. If you can't resolve the errors yourself, see the topic Get Support for SAP Service and Asset Manager [page 25].

5.4.2.3.1 Automatic Syncing

Your back end administrator can configure the app to auto-sync. Auto-syncs occur automatically, with no input needed from you. Auto-syncs can happen in the following ways, depending on your site configuration. If you have questions, talk to your site administrator.

- The app auto-syncs when network connectivity changes from offline to online.
- The app auto-syncs when the status of work orders, operations, sub-operations, or notifications is changed.
- The app auto-syncs periodically when it is running in the foreground of the mobile device.
- The app auto-syncs when the app is launched or is moved from the background to the foreground on a mobile device.
- The app auto-syncs when a database save occurs in the app.

5.4.2.4 Resetting the SAP Service and Asset Manager for Windows Application

The SAP Service and Asset Manager for Windows application stores application data in its local databases on the client device. In the unlikely event your local database becomes corrupted, you can completely reset your application.

Context

> **Note**
>
> Resetting the device is the only way to completely log out of the SAP Service and Asset Manager for Windows application. Ensure that you want to completely log out of the application before performing a reset, as all nontransmitted data is lost after the reset occurs.

1. On the top right of the *Overview* screen, tap *Profile Settings*.
   The *Profile* screen displays.
2. On the *Profile* screen, tap the *Reset* field.
   A *Confirm Reset* dialog window displays.
3. Tap *OK* to confirm the application reset, or *Cancel* to cancel out of the reset.
   If you tapped *OK*, the application resets and you are returned to the original SAP Service and Asset Manager for Windows screen.
   See Initial Log In to the SAP Service and Asset Manager Application [page 17] for further instructions on how to continue with an initial logon.

5.4.2.5 Working with Activity Logs

Context

At times, if you are working with customer support, they may want you to enable activity logging and to set the log levels while you are using and transmitting with SAP Service and Asset Manager. That way, they can look at the logs to help diagnose the underlying issues.

You can enable logging at multiple levels, or not enable it at all. If you set it at too high a level, it uses numerous resources, which does not help the functionality of the SAP Service and Asset Manager. Therefore, when you are finished troubleshooting any issues on your device, best practices suggest returning logging levels to what they were at the time of the original SAP Service and Asset Manager installation on your device.

To change or set a log level for customer support:

Procedure

1. Tap the hamburger menu icon on the top left of the *Overview* screen to open the side navigation menu. Tap *Profile Settings*.

   The *Profile Settings* screen displays.
2. Tap the `<Support>` field, then tap the `<Activity Log>` field.

   The *Activity Log* support screen displays.
3. Tap the *Enable Logging* radio button so that logging is enabled.
4. Tap the `<Log Level>` field.

   The *Log Level* screen displays.
5. Select and tap the log level that customer support requested you record on your client device. This can be an error, debug, warn, or info.

   A checkmark will appear next to the log level you selected and you will be returned to the *Activity Log* screen.

Next Steps

After working on your client device for some time, or performing tasks that customer support requests, depending on your issue, tap the *Send Activity Log* link to send your activity logs to the back end for further investigation.

5.4.2.6 Error Handling

Sometimes, after a transmit, you're alerted by the application that errors in object transactions are preventing the sync of those objects. You can dismiss the errors or attempt to fix the objects before transmitting again.

Error Alerts

At times, when working with objects in SAP Service and Asset Manager, you can introduce errors to an object or a transaction. If errors occur during the sync, an alert banner appears at the top of the app screen. To fix or discard these errors, open the hamburger menu and select *Errors*. To view details of an individual error, tap the error. A screen displays showing you the full error description.

Fixing Errors

Often, when you read an error message, the issue with the erroneous object is apparent. You can fix these errors by editing the object. Tap *Fix* to fix the error.

The mobile device navigates to the object to which the error message is referring. Here, you can edit the object so that it doesn't return an error during transmit. Perform a sync. If the error message doesn't appear on the *Errors* screen, the error is resolved. If other errors exist, you can either fix or discard them.

If an error can't be fixed from the device, a pop-up message appears to let you know the error cannot be fixed through editing. Tap *OK* to discard the error and return the object to its original state.

Discarding Individual Errors

Deleting a selected error deletes all changes made to that object that includes the error and returns the object state to the state it was in at the last transmit. To discard an individual error, tap on *Errors*. Tap on an individual error to view the error details. Tap *Discard* to discard that individual error.

You can also swipe a selected error to access the contextual menu with the discard option.

If you don't discard all errors on the device, an error alert banner will still appear during your next sync. If you tap on an error message where you've already discarded the transaction, a pop-up displays to alert you the transaction has been disarded and is no longer available.

Discarding All Errors

Once you tap on *Errors*, tap on *Discard All* to discard all errors on the client.

Discarding all errors deletes all changes to the edited objects with errors. An example of a scenario where you would delete all errors on the client is meter installation. To discard the install, delete all errors. Deleting all errors deletes the local entities created as well as the update transaction, and returns the objects to the state they were in at the last transmit. You can then attempt to install the meter again.

When you delete all errors, an error banner will not display on the app during the next sync. If you tap on an error message where you've already discarded the transaction, a pop-up displays to alert you the transaction has been disarded and is no longer available.

5.4.2.7 Registering Digital Signature

Prerequisites

An authenticator application, such as Microsoft Authenticator or Google Authenticator, is installed on the client device.

Context

Procedure

1. Choose one of the following paths:

During Initial App Installation	After App Installation
Install the application, following the procedure in Initial Log In to the SAP Service and Asset Manager Application [page 17].	Tap the icon at the top left of your screen. A slide-out navigation bar appears. Access your profile by tapping *Profile Settings*.
A *Register Device* popup appears after the initial sync. Tap *OK* to register. Continue to the next step in this procedure.	Select *Register for digital signature*. Continue to the next step in this procedure.

2. Create a passphrase using the instructions provided on the pop-up *Create Passphrase* screen. Tap *Next*.

   The *Get Passcode* screen appears.
3. Tap *Get Passcode*.

   Your installed authenticator app opens. Copy the generated token and navigate back to the SAP Service and Asset Manager client.

   > ⓘ Note
   >
   > The generated token is good for 30 seconds. Tokens are refreshed every 30 seconds.
4. Paste the copied token into the `<Passcode>` field. Click *Register*.

Results

A message appears telling you the device is successfully registered.

5.4.2.8 Unregistering Digital Signature

Prerequisites

To unregister digital signature, digital signature must be enabled on the back end. Digital signature must be registered on your device.

An authenticator application, such as Microsoft Authenticator or Google Authenticator, is installed on the client device.

Procedure

1. Tap the icon at the top left of the screen.

   A slide-out navigation bar appears.
2. Tap *Profile Settings*.

   The *Profile* window appears.
3. Tap *Unregister device for Digital Signature*.
4. Open your authenticator app and delete the generated token.

   If you want to register for digital signature at a later date, the authenticator app will automatically generate a new token.

5.5 Filtering Objects

Use a filter to view only objects you want to work with. Filters sort objects by various values that you select, depending on the type of object.

Many of the main objects you work with in SAP Service and Asset Manager, such as operations, maintenance requests, technical objects, maintenance orders, have the *Filter* option at the top right corner of the header bar. At times, object lists can get long, and scrolling or searching for objects in the lists becomes time consuming or even almost impossible. Use the *Filter* function to cut the list down to only the objects that meet the specifications you require at the moment.

> **Note**
>
> Setting up a filter is not the same as creating favorite work orders. To learn more about creating favorite work orders, see Creating and Filtering Favorite Work Orders [page 32].

Creating an Object Filter

To set an object filter, tap the *Filter* option in the header bar to access the filter choices for that object. The values available for the object determine the sections for the object and the variables you can choose to filter within the sections.

Choose and tap a variable to filter at least one section. You do not need to select a variable in every section. You can select only one variable per section. When you are satisfied with your filter choices, tap *Done*.

Your object list is filtered according to your filter selections.

Removing an Object Filter

To remove an object filter, tap the *Filter* option in the header bar to access the filter choices for that object. Your filter options that you have selected for the object are highlighted in each section. Tap each option you want to remove so that it is not highlighted. Or, tap *Reset All* at the bottom of the *Filter* screen.

To completely remove a filter for an object, ensure that nothing is highlighted under the *Filter* option.

When you are finished, tap *Done*. Notice that the filter for the object is removed and your object list displays all objects again.

5.5.1 Creating and Filtering Favorite Work Orders

Use a Favorites filter to create your custom list of high and very high priority work orders.

Context

Procedure

1. From the main *Overview* screen, tap the *Work Orders* tab.

   The *Work Orders* detail screen displays.
2. Choose a *High Priority* or *Very High Priority* work order you wish to make a favorite and tap on it. The work order can have any status.

   The individual *Work Order* detail screen displays.
3. Tap the *Edit* icon ( ) at the top right of the screen.

   The *Edit Work Order* screen displays.

4. If the work order is not marked as a favorite, tap the radio button next to the `<Favorite>` field to mark it as a favorite. If the work order is marked as a favorite and you want to remove it, tap the radio button to unmark it. Press *Done* when finished.

   A star icon ( ) appears to the left of the work order description, denoting that you have marked it as a favorite. You can now filter this work order into a Favorites list.
5. If you are not already at the *Work Orders* detail screen, navigate to that screen and tap *Filter*.

   The Filter window displays.
6. Tap the *Favorite* button in the *Filter By* section. You can optionally select other choices in the other sections if desired. To set the filter, tap *Done*.

Results

Your *Work Orders* detail screen is now filtered according to your selected favorite work orders. To see all of your work orders again, remove the filter.

5.6 Searching for Objects

Use

If you see a *Search* bar at the top of the screen, you can perform a search for any object in SAP Asset Manager. In this way, you can find an operation, a maintenance request, a technical object, or a maintenance order.

How to Search for Objects

The search function is available on an object detail screen if the search icon ( ) appears, and you see the *Search* bar at the top of the screen. For example, when you tap *Operations* from the *Overview* screen to access the *Operations* detail screen, the *Search* bar appears at the top of the *Operations* screen.

When you perform a search, you are only searching the objects listed on the object detail screen you have displayed, and therefore only objects currently on your mobile device. If you do not locate the object you are looking for through a search, contact your administrator, as the object may not be located on your mobile device.

Performing a search is different than using a filter on an object list. To learn how to use filters, see the Filtering Objects [page 31] topic.

5.7 Editing an Object

You can edit any object on the SAP Service and Asset Manager application, as long as you see an *Edit* action menu item.

Context

Follow the steps below to edit an object.

> **Note**
>
> You can edit the following objects:

- *Operations*
- *Maintenance Requests*
- *Technical Objects*
- *Maintenance Orders*

Procedure

1. Tap on an object to access the detail screen of the object.

   The object detail screen displays.
2. Tap the *Edit* button at the top of the object screen.

   The Edit [Object] screen displays.
3. Tap in the fields you wish to edit and edit those fields. You may not be able to edit some fields; those fields do not respond when you tap on them. Objects that are not locally created may have very few editable fields. Objects that you have created yourself will have more editable fields. When you edit a note, you now have the ability to add longer texts.
4. When finished with your edits, tap *Done*.

   Your changes are saved to the object.

Results

Remember to sync your device with the back end after making your edits so that your edits are transmitted to the back-end system. After you transmit a locally created object to the back end, many of its fields will no longer be editable if that object is reset back down to your client device.

If your sync results in an error or errors, see the Get Support for SAP Service and Asset Manager [page 25] topic, specifically the *Working with Activity Logs* section.

5.8 Working with Attachments

SAP Service and Asset Manager supports viewing of attachments, or documents, on the mobile device. You can also add an attachment to a local object.

Attachments include Microsoft Office documents, PDF files, and other commonly used business documents including videos, pictures, and audio files. When you select *Attachments*, the details screen displays the attachments that are available for download.

If objects have attachments associated with them, only limited information about them is fetched during the sync with the back end. The actual documents are only downloaded to your device at your request through a push process.

You'll see an *Attachments* section on the detail page for an object if attachments are available for the object. If there's a menu option to add an attachment, or if there is a + icon in the *Attachments* section, you can add a new attachment to the object.

Downloading an Attachment to an Object

On your first initial sync between SAP Service and Asset Manager on your client device and the back end, the only attachment, information downloaded to your device is the title of the attachment, the type of document it is, and the file size it will be after it is fully downloaded.

If the attachment has never been downloaded to your device, it displays a download icon (similar to the following: ) beside the attachment information. If the attachment was downloaded previously, the text beside the attachment information displays *Open*.

To download an attachment, tap on the attachment icon. A progress indicator displays, indicating that the document is being pushed to your device. When complete, the document displays on your mobile device.

To exit out of the document, tap *Documents*. To reopen any attachment, tap that document row. You do not need to redownload any previously downloaded attachment, even after a sync.

Attaching a Document to an Object

You can add an attachment with a related description directly from the menu *Add Attachment* option of the *Operations* object details screen.

And, you can add a document with a related description directly from the *Operations* (*Technical Objects*, *Maintenance Requests* or *Maintenance Orders*) object detail screen. In this case, tap the *Documents* section at the bottom of the screen.

Or, if you are in the *Edit* screen of an object and you see the + icon in the *Attachments* section, you can add a local document to that object.

Tap the + icon to start the process of adding an attachment to an object. A menu appears with the following options:

- *Photo Library*: Select a photo from the photo library on the mobile device.
- *Take Photo*: Take a photo using the mobile device camera.
- *Files*: Select a photo or other type of document from the library on the mobile device.

The photo or other type of document is successfully saved to the *Attachments* list as a local document. Be sure to sync to the back end to permanently save it to the attachments list.

Deleting a Document

You can delete a local document that you've attached to an object as long as you've not yet performed a sync to the back end.

Tap the desired document you wish to delete. Tap the delete sign button at the top of the screen to delete the document.

> ⓘ Note
>
> If a document has been deleted, it is no longer attached to the object.

5.9 Working with Notes

You can add or edit notes to many of the objects in the SAP Service and Asset Manager application.

> ⓘ Note
>
> The objects you see depend on the persona you're assigned.

You can create or edit notes on the following objects:

- Maintenance Orders or Service Order details screen
- Maintenance Requests details screen
- Operations details screen
- A suboperation
- Follow-up work order
- Follow-up operations substep
- Measuring point reading

Read-only notes can be associated with equipment or functional locations. Tap on the *Notes* section to view any associated notes.

Adding a Note

To add a note to an object, tap the + or ... icon and select *Add to Note* from the menu. Or, you can add a note directly from the *Operations* (*Maintenance Requests* or *Maintenance Orders*) object detail screen. In this case, tap the *Notes* section at the bottom of the screen.

> **Note**
>
> If the *Add to Note* menu option isn't available, you can't add a note to the particular object.

The *Add Note* screen displays. Type your desired note into the `<Note>` field. When finished, tap *Done*. If a note already exists on the object, it's appended to the end of the already existing note. If you're unhappy with your note, tap *Edit* or *Discard* at the note screen. Your added text is changed or deleted.

5.10 Working with Classifications

Classifications identify and characterize similar objects. A building, computer, and centrifugal pump are types of classifications. A classification can also describe an event such as a broken water valve or an elevator door failure. Classifications are assigned to both equipment and functional locations in SAP Asset Manager.

If either an equipment or a functional location has classifications associated with it, a *Classifications* section displays on the *Technical Objects* detail screen of an equipment or a functional location. Tap the section to view the *Classifications* detail screen.

Tap any individual classification to view the detail screen for that classification. Here, you can see all the characteristic values of the object you selected. Tap an individual value to access the *Edit Characteristic* screen for the value. If needed, edit the value.

5.11 Working with Business Partners

Service orders, functional locations, and equipment can be linked to a business partner. Business partners are parties in which your company has a business interest. A business partner can be a customer, a prospect, a supplier, a competitor, or even an employee of your own company.

Most business partner information in the application is not editable. However, you can edit the business partner address and other location information to update it if necessary.

For an equipment or a functional location, tap on the main *Equipment* or *Functional Location* screen to access the *Business Partners* detail screen. Here, a list of the available business partners appears, with each business partner name and ID listed, as well as the partner type. For a service order, tap the *Business Partners* section on the main *Service Order* detail screen to access the *Business Partners* detail screen. Again, a list of the available business partners appears, with each business partner name and ID listed, as well as the partner type.

Tap a business partner to access the individual details for the partner. Individual details include contact details such as an address or a location for the partner, a phone number, or GPS coordinates, if available.

If you see the icons available, you can contact your business partner in the following ways: A phone icon (), a text icon (), and an e-mail icon (). Tap on the phone icon to call your business partner. Tap on the text icon to start a text message. Tap on the e-mail icon to begin an e-mail to your business partner. When you tap an icon, the call, text, or e-mail begins automatically, so be alert to the fact in case you are not in a good area or ready to call.

6 Working with Work Orders

6.1 Work Order Detail Screen

A Work Order is a task that is assigned to you. A Work Order is based on customer requests or it's created internally within the organization.

General Overview

The Work Order detail screen gives you a brief description of the maintenance order, the order location, and the steps to perform the order. After you tap on a maintenance order listing, you're taken to the Work Order detail screen for the specific maintenance order.

The Work Order header lets you know the status, priority, and due date. The order header also gives you a brief description of the maintenance order operations and the work required to perform the job. If analytics for the order are available, they're displayed here, to assist you in diagnosing the issue.

The *Location* is displayed underneath the Work Order header. Depending on your site, the location could be a factory, a building campus, or in a city. If your site has maps enabled, you can use the maps functionality and GPS to help you locate your site.

After reaching your site location, use the *Operations* section to help you perform and complete your job. You can tap on any individual maintenance order operation for more information, such as documents or more people to contact, if needed, for that operation, or step.

The *System Status* field shows you what business transaction was performed for an object. System statuses are automatically updated based on the business transactions executed either in the backend or on the mobile client. You can set the *User Status* to change further settings for a status object. You can manage customer specific statuses via user statuses and they also enable you to change more settings of the business processes managed by the system status. You can add and delete user statuses manually in the backend system when you perform business transactions.

The *Follow-On Work Orders* section displays even if there are no follow-on maintenance requests attached to the maintenance order. Tap on a follow-on maintenance request to view details, if any.

If there are inspection checklists associated with your work order, they're listed in the *Checklists* section. Tap on a checklist to view the checklist.

If there's any equipment associated with your work order, they're listed in the *Equipment* section. To see all of the equipment details for the equipment, tap on an equipment, or asset. Equipment details vary depending on the asset, but can include measuring points, the history of the asset, and any documents associated with the equipment.

The *Functional Location* section also displays equipment, but in this case, the equipment is tied to a specific place where you perform a maintenance-based task. Tap on the equipment in the Functional Location section to view the Functional Location detail screen and to perform maintenance duties on the equipment. For more information, see the Functional Location Overview [page 101] topic.

The *Follow-On Orders* section only displays if follow-on work orders are attached to the work order. Tap on a follow-on work order to view details. For more information, see the Viewing or Adding a Follow-On Work Order [page 44] topic.

The *Assembly* section displays groups of parts of a technical object that belong together. A technical object can be subdivided into assemblies to separate it into more clearly defined units. These assemblies are used in BOMs (bills of material) and maintenance task lists.

Underneath the Assembly section, there are sections for *Parts*, *Documents*, *Notes*, *Meters, Linear Data,* and *Confirmations*. A number to the right of the section name lets you know how many objects are associated with that section, if any. For example, if two notes are associated with the job you tapped, you see a *2* to the right of the *Notes* field. Tap on any section to see that detail screen.

Tap the + icon at the top right of the screen and select the appropriate menu item to add the following:

- Add Follow-up Work Order: See Adding a Follow-Up Work Order [page 44].
- Add Operation: See How to Work with an Operation or Suboperation Maintenance Activity [page 46]
- Add Part: See Issuing a Part [page 49]
- Take Readings: See Measuring Points and Readings Overview [page 71] and the associated subtopics

Tap the *Edit* menu item to edit the current work order displayed on the Work Order detail screen. To learn how to edit any object in the SAP Service and Asset Manager, including a work order, see the Editing an Object [page 34] topic.

Filtering and Searching Maintenance Orders

See the following topics for information about using the filtering and search options in general:

- Filtering Objects [page 31]
- Searching for Objects [page 33]

6.2 Changing the Status of a Work Order

Work orders in SAP Service and Asset Manager can have statuses of Start, On Hold, and Completed. You can also Transfer a work order initially assigned to you.

Prerequisites

Before you can *Complete* a work order, perform any or all of the following procedures, if necessary. After you complete a work order, you can't perform any more actions to the work order or objects within the work order.

- Issuing a Part [page 49]
- Adding a Part [page 50]
- Adding a Follow-Up Work Order [page 44]

- Adding a Maintenance Request [page 79]
- Taking a Single Measuring Point Reading [page 74] or Taking All Measuring Point Readings [page 73]

Context

You can both view and change the status of a work order in the work order detail screen. The current work order status is visible in a gray bubble directly underneath the work order title.

Once you start a work order, time begins to accrue on that work order. Time stops accruing if you place the work order on hold, then restarts when you set the work order to started. Your time spent on the work order is an accumulation of all time it spends in the *Started* state, until you transfer it or set it to *Complete*.

You can't change a work order to a status of *Complete* until all the operations and suboperations are set to *Complete*. See How to Work with an Operation or Suboperation Maintenance Activity [page 46] for more information.

You may be required to add a digital signature before completing the work order. See Adding a Signature [page 55] for more information.

If the work order contains linear asset management (LAM) readings, you may be required to complete a PM confirmation. See Completing a PM Confirmation on a Maintenance Order [page 58] for more information.

To change a work order status:

Procedure

1. Click to a work order detail screen, either from the main overscreen or from the map view.

   The *Work Order Detail* screen displays.
2. Tap the current status at the bottom of the screen and select one of the other statuses from the menu options.

Results

The status is changed on the work order details screen but isn't updated in the back end until the next sync.

6.3 Adding a Local Work Order

Add a new work order to perform a specific task and record the details. Create a follow-up work order to an existing work order to complete additional work that wasn't specified on the original job.

Context

The steps to create either a new work order or a follow-up work order is the same. The only difference is that you create a follow-up work order on an existing work order, and you create a new work order as a standalone work order. Work orders are used for invoicing and billing purposes.

If you discover an issue that requires a repair, add a notification. See the topic Adding a Maintenance Request [page 79] for more information. If you determine that you must add a new maintenance activity, you can add a new operation. See the topic Adding a Local Operation [page 48] for more information.

You can add a work order to the following objects and views in SAP Service and Asset Manager:

- Map module view
- Work order detail screen (see Adding a Follow-Up Work Order [page 44])
- Notification detail screen
- Functional location detail screen
- Equipment detail screen

Once you add a local work order, work with it as you would a work order that is sent to your device from the SAP back end. You can change the status and log time against it. You're allowed to discard a locally created work order no matter its status. If sync errors occur, you're allowed to fix them. When you sync to the back end, the work order is automatically assigned to you and appears on your device if the work isn't completed and you didn't transfer it to another person.

Procedure

1. Select *Add Work Order* from the + icon on the *Work Orders* detail screen if you're adding a new work order. Select *Add Follow-Up Work Order* from a specific work order detail screen using the + icon if you're adding a follow-up work order.

   The Add Work Order screen displays.
2. If you're creating a follow-up work order, many of the fields are already filled with the current work order information. Tap on the fields and change the information if they need editing. If you're creating a new work order, all fields are empty and the following fields are required:
   - Description
   - Planning Plant
   - Type
   - Priority
   - Business Area

- Work Center Plant
- Main Center Plant

3. Tap on any of these fields and fill in if needed, as they're optional:
   - Functional Location
   - Equipment
   - Note
4. Add an optional photo to the work order by tapping on the + icon in the *Attached Photos* section. Choose to add the photo either from the *Photo Library* or to *Take Photo*.
5. Tap *Done* when satisfied. Tap *Cancel* at any time to discard your changes and return to the *Work Order* detail screen.

Results

Your new local work order is created and added to the Work Order detail screen. The work order is sent to the back end the next time you transmit. Continue working with the work order, though note that you can't discard a work order once you've synced to the back end.

6.4 Working with Related Work Orders

The related work orders and pending work orders detail screen associated with an equipment shows you which work orders are relevant to that equipment, both currently and in the future.

The *Related Work Orders* detail screen in the SAP Service and Asset Manager application displays both historical work orders completed for the current job and pending work orders that are still ongoing for the current job. Previous work orders are past work orders that are completed, and show both a start date and end date. Pending work orders work orders display a start date only.

Find the *Related Work Orders* section on the *Equipment* detail screen. If you do not see a *Related Work Orders* section, there are no work orders currently associated with the equipment. This section can appear on the *Equipment* detail screen whenever a work order is assigned to the equipment.

Tap the *Related Work Orders* section to access the *Related Work Orders* detail screen. The screen is split into two subscreens:

- **Previous Work Orders:** Past work orders assigned to the work order or the equipment
- **Pending Work Orders:** Current or future work orders assigned to the work order or the equipment

Tap on *See All* on either subscreen to view the complete list of work orders, if the list extends past the first page of the *Related Work Orders* detail screen. Tap on any work order row to view the details of that work order. All work order details are read only.

6.5 Adding a Follow-Up Work Order

If you discover that the site needs additional repairs while you are performing your current work order, you can add a follow-up work order using SAP Service and Asset Manager.

Procedure

1. Click to a work order detail screen, either from the main SAP Service and Asset Manager Overview screen or from the Map view.

   The work order detail screen displays.
2. Tap the + icon and select *Add Follow-up Work Order* from the menu.

   The Add Follow-up Work Order screen displays.
3. Fill in all fields. Note that the `<Description>` field is mandatory. If you do not want to create a follow-on work order, turn the *Follow-On Work Order* switch to off. When done, click *Next*.

   > **Note**
   >
   > The `<Description>` field has a limit of 40 characters.

   The Add Operation screen displays.
4. Change any of the operation fields if necessary. When finished, click *Done*.

Results

The follow-up work order is created. Sync to send the follow-up work order to the back end.

6.6 Viewing or Adding a Follow-On Work Order

When you create a follow-on work order to an existing work order or notification, you create a relationship to the preceding order or operation. This relationship is displayed in the document flow.

You'll create follow-on work orders when you want to create a relationship between the main work order and a follow-on work order. This relationship is displayed in the document flow.

For example, while inspecting an equipment, you discover a defect. You perform the work for the original work order, but you also must document that there's a follow-on activity necessary. Creating a follow-on work order links the work orders together.

Viewing a Follow-On Work Order

To view follow-on work orders, tap the *Follow-On Work Orders* section on the main detail page of a work order. Then tap on a follow-on work order to few its details, such as description, order ID, due date, status, and priority.

Adding a Follow-On Work Order

Use the following procedure to add a follow-on work order to an existing work order:

> **Note**
>
> If the origination work order is still in a LOCAL state (not synced to the back end), you can't add a follow-on work order. If the original work order isn't released from the back end, the follow-on work order option isn't available.

1. Click to the work order or notification detail screen to which you're adding a follow-on work order.
2. Tap the + icon and select *Add Follow-Up Work Order*.
   The Add Follow-Up Work Order screen displays.
3. Ensure the *Follow-On Work Order* toggle switch is selected (it will be selected by default).
4. Fill in all fields. Note that the `<Description>` field is mandatory. When done, click *Next*.
   The Add Operation screen displays.
5. Change any of the operation fields if necessary. When finished, click *Done*.
   The follow-on work order is created. Sync to send the follow-on work order to the back end.

6.7 Follow-on Notification from Work Order

If you discover that the site needs more information while you are performing your current work order, you can add a follow-up notification using SAP Service and Asset Manager.

Context

Create a follow-up notification to an existing work order to add additional information that wasn't specified on the original job.

Procedure

1. Click the *Work Order* detail screen, either from the main SAP Service and Asset Manager Overview screen or from the *Side* menu.

The *Work Order* detail screen displays.

2. Tap the + icon and select *Add Notification* from the menu.

   The *Add Notification* screen displays.

3. Fill in all fields, choose the type of a notification, and change any of the notification fields if necessary. If you do not want to create a follow-on notification, turn the *Follow-On Notifications* switch to off.

   > **Note**
   >
   > The `<Description>` field is mandatory. It has a limit of 40 characters.

4. When finished, click *Done*.

Results

The follow-up notification is created. Sync to send the follow-up notification to the back end.

6.8 How to Work with an Operation or Suboperation Maintenance Activity

Operations and suboperations describe a sequence of maintenance activities.

Context

> **Note**
>
> The way you work with a maintenance activity depends on the persona you're using. Some functions described may not be available for every persona.

An operation includes the date and time, status, work center, and other controlling information for an individual maintenance task. In the operation text, or steps, the maintenance activity is described. To complete the maintenance activity, follow the steps in the operation text.

The Maintenance Technician persona uses suboperations. A suboperation represents an additional level of detail for an operation and is situated hierarchically below an operation. Multiple suboperations can exist under an operation. Suboperations are often used when multiple work centers are required. Suboperations are also used when employees with varying qualifications and skills are working simultaneously on the same operation.

You can access an *Operation* detail screen by multiple ways:

- Tap the *Operations* section on the *Overview* screen in the KPI section of the SAP Service and Asset Manager application. Here, you can see the number of the operations. The *Operations* detail screen displays. Select your desired operation from the list to display its *Operation* detail screen.

- Tap the *My Operations* section on the *Overview* screen of the SAP Service and Asset Manager application. Tap on one of operations to access the operation screen. Or, tap *See All* to navigate to a list of the objects.
- Tap the hamburger menu icon on the top left of the screen to open the *Side* navigation menu. Tap *Operations* to open the list of all operations.
- Tap the *Operations* section on a *Maintenance Order* detail screen. Select your desired operation from the list to display its *Operation* detail screen.

Procedure

1. Click to your selected *Operation* detail screen using the navigational path of your choosing. For more information, read the *Context* section of this procedure.

   The *Operation* detail screen displays.
2. To ensure that you understand the directions before you start work, review all operation and any suboperation information.
   a. Tap on the *Parts*, *Unplanned Parts* sections and ensure that you have all parts available before you start work. If you don't have all parts available, put the maintenance order on hold, and issue more parts to complete the operations successfully.
   b. If any documents are available in the *Documents* tab, tap on them to download them. View them before starting the operation.
3. Tap on each operation and suboperation, and the related maintenance request or order, if any, and follow the instructions.
4. If the operation or suboperation contains equipment, perform a reading on the equipment. See Taking a Single Measuring Point Reading [page 74] for details.
5. Once each operation or suboperation is finished, tap *Confirm* at the bottom of the screen.
   a. If a signature is required to complete the operation, suboperation, work order, or service order, a digital signature screen appears. See the Adding a Signature [page 55] topic for more information.
   b. If the work order contains Quality Management (QM) notifications, see the *Working with Quality Management* chapter in the *SAP Service and Asset Manager User Guide - Maintenance Technician Persona* for required QM procedures.

Results

All operations and suboperations are marked as *Complete*.

Next Steps

Issue the parts that you used when working through the work order or service order operations or suboperations. See Issuing a Part [page 49] for more details.

Once all operations and suboperations are completed, and you've issued all necessary parts, you can complete the work order or service order. See the following topics for more information:

- Maintenance Technician: Changing the Status of a Work Order [page 40]
- Field Service Technician: Changing the Status of a Service Order

6.8.1 Adding a Local Operation

Operations describe a sequence of maintenance activities. You can add an operation to an existing work order.

Context

If you discover an issue that requires a repair, add a notification. See the topic Adding a Maintenance Request [page 79] for more information. Add a work order to perform a specific task and record the details. Create a follow-up work order to an existing work order to complete more work that wasn't specified on the original job. If you determine that you must add a maintenance activity, you can create an operation. See the topic Adding a Local Work Order [page 42] for more information.

Once you add a local operation, work with it as you would an operation that is sent to your device from the SAP back end. You can change the status and log time against it. You're allowed to discard a locally created operation no matter its status. If sync errors occur, you're allowed to fix them. When you sync to the back end, the operation is automatically assigned to you and appears on your device if the work isn't completed and you didn't transfer it to another person.

Procedure

1. Select *Add Operation* from the + icon on the *Work Orders* detail screen.

   The Add Operation screen displays.
2. Many of the fields are already filled with the current work order information. Edit these fields if desired by tapping on them and changing the information.
3. Tap *Save* when satisfied with your additions. To exit out of the *Add Operation* screen without saving, tap *Cancel* at any time to return to the *Work Orders* detail screen.

Results

Your new local operation is created and added to the *Operations* detail screen, available from the *Work Orders* detail screen. The operation is sent to the back end the next time you transmit. The operation is sent to the back end the next time you transmit. Continue working with the operation, though note that you can't discard an operation once you've synced to the back end.

6.8.2 Working with Parts

Parts, or components, are materials needed for a maintenance order. Examples of parts are screws, computer monitors, or oil pumps.

To access the *Parts* detail screen, tap on the *Parts* and *Unplanned Parts* sections in the *Operation* detail screen of your selected maintenance order. The *Parts* or *Unplanned Parts* detail screen lists all parts required to complete the operation. To open the part detail page, tap on a part on the list.

See the following procedures for information on how to work with parts:

- Issuing a Part [page 49]
- Adding a Part [page 50]
- Returning a Part [page 52]

6.8.2.1 Issuing a Part

Parts, or components, are materials needed for a work order. Examples of parts are screws, computer monitors, or oil pumps.

Context

After you finish your operations and suboperations, issue the parts you used to perform the work order. Spare parts, or service parts, are issued when they are used in production and plant maintenance. Keeping careful track of these parts helps your organization maintain a precise inventory and ensures that parts are available to all team members when they need them.

> **Note**
>
> If the work order is set to *Complete*, you cannot perform any more actions to the work order, including issuing or adding parts.

Procedure

1. Click to a work order detail screen, either from the mainSAP Service and Asset Manager Overview screen or from the *Maps* view.

   The work order detail screen displays.
2. Tap the *Parts* tab.

   The Parts detail screen displays.
3. Tap the part on the list that you wish to issue.

   The specific part detail screen displays.

4. Tap the + icon and select *Issue Part*.

   The Issue Part screen displays.
5. The *Plant* and the *Part* fields are automatically filled in for you. Tap in the `<Quantity>` field and type in how many parts were used. Then tap in the `<Storage Location>` field and select the storage location where you obtained the part.
6. When finished, tap*Save*

   The part is issued.
7. Continue to issue parts, following *Steps 1 - 6*, until all parts are issued for the work order.

Results

You have issued all parts for your work order. If you have used a part that was not on your parts list, see the Adding a Part [page 50] procedure.

Next Steps

Once all operations and suboperations are complete and all parts are issued, you can complete the work order itself. See Changing the Status of a Work Order [page 40]. To return unused parts after finishing the work order, see Returning a Part [page 52].

6.8.2.2 Adding a Part

Parts, or components, are materials needed for a work order. Some examples of parts are screws, computer monitors, or oil pumps.

Context

Most of the time, when you're working through your task list, all of the parts are already listed and waiting for you to issue after you finish your operations list. If all parts weren't originally listed on your parts list, you can add a part or parts to your work order to account for all of the parts used on the work order.

You can add a part from a work order, a piece of equipment, or from a part listed on a bill of materials.

> **Note**
>
> If the work order is set to *Complete*, you can't perform any more actions to the work order, including issuing or adding parts.

Procedure

1. Click to a detail screen of a work order, either from the main SAP Service and Asset Manager Overview screen or from the *Maps* view.

   The *Work Order* detail screen displays.
2. Tap the *Parts* tab.

   The Parts detail screen displays.
3. Tap the + icon.

   The Add Part screen displays.
4. To perform more than a local search on your mobile device for parts, ensure that your device is online and toggle the *Online Search* button to *On*. Note that if you aren't online, your search defaults to your local parts list.
5. Fill in all of the fields to add your desired part by tapping in the fields and selecting from the various options presented to you, or by typing in selections in the fields.
   a. You can manually add a part that isn't available in your plant by selecting *Text Item* and then filling out the *Description* field that appears. You can't issue manually entered parts, however.
   b. You can either search by serial number or physically scan a part to add it to the operation if serial numbers are available on the part. After you either scan or select apart by serial number, the part is added with a default quantity of 1.
6. When all fields are entered, tap *Save* to save and complete the part addition. Once you choose *Online Search*, some additional fields are available for you to fill out for your search.
   a. The unrestricted quantity available displays as a field during online parts search. You can add one or more of the selected part, up to the number listed as the available unrestricted quantity.
   b. If you select a quantity of your chosen part that is greater than the available unrestricted quantity, a warning displays. Tap *OK* to exit the warning. Then correct the quantity.

Results

Your part is added to the Parts list. You can now issue the part. See Issuing a Part [page 49] for more information.

See Editing an Object [page 34] for general information on how to edit objects in SAP Service and Asset Manager. Note that you can only edit a local part. That is, if you've added a part you searched for and added using *Online Search*, you can't edit that part.

Next Steps

Once all work order operations and suboperations are complete and all parts are issued, you can complete the work order itself. See Changing the Status of a Work Order [page 40].

6.8.2.3 Returning a Part

Parts, or components, are materials needed for a work order. Examples of parts are screws, computer monitors, or oil pumps.

Context

Once you have added parts, you can return any unused parts added to the work order.

> **Note**
>
> If the work order is set to *Complete*, you can't perform any more actions to the work order, including issuing or adding parts.

Procedure

1. Click to a work order detail screen, either from the mainSAP Service and Asset Manager Overview screen or from the *Maps* view.

   The Work Order detail screen displays.
2. Tap the *Parts* tab.

   The Parts detail screen displays.
3. Tap an individual part you wish to return.

   The Part screen for the individual part displays.
4. Tap *Return*, found on the top right of the screen.

   The Return Part screen displays.
5. Fill out the quantity of the part you're returning in the `<Quantity>` field. Fill out other fields as needed. When finished, tap *Done*.

   A message displays saying the part is returned. If you've returned the entirety of that part, the *Return* menu option disappears.

Results

Your part is returned to its storage location. You can now add and reissue the part, unless you've manually entered a part that wasn't available in your plant. See Adding a Part [page 50] and Issuing a Part [page 49] for more information.

See Editing an Object [page 34] for general information on how to edit objects in SAP Service and Asset Manager. Note that you can only edit a local part. That is, if you've added a part you searched for and added using *Online Search*, you can't edit that part.

Next Steps

Once all work order operations and suboperations are complete, all parts are issued, and unused parts are returned, you can complete the work order itself. See Changing the Status of a Work Order [page 40].

6.8.3 Managing PRTs

Unlike a fixed asset, production resources and tools (PRTs) are moveable (not stationary) operating resources that are required to perform an operation or suboperation and can be used repeatedly. In SAP Asset Manager, PRTs are based on equipment or material objects.

Equipment PRTs are maintained and serviced at regular intervals. You track the stock quantity of Material PRTs through the application.

You can add or edit PRT equipment details on an operation or a suboperation.

You can add a PRT resource by scanning serial numbers, if serial numbers are available.

Working with PRTs

To access the PRTs detail screen, navigate to an individual work order and tap *Operations*. From the Operations detail screen, tap the *PRTs* section to view all the details of the PRT. From the main PRT detail screen, you can see the equipment, material, and any miscellaneous items attached to the work order.

If a measuring point is associated with the PRT, a measuring point graph is displayed. Tap on the graph to show details of the measuring point. From the Measuring Point detail screen, you can take a reading of the measuring point. Tap on *Take Reading* to take a reading. See the Taking a Single Measuring Point Reading [page 74] procedure for details on how to take a reading.

Filtering PRTs

You can use the *Filter* icon to filter inspection rounds by PRT. Select *Filter* > *Show Only PRT* to filter only operations or work orders that include PRTs. See the topic Filtering Objects [page 31] for more information.

Adding a PRT Resource to an Operation

You can add a production, resources, and tools resource to any operation or suboperation associated with a work order. To add a PRT:

1. From the main *Overview* screen, tap on *Work Orders*. Then tap on the individual work order that contains the operation or suboperation to which you want to add a PRT.
   The *Work Order* detail screen displays.

2. Tap on the *Operations* section. Then tap the particular operation to which you want to add a PRT.
   The *Operation* detail screen appears.
3. Tap on the *PRT* section. Then tap the + icon and select *Add Equipment*.
   The Add Equipment screen displays.
4. Navigate through the Add Equipment screens until you are through adding the new PRT equipment. When complete, tap *Done*.
   1. If serial numbers are available on the PRT resource, you can either search by serial number or physically scan a part to add it to the operation. After you either scan or select a PRT resource by serial number, the PRT is added with a default quantity of 1.

   The new PRT is added to the operation or suboperation.

Editing a PRT Resource

You can edit various fields in a PRT resource object. Select a single PRT in the *PRT* section to display the *Equipment* detail screen of the PRT. Then tap *Edit* to edit the object. For more information on editing an object, see the Editing an Object [page 34] topic.

Discarding a PRT Resource

You can discard a locally created PRT resource object. Select a single PRT in the *PRT* section to display the *Equipment* detail screen of the PRT. Then tap *Discard* at the bottom of the screen to edit the object.

6.9 Using an Object List

In SAP Service and Asset Manager, a technical object list is associated with a work order or a service order. A technical object list is an object worklist configured to meet specific requirements of the customer.

A technical object serves a specific purpose or function, such as a piece of equipment. A technical object list displays the most important pieces of information about the equipment and functional locations.

Displaying Object Lists

Tap the *Object Lists* section on a selected *Work Order* or *Service Order* detail screen. The *Object Lists* screen displays. In each object list row, you can see the associated material, equipment, notifications, and functional locations for that object.

Tap on any object in the object list to display the *Object List* detail screen. Here, you can tap any *Material*, *Equipment*, *Functional Location*, or *Notification* object to access the detail screen for that object.

Adding to Object Lists

Navigate to an individual technical object detail page. You can create and assign notifications to an operation by tapping the + icon. You can also assign equipment to the object so that it's listed in the technical object list of the operation.

For more information, see the following topics:

- Adding a Maintenance Request [page 79]
- Installing Equipment [page 69]

6.10 Adding a Signature

Adding a Signature as the Maintenance Technician Persona

Your job site may require the application to collect and capture your signature before setting the status of work orders, operations, or suboperations to *Complete*.

Use the following procedure to add a signature to either an operation, suboperation, a work order:

1. Select a work order, operation, or suboperation to complete.
2. Set the status to *Complete*. For information on changing object status, see Changing the Status of a Work Order [page 40].
3. When the *Time* screen displays, ensure you add any additional time needed. For information on adding time, see the *Working with Time* chapter in this guide.
4. If a signature is required or optional, the *Signature* screen displays. Use your finger or a stylus to add your signature.

Results

When you complete a signature on a work order, a *Signed* tag appears in the *Details* section of the work order.

When you complete a signature on either an operation or a suboperation, a *Signature* line appears in the *Details* section of the operation or suboperation, showing the date and time of the signature.

Find the signature file in the *Documents* section of a work order, operation, or suboperation.

Adding a Signature as the Field Service Technician Persona

Your job site may require the application to collect and capture your signature before setting the status of service orders to *Complete*.

Use the following procedure to add a signature to a service order:

1. Select a service order to complete.
2. Set the status to *Complete*. For information on changing object status, see Changing the Status of a Work Order [page 40].
3. When the *Time* screen displays, ensure you add any additional time needed. For information on adding time, see the *Working with Time* chapter in this guide.
4. If a signature is required or optional, the *Signature* screen displays. Use your finger or a stylus to add your signature.

Results

When you complete a signature on a work order, a *Signed* tag appears in the *Details* section of the work order.

When you complete a signature on either an operation or a suboperation, a *Signature* line appears in the *Details* section of the operation or suboperation, showing the date and time of the signature.

Find the signature file in the *Documents* section of a work order, operation, or suboperation.

6.11 Using Inspection Checklists

Use an inspection checklist to inspect one or more pieces of equipment.

In a production process, it is sometimes necessary to carry out inspections to ensure the quality of a product. An inspection checklist documents a request for an inspection. Inspection characteristics are assigned to the inspection checklist. An inspection characteristic defines what needs to be inspected. A distinction is made between qualitative characteristics and quantitative characteristics.

An inspection checklist is created for a work order on the back end. Characteristics are assigned to individual operations in the order. The characteristics define the inspection requirements. You are then assigned to the work order and associated inspection checklist in SAP Service and Asset Manager.

The *Details* section shows you details about the entire inspection checklist.

The *Equipment* section shows the equipment associated with the inspection checklist.

Underneath the *Equipment* section is a list of characteristics associated with the equipment. Tap on an individual characteristic to view its detail screen.

6.11.1 Recording Characteristics Results on an Inspection Checklist

To complete an EAM operation, all open inspection lots and their associated characteristics must be measured, recorded, or valuated.

Procedure

1. From the *Work Order* screen, tap on the *Checklist* section.

   The *Checklist* screen displays.
2. Tap on *Record Results* at the top of the screen.

   The *Record Results* screen displays, with a list of all inspection lots and their associated characteristics. Target specification is set by default by the back end for you.
3. You can either record results individually by tapping on *Validate* for each recorded characteristic value, or you can select *Validate All* to validate all existing recorded characteristics.

   > **Note**
   >
   > If you select *Validate All*, the characteristics will be updated successfully and the *Set Usage Decision* screen displays.
4. On the *Set Usage Decision* screen, specify the code to set the usage decision on the inspection lot.
5. When finished recording results, tap *Done*.

   > **Note**
   >
   > If an inspection characteristic is not within bounds, you can create a *Notification* to record the defect. Select *Record Defect*, to continue to the Recording Defects [page 57] procedure.

6.11.2 Recording Defects

If a characteristic in an inspection lot fails validation, you can create a *Notification* to record the defect. As a result, the *Record Defect* screen is displayed as a notification. The notification must be prefilled, but it can be changed.

Procedure

1. On the *Record Results* screen, tap the *Record Defect* button for which operation you want to record the defect.

   The *Record Defect* screen displays.

2. Type a short description for the defect in the `<Notification Description>` field. Fill out the `<Notification Description>` field as it's mandatory.
3. On the *Record Defect* screen, specify a type, functional location, and an equipment of a defect, if the ones automatically selected aren't the correct ones.
4. Tap the *Breakdown* toggle switch if the defect involves a breakdown.
5. Tap a `<Priority>` box if the automatically selected priority isn't the correct one.

   To add an optional item to the defect, do the following:
6. Add an `<Item Description>`.
7. Select a `<Part Group>` from the list by tapping on the arrow to the right of the field.
8. Select a `<Part>` from the list by tapping on the arrow to the right of the field.
9. Select a `<Damage Group>` from the list by tapping on the arrow to the right of the field.
10. Select a `<Damage>` from the list by tapping on the arrow to the right of the field.

    To add an optional cause to the defect item, do the following:
11. Add a `<Cause Description>`.
12. Select a `<Group>` from the list by tapping on the arrow to the right of the field.
13. Select a `<Code>` by tapping on the arrow to the right of the field.
14. Add a `<Note>`.
15. Type a description in the `<Attachment Description>` field if you're attaching a photo.
16. Tap the photo box to start the attachment process if you're attaching a photo.
17. When finished recording a defect, tap *Done*.

Results

The new defect appears which is linked to the *Checklist Characteristic*. It's marked as a *[LOCAL]* notification, meaning it's only available on your mobile device, until you perform a sync with the back end. The notification is sent to your SAP back end the next time you transmit.

6.12 Completing a PM Confirmation on a Maintenance Order

PM confirmations on operations or maintenance orders capture the time spent on the order as well as technical findings such as repairs performed on an object or damage discovered on an object.

If either an operation or a maintenance order has confirmations associated with it, a *Confirmations* section displays on the *Operations* or *Maintenance Orders* details screen.

Tap the section to view the *Confirmations* detail screen. Tap the + icon to add a confirmation and fill in the fields on the *Add Confirmation Entry* screen, then tap *Done*. The new confirmation appears on the *Confirmations* detail screen. You can now set the operation to *Complete*.

Tap any individual confirmation to view the detail screen for that confirmation. Tap *Edit* to edit the confirmation. If needed tap *Discard*, to delete the confirmation.

7 Working with Equipment

7.1 Equipment Overview

Equipment are individual, physical objects that are maintained independently.

You can manage all types of objects as equipment. For example, an equipment can be test equipment, production resources, tools, or computers. Each equipment, or asset, has an individual maintenance history associated with it that you can contribute to and then sync your contributions to the back end.

Equipment are used in maintenance orders, maintenance requests, and functional locations.

> **Note**
>
> If you are using the FOW add-on component, equipment is also used in stops on routes.

You can add work orders, notifications, equipment, notes, attachments, and readings to equipment. See the following topics for more information:

Access your equipment list from the *Overview* screen by tapping the *Technical Objects* section in the KPI section of the app. Or, by one of the additional ways. See Technical Objects Detail Screen [page 61] for more information.

You can perform the following actions on existing equipment in SAP Service and Asset Manager:

- Add work orders to a functional location. See Adding a Local Work Order [page 42].
- Add maintenance requets to existing equipment. See Adding a Maintenance Request [page 79]
- Add documents to a current equipment. See Working with Attachments [page 35]
- Add or dismantle equipment to a current functional location. See the following topics:
  - Installing Equipment [page 69]
  - Dismantling Equipment [page 70]
- Take readings of measuring points associated with equipment. See the Measuring Points and Readings Overview [page 71] topic and subtopics.
- View and complete checklists, if any are associated with the functional location. See the Checklists [page 64] topic for more information.
- View related maintenance orders, maintenance requests, equipment, classifications, hierarchy, warranties, and business parters associated with the equipment
- View linear asset data associated with the functional location. See the Linear Access Management (LAM) Overview [page 93] topic and subtopics for more information.
- View notes, if any are associated with the functional location.
- View an equipment using hierarchy. See the Hierarchy Control Overview [page 66] for more information.

- Adding a Local Work Order [page 42]
- Adding a Maintenance Request [page 79]
- Installing Equipment [page 69]
- Working with Notes [page 36]

- Working with Attachments [page 35]
- Taking a Single Measuring Point Reading [page 74]

7.1.1 Asset Central Overview

Asset Central links production systems and assets with manufacturing and maintenance business processes to reduce operational and maintenance costs and increase asset uptime.

Asset Central communicates with the Asset Intelligence Network back end. The Asset Intelligence Network is an SAP S/4HANA system.

The Asset Intelligence Network collects and tracks equipment information in a central repository. It facilitates collaborative asset management and lets you take full advantage of the Internet of Things (IoT). Organizations manage thousands of assets to keep their plants operational, which include machinery equipment. Timely maintenance is required to ensure that the equipment is working at an optimum level. Maintenance can be difficult due to heterogenous systems, missing information, or other challenges. Asset Intelligence Network can help to solve these issues.

Imagine you have three manufacturers: Manufacturer C providing a motor, and Manufacturer B providing a sensor to a larger manufacturer producing and manufacturing compressors. Once they ship those parts to Manufacturer A, they extract the data (component specifications, alerts, or indicators) from their back-end systems and send it to Manufacturer A, in a digital format. Manufacturer A, in turn, usually has a whole department receiving the data and putting it into their back-end systems, where they store all the data of their assets and the supplied parts and components from other manufacturers. Once the compressor is manufactured, it is then shipped to the operator, along with the extracted data.

The operator has a back-end system as well, and one of those back-end systems may be a maintenance system to maintain the asset. To perform the maintenance activities, the operator usually needs data from the supplier, like data on how to maintain the asset, specifications, or alerts and indicators.

So here, in our example, the compressor, or what we call the digital twin of the compressor, resides in Asset Intelligence Network, as well as all the components of that compressor. The advantage of this is that the sub suppliers: Manufacturer C and Manufacturer B, can provide that information directly to Asset Intelligence Network. Manufacturer A only needs to provide information about that bigger asset, the compressor. The data to the two components (the sensor and the motor, or engine) is still available from Manufacturer C and Manufacturer B. And, they only need to integrate to one system.

On the side of the operator they can now connect their back-end system to only one platform. Before Asset Intelligence Network, it was hardly possible, because every manufacturer or supplier had their own manufacturer portal. Connecting to multiple manufacturer portals is not efficient. Now operating companies can connect their back-end systems to Asset Intelligence Network and fetch the data directly to their systems to get an insight into the data of an asset.

For more information on Asset Central functionality in SAP Service and Asset Manager, see the following topics:

- PdMS Indicators [page 63]
- Checklists [page 64]

7.2 Technical Objects Detail Screen

The *Technical Objects* screen shows a list of the *Functional Location* and *Equipment* objects. Tapping on an object takes you to the detail screen for the object.

Accessing the Technical Object Functional Location or Equipment

You can access an individual equipment or a functional location detail screen by multiple ways:

- Tap the *Technical Objects* section on the *Overview* screen in the KPI section of the SAP Service and Asset Manager application. Here, you can see the number of the technical objects. The *Technical Objects* detail screen displays. Select your desired equipment or functional location from the list to display its detail screen.
- Tap the hamburger menu icon on the top left of the screen to open the *Side* navigation menu. Tap *Technical Objects* to open the list of all equipment and functional location objects.
- Tap the *Technicl Objects* section on the *Maintenance Order*, *Maintenance Request* or *Operation* detail screen to bring up the equipment or functional location detail view.

General Overview

The *Equipment* or *Functional Location* detail screen gives you a brief description of an equipment or functional location, their location, and recent histories. The technical object header lets you know the object name and ID. You can search your technical object based on the object name or ID.

The equipment *Location* is underneath the equipment header. Depending on the equipment site, the location could be a factory, a building campus, or in a city. If your site has maps enabled, you can use the maps functionality and GPS to help you locate the equipment site.

The *Equipment Details* or *Functional Location Details* section gives you details about the specific piece of technical object you selected, such as the plant location, work center, model number, inventory number, room location, or other details that your customer site determines are important for display on your device.

If the technical object has measurement points, a *Measurement Points* section is displayed. Here, you can see graphs of the measurement point readings, if available. Tap on the measurement points section to access the measurement points and to take readings of the points. Information on measurement points and readings is found further in this section, starting with the Measuring Points and Readings Overview [page 71] topic.

If additional subequipment are installed under the main equipment object, that equipment is listed in the *Equipment* section. The name of the equipment and details of the equipment are shown, and its installation status. Tap on any equipment row to view details of the equipment and to dismantle the equipment. See Dismantling Equipment [page 70] for more information.

If attachments are associated with the technical object, they are listed in the *Documents* section. Note that by default only limited information regarding the attachments are fetched to the client. The attached content is downloaded to your device at your request through a push process. See the Working with Attachments [page 35] topic for more information.

Underneath the *Documents* section, there can be sections for *Hierarchy*, *Related Maintenance Orders*, *Related Maintenance Requests*, *Warranties*, *Classifications* and *Business Partners*, *Error Codes*, *Bill of Materials*, *Linear Data*, *NotesChecklists*. A number to the right of the section name lets you know how many objects are associated with that section. For example, if two warranties are associated with the technical object you selected, you see a *2* to the right of the *Warranties* field. Tap on any section to see that detail screen.

Tap the *Edit* menu item to edit the technical object displayed on the *Equipment* or *Functional Location* detail screen. To learn how to edit any object in the SAP Service and Asset Manager application, including equipment, see the Editing an Object [page 34] topic.

Tap the *Take Readings* menu item to take any readings on the measuring points associated with the equipment. See the Taking a Single Measuring Point Reading [page 74] topic for more information on how to take a reading.

Related Information

Functional Location Overview [page 101]
Equipment Overview [page 59]

7.2.1 Warranties

A warranty is a specific guarantee to vouch for defects or faults in the asset purchased or used, valid for a specific amount of time. The type and scope of the services covered, such as repairing a defect for free or taking the product back are defined in the warranty.

Tap on the main *Equipment* screen to access the *Warranties* detail screen. Two types of warranties are available in SAP Service and Asset Manager; a customer warranty, and a supplier, or manufacturer warranty. Both types of warranties include the warranty ID number, the start date, and the end date of the warranty.

Tap on an individual warranty to access additional details for the warranty.

> ⓘ Note
>
> Warranties are read only.

7.2.2 Business Partners

Service orders, functional locations, and equipment can be linked to a business partner. Business partners are parties in which your company has a business interest. A business partner can be a customer, a prospect, a supplier, a competitor, or even an employee of your own company.

> ⓘ Note
>
> The information is read-only.

7.2.3 Classifications

When you are managing a large number of objects, you can group these objects according to particular and logical features. The hierarchical structure of classifications enables you to find specific objects starting from one top object, moving to multiple, lower level objects.

A classification hierarchy could look like the following example:

Pumps > *Rotary Pumps* > *Magnetically Coupled Pumps*

The classifications listed in the *Classification* section for each equipment and functional location let you know how functional location or each piece of equipment is categorized in the back end. Tap on any classification to view its characteristics, or the details of that classification.

You can edit classification characteristics. Tap on any classification characteristic line item to access its *Edit Characteristic* screen. Change the characteristic value to the new desired value and tap *Done*. If you did not want to edit the characteristic, tap *Cancel* to exit out of the edit screen.

7.2.4 PdMS Indicators

PdMS, or Predictive Maintenance and Service equipment indicators allow you to easily identify the health status of your equipment. PdMS is part of the Asset Central component, which relays information to and from the SAP Asset Intelligence Network back end.

For more information on how the PdMS predicts maintenance events subsequently predict business processes for operational excellence (planning, procurement, scheduling, execution), which lowers risk and improves asset availability, see the Asset Central Overview [page 60] topic.

> **Note**
>
> If you do not see the *Indicators* section on your *Equipment* detail screen for any equipment, then the Asset Central solution is not installed on your mobile device. Talk to your administrator if you believe you should have access to this solution.

Alerts, or indicators, are calculated from sensor data or health scores to give you information about the issues your equipment or a component on the equipment is experiencing. On the basis of the alerts, you can work to resolve the issues in question.

To view indicators, from the main *Overview* screen, tap on *Equipment*, then tap on the *Indicators* section. Note that not every equipment may have indicators. If an equipment does not have indicators, the *Indicators* section is not present.

The main *Indicators* screen displays. Here, you can view all of the indicators associated with the selected equipment. Indicators can measure various things: temperature, BPM, run hours, or a general health score, for example. Each equipment can have different indicators, and a different number of indicators. Each indicator can be set to automatically monitor and update to SAP Service and Asset Manager at different intervals. And, each indicator can have different thresholds and values for you to monitor. Your site administrator will let you know which values are critical for your site.

Tap on any indicator row to view the detail screen for the individual indicator. Details for the indicator depend on the type of indicator, but generally include the indicator name, value, type of equipment, and indicator trend (whether the indicator has been trending up or down historically).

The main *Indicators* screen and all indicator detail screens are read-only.

While you cannot currently add work orders, service orders, or notifications through the individual *Indicator* detail screen, if action is needed due to an indicator setting, see the following topics:

- Adding a Local Work Order [page 42]
- Adding a Maintenance Request [page 79]

7.2.5 Checklists

Checklists are lists of items that require inspection by you. Answers to questions on a checklist can be a simple yes or no, or a measurement reading, which then updates indicators.

The ASPM or Asset Strategy and Performance Management checklist, or questionnaire, gives you the ability to fill out safety checklists before you complete a work order. The answers you give on each checklist assigned to an equipment helps to identify functionality failures, failure modes, and effects. The checklist feature is included in the Asset Central component, which must communicate to the Asset Intelligence Network, to the Reliability-Centered Maintenance (RCM) app specifically, to function.

Use checklists to perform regular inspections on your equipment, including updating attributes and indicators. Checklists are used for maintenance purposes and to record inspection results. Checklists are also used when you are buying a new piece of equipment from a manufacturer. The manufacturer can prepare checklists on their equipment functionality.

Opening a Checklist

Your reliability engineer, or administrator, on the back end, will assign specific equipment-specific checklists on set cycles based on equipment factors like alarm settings or maintenance schedules.

1. Tap on a piece of equipment from the main *Equipment* screen.
   The *Equipment Detail* screen displays.
2. Tap the *Checklist* section.
   The *Checklists* detail screen displays, displaying a list of available checklists for that equipment. Each checklist shows a status of *Open*, *In Progress*, or *Completed*.

   > **Note**
   >
   > You must complete all checklists associated with an equipment that is part of your work order before you can set your work order to Completed.

3. Select a checklist in your list that is in an *Open* or *In Progress* state. An *Open* state means that you have not started work on the checklist yet. *In Progress* means that you have started work on the checklist, but all questions have not been answered. *Completed* means that all questions have been answered. To open the checklist, tap on it.
   The checklist opens.
4. A checklist can have one or more screens of questions. Answer the questions on each screen. Tap *Next* to move to the next screen. When complete, tap *Save* to save your checklist.

> **Note**
>
> You can write notes in the *Notes* section, if available, for each question. Adding text in the `<Notes>` field is optional.

Your checklist for the equipment is complete. You can now complete the work order for the equipment, as long as no other checklists are open or in progress for that equipment.

Adding a Checklist

You can add a checklist that was not originally on your assigned checklist screen for your equipment, as long as a template for that checklist exists on the back end. For example, if an indicator on a piece of equipment reaches a set threshold, it can trigger the release of a template for you to access on your device. Fill out the template to alert your team of possible equipment issues and to improve equipment performance.

1. Tap on a piece of equipment from the main *Equipment* screen.
   The *Equipment Detail* screen displays.
2. Tap the *Checklist* section.
   The *Checklists* detail screen displays, displaying a list of available checklists for that equipment. Each checklist shows a status of *Open*, *In Progress*, or *Completed*.

   > **Note**
   >
   > You must complete all checklists associated with an equipment that is part of your work order before you can set your work order to Completed.
3. Tap the *Action* menu (+) and select *Add Checklist*.
   The *Add Checklist* window displays.
4. Choose your `<Category>` and `<Template>` from the dropdowns choices provided. When finished, tap *Done*.
   Your new checklist is added to the *Checklists* detail screen. See the *Opening a Checklist* section for information on how to fill out and work with checklists.

Editing Checklists

You can edit a checklist as long as you have not set the work order associated with the checklist to Complete. To open and edit a checklist, tap on it.

7.2.6 Hierarchy Control Overview

When navigating using hierarchical node structures, you can tap on a parent to expand the node and view the children of the parent. You can also navigate up or down from that node location, opening or closing nodes as you go.

Hierarchy control is used to navigate both equipment and functional location lists. The hierarchical control views are used in the following locations and ways:

- Viewing an equipment hierarchy from the Equipment detail screen
- Viewing a functional location hierarchy from the Functional Location detail screen
- Viewing a functional location hierarchy from within a work order
- Viewing a functional location hierarchy from a notification
- Viewing an equipment hierarchy from the main Map view
- Viewing an equipment hierarchy from a notification
- Viewing an equipment hierarchy from an operation or a suboperation
- Viewing an equipment hierarchy from within a work order
- Viewing a bill of materials (BOM) hierarchy from an equipment
- Viewing an assembly hierarchy from the Work Order detail screen

Viewing Lists Using Hierarchy

1. Tap on your selected object (equipment, functional location, or BOM) from the main object screen.
   The *Detail* screen for the selected object displays.
2. Tap the *Hierarchy* section for your selected object.
   The *Hierarchy* screen displays the selected object as the parent object, the child object of the parent object, and any children objects of the child object up to three levels deep in three columns. If the selected object is not the root oject, its parent object(s) display in the left overflow column.
3. Navigate through the hierarchy by tapping on any parent or child object. Tapping on an object displays the detail screen of the object.

Selecting Items Using Hierarchy

When you use the add wizard to add either an equipment object or a functional location object that is part of a hierarchy, with a parent object and children objects, you use hierarchy to select the desired object.

1. Tap on the + icon from the main object screen (either *Equipment*, *Functional Location*, or *Bill or Materials*) and select *Installation*.
   The *Install <Object>* window appears.
2. When you tap on an object to install that is part of a parent-child hierarchy, you'll see a small icon to the right of the object, indicating a hierarchy and the ability to select children objects under the parent. Under the icon is a numeral, indicating how many children are under the parent object.

> **Note**
>
> If you're using an Android device to work with the app, the small icon to the right of the object does not immediately appear. The icon displays after you tap on a parent row.

3. To navigate back and forth between a parent and its children objects, tap the appropriate hierarchy control icon.

7.2.7 Bill of Materials

A bill of material, or BOM, is a formally structured list of the components that make up a product or assembly.

A BOM list contains the object number of each component, together with the quantity and unit of measure. BOMs are used in different forms for various situations where a finished product is assembled from several component parts or materials. Depending on the industry sector, BOMs can also be called recipes, or lists of ingredients.

For information on how to use hierarchy control in a *Bill of Materials* detail screen, see the Hierarchy Control Overview [page 66] topic.

You can add a part to a work order from a specific part you select from the *Bill of Materials* detail screen. Once you tap to the individual part screen, tap the + icon and select *Add Part*. For detailed information about adding a part, see the Adding a Part [page 50]

7.3 Creating Equipment From a Template

You can create new equipment.

Context

Use the following procedure to create new equipment from a template.

Procedure

1. Tap on the main *Equipment* screen.

   The *Equipment Detail* screen displays.
2. Tap the + icon.

   The *Add Equipment* screen displays.
3. Tap on *Create From* and select *Template*.

> **Note**
>
> You can only see the templates if you created a local equipment.

4. Tap on *Category* and select *Machines*.
5. Tap on *Template* and select the ID of template that you want to use.

> **Note**
>
> This list contains all templates that exist in the backend.

6. Fill the *Description* field.
7. Select the desired *Maintenance Plant*.
8. Tap and select *Functional Location*, *Superior Equipment*, *Plant Location*, and *Room*.

> **Note**
>
> The items in superior equipment list picker are displayed in hierarchical order. If you select superior equipment, functional location is disabled, and superior equipment is disabled if you select functional location.

9. Add details in the *Note* and *Attachment Description* fields.
10. Tap on *Add* in the *Attached Files* field to attach a photo, take a photo and add it as an attachment, or select a file.
11. Tap on the barcode icon on the right of the *Model Number* and the *Serial Number* fields to scan the barcode respectively.
12. Tap on *Include from Reference Equipment* and select what data you would like to copy from the template.

> **Note**
>
> This field only displays if you selected *Template* in the *Create From* field, and you selected a template in the *Template* field that you want to use.

13. Tap on *Save* to save your changes.

7.4 Creating Equipment from Previously Created Equipment

Context

Use the following procedure to create new equipment from previously created equipment.

Procedure

1. Tap on the main *Equipment* screen.

   The *Equipment Detail* screen displays.
2. The the + icon.

   The *Add Equipment* screen displays.
3. Tap on *Create From* and select *Previously Created*.
4. Tap on *Equipment* and select the previously created equipment.

   The *ID*, *Location*, and *Superior Equipment* fields are automatically filled from the previous equipment, but you can modify the *Location* and *Superior Equipment* fields.
5. Tap on *Save* to save your changes.

7.5 Installing Equipment

If a parent, or superior, equipment exists, you can install a child equipment to that parent.

Context

Use the following procedure to install a child equipment onto an existing parent equipment or functional location. You can only install equipment under already existing (parent), equipment or functional locations. If there is no equipment installed on the equipment or functional location you selected, the *Action* menu does not list the *Installation* or *Dismantle* options.

Procedure

1. Tap on a piece of equipment from the main *Equipment* screen.

   The *Equipment Detail* screen displays.
2. Tap the + icon and select *Installation* from the menu choices.

   The *Install Equipment* screen displays, with many fields automatically filled out from the parent, or superior, equipment.
3. Tap the `<Equipment>` field. When the *Select Equipment* window displays, choose the equipment to install. When finished, tap *Done*.

   A message appears to say that the equipment is installed.
4. Tap *OK* to take a meter reading or *Skip* to skip the meter reading and install the meter without reading it. To learn how to take meter readings, see the topic and subtopics in Measuring Points and Readings Overview [page 71].

Next Steps

You can now take a reading for the newly installed equipment. Tap the + icon and select *Take Reading* from the menu choices. See Taking a Meter Repair Reading [page 124] for more information.

To save your changes, be sure to perform a sync with the back end.

7.6 Dismantling Equipment

Context

Use the following procedure to dismantle, or uninstall, a child equipment from an existing parent equipment or functional location. Once the equipment is dismantled, it is then available to install under other parent equipment if desired.

You can only dismantle or install equipment under already existing (parent), equipment or functional locations. If there is no equipment installed on the equipment or functional location you selected, the *Action* menu does not list the *Installation* or *Dismantle* options.

Procedure

1. Tap on a piece of equipment from the main *Equipment* screen.

   The *Equipment Detail* screen displays.
2. Tap the + icon and select *Dismantle* from the menu choices.

   The *Dismantle Equipment* screen displays, with the parent, or superior, equipment listed.
3. Tap the `<Equipment>` field. When the *Select Equipment* window displays, choose the equipment to dismantle. When finished, tap *Done*.

   A message appears to say that the equipment is dismantled.

Next Steps

You can now install the equipment to other parent equipment or FLOCs. See Installing Equipment [page 69] for more information. To save your changes, be sure to perform a sync with the back end.

7.7 Measuring Points and Readings Overview

Measuring points are associated with meters and sensors. Meters and sensors are always associated with assets attached to a maintenance order or request.

Measuring points describe the physical or logical locations at which a condition is described. For example, the coolant temperature in a nuclear power station after the coolant has left the pressure vessel, or the number of revolutions of a rotor shaft of a wind driven power plant. Measuring points are located on assets in SAP Asset Manager.

General Information

For information on taking a reading using measuring points, see the Taking a Single Measuring Point Reading [page 74] procedure.

You take measurement readings at measurement points in particular measurement units at particular intervals. For example, the temperature in degrees Celsius of the coolant in the coolant pipe that leaves the pressure vessel at the nuclear power station. Or, the number of revolutions per minute of the rotor shaft of the wind driven power plant.

Depending on the type of asset and the type of measuring point, enter the measuring point reading in one of three different forms:

Valuation	Use	Example
Quantitative	Enter the current reading measure into the application on your mobile device. The unit of measurement (degrees Celsius in the example) is defined by the characteristic of the leading record of the measuring point.	February 2, 2020, 12:00 25°C
Qualitative	Rather than a numerical type of reading, a qualitative reading is a descriptive reading for a measuring point. **Note** You can only enter qualitative readings if your system was set up specifically for the measuring points concerned to accept qualitative readings.	February 2, 2020, 12:00 Temperature is normal

Valuation	Use	Example
Combination of quantitative and qualitative	Enter the current measuring point reading in the system along with a valuation code	February 2, 2020, 12:00 25 degrees Celsius Temperature is normal

Measuring Point Ranges

A measurement point range represents the values that a measuring instrument or counter can display. For example, thermometers can measure temperatures in a measurement range between -20 degrees Celsius and +45 degrees Celsius. Another example is that a tape measure can measure lengths in a measurement range 0–10 meters.

Filtering Measuring Points

See the topic Filtering Objects [page 31] for information on how to use filters in the application.

You can filter measuring points in the following additional ways:

- Type: continuous, counter, or val code
- Last Read
- Point ID
- Skipped
- Empty

7.7.1 Working with Analytics

SAP Service and Asset Manager supports the following charts as analytical measuring tools:

- Bar charts: Compares similar groups of data
- Line charts: Shows trends or changes in data over time

If a line chart or a bar chart is not available for the measuring point, SAP Service and Asset Manager can also use the last valuation code as a thumbnail.

When a technical object, equipment or functional location, contains a single measuring point or multiple points, the *Equipment* or *Functional Location* screen displays a thumbnail chart for each point. Tap on an individual thumbnail chart to access the larger, detailed, chart, and more details about the measuring point.

To take a measurement point reading, tap *Take Reading* at the bottom of any of the chart detail screens. For more information on taking a reading, see:

- Taking All Measuring Point Readings [page 73]

- Taking a Single Measuring Point Reading [page 74]

To view an *All Data* screen for a chart, tap on the *Details* section of the individual chart detail screen. The *All Data* screen is a running list of all of the readings taken for the measuring point. Tap on an individual reading to view a *Reading* screen with more details for selected reading.

7.7.2 Taking All Measuring Point Readings

Context

> **Note**
>
> Not all maintenance orders or maintenance requests include equipment and not all equipment or functional location include measurement points. If your maintenance order or request does not have any equipment listed, or your *Equipment* or *Functional Location* detail screen does not have any measuring points listed, then you do not have to follow this procedure.

Use the single measuring point reading method if you do need detailed information about the measuring point before taking the reading, such as upper and lower limits, and characteristics of the measuring point. If you are not already aware of this information want to review it before taking your reading, follow the single measuring point reading method described in the topic Taking a Single Measuring Point Reading [page 74].

Procedure

1. Tap on the maintenance order or maintenance request within a route that has an equipment or a functional location with a measurement point that requires a reading.

   The maintenance order or request detail screen displays.
2. Tap the menu item *Take Readings* found at the top of the screen.

   The *Take Readings* screen displays.
3. For each reading, add your reading in the `<Value>` field. Add any other reading measurements in other fields (they are different for various measuring points). Optionally, type a note in the `<Note>` field. If you want to skip a specific measuring point, select *Skip*.
4. Tap *Done* to save the new measuring point readings.

   A message displays to let you know your measuring point readings were taken successfully.

Results

In the *Measuring Points* section, the reading charts are updated. If you navigate to each measuring point, the new measuring point reading information appears in the *Current Reading* section. The previous measuring point reading now appears in the *Previous Reading* section. Be sure to *Sync* your mobile client to send the measuring point reading information to the back end.

7.7.3 Taking a Single Measuring Point Reading

Context

> **Note**
>
> Not all maintenance orders or maintenance requests include equipment and not all equipment or functional location include measurement points. If your maintenance order or request does not have any equipment listed, or your *Equipment* or *Functional Location* detail screen does not have any measuring points listed, then you do not have to follow this procedure.

Use the single measuring point reading method if you need detailed information about the measuring point before taking the reading, such as upper and lower limits, and characteristics of the measuring point. If you are already aware of this information and do not review it before taking your reading, you can use the multiple measuring point reading method described in the topic Taking All Measuring Point Readings [page 73].

Procedure

1. Tap on the maintenance order or maintenance request within a route that has an equipment or a functional location, with a measurement point that requires a reading.

   The maintenance order or request detail screen displays.
2. Tap the specific equipment or functional location with the measuring point to read. Alternatively, you can swipe the object to access the contextual menu. Choose *Take Readings* and proceed to *Step 5* in this procedure.

   The *Equipment* or *Functional Location* detail screen displays.
3. Tap the specific measuring point to read from the *Measuring Points* section of the detail screen. If necessary, tap *See All* to display all measuring points associated with the maintenance order, equipment or functional location.

   The measuring point detail screen displays.
4. Tap *Take Reading*.

   The *Take Reading* screen displays.
5. Add your reading in the `<Reading>` field and tap *Done* when finished. Optionally, type a note in the `<Note>` field.
6. Tap *Done* to save your new measurement point reading.

   A message displays to let you know your measurement point reading was taken successfully.

Results

In the *Current Reading* section, the new measurement point reading information appears. The previous measurement point reading now appears in the *Previous Reading* section. Be sure to *Sync* your mobile client to send the measurement point reading information to the back end.

8 Working with Notifications

8.1 Maintenance Requests Overview

Notifications are used to document maintenance tasks completely. You can use them for preliminary planning and execution of future maintenance orders.

Use Notifications to process maintenance orders and requests if objects or equipment malfunction while you're working on a maintenance order. You can also use Notifications to document maintenance work on an object or equipment that you've performed while on a maintenance order.

If a notification has a designator of *QM*, it's a Quality Management (QM) notification. Working with QM notifications works in much the same way as working with regular notifications. For specific QM procedures, see the *Working with Quality Management* chapter in this user guide.

8.1.1 Maintenance Request Detail Screen

The *Maintenance Requests* detail screen displays a list of the requests and gives you a brief description of the request. After you tap on a maintenance request listing, you're taken to the *Maintenance Request* detail screen for the specific maintenance request.

The maintenance request header lets you know the maintenance request status, priority, and due date. The Maintenance Request detail screen also has the date and time of the malfunction, breakdown information, if any, and a detection method to assist you in diagnosing the issue.

The *Location* is displayed underneath the notification header. Depending on your site, the location could be a factory, a building campus, or in a city. If your site has maps enabled, you can use the maps functionality and GPS to help you locate your site.

The *Functional Location* section also displays equipment, but in this case, the equipment is tied to a specific place where you perform a maintenance-based task. Tap on the equipment in the Functional Location section to view the Functional Location detail screen and to perform maintenance duties on the equipment. For more information, see the Functional Location Overview [page 101] topic.

The *Notification Items* section displays items associated with the notification. Items identify a problem, damage, or activity in greater detail than the original notification has described.

The *Notification Tasks* section shows you the tasks, or work, that is planned for you to accomplish while completing the notification.

If there are any activities, they are listed in the *Notification Activities* section. Activities are service or maintenance actions performed that are not the result of malfunction or damage.

The *Work Order* section lists any current related work orders associated with the notification. To learn more about work orders, see the *Working with Work Orders* chapter. See the Adding a Work Order [page 85] for more information on how to add a work order to a notification.

The *Maintenance Request Items* section displays items associated with the request. Items identify a problem, damage, or activity in greater detail than the original request has described.

You can add the following to a maintenance request item by tapping the + icon at the top of the screen and selecting the appropriate menu item:

- Add Cause:
- Add Task:
- Add Activity:
- Add Note:

If there is any equipment associated with your request, they are listed in the *Technical Objects* section underneath the maintenance request items. To see all of the equipment details for the equipment, tap on an equipment, or asset. Equipment details vary depending on the asset, but can include measuring points, the history of the asset, and any documents associated with the equipment.

The *Order* section displays any order attached to the maintenance request. Tap on an order to view details.

Underneath these main sections, there are sections for *Documents*, *Notes*, and *Related Maintenance Orders*. A number to the right of the section name lets you know how many objects are associated with that section, if any. For example, if two notes are associated with the job you tapped, you see a *2* to the right of the *Notes* field. Tap on any section to see that detail screen.

Tap the + icon at the top of the screen and select the appropriate menu item to add the following:

- Add Item: See Adding an Item [page 84]
- Add Note: See Working with Notes [page 36]

Filtering and Searching Maintenance Requests

See the following topics for information about using the filtering and search options in general:

- Filtering Objects [page 31]
- Searching for Objects [page 33]

8.1.2 Making Status Changes to Notification Objects

When working with notifications, you make status changes to both the notification itself and the individual tasks within the notification.

To effectively work with a notification and to track your individual tasks within that notification,

SAP Service and Asset Manager allows you to make status changes to both the entire notification as well as to individual tasks within that notification. That way, you know when you have started on a notification within your list but not yet started on any of the individual tasks, for example. Or, that you have started on the notification and have successfully completed two out of five of the tasks in the notification. Using the status changes is an easy way to track where you are with every notification and every task on your list.

> ⓘ Note
>
> You cannot reverse a status. Be sure that when you tap through to the next status change, the previous status is completed. For example, if you are not yet ready to start a notification, do not tap on *Started* if a

notification is in the *Received* state. Only start a notification when you are ready to begin working on that notification.

Changing the Status of a Notification

You can change the status of a notification from *Received* to one of the following:

- Start
- Complete (must move to Start first)

From the main Notification list screen, tap on a notification to access the details screen for the notification. At the bottom of the screen, notice the notification status. Here, tap to change the status. At times, you may have to change the status of task items before you can continue to change the status of the entire notification. For instance, you must complete all tasks before tapping on *End Notification*.

When you have changed a status but not yet synced to the back end, the `<Sync>` icon is always present. When you have marked a notification as complete, the ability to change the status to any other status at the bottom disappears as well as the ability to edit the notification in any way.

When the Breakdown Box Is Checked

To complete a notification that has the *Breakdown* box checked, you are prompted to enter an end date into the `<Malfunction End Date>` field and an end time into the `<Malfunction End Time>` field using the *Edit Notification* screen. A modified *Edit* screen pops up when a notification with a breakdown is completed. This also applies to completing work orders with an associated notification with a breakdown. When a notification is modified, only that notification is refreshed without re-loading the whole data in the map.

Changing the Status of a Task

To change a task status, perform the same steps as you would when changing the status of the main notification. From the individual notification details screen, tap on a single task. The task details screen displays. At the bottom of the screen, notice the notification status. You can change a task status to the following, from the following order:

- Received
- Start Task
- End Task
- Task Success. This is a configurable state, so it may or may not be present depending on who set the system up.

Note that you can end a notification after all tasks are completed successfully.

8.1.3 Related Maintenance Requests

The related maintenance requests and pending requests detail screen associated with an equipment or functional location shows you which requests are relevant to that technical object, both currently and in the future.

Find the *Related Maintenance Requests* section on the *Equipment* or *Functional Location* detail screen.

Tap the *Related Maintenance Requests* section to access the *Related Maintenance Requests* detail screen. The screen is split into two subscreens:

- **Previous Maintenance Requests:** Past requests assigned to the technical object
- **Pending Maintenance Requests:** Current or future requests assigned to the technical object

Tap on *See All* on either subscreen to view the complete list of requests, if the list extends past the first page of the *Related Maintenance Requests* detail screen. Tap on any request row to view the details of that request. All request details are read only.

8.2 Adding a Maintenance Request

Context

You can create a request from the following detail screens in the SAP Service and Asset Manager application:

- Main Map detail screen
- Equipment detail screen
- Functional location detail screen
- You can select an equipment or functional location from the main Map and add a request to that equipment or functional location.

Once you add a local request, work with it as you would with a request that is sent to your device from the SAP back end. You can change the status and log time against it. You're allowed to discard a locally created request no matter its status. If sync errors occur, you're allowed to fix them. When you sync to the back end, the request is automatically assigned to you and appears on your device if the work isn't completed and you didn't transfer it to another person.

Procedure

1. Tap on the + or ... icon and select *Add Maintenance Request* from the menu list. You can only add a request to this object in SAP Service and Asset Manager if you see the *Add Maintenance Request* menu item.

   The *Add Maintenance Request* screen displays.
2. Type a short description for the request in the `<Maintenance Request Description>` field. Fill out the `<Maintenance Request Description>` field as it's mandatory.

> **Note**
>
> The <Maintenance Request Description> field has a limit of 40 characters.

3. Select a <Technical Object> from the list by tapping the arrow to the right of the field.

   You're returned to the *Add Maintenance Request* screen.
4. Select a <Type> of request, if the one automatically selected isn't the correct one.
5. Select a <Failure Mode Group> from the list by tapping on the arrow to the right of the field, if any.
6. Select a <Failure Mode> from the list by tapping on the arrow to the right of the field, if any.
7. Select a <Detection Group> from the list by tapping on the arrow to the right of the field, if any.
8. Select a <Detection Method> from the list by tapping on the arrow to the right of the field, if any.
9. Select an <Effect> from the list by tapping on the arrow to the right of the field.
10. Tap the *Breakdown* toggle switch if the request involves a breakdown.

    Start Date and Start Time can be added to the *Malfunction Start Date* and *Malfunction Start Time* fields by selecting the <Start Date> switch. You can manually change either the start date or time by editing the local request. Start Date is optional.
11. Tap a <Priority> box if the automatically selected priority isn't the correct one.
12. Add a note in the <Notes> field. Use the *Use Template* button, to give the specific information.

To add an optional Attachment to the request, do the following:

13. Type a description in the <Attachment Description> field if you're attaching a photo or a file.
14. Tap the + box to start the attachment process if you're attaching a photo or a file.

To add an optional Item to the request, do the following:

15. Add an <Item Description>.
16. Select a <Part Group> from the list by tapping on the arrow to the right of the field, if any.
17. Select a <Part> from the list by tapping on the arrow to the right of the field, if any.
18. Select a <Damage Group> from the list by tapping on the arrow to the right of the field, if any.
19. Select a <Damage> from the list by tapping on the arrow to the right of the field, if any.
20. Tap *Done* at the top of the screen when finished with your new, local, request.

Results

The new request appears at the top of the *Related Maintenance Request* list. It's marked as a *[LOCAL]* request, meaning it's only available on your mobile device, until you perform a sync with the back end. The request is sent to your SAP back end the next time you transmit. Continue working with the request, though note that you can't discard a request once you've synced to the back end.

8.3 Viewing or Adding a Follow-On Work Order

When you create a follow-on work order to an existing work order or notification, you create a relationship to the preceding order or operation. This relationship is displayed in the document flow.

You'll create follow-on work orders when you want to create a relationship between the main work order and a follow-on work order. This relationship is displayed in the document flow.

For example, while inspecting an equipment, you discover a defect. You perform the work for the original work order, but you also must document that there's a follow-on activity necessary. Creating a follow-on work order links the work orders together.

Viewing a Follow-On Work Order

To view follow-on work orders, tap the *Follow-On Work Orders* section on the main detail page of a work order. Then tap on a follow-on work order to few its details, such as description, order ID, due date, status, and priority.

Adding a Follow-On Work Order

Use the following procedure to add a follow-on work order to an existing work order:

> ⓘ Note
>
> If the origination work order is still in a LOCAL state (not synced to the back end), you can't add a follow-on work order. If the original work order isn't released from the back end, the follow-on work order option isn't available.

1. Click to the work order or notification detail screen to which you're adding a follow-on work order.
2. Tap the + icon and select *Add Follow-Up Work Order*.
   The Add Follow-Up Work Order screen displays.
3. Ensure the *Follow-On Work Order* toggle switch is selected (it will be selected by default).
4. Fill in all fields. Note that the `<Description>` field is mandatory. When done, click *Next*.
   The Add Operation screen displays.
5. Change any of the operation fields if necessary. When finished, click *Done*.
   The follow-on work order is created. Sync to send the follow-on work order to the back end.

8.4 Adding a Task

Tasks are work that is planned under a notification.

Context

SAP Service and Asset Manager uses tasks to plan the ways in which various people at your site or company can work together to process the notification and to perform the activities in the notification within a specified period of time.

Most of the time, your tasks for a notification are already set up for you on the back end by an administrator. In these cases, you will mark your tasks as started, ended, and successful. See Making Status Changes to Notification Objects [page 77] for more details.

Use the following steps to add a task to a notification:

Procedure

1. Tap on the *Notifications* field from the main *Overview* screen.

   The Notification List screen displays.
2. Select and tap on the notification to which you want to add a task.

   The Notification Details screen for that notification displays.
3. Tap the + icon and then select *Add Task* from the menu selections.

   The Add Notification Task screen displays.
4. Add a `<Description>` and select a `<Group>` and a `<Code>`. Add an optional `<Note>` if desired. When finished, tap *Save* to save your task.

   > **Note**
   >
   > The `<Description>` field has a limit of 40 characters.

Results

Your new task is saved in the *Notification Tasks* list as a local task. Be sure to perform a sync to save the new task to the back end.

8.5 Adding an Activity

An activity report describes a maintenance or service activity that was already performed, or one that was not the result of malfunction or damage.

Context

An activity report provides technical documentation of which activities were provided when and with what results. Typical examples of activities documented in activity reports are 'Fill up oil', 'Check pressure', or 'Tighten screws'.

Use the following steps to add an activity to a notification:

Procedure

1. Tap on the *Notifications* field from the main *Overview* screen.

   The Notification List screen displays.
2. Select and tap on the notification to which you want to add an activity.

   The Notification Details screen for that notification displays.
3. Tap the + icon and then select *Add Activity* from the menu selections.

   The Add Notification Activity screen displays.
4. Add a `<Description>` and select a `<Group>` and a `<Code>`. Add an optional `<Note>` if desired. When finished, tap *Save* to save your activity.

   > **Note**
   >
   > The `<Description>` field has a limit of 40 characters.

Results

Your new activity is saved in the *Notification Activities* list as a local activity. Be sure to perform a sync to save the new activity to the back end.

8.6 Adding an Item

Create a maintenance request to identify a problem, damage, or activity in greater detail than the original notification described.

Context

A maintenance request can contain multiple request items. You can enter data related to the maintenance request in a request item to determine additional problems, damages, or executed activities in greater detail.

Procedure

1. Tap on the *Maintenance Request* field from the main SAP Service and Asset Manager Overview screen.

   The Maintenance Request details screen displays.
2. Select and tap the request to which you want to add an item.

   The request detail screen displays.
3. Tap the + icon and select *Add Item* from the menu.

   The Add Maintenance Request Item screen displays.
4. Fill out the `<Item Description>` field. Then fill out the rest of the fields and tap *Done* to complete the item.

   > ⓘ Note
   >
   > The `<Item Description>` field has a limit of 40 characters.

Results

The maintenance request item is added to the maintenance request. See the *Post-requisites* section to add other details to the item. After you finish with the item, sync to the back end.

Next Steps

Once the maintenance request item is added, tap the + and select the menu options from the menu to add the following optional additional details to the item:

- Add Cause

- Add Task
- Add Activity
- Add to Note

8.7 Adding a Work Order

Context

If a notification does not yet have a work order associated with it, you can add a work order to the notification. If the notification already has work orders associated with the notification, the *Add Work Order* menu item is not available to you and you cannot add a work order to the notification.

You can tell if work orders are already associated with the notification if you see any work orders listed in the *Work Order* section. These work orders are current work orders. The work orders listed in the *Related Work Orders* section are historical, or past, work orders, that are related to the notification.

Procedure

1. Tap the + icon and select *Add Work Order*.

   The Add Work Order screen displays.
2. Fill out the fields. The `<Description>` field is mandatory. Tap *Done* when complete.

   > **Note**
   >
   > The `<Description>` field has a limit of 40 characters.

   The new work order is populated in the *Work Order* section.

Results

Notice that when you tap on your newly created work order, it has a *Notification* section displaying the details of the associated notification where you created the work order.

Next Steps

Be sure to sync your device to save your new work order to the back end.

9 Working with Maps

9.1 Maps Overview and Settings Options

Maps and geospatial data play an important part in the daily operations of many organizations.

By adding geospatial data to the technical data of an equipment, you get a full picture of that equipment. Maps allow you to visually see where your work orders, notifications, equipment, and functional locations are in relation to where you are or to other objects.

Use the following sections to learn how to customize your map view.

> ⓘ Note
>
> Full use and map features vary, depending on the selected geographic information system (GIS) supplier of your company and the implementation of the maps. Also note that geospatial data and coordinates are not maintained by SAP, they are maintained by your company or your GIS supplier.
>
> Map settings are defined in the back end. If you do not have access to one or more of the following options, it is because they are disabled by your administrator.

Searching Using the Maps View

For information on searching using maps, see the topic Searching using the Maps View [page 88].

Working with Map Settings

Tap the *Information* icon to adjust the following map settings:

- **Basemaps:** Select the type of map view, such as gray, streets, topo, or satellite
- **Reference (Feature) Layers:** Select different layers to see buildings, roads, or incidents overlaid onto your map, depending on what is programmed in your back end
- **Business Layers:** Select the dynamic layers setting to adjust how many or how few work orders, equipment, functional locations, and notification objects you see on your map

  > ⓘ Note
  >
  > Up to 100,000 business objects can be loaded.

- **Near Me Distance:** Sets objects within the specified near me radius of your current location
- **Near Me Units:** Sets the distance in either miles or kilometers

When finished adjusting the settings, tap *Close* to save your changes and close the *Settings* panel. You can adjust your settings at any time.

Toggling Device Location

Tap the *Navigation* icon to turn on device location.

When you initially install and log in to SAP Service and Asset Manager, device location is off. The first time you tap the *Navigation* icon, a pop-up displays with a question asking *Show your location on the map?*. Tap *OK* to give permission to enable and continue.

Enabling your location allows your device to center your location on the map and among the layers you selected to display using the map settings. Enabling your location also allows you to use any navigation features after you tap *Directions* on a selected object.

Automatic Zoom Out or Zoom In Function

Tap the *Zoom* icon to automatically refocus your map to the largest possible size that shows all objects and layers selected in the *Settings* options. Refocusing the map could mean that the map zooms in and enlarges the map or that the map zooms out to display all objects and layers selected.

If you feel that the map is too small to view all objects when you tap the *Zoom* icon, try selecting fewer feature layers and objects in the *Settings* options.

Adding and Editing Geo-coordinates to Maps

You can add end edit geo-coordinates on your map by tapping on the + icon in the map full screen or by tapping on *Use Map* under *Location* field in the business objectand technical object create pages, such as *Work Order*, *Notification*, *Equipment*, and *Functional Location*. The geometry types that you can select are point, polyline, and polygon. You can also undo and redo the last change, clear all changes, and cancel out of edit mode.

You can use your current location for setting the point type of geometry either in the Edit Panel in the map screen or by tapping on *Use current* under *Location* field in business object and technical object create pages.

After adding / editing the geometry data, the latitude and longitude pair are shown in the *Location* text field. For a locally created object, you can delete the geometry by tapping on *Remove* under the *Location* field in the create and edit pages.

Pagination

Pagination allows you to read business objects with geometry information in batches. You can configure the number of business objects per page. On Android, a banner message `All Business Objects have been loaded` displays after the pagination process. During the loading process, you can interact with the map UI.

> **Note**
>
> For configuration information, see the Configuration Guide.

Aggregation

When multiple objects are very close or overlap in the map, the objects and object details are visible without adding any filters or hiding any layers. When you select an area on the map where overlapping objects are located, details of multiple objects are represented in a list.

> **Note**
>
> Aggregation is supported only on business layers.

Offline Maps

Offline map support allows you to download basemaps and feature layers to your mobile device, so you can view maps, objects, and layers when there's no network connection. You can specify the basemaps and feature layers to download. You can also specify the region to download.

For detailed information on offline maps, see the Using Offline Maps [page 89] topic and associated subtopics.

9.2 Searching using the Maps View

The Maps view has some common work order searches built into the application for you, such as Work Orders Due Today, High Priority, and Near Me.

The SAP Service and Asset Manager application has made it easy for you to search for the work orders you must access right away with three built-in search queries. To find the search queries, from the Overview page, tap the map. When the main Map page displays, tap the *Magnifying Glass* icon.

A *Search* list displays on the far left of the map screen. Notice there are three buttons underneath the search field. You can type in any search terms you like in the search field at any time. However, an easy way of displaying the most time sensitive and critical jobs is to tap any one of the three buttons: *Work Orders Due Today*, *High Priority*, or *Near Me*.

You can tap any of the buttons or all of the buttons. Tapping more than one button filters the list even further. You can untap a button if the results you get are too filtered.

When satisfied with your filtering, you can tap on an item on the filtered list to see the work order details. Or, you can tap on the map to exit out of the search list to see the entire map. You can then tap on one of the icons on the map itself to see the details of that object or to get directions to the object from the map.

> **Note**
>
> The *Near Me* filter is only available when you have *Device Location* enabled. See the Maps Overview and Settings Options [page 86] to learn more about the device location feature.

9.3 Using Offline Maps

Offline map support allows you to download basemaps and feature layers to your mobile device, so you can view maps, objects, and layers when there's no network connection. You can specify the basemaps and feature layers to download. You can also specify the region to download.

You can easily tell from the UI if you are in offline or online mode. If network connectivity is lost, the application gives you the option to revert to a previously downloaded map so that you can continue work. You work with offline maps the same way you're currently working with online maps. All application functions are available when you're using a downloaded map.

9.3.1 Loading Pre-Built Cached Maps

You can add prebuilt maps provided by your administrator to a folder structure on your mobile device. When you're offline, you can access the cached maps from the SAP Service and Asset Manager application and work with them as if you're online.

9.3.1.1 Adding Base Maps and Feature Layer Files for iOS

Context

Add a prebuilt base map or feature layer to your iOS device using the following steps:

Procedure

1. If the *Files* application isn't already installed on your device, download it and install it from the App Store.

   Once the SAP Service and Asset Manager app and the Files app are installed, a folder named *Asset Manager* is created in the Files app.
2. Create a new folder and subfolder within the *Asset Manager*. The resulting folder path is `Asset Manager/ArcGIS/Offline`.
3. Move your `.tpk` (for basemap) and `.geodatabase` (for feature layers) files to the *Offline* subfolder.

4. Ensure that each file name is unique to avoid confusion. For example, if you have multiple files for the same basemap but with different areas or regions, give each file a unique name that makes sense to you.

Results

Your downloaded basemaps and feature layer files are available for viewing offline.

9.3.1.2 Adding Base Maps and Feature Layer Files for Android

Context

Add a prebuilt base map or feature layer to your Android device using the following steps:

Procedure

1. Navigate to *Settings* > *Apps* on your mobile device. Select the SAP Service and Asset Manager application.
2. Give permission to allow storage in *App Permissions*.
3. Navigate to the *Downloads* folder. Create a new folder called *ArcGIS* and a folder under that called *Offline*.

   The resulting folder path is `Downoads/ArcGIS/Offline`.
4. Move your `.tpk` (for basemap) and `.geodatabase` (for feature layers) files to the *Offline* subfolder.
5. Ensure that each file name is unique to avoid confusion. For example, if you have multiple files for the same basemap but with different areas or regions, give each file a unique name that makes sense to you.

Results

Your downloaded basemaps and feature layer files are available for viewing offline.

9.3.2 Creating and Accessing Offline Basemaps and Feature Layers

You can select a basemap as well as one or more feature layers to download to your mobile device in the event that you're working offline. The downloaded basemap and feature layers function in the same way as an online basemap would.

> **Note**
>
> Your company can provide you with preset offline maps or feature layers for you to download. See the Loading Pre-Built Cached Maps [page 89] topic for information on how to install these objects to your mobile device.

Creating an Offline Basemap and Feature Layers

You can specify multiple basemaps for download. If you download a map using an already cached basemap, the newly downloaded file overwrites the previously saved file so that multiple copies of the same basemap aren't saved.

You can also download feature layers to your mobile device, so you can view these feature layers, along with associated business objects, when there's no network connection. You can specify multiple feature layers for download. If you download an already cached feature layer, the newly downloaded file overwrites the previously saved file so that multiple copies of the same feature layer aren't saved.

Use the following instructions to create an offline basemap.

1. Navigate to the *Map* main page of the SAP Service and Asset Manager application. Tap the *Settings* icon to access the *Settings* panel.
2. Tap the *Offline Maps* section.
   The *Offline Maps* panel appears. If you haven't yet downloaded an offline map, a message states that there are no cached maps available. If there's a cached map already on your mobile device, information about that map displays, such as the time and date it was downloaded and cached. You can either delete this cached map or save a new offline map over it.
3. Tap *Download Maps*.
   The *Download Maps* panel displays.
4. Select the basemap and any feature layers you want to include on your offline map. You can select only one basemap. You can select one, more than one, or all of the feature layers to display on your offline map. When finished with your selection, tap *Next*.
   You're returned to the main *Map* screen. There's a gray rectangle surrounding your map.
5. Use your fingers to pinch or zoom the map area you wish to cache. When satisfied with your map area, tap *Download*.
   Before the application downloads your selections, you're notified of the file size of the download. If the file size is too large, you can adjust the selected download region. A progress bar is displayed during the download. After the download is complete, you receive a notification about the success of the download, or if any errors occurred.
6. You can now work with your cached map as you would an online map. All utility of an online map is available, except switching to a different basemap or feature layers.

Accessing an Offline Basemap and Feature Layers

When using an offline basemap, SAP Service and Asset Manager makes it clear in the UI that you're working from an offline map. When network connectivity is present, you can switch to working with an online basemap if desired.

Use the following procedure to access any saved offline basemaps if you're working with the application offline. If you don't have any cached maps saved, move to working online and follow the previous procedure in this topic to download maps for offline use.

1. Navigate to the *Map* main page of the SAP Service and Asset Manager application. Tap the *Settings* icon to access the *Settings* panel.
   If you're offline, a message appears asking if you would like to load cached maps. Tap *Continue* to load offline maps. Your saved offline map loads. You can work with the offline map in the same way as an online map.
   If you're online but want to work from a saved cached map, select *Load Cached Map*.
2. Tap the *Settings* icon and then the *Offline Maps* section to access offline maps information.
   The *Offline Maps* panel appears.
3. When you can work online again, tap *Switch to Online Map* to move from working with your saved offline map to the online map.

10 Working with Linear Asset Management

10.1 Linear Access Management (LAM) Overview

Linear assets are technical systems with a linear infrastructure whose condition and properties can vary from section to section (dynamic segmentation). You can see linear asset data associated with various objects such as work orders, operations, technical objects, and notifications.

Examples of linear assets include pipelines, roads and railway tracks, or overhead power lines and cables.

LAM enables you to create linear assets as technical objects (such as functional locations and equipment) and store linear data. You can carry out maintenance tasks for these technical objects, which result in notifications, work orders, and measurement documents. These tasks allow you to:

- Monitor the condition of your linear assets
- Identify where there's damage or defects using the start point, end point, and offset
- Manage all types of maintenance tasks such as planned, unplanned, and preventative

You can download and see linear assets and linear asset properties for the following objects:

- Work order
- Notification
- Notification item
- Functional location
- Equipment
- Operation
- Measuring point
- Measurement document
- Confirmation

Once you download the linear assets, you can see the following details for the objects:

- Linear reference pattern (for equipment and functional locations only)
- Start and end points
- Length and unit of measurement
- Start and end markers
- Distance from start and distance from end
- Perpendicular and vertical offsets

You can also download characteristic values linear data for equipment and functional locations. You can see start and end points as well as length and unit of measurement in the properties of the downloaded data.

10.1.1 Accessing Linear Asset Management

> **Note**
>
> You can edit linear data on equipment and functional locations. To learn more, see the Editing, Adding, or Deleting Linear Data [page 94] topic.

You can access the linear data for a work order, operation, notification, item, equipment, or functional location through the *Linear Data* section on the applicable detail screen. If no linear data exists for the specific item, the section isn't displayed on the screen.

Once you tap the *Linear Data* section, the linear data displays in a read-only window. The *Linear Data* window displays four sections of information, as applicable.

- Point Location
  - Start
  - End
  - Length
- Marker (this section doesn't display if no Linear Reference Pattern (LRP) number is provided)
  - Start
  - End
  - Distance From Start
  - Distance From End
- Offset 1
  - Type
  - Offset
- Offset 2
  - Type
  - Offset

10.1.2 Editing, Adding, or Deleting Linear Data

You can edit, add, or delete the following from linear asset data:

- Edit LAM data for classification characteristics
- Add linear data to a classification characteristic
- Delete locally added linear data

Editing Linear Data

1. Navigate to an object such as an equipment or a functional location that contains LAM data. Navigate to the *Classification* information of the linear data.

2. Select a linear data row you wish to edit.
3. Tap *Edit* and select *Edit Characteristic*.
   The *Edit Characteristic* window displays.
4. Edit any value fields necessary.
5. Transmit your changes to the back end. Verify that your changes appear in the selected linear data.

Adding Linear Data

You can add additional linear data to already existing LAM data objects.

1. Navigate to an object such as an equipment or a functional location that contains LAM data. Navigate to the classification information of the linear data.
2. Tap *Edit* and select *Add Linear Data*.
   The *Add Linear Data* window displays.
3. Add values to all applicable fields.
   The new linear data appears in a new row on the *Classification* screen.
4. Transmit your changes to the back end. Verify that your additions appear in the linear data rows on the *Classification* screen.

Deleting Local Linear Data

Any linear data you add that hasn't yet been transmitted to the back end can be deleted. Select the new linear data you want to delete by tapping on the *Information* icon on the far right side of the row. When the *Edit Linear Data* window displays, select *Discard*.

Your local linear data is discarded. Note that any information you've sent to the back end is no longer local and can't be discarded.

10.1.3 Taking Measurement Point Readings

You take measurement point readings on a LAM object the same way you take measurement point readings for an equipment or a functional location.

See the Measuring Points and Readings Overview [page 71] topic and subtopics for detailed information.

10.1.4 Adding and Editing a Measurement Document

Create a measurement document to enter or edit data measured from a measuring point or read on a sensor.

You can create measurement documents on linear measuring points for both equipment and functional locations.

After adding a new measurement document or editing an existing document, be sure to transmit to the back end to save your changes.

Adding a Measurement Document

1. From the main *Equipment* or *Functional Location* screen, select a LAM equipment.
2. From the object detail screen, select the measuring point to take a new reading.
   The measuring point detail screen displays.
3. Tap *Take Reading* on the top right of the screen.
   The *Take Reading* screen displays.
4. Add your measurements for the reading. When complete, tap *Done*.
   A message displays telling you the reading is taken.

Editing a Measurement Document

You can edit a local measurement document as long as you haven't yet transmitted to the back end. For information on editing objects, see the Editing an Object [page 34] topic.

11 Working with Time

11.1 Time Sheet Overview

The time sheet provides a standardized time entry function for employees.

Time sheets are used to enter person-related working times for the SAP Service and Asset Manager application through a single transaction. Employees maintain their attendance times, periods of absence, and working times personally in the system, together with information about the work order, notifications, and so on. The data is then transferred from the client device to the back end system during a transmit.

> **Note**
>
> If you are a crew supervisor and are using SAP Service and Asset Manager with the Crew Management solution, see those topics for the component for more information on adding and editing time entries. Start with the Crew Management Overview [page 106] to learn more about the solution.

11.2 Accessing Time Sheets or Time Records

> **Note**
>
> Time sheets are used in the Maintenance Technician persona, and time records are used in the Field Service Technician persona. You interact in the same way with time sheets and records.

Access your time entries by tapping on the *Time Sheets* or *Time Records* section on the main *Overview* screen. Or, tap on the *Time Sheets* or *Time Records* option on the sidebar menu.

A detail screen displays, showing a list of all your time entries. You can select and tap any of these line items to access the time entry details.

Editing a Time Entry

You can edit any locally created time entry, as long as you have not yet synced that time entry to the back end. Tap on the time entry to access the *Edit Time Entry* screen. For information on editing any type of object in SAP Service and Asset Manager, including a time entry, see the Editing an Object [page 34] procedure.

Note that you cannot edit or discard any time entries that you have already synced with the back end.

Discarding a Time Entry

You can discard any locally created time entry, as long as you have not yet synced that time entry to the back end. Tap on the *Edit Time Entry* screen. To discard the time entry, tap on *Discard* found at the bottom of the screen. A Confirm Discard pop-up message displays. Tap *OK* to confirm the time entry discard.

Note that you cannot edit discard any time entries that you have already synced with the back end.

11.3 Adding a Time Sheet Entry

Context

When you start a work order, time is automatically logged in that work order until you put it on hold, transfer it, or complete it. However, you can also manually add a time sheet entry.

Manually add a time sheet entry to log time not associated with specific work orders, such as sickness or educational activities. You can also add time to existing work orders that are assigned to you.

Procedure

1. Tap *Time Sheets* from the main Overview page. Or, select *Timesheets / Confirmations* from the sidebar menu.

   The Time Sheets screen displays.
2. Tap the + icon to add a new time entry.

   The Add Time screen displays.
3. Fill out the appropriate fields. When finished, tap *Done*.

Results

A time entry is logged for you. See the Accessing Time Sheets or Time Records [page 97] topic to learn how to edit or discard a time entry that you have not yet synced to the back end.

11.4 Working with Clock In Clock Out

The Clock In Clock Out (CICO) feature decouples time tracking from the mobile status of a work order or operation, allowing multiple users to start and log time against the same work order or operation simultaneously.

Clock in clock out, or CICO, allows multiple users to work on the same work order or operation, where all users receive the work orders and operations to their devices. CICO allows multiple work orders and operations to be in the Started state that belong to different users. Mobile device users are able to see the CICO state of all work orders or operations on their device.

Users can also use the search bar to find work order or operations lists based on clock in or clock out status. Search on *clock in*, *clocked in*, *clock out*, or *clocked out*.

Working with CICO Work Orders or Operations

If CICO is enabled on your SAP Service and Asset Manager application:

- Multiple people can work on the same work order or operation even if the work order or operation is already in the *Started* state by another user
- All users can see the CICO status of work orders or operations on their device
- When you clock in to a work order or operation:
  - You can clock in to any work order or operation on your device
  - You can only clock in to one work order or operation on your device at a time
  - The timestamp of the work order or operation is saved to your user ID in the back end
  - The mobile status of the work order or operation is set to *Started* if it isn't already in a started state
- When you clock out of a work order or operation:
  - The work order or operation status is set to either *Hold* or *Complete*
  - If a work order or operation is set to *Complete* and confirmation time is used, you can set it as the final confirmation
  - You must clock out of your current work order or operation before clocking in to a different work order or operation

If CICO is not enabled on your SAP Service and Asset Manager application:

- Muliple users cannot work on the same work order or notification
- You can start any work order or operation in a *Received*, *Hold*, or *Local* state, as usual

Working with CATS or Confirmation Time on CICO Work Orders or Operations

If CICO is enabled on your SAP Service and Asset Manager application:

- All time recording (CATS and Confirmation) uses the clock in clock out period as the default duration in time entry screens

If CICO is not enabled on your SAP Service and Asset Manager application:

- CICO time entry is accomplished through status changes of the work order or operation.

12 Functional Location Overview

Functional locations, or FLOC, are elements of a technical structure. Think of FLOC as functional units within a system.

If you have a long list of functional locations on your *Functional Location* detail screen, you can either perform a search for a specific functional location or use the filter function. See the following topics for information on how to use the filter and search features:

- Filtering Objects [page 31]
  You can filter based on the *Mobile Status* of the functional location. You can also *Sort by* ID, Description, Plant, Work Center, and Location. Other filtering options may become available to select depending on your *Mobile Status* and *Sort by* choices.
- Searching for Objects [page 33]
  Search for a specific functional location based on the displayed properties of the functional locations on your mobile device.

Access your functional location list from the *Overview* screen by tapping the *Technical Objects* section in the KPI section of the app. Or, by one of the additional ways. See Technical Objects Detail Screen [page 61] for more information.

You can perform the following actions on existing functional locations in SAP Service and Asset Manager:

- Add work orders to a functional location. See Adding a Local Work Order [page 42].
- Add maintenance requests to existing functional locations. See Adding a Maintenance Request [page 79]
- Add documents to a current functional location. See Working with Attachments [page 35]
- Add or dismantle equipment to a current functional location. See the following topics:
  - Installing Equipment [page 69]
  - Dismantling Equipment [page 70]
- Take readings of measuring points associated with functional locations. See the Measuring Points and Readings Overview [page 71] topic and subtopics.
- View and complete checklists, if any are associated with the functional location. See the Checklists [page 64] topic for more information.
- View related maintenance orders, maintenance requests, equipment, classifications, hierarchy, and business parters associated with the functional location
- View linear asset data associated with the functional location. See the Linear Access Management (LAM) Overview [page 93] topic and subtopics for more information.
- View notes, if any are associated with the functional location.
- View a functional location using hierarchy. See the Hierarchy Control Overview [page 66] for more information.

12.1 Creating Functional Location

You can create functional locations in the following ways:

- You can create a new functional location.
- You can create a functional location from an existing functional location.

Creating a New Functional Location

1. Tap on the + icon from the main object screen, *Functional Location*.
2. Fill out the following mandatory field:
   - *Category*
   - *Structure Index*
   - *ID*: The functional location ID format is based on the *Structure Index* format, and it must be in the following format:

Structure	Structure Index Text for Functional Locations	Edit Mask
A	Structure A	XXXX-XXX-AA-NN
B	Structure B	AAN-ANNN-NNNN
C	Structure C	XX-XNN-N-X/X
D	Structure D	AAN-ANNN-NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
ISRE	RE Real Estate	XXXXXXX/XXXXXXXX/XXXXXXXX
RE-FX	Real Estate Extension	SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS
REFX	RE-FX: Flexible Real Estate Management	SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS
Z	Customer Naming Simulation	XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXXX

     - A: alphabetical characters
     - N: numerical characters
     - X: alphabetical and numerical characters
     - X: alphabetical, numerical and the following special characters: &()+,./:;<=>
   - Description
3. You can edit the optional fields.
   - Location: You can use your current location by tapping on “Use Current” or you can use another location by tapping on Use Map.

- Maintenance Plant: The maintenance plant that your functional location belongs to.
- Superior FLOC:
- Start Date: The start date of your functional location.
- Manufacturer Name
- Date of Manufacture
- Model Number
- Serial Number
- Plant Location
- Room
- Note
- Attachment: You can attach photos and files to your functional location.

Creating a Functional Location from an Existing Functional Location

1. Tap on the + icon from the main object screen, *Functional Location*.
2. Check the *Template* box under *Create From* to select a template.
   A new *Template* field is displayed, where you can select your template. Certain fields are automatically filled depending on the selected template type.

   > **Note**
   >
   > After you finish creating a new functional location, you cannot edit the reference functional location and the template fields.

13 Working with Hierarchy Control

13.1 Hierarchy Control Overview

When navigating using hierarchical node structures, you can tap on a parent to expand the node and view the children of the parent. You can also navigate up or down from that node location, opening or closing nodes as you go.

Hierarchy control is used to navigate both equipment and functional location lists. The hierarchical control views are used in the following locations and ways:

- Viewing an equipment hierarchy from the Equipment detail screen
- Viewing a functional location hierarchy from the Functional Location detail screen
- Viewing a functional location hierarchy from within a work order
- Viewing a functional location hierarchy from a notification
- Viewing an equipment hierarchy from the main Map view
- Viewing an equipment hierarchy from a notification
- Viewing an equipment hierarchy from an operation or a suboperation
- Viewing an equipment hierarchy from within a work order
- Viewing a bill of materials (BOM) hierarchy from an equipment
- Viewing an assembly hierarchy from the Work Order detail screen

Viewing Lists Using Hierarchy

1. Tap on your selected object (equipment, functional location, or BOM) from the main object screen.
   The *Detail* screen for the selected object displays.
2. Tap the *Hierarchy* section for your selected object.
   The *Hierarchy* screen displays the selected object as the parent object, the child object of the parent object, and any children objects of the child object up to three levels deep in three columns. If the selected object is not the root oject, its parent object(s) display in the left overflow column.
3. Navigate through the hierarchy by tapping on any parent or child object. Tapping on an object displays the detail screen of the object.

Selecting Items Using Hierarchy

When you use the add wizard to add either an equipment object or a functional location object that is part of a hierarchy, with a parent object and children objects, you use hierarchy to select the desired object.

1. Tap on the + icon from the main object screen (either *Equipment*, *Functional Location*, or *Bill or Materials*) and select *Installation*.

The *Install <Object>* window appears.

2. When you tap on an object to install that is part of a parent-child hierarchy, you'll see a small icon to the right of the object, indicating a hierarchy and the ability to select children objects under the parent. Under the icon is a numeral, indicating how many children are under the parent object.

   > **Note**
   >
   > If you're using an Android device to work with the app, the small icon to the right of the object does not immediately appear. The icon displays after you tap on a parent row.

3. To navigate back and forth between a parent and its children objects, tap the appropriate hierarchy control icon.

13.2 Hierarchy Control List Picker

When navigating using hierarchical node structures, you can tap on a parent to expand the node and view the children of the parent. You can also navigate up or down from that node location, opening or closing nodes as you go.

The hierarchy control list picker is implemented for selecting equipment or functional locations while creating or editing the following:

- Work orders
- Operations
- Suboperations
- Notifications

> **Note**
>
> The hierarchy control list picker is only supported as a single list picker. For more information, see the Hierarchy Control Overview [page 66] topic.

14 Working with Crew

14.1 Crew Management Overview

Crew Management is an optional component that allows supervisors and team leaders to manage their crew and vehicles with significantly lower cost and greater flexibility.

Only use the Crew Management functions in SAP Service and Asset Manager if you are in a team lead or a supervisory role on your job crew or site.

As a supervisor or team lead, Crew Management helps you identify which team members on your crew are available to work, and which vehicles in your fleet are available for use. At the end of each shift, it allows you to log the miles used on each vehicle and the hours each crew member worked.

Crew Management adds the following functionality to the core SAP Service and Asset Manager application:

- Select, add, and remove crew technicians as needed
- Selecf, add, and remove vehicles as needed
- Track vehicle usage through vehicle odometer readings
- Review and adjust time for crew technicians
- View time summary of your crew technicians over a two week period

> **Note**
>
> If you do not see the features and functions described in the following topics, the Crew Management component is not installed on your mobile device. Talk to your site administrator if you believe you should have access to this component. See Time Sheet Overview [page 97] and the accompanying topics for more information on time entries when Crew Management is not installed.

See the following topics for information on how to perform your Crew Management duties within the SAP Service and Asset Manager application:

- Adding Crew Members [page 107]
- Adding Vehicles [page 108]
- Adding a Time Entry [page 109]
- Editing a Time Entry [page 110]
- Removing Crew Members or Vehicles [page 110]
- Editing a Vehicle Odometer [page 111]

14.2 Adding Crew Members

Context

Before you can work with your crew in SAP Service and Asset Manager, first add crew members to your crew list. Initially, your crew list is empty when you open the application. As you add crew members, they are displayed in the *Selected* section at the top of the screen.

Use the following procedure to add your crew members to your crew list:

Procedure

1. From the main overview screen, tap the *Crew* section.

   The Crew Detail screen displays. If you have never set up your crew before, your *Current Crew Members* section is empty.
2. Tap the + icon and select *Add Crew Member*.

   The *Add Crew Member* screen displays.
3. Tap the *Crew Members* row to see your crew member options.

   A list of crew members available to you appears, along with a search field at the top of the list.
4. Select your crew members. You can select more than one crew member on the list. When finished with your selections, tap the *Add Crew Member* on the top left of the screen. Your crew member choices are saved and you are returned to the previous screen.
5. Tap the *Back* icon at the top left corner of the screen.

   You are returned to the previous screen where you'll see a list of crew members you selected in the *Crew Members* section.

Results

Your crew members are added to your crew list. If you have accidentally added the wrong crew member, see the topic Removing Crew Members or Vehicles [page 110] for information on removing the member.

Tap on any crew member to see additional details about that crew member. Details are read only. Tap on the phone icon ( ) to initiate a call to the crew member. Or, you can tap on the envelope icon ( ) to start an e-mail to that crew member.

Next Steps

When you are ready to add time entries to the members of your crew, see the topic Adding a Time Entry [page 109]. To add vehicles for your crew, see the topic Adding Vehicles [page 108].

14.3 Adding Vehicles

Context

Before you can work with your vehicles in the SAP Service and Asset Manager application, first add the vehicles to your vehicle list. Initially, your vehicle list is empty when you open the application. Use the following procedure to add your vehicles to your vehicle list.

Procedure

1. From the main overview screen, tap the *Crew* section.

   The Crew Detail screen displays. If you have never set up your vehicles before, your *Vehicles* section is empty.
2. Tap the + icon and select *Add Vehicle*.

   The *Add Vehicle* screen displays.
3. Tap the *Vehicles* row to see your crew member options.

   A list of vehicles available to you appears, along with a search field at the top of the list.
4. Select your vehicles. You can select more than one vehicle on the list. When finished with your selections, tap the *Add Vehicle* on the top left of the screen. Your vehicle choices are saved and you are returned to the previous screen.
5. Tap *Done* on the Add Vehicle screen to return to the Crew screen.

   The vehicles you selected populate in the Vehicles section. Tap *See All* to see the full list.

Results

Your vehicles are added to your crew list. If you have accidentally added the wrong vehicle, see the topic Removing Crew Members or Vehicles [page 110] for information on removing the vehicle.

Tap on any vehicle to see additional details about that vehicle. You can change the odometer reading on a vehicle. See the topic Editing a Vehicle Odometer [page 111] for more information.

14.4 Adding a Time Entry

Context

As a crew supervisor, it is your responsibility to report the time of every member of your crew for each time period worked. Try to add the time for each crew member after every shift that crew member has worked, so the time entry is accurate. However, you can review and edit time entries for your entire crew for up to 2 weeks, or 14 days, after you have entered their labor time.

Procedure

1. Tap the *Time Sheets* section from the main Overview page. You can either tap on *Today* to view your current crew members, or tap *See All* to view the past 14 days of time logged.
2. Tap the + icon to add a new time entry.

   The Add Time screen displays.
3. Fill out the appropriate fields. When finished, tap *Done*.

Results

Time entry is logged for the crew member you selected on the *Add Time* screen. Perform this procedure for each crew member on your crew daily. If you must edit a time entry, see the Editing a Time Entry [page 110] procedure.

14.4.1 Working with Overtime Labor Entries or Entries that Span Multiple Days

SAP Service and Asset Manager provides the ability to log labor time for workers whose shifts extend across a span of days, as well as other similar scenarios.

Logging overtime labor entries, or labor entries that span across multiple days, works in the same way as a labor entry that spans an ordinary 8-hour shift. See Adding a Time Entry [page 109] for more information.

The difference between a normal 8-hour shift and a shift that spans across days, however, shows in the *Confirmation* screen for the labor time entry as well as in the *Confirmations* detail screen. The *Start Time* is based on when you start either the work order or manually begin a new labor time entry. The *End Time* is input by you, the user, when the work order or labor time entry is complete. Note that you can have different days for a *Start Time* and *End Time*.

However, note that the date displaying on the *Confirmations* detail screen displays only the start date as updated after you input an end time. This is normal behavior for the application, and your hours are recorded.

The same principle applies if you finish your work for the day, log off, and put the work order on hold the following day. When you update your labor time entry, the *Confirmations* detail screen shows only the start date as updated for the entry. If you tap on the labor time entry to access the *Confirmation* detail screen, you can see that all details are logged correctly for your labor time entry.

14.5 Editing a Time Entry

You can edit any time entry for a crew member in a 14-day period. To edit a time entry:

1. Click a crew member on your list with a time entry that you want to edit.
2. Click the time entry of the crew member to edit so that the *Time Entry* detail screen displays.
3. Tap the *Edit* button. The Edit Time screen displays.
4. Make any edits to the time entry you desire. If you want to delete the time entry, tap *Discard* at the bottom of the screen. When complete, tap *Done*.

The update to the time entry is successful and your changes are displayed in the Time Entry details screen for that crew member.

14.6 Removing Crew Members or Vehicles

Removing a Crew Member

To remove a crew member from your crew list, tap the crew member you want to remove in the *Current Crew Members* section of the Crew Detail screen. When the Crew Member Detail screen for the crew member displays, tap *Remove* at the bottom of the screen.

If the time sheet is incomplete for the crew member, a pop-up displays, asking if you want to record time for the crew member. Tap *OK* to record time. You are then taken to the time entry screen. See Adding a Time Entry [page 109] for information on how to add time.

If the time sheet is incomplete, you do not want to record time, and you want to remove the crew member from your team, tap *No* to remove them without recording time. The crew member is removed from the crew member list.

If the time sheet is complete for the crew member, you are asked to confirm their removal only. Tap *OK* to confirm the removal.

Removing a Vehicle

To remove a vehicle from your vehicle list, tap the vehicle you want to remove in the *Vehicles* section of the Crew Detail screen. When the Vehicle Detail screen for the vehicle displays, tap *Edit*, then tap *Remove*, located at the bottom of the screen. Tap *OK* to confirm the removal.

14.7 Editing a Vehicle Odometer

If your company requires you to keep track of vehicle mileage, you can edit the odometer readings on each vehicle to reflect the distance that vehicle was driven during a set time period. To edit an odometer on a vehicle, perform the following steps:

1. From the main overview screen, tap the *Crew* section.
2. In the *Vehicles* section, tap the vehicle to which you are changing the odometer. To see all of the vehicles, tap *See All*.
   The Vehicle Detail screen displays.
3. Tap *Edit*.
   The Edit Vehicle screen displays.
4. Note the *Previous Reading*, which is the previous odometer reading. Tap in the *Odometer* field and add the new odometer reading, making sure it is higher than the previous reading. Tap *Done* when finished entering the reading.
5. Tap *Done* at the top right to return to the Vehicle Detail screen.
   Your new odometer reading is displayed along with the previous odometer reading.

Be sure to sync your device to save your odometer readings to the back end.

15 Working with Field Operations Worker

15.1 Field Operations Worker Add-On Component

Field Operations Worker, or FOW, is an add-on component to SAP Service and Asset Manager. If you do not see FOW features while using the SAP Service and Asset Manager application, your site has not installated the component.

SAP Service and Asset Manager for Field Operations Worker leverages the digital core with SAP S/4HANA for task driven activities and rounds. It supports workers who perform asset inspections and checks with focus on measurement points and on smaller services and repairs.

15.1.1 Field Operations Worker Overview

Use the Field Operations Worker (FOW) component to see the routes that you are assigned to. A route indicates stops as well as the collection of technical objects at each stop.

Field Operations Worker adds the following functionality to the core SAP Service and Asset Manager application:

- **Display routes on map:** As a field operations worker, you can see a quick preview of your assigned routes from the *Overview* and *Map* pages
- **View routes data:** On the *Route Details* page, you can see information such as the ID, a description of the route, the priority of the route, the due date of the route, location, and the number of stops on the route
- **View stops data:** On the *Stops Details* page, you can see information such as location, and the technical objects at the stop
- **Rapid field data capture:** Allows you to take readings for all of the measuring points assigned to one technical object, on a single screen

15.2 Working with Routes

15.2.1 Routes Overview Page

As a field operations worker, you can see a quick preview of your routes from the *Overview* page. On the *Overview* page map, you can select and deselect routes to show or hide them on the map. Hiding routes on the map does not hide technical objects (assets).

The following details are available for each route:

- Route description (equivalent to the order description) ex: Freeway Route

- Route ID (equivalent to order number)
- Number of stops
- Route status
- Route priority
- Route Due Date

You can see up to four routes that are due to be completed (in the *Routes section*). To see the complete list of assigned routes, click *See All.*

15.2.1.1 Route Details

When you select a route on your *Routes List*, you navigate to the *Route Details* page. On the *Route Details* page, you can see the details pertaining to the route, as well as the stops that belong to this route.

Route details include:

- ID
- Description
- Priority
- Order Type
- Mobile Status
- Due Date
- Number of stops
- A noninteractive map displaying the route in question: clicking on this map allows you to navigate to a full view interactive map with the same route selected including its stops and technical objects
- List of stops (for each stop, a description, location, number of assets and status is displayed)

15.2.1.2 Searching for Routes

Clicking *See All* on the *Overview* page in the Routes section allows you to navigate to the *Routes List* page.

You can see the following information regarding each route on the list:

- Description
- ID
- Status
- Number of stops on route
- Due Date

You can search for routes from the *Routes List* by entering the route ID or description using the free text search field on top of the *Routes List*. The *Routes List* is filtered according to your search-related entries.

By default, routes are listed by the following priority: routes that are overdue are listed first, followed by routes that have due dates. Routes that have no due date are listed last.

Click *Filter* to sort routes by due date, description, and route ID. Routes can also be filtered according to Mobile Status (Received, Started, Hold, Transfer, and Completed).

> **Note**
>
> Even in offline mode, you can see a list of downloaded routes that are assigned to you.

15.2.2 Route Definition

A *route* is a path through a set of stops. Each stop is a set of technical objects. A technical object is either an equipment or a functional location in the SAP Service and Asset Manager application.

A route is built as a type of work order. Your work site differentiates a route and a standard work order on the back end. The technical objects that belong to each stop are defined using operations.

Each equipment or functional location belongs to one operation. If many technical objects share the same functional location, they all belong to the same stop. If the technical objects do not share a common functional location, each technical object is considered its own stop. A stop cannot have more than one functional location.

15.3 Working with Stops

Searching for Stops

You can search for a stop on your worklist using the free text search feature. To find a stop, enter a description for the stop to display related results.

> **Note**
>
> Even in offline mode, you can see a list of stops that belong to your assigned routes.

Stop Details Page

You can click *View Stop Details* to see additional information about a specific stop on a map.

Each stop shows you the following information:

- Description of stop, ID, Control Key, Work Center Plant, Work Center Type
- The location of the stop. If an address exists in the backend, it is displayed here as the location. If no address is maintained in the backend, then the equipment ID and the description of the location are concatenated.
- The location could also be a *functional location* (all equipment that is located at the same place is grouped into a functional location at one stop).

- The location could also be a *common functional location*. A common functional location encompasses locations as well as technical objects.

  > ✤ Example
  >
  > If at one stop, a functional location has two pieces of equipment and you need to capture data for the functional location as well as for the equipment, the backend service displays three assets for this stop.

- The location of the stop displayed on the *Stop Details Map* (you can select the map to navigate to a more detailed map displaying the selected stop and an information panel)
- A list of technical objects at a particular location that you need to capture data for. There is a section for equipment and another one for functional locations.

15.4 Working with Technical Objects

View Technical Objects

Technical objects are either equipment or functional locations. In the *Stop Details* page, you can see sections for equipment and for functional locations. These sections contain technical objects for which you collect data for on each stop. You can access this list even when in offline mode. Technical objects are only assigned to a selected stop.

Searching for Technical Objects

You can search for technical objects on your worklist. In the *Equipment* and *Functional Location* section, select *See All* to access the list of the technical objects belonging to one stop.

View Technical Object Details

From the *Technical Objects List* on the *Stop Detail*s page, you can select a technical object to navigate to the corresponding *Technical Object Details* page.

Taking Readings for a Technical Object

From the *Functional Location Details* page, click *Take Readings*. The *Field Data Capture* page displays. See the Measuring Points and Readings Overview [page 71] topic and subtopics underneath for more information.

If the technical objects have measuring points assigned to them, you can also click *Take Readings from Map* from the Map screen. The *Details* panel on the map includes the action *Take Readings?*.

16 Working with Meters

16.1 Meters Overview

Meter Management gives technicians access to SAP through a mobile device, with or without network access.

Using Meter Management, technicians can retrieve work orders assigned to them from the SAP system. Meter Management allows them to accomplish the following tasks:

- Meter installation
- Meter removal or replacement
- Meter disconnect or reconnect orders
- Periodic or aperiodic readings
- Meter repair orders
- Plant maintenance

Error Logs

When you sync to the back end after you modify a work order, you could get some sync errors. If errors occur:

1. Tap the hamburger menu icon at the top left of the screen to open the side navigation menu.
2. Tap *Errors* to open the Errors screen.
3. Select an error and tap *Fix*. You are taken to the *Edit* screen for that object, so you can fix the issue.

Fix each error in this manner and then resync. If you cannot fix an error or errors, you can contact customer support. See the Get Support for SAP Service and Asset Manager [page 25] topic for more information.

16.1.1 Work Order Detail Screen with Meter Management Component

The *Work Order* detail screen with the Meter Management component is similar to the *Work Order* detail screen in the base SAP Service and Asset Manager application, with a few key differences.

For an in-depth discussion of the Work Order detail screen, see the Work Order Detail Screen [page 39] topic. Here, only the differences between the two screens are discussed.

Meters Section

The *Meters* section provides you with a list of all of the meters and their details associated with the work order.

Connection Object Section

The connection object is the location, details, and the list of all of the meters associated with the work order.

Activity Section

The activity listed in the *Activity* section is the main task you are accomplishing when you start the work order. When you tap *Start Work Order* the *Edit Activity* screen automatically appears, to ensure that you have the proper activity selected for the meter work order.

> **Note**
>
> You cannot create a work order without meter actions. When you try to complete the work order without meter actions, a warning shows up.

See also the *Related Activities* subsection below the *Activity* main section. Tap in the related activities to view other activities associated with the work order.

16.2 Installing a Meter

Context

Work orders with a type of *SM01* are indicated in a bubble underneath the work order name. This indication tells you the meter is a new meter installation. Note that the Meter Management component must be installed with the base SAP Service and Asset Manager application to handle this type of work order.

Procedure

1. Tap on a work order.

   The *Work Order Detail* screen displays. If the work order has a meter available, and the meter type is *SM01*, you are expected to install the meter.
2. Tap the + icon and select *Install Meter* from the menu choices.

   The Meter Install screen displays.
3. Fill out all fields. Fields can change depending on selections. When finished, tap *Done*.

   A pop-up displays, asking if you want to take readings for the meter.
4. Tap *OK* to take a meter reading or *Skip* to skip the meter reading and install the meter without reading it. See the topic and subtopics in Measuring Points and Readings Overview [page 71] to learn how to take meter readings.

Results

Upon successfully installing the meter, a message appears saying *Registers Updated*. You are returned to the Work Order Detail screen. The *Meters* section displays the newly installed meter or meters.

Next Steps

You can now take readings on the installed meters as required by your work order or customer site.

16.3 Uninstalling a Meter

Context

Work orders with a type of *CU01* are indicated in a bubble underneath the work order name. This indication tells you the meter is a meter uninstallation. Note that the Meter Management component must be installed with the base SAP Service and Asset Manager application to handle this type of work order.

Procedure

1. Tap on a started work order. If the work order is not already started, start the work order.

   The *Work Order Detail* screen displays. If the work order has a meter available, and the meter type is *CU01*, you are expected to uninstall the meter.
2. Tap the meter in the *Meters* section you wish to uninstall

   The Meter Detail screen displays.
3. Tap *Uninstall* at the top right of the screen.

   The Meter Uninstall screen displays.
4. Fill out all fields. Fields can change depending on selections. When finished, tap *Done*.

   A pop-up displays, asking if you want to take readings for the meter.
5. Tap *OK* to take a meter reading or *Skip* to skip the meter reading and install the meter without reading it. See the topic and subtopics in Measuring Points and Readings Overview [page 71] to learn how to take meter readings.

Results

Upon successfully installing the meter, a message appears saying *Registers Updated*. You are returned to the Work Order Detail screen. The *Meters* section displays the newly installed meter or meters.

16.4 Replacing a Meter

Context

Work orders with a type of *RP01* are indicated in a bubble underneath the work order name. This indication tells you the work order is for a meter replacement. Note that the Meter Management component must be installed with the base SAP Service and Asset Manager application to handle this type of work order.

> **Note**
>
> When you replace a meter, it is the same as performing a removal and then an installation. Therefore, the screens you see are a combination of removing a meter and Installing a Meter [page 117].

Procedure

1. Tap on a started work order. If the work order is not started, start the work order.

   The *Work Order Detail* screen displays. If the work order has a meter available, and the meter type is *RP01*, you are expected to replace the meter.
2. Tap the meter in the *Meters* section you wish to replace. Note that the original, or initial meter, must display as *Installed* in the *Meters* section or you will not be able to perform a meter replacement on the meter.

   The Meter Detail screen displays.
3. Tap *Replace* at the top right of the screen.

   The Replace: Uninstall Meter screen displays.
4. Fill out all fields. Fields can change depending on selections. When finished, tap *Done*.

   A pop-up displays, asking if you want to take readings for the meter.
5. Tap *OK* to take a meter reading or *Skip* to skip the meter reading and install the meter without reading it. See the topic and subtopics in Measuring Points and Readings Overview [page 71] to learn how to take meter readings.
6. A pop-up displays, asking if you want to proceed to install the new meter. Tap *OK* to install the new meter or *Skip* to skip installation. See Installing a Meter [page 117] for instructions on how to install a new meter.

Results

Upon successfully installing the new meter, if you chose to install a new meter, a message appears saying *Registers Updated*. You are returned to the Meter Detail screen. When you return to the Work Order Detail screen, the *Meters* section displays the newly installed meter or meters as well as the uninstalled meter or meters.

16.5 Connecting and Disconnecting Meters

16.5.1 Reconnecting a Single Meter

Context

Work orders with a type of *RC01* are indicated in a bubble underneath the work order name. This indication tells you the meter can be a meter installation. Note that the Meter Management component must be installed with the base SAP Service and Asset Manager application to handle this type of work order.

Procedure

1. Tap on a work order. If the work order is not already started, start the work order.

   The *Edit Activity* screen displays if you started the work order
2. Most fields may be automatically selected and correctly filled out already. Tap in any fields that you need to correct and make new selections.
3. Tap *Done* after selecting all appropriate fields in the *Edit Activity*

   The *Work Order Detail* screen displays. If the work order has a meter available, and the meter type is *RC01*, you are expected to either uninstall, disconnect, reconnect the meter, or take a meter repair reading. The menu options available to you from the *Action* menu guides you through the appropriate task.
4. Tap the meter in the *Meters* section you wish to connect.

   The *Meter* detail screen displays. Here you have the choice to either *Take Readings* on all of the meters before connecting them, or you can *Connect* the meters without taking a final reading. To learn how to take meter readings, see the topic and subtopics in Measuring Points and Readings Overview [page 71].
5. Tap *Connect* at the top right of the screen.
6. Fill out all fields on the *Connect Meter* screens. Fields can change depending on selections. When finished, tap *Done*.

   A pop-up displays, asking if you want to take readings for the meter. To learn how to take meter readings, see the topic and subtopics in Measuring Points and Readings Overview [page 71].
7. Tap *OK* to take a meter reading or *Skip* to skip the meter reading and install the meter without reading it.

   Upon successfully installing the meter, a message appears saying *Registers Updated*. You are returned to the *Work Order* detail screen. The *Meters* section displays the newly installed meter or meters.

Results

Both the meter connect and the connect status on the activity are complete. To complete the work order, see Changing the Status of a Work Order [page 40] and subtopics.

16.5.2 Reconnecting All Meters

Context

Work orders with a type of *RC01* are indicated in a bubble underneath the work order name. This indication tells you the meter can be a meter installation. Note the Meter Management component must be installed with the base SAP Service and Asset Manager application to handle this type of work order.

Procedure

1. Tap on a work order. If the work order is not already started, start the work order.

   The *Edit Activity* screen displays if you started the work order
2. Most fields may be automatically selected and correctly filled out already. Tap in any fields that you need to correct and make new selections.
3. Tap *Done* after selecting all appropriate fields in the *Edit Activity*

   The *Work Order Detail* screen displays. If the work order has a meter available, and the meter type is *RC01*, you are expected to either uninstall, disconnect, reconnect the meter, or take a meter repair reading. The menu options available to you from the *Action* menu guides you through the appropriate task.
4. Tap the meter in the *Meters* section you wish to connect.

   The *Meter* detail screen displays.
5. Tap *Connect All* at the top right of the screen.

   The *Connect All Meters* screen appears, displaying a list of all meters you are connecting.
6. Tap *Done* to confirm the list of meters to connect.

   A message displays saying all meters are connected. You are then returned to the *Meter* detail screen.
7. If desired, tap on *Take Readings*, to take final readings for the meters. To learn how to take meter readings, see the topic and subtopics in Measuring Points and Readings Overview [page 71].

   Upon successfully installing the meters, a message appears saying *Registers Updated*. You are returned to the *Work Order* detail screen. The *Meters* section displays the newly installed meter or meters.

Results

Both the meter connect and the connect status on the activity are complete. To complete the work order, see Changing the Status of a Work Order [page 40] and subtopics.

16.5.3 Disconnecting a Single Meter

Context

Work orders with a type of *SM01* are indicated in a bubble underneath the work order name. This indication tells you the meter can be a meter uninstallation. Note that the Meter Management component must be installed with the base SAP Service and Asset Manager application to handle this type of work order.

Procedure

1. Tap on a work order. If the work order is not already started, start the work order.

   The *Edit Activity* screen displays if you started the work order
2. Most fields may be automatically selected and correctly filled out already. Tap in any fields that you need to correct and make new selections.

   The *Work Order Detail* screen displays. If the work order has a meter available, and the meter type is *SM01*, you are expected to either uninstall, disconnect, reconnect the meter, or take a meter repair reading. The menu options available to you from the *Action* menu guides you through the appropriate task.
3. Tap the meter in the *Meters* section you wish to disconnect.

   The *Meter* detail screen displays. Here you have the choice to either *Take Readings* on all of the meters before disconnecting them, or you can *Disconnect* the meters without taking a final reading. To learn how to take meter readings, see the topic and subtopics in Measuring Points and Readings Overview [page 71].
4. Tap *Disconnect* at the top right of the screen.
5. Fill out all fields on the *Disconnect Meter* screens. Fields can change depending on selections. When finished, tap *Done*.

   A pop-up displays, asking if you want to take readings for the meter. To learn how to take meter readings, see the topic and subtopics in Measuring Points and Readings Overview [page 71].
6. Tap *OK* to take a meter reading or *Skip* to skip the meter reading and install the meter without reading it.

   Upon successfully uninstalling the meter, a message appears saying *Registers Updated*. You are returned to the *Work Order* detail screen. The *Meters* section displays the newly installed meter or meters.

Results

Both the meter disconnect and the disconnect status on the activity are complete. To complete the work order, see Changing the Status of a Work Order [page 40] and subtopics.

16.5.4 Disconnecting All Meters

Context

Work orders with a type of *SM01* are indicated in a bubble underneath the work order name. This indication tells you the meter can be a meter uninstallation. Note the Meter Management component must be installed with the base SAP Service and Asset Manager application to handle this type of work order.

Procedure

1. Tap on a work order. If the work order is not already started, start the work order.

   The *Edit Activity* screen displays if you started the work order
2. Most fields may be automatically selected and correctly filled out already. Tap in any fields that you need to correct and make new selections.

   The *Work Order Detail* screen displays. If the work order has a meter available, and the meter type is *SM01*, you are expected to either uninstall, disconnect, reconnect the meter, or take a meter repair reading. The menu options available to you from the *Action* menu guides you through the appropriate task.
3. Tap the meter in the *Meters* section you wish to disconnect.

   The *Meter* detail screen displays.
4. Tap *Disconnect All* at the top right of the screen.

   The *Disconnect All Meters* screen appears, displaying a list of all meters you are disconnecting.
5. Tap *Done* to confirm the list of meters to disconnect.

   A message displays saying all meters are disconnected. You are then returned to the *Meter* detail screen.
6. If desired, tap on *Take Readings*, to take final readings for the meters. To learn how to take meter readings, see the topic and subtopics in Measuring Points and Readings Overview [page 71].

   Upon successfully uninstalling the meters, a message appears saying *Registers Updated*. You are returned to the *Work Order* detail screen. The *Meters* section displays the newly installed meter or meters.

Results

Both the meter disconnect and the disconnect status on the activity are complete. To complete the work order, see Changing the Status of a Work Order [page 40] and subtopics.

16.6 Taking a Meter Repair Reading

Meter repair readings are meter readings that are not on a regular schedule. They are entered manually in the back end by an administrator and attached to a work order.

Context

Work orders with a type of *SM01* are indicated in a bubble underneath the work order name. This indication tells you the meter is a meter for you to disconnect, reconnect, or take a meter repair reading. The menu options available to you from the *Action* menu will guide you through the appropriate task. Note that the Meter Management component must be installed with the base SAP Service and Asset Manager application to handle this type of work order.

Procedure

1. Tap on a started work order. If the work order is not already started, start the work order.

   The Work Order Detail screen displays.
2. Look in the *Activity* section of the Work Order Detail screen. Here you will find details on the meters in the work order. A *meter repair* meter that needs a reading is a meter that is already disconnected.
3. Tap on the meter in the *Meters* section you wish to read.

   The Meter Detail screen displays.
4. Tap either *Take Readings* or *Take Reading*, depending on which menu item displays on the top right of your screen.

   The Take Reading or Take Readings screen displays.
5. To take a single meter reading or multiple meter readings, see the following procedures:
   - Taking All Measuring Point Readings [page 73]
   - Taking a Single Measuring Point Reading [page 74]

Results

In the *Current Reading* section, the new measurement point reading information appears. The previous measurement point reading now appears in the *Previous Reading* section. Be sure to *Sync* your mobile client to send the measurement point reading information to the back end.

16.7 Taking an Aperiodic Meter Reading

Aperiodic readings are meter readings that are not on a regular schedule. They are entered manually in the back end by an administrator and attached to a work order.

Context

Work orders with a type of *MR01* are indicated in a bubble underneath the work order name. This indication tells you the meter is an aperiodic meter. Note that the Meter Management component must be installed with the base SAP Service and Asset Manager application to handle this type of work order.

Procedure

1. Tap on a started work order. If the work order is not already started, start the work order.

   The Work Order Detail screen displays.
2. Tap on the meter in the *Meters* section you wish to read.

   The Meter Detail screen displays.
3. Tap either *Take Readings* or *Take Reading*, depending on which menu item displays on the top right of your screen.

   The Take Reading or Take Readings screen displays.
4. To take a single meter reading or multiple meter readings, see the following procedures:
   - Taking All Measuring Point Readings [page 73]
   - Taking a Single Measuring Point Reading [page 74]

Results

In the *Current Reading* section, the new measurement point reading information appears. The previous measurement point reading now appears in the *Previous Reading* section. Be sure to *Sync* your mobile client to send the measurement point reading information to the back end.

16.8 Taking a Periodic Meter Reading

Periodic readings are meter readings that are on a regular schedule for billing purposes.

Context

Work orders with a type of *MR01* are indicated in a bubble underneath the work order name. This indication tells you the meter is n periodic meter. Note that the Meter Management component must be installed with the base SAP Service and Asset Manager application to handle this type of work order.

Procedure

1. Tap on a started work order. If the work order is not already started, start the work order.

   The *Work Order* detail screen displays.
2. Tap on the meter in the *Meters* section you wish to read.

   The Meter Detail screen displays.
3. Tap either *Take Readings* or *Take Reading*, depending on which menu item displays on the top right of your screen.

   The Take Reading or Take Readings screen displays.
4. To take a single meter reading or multiple meter readings, see the following procedures:
   - Taking All Measuring Point Readings [page 73]
   - Taking a Single Measuring Point Reading [page 74]

Results

In the *Current Reading* section, the new measurement point reading information appears. The previous measurement point reading now appears in the *Previous Reading* section. Be sure to *Sync* your mobile client to send the measurement point reading information to the back end.

17 Working with Quality Management

The Quality Management (QM) component supports tasks associated with quality planning, quality inspection, and quality control. In addition, it controls the creation of quality certificates and manages problems with the help of quality notifications.

The QM component in SAP Service and Asset Manager uses the following major features:

- Calibration Orders [page 127]
- Quality Management Notifications [page 128]
- Inspection Lots [page 128]
- Results Recording [page 128]

Filtering Quality Management Notifications

You can filter QM notifications using the following criteria:

- Mandatory or Optional
- Out of range
- Empty
- Operations
- Inspection point

For detailed information on how to use the filter function, see the Filtering Objects [page 31] topic.

17.1 Calibration Orders

Calibration orders are used to determine whether a piece of test, or calibration, equipment fulfills the defined performance criteria.

Work with calibration orders in the same way that you work with a maintenance activity operation. See the How to Work with an Operation or Suboperation Maintenance Activity [page 46] topic for more details.

17.2 Quality Management Notifications

A quality notification contains functions for capturing and processing problems or defects that are identified during inspection. Use the quality notifications to analyze recorded defects and perform root cause analysis of problems.

QM notifications are integrated with SAP Service and Asset Manager as follows:

- Display QM type notifications on the mobile device
- Create QM notifications at the inspection lot level
- Create QM notification items to record defects noted in inspections
- Maintain the association of notifications and notification items with the characteristics

17.3 Inspection Lots and Results Recording

In plant maintenance, an inspection lot is a request to inspect one or more pieces of equipment or functional locations.

In a production process, it is sometimes necessary to carry out inspections to ensure the quality of a product. An inspection lot documents a request for an inspection. Inspection characteristics are assigned to the inspection lot. An inspection characteristic defines what needs to be inspected. A distinction is made between qualitative characteristics and quantitative characteristics.

In Quality Management, an inspection lot is created for a QM order on the back end. Characteristics are assigned to individual operations in the order. The characteristics define the inspection requirements. You are then assigned to the QM order and associated inspection lot in SAP Service and Asset Manager.

The *KPI* section is read-only and displays the characteristic points and inspection points included in the inspection lot. You can see the number of read and unread inspection points and characteristics. You are tasked with recording each inspection characteristic and inspection point. These inspection characteristic and inspection point recordings are then stored in the inspection lot.

The inspection lot *Details* section shows you details about the entire inspection lot.

The *Operations* section helps you perform and complete your job. You can tap on any individual QM operation for more information, such as documents or more people to contact, if needed, for that operation. QM operations work in the same way as work order operations. See the How to Work with an Operation or Suboperation Maintenance Activity [page 46] topic and sub-topics for general information.

Tap the *Set Usage* menu choice at the top of the screen to record your usage decision. See the Setting a Usage Decision on an Inspection Lot [page 133] procedure for more information. Note that depending on your permissions on the SAP Service and Asset Manager client, you may not be able to record a usage decision. Talk to your administrator if you need this ability.

17.3.1 Recording All Inspection Points and Characteristics Results on an Inspection Lot

To complete a QM operation, all open characteristics and inspection points must be read, measured, or valuated.

Context

An **inspection point** is an identifiable record of inspection results that is assigned to a work or inspection operation. Several inspection points can be assigned to an inspection operation. An example of an inspection point is a physical sample, a piece of equipment, or a functional location.

An **inspection characteristic** defines what needs to be inspected. Characteristics define the inspection requirements for an inspection point. An example of a characteristic is temperature, pressure, length, or width.

> ⓘ Note
>
> You can only record inspection points or characteristics results if the work order associated with the inspection lot is set to *Started*.

Procedure

1. From a main QM *Work Order* screen, tap on the *Inspection Lot*.

   The *Inspection Lot* screen displays.
2. Tap on *Record Results* at the bottom of the screen.

   The *Record Results* screen displays, with a list of all inspection points and their associated characteristics.
3. You can either record results individually by tapping on *Calculate* for each reading, or you can select *Validate All* to validate all existing readings.

   If you select *Calculate*, continue to the next step.

   If you select *Validate All*, continue to the Valuating Inspection Lots [page 132] procedure.
4. Enter the reading for the characteristic or result. Depending on the type of characteristic or result it is, you could enter a numerical value, select a status from a drop-down menu, or select a status through a button.

   > ⓘ Note
   >
   > If you're unsure how to take a specific reading, tap the *Inspection Method* button. See the Inspection Method Information [page 131] topic for more information.
5. When finished recording all results, tap *Done*.

Next Steps

Continue to Valuating Inspection Lots [page 132].

17.3.2 Recording Results for a Single Inspection Point

To complete a QM operation, all open characteristics and inspection points must be read, measured, or valuated.

Context

An **inspection point** is an identifiable record of inspection results that is assigned to a work or inspection operation. Several inspection points can be assigned to an inspection operation. An example of an inspection point is a physical sample, a piece of equipment, or a functional location.

An **inspection characteristic** defines what needs to be inspected. Characteristics define the inspection requirements for an inspection point. An example of a characteristic is temperature, pressure, length, or width.

> ⓘ Note
>
> You can only record inspection points or characteristics results if the work order associated with the inspection lot is set to *Started*.

Procedure

1. From a main QM *Work Order* screen, tap on the *Inspection Lot*.

   The *Inspection Lot* screen displays.
2. Tap on the *Inspection Point* for which you want to record results.

   The *Inspection Point* screen displays.
3. Tap on *Record Results* at the top right of the screen.

   The *Record Results* screen displays, with a list of characteristics associated with the inspection point. Record characteristic results by tapping on each characteristic, then tapping
4. *Calculate*.
5. ReEnter the reading for the characteristic. Depending on the type of characteristic it is, you could enter a numerical value, select a status from a drop-down menu, or select a status through a button.

   > ⓘ Note
   >
   > If you're unsure how to take a specific reading, tap the *Inspection Method* button. See the Inspection Method Information [page 131] topic for more information.

6. When finished recording all results, tap *Valuate*.

Next Steps

Continue to Valuating Inspection Lots [page 132].

17.3.3 Inspection Method Information

Inspection methods describe how to carry out an inspection for an inspection characteristic.

Accessing Inspection Method Information Through the Inspection Lot Screen

1. On the main *Inspection Lot* screen, tap the operation for which you need to take inspection point readings.
2. From the *Operation* screen, tap the inspection point to read.
3. From the *Inspection Point* screen, tap the desired *Characteristic*.
4. From that characteristic, tap the *Inspection Method* section.

The *Inspection Method* screen for a specific characteristic can contain a *Note* with information or directions on how to read the characteristic. It can also contain downloadable documents with more detailed information. Tap on *Open* to open the document.

Accessing Inspection Method Information While Recording Results

1. On the main *Inspection Lot* screen, tap the operation for which you need to take inspection point readings.
2. Tap *Record Results* at the bottom of the screen

All characteristics and inspection points display on the *Record Results* screen. Each item on the list has an *Inspection Method* button. Tap the button to access the *Inspection Method* screen.

The *Inspection Method* screen for a specific characteristic can contain a *Note* with information or directions on how to read the characteristic. It can also contain downloadable documents with more detailed information. Tap on *Open* to open the document.

17.3.4 Valuating Inspection Lots

When you valuate inspection characteristics or partial samples, you determine whether the predefined quality requirements have been met.

Valuation results provide the basis for making the usage decision, and they're used to automatically determine the sample scope for future inspections. A successful valuation is a prerequisite for closing a characteristic.

> **Note**
>
> Your site administrator determines if you're authorized to valuate characteristics and inspection lots. If you aren't able to access the valuation option, but need to valuate, contact your administrator.

Valuating Inspection Lots

To valuate an inspection lot:

1. Follow the procedure in Recording All Inspection Points and Characteristics Results on an Inspection Lot [page 129]. When you tap *Done*, the *Valuation* screen appears.
2. If desired, tap on *Review* under each inspection point. When the *Point <X>* screen appears, you can review your characteristic readings. Tap the back arrow to return to the *Valuation* screen when finished.
3. When satisfied with your review, tap *Done*. A success message appears stating that the inspection lot is valuated. If you receive an error, read the error to fix the issue.

Valuating an Inspection Point

To valuate an inspection point:

1. Follow the procedure in Recording Results for a Single Inspection Point [page 130].
2. Tap *Valuate* at the bottom of the screen. The *Valuation* screen for the inspection point appears.
3. If desired, tap on *Review* for the inspection point. When the *Point <X>* screen appears, you can review your characteristic readings. Tap the back arrow to return to the *Valuation* screen when finished.
4. When satisfied with your review, tap *Done*. A success message appears stating that the inspection point is valuated. If you receive an error, read the error to fix the issue.

Post-Requisites

Continue to Setting a Usage Decision on an Inspection Lot [page 133].

17.3.5 Setting a Usage Decision on an Inspection Lot

The usage decision for an inspection lot confirms that all physical samples have been valuated and the inspection has been completed. It also specifies whether the goods in the inspection lot have been accepted or rejected for use.

Prerequisites

To set a usage decision on an inspection lot, you must complete the following tasks. Choose to record all inspection results in a batch process, or record individual inspection points one at a time:

- Recording Results for a Single Inspection Point [page 130]
- Recording All Inspection Points and Characteristics Results on an Inspection Lot [page 129]

The work order associated with the inspection lot must also be in the *Started* state.

Context

If an inspection usage decision exists in the back end for the inspection lot, you won't be allowed to enter a new usage decision. If you haven't yet synced your device to the back end, you can change your local usage decision. Depending on your permissions on the SAP Service and Asset Manager client, you may not be able to record a usage decision. Talk to your administrator if you need this ability.

Procedure

1. From the main *Work Order* screen, select the *Inspection Lot* associated with the work order.

   The *Inspection Lot* detail screen displays.
2. Tap *Set Usage* at the top right of the screen.

   The *Set Usage* decision screen displays.
3. Select your usage decision code from the list picker and click *Done*.

   The usage decision for the inspection lot is recorded.

Next Steps

You can now set the operation in the work order to *Complete*. If a signature is required, see the Adding a Signature [page 55] topic.

17.4 Adding a Local Quality Management Notification

QM notifications capture problems or defects that are identified during an inspection.

QM notifications function in the same way as general notifications. For general information on adding a local notification, see the Adding a Maintenance Request [page 79] topic.

When you create a QM notification, select `<Type>` *QM - Mobile Quality Issue*.

Once you create a QM notification, it is visible on the *Notification* detail screen. Perform a sync to send your local notification to the back end.

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