



PUBLIC

SAP Cloud for Customer

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SAP Cloud for Customer Set Up Guide

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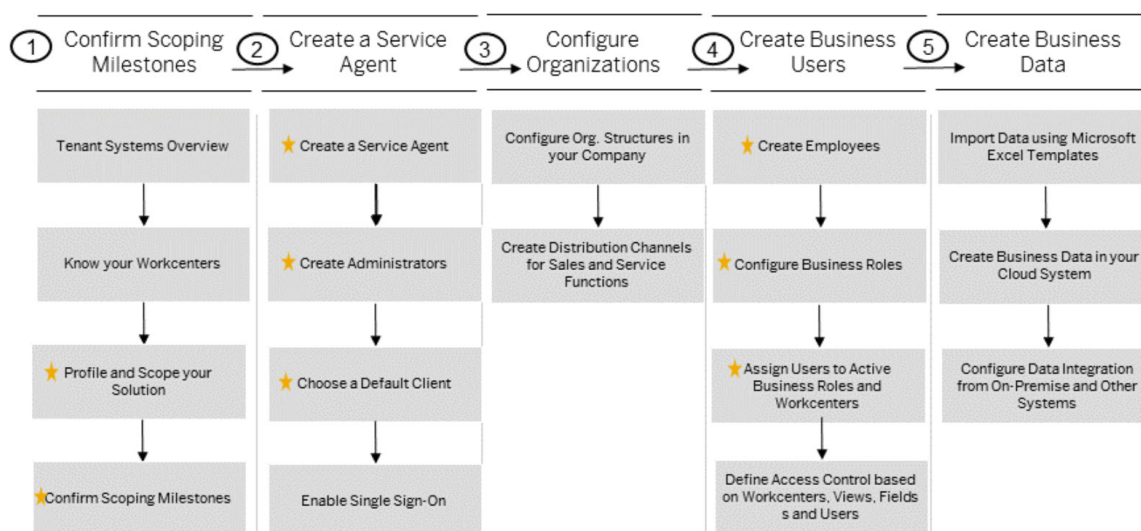
Requirements for CTI Client Adapter Add-In. 485

1 Setting Up your SAP Cloud for Customer System

A snapshot of the initial system configuration and set-up.

Note

Before proceeding with the system set-up, make sure you refer to the **Minimum System and Software Requirements** for SAP Cloud for Customer.



Related Information

[RACI Compliance Matrix for SAP Cloud for Customer \[page 486\]](#)

[Minimum System and Software Requirements \[page 475\]](#)

Graphical navigation for system and software requirements for SAP Cloud for Customer.

<https://help.sap.com/viewer/24765b551a014b779b95c7b07d8e9079/latest/en-US> [page]

Solution Guide for SAP Cloud for Sales

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Mobile Apps Guide

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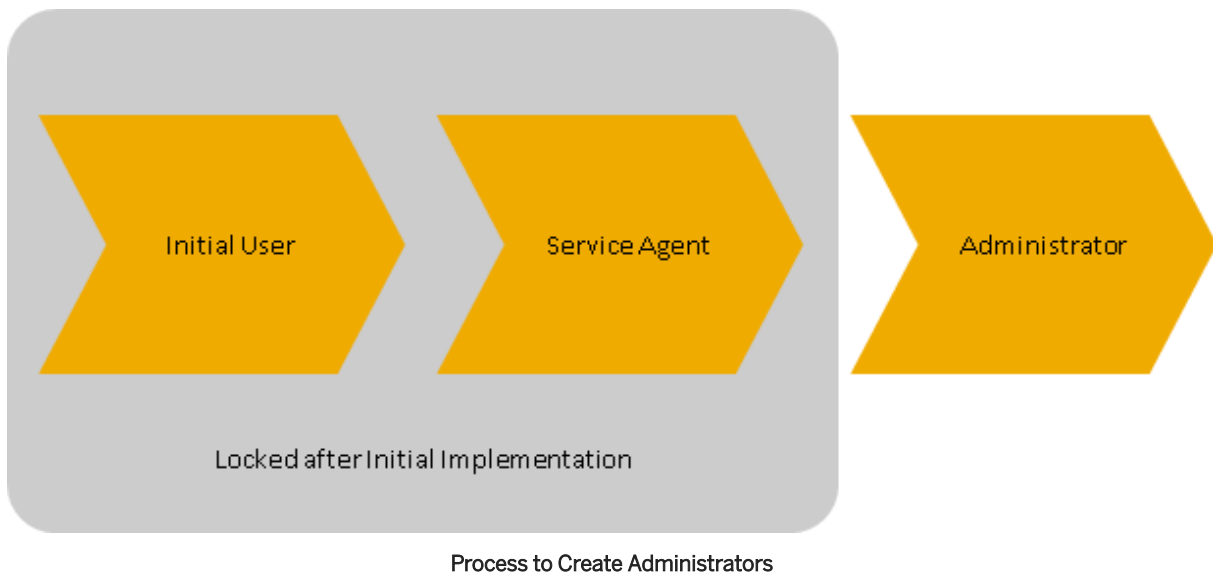
Analytics Guide for SAP Cloud for Customer

2 Use Initial User to Maintain Basic Configuration

When you purchase a subscription for SAP Cloud for Customer, you receive an initial user. You must use the initial user to create a Service Agent. During the implementation and system setup, you will use the Service Agent to create other administrators in your system.

⚠ Caution

The initial user should only be used to first confirm scoping milestones and then create service agent administrator.



2.1 Confirm Scoping Milestones

Use the initial user that you have received from SAP to confirm scoping milestones.

Related Information

[Scoping and Other Business Configuration \[page 74\]](#)

2.2 Create a Service Agent

Service Agent is the first administrator you create in your system using the initial password.

Create a Service Agent as the First Administrator

Note

This service agent is unrelated to customer service agents in or SAP Service Cloud.

1. Log in to the system with the initial user and password provided by SAP.
2. Go to [Business Partners](#) > [Service Agents](#).
3. Choose [New](#), then [Service Agent](#).
4. Enter the relevant data, then save.
5. Choose [Request User](#), then close.

Note

When a service agent is created, a corresponding business user is automatically created in the SAP Cloud for Customer system. The business user has information on user attributes and access rights. You must next edit the business user to assign access rights.

Assign Work Centers and Views

1. Go to [Application and User Management](#) > [User and Access Management](#) > [Business Users](#).

Note

After setting up the first administrator, you can access this same work center view under [Administrator](#) > [Users](#) > [Business Users](#).

2. From the [Show](#) dropdown list, select [All Business Users](#), then choose [Go](#) to run the query.
3. Highlight the business user you want to edit.
4. Choose [Edit](#) and select [Attributes](#).
5. Enter and confirm the initial password.
6. Save your changes and choose [Edit Access Rights](#).
7. Assign the relevant work centers and views and maintain the necessary access rights. Expand a work center to see all the associated views. You can then assign a subset of the views within a work center. You can grant the administrator access to specific activities in the activity list by allowing access only to the corresponding business areas in the [Business Configuration](#) work center.

Note

You must assign access rights to all work centers where the administrator will be required to perform activities.

For more information, review the Related Information section for links to the following topics: **Business Users Quick Guide** and **Recommended Business Roles and Work Center Assignments for SAP Cloud for Customer**.

Lock the Initial User and the Service Agent Administrator

- You can lock the initial user and assign contact types to service agents in the *Define Administrators for Project Team* activity.
Go to ► *Business Configuration* ► *Implementation Projects* ►. Select your implementation project and choose *Open Activity List*. Find *Define Administrators for Project Team* under *Prepare* or *All*.
- If you do not lock the initial user manually, it will be locked automatically upon completion of the *Confirm Milestone: Go Live* activity.
- The service agent administrator should be used only for the First Implementation Project.
If the service agent is also an employee in your company, you need to create an additional employee for him or her during migration. After you go live, the service agent s should be locked.

Caution

Before locking the service agent administrator, ensure that at least one employee has unrestricted write access to the *Business Users* view in the *Administrator* work center.

2.3 Use Service Agent to Create Administrators

Use the service agent's authorization to create additional administrators in your system. Before you create administrators, you must lock the initial user as well as the service agent. Both the initial user and the service agent are locked when you confirm the scoping milestones.

→ Recommendation

We recommend that, at least for your administrative users, you enable single sign-on (SSO) and disable username/password. To protect the administration accounts further, configure the identity provider (IdP) of the SSO solution to enforce multifactor authentication (MFA) and other additional security features.

Create Other Administrators

You must now use the service agent administrator to create one or more administrators. Proceed as follows:

1. Create an employee for each additional administrator. For more information, review **Configuring Employees** in the Related Information section.

Note

When an employee is created, a corresponding business user is also automatically created in the SAP Cloud for Customer system. The business user has information on user attributes and access rights.

2. We recommend that you create one or more administrator business roles to streamline access rights assignment and maintenance.
For more information, see **Configuring Business Roles linked** in the Related Information section.
3. Assign the newly created business users access rights by performing the steps in the **Assign Work Centers and Views** task. If you have created administrator business roles, you can assign them under the *Business Role Assignment* tab while editing access rights.
4. To complete your implementation task with the users you've created, review the configuration for your respective sales, service, and others.

Related Information

[Configure Your Solution for Single Sign-On](#)

[Create Business Roles and Assign Work Centers and Views \[page 162\]](#)

3 Maintain Preferences for UI Client

SAP Fiori client is the default UI client provided for SAP Cloud for Customer. There are many options provided to personalize the UI client and behavior.

Fiori Client has open standards and runs on multiple platforms including mobile-device platforms. Using Fiori Client in SAP Cloud for Customer creates a plug-and-play solution, meaning that it is not necessary to install additional software on each user's machine. There are apps available for Apple, Android, and Windows mobile devices in the Fiori Client. In addition, offline capability is available for many workcenters. SAP Cloud for Customer mobility provides a consistent and unified user experience regardless if you are working in the office, checking email on your tablet or scanning real-time customer insights on your smartphone. The solution provides a consistent and powerful user experience anytime, anywhere so sales and service professionals are always prepared for their next prospect meeting or service inquiry. Thus, it is a huge advantage for companies that have teams traveling to designated territories or working on service requests in the field. The solution is adaptive and the use of meta data approach renders same information across different devices.

Prerequisites

- Web browsers
You have ensured that your users have access to the Web browsers that are supported.
- Mobile devices
You have ensured that users who plan to use mobile devices are aware of the system requirements and support suggestions for mobile devices.
For more information, see *SAP Cloud for Customer System and Software Requirements* at [SAP Help Portal](#).

Define Specific Settings for your User Interface

Go to user menu and click [Settings](#) to maintain personal preferences for your user interface. The following options are listed under these sections:

- My Settings
- My Background Image
- My Email Settings
- Company Settings
- Personalization Settings
- Adaptation Settings
- Branding

3.1 Enable Single Sign-On

You can enable single sign-on (SSO) for your users, offering them the convenience of logging on once to gain access to multiple features in the solution.

Single sign-on may also reduce the amount of lost password calls to your support desk. Microsoft Outlook® and IBM Lotus Notes® support SSO.

For information about SSO and other security topics, see the **SAP Cloud for Customer Security Guide** on the SAP Help Portal.

3.2 Predetermining URLs for Direct Navigation

As an administrator, you can predetermine URLs that can be used to navigate your users directly to specific instances of a business object.

The deep links can be included as placeholders in workflow based e-mail templates. Users click on the URL to open the business object details without having to navigate in the system.

❁ Example

You want to inform sales representatives in your organization about the status of an opportunity that has been modified. You trigger e-mail communication and include workflow placeholders with direct link to the opportunity. Your sales representatives can directly open the opportunity details by clicking on the link.

Direct navigation using predetermined URLs is supported using:

- UUIDs of your SAP Cloud for Customer system
- Internal IDs of business objects (such as numeric IDs or alphanumeric IDs) in your SAP Cloud for Customer system
- External IDs (external IDs or combination of external ID and external system) for business objects in an external system
- Combination of external ID and external definition scheme (applicable only for business partner business object)

3.2.1 Item Types Supported for Creating Predetermined URLs

The following table summarizes the item types or work center views supported for direct navigation using URLs to internal and external systems.

Item Type or Work Center View	Technical Name	Supported for Internal System	Supported for External System
Account	COD_ACCOUNT_TT	Yes	Yes
Contact	COD_CONTACT_TT	Yes	Yes
Competitor	COD_COMPETITOR_TT	Yes	Yes
Partner	COD_PARTNER_TT	Yes	Yes
Partner Contact	COD_PARTNERCONTACT_TT	Yes	Yes
Employee	COD_EMPLOYEES	Yes	Yes
Opportunity	COD_OPPORTUNITY_THINGTYPE	Yes	Yes
Sales Quote	COD_QUOTE_TT	Yes	No
Sales Order	COD_SALESORDER_TT	Yes	No
Product	COD_MATERIAL	Yes	Yes
Appointment	COD_APPOINTMENT	Yes	No
Assignment	COD_ASSIGNMENT_TT	Yes	Yes
Phonecall	COD_PHONECALL	Yes	No
Task	COD_TASK	Yes	No
Email	COD_EMAIL	Yes	No
Visit	COD_VISIT_TT	Yes	No
Sales Lead	COD_MARKETINGLEAD	Yes	Yes
Lead	COD_MKT_PROSPECT	Yes	Yes
Campaign	COD_CAMPAIGN	Yes	No
Target Group	COD_TARGETGROUP_TT	Yes	No
Deal Registration	COD_DEALREG_TT	Yes	Yes

Item Type or Work Center View	Technical Name	Supported for Internal System	Supported for External System
Ticket	COD_SRQ_AGENT_TT	Yes	No
Contract	CONTRACT_TT	Yes	Yes
Product List	COD_PRODUCTLIST_TT	No	No
Org Unit	COD_ORGUNIT_TT	No	No
Product (Admin)	COD_MATERIAL_ADMIN	Yes	Yes
Warranty	COD_WARRANTY_TT	No	No
Individual Customer	COD_SEOD_ACCOUNT_TT	Yes	Yes
Installation Point	COD_IPOINT_TT	Yes	No
Installed Base	COD_IBASE_TT	Yes	No
Registered Product	COD_REGISTERED_PRODUCT_TT	Yes	No
Time Entry	COD_SEOD_TR_TIMEENTRY_TT	No	No
Time Report	COD_SEOD_TR_TIMEREPORT_TT	No	No
Contract Account	COD_CONTRACTACCOUNT_TT.TT	Yes	No
Premise	COD_PREMISE_THINGTYPE	Yes	No
Sales POD	SALES_POD_TT	No	NO

3.2.2 Predetermine URL Using UUID of Business Object

Use the following URL format to embed preconfigured URL using UUID of the business object instance:
https://myNNNNNN.crm.ondemand.com/sap/byd/nav?bo=[x][&]nav_mode=TI[&]param.Key=[y]

Modify the URL using the following information:

- Replace NNNNNN with the numbers associated with the URL of system in use
- Modify each instance of [&] by deleting the brackets surrounding the ampersand
- Replace 'X' with the technical name of the work center view (list of work center views is provided in the table below)
- Replace 'Y' with the GUID or UUID of the item sent in the e-mail template.

Note

Once users receive a predetermined URL via e-mail and open it to navigate directly to the item that requires their attention, logon can occur either on the basis of user ID and password, or on the basis of certificates

in conjunction with single sign-on. If you have setup single-sign on, then you need to additionally add `&OBNRedirect=X` to the URLs mentioned in the above table. Note that X represents the ID in the internal system. For external system, replace X with Y or ID in the external system.

3.2.3 Predetermine URL Using Internal ID of Business Object

Use the following URL format to embed preconfigured URL using UUID of the business object: https://myNNNNNN.crm.ondemand.com/sap/public/byd/runtime?bo_ns=http://sap.com/thingTypes&bo=COD_GENERIC&node=Root&operation=OnExtInspect¶m.InternalID=%5Bx%5D¶m.Type=%5By%5D

Modify the URL using the following information:

- Replace NNNNNN with the numbers associated with the URL of the internal system
- Modify each instance of [&] by deleting the brackets surrounding the ampersand
- Replace 'X' with the internal ID of the business object instance
- Replace 'Y' with the technical name of the work center view (list of work center views is provided in the table below)

Note

Once users receive a predetermined URL via e-mail and open it to navigate directly to the item that requires their attention, logon can occur either on the basis of user ID and password, or on the basis of certificates in conjunction with single sign-on. If you have setup single-sign on, then you need to additionally add `&OBNRedirect=X` to the URLs mentioned in the above table. Note that X represents the ID in the internal system. For external system, replace X with Y or ID in the external system.

3.2.4 Predetermined URL Format Using External ID of Business Object

Use the following URL format to embed preconfigured URL using external ID of the business object: https://myNNNNNN.crm.ondemand.com/sap/public/byd/runtime?bo_ns=http://sap.com/thingTypes&bo=COD_GENERIC&node=Root&operation=OnExtInspect¶m.Type=%5BTHING_TYPE%5Dparam.ExternalID=%5BEXTERNAL_ID%5D¶m.ExtSystem=%5BEXTERNAL_SYSTEM%5D

Modify the URL using the following information:

- Replace NNNNNN with the numbers associated with the URL of the specific system
- Modify each instance of [&] by deleting the brackets surrounding the ampersand
- Replace X with the external definition ID (ID of the business object instance in the external system)
- Replace Y with the technical name of the work center view associated with the object instance (list of work center views is provided in the table below)
- Further, if required, add a parameter 'Z' to specify the technical name of the external system that has been mapped using a communication system

ⓘ Note

If you do not want to specify name of external system, remove the parameter 'Z' (param.ExtSystem=[z]) from the URL mentioned here.

ⓘ Note

Once users receive a predetermined URL via e-mail and open it to navigate directly to the item that requires their attention, logon can occur either on the basis of user ID and password, or on the basis of certificates in conjunction with single sign-on. If you have setup single-sign on, then you need to additionally add `&OBNRedirect=X` to the URLs mentioned in the above table. Note that X represents the ID in the internal system. For external system, replace X with Y or ID in the external system.

3.2.5 Predetermine URL Using External Definition Scheme

ⓘ Note

Use the following URL format to embed preconfigured URL using external ID of the business object:
`https://myNNNNNN.crm.ondemand.com/sap/public/byd/runtime?bo_ns=http://sap.com/thingTypes&bo=COD_GENERIC&node=Root&operation=OnExtInspect¶m.Type=[THING_TYPE]param.ExternalID=[EXTERNAL_ID]¶m.ExtDefScheme=[EXTERNAL_DEFINITION_SCHEME`

ⓘ Note

Modify the URL using the following information:

- Replace NNNNNN with the numbers associated with the URL of the specific system
- Modify each instance of [&] by deleting the brackets surrounding the ampersand
- Replace X with the external ID and external definition scheme (ID of the business object instance in the external system)
- Replace Y with the technical name of the work center view associated with the object instance (list of work center views is provided in the table below)
- Further, if required, add a parameter 'Z' to specify the technical name of the external system that has been mapped using a communication system

ⓘ Note

If you do not want to specify name of external system, remove the parameter 'Z' (param.ExtSystem=[z]) from the URL mentioned here.

ⓘ Note

Once users receive a predetermined URL via e-mail and open it to navigate directly to the item that requires their attention, logon can occur either on the basis of user ID and password, or on the basis of certificates in conjunction with single sign-on. If you have setup single-sign on, then you need to additionally add `&OBNRedirect=X` to the URLs mentioned in the above table. Note that X represents the ID in the internal system. For external system, replace X with Y or ID in the external system.

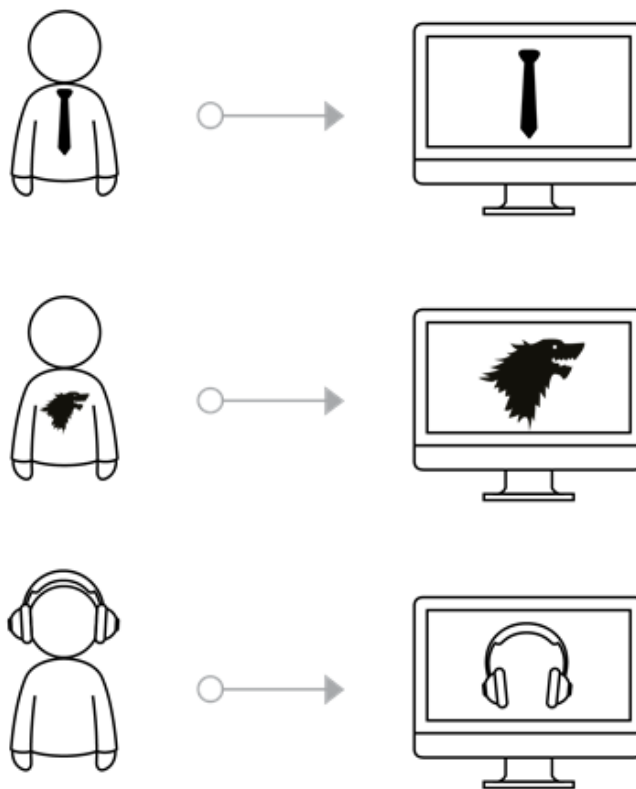
Example

Thing type for Employee: COD_EMPLOYEES

https://myNNNNNN.crm.ondemand.com/sap/public/byd/runtime?bo_ns=http://sap.com/thingTypes&bo=COD_GENERIC&node=Root&operation=OnExtInspect¶m.Type=COD_QUOTE_TT¶m.ExternalID=828¶m.ExtSystem=NNCLNT004

3.3 Personalization

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



When SAP Cloud for Customer is implemented by your administrator, they will define the way your system is displayed. Since personalization is all about you, tweak the solution into your solution so that it best suits your working style and uniqueness.

As an end user, you can for example, add your own background image, use drag and drop to easily move screen sections to another location, set the regional time settings, select whether to display additional onscreen explanatory text, and manage passwords and certificates.

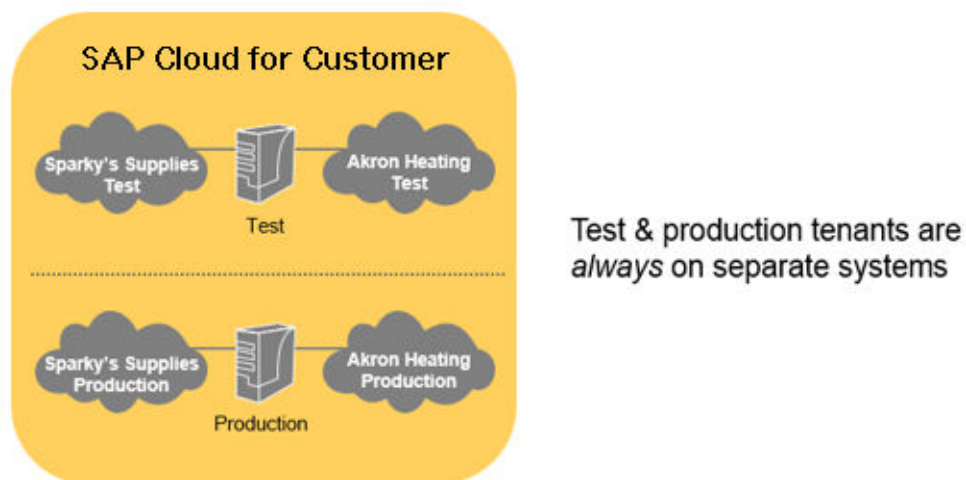
Go a step further in your personalization experience by adding, changing or hiding labels and adding mashups. You can also create new queries, change the default queries, and organize the queries in each screen to save time.

The personalization settings that you make on the screen take effect immediately. You can go ahead and accomplish your daily activities without having to restart the system. If you ever decide to go back to the original personalization settings, you can set it back to default.

4 Your System Landscape

Cloud systems where you run your SAP Cloud for Customer applications can comprise of test and production systems.

The standard subscription for SAP Cloud for Customer provides two systems - a test and a production system to support the initial implementation and go-live. The initial system provided to you by SAP is a test system. Once you reach the relevant stage in implementation, you need to perform a [Solution Copy](#) to move initial configuration and data to the production system.



4.1 Request System Subscription from Service Control Center

You can purchase additional test and production systems by logging a request under [Service Control Center](#) [Systems](#). SAP recommends buying a test system for every additional production system that in your system landscape.

Request New Systems

You can request for a new system under [Business Configuration](#), or directly in the [Systems](#) tab screen of the [Service Control Center](#).

⚠ Caution

The number of systems that you can request free of charge depends on your subscription package. Customers with the Enterprise Private Edition can have up to ten productive systems and are allowed one

test system per productive system. You can acquire additional systems at any time. For more information on system packages and additional services, contact your SAP sales representative. The procedure for requesting systems is described below:

Request for a Productive System

You have the following options to choose from when requesting a productive system:

1. **Initial Production System:** In this case, the data (Configuration, Level 0 and Flexibility) is not copied from the source system (test tenant) to the target system (production tenant). No transactional data is copied.

Note

The solutions that you created in the test tenant using SAP Cloud Applications Studio, must be uploaded again in the production tenant and scoped in *Business Configuration* work center. They are not copied automatically.

2. **Production Tenant with Solution Profile Copy from Test Tenant:** In this case, the data (Configuration, Level 0 and Flexibility) is copied from the source system (test tenant) to the target system (production tenant). No transactional data is copied.

Note

The solutions that you created in the test tenant using SAP Cloud Applications Studio, must be uploaded again in the production tenant and scoped in business configuration. They are not copied automatically.

Data	Explanation
Configuration data	Scoping and Fine Tuning information stored in the <i>Implementation Project</i> in the <i>Business Configuration</i> work center.
Level 0 data	<p>Master Data that includes the following objects:</p> <ul style="list-style-type: none"> • Locations • Job Definitions • Organization Structure • Transport Lanes • Transport Zones • Bank Directory • Product Category Hierarchy <p>The objects in bold are the Level 0 data that is relevant for SAP Cloud for Customer.</p>
Flexibility data	Customizations such as extension fields

Request a Test System

You have the following options to choose from when requesting for a test system:

Note

By default the purchased test tenant is on the same system as the original test system. You must create an incident to have the purchased test tenant on a different system. (Recommended for global rollouts where you will have multiple versions of the SDK solution active at the same time).

1. **Initial Test Tenant:** In this case, the data (Configuration, Level 0 and Flexibility) is not copied from the source system (test tenant) to the target system (test tenant). No transactional data is copied. SAP Cloud Applications Studio solutions present in the source tenant must be uploaded again in the target tenant.
2. **Initial Test Tenant with Solution Profile:** In this case, the Level 0 data and Flexibility data is not copied from the source system (test tenant) to the target system (test tenant). However, the configuration data is copied from the **Solution Profile ID** mentioned in the request. The **Solution Profile ID** corresponds to the *Implementation Project* in the *Business Configuration* work center that is to be copied. This solution profile is deployed into the target tenant. This means that the scoping and fine tuning done in the solution profile is activated in the target tenant. No transactional data is copied. SAP Cloud Application Studio solutions present in the source test tenant must be uploaded again in the target test tenant.
3. **Copy of the Source System:** This is a complete copy of the source system (test/production, that is, Configuration, Level 0 and Flexibility data) to the target test tenant. Transaction data is also copied from the source to the target tenant. Solutions created using SAP Cloud Applications Studio that are present in the test or production system are also copied to the target test tenant.
4. **Copy of Source System with Solution Profile:** In this case, Level 0 data and Flexibility data is copied from the source system (test/production tenant) to the target system (test tenant). However, the configuration data is copied from the **Solution Profile ID** mentioned in the request. The **Solution Profile ID** corresponds to the *Implementation Project* in the *Business Configuration* work center that is to be copied. This solution profile is deployed into the target tenant. This means that the scoping and fine tuning done in the selected solution profile is activated in the target tenant. Transactional data is also copied from the source to the target tenant. SAP Cloud Applications Studio solutions present in the source tenant have to be uploaded again to the target tenant.

Request Termination

Use this function to delete a system.

Caution

Ensure that you do not have any partner solutions in the system before deleting it. Once you delete a system, all partner solutions in that system are irretrievably lost.

4.2 Copy Solution Profile to Another System

Use solution copy to move content to another system. Note that this is to move initial configuration. You can use transport management to transfer data between systems.

Copy Solution Profile

Copy Solution Profile option in the *Service Control Center* (SCC) allows you to copy a solution profile to a new system. Use this function also for change projects when copying your implementation project from a test system. You can export the complete layout content in form of a XML file which includes following meta data:

- UI Adaptations (Master layout and all page layouts)
- Extension Fields
- Code List Restrictions
- Instance Types

After importing the XML file, you can copy the layout content along with role assignments in the target tenant.

5 Service Control Center (SCC) for Systems Maintenance and Monitoring

The Service Control Center (SCC) work center has various options to check important system information like availability, tenant maintenance schedule, contact information and user subscriptions.

5.1 Systems

In the *Service Control Center* work center, the *Systems* view provides an overview of your active and decommissioned systems, and their current status.

Sort System Information

Active and Decommissioned Systems

You can display all of your systems, or the active or decommissioned systems. Select what you want to display from *Show* dropdown list, and then click *Go*.

An active system is one that is available for use. A decommissioned system is one that has been taken out of commission and can no longer be used.

You can group the information by choosing *System Type* from the *Group By* dropdown list.

System Types

The systems will either be productive or non-productive systems. Non-productive systems include test systems and development systems, for example.

System Status

This refers to the operational and request status of a system.

Operational Status

- *Running*: The system is operational and running as normal.
- *Maintenance*: The system is operational but is currently being maintained, for example, due to an upgrade or repairs.

Request Status

- *Requested*: The system has been requested, but is not yet operational.
- *Decommissioned*: The system is not operational and is no longer being used.

View System Details

To get more information about a system, select the required system and click on [View](#), or click directly on the system ID.

In the [System Overview](#) screen you see more detailed information about the system.

- **General Information:** Here you can see the system status, how long the system has been running and on what date it was requested. It also contains a URL to the system, which you can click on to take you directly to the system itself.
- **Next Maintenance Activity:** This section gives some details on the next maintenance event for the system, including the dates for when it is planned and the type of maintenance that will be carried out. If you need more information on the maintenance events for this system, go to the [Maintenance Schedule](#) view.
- **Contractual Maintenance Period:** Here you have a summary of the maintenance period, as agreed in your contract. The maintenance period consists of the day the maintenance is to be carried out, the start time, and the duration of the maintenance.
- **Service Requests for this System:** All service requests for this particular system are detailed in this section. Here you can see the initial request for the system, if you have requested that the system be maintained, or decommissioned, as well as any requests for restore points, setting a system back to a restore point, or deletion of a restore point. Use [Show](#) to display [All Requests](#), or ones that are [In Process](#) or [Completed](#).
- **Available Restore Points:** A restore point is a snapshot of the system data that is saved at a specific point in time. In the event of a problem, you can request that the system data be restored to this point in time. This section shows the restore points that are available to you and when exactly they were created.

5.2 System Availability

In the [Service Control Center](#) work center, the [System Availability](#) view displays the average availability of your productive system, and provides details about system downtimes.

View the Average Availability of the Productive System

The average availability of the productive system for the previous twelve months is displayed here in an embedded report. Here you can ensure the availability of the system is in accordance with the availability percentage as defined in the service level agreement of your customer contract.

You can view the data in chart or table format. To switch formats, simply click on the table or chart icon in the top left corner of the embedded report.

For more information, see the documentation about embedded reports.

View Productive System Downtimes

The downtimes of your productive system for the current month are displayed here in an embedded report. Here you can check to see if the system downtimes exceed those agreed upon in the service level agreement of your customer contract.

You can view the data in chart or table format. To switch formats, simply click on the table or chart icon in the top left corner of the embedded report.

For more information, consult the documentation about embedded reports.

5.3 Maintenance Schedule

The *Maintenance Schedule* view gives you an overview of the maintenance activities for your productive and non-productive systems. The schedule is available in both calendar and list format, each as subview of the *Maintenance Schedule* view.

Work with the Maintenance Schedule: Calendar

Here you can get a clear overview of the maintenance schedule for your systems in a calendar format. The maintenance activities are color-coded, so you can see at a glance what events have been scheduled for which system.

There are four different types of maintenance activities:

- *Maintenance*: A regular period of maintenance, as agreed in your contract.
- *Upgrade*: A period of downtime that is required when installing a newer version of your SAP solution.
- *Emergency*: A non-schedule period of maintenance that is required due to issues with the system.
- *Service Operations*: A downtime scheduled due to additional service requests, such as copying a system, or a request for a test system.

Work with the Maintenance Schedule: List (Basic)

There are two versions of the *List* subview — basic and advanced. The default is advanced.

You can change from the *Basic* version by clicking on *Advanced*, which is in the top right corner of the content area of the screen.

Use the *Show* function to display information for productive systems, non-productive systems, or for all systems. Use the *Group By* function and select *System ID* to display the maintenance schedule by system ID, and get an overview for each system.

To see more information about a maintenance schedule item, simply highlight one of the items in the list. The details are automatically displayed at the bottom of the content area.

Work with the Maintenance Schedule: List (Advanced)

In addition to the functions available in the basic version of this view, you can also restrict the information that is shown by choosing *Productive*, *Non-Productive*, or *All Systems*, entering dates in the *Date From/To* fields and then clicking *Go*.

The default selection is usually for the current month and productive systems. If you select alternative dates and system types, but then wish to display the default selection, click *Reset* and then *Go*.

Create Queries

When you use the selection criteria to restrict the information to be displayed it is called a query. You can save this query to view again in the future.

To restrict the information to be displayed:

1. From the *Show* dropdown list select a system type.
2. Enter the period for which you want to restrict the schedule information.
3. Click *Go*.
The information displayed is for the period and system type that you selected.
4. To save this particular set of selection criteria, click *Save Query*.
5. In the dialog, enter a name for the query.
To set this query as the default that is shown each time you log on, check the box *Use As Default Query*.

Organize Queries

Here you can delete a query if you no longer require it, or you can change the default query that is displayed.

To delete a query, click *Organize Queries*, select the query you want to delete and then click on *Delete*.

Note that you can only delete queries that you have created yourself. The three standard queries *Productive Systems*, *Non-Productive Systems*, and *All Systems* cannot be deleted and the *Delete* button will be deactivated if you select one of them.

To change the default query that is displayed when you go into the *Maintenance Schedule* view, click *Organize Queries*. In the dialog, under *Select Query Name*, select the query that you want to set as default from the dropdown list. Then click *OK*. The next time you go into the *Maintenance Schedule* view, this query will be displayed.

5.4 Contact Details

Maintain contacts of type *IT Contact*, *SAP Store Buyer* and *Commercial Contact* in the Contacts view in Service Control Center (SCC).

The three contact types are described below:

- *IT Contact*: A contact person in your organization who gives you system information and to whom you report downtimes.
- *SAP Store Buyer*: A contact person in your organization who is authorized to procure solutions on your behalf in the *SAP Store*.
During initial implementation, you can assign service agents as contacts of the type *SAP Store Buyer* to allow them to purchase partner solutions. Once employees are available, we strongly recommend that you

change the contact assignment to an employee assignment. After go-live, we recommend that you only assign employees as SAP Store buyers.

- **Commercial Contact:** A contact person in your organization who is authorized to order services from SAP, such as purchasing additional licenses.

Assign a Contact to a Contact Type

To assign contacts to contact types in this view, do the following:

1. Click [Create Contact Assignment](#).
The [Assign Contact to Contact Type](#) screen opens.
2. From the [Contact Type](#) dropdown list box, choose the contact type.
3. Under [Contact Information](#), click on the value help icon and then select the contact to whom you want to assign this type.
4. Ensure that all mandatory fields have been filled out.
Ensure that the contact has an e-mail address. If it is not maintained, get the contact in question to add the e-mail address under [Home](#) > [Self-Services](#) > [Self-Services Overview](#) > [Company Address Book](#) > [Edit My Contact Data](#) >
5. Then click [Send Changes](#) to save the changes or [Send Changes and Close](#) to save the changes and close the screen.


Note

Not every user or employee is automatically available as a contact in the value help. If you want to assign a contact and they are not available in the list you have the following options:

If you are an administrator:

- Assign the person you wish to be a contact to the [Case](#) view of the [Administrator](#) work center. This will ensure they are then automatically available for selection as a contact person in the value help.
- If you cannot assign the contact because their details are incomplete, update the details in the [Personnel Administration](#) work center, in the [Regular Tasks](#) view under [Personal Changes](#). Changes to contact person details may take several hours to appear in the system.

If you are not an administrator:

- Report a case to get the person included as a contact in the value help.
- Register the person as a contact in the [Business Center](#) .

Create a New Contact

To create a new contact:

1. Click on [Create Contact Assignment](#)
2. In the [Assign Contact to Contact Type](#) screen, click on [Assign to New Contact](#).
3. In the [Assign New Contact to Contact Type](#) screen, select the contact type from the dropdown list box, fill in the details in the mandatory fields (marked with an *) under [General Information](#), and, under

[Communication Details](#), ensure that you enter an e-mail address and select a correspondence language from the dropdown list box.

4. Click [Send Changes](#) or [Send Changes and Close](#).
5. In the [Contact Details](#) view click [Refresh](#). The contact you created now appears in the list with the status [Requested](#).

Edit the Details of a Contact

To edit the details of a contact select a contact in the list and click [Edit](#).

If you have already requested changes for a particular contact, then it is not possible to edit this contact until the request has been processed.

It is also not possible to edit the contact details of an administrator.

Remove a Contact Assignment

To deassign a contact from a contact type, click on [Remove Contact Assignment](#). Then click on [Confirm](#) in the confirmation dialog to send the changes.

Note

There must always be at least one commercial contact, one IT contact, and one SAP Store buyer assigned in the [Contact Details](#) view.

5.5 User Subscriptions

In the [User Subscriptions](#) view in [Service Control Center](#) work center, you can monitor the number of user subscriptions in your solution, and group them by user type.

This view enables you to check whether you have sufficient subscriptions for users assigned to the solution.

Display Your User Subscriptions By Type

You can display your subscriptions by user type. To do so, select [User Type](#) from the [Group By](#) dropdown list box, and click [Go](#).

There are six types of user subscriptions:

- Standard Self-Service User
- Standard Enterprise User

- SCM Enterprise User
- CRM Sales Team User
- SCM Self-Service User
- Project Manager Self-Service User

The functionality that is available for each user subscription is summarized below.

User Type	Functionality
Standard Self-Service User	<p>Self-service and data-entry tools.</p> <p>This includes, but is not limited to:</p> <ul style="list-style-type: none"> • Time and expense reporting • Travel management • Leave requests • Editing time sheets • Editing personal data • Creating incidents
Project Management Self-Service User	<p>The standard self-service user functionality as listed above, plus:</p> <ul style="list-style-type: none"> • Update project task information • Create and manage project-related work packages • Assign project team members to work packages • Efficient checklist handling • Document collaboration
SCM Self-Service User	<p>The standard self-service user functionality as listed above, plus:</p> <ul style="list-style-type: none"> • Data entry and task confirmation using terminals or other devices • Receive and confirm: Pick, pack and ship tasks • Production: Receive and confirm make tasks • Quality assurance: Receive and confirm inspection tasks
CRM Sales Team User	<p>The standard self-service user functionality as listed above, plus:</p> <ul style="list-style-type: none"> • Organization and business data setup • Management of accounts and market information • Activity Management • Sales Campaign and campaign management • Lead and opportunity management • Built-in analytics

Standard Enterprise User

The standard self-service user functionality as listed above, plus:

- Organization and business data setup
- Financials
- Internal project management
- Personnel administration, compensation, and, time and labor management
- Sales campaign, sales, and service
- Contract management
- Purchase request and order management
- Collaboration, groupware integration, and desktop integration tools
- Built-in analytics
- Regulatory compliance tools

SCM Standard Enterprise User

The standard self-service user functionality and standard enterprise user functionality as listed above, plus:

- Supply chain planning and control
- Fulfillment planning and control
- Supply and demand planning, and forecasting
- Warehousing, inbound and outbound logistics, physical inventory, and stock transfer
- Order preparation and scheduling
- Production monitoring and control
- Operations tracking and tracing

Monitor Your User Subscriptions

Click the dropdown list beside [Show](#) to display information on your user subscriptions for the:

- Current Month
- Last Month
- Last 6 Months

You can further group the information by selecting [User Type](#) from the [Group By](#) dropdown list box. The default setting is [None](#), in which case the most recently updated subscriptions are displayed first.

Check the number of [Licensed Users](#) against the number of [Active Users](#). If the number of active users exceeds the number of licensed users, this will be indicated by a red traffic light under the [Status](#) column. The number of excess users is detailed in the [Over Usage](#) column.

To get more information on what to do if you if the number of active users exceeds the number of licensed users, select the row where there is over usage, and information is displayed at the bottom of the screen.

Display List of Users per User Type

You can display a list of all users that are assigned to a user type. If you click on the user ID, the system displays the *Business User* fact sheet. In the fact sheet, you can see which work center views are assigned to that business user. You can also remove assignments to work centers that the business user does not need.

Adjust Active Users and User Subscriptions

If the number of active users exceeds the number of licensed users, either adjust the number of users assigned to work centers and views or request additional user licenses.

To adjust the number of active users, choose **Administrator** > **General Settings** > **Users** > **Business Users**.

To request additional user subscriptions, contact your SAP representative or SAP partner.

5.6 CSNS App to Manage Cloud Subscriptions

Use the **CSNS** app to subscribe to the *Cloud Availability Center* (CAC) notifications and stay informed with timely updates on your SAP Cloud services.

The CSNS app is embedded into the **SAP ONE Support Launchpad**. Use the CSNS app to:

- Subscribe to CSNS notifications; You can subscribe to one or more of the following notification types:
 - Customer Communication
 - Disruption/Degradation
 - Maintenance
- View own subscriptions for *Cloud Availability Center* notifications in *My Subscriptions*, or subscriptions of other users (Super Administrator & Cloud Administrator access required).
- Create, change, or delete subscriptions for *Cloud Availability Center* notifications.

6 All Available Workcenters in SAP Cloud for Customer

Read and understand about the various workcenters in the SAP Cloud for Customer system. The workcenters that you can view will depend on the solution licensing, scoping and access authorizations.

Your solution is based on one or more of the following separately purchased base products:

- SAP Cloud for Sales
 - Standard Edition
 - Professional Edition
 - Enterprise Edition
- SAP Cloud for Service
 - Standard Edition
 - Professional Edition
 - Enterprise Edition

<https://www.sap.com/about/agreements/policies/service-specifications.html>

Note

- Some new and enhanced functionalities may require additional purchase. Please contact your SAP sales representative for more information.
- Some countries/regions served may have restrictions on functionality delivered. Please confirm your intended usage with your local experts.
- There are additional license options you can purchase to extend your solution including those available for industries and customer-specific needs. Solution bundles such as SAP Cloud for Customer, Enhanced Package, Limited Package and Enterprise editions, include the base products above and are further defined in your product Supplemental Terms and Conditions.

6.1 Feature Availability Based on Product Licenses

SAP Cloud for Sales Functional Specifications

Each edition of SAP Cloud for Sales offers functionality defined by the following features within SAP Cloud for Customer, SAP Jam Collaboration and SAP Cloud for Sales, server-side integration.

Sales Cloud Editions

Key Features	Standard Edition	Professional Edition	Enterprise Edition
Account and Contacts, Persons	Yes	Yes	Yes
Lead and Opportunity Management	Yes	Yes	Yes
Activity and Visit Management	Yes	Yes	Yes
Surveys	Yes	Yes	Yes
Sales Analytics	Yes	Yes	Yes
Sales Target Planning	Yes	Yes	Yes
Price and Discount Lists	Yes ¹	Yes	Yes
Quotation Management	Yes ¹	Yes	Yes
Territory Management	Yes ¹	Yes	Yes
Sales Forecasting	Yes	Yes	Yes
Mobility	Yes	Yes	Yes
Collaboration and Feeds	Yes	Yes	Yes
Integration APIs ²	Yes ¹	Yes	Yes
Groupware Integration (Client side)	Yes	Yes	Yes
Data Privacy Management	Yes	Yes	Yes
Route Planning and Execution		Yes	Yes
Service Tickets		Yes	Yes
SAP Cloud Applications Studio (SDK)		Yes	Yes
SAP JAM Collaboration		Yes	Yes
SAP Sales and Service Cloud, Private Edition		\$	\$
SAP Cloud Platform extensions		\$	\$
SAP Signature Management by DocuSign		\$	\$

Key Features	Standard Edition	Professional Edition	Enterprise Edition
SAP Sales Cloud, Imaging Intelligence add-on		\$	\$
SAP Sales Cloud, server-side integration ³			Yes
Deal Finder			Yes
Influencer Map			Yes
Contracts			Yes
Installed Base			Yes
Industry Options			Yes
SAP Service Cloud ⁴			Yes

- 1 - Standalone configuration or integration to SAP Business One (B1) is permitted.
- 2 - Integration requires at least one test tenant.
- 3 - Not offered from China Data Center(s) due to local regulations.
- 4 - SAP Cloud for Sales, Enterprise edition offers native sales and service functionality .
- \$ - Additional fee applies.

→ Remember

SAP retains the right to change, at any time in its sole discretion, the SAP Cloud for Sales (without materially diminishing the functionality during a subscription term), this specification sheet, and/or the location of the data center(s) from which the Cloud Service is hosted.

SAP Cloud for Service Functional Specifications

Each edition of SAP Cloud for Service offers functionality defined by the following features within SAP Cloud for Customer and SAP Jam Collaboration.

Service Cloud Editions

Key Features	Standard Edition	Professional Edition	Enterprise Edition
Account and Contact, Persons	Yes	Yes	Yes
CTI Adapter	Yes	Yes	Yes
Interaction Management	Yes	Yes	Yes

Key Features	Standard Edition	Professional Edition	Enterprise Edition
Skills Management	Yes	Yes	Yes
Routing	Yes	Yes	Yes
Queue Management	Yes	Yes	Yes
Service Ticket	Yes	Yes	Yes
Service Analytics	Yes	Yes	Yes
Service Level Agreements	Yes	Yes	Yes
Surveys	Yes	Yes	Yes
Products	Yes	Yes	Yes
Mobility	Yes	Yes	Yes
Collaboration and Feeds	Yes	Yes	Yes
Integration API's ²	Yes ¹	Yes	Yes
Groupware Integration (Client side)	Yes	Yes	Yes
Data Privacy Management	Yes	Yes	Yes
Leads		Yes	Yes
Quotes		Yes	Yes
Orders		Yes	Yes
Installed Base		Yes	Yes
Social Engagement		Yes	Yes
SAP Jam Collaboration		Yes	Yes
SAP Cloud Applications Studio (SDK)		Yes	Yes
Self Service Accelerators		Yes	Yes
SAP Sales and Service Cloud, Private Edition		\$	\$
SAP Cloud Platform extensions		\$	\$

Key Features	Standard Edition	Professional Edition	Enterprise Edition
SAP Knowledge Central by Mindtouch		\$	\$
SAP Jam Communities		\$	\$
SAP Signature Management by DocuSign			\$
Industry Options			Yes
Time Recording			Yes
Service Contracts			Yes
Maintenance Plans			Yes
Work Tickets			Yes
Resource Scheduling			Yes
SAP Sales Cloud3			Yes

- 1 - Standalone configuration or integration to SAP Business One (B1) is permitted.
- 2 - Integration requires at least one test tenant.
- 3 - SAP Cloud for Service, Enterprise edition offers native sales and service functionality of SAP Cloud for Customer and excludes sales cloud, server-side integration.
- \$ - Additional fee applies.

→ Remember

SAP retains the right to change, at any time in its sole discretion, the SAP Cloud for Service (without materially diminishing the functionality during a subscription term), this specification sheet, and/or the location of the data center(s) from which the Cloud Service is hosted.

6.2 (Deprecated) Know your Workcenters

Your solution is based on one or more of the following separately purchased base products:

- SAP Sales Cloud
- SAP Service Cloud
- SAP Cloud for Social Engagement

Functionality entitlements for the following solutions (built on top of the base products) are defined at the URL below.

- SAP Cloud for Sales

- SAP Cloud for Service

<https://www.sap.com/about/agreements/policies/service-specifications.html>

Note

- Some new and enhanced functionalities may require additional purchase. Please contact your SAP sales representative for more information.
- Some countries served may have restrictions on functionality delivered. Please confirm your intended usage with your local experts.
- There are additional license options you can purchase to extend your solution including those available for industries and customer-specific needs. Solution bundles such as SAP Cloud for Customer, Enhanced Package, Limited Package and Enterprise editions, include the base products above and are further defined in your SAP Cloud for Customer Supplemental Terms and Conditions.

The following provides an overview of which features are available within each base product.

SAP Sales Cloud

Included Work Centers	Included Work Center Views
Home Page	ALL <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> <p>Note</p> <p>The home page is available to all users and does not require a specific work center assignment.</p> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <p>Note</p> <p>If you make changes to the home page in SAP Cloud for Customer, or in the SAP Customer Insight app for iPad®, then your changes are reflected in both places.</p> </div>
Feed	<div style="border: 1px solid #ccc; padding: 5px;"> <p>Note</p> <p>If your organization plans to use the SAP Jam Feed work center view, then you must have a separate SAP Jam Collaboration license.</p> </div>
Account Hierarchy	ALL
Activities	ALL
Activity Planner	ALL
Administrator	ALL, except: Service and Social Settings
Analysis	ALL, except: Service Overview
Business Analytics	ALL
Business Configuration	ALL
Business Partners	ALL

Included Work Centers	Included Work Center Views
<i>Competitors</i>	ALL
<i>Customers</i>	ALL, except: <i>Tickets, Installed Base, Service Contracts, Promotions</i>
<i>Data Integration</i>	ALL
<i>Data Privacy Management</i>	ALL
<i>iPad Offline</i>	ALL
<i>Library</i>	ALL
<i>Sales Campaign</i>	ALL, except: <i>Sales Campaign Funds, Lead Scores Promotions</i>
<i>Mass Data Maintenance</i>	ALL
<i>Partners</i>	ALL
<i>People</i>	ALL
	<p>Note</p> <p>If your organization plans to use SAP Jam groups, then you must have a separate SAP Jam Collaboration license.</p>
<i>Products</i>	ALL, except: <i>Registered Products, Warranties, Installed Base, Service Contracts and Promotions</i>
<i>Sales</i>	ALL, except: <i>Deal Registration</i>
<i>Service Control Center</i>	ALL
<i>Surveys</i>	ALL
<i>Visits</i>	ALL

SAP Service Cloud

Included Work Centers	Included Work Center Views
<i>Home Page</i>	ALL
	<p>Note</p> <p>The home page is available to all users and does not require a specific work center assignment.</p>
	<p>Note</p> <p>If you make changes to the home page in SAP Cloud for Customer, or in the SAP Customer Insight app for iPad®, then your changes are reflected in both places.</p>

Included Work Centers

Included Work Center Views

Feed

Note

If your organization plans to use the *SAP Jam Feed* work center view, then you must have a separate SAP JamCollaboration license.

Account Hierarchy

ALL

Activities

ALL

Note

E-mail blasts are only supported in SAP Sales Cloud.

Activity Planner

ALL

Administrator

ALL, **except:** *Sales Settings*

Analysis

Only:

- *Service Overview*
- *Dashboard*
- *Executive*
- *Manager*
- *Performance*
- *Reports*

Business Analytics

ALL

Business Configuration

ALL

Business Partners

ALL

Customers

ALL

Note

Target groups are not supported in SAP Service Cloud.

Data Integration

ALL

Data Privacy Management

ALL

iPad Offline

ALL

Library

ALL

Mass Data Maintenance

ALL

Included Work Centers**Included Work Center Views***People*

ALL

Note

If your organization plans to use SAP Jam groups, then you must have a separate SAP Jam Collaboration license.

*Products***Only:**

- *Products*
- *Product Categories*
- *Registered Products*
- *Warranties*

*Service*ALL, **except:** *Social Media Messages* and *Territories**Service Control Center*

ALL

Surveys

ALL

SAP Cloud for Social Engagement

Included Work Centers**Included Work Center Views***Home Page*

ALL

Note

The home page is available to all users and does not require a specific work center assignment.

Note

If you make changes to the home page in SAP Cloud for Customer, or in the SAP Customer Insight app for iPad®, then your changes are reflected in both places.

*Feed***Note**

If your organization plans to use the *SAP Jam Feed* work center view, then you must have a separate SAP Jam Collaboration license.

Account Hierarchy

ALL

Included Work Centers	Included Work Center Views
<i>Activities</i>	ALL Note E-mail blasts are only supported in SAP Sales Cloud.
<i>Activity Planner</i>	ALL
<i>Administrator</i>	ALL, except: <i>Sales Settings</i>
<i>Analysis</i>	Only: <ul style="list-style-type: none"> • <i>Service Overview</i> • <i>Dashboard</i> • <i>Executive</i> • <i>Manager</i> • <i>Performance</i> • <i>Reports</i>
<i>Business Analytics</i>	ALL
<i>Business Configuration</i>	ALL
<i>Business Partners</i>	ALL
<i>Customers</i>	ALL Note The social media features of SAP Cloud for Social Engagement are only supported for individual customers. Note Target groups are not supported in SAP Service Cloud.
<i>Data Integration</i>	ALL
<i>Data Privacy Management</i>	ALL
<i>iPad Offline</i>	ALL
<i>Library</i>	ALL
<i>Mass Data Maintenance</i>	ALL
<i>People</i>	ALL Note If your organization plans to use SAP Jam groups, then you must have a separate SAP Jam license.

Included Work Centers	Included Work Center Views
Products	Only: <ul style="list-style-type: none"> Products Product Categories Registered Products Warranties
Service	ALL except Territories
Service Control Center	ALL
Surveys	ALL

The following features are available through licensed options to extend your solution:

SAP Cloud for Customer, Advanced User Option

Feature	Included Work Center Views
Deal finder	All (Requires SAP Sales Cloud)
Influencer map	All (Requires SAP Sales Cloud)
Lead Scoring	All (Requires SAP Sales Cloud)
Sales Campaign Funds	All (Requires SAP Sales Cloud)
Promotions	All (Requires SAP Sales Cloud)
Field Service	<ul style="list-style-type: none"> Contracts Stock Resource Scheduler Time Recording (Requires SAP Service Cloud)

SAP Cloud for Customer, Imaging Intelligence Add-On

Feature	Included Work Center Views
Automated planogram check	Requires SAP Sales Cloud

SAP Cloud for Customer, B2B Industry User Option

Option	Included Work Centers	Included Work Center Views
SAP Cloud for Customer for High Tech	Design Registration	All
SAP Cloud for Customer for Utilities	Utilities	All
SAP Cloud for Customer for Retail	Activities	In addition to the standard views, the following retail-specific views are available: <ul style="list-style-type: none"> Store Events Time Entry In-Store Activity

Option	Included Work Centers	Included Work Center Views
	<i>Products</i>	In addition to the standard views, the following retail-specific view is available: <ul style="list-style-type: none"> • <i>In-Store Products</i>
	<i>Offers</i>	All
	<i>Stores</i>	All
	<i>Visits</i>	In addition to the standard views, the following retail-specific views are available: <ul style="list-style-type: none"> • <i>Visit Planner</i> • <i>Routes</i> • <i>Routing Rules</i>
SAP Cloud for Customer for Professional Services	<i>Sales</i>	<i>Opportunities</i> Additional Tab: <ul style="list-style-type: none"> • <i>Projects</i>
SAP Cloud for Customer for Banking	<i>Customers</i>	<i>Household</i>
SAP Cloud for Customer for Automotive	<i>Products</i>	<i>Vehicle Management</i>
SAP Cloud for Customer for Consumer Packaged Goods	<i>Activity Planner</i>	<ul style="list-style-type: none"> • <i>Activity Planner</i> • <i>Routing Rules</i>
	<i>Products</i>	<i>Product Lists</i>
	<i>Sales</i>	<i>Sales Orders</i>
	<i>Sales Campaign</i>	<i>Promotions</i>
	<i>Visits</i>	Additional CPG-specific views are delivered: <ul style="list-style-type: none"> • <i>Visit Planner</i> • <i>Visits</i> • <i>Routes</i> • <i>Tours</i>
	<i>Surveys</i>	<i>Surveys</i>

6.3 Recommended Business Roles and Work Center Assignments

To simplify maintenance and assignment of access rights to users, SAP recommends that you define business roles, to which you assign work centers and views. You can then assign one or more roles to each employee who has a user in the system.

Access rights for SAP Cloud for Customer are based on work centers and the views within each work center.

Note

You can see the pre-delivered SAP business roles in your system as follows:

- `SAP_SALES_REP`: Sales Representative
- `SAP_SERVICE_AGENT`: Service Agent
- `SAP_SERVICE_MANAGER`: Service Manager
- `SAP_REX`: Retail Execution

The *Home* page is accessible by all users and not assigned via a work center. In part, the content and tiles available on the home page are determined by the work centers and authorizations assigned to each user. You can further define the content and layout of the home page for each role.

The following tables outline the recommended business roles and the standard set of work centers and work center views they should include. You can of course create your own set of business roles and assign them access rights that suit your particular business processes.

- To view recommended roles for the functional area you are configuring, select the functional area from the menu in the first table.
- To view recommended work centers and views for a role, select the role from the menu in the second table. Note that the first column shows all roles which use the workcenter, not just the selected role.

Note

These recommendations are dependent on licensing requirements. In addition, not all work centers listed in the system are supported or required by SAP Cloud for Customer.

For a complete list of supported work centers and views for each product, refer to the feature matrix.

Tip

The administrator role described below should be used for most of the setup and configuration activities outlined in the Getting Started topics for administrators.

You need to start by setting up an administrator with the initial user. Administrator roles are common across all functional areas.

Note

SAP Cloud for Customer Professional Services Industry Solution uses the same business roles and work center assignments shown for Sales.

→ Recommendation

The following tables display best viewed with a web browser. Please visit <http://help.sap.com/cloud4customer>.

Recommended Roles by Functional Area

Functional Area	Recommended Roles
Sales	Sales Representative
Sales	Sales Manager
Sales	Sales -Channel Manager
Sales	Sales - Partner Manager
Sales	Sales - Partner Contact
Administration	Administrator
Administration	Administrator - Local
Marketing	Marketing Manager
Marketing	Marketing Operations
Service	Service Agent
Service	Service Technician
Service	Service Manager
Service	Employee Support Agent
Service	Employee Support Manager
Service	Contract Administrator
Social	Social Agent
Social	Social Manager
Utilities	Key Account Manager
Utilities	Call Center Agent
Banking	Financial Advisor
Banking	Product Specialist
Banking	Client Manager
Automotive	Auto Sales Representative

Functional Area	Recommended Roles
Automotive	Auto Sales Manager

Recommendation

For the three partner roles for Sales, we suggest the following:

- **Channel Manager**
This role is for people within your company who are responsible for partner relations. Set restrictions as needed.
- **Partner Manager**
This role is for people within a partner company. You should set access restrictions so that people with this role see only the information in these work centers for their own (partner) company.
- **Partner Contact**
This role is for people within a partner company. Copy the partner manager role, so that people with this role only see the information for their own (partner) company. Then set access restrictions for specific fields. As a rule of thumb, partner contacts see about 80% of the information that partner managers see.

Work Center and View Assignments by Role

Role	Work Center	View
Sales Representative	Activities	All Views
Sales Manager	(COD_ACTIVITIES)	
Sales - Channel Manager		
Sales - Partner Manager		
Sales - Partner Contact		
Administrator		
Administrator - Local		
Marketing Manager		
Marketing Operations		
Service Agent		
Service Technician		
Service Manager		
Employee Support Agent		
Employee Support Manager		
Social Agent; Social Manager		
Utilities - Call Center Agent		
Auto Sales Rep.		
Auto Sales Manager		
Utilities - Key Account Manager	Activities	Appointments
Banking - Product Specialist	(COD_ACTIVITIES)	
Banking - Client Manager		
Utilities - Key Account Manager	Activities	E-Mails, Phone Calls
Banking - Financial Advisor	(COD_ACTIVITIES)	
Banking - Product Specialist		
Banking - Client Manager		

Role	Work Center	View
Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager	Activities (COD_ACTIVITIES)	Tasks
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Service Manager Auto Sales Rep. Auto Sales Manager	Activity Planner (ACTIVITYWORKLIST)	All Views
Administrator Administrator - Local Contract Administrator	Administrator (SEODADMINWCF)	All Views
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Administrator Administrator - Local Marketing Manager Marketing Operations Service Manager Employee Support Manager Social Manager Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	Analysis (COD_ANALYSIS)	Reports
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Administrator Administrator - Local Marketing Manager Marketing Operations Banking - Financial Advisor Banking - Product Specialist Auto Sales Rep. Auto Sales Manager	Analysis (COD_ANALYSIS)	Dashboard, Forecast, Forecast Variance, Pipeline, Pipeline Sourcing, Sales Overview, Sales Performance, Win/Loss

Role	Work Center	View
Sales - Channel Manager Sales - Partner Manager	Analysis (COD_ANALYSIS)	Partner Management
Administrator Administrator - Local Marketing Manager Marketing Operations	Analysis (COD_ANALYSIS)	Marketing Overview
Service Manager Employee Support Manager Social Manager	Analysis (COD_ANALYSIS)	Service Overview
Administrator Administrator - Local	Analysis (COD_ANALYSIS)	Usage Statistics
Administrator Administrator - Local	Application and User Management (ITS_APPLICATIONUSERMANAGEMENT)	Business Task Management
Administrator Administrator - Local	Business Analytics (ANA_BUSINESSANALYTICS)	All Views
Administrator Administrator - Local Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager	Business Configuration (BC_BUSINESSCONFIGURATION)	All Views
Administrator Administrator - Local	Business Partners (BUSINESSPARTNERS_WCF)	All Views
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	Competitors (COD_COMPETITOR_WC)	All Views

Role	Work Center	View
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Service Agent Service Technician Service Manager Contract Administrator Social Agent Social Manager	Contracts (CONTRACT_WCF)	All Views Read only for: Service Agent, Service Technician; and Social Agent
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Service Agent Service Technician Service Manager Contract Administrator Social Agent Social Manager Utilities - Key Account Manager Utilities - Call Center Agent Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	Customers (CODACCOUNTWC)	Accounts and Contacts
Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	Customers (CODACCOUNTWC)	Opportunities
Banking - Client Manager	Customers (CODACCOUNTWC)	Client - Roll Ups

Role	Work Center	View
Marketing Manager Marketing Operations Service Agent Service Technician Service Manager Contract Administrator Social Agent Social Manager Utilities - Call Center Agent Banking - Financial Advisor Banking - Product Specialist Auto Sales Rep. Auto Sales Manager	Customers (CODACCOUNTWC)	Individual Customers
Marketing Manager Marketing Operations Service Agent Service Manager Contract Administrator Social Agent Social Manager	Customers (CODACCOUNTWC)	Target Groups
Auto Sales Rep. Auto Sales Manager	Dashboard (C4CE_DASHBOARD_WCF)	Dashboard
Administrator Administrator - Local Sales Manager Sales - Channel Manager Marketing Manager Service Manager Social Manager Contract Administrator Utilities - Key Account Manager Banking - Client Manager Auto Sales Manager	Data Cleansing (COD_DATACLEANSING_WCF)	All Views
Administrator Administrator - Local	Data Integration (DATA_INTEGRATION)	All Views
Administrator Administrator - Local	Data Privacy Management (DATAPRIVACY)	All Views

Role	Work Center	View
Sales Representative	Feed (COD_FEEDWCF)	Feed
Sales Manager		
Sales - Channel Manager		
Sales - Partner Manager		
Sales - Partner Contact		
Administrator		
Administrator - Local		
Marketing Manager		
Marketing Operations		
Service Agent		
Service Technician		
Service Manager		
Employee Support Agent		
Employee Support Manager		
Social Agent		
Social Manager		
Utilities - Key Account Manager		
Banking - Financial Advisor		
Banking - Product Specialist		
Banking - Client Manager		
Auto Sales Rep.		
Auto Sales Manager		
Sales Representative	Installed Base (COD_IBASE_WCF)	All Views
Sales Manager		
Administrator		
Administrator - Local		
Service Agent		
Service Technician		
Service Manager		
Contract Administrator		
Social Agent		
Social Manager		
Auto Sales Rep.		
Auto Sales Manager		

Role	Work Center	View
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Service Agent Service Technician Service Manager Employee Support Agent Employee Support Manager Social Agent Social Manager Auto Sales Rep. Auto Sales Manager	Library (COD_CONTENT_LIBRARY)	All Views
Administrator Administrator - Local	Sales Campaign (COD_MARKETING)	Campaign File Formats
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Auto Sales Rep. Auto Sales Manager	Sales Campaign (COD_MARKETING)	Campaigns, Response Options
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations	Sales Campaign (COD_Marketing)	Content, Marketing Funds, Promotions

Role	Work Center	View
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	Sales Campaign (COD_MARKETING)	Leads
Administrator Administrator - Local Marketing Manager Marketing Operations Auto Sales Rep. Auto Sales Manager	Sales Campaign (COD_MARKETING)	Lead Score (Read-only for Marketing Manager)
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Auto Sales Rep. Auto Sales Manager	Sales Campaign (COD_MARKETING)	Target Groups
Administrator Administrator - Local	Mass Data Maintenance (MASS-DATAMAINAINANCE_WCF)	All Views
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Auto Sales Rep. Auto Sales Manager	Partners (CODPARTNERWC)	All Views

Role	Work Center	View
Sales Representative Sales Manager Sales - Channel Manager Administrator Administrator - Local Marketing Manager Marketing Operations Service Agent Service Technician Service Manager Employee Support Agent Employee Support Manager Social Agent Social Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	People (CODPEOPLE)	Employees (If you have SAP Jam integration, add Groups, and if you want legacy groups to be visible, add Legacy Groups)
Sales - Channel Manager Sales - Partner Manager	People (CODPEOPLE)	Groups
Auto Sales Manager Utilities - Call Center Agent	Products (COD_PRODUCTDATA)	All Views
Administrator Administrator - Local	Products (COD_PRODUCTDATA)	Products
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local	Products (COD_PRODUCTDATA)	Discount Lists, Price Lists

Role	Work Center	View
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Service Agent Service Technician Service Manager Contract Administrator Social Agent Social Manager Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Manager	Products (COD_PRODUCTDATA)	Products
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator	Products (COD_PRODUCTDATA)	Product Administration
Administrator	Products (COD_PRODUCTDATA)	Product Characteristics
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager	Products (COD_PRODUCTDATA)	Product Categories
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Service Manager Contract Administrator Administrator Administrator - Local	Products (COD_PRODUCTDATA)	Product Lists

Role	Work Center	View
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Service Agent Service Technician Service Manager Contract Administrator Social Agent Social Manager	Products (COD_PRODUCTDATA)	Registered Products
Administrator	Products (COD_PRODUCTDATA)	Sales Organization Validity
Auto Sales Rep.	Products (COD_PRODUCTDATA)	Vehicle Management
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Service Manager Contract Administrator Auto Sales Rep.	Products (COD_PRODUCTDATA)	Warranties
Service Manager	Resource Scheduler (LEAN_SCH_WCF)	All Views
Administrator Administrator - Local	Sales (COD_SALES_WCF)	All Views
Sales Manager Sales - Partner Manager Sales - Partner Contact	Sales (COD_SALES_WCF)	Deal Registration
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Administrator Administrator - Local Auto Sales Rep. Auto Sales Manager	Sales (COD_SALES_WCF)	Forecasts, Pipeline Simulation, Realignment Runs

Role	Work Center	View
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Utilities - Key Account Manager Utilities - Call Center Agent Banking - Financial Advisor Auto Sales Rep. Auto Sales Manager	Sales (COD_SALES_WCF)	Leads, Sales Quotes
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	Sales (COD_SALES_WCF)	Opportunities
Auto Sales Manager	Sales (COD_SALES_WCF)	Policy
Auto Sales Manager	Sales (COD_SALES_WCF)	Quick Quotes, Quotes
Sales Representative Sales Manager Administrator Administrator - Local Auto Sales Rep. Auto Sales Manager	Sales (COD_SALES_WCF)	Sales Orders

Role	Work Center	View
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Administrator Administrator - Local Utilities - Key Account Manager Banking - Financial Advisor Auto Sales Rep. Auto Sales Manager	Sales (COD_SALES_WCF)	Sales Target Planning
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Administrator Administrator - Local Utilities - Key Account Manager Banking - Financial Advisor Auto Sales Rep. Auto Sales Manager	Sales (COD_SALES_WCF)	Territories
Administrator Administrator - Local Social Agent Social Manager Auto Sales Rep. Auto Sales Manager Utilities - Call Center Agent	Service (COD_SEOD_AGENT_QUEUE_WCF)	All Views
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Service Agent	Service (COD_SEOD_AGENT_QUEUE_WCF)	Queue, Templates, Unassociated E-Mail
Sales Representative Sales Manager Administrator Administrator - Local Social Agent	Service (COD_SEOD_AGENT_QUEUE_WCF)	Social Media Messages
Administrator Administrator - Local Service Technician	Service (COD_SEOD_AGENT_QUEUE_WCF)	Territories

Role	Work Center	View
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local	Service (COD_SEOD_AGENT_QUEUE_WCF)	Tickets
Sales Representative Sales Manager Administrator Administrator - Local Contract Administrator Service Technician	Service (COD_SEOD_AGENT_QUEUE_WCF)	Work Tickets
Administrator Administrator - Local	Service Control Center (CI_CUSTOMER_CONTROL_CENTER)	All Views
Sales Representative Sales Manager Administrator Administrator - Local	Service Entitlements (CRM_SERVICEENTITLEMENTS)	All Views
Service Agent Service Manager Service Technician Administrator Administrator - Local	Stock (COD_STOCKLOCATION_WCF)	Stock
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Auto Sales Rep. Auto Sales Manager	Surveys (COD_QUESTIONNAIRE_WCF)	All Views
Service Agent Service Technician Service Manager Administrator Administrator - Local	Time Recording (COD_SEOD_TR_WCFP)	All Views
Utilities - Key Account Manager Utilities - Call Center Agent	Utilities (COD_UTILITIES_WCF)	All Views

Role	Work Center	View
Sales Representative	Visits (COD_VISIT_WCF)	All Views
Sales Manager		
Sales - Channel Manager		
Sales - Partner Manager		
Sales - Partner Contact		
Administrator		
Administrator - Local		
Auto Sales Rep.		
Auto Sales Manager		

Work Center Descriptions

Work Center Name	Description
Activities	Access information about appointments, e-mails, phone calls, and tasks.
Activity Planner	Plan activities, such as surveys and tasks, to use when conducting customer visits.
Administrator	Access the activities you need to perform for setup, configuration, and operations. This work center also provides access to the Business Analytics views that enable you to create custom reports.
Analysis	Access system analytical data and reports.
Application and User Management	Process system notifications.
(Beta) Administration	Beta version of an Administrator control center. For testing purposes only. Do not use in productive systems. Use Administrator work center instead.
Business Analytics	Create and edit custom reports.
Business Configuration	Access your implementation project, including scoping and configuration activities.
Business Partners	Access business partner data, including account hierarchies.
Category Structure	Define your category structure, which contains category structure fields that you can freely define. This constitutes of business characteristics.

Work Center Name	Description
<i>Competitors</i>	Access information about competitors and competitor products.
<i>Contracts</i>	Access information about contracts including covered products and service terms.
<i>Coverage Strategy</i>	Define your coverage strategy and assign valid stock and requirement categories to it.
<i>Customer Service</i> (COD_SEOD_AGENT_QUEUE_WCF)	Test system setup, such as social media channels and social media message import runs.
<i>Customers</i>	Access information on corporate accounts, contacts, and individual customers. For Banking, Client — Roll Ups displays account hierarchy, including the roll up of transactional and master data.
<i>Data Integration</i>	Replicate and maintain data from external systems if your solution includes integration to SAP ERP or SAP CRM systems.
<i>Data Privacy Management</i>	Remove employee data and private account data.
<i>Data Workbench</i>	Import and export data in for your solution here.
<i>ECC Search</i>	Search for Sales Orders in an SAP ERP system integrated to your solution.
<i>Employee Support</i>	Create and access support tickets for company employees.
<i>Feed</i>	Send and receive feed updates, allowing you to quickly communicate and collaborate with your network.
<i>Installed Base</i>	Track information for products installed at customer locations.
<i>Library</i>	Manage all of your uploaded documents.
<i>Sales Campaign</i>	Access all of your sales campaign information, from leads and target groups to campaigns.
<i>Mass Data Maintenance</i>	Export and import data using the migration tool.
<i>Master Data Replication</i>	Set up periodic import of employee master data records from SAP ERP or SAP CRM.
<i>Offers</i>	Access information on any offers running in-store or on any product.

Work Center Name	Description
<i>Organizational Management</i>	Contains Org Structures, Job Definition and Work Distribution . These functions are also available from the Administrator work center.
<i>Partner Access - Multi-Customer Solution</i>	Development: Allows partner's user to view or deploy multi-customer solutions in the SAP Cloud Application Studio.
<i>Partner Development</i>	Development: Allows partner access to the software development kit (SDK) as well as administrative tasks, for example, delete sessions and locks for other users.
<i>Partners</i>	Access partner information.
<i>People</i>	Access employee and group information.
<i>Products</i>	Access product information, including registered products. Information on SAP Apparel and Footwear (SAP AFS) products is also available here.
<i>Product Characteristics</i>	Maintain hexadecimal values for color and characteristics of a product.
<i>Recent History</i>	Review objects you have recently created, opened or changed.
<i>Sales</i>	Track leads and opportunities. Build forecasts, simulate your pipeline, define sales territories, and manage deal registration.
<i>Sales Organization Validity</i>	Provides ability to maintain sales organization validity for AFS material.
<i>Season-Collection-Theme</i>	Maintain products based on seasons, collections, and themes for AFS.
<i>Service Control Center</i>	Monitor your SAP Store orders, system availability and system maintenance schedule, your user subscriptions, and maintain your contact details.
<i>Service and Repair</i>	Access and edit tickets that require processing.
<i>Stores</i>	Search for a store and view store details.
<i>Surveys</i>	Create surveys to use during customer visits.
<i>Team Calendar</i>	Managers can use the team calendar to view, reschedule or reassign activities within their team.
<i>Tickets</i>	Read-only access to ticket information

Work Center Name	Description
<i>Utilities</i>	Provide end-to-end opportunity and quotation management for utilities service products.
<i>Visits</i>	Access and manage customer visits.

7 Licenses and Usage

SAP Cloud for Customer subscription is based on the number of users using the system. To manage subscriptions, a system administrator must create new user accounts and retire old user accounts that no longer require access using the license compliance reporting tool.

The terms that are frequently used in license management are defined as follows:

- **License:** The permission to use the software, provided as a part of the subscription. An SAP Cloud for Customer license identifies the specific number of individual users that can access the system at any given time.
- **Subscription:** Services that you get from SAP along with the price and period of those services. Licenses are defined as part of your subscription.
- **User:** An individual or entity that accesses SAP Cloud for Customer system and interacts with the system. Each person in your organization that accesses SAP Cloud for Customer must be created as a user.

Note

Don't delete users, unless they were incorrectly created.

- **Administrator:** An individual responsible for managing SAP Cloud for Customer on behalf of your organization, who creates users, manages licenses, and controls what information users can access in the system.
- **Counted User:** A user who currently has a license to access SAP Cloud for Customer. A user must be considered counted before they can access the system. A user is counted for subscription compliance purpose.
- **Limited Access User:** A user who only rarely accesses the system or uses the system to complete a few activities on the system. These users are assigned a specific license to complete their activities. Limited access users are counted users.
- **Business Role:** A business role defines the specific areas of the system the users can access when they're assigned to that role.

To learn more about managing users, see [User Administration \[page 150\]](#).

Note

Schedule a monthly check to view the total number of members using the system and disable unnecessary user accounts to ensure license compliance and to avoid additional costs. If your organization requires more users than you're currently licensed to, contact your CEE who can help qualify your license requirements and avoid charges associated with accidental overuse.

7.1 Configure Administrator Account

Learn how to manage licenses within the SAP Cloud for Customer system.

Context

A new user in SAP Cloud for Customer system requires:

- A user account
- A license

Licenses and users are separate entities. A user account is created and retired over a period of time. Only a fixed number of licenses are available as part of your subscription, so the licenses are assigned to and unassigned from users over a period of time.

Configure the administrator account to view user numbers.

Procedure

1. Go to ► *Administrator* ► *General Settings* ▾.
2. In the *Users* section, choose *Business Roles*.
3. Choose the business role associated with your user and click *View All*.
4. Navigate to *Work Center and View Assignments*.
5. Search for *CI_CUSTOMER_CONTROL_CENTER* and *Service Control Center* combination.
6. Expand the work center view, and verify if *Counted User Overview* work center/view name is selected.

Related Information

[User Administration \[page 150\]](#)

Users in your SAP Cloud for Customer system refers to employees, business users and other users such as partner contacts. Users are assigned to business roles and technically, access controls in your system are implemented on the business roles.

[Manage Authorizations \[page 160\]](#)

Administrators can control the status of users logged in to the system as well as their access to various data within the system. The complete framework of controls is summarized under this chapter - Authorizations and Access Control.

7.2 Assign Licenses to Users

Learn how to assign licenses to users.

Context

All users must have an appropriate license type assigned to be compliant with the licensing policy. To assign a license to a business user:

Procedure

1. Go to ► [Administrator](#) ► [General Settings](#) ► [Business Users](#) ►.
2. Choose a user that you want to edit, and then ► [Edit](#) ► [User Subscription](#) ►.
3. Choose [Add](#) in the [User Subscriptions](#) section.
4. Select a [User Type](#) and [Subscription Type](#) from the respective drop-down lists.

Note

Based on your contract, the User Type and Subscription Type drop-down lists are populated. You can select an appropriate User and Subscription Types to assign the correct user type and license type to a business user.

Additionally, you can find your license information navigating to ► [Service Control Center](#) ► [Purchased Licenses](#) ►. You can also find more details on SAP Cloud for Customer user types in the SAP Cloud for Customer Cloud Solution order form. Reach out to your Cloud Engagement Executive or Account Executive for this information.

7.3 Unassign Licenses from Users

Unassign unwanted licenses from business users.

Context

To reduce your overall license count, you can remove licenses from your business users.

Procedure

1. Go to ► [Administrator](#) ► [General Settings](#) ► [Business Users](#) ▾.
2. Uncheck the [Counted Users](#) checkbox from the business users from whom you want to remove licenses, and then choose [Save](#).

7.4 Determine the Number of Licenses Assigned to Business Users

Find out how many licenses are assigned to your business users.

Context

The number of counted users in a system must not exceed the number of purchased licenses to remain compliant with the licensing agreement.

A counted user is a user created in the system and is marked as Counted in the Business Users settings. Deprecated users can be marked inactive by unchecking Counted User in the Business Users settings.

Procedure

1. Go to ► [Service Control Center](#) ► [Counted User Overview](#) ▾.
2. In the [Counted User Overview](#), compare the total purchased volume against total counted users.

Note

If the total purchased volume is greater than or equal to total counted users, you're compliant. If otherwise, reduce the number of counted users or contact your customer engagement executive (CEE) or account executive (AE) for additional licenses.

You can also select each line to view a list of business users assigned to the user type. For instance, you can view all the users that are assigned to a [Limited User](#) user type, which is associated to the [Limited Access](#) licenses.


7.5 Determine if Your Limited Access Users Are Compliant

SAP Sales and Service Core, limited access is a license that has the same functions as the core package but is limited to 400 dialog steps per month.

Context

A dialog step is measured, each time the user initiates data movement in the cloud service. Each data movement in a multistep process, even if initiated by a single user action, is counted as a separate dialog step.

Procedure

1. Go to [▶ Service Control Center > Counted User Overview](#) .
2. Select *SAP Cloud for Customer, Limited Package, User* user type.
3. In *Usage Overview*, you can view the list of business users assigned to *SAP Cloud for Customer, Limited Package, User* user type. A red circle in the usage column indicates over-usage.



Note

You can check for compliance using the *Last Month Usage* and *Last 12 Months Usage* column views. Individual users who have breached compliance are indicated by red circle and users whose licenses are compliant by green squares. You can further view an individual business user's 12-month usage history by selecting the blue calendar icon.

7.6 Licenses and Usage FAQ

Look for answers for your frequently asked questions on licenses.

7.6.1 How do I know about the licenses that I have purchased and the ones currently consuming?

To get the information on the purchased licenses, go to [▶ Service Control Center > Purchased Licenses](#) . To get information on licenses consumed, go to [▶ Service Control Center > Counted User Overview](#) .

7.6.2 Who are assigned users and active users?

An assigned user is an unlocked business user in the system whereas an active user is a user who actively logs into the system.

7.6.3 How do I set up users with correct licenses for enterprise and limited access?

When defining a business user, you can assign user subscriptions to classify users correctly.

7.6.4 How can I report my organisation's usage?

In addition to the details provided in the *Service Control Center* work center, you can use the reports listed under ► *Administrator* ► *Usage and Response Time Statistics* ► to report on the usage.

8 Scoping and Other Business Configuration

8.1 Scoping Catalog - How it Works

The full set of solution capabilities are outlined in a central business adaptation catalog. This catalog organizes and structures the capabilities into a hierarchy of business areas, packages, topics, and options. SAP and its partners have already defined the technical system settings and the content that is needed to accommodate each element of the catalog. This predefined content is based on industry-specific best practices developed from the extensive knowledge and experience that SAP, with the help of its partners and customers, has acquired over the years.

The system has predefined content behind each catalog element. If you do not make an explicit selection for a specific element of the catalog, the system automatically uses default settings that are based on best practices for your industry and country/region. You can choose to accept these recommendations and skip straight to your scoping results, or you can adjust the preselections.

The scoping catalog comprises of:

- **Scoping Elements** that represent business components
- **Scoping Questions** that determine specific behaviour for features

8.2 What is Scoping

Scoping is the process of selecting solution capabilities that are stored in the business adaptation catalog.

You begin scoping by providing some basic information about your company, namely the countries/regions and type of business you operate in. This instantly causes the system to preselect the relevant elements of the business adaptation catalog and the corresponding predefined content. Since each company has unique requirements, the system then enables you to make a series of business decisions to adjust the preselected content and determine which of the available features and functions you want to incorporate into your solution.

Brief on-screen explanations are used to describe the functionality and relevance of each catalog element. If you do not make any explicit selections for a specific element of the catalog, the system automatically uses default settings based on best practices. This minimizes the number of decisions you have to make manually, while always ensuring that your scoping is complete and consistent. For example, if you scope *Account Management*, the system enables Accounts, Individual Customers, Contacts and Partners. Also, when you make a selection that creates a conflict, the system identifies the involved elements so that you can decide which selection to reverse.

The catalog has built-in rules to ensure that all selections you make are logical and consistent, from a business and technical point of view. Thus, when you make a selection, the system makes the necessary additional selections or deselections automatically. Also, when you make a selection that creates a conflict, the system identifies the involved elements so that you can decide which selection to reverse. The system provides you with embedded decision support throughout business configuration to simplify the process.

You can scope the following for your implementation:

- Countries/Regions and Localizations
- Business Processes
- Integration Landscape

8.3 Recommendations for Scoping

As you perform scoping for the first implementation project or for a change project, you can:

- Add a requirement to a business area if you feel a particular business area is missing some functionality. Later, an SAP solution adviser or partner will go through the catalog with you to check if any other catalog items fill the gap. If not, SAP or partners can define and create the new catalog items and underlying content that you require.
- Attach a note to any element of the catalog regardless of whether it is in or out of scope. You may want to do this for various reasons, for example to discuss a specific business option with a colleague from a different area of your company. At the end of scoping, you can see a summary of all your notes and deal with them efficiently.
- Use the embedded decision-support tools and documentation to see how certain selections affect your solution and to ensure consistency across all business areas. For example, the system provides you with a short explanation of each element of the catalog. You can also access information about the implications and consequences of selecting each element. For business topics, the system displays an icon beside each topic to illustrate which of the following categories it belongs to: Master Data, Processes and Functions, Forms and Messages, or Reports.

8.4 Process of Scoping

Understand the dependencies that exist between the elements of the catalog and the constraints that are applied by the selections you make during scoping.

Mandatory and In-Built Rules for Scoping

- **Mandatory Scoping Elements:** Some elements of the catalog are mandatory. For example, if you select the *Selling Products and Services* business package, you will also need the *Sales Order* business topic, which provides the core functionality associated with the package. The system automatically selects this topic for you, reducing the number of manual selections you have to make.

- **Build-In Rules for Scoping:** The catalog has built-in rules to ensure that all of the selections you make are logical and consistent, from a business and technical point of view. Thus, when you make a selection, the system makes the necessary additional selections or deselections automatically. For example, if you are a German customer and you select the *GKR* business option within the *Local Chart of Accounts* topic in the *Financials* area, the system automatically disables the *IKR* option, since you can use only one chart of accounts for local reporting within your company. Also, when you make a selection that creates a conflict, the system identifies the involved elements so that you can decide which selection to reverse.

Process of Scoping an Initial Implementation Project

Depending on what point you are at in evaluating or using the solution, there are different routes through which you can process your scoping. When you want to begin evaluating the SAP solution, you carry out a scoping workshop with the assistance of an SAP or partner solution adviser. The solution adviser guides you through the process of defining the initial scope of your solution with the first implementation project.

1. You select the countries/regions and the types of business in which your company operates. With this initial input, the system already begins to anticipate your requirements based on best practices for your country/region and industry. It is also possible to procure an implementation project template. This is a solution profile that contains scoping elements to suit specific requirements and business needs.
2. The system instantly preselects the relevant elements of the business adaptation catalog and the corresponding predefined content.
3. You review the scoping elements that the system preselected based on your country/region and type of business. You can accept these recommendations or you can adjust the preselections to determine which of the available capabilities you want to incorporate into your solution. Certain elements are mandatory for your scope and cannot be deselected.

Note

Built-in rules ensure that all selections you make are logical and consistent, from a business and technical point of view. Thus, when you make a selection, the system makes the necessary additional selections automatically. Also, when you make a selection that creates a conflict, the system identifies the involved elements so that you can decide which selection to reverse.

4. You answer scoping questions to make more detailed decisions about the capabilities of your solution. Most of the questions require only a simple Yes or No answer. Again, based on best practices, the system has preselected answers that you can accept or, where possible, adjust. Some answers are mandatory for your scope and cannot be changed.
5. You review your scoping results:
 - *Your Solution Proposal – Executive Summary* contains your company profile information and an overview of your scoping decisions.
 - *Your Solution Proposal* is a comprehensive report containing your company profile information and the detailed results of your scoping session.
 - *Your Notes Summary* is a summary of all of the notes you made during your scoping session.
6. You provide a description and a planned implementation timeline for your first implementation project.
7. Based on your scoping decisions, the system generates an activity list of the implementation and project management activities that you need to complete in order to go live. Once you have decided to purchase the solution, you can start working on these activities. Also, even after the activity list has been generated, you can review your scoping decisions and, if necessary, adjust your solution capabilities.

❖ Example

Catherine Kennedy-Wood, the CEO of Akron Heating Technologies, Inc., meets Laura Ellis, an SAP solution adviser, for the first time at a solution info day. During this meeting, Laura helps Catherine to define a company profile for Akron with basic contact information, and specify the countries/regions and industries that Akron operates in.

Laura schedules a scoping workshop with Catherine. A small group of Akron employees representing different areas of the company also attend the session.

They begin by confirming the decisions that Catherine made about the country/region and business type. Next, Laura takes a few minutes to introduce the idea of the catalog to the group. She explains that the system has already determined and highlighted the relevant business areas, packages, and topics from the catalog, based on their country/region and business type. At this point, they review and verify these preselections, making some adjustments.

When they have finalized the business areas, packages, and topics, they move on to the list of preselected business options. Laura explains that SAP has already defined the technical system settings that are needed to accommodate each business option. All that Catherine and her team have to do is review the preselected business options and answer the corresponding questions.

To make things even easier, Laura informs the group that they can simply decide to accept SAP recommendations and skip straight to the results, without reviewing each individual business option. These recommendations are based on industry-specific best practices, developed from the knowledge and experience that SAP, along with its partners and customers, has acquired over the years. Catherine chooses to accept the recommendations.

The results provide Catherine and her team with a summary of the decisions made to-date that can be used as the basis for an initial proposal.

8.5 Activity List and Fine Tuning

The **Activity List** is automatically generated by the system based on your scoping decisions and the activities are grouped by phases. It includes all mandatory implementation and project management activities that you need to complete.

Once you have finished preparing an implementation project, you can begin to work with the Activity List for the project. The Activity List includes all mandatory implementation and project management activities that you need to complete before your solution can go live for the first time, in the case of your first implementation project, or before your changes can be merged with your live solution, in the case of a change project.

To access an activity in the activity list, do the following:

1. Choose ► [Business Configuration](#) ► [Implementation Projects](#) ►
2. Highlight the appropriate project and choose [Open Activity List](#).
3. Search for a relevant configuration activity or scroll down to view the list of available activities. The list is based on the elements that you have scoped in your business adaptation catalog.

8.6 Custom Scoping Requirements

1. Go to **Business Configuration > Implementation Projects** and select the relevant implementation project.
2. Select **Open Activity List**, and in the **Fine-Tune** tab, choose **Show All Activities**, and find the **Countries** fine-tuning activity.
3. To add a country, select **Edit Countries**. You can define the country-specific information such as the language, currency, postal, bank and tax details. You can also maintain the translation of the short and long name of the country in various languages.
4. To add a specific time zone for the defined country, select **Specify Time Zones**.

Maintain Code List Mapping for the Country You Have Added

1. Go to the **Code List Mapping for Integration with External Applications** and Solutions fine-tuning activity, select **Maintain Code List Mapping**.
2. Search for the **Local Data Type Name** CountryCode.
3. In the **Code List Mapping** section, select the country you have defined, and in the **External Code** field, enter the country code defined in the on-premise system.

The new country code you defined is now available for use in the views like **Sales Quote**, and **Account**.

8.7 Manage Change Projects

After working with your solution for a period of time, if you need to adjust your scope to meet changing business requirements, you can create a change project. You prepare and implement a change project in a separate project area. This means that your business processes are not interrupted and that you can have several change projects in progress at once. It is important to note that your changes do not take effect until you merge them with your solution.

Change projects are mostly business-triggered with a project approach. The changes are made in a separate environment, allowing you to simulate the changes. Activate your changes only when you are sure your changes do not contradict decisions made in the production system.

The main part of preparing a change project is selecting scoping elements and reviewing scoping questions. In addition, you identify mandatory and optional activities for implementing the changes, and you provide additional information about the project. Based on your decisions, the system generates an activity list for your change project containing all mandatory activities that need to be completed in order to use your changes productively in your solution.

Where Do You Create a Change Project?

- Change projects can be created in a production system only when the initial business configuration project (First Implementation) in that system is set to live. When using a change project, a copy of your production system profile is made and the system generates a delta Activity List based on your changes in scoping. Minor changes requiring no testing can be done locally on the productive system. If testing is required, the project is copied to a test tenant, then later merged back to the productive tenant.
- Change projects cannot be created in a test system. When a new change project is created, a copy of the live project is created as a new project with user provided description, name etc.
- Multiple change projects can exist at a given point of time in a production system. Different change projects may be not in sync with each other depending on the state of the live project configuration when the copy from the live project was made.
- The live solution is not affected by the changes until they are merged with the production system.

Procedure to Create a Change Project

1. Under **Business Configuration > Implementation Projects**, click **New** to create a new change project.

Note

To edit the scope of a change project you created previously, select the project and click [Edit Project Scope](#).

2. **Optional:** On the [Select Scenario](#) step, select a change scenario that SAP has defined for typical business-driven changes, for example, adding or removing a country.

Note

To learn about a particular change scenario, click the title of the change scenario.

Note

At this or any subsequent step of the guided activity, you can click [Project Details](#) to view either a basic or complete overview of your change project.

3. On the [Adjust Scoping](#) step, adjust the capabilities that you want in your solution. The solution capabilities are structured as a hierarchy of scoping elements: Business areas contain business packages, and business packages contain business topics. Certain elements are mandatory for your scope and cannot be deselected.

Note

The system has built-in rules to ensure that all selections you make are logical and consistent from a business and technical point of view. When you make a selection, the system makes the necessary additional selections automatically. If you make a selection that the system does not allow, a warning icon will display in the **Conflict** column next to each affected scoping element. For guidance on how to resolve the issue, you can select an element and review **Dependency**. To quickly identify all elements with conflicts, you can select [Elements with Conflicts](#) from the [Show](#) list.

1. Open the first business area in the hierarchy.
2. Within the first business area, choose the business packages and topics that you want to adjust.
3. Repeat for each business area as required.
4. Review the changes you made in this step of the guided activity as well as the changes made automatically by the system.

Note

The history of changes is cleared once you proceed to the next step.

5. Click *Next* to continue.
4. On the *Review Questions* step, answer the scoping questions for any adjustments you've made.

Note

Scoping questions appear at the business topic level. Certain items are mandatory for your scope and cannot be changed.

1. Select a desired business area, then select a business topic.

Note

Related groups of scoping questions appear on the right side of the screen. Each new group initially displays the **Not Reviewed** status.

2. Review the questions within each group and, if necessary, change the **In Scope** status.

Note

To learn more about a question, click *Details* and review the information on *Overview*, *Relevance*, and *Dependency*.

The information on *Dependency* changes based on the state of the scoping element. If it is possible to change the selection for the element, the tab lists a simulation of the system selections that would result. If it is not possible to change the selection for the element, the tab lists the elements that caused its current state. If the element is in conflict with other selections, the tab lists them so that you can decide which selections to reverse.

3. Repeat for each subsequent business area.
4. Choose *Display Scope Changes* to review the changes you made in this step of the guided activity as well as the changes made automatically by the system.

Note

The recent changes are listed in descending order. The history of changes is cleared once you proceed to the next step.

5. Click *Next* to continue.
5. On the **Complete Project Setup** step, review the summary of changes and provide additional information about your change project.
 1. Review the **Summary of Changed Elements** and, if necessary, click an element type to go back to the corresponding step in the guided activity.

Note

For example, choose [Scoping](#) to go back to the **Adjust Scoping** step.

2. Enter the **Title** and **Description** for your change project under **General Information**.
3. Optional: include two additional types of activities to the activity list for your change project under **How to Proceed** :

Note

- **Milestones:** progress markers for your change project. They are not necessary for the successful implementation of a change project and must be added to the activity list manually, if desired.
- **Instructional Activities:** provide instruction and guidance. To include these activities in the activity list, select [Include Instructional Activities in Activity List](#).

4. Select the **Start Date** and **End Date** for your change project under **Planned Implementation Timeline**.
5. Choose [Finish](#).

Note

Scope changes can lead to inconsistencies in the solution profile that have to be resolved before you can start the implementation of your changes. In case inconsistencies are detected, a window appears giving you two options:

- Cancel the finalization of the change project.
- Continue to the next step, save the project with inconsistencies, and resolve these at a later stage.

6. Review your scoping results at the **Confirmation** step, then choose [Close](#) to return to the **Implementation Projects** view and start implementing your change project.

Result of Creating a Change Project

Based on your decisions, the system generates the activity list for your change project.

You can now:

- Start working on the activities in your activity list
- View a basic or detailed summary of your change project

If inconsistencies are present, a message appears stating the change project has been saved, but with inconsistencies in some fine-tuning settings. Instead of a link to **Open Activity List to Implement Changes**, a link to the **Resolve Inconsistencies** screen appears.

Note

- Any scoping decisions you make as part of your change project are deployed when you complete the **Merge Changes with Production System** activity in the activity list. After completing this activity you cannot adjust the scope of this change project.
- Any scoping changes you make may affect the organizational structure. Therefore, you should always check the consistency of the organizational structure, which you can access from the **Perform**

Organizational Structure Setup activity in the **Fine-Tune** phase of the activity list, or from the *Organizational Management* work center.

To check the consistency after making scoping changes, go into Edit mode (the **Planning Area**), and then choose *Activate All*. Any inconsistencies will appear as messages, which you must resolve.

For more information, see [Understanding Change Projects](#).

8.8 Define Persona

Persona is a fictional representation of your user groups.

Based on their characteristics, behavior, goals, motivation, preferences, and values, a user group persona is defined. In the solution, you will find different personas created for SAP Sales Cloud and SAP Service Cloud. Persona creation depends on the scope of the business configuration. Learn about the standard business configuration scoping [details \[page 74\]](#) for each persona.

As a part of business scoping, the following mandatory business scoping is required for activating each persona:

Persona	BC Entity Description
Sales Rep	Configure Business Objects for Attachment Search
	General Settings Product Business Partner Relation
	Integration of Product Data from SAP ERP to Your Cloud Solution
	Competitor Products
	Competitors
	Email
	Business Option for Sales Planning (SAP CRM OnDemand)
	General Settings Lead
	Sales Quotes
	Phone call
Service Agent	Chat
	Email
	Product Registration
	Phone Call
	Warranty
Service Manager	Support Computer Telephony Integration (CTI)
	Chat
	Product Registration

Persona	BC Entity Description
	Warranty
	Support Computer Telephony Integration (CTI)
Field Sales Executive	Promotions
	General Settings Product Business Partner Relation
	Configure Business Objects for Attachment Search
	Library

9 Set-Up Org. Structures

Set up your SAP Cloud for Customer organizational structure including business organizations and sub-units. The organizational structure establishes reporting lines and allows automatic work distribution.

Org. structures are used in your system for the following functions:

- To cluster master data such as accounts, prices and products.
- In reporting, sales data can be aggregated at each org. unit level.
- As part of access context and its restriction rules.
- For processing leads, opportunities, quotes or orders.
- For the reporting line function (manager assignment) that can be used for notifications or approval workflows for managers.

9.1 Organizational Management

Organizational Management (OM) is the central source of organizational information in the SAP Cloud for Customer solution.

OM is used to model the organizational structure by providing a graphical representation of it through an organizational chart. In addition, the organizational structure reflects the company entities and aspects, such as legal, operational, and functional. SAP Cloud for Customer accesses the organizational structure whenever business processes require information related to a company organization.

Ensure your company has a relevant organizational structure by considering the following principles:

- Time dependency: All information stored is time dependent.
- Active version versus. Planning version: The system can differentiate between the planning version and the active version of the organizational information.
- Consistency checks: There are some checks, which help maintain OM consistency all the time.
- Partial activation: It is possible to activate smaller parts of the organizational structure, while continuing to work with other parts.

9.2 Enable and Scope Org. Structures

Enable organizational structures in the scoping under [Business Configuration](#) > [Implementation Projects](#) > [Edit Project Scope](#) > [General Business Data](#) > [Master Data Organizational Management](#).

9.3 Create Your Org. Structure

Setting up an organizational structure enables automated routing of work such as opportunities, sales quotes, and service requests. The organizational structure is composed of units and provides a unified representation of your company's organizational data.

To create your org structure, you must first plan your org structure. Use your existing organizational structure plan as a basis for creating the org structure in the system. When you start creating the structure, we recommend that you build from the top down; that is, start with companies and then add the sales organizations or departments, including your sales and service teams. You must also take the following points into consideration:

- Decide whether you want to distribute work based on your company's structure.
- Decide whether you want to control data access based on sales data .
- Decide how you want to organize your employee records, accounts, price master data or products.
- Gather all data relevant for organizational management, such as the managerial, and functional data of your enterprise

→ Tip

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

Recommendations

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

- The uppermost node of your org structure should be an org unit defined with the *Company* function.

→ Tip

You have to create and open the org unit details before you can select the *Company* function.

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

→ Tip

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

- The nodes that you create below the *Sales Organization* node can be for example, *Sales Units*, and the nodes that you create below the *Service Organization* node can be for example, be *Service Units*. It's also

possible to create organization, whichal units underneath a sales/service organization are not flagged as a sales/service unit.

However, it is not recommended to interrupt the setup of the sales or service function along the organizational hierarchy as application logic (e.g. access restriction rules) may not consider functional units underneath a node, which is not flagged as service or sales unit.

→ Tip

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

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

⚠ Caution

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

The screens for organizational management have been simplified to enable you to create and maintain your organizational structure. The changes you make to your org structure does not require explicit activation. You should update and activate any existing org structure information prior to the upgrade and migration.

9.4 Create an Org. Unit

1. Select ► *Administrator* ► *General Settings* ► *Company* ► *Org Structures* ⌵.
2. Create a new org unit by choosing ► *New* ► *Org Unit* ⌵.

To create a new sub-org unit, select the parent org unit in the list and then choose ► *New* ► *Sub Org Unit* ⌵ or enter the *Parent Unit* in the form.

3. Enter the *Valid From* date (today's date, or a future, fixed date) and the *Valid To* date.
4. Enter the address details for the unit.
5. Select the appropriate functions for the unit.

Function	Description
Sales	<p>The <i>Sales</i> function indicates that the org unit is responsible for the processing of documents, such as opportunities or sales quotes.</p> <p>In sales reporting, sales data is aggregated at the sales unit level. The sales organization is a specific type of sales unit, which is used to head complete areas, regions, or countries.</p> <p>Relevance</p>

Function	Description
	<p>Select this function if employees assigned to this org unit will perform tasks in the areas described above or if sales data is to be aggregated at the level of this org unit.</p>
Sales Organization	<p>The <i>Sales Organization</i> function indicates that the org unit represents the top level of a sales hierarchy.</p> <div data-bbox="497 533 1396 770" style="background-color: #f0f0f0; padding: 10px;"> <p>Note</p> <p>Example</p> <p>For your domestic sales, you create a sales hierarchy and define the top level org unit as a sales organization. Then below that org unit, you add additional units, defined as sales units, that represent regional sales groups and sales departments.</p> </div> <p>The sales organization is also used for defining sales data in master data.</p> <ul style="list-style-type: none"> • Sales data in the product and account master can be defined in relation to the sales organization in combination with the distribution channel and division. • Internal price lists can be defined based on the sales organization and distribution channels. • The combination of the sales organization, distribution channel, and division is also included in sales documents, such as sales orders or service orders. <p>Relevance</p> <p>Select this function if the org unit represents the top unit of a sales hierarchy. All sales-relevant master data and pricing must include a sales organization.</p>
Service	<p>The <i>Service</i> function indicates that the org unit is responsible for the management, monitoring, and execution of services, such as the handling of product inquiries, providing recommendations, and pre- and post- sales support. Customer service can be provided by a service desk or by field or in-house service teams.</p> <p>Relevance</p> <p>Select this function if employees assigned to this org unit will perform tasks in the areas described above.</p>
Service Organization	<p>The <i>Service Organization</i> function indicates that the org unit represents the overall organization responsible for customer service. Below the service organization, you can define individual service units to represent the various service and support teams and departments within the service organization.</p> <div data-bbox="497 1668 1396 1821" style="background-color: #f0f0f0; padding: 10px;"> <p>→ Tip</p> <p>If the services provided are sold to your customers, you will also need to define a sales organization.</p> </div> <p>Relevance</p> <p>Select this function if the org unit represents a fixed entity for service reporting that can be referenced by all service documents.</p>

Function	Description
Marketing	<p>The <i>Marketing</i> function indicates that the org unit is responsible for target group and campaign management, capturing campaign responses, market and competitor information, and lead generation.</p> <p>Relevance</p> <p>Select this function if employees assigned to this org unit will perform tasks in the areas described above.</p>
Company	<p>In the context of organizational management, a <i>Company</i> represents an org unit that is financially and legally independent, that is not tied to a geographical location, and could be registered under business law.</p> <p>Each org structure must contain at least one org unit that is defined as a company. Saving the org unit as a company automatically creates an associated business partner which is used in the context of seller party or output form determinations.</p> <p>You set the default currency for the organization within the company org unit.</p>
Reporting Line	<p>The <i>Reporting Line</i> function defines the org unit as part of a reporting line. The manager assigned to this org unit is considered the reporting line manager for workflows. By not selecting this function, the assigned manager is treated as a functional manager for workflows.</p>
Sales Office	<p>If your solution is integrated with SAP ERP, use the <i>Sales Office</i> function to identify org units as sales offices. This function is delivered hidden and needs to be added via personalization or adaptation.</p>
Sales Group	<p>If your solution is integrated with SAP ERP, use the <i>Sales Group</i> function to identify org units as sales groups. This function is delivered hidden and needs to be added via personalization or adaptation.</p>

- Save your entries.
- To select the *Company* function for the org unit, open the unit details and make your selection under *Functions*.

→ Tip

You can also add the *Company* function to the quick create dialog via adaptation or personalization if you plan to use it more frequently.

It's important to note that saving an org unit defined with the *Company* function will automatically create an account (business partner) in your system that can be used for internal

📘 Note

You can create new org units using the familiar quick create dialog and edit org units similar to other items in the solution using the details form.

You can import, update, and export the organizational structure using the *Data Workbench*. No configuration is necessary for this action

ⓘ Note

Official *Data Workbench* limitations for release August 2017 are applicable.

9.5 Restrict Assignment of Org. Sales Data to Accounts and Employees

If you have an org. unit with function - *Sales Organization*, then in the *Sales Data Restriction* tab, you can add distribution channels and divisions from this org. that you do not want to get assigned to accounts or employees.

Note that you still have the option to change these in the business documents.

ⓘ Note

If the org unit function is - *Sales Organization* and you do not see the *Sales Data Restriction* tab, you need to adapt or personalize the screen to make the tab visible.

9.6 Add Employees and Managers to Org. Units

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

ⓘ Note

An **employee** can be assigned to only one org unit. A **manager** can be assigned to multiple org units.

But before you can assign an employee as the manager of an org unit, that employee must first be assigned, as an employee, to only one org unit. Typically you would do this when creating the employee in the system. The employee master record of a manager will always show the org unit to which the manager is assigned as an employee.

If you can't assign the manager, ensure that the appropriate org unit and job definition are assigned to their employee.

Prerequisites:

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

Procedure

1. From the *Org Structures* screen, select the relevant org unit from the list.
2. On the *Employees* tab, click *Add* to assign employees on the *Employees* view or a manager on the *Managers* view to the org unit.

3. Select the employee or manager you want to assign to the org unit and click *OK*.
The validity dates are derived from the org unit itself, but you can adjust them.
4. For employees: To assign a job definition to the employee, select the employee in the list and click *Edit* in the *Job* column.
For managers: If the manager is in the reporting line, then on the *Functions* tab for the unit, select *Reporting Line Unit*. Otherwise the manager is considered functional.
Both reporting line and functional managers are used for determining relevance for approvals and other workflows.
5. Save your entries.

9.7 Delete Org. Units

As an administrator, you can also remove org units from your hierarchy.

The simplest way is to just change the validity period so that the org unit is expired. You can also delete org units, starting with the lowest in the hierarchy.

1. Select the relevant, lowest level org unit from the list.
2. Choose *Delete*.
The system will run a check and present any conflicts or business objects connected to the org unit in the confirmation dialog. If the org unit has any subordinate units, you can't delete it.
3. If all checks are clear and you still wish to delete the org unit, confirm the action by choosing *Delete*.
A timestamp replaces the org unit ID in any connected business objects.

→ Tip

If referenced data does already exist, we recommend you rename the org unit prior to deleting it so that you can more easily identify it within your business objects.

9.8 Restrict Assignment of Org. Sales Data to Accounts and Employees

If you have an org. unit with function - *Sales Organization*, then in the *Sales Data Restriction* tab, you can add distribution channels and divisions from this org. that you do not want to get assigned to accounts or employees.

Note that you still have the option to change these in the business documents.

ⓘ Note

If the org unit function is - *Sales Organization* and you do not see the *Sales Data Restriction* tab, you need to adapt or personalize the screen to make the tab visible.

9.9 Configure Divisions

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

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

Use fine-tuning to map the SAP Cloud for Customer *Division* field to the corresponding field in SAP ERP.

To configure divisions, navigate to ► *Business Configuration* ► *Implementation Projects* ► *Open Activity List* ► *Fine-Tune*], select the *Division* activity.

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

9.10 External Identifiers

The *External Identifiers* tab allows you to choose the appropriate external business identifiers; for example: D-U-N-S, to apply to the org unit. These identifiers can then be used in business-to-business transactions.

9.11 Configure Organizational Work Distribution

Create rules to manage the distribution of work within your organization. The system uses these rules to evaluate work items and to determine the org unit responsible for the work items. Depending on the work category, the system directs the work item to the determined org unit, or provides the org unit as a proposal in the relevant business document.

Business background

Organizational work distribution contains all work categories that the system uses to determine the org unit responsible for a specific business document. A work category for organizational work distribution is always linked to the function that is defined for the org unit. The function of an org unit defines the role of the org unit in the business process. Each function represents a certain business area and a set of work centers and work center views that are needed by the assigned user to complete work for this area.

→ Tip

A prerequisite for organizational work distribution is the correct setup of your org structure. This includes the correct assignment of functions to org units according to the work which is performed in those org units.

Create a Work Distribution Rule

1. Go to **Administrator** > **General Settings** > **Work Distribution** and choose **Organizational Work Distribution**.
2. In the **Organizational Work Distribution** view, select a work category.
3. Click **Edit**.

Note

You cannot change work distribution for past dates. If the **Edit** button is disabled, check the **Effective Date** and ensure that you have not entered a date that occurs in the past.

4. Choose **Work Distribution Rules**, then click **Add**.
If you want to copy an existing rule, click **Copy**.
The system processes work distribution rules for organizational work distribution along their priorities. If you have maintained multiple rules for a work category, the system only uses the first rule that applies to the properties of the evaluated business document. By adding a rule you are creating a new rule that is added to the bottom of the list. If you wish to insert a rule of a higher priority, then change priority by moving the rules up and down in the table.
5. Enter the name of the rule.
6. Enter the ID of the responsible org unit.
7. Enter the validity period of the rule.

Note

If you change or delete a work distribution rule that begins before the effective date, the rule is only valid to the date before the effective date. If you only change the rule, the system creates a new rule based on the existing rule and includes the changes you make. The new rule is valid as of the effective date.

8. Go to the **Rule Details** section and specify the parameters for the rule.
Each parameter appears as a tab, for example, **Company**. Using the parameters, you can specify exactly both which parameter is to be included in the rule or excluded from the rule.
9. Click **Check** to verify whether your rule is consistent.
10. Click **Save** or **Save and Close**.

Delete a Work Distribution Rule

1. Go to **Administrator** > **General Settings** > **Work Distribution** and choose **Organizational Work Distribution**.
2. In the **Organizational Work Distribution** view, select a work category.
3. Click **Edit**.

Note

You cannot change work distribution for past dates. If the **Edit** button is disabled, check the **Effective Date** and ensure that you have not entered a date that occurs in the past.

4. Choose *Work Distribution Rules*.
5. Select the work distribution rule you want to delete and click *Delete*.
6. Click *Save* or *Save and Close*.

Set a Work Category to Global Work Distribution

1. Go to **Administrator** > *General Settings* > *Work Distribution* and choose *Organizational Work Distribution*.
2. In the *Organizational Work Distribution* view, select a work category that has the status *Defined Work Distribution*.
3. Click *Action* and select the option *Set to Global Work Distribution*.

10 Manage Transport Requests

As an administrator, you can manage all your transport requests in one place. You can create transport requests and move content between different systems in the same release versions.

This means that if the release versions are different, for example, if the production tenant is in 2011 version and the test tenant is in 2102 version, you can't transport the content.

Note

This feature is available only for customer systems and not for partner systems.

The following transport objects are supported in the standard system:

- Adaptation Changes
- Add-On Solutions
- Analytical Content
- Business Roles
- Code List Custom Order
- Code List Restrictions
- Custom Work Center
- Custom OData Service
- Key User Extension Fields
- Language Adaptations
- Local Form Templates
- Mashups
- Organized Work Centers
- Surveys
- Templates
- Workflow Rules

10.1 Configure Transport Routes

The first step to managing your transports is to define the transport routes from the source system to the target system.

Steps to create a transport route are described as follows:

1. Navigate to ► [Service Control Center](#) ► [Systems](#) ► [Active Systems](#) ►, and in the [Overview](#) tab, click [Create Transport Route](#). The system opens a dialog box.
2. In the [Create Transport Route](#) dialog box, select the [Target System](#) from the available list of active systems assigned to the customer. The source system is defaulted to the current logged on system and is read-only.

3. Click *OK*.

You can view the existing transport routes listed in the *Service Control Center* screen. Click the *System ID* link to view the transport routes for the system. If you are logged on to the selected system, all the connected systems are displayed. For any other system, only the transport route to the currently logged on system is displayed.

10.2 Configure Transport Requests

Once you have defined the transport route, you can create a transport request.

Note

You can create transport requests and move implementation content between different systems in the same release versions. This means that if the release versions are different, for example, if the production tenant is in 2011 version and the test tenant is in 2102 version, you can't transport the content.

Navigate to ► *Administrator* ► *Transport Management* ► and open the *Transport Request* page. The following table explains the different field labels on the screen:

Labels	Explanation
<i>Status</i>	<p>Defines the current state of the transport:</p> <p>The status values for local transport requests are:</p> <ul style="list-style-type: none"> • New - Indicates a new transport request (target systems and transport objects may have already been assigned, but the assembly has not yet started) • Assembly Started - Indicates that the assembly process has started and is currently running as a background job • Assembled - Indicates that the content of the assigned transport objects is collected and packaged in the transport object • Assembly failed - Indicates that an error occurred during the assembly process. The transport log lists the details of the error. • Released - No further changes can be made to this transport. Transport is released to a target system. However, you can still add additional target systems and the assembled content is sent to those systems as well. • Assembled with Warnings - Indicates that only some of the assigned transport objects were successfully assembled. The transport log lists the details • Closed - Indicates the transport request is no longer available for use, either for transports nor for copying or to add any target system). By setting a transport request as closed, you avoid using the request to move content to another target system. <p>For transport requests that are not local, the status values are:</p> <ul style="list-style-type: none"> • Imported - Indicates that the transport request is received from the source system and is created in the target system • Activation Started - Indicates that the activation process has started and is currently running as a background job • Activation Failed - Indicates that an error occurred during the activation process. The transport log lists the details of the error. • Partially Active - Indicates that only some of the assigned transport objects were successfully activated. The transport log lists the details. • Activated - Indicates that the activation is successful.
<i>Source System URL</i>	<p>In the target system, use this URL to navigate to the transport request in source system. Similarly, in the source system, use <i>Target System URL</i> to navigate to the transport request in the target system.</p>
<i>Local</i>	<p>Indicates whether the transport request is imported or created in the current system.</p>
<i>Action Required in Target System</i>	<p>Indicates if any action is required in the target system. When the transport object is imported and ready for activation, the field is updated. The checkbox is selected if the transport object is ready for activation in one or multiple target systems. The field is reset after the actions are complete in all the target systems.</p>

10.2.1 Create and Copy Transport Requests

1. In the *Transport Management* launch page, click **+** to open the *New Transport Request* dialog box.

Note

You can also copy existing transport requests to create a new one, irrespective of their statuses.

In the *Transport Management* launch page, select the transport request you want to copy, and under the *Actions* menu, click *Copy*. Alternatively, in the detailed view, click **More > Copy** to copy the transport request

The target systems are copied if the transport request being copied is a local transport request (created in the same system). The target systems are not copied if the request has been imported to the system. Further, if any of the target systems is not active, it will not be copied.

2. Enter a name and note and click *Save and Open*. The *Transport Request* window opens.

10.2.2 Select and Add Transport Objects to Transport Request

1. In the *Transport Objects* tab, click *Select*. The *Select Transport Objects* popup window opens.
2. In the new window, select one of the transport objects from the first column in the table listed here, followed by the relevant step listed in the **Further Steps** column, and then click *OK*.

Transport Object	Further Steps and More Information
Adaptation Changes	<p>Enter the work center ID (use wildcards to search for a work center) or use the value help.</p> <p>You can move the key user adaptations in master layout and page layouts using Transport Management:</p> <div data-bbox="638 1534 1394 1691"><h3>Note</h3><p>Analytical content related to embedded reports are also part of these Adaptation Changes transports.</p></div>
Add-On Solutions	<p>As an administrator, you can transport add-on solutions that have been assembled in SAP Cloud Application Studio, across systems. If a solution is in development and the following conditions are met, then an assembly can be triggered from transport management.</p> <ul style="list-style-type: none">• No locks exist• The mandatory business configuration elements exist• All entities can be successfully activated

Note

You must have necessary authorizations to the *SAP Cloud Application Studio Developer* workcenter in SAP Cloud Application Studio.

Restriction

- You cannot transport deletion patches.
- You cannot transport key user (KUT) solutions since these solutions have own lifecycle management.
- Due to automation, there is no e-mail communication after you have assembled the add-on solution.
- Only the latest patch version can be selected for transport.
- You cannot trigger partial assembly from the transport request. The assembly from the transport request will always be complete solution assembly.
- You cannot transport deployed solutions.
- You cannot transport to partner development systems.
- If patch solution and original solution both exist, then the solution goes in the original namespace as a replacement via transport management.
- Unlike SAP Cloud Application Studio solutions, you cannot transport to the same system.

Analytical Content

Select an object type and object ID from the value help.

Business Roles

Select a business role ID from the value help. You can activate unchanged business roles in target system.

When you transport a business role from one system to another, a new role is created. If the business role already exists, and the content is unchanged, such a role is not affected by the transports. If the business role already exists and the content is different, the system raises an error during activation. You must manually adjust the business role content to proceed further. .

The new business role is created in the **In Preparation** status, and you must activate it.

If a business role contains work centers and work center views that do not exist in the target system (for example, because of scoping or a missing add-on solution), they are not created in the target system.

If there are UI switches that are part of the business roles, ensure that the underlying SAP Cloud Application Studio solution is deployed before business role is created.

Note

The following data is not transported in business role:

- Notes History
- Responsible Identity
- Restriction rule 99

The values are hard coded master data in rule 99. We cannot be sure that these master data, such as, Customer ID, Territory, Sales Org and so on, will exist with the same ID in the target system.

This might create a mismatch during transports, and therefore the requests might fail.

- User Assignment

Code List Custom Order

Code List Custom Order are automatically included as mandatory dependencies in all transports wherever applicable. They are also automatically included in adaptation changes transports.

Code List Restrictions

Select business object, the code to restrict, control field, and the business role from the value help.

You don't need to transport the UI layout to transfer the code list restrictions as the code list restrictions is a separate transport object.

Custom Work Center

Select work center or work center view from the drop down.

The new work center created in the target system may have a different technical ID, however the description is the same as in the source system.

Custom OData Service

Move custom OData services between systems using transport management. Select *Custom OData Service* transport object type and then select the appropriate *Custom Service Name* that you need to move.

Key User Extension Fields

Select business object and extension field from the value help.

This feature is supported for the following transport objects:

- Add-On solutions
- Business Roles
- Language Adaptations
- Form Templates
- Code List Restrictions
- Organize Work Centers
- Custom Work Center
- Survey
- Workflow Rules
- Code List Custom Order
- Key User Extension Fileds

Transport Object

Further Steps and More Information

Transport key user extension fields; You can search for the key user extension fields by transport object, business object and key user extension fields. Note that these fields created in SAP Cloud Application Studio will not appear for selection here.

⚠ Restriction

Analytical objects and forms/reports are NOT considered in these transports.

Language Adaptations

Select the target language from the dropdown menu.

Local Form Templates

Enter the path for the template form in the *Local Form Template* field. The template path may look like this, for example, /BYD_COD/ServiceOnDemand/Collaboration/PT_ZCPES_CI_E.QA.uicomponent.

The form templates must be in published status to be included in the transport request.

Mashups

Select a mashup from the value help.

- You can transport mashups that are created by customers.
- You can transport standard or pre-delivered mashups for which layout changes exist for changing URL or status of the mashup.
- If there are mashups with the same ID in the source and target systems, then the system compares the content. If the content is same, then the content is skipped during activation in target system. If the content differs, the mashup in the target system is deleted and recreated with the content coming from the source system with the same ID. If the deletion fails, delete the usage and try again.

⚠ Restriction

- Mashups must be in status active to be included in a transport request.
- You cannot transport mashups created by partners. Use the SAP Cloud Applications Studio deployment.
- You cannot transport data mashups using partner created web services.

Organized Work Centers

Select a organized work center name from the value help.

- If a configuration with the same name already exists in the target system, it will be replaced with the new transport.
- Ensure that the dependent work centers and work center views are scoped and available in the target system.

Surveys

Select a Survey ID from the value help.

Transport Object	Further Steps and More Information
	<ul style="list-style-type: none"> Surveys imported in the target system is in the <i>In Preparation</i> status. If the dependent objects such as, products, product lists, and classifications, are not available in the target system, then warnings are raised during assembly and activation.
<i>Workflow Rules</i>	<p>Select a description and then select a Business Object from the value help.</p> <ul style="list-style-type: none"> The workflow rules are created in the inactive status in the target system, and you must activate the workflow rules. If email templates are part of the workflow rules, they are also transported along with the rules. If PDFs are used in the rule, then you must assign them to the rule in the target system before activating it.
<i>Templates</i>	<p>Templates under ► Service (work center) ► Templates ► are enabled for imports and exports using transport management.</p> <p>Specify description, business object, template ID, type and usage type and channel type to search for templates to add to the transport.</p> <div data-bbox="624 994 1401 1126" style="background-color: #f0f0f0; padding: 10px;"> <p>Note</p> <p>Workflow templates are not supported with this feature.</p> </div>

Note

Select a transport object and click *Add Selected* to include it in the transport request. To include all the objects, click *Add All*.

- When you select and add a transport object, mandatory dependencies associated with the transport object are automatically updated for the object. These mandatory dependencies cannot be removed unless you remove the transport object from the transport request.

10.2.3 Review or Add Mandatory And Optional Dependencies

The standard system has hardcoded dependencies that are added to transport objects when they are added to transport requests. You can add optional dependencies too.

- Mandatory Dependencies:** The standard system proposes mandatory dependencies that include objects that have a dependency with the selected transport object. You can add further additional mandatory dependencies if your transport object has been modified in the meantime. Use the *Update Mandatory Dependencies* action to manually add mandatory dependencies.
For objects that have been added through mandatory dependency, you can view the list of source objects having dependency on the selected transport object using action - *Explain Dependency*. Such objects have the selection method - *Added by Dependency*.

Click ► [Action](#) ► [Update Mandatory Dependencies](#) ► if you need to add new mandatory dependencies. You can also use this action to add dependencies if objects have been changed since they were last added to the transport request.

2. **Optional Dependencies:** Apart from mandatory dependencies, you can add optional dependencies to a transport object using the action - [Add Optional Dependencies](#).

Click ► [Action](#) ► [Add Optional Dependencies](#) ► for the system to propose dependencies that you can add to the transport request.

Also, look up the list in this document to understand the mandatory dependencies supported for each transport object.

Mandatory and Optional Dependencies Supported for Transport Objects

Transport Object Type	Mandatory Dependency	Optional Dependency
Adaptation Changes	Key User Extension Fields, Mashups, Code List Custom Orders	<ul style="list-style-type: none"> Language Adaptation For more information, see Change UI Labels Public Solution Model (PSM) OData Configuration
Add-On Solutions	No Dependencies	Key User Extension Fields
Business Roles	Key User Extension Fields, Custom Work Centers and Views	No Dependencies
Code List Custom Order	Key User Extension Fields	<ul style="list-style-type: none"> Adaptation Changes Add-On Solutions
Code List Restrictions	Extension Fields	Add-On Solutions
Custom Work Center	Mashups	No Dependencies
Custom OData Service	Key User Extension Fields	Add-On Solutions
Key User Extension Fields	Key User Extension Fields (self dependency for calculated fields from Key user rules)	Add-On Solutions
Language Adaptations	No Dependencies	No Dependencies
Local Form Templates	Key User Extension Fields	Add-On Solutions (Extension Fields)
Mashups	No Dependencies	No Dependencies
Organized Work Centers	No Dependencies	Custom Work center and Views, Business Roles and Add-On Solutions
Surveys	No Dependencies	Add-On Solutions (Extension Fields)
Workflow Rules	Key User Extension Fields	Add-On Solutions (Extension Fields)

Transport Object Type	Mandatory Dependency	Optional Dependency
Templates	Key User Extension Fields	Add-On Solutions (Extension Fields)

10.2.4 Select Target System

1. In the *Target Systems* tab, click *Add System* to open the *Select Target System* dialog box.

ⓘ Note

You can select the target systems only if you have already selected the transport objects.

ⓘ Note

You can see a list of all potential target systems. Under the *Selectable* head, if the checkbox is selected, it means that the system can be selected as a target. To add this system, select the line. The *OK* button gets enabled. If a target system is not selectable, the system grays out the *OK* button and displays at least one message in the *Details* section explaining the reason. If a system is already added to a transport request, it does not appear in the list.

2. Select the required system and click *OK*.

10.2.5 Assemble and Release Transport Request

1. Click **▶ Action ▶ Assemble ▶**. This triggers a background job to collect all the active objects and package it in the transport request. The *Transport Status* changes from *New* to *Assembled*.

→ Tip

Use the refresh action to check the status change.

2. Click **▶ Action ▶ Release ▶**. This triggers the transfer of the transport request to the target system.

ⓘ Note

Ensure that zip files are enabled in the target system since the transport content is stored as zip files. For more information, see: [Configure Upload Controls](#)

The *Transport Status* changes to *Imported* in the target system. In the source system, this information is displayed in the *Target System* tab on system line and the transport status is displayed as *Released*.

10.2.6 Activate the Transport Request

To deploy your updates in target system, you must activate the transport request in the target system.

1. Log on to the target system as an administrator. Find and open the transport request that you previously created under **Transport requests Ready for Activation**.
2. Click **Action > Activate**. This triggers the deployment of the changes in the target system in a background job. The *Transport Status* changes to *Activated*.

10.3 View Transport Logs

The *Transport Logs* tab displays the *Log Item Severity* and the *Log Messages*. You can toggle between a default view of the most important log messages, and a more detailed list. The *Transport Content* tab displays the zipped content of all transported changes

11 Broadcasts

Send broadcasts to a group of users or all users.

11.1 Configure Broadcasts

Administrators can configure messages to be broadcast to either all users or a select group of users to inform them about system downtime, upgrades, new or changed price lists and so on.

12 Employees

Create employees as business users in your system.

Employee is a separate entity. However, for business configuration within your system, employees are also represented as business users in the system. Therefore, for every employee record that you create, a corresponding business user is automatically created in the system.

Note

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

12.1 Scope and Configure Employees

Accurate employee data is essential to keep your business running smoothly — whether to make job titles, organizational assignments and reporting lines transparent to your workforce, or simply to ensure that your colleagues' contact information is always up-to-date.

Go to [Administrator](#) > [Users](#) > [Employees](#)  to view, create and edit employee data.


You have decided whether you want to create employee records manually, or upload employee data via the migration tool in the implementation project activity [Migration of Employee Data](#).

12.1.1 Enable Employees

Scope employees in your solution.

Administrators can activate employees in the scoping.

Go to [Business Configuration](#) > [Implementation Projects](#) . Select your project and navigate to [Edit Project Scope](#) > [Questions](#) > [General Business Data](#) > [Employee and Service Agents](#) > [Employees](#)  to scope employees.

In addition, in order to create and maintain employee data, go to [Business Configuration](#) > [Implementation Projects](#) . Select your project and navigate to [Edit Project Scope](#) > [Questions](#) > [General Business Data](#) > [Business Partners](#) > [Employees and Service Agents](#) > [Employees](#) > [Employee Maintenance](#)  and select the scoping question: [Do you want to create and edit employee records in your cloud solution?](#)

12.1.2 Configure Employee Data Replication

Administrators can configure replication of employee data from an external system. To replicate your employees, maintain the configuration described in this topic.

If you have integrated your solution with an SAP Customer Relationship Management (SAP CRM) or SAP ERP system, then you can replicate employee master data changes within those systems to SAP Cloud for Customer.

To configure employee data replication, go to ► *Administrator* ► work center and then choose *Employee Staging Area*, to obtain an overview of all employees that require replication, and to determine the status of your replication requests. In this view, you can also perform the following associated actions:

- Schedule jobs to replicate employee master data between systems
- Monitor the replication status of employee data within associated requests
- Amend employee data in replication requests that remain to be processed
- Manually edit and submit failed replication requests that were not automatically uploaded, due to errors in data

Note

If you encounter replication requests with errors, then we strongly recommend that you correct them in the external system from which the data originated, unless you perform code mapping corrections within SAP Cloud for Customer. For more information, see [Configuring Automatic Code List Mapping \[page 404\]](#).

In the *Complete Employee Master Data Replication* view of the *Data Integration* work center, administrators can schedule jobs to replicate the changes made to the employees in the SAP CRM or SAP ERP system into the SAP Cloud for Customer solution.

During the initial load, the complete set of employees is replicated to the Cloud solution. After the initial upload from the external system, all the changes made in these systems are replicated to the Cloud solution by scheduling jobs. This view provides an overview of employees that needs to be replicated and the status of the replication request. It also allows you to manually edit and submit failed replication requests that were not automatically uploaded due to errors in data.

Note

If there are replication requests with errors, we strongly recommend you correct them in the external system from which the data originates. An exception to this will be to make any code mapping corrections in the Cloud system.

You can view all the successfully replicated employees under ► *People* ► *Employees* ► view.

The Employee Master Data Replication View

This view provides you with an overview of all employee replication requests. By default, only the unsuccessful or not yet started replication requests are displayed. You can view detailed information for every replicated employee listed in the table, when you select the **Remote Employee ID** and select **Edit**.

- The **General Data** section displays information such as the system from which the data is being replicated, basic information about the replication request, and if the replication is relevant. If the selected employee should not be replicated or if further information needs to be added but is currently unavailable, you can click **Mark as Irrelevant** to indicate that you do not want the entry to be processed. Once the entry becomes relevant for replication, you can click **Mark as Relevant** to make it part of the replication process again.
- The **Personal Data** section displays all the details of the employee that are going to be replicated.
- The **Organizational Assignments** section displays the organization the employee is assigned to, and the validity period of the assignment. You can individually select if an assignment is relevant or not relevant to be processed. If you want a change that should be left out of replication, click **Remove**, and to update the assignment with additional changes click **Add Row**.
- The **Business Role** section displays the role ID of the employee.
- The **Sales Responsibility** section displays the sales organization details to which the employee is assigned.

Edit and monitor employee replication data

By default, only replication requests that are unsuccessful or that have not yet started are displayed. To view detailed information for every replicated employee listed in the table, select the *Remote Employee ID*, then choose *Edit*.

- If the selected employee should not be replicated, or if additional information is required but unavailable, then choose *Mark as Irrelevant* to exclude that entry from processing. To include the entry at a later date in the replication process, choose *Mark as Relevant*.
- Review the *Personal Data* section for information about the employee to be replicated.
- The *Organizational Assignments* section displays the organization to which the employee is assigned, and the validity period of the assignment. You can individually select whether an assignment is relevant or not relevant for processing. If you want to exclude a change from replication, choose *Remove*. To update the assignment with additional changes, choose *Add Row*.

Assign Business Roles to Employees During Employee Replication

1. Go to ► *Business Configuration* ► *Implementation Projects* ►, choose your implementation project and choose *Open Activity List*.
2. Show all activities and search for "migration".
3. Choose ► *Prepare for Data Migration* ► *Download Migration Templates* ►.
4. Download the *Employee Complete Data* migration template.
5. In the *Business Role* column, enter a role that you have already defined in the system.

Result: When you migrate the information in this template, the roles will be assigned to the employees.

Replicate Employees

The system has scheduled daily jobs to replicate the employees. If however, you want to replicate employees manually:

- Select a replication request in the table, and choose **Edit**. Review the information and choose **Replicate**.
- To schedule all replication requests, click **Replicate All**.

The status of the replication request(s) is updated and the request is added to the run.

12.1.3 Configure Number Ranges

Administrators can maintain number ranges for employee records in your system. The internal identification for each employee record is randomly assigned from the specified number range.

To maintain number ranges for employees, go to [Business Configuration > Implementation Projects](#). Select your project and navigate to [Open Activity List > Fine-Tune > Number Ranges for Employees and Service Agents](#).

Number ranges for employees control how the number of newly created employee and service agent master data records is determined with. With manual number assignment you can enter the Employee number during first data entry. With automatic number assignment, the system automatically increments the number of the next employee by one, starting with the *Start Number*.

Note

Automatic number D does not apply to the Employee data migration. The Total Length determines the length of the number displayed in the application including the prefix.

12.1.4 Enable Job Definitions

Administrators can enable job scheduling for employees.

Go to [Business Configuration > Implementation Projects](#). Select your project and navigate to [Edit Project Scope > Questions > Built-in Services and Support > System Management](#), and enable *Job Scheduling*.

Next, go to [Business Configuration > Implementation Projects](#). Select your project and navigate to [Open Activity List > Fine-Tune > Integrate and Extend](#) to manually enter job definitions or migrate using the migration tool.

12.1.5 Configure Job Definitions

Administrations can configure new job definitions.

Steps to configure a new job definition are listed here:

1. Select ► [Administrator](#) ► [General Settings](#) ► [Company](#) ► [Job Definition](#) ► or choose ► [Business Configuration](#) ► [Activity List](#) ► [Integrate and Extend](#) ► to manually create a job definition.
2. Choose [New](#). The [Define Job](#) screen appears.
3. Enter a [Job Name](#) and a [Job ID](#).

Note

You cannot change the Job ID once the job has been saved.

4. Attach a [Job Description](#), if required. To do this, click [Add](#), and then attach your file or link. You can replace a job description later, by editing the job and clicking [Replace](#).
5. Click [Save](#) or [Save and Close](#) to save the new job.

Note

You can also create the next new job directly from this screen by clicking [New](#).

The new job has been saved to the system and added to the [Job Definition](#) overview list that appears when you first access the work center view. Whether the job is [Active](#), [Inactive](#), or [Deprecated](#) depends on the expiry date.

12.1.6 Import Job Definitions

Administrators can import job definitions with the migration tool. If you have created jobs in a test system (manually or with the migration tool), you can simply upload them to your production system using the migration tool instead of creating them all again manually.

• Migrate job definitions to your system

1. To start with data migration, you must transmit source data to the migration staging area. You can do this in two ways:
 - **Upload Text Files**
This allows you to upload data for each tab separately, using one or more text files.
 1. Select [Upload](#), then [Data from Text File](#).
In the window that appears, select the appropriate settings for the text file you want to upload. Click [Upload](#).
 2. In the [Import Data from Text File](#) window, you can define individual column mappings. If you save your mappings, you can reuse them for other text files as well. Click [Import Data](#).
 3. In the [Edit Source File](#) window, you can make changes to the data you are importing. You can navigate to the different tabs, but only data of the tab that you have uploaded is visible. Click [Save and Close](#).
A window appears allowing you to enter a name and description for the uploaded file and the file is added to the list of source files.

You can now execute the migration of the file by clicking [Execute Migration](#).

- **Create a Valid Source File Using a Migration Template**

Enter legacy data in the migration template to create a valid source file. You can download the migration template using the [Prepare for Data Migration](#) activity in the [Prepare](#) phase, or using the [Perform Data Extraction](#) activity in the [Fine-Tune](#) phase of the activity list.

For detailed information on how to enter legacy data into migration templates, see the [Introduction](#) sheet and the [Field List](#) sheet of the template.

2. Access the Data Migration Tool:

Process your source file with legacy data as follows:

1. Make sure you have created a valid source file using a current migration template filled with legacy data.
2. Access the [Business Configuration](#) work center and choose the [Implementation Projects](#) view. Select your implementation project and click [Open Activity List](#). Select the [Integrate and Extend](#) phase, then select the [Job Definitions](#) activity.
Note that data migration requires special user authorization. Your administrator can grant the required authorization ([Business Configuration](#) including the [Data Migration](#) view) in the [Application and User Management](#) work center.
3. Process the work steps in the migration tool. For more information, click the Help link within the migration tool.
4. When you have imported the source file successfully, set the migration activity in the activity list to [Completed](#).

- **Import job definitions from test system to production system:**

If you originally created basic data in a test system, you can import it to your production system with minimum effort. Proceed as follows:

1. The system automatically extracted the data from your test system into a spreadsheet and uploaded it to the migration tool.
2. In the [Job Definition](#) activity in the [Integrate and Extend](#) phase, choose [Migrate job definitions using the migration tool](#).
3. Under [Source Files](#), select this spreadsheet and choose [Execute Migration](#).
4. Process the file until you have successfully imported the data to the system.

- **Copy basic data from production system to migration test system:**

If you created basic data in a production system and are working in a migration test system now, the data was copied to the migration test system **automatically** already. In this case, you do not have to import it to the migration test system.

To reduce the effort, do not create basic data in the migration test system (this is a specific test system for migration only) initially. In this case, you would have to repeat creation in the production system.

You can verify migrated records in the [Job Definition](#) view of the [Organizational Management](#) work center. Compare the data in your legacy system with the data that has been migrated to your SAP solution.

12.1.7 Configure Employee Sales and Organizational Data

Administrators can configure employee sales and organizational data.

Employee Organizational Data

You can assign an employee to multiple org units. When you create an employee, specify the manager to represent the employee reporting line and assign the employee to a **Primary** org unit. Additionally, you can assign an employee to multiple org. units once you remove the primary flag for an employee from other org. units where employee is assigned.

Employee Sales Data

Maintain sales data such as the sales organization, distribution channel, and division if the employee you're creating belongs to a sales unit.

Related Information

[Create Your Org. Structure \[page 85\]](#)

Setting up an organizational structure enables automated routing of work such as opportunities, sales quotes, and service requests. The organizational structure is composed of units and provides a unified representation of your company's organizational data.

12.1.8 Configure Delegate Access to a Sales Unit

Administrators can configure to add a secondary manager to a sales unit. Once configured, the secondary managers get access to Intelligent Sales Execution from the perspective of the particular sales unit.

Go to ► [Administrator](#) ► [General Settings](#) ► [Org Structures](#) ►, and under [Org Structures](#) select an organization. In the selected unit, go to ► [Employees](#) ► [Managers](#) ► [Add](#) ►, then uncheck the [Primary](#) checkbox, and choose [Save](#).

As a result, the secondary manager is treated like the primary manager of a reporting line, related to data access, and the secondary manager gets the same results when using the [My Team](#) queries.

To remove a secondary manager from the list, simply click the delete icon under [Actions](#) column, and then choose [Save](#).

12.1.9 Configure Employee Work Distribution

Administrators can configure employee work distribution.

Create a Work Distribution Rule

1. Go to ► [Administrator](#) ► [General Settings](#) ► [Work Distribution](#) ► and choose [Employee Work Distribution](#).
2. In the [Employee Work Distribution](#) view, select a work category.
3. Click [Edit](#).

Note

You cannot change work distribution for past dates. If the [Edit](#) button is disabled, check the [Effective Date](#) and ensure that you have not entered a date that occurs in the past.

4. Choose [Work Distribution Rules](#), then click [Add](#).
If you want to copy an existing rule, click [Copy](#).
By adding a rule, you are creating a new rule that is added to the bottom of the list. If you wish to insert a rule of a higher priority, then change priority by moving the rules up and down in the table.
5. Enter the name of the rule.
6. Enter the ID of the responsible employee.
7. Enter the validity period of the rule.

Note

If you change or delete a work distribution rule that begins before the effective date, the rule is only valid to the date before the effective date. If you only change the rule, the system creates a new rule based on the existing rule and includes the changes you make. The new rule is valid as of the effective date.

8. Go to the [Rule Details](#) section and specify the parameters for the rule.
Each parameter appears as a tab, for example, [Company](#). Using the parameters, you can specify exactly both which parameter is to be included in the rule or excluded from the rule.
9. Click [Check](#) to verify whether your rule is consistent.
10. Click [Save](#) or [Save and Close](#).

Delete a Work Distribution Rule

1. Go to ► [Administrator](#) ► [General Settings](#) ► [Work Distribution](#) ► and choose [Employee Work Distribution](#).
2. In the [Employee Work Distribution](#) view, select a work category.
3. Click [Edit](#).

Note

You cannot change work distribution for past dates. If the [Edit](#) button is disabled, check the [Effective Date](#) and ensure that you have not entered a date that occurs in the past.

4. Choose *Work Distribution Rules*.
5. Select the work distribution rule you want to delete and click *Delete*.
6. Click *Save* or *Save and Close*.

Set a Work Category to Undefined

1. Go to ► *Administrator* ► *General Settings* ► *Work Distribution* ► and choose *Employee Work Distribution*.
2. In the *Employee Work Distribution* view, select a work category that has the status *Defined Work Distribution*.
3. Click *Action* and select the option *Set to Undefined*.

12.1.10 Configure Employee Working Hours

As an administrator, you can enable employee working hours in business configuration without scoping resource planning.

Procedure

1. Go to ► *Navigation Menu* ► *Business Configuration* ► *Implementation Projects* ►.
2. Select the project and choose *Edit Project Scope*.
3. In the carousel, go to *Questions*, choose ► *General Business Data* ► *Employees and Service Agents* ► *Employees* ►.
4. Scope the question “Do you want to enable employee working hours?”.
5. Click *Next* and *Finish*.

12.1.11 Configure Approval Process for Employee Time Recording

Administrators can configure approval process for employee time recording using the standard multistep approval process for time reports and time recording. To do this, follow these steps:

1. Go to ► *Business Configuration* ► *Implementation Projects* ►. Select your project and navigate to ► *Edit Project Scope* ► *Questions* ► *General Business Data* ► *Employees and Service Agents* ► *Employees* ► and select the scoping element **Employees**.
2. Next, go to ► *Business Configuration* ► *Implementation Projects* ►. Select your project and navigate to ► *Edit Project Scope* ► *Questions* ► *General Business Data* ► *Employees and Service Agents*

› [Employees](#) » and in the *Enable Time Recording* group, select the scoping question: *Do you wish to enable time recording feature?*

3. Next, go to ► [Business Configuration](#) ► [Implementation Projects](#) ». Select your project and navigate to ► [Edit Project Scope](#) ► [Questions](#) ► [General Business Data](#) ► [Employees and Service Agents](#) ► [Employees](#) » and in the *Approval for Time Recording* group, select the scoping question: *Do you want to use a multi-step approval for Time Recording?*

For more information, see [Working with Time Recording](#).

12.1.12 Configure Notifications for Employee Delegates

Administrators can define notifications for delegates, where the delegate receives notifications of tasks to be completed, or general notifications for the employee who is absent. Follow the steps given below to create a delegate notification:

ⓘ Note

When you or the employee activates delegate, the system automatically provides copies of notifications to the delegate without the administrator having to manually maintain this view.

1. Go to ► [Administrator](#) ► [Notification of Delegates](#) ».
2. Select the employee for whom you want to create or edit delegates, and choose [Edit Delegates](#).

ⓘ Note

You will see a list of existing delegates, if any. You can activate them by selecting [Activate](#).

3. To create a new delegate, select [Add Row](#) and enter:
 1. The *Relationship Type* depending on whether the employee you selected is the employee who will be absent or the employee who will become the delegate.
 2. The *Related Employee* who will either be a delegate for or have work delegated to him or her by the former employee, depending on what you select in the previous column.

ⓘ Note

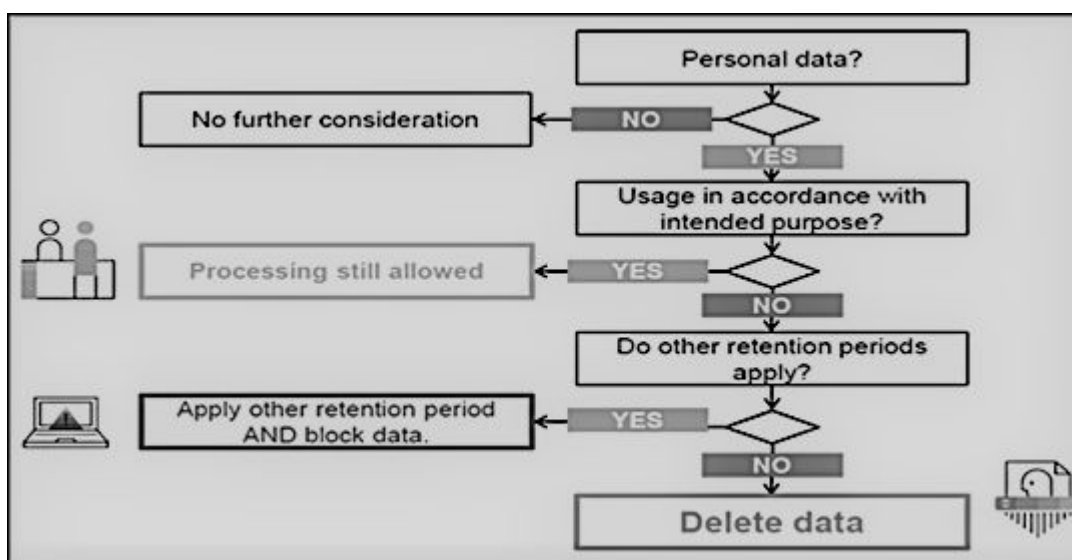
To activate this delegate immediately, select [Activate](#).

4. Save your changes.

12.1.13 Web Services for Business Partner End-of-Purpose

Determine if you need to retain business partner data in your system when that data has already been deleted from an integrated external system.

The following graphic describes process flow to determine the End-of-Purpose for your business partner data. You can use web services or manually block such business partners in your system using blocking reasons.



Web service interfaces and enhanced interfaces are enabled to support blocking of business partners. Use these services in scenarios where integrated external systems block or delete business partner data in their system landscape. These interfaces allow the external systems to query and maintain the End-of-Purpose for business partners. Since the definition of what constitutes the end-of-purpose for a business partner is subjective to the external system, these interfaces are empty CHECK interfaces to allow you to create custom queries.

For business partners blocked using the below-mentioned interfaces, data cannot be retrieved in list views in Work Centers, value help in related fields, values selectors, analytics, duplicate checks and web service or oData queries in the application.

Web Services for Business Partner End-of-Purpose

Web Service	Description
II_BUPA_EOP_CHECK_IN	This interfaces uses enhancement spot <code>ES_BUPA_EOP_CHECK</code> to provide a business add-in hook in SAP Cloud Application Studio. Use this hook to create custom query for setting end-of-purpose information.
II_BUPA_EOP_MAINTAIN_IN	Use this interface to set the <i>End-of-Purpose</i> flag for business partners. If this flag is set, then the business partner data is hidden in corresponding Work Centers and value helps and is not visible to users. Note that the data can be viewed by administrators in the <i>Data Protection and Privacy</i> Work Center.

Web Service	Description
II_BUPA_ERP_EOP_CHECK_IN	This interface uses enhancement spot <code>ES_BUPA_ERP_EOP_CHECK</code> to provide a business add-in hook in SAP Cloud Application Studio. Use this hook to create custom query for setting end-of-purpose information.
II_BUPA_ERP_REPL_IN	New attribute has been added in element structure for the existing interface. Set the indicator for business completed / End-of-Purpose flag. If this flag is set, then the business partner data is hidden in corresponding Work Centers and value helps and is not visible to users. Note that the data can be viewed by administrators in the Data Protection and Privacy Work Center.

12.1.14 Create Event Notifications for Employee and Partner Contacts

Create an event notification for enabled employee and partner contacts.

Administrators add the event under [Administrator](#) > [General Settings](#) > [Event Notification](#) > [Business object: Employee](#) > [Create](#) > [Add](#) or modify existing events as necessary.

12.2 Employee Sales Data

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

How Employee Sales Data is Used

An employee sales data is used for the following:

- In **My Team** queries and relative selects in reports will consider primary and secondary employee assignments.
- **Data access** based on org. unit also considers secondary employee assignments.
- **Reporting line manager** determination in Notifications and Approvals will consider primary employee assignment.
- For **Access Restrictions** with business context 1015 (Sales Documents, Accounts). If an employee is assigned to an organizational unit without an assigned distribution channel or division, that employee is not restricted from accounts or sales documents based on his or her sales data.

Related Information

[Configure Access Restrictions Using Employee Sales Data \[page 208\]](#)

The Access Restriction rule *1015 - Employee, Territory, Account, Sales Data* provides access based on employee sales data only.

12.2.1 Configure Employee Sales and Organizational Data

Administrators can configure employee sales and organizational data.

Employee Organizational Data

You can assign an employee to multiple org units. When you create an employee, specify the manager to represent the employee reporting line and assign the employee to a **Primary** org unit. Additionally, you can assign an employee to multiple org. units once you remove the primary flag for an employee from other org. units where employee is assigned.

Employee Sales Data

Maintain sales data such as the sales organization, distribution channel, and division if the employee you're creating belongs to a sales unit.

Related Information

[Create Your Org. Structure \[page 85\]](#)

Setting up an organizational structure enables automated routing of work such as opportunities, sales quotes, and service requests. The organizational structure is composed of units and provides a unified representation of your company's organizational data.

12.2.2 Configure Access Restriction Based on Employee Sales Data

The Access Restriction rule *1015 - Employee, Territory, Account, Sales Data* provides access based on employee sales data only.

The following additional restrictions apply.

- Sales data for an employee is used for access restriction with business context 1015 (Sales Documents, Accounts). If an employee is assigned to an organizational unit without an assigned distribution channel or division, that employee will not be restricted from accounts or sales documents based on his or her sales data.
- If an employee is a manager, access is granted to documents or accounts with assigned employees who are in the manager's organizational units (including sub-units), not considering any territory restrictions. The rule applies equally to functional and reporting line managers.

Note

A relationship change triggers a corresponding update for access restrictions. For any changes made to the *Works for* relationship for employees, an update is triggered for the identity restrictions for access restriction rule 6 - *My Workforce*. However the corresponding update of access restrictions happens with a time lag of 24 hours.

12.3 Edit or Delimit Employees

Limit the validity of an employee record.

1. In the worklist of the *Employees* view, select an employee record, then choose *Edit*.
2. Edit as much information as you require.
3. If you want to delimit the validity of an employee record, enter the appropriate date in the *Valid To* field. From this date onward, this employee record cannot be used for new business processes.
4. Choose *Save*.

12.4 External ID Visible in Employee Details View

When working in the *Employee* tab, the *Mapping for Integration* section displays all *External IDs* for employee records.

12.5 Maintain Employee Job Definitions

A job is a description of the duties of an employee as you would find it in the employment contract.

The job consists of an ID and a name. It also has an expiry date, which initially is set to unlimited, but can be set to a specific date if a job should no longer be used. To create a list of the jobs required within your company, you can either enter job definitions manually or import them using the migration tool.

When employees are assigned or hired to an org unit, they require an association with a job in the system. The job then characterizes the employee assignment and is also used in to fulfill service-related tasks. In the *Show* dropdown in this view, you can display jobs according to the following criteria:

- *Active (Unlimited Validity)*: Shows jobs that have no expiry date.
- *Active (Limited Validity)*: Shows jobs that have an expiry date in the future.
- *Inactive*: Shows jobs that are outside their validity period.
- *All*: Shows all jobs.

12.5.1 Enable Job Definitions

Administrators can enable job scheduling for employees.

Go to ► [Business Configuration](#) ► [Implementation Projects](#) ►. Select your project and navigate to ► [Edit Project Scope](#) ► [Questions](#) ► [Built-in Services and Support](#) ► [System Management](#) ►, and enable *Job Scheduling*.

Next, go to ► [Business Configuration](#) ► [Implementation Projects](#) ►. Select your project and navigate to ► [Open Activity List](#) ► [Fine-Tune](#) ► [Integrate and Extend](#) ► to manually enter job definitions or migrate using the migration tool.

12.5.2 Configure Job Definitions

Administrations can configure new job definitions.

Steps to configure a new job definition are listed here:

1. Select ► [Administrator](#) ► [General Settings](#) ► [Company](#) ► [Job Definition](#) ► or choose ► [Business Configuration](#) ► [Activity List](#) ► [Integrate and Extend](#) ► to manually create a job definition.
2. Choose *New*. The *Define Job* screen appears.
3. Enter a *Job Name* and a *Job ID*.

Note

You cannot change the Job ID once the job has been saved.

4. Attach a *Job Description*, if required. To do this, click *Add*, and then attach your file or link. You can replace a job description later, by editing the job and clicking *Replace*.
5. Click *Save* or *Save and Close* to save the new job.

Note

You can also create the next new job directly from this screen by clicking *New*.

The new job has been saved to the system and added to the *Job Definition* overview list that appears when you first access the work center view. Whether the job is *Active*, *Inactive*, or *Deprecated* depends on the expiry date.

12.5.3 Import Job Definitions

Administrators can import job definitions with the migration tool. If you have created jobs in a test system (manually or with the migration tool), you can simply upload them to your production system using the migration tool instead of creating them all again manually.

- **Migrate job definitions to your system**

1. To start with data migration, you must transmit source data to the migration staging area. You can do this in two ways:

- **Upload Text Files**

This allows you to upload data for each tab separately, using one or more text files.

1. Select [Upload](#), then [Data from Text File](#).
In the window that appears, select the appropriate settings for the text file you want to upload. Click [Upload](#).
2. In the [Import Data from Text File](#) window, you can define individual column mappings. If you save your mappings, you can reuse them for other text files as well. Click [Import Data](#).
3. In the [Edit Source File](#) window, you can make changes to the data you are importing. You can navigate to the different tabs, but only data of the tab that you have uploaded is visible. Click [Save and Close](#).
A window appears allowing you to enter a name and description for the uploaded file and the file is added to the list of source files.
You can now execute the migration of the file by clicking [Execute Migration](#).

- **Create a Valid Source File Using a Migration Template**

Enter legacy data in the migration template to create a valid source file. You can download the migration template using the [Prepare for Data Migration](#) activity in the [Prepare](#) phase, or using the [Perform Data Extraction](#) activity in the [Fine-Tune](#) phase of the activity list.

For detailed information on how to enter legacy data into migration templates, see the [Introduction](#) sheet and the [Field List](#) sheet of the template.

2. Access the Data Migration Tool:

Process your source file with legacy data as follows:

1. Make sure you have created a valid source file using a current migration template filled with legacy data.
2. Access the [Business Configuration](#) work center and choose the [Implementation Projects](#) view. Select your implementation project and click [Open Activity List](#). Select the [Integrate and Extend](#) phase, then select the [Job Definitions](#) activity.
Note that data migration requires special user authorization. Your administrator can grant the required authorization ([Business Configuration](#) including the [Data Migration](#) view) in the [Application and User Management](#) work center.
3. Process the work steps in the migration tool. For more information, click the Help link within the migration tool.
4. When you have imported the source file successfully, set the migration activity in the activity list to [Completed](#).

- **Import job definitions from test system to production system:**

If you originally created basic data in a test system, you can import it to your production system with minimum effort. Proceed as follows:

1. The system automatically extracted the data from your test system into a spreadsheet and uploaded it to the migration tool.

2. In the *Job Definition* activity in the *Integrate and Extend* phase, choose *Migrate job definitions using the migration tool*.
 3. Under *Source Files*, select this spreadsheet and choose *Execute Migration*.
 4. Process the file until you have successfully imported the data to the system.
- **Copy basic data from production system to migration test system:**
 If you created basic data in a production system and are working in a migration test system now, the data was copied to the migration test system **automatically** already. In this case, you do not have to import it to the migration test system.
 To reduce the effort, do not create basic data in the migration test system (this is a specific test system for migration only) initially. In this case, you would have to repeat creation in the production system.

You can verify migrated records in the *Job Definition* view of the *Organizational Management* work center. Compare the data in your legacy system with the data that has been migrated to your SAP solution.

12.6 Create Employee Delegates

Employee delegates as substitutes for employees on vacation.

If an employee is on vacation or temporarily absent, employees can define delegates for themselves, defining relevant access rights by area. Administrators can create delegates for all employees. You can create delegates for yourself, or administrators can create delegates for employees who are away from the office, either for a short period or long period of time. The delegated employee gains certain access rights of the substituted employee for the specified period of time.

Follow these steps to create employee delegates:

1. Depending on your role, follow the appropriate path:

Where Can I Define Delegates?

Role	Where?
User	► People ► Delegates ►
Administrator	► Administrator ► Users ► Delegates ►

2. Select *New* and define the following:
 1. The employee who will be away temporarily.

📌 Note

Users can only define delegates for themselves. Administrators can define delegates for all employees.

- Once the employee is selected, the system displays all the work centers assigned to him or her.
2. A delegate to replace the employee.
3. The start date and end date during which you want the delegate to take over responsibilities.

ⓘ Note

If you enter the start date of a substitution in the future, then the system saves the delegate with the status *Not Started*. By default, only **active delegates** are displayed. If you want to see future delegate assignments, use the filter *Planned Delegates*.

4. Define which *Access Rights* that you want to grant to the delegate.

ⓘ Note

You can create either a full substitution or a partial substitution. In full substitution, you grant the delegate access to all the work centers assigned to the employee. In partial substitution, you create multiple delegates, granting access to only selected work centers to each of the delegates.

3. *Save* the delegate.

ⓘ Note

If you want to end a substitution before the specified end date, choose ► *Actions* ► *Delete* ►.

12.6.1 Configure Notifications for Employee Delegates

Administrators can define notifications for delegates, where the delegate receives notifications of tasks to be completed, or general notifications for the employee who is absent. Follow the steps given below to create a delegate notification:

ⓘ Note

When you or the employee activates delegate, the system automatically provides copies of notifications to the delegate without the administrator having to manually maintain this view.

1. Go to ► *Administrator* ► *Notification of Delegates* ►.
2. Select the employee for whom you want to create or edit delegates, and choose *Edit Delegates*.

ⓘ Note

You will see a list of existing delegates, if any. You can activate them by selecting *Activate*.

3. To create a new delegate, select *Add Row* and enter:
 1. The *Relationship Type* depending on whether the employee you selected is the employee who will be absent or the employee who will become the delegate.
 2. The *Related Employee* who will either be a delegate for or have work delegated to him or her by the former employee, depending on what you select in the previous column.

ⓘ Note

To activate this delegate immediately, select *Activate*.

4. *Save* your changes.

12.6.2 Configure Workflows to Send E-Mail Notifications to Active Delegates

Administrators can configure workflows to allow active delegates in your system can receive e-mail notifications.

Use this feature to ensure information channeled for employees is received by their delegates or substitutes in the absence of the employees. You can configure this feature under ► [Administrator](#) ► [Workflow Rules](#) ► [More](#) ► [Workflow Settings](#) ► [Recipient Determination](#) . Select the *Determine the active delegates for an employee in the system, as a recipient in Workflow rules* checkbox.

12.7 Employee Work Distribution

Create and configure rules to distribute work items to employees.

Create and configure rules to distribute work items to employees. The system uses these rules to determine the employee responsible for work items. Depending on the work category, the system directs the work items to the determined employee, or provides the employee as a proposal in the relevant business document.

Work distribution defines the process of assigning work to an org unit or employee. By default, work items in the solution are visible to all users that have the corresponding access rights. However, for some business processes the org unit or employee responsible for a work item has to be determined. For these areas, you can define work distribution rules that enable you to automatically assign business documents and tasks to dedicated org units or employees.

The work category is the central element for work distribution. A work category represents a specific part of work in a business area and is related to one or more business documents. Each work category provides parameters that you can use to define work distribution rules, according to which the system determines the responsible org unit or employee for a business document.

12.7.1 Configure Employee Work Distribution

Administrators can configure employee work distribution.

Create a Work Distribution Rule

1. Go to ► [Administrator](#) ► [General Settings](#) ► [Work Distribution](#) and choose *Employee Work Distribution*.
2. In the *Employee Work Distribution* view, select a work category.
3. Click *Edit*.

Note

You cannot change work distribution for past dates. If the *Edit* button is disabled, check the *Effective Date* and ensure that you have not entered a date that occurs in the past.

4. Choose *Work Distribution Rules*, then click *Add*.
If you want to copy an existing rule, click *Copy*.
By adding a rule, you are creating a new rule that is added to the bottom of the list. If you wish to insert a rule of a higher priority, then change priority by moving the rules up and down in the table.
5. Enter the name of the rule.
6. Enter the ID of the responsible employee.
7. Enter the validity period of the rule.

Note

If you change or delete a work distribution rule that begins before the effective date, the rule is only valid to the date before the effective date. If you only change the rule, the system creates a new rule based on the existing rule and includes the changes you make. The new rule is valid as of the effective date.

8. Go to the *Rule Details* section and specify the parameters for the rule.
Each parameter appears as a tab, for example, *Company*. Using the parameters, you can specify exactly both which parameter is to be included in the rule or excluded from the rule.
9. Click *Check* to verify whether your rule is consistent.
10. Click *Save* or *Save and Close*.

Delete a Work Distribution Rule

1. Go to **Administrator** > *General Settings* > *Work Distribution* and choose *Employee Work Distribution*.
2. In the *Employee Work Distribution* view, select a work category.
3. Click *Edit*.

Note

You cannot change work distribution for past dates. If the *Edit* button is disabled, check the *Effective Date* and ensure that you have not entered a date that occurs in the past.

4. Choose *Work Distribution Rules*.
5. Select the work distribution rule you want to delete and click *Delete*.
6. Click *Save* or *Save and Close*.

Set a Work Category to Undefined

1. Go to **Administrator** > *General Settings* > *Work Distribution* and choose *Employee Work Distribution*.
2. In the *Employee Work Distribution* view, select a work category that has the status *Defined Work Distribution*.

3. Click *Action* and select the option *Set to Undefined*.

13 Territory Management

Territories usually represent a geographic area (such as city, zip codes and so on), customer group, sales potential, products groups, historical data or a combination of these factors. Use territory management to maximize market coverage by optimally utilizing your sales resources.

Territory management can help your sales team manage their workload with better planning, build better customer relationships and follow through each and every sales lead. Territory management in Cloud for Customer supports the following features:

- Complex territory hierarchy structures that help align territories to changing market structures.
- Territory team with an owner with assigned team members.
- Matrix organization with the ability to assign an employee with a specific role to multiple territories.
- Account assignment to multiple territories.
- Alignment of territories using account attributes such as address, owner, status, classification and so on.
- Quick and easy realignment using realignment rules and also handle employee reassignments when employees leave or are take a vacation.
- Territory overrides and exceptions to realignment rules that help to manually update multiple territories per account.
- Access restrictions that help to define data access based on territory hierarchy.
- Alignment of transaction documents (open and closed) based on territory realignments.

Data for territories is displayed in three tabs, namely the [Territory Team](#), [Changes](#) and [Accounts](#). The [Territory Team](#) tab displays basic territory data such as hierarchy level, name, ID and a table that shows list of employees assigned to the territory. The [Accounts](#) tab lists all accounts assigned to the territory.

Following table gives an overview of objects to which territory or territories can be assigned:

Note

Only accounts and users can be assigned to one or multiple territories. All business documents can be assigned to only one territory. If you need to assign business documents to multiple territories, use the SAP Cloud Application Studio Business Add-In Enhancement Option - `CustomAccessControlListWrite`.

Territory	Users (employee or partner contacts)	M:N
Territory	Accounts, contacts and individual customers	1:N or M:N
Territory	Activities (appointment, task, phone call, e-mails and messages)	1:N
Territory	Visits	1:N
Territory	Leads	1:N

Territory	Opportunities	1:N
Territory	Sales Quotes	1:N
Territory	Sales Orders	1:N
Territory	Contracts	1:N
Territory	Tickets, Work Tickets	1:N
	<div style="background-color: #f0f0f0; padding: 5px;"> <p>ⓘ Note</p> <p>Not supported for realignment.</p> </div>	
Territory	Registered Products, Installation Point, Install Base	1:N
	<div style="background-color: #f0f0f0; padding: 5px;"> <p>ⓘ Note</p> <p>Registered products, installation point and install base are not supported for realignment.</p> </div>	

13.1 Scope and Configure Territory Management

Administrators can scope and configure territory management using scoping, scoping questions and fine-tuning activities.

13.1.1 Enable Territory Management

Determine the business need for territories in your organization.

Territory Management NOT in Scope: If you do not need territories in your organization, you can still use owner realignment. To use owner realignment to transfer accounts from one owner to another, along with open business documents for account to new owner, select the *Remove Current Owner* flag in the *General Data* section a realignment run. When selected, this flag replaces the old owner with new one. If you do not select this flag, the old owner is demoted to another role and a new owner is added. You can also decide to remove old owner or retain in a different role.

Territory Management in Scope: If you decide to go ahead with territories, then administrators can enable territory management as follows:

1. Select *Territory Management* under **Business Configuration** > *Implementation Projects* > *Your Project* > *Edit Project Scope* > *Sales* > *Account and Activity Management*.

2. Select the scoping question - *Do you want to use territory management* under ► *Business Configuration* ► *Implementation Projects* ► *Your Project* ► *Edit Project Scope* ► *Questions* ► *Sales* ► *Account and Activity Management* ► *Territory Management* ↘.

After confirming the business need for territory management, determine if **Single Territory per Account** or **Multiple Territories per Account** fit your business. The configuration steps and the alignment of territories in the system differ significantly for the two scenarios. Before you make a decision, read about the key features for these two scenarios.

→ Recommendation

Use single territory per account assignments as realignment runs ensure that transaction documents (such as quotes, orders, tickets and so on) get aligned with account's territory (or territories) when territories are realigned for business reasons.

Analyze the Business Benefits Between Using Single or Multiple Territories per Account

Single Territory Per Account

When unique territory associated with the account changes, system auto updates the unique territory associated with the business documents (both open and closed) for that account. This also complements with additional visibility with your account.

The business documents that are covered with re-alignment include Leads, Opportunities, Sales Quote, Sales Order, Contracts, Appointments, Phone Call, E-mail, Task, Messages etc.

Use *Override Territory* flag on the account to manually assign account-territory relationship when there are exceptions to the rules defined for realignment.

Multiple Territory Per Account

Use dedicated territories to manually assign account-territory assignments. (that *Override Territory* flag is not available when account is assigned to multiple territories as this may lead to inconsistencies in assignments).

Single Territory Per Account

Not possible to use ERP Sales Area assignment to territories that you define in your SAP Cloud for Customer system. Therefore, you cannot map the ERP sales area to territories in your system.

Multiple Territory Per Account

Possibility to use SAP ERP sales area in realignment rules. As a result, the Sales Org., Distribution Channel, Division, Sales Office, Sales Group, and Customer Groups, result in multiple territories assignment per account by sales area.

→ Remember

As multiple combinations are feasible for Sales Area, if you are switching from multiple territories per account to single territory per account to take advantage of keeping documents aligned with account's territory, you need to remove sales area-related columns from decision table manually.

During realignment runs, territories on business documents are not aligned with those of the account. Therefore, when you modify territory assignments, existing business documents are not realigned because the system cannot logically determine all the documents that need to be updated.

When creating business documents, territory determination happens only if the document owner & account have a matching territory. If the document owner and account owner do not have same territory assigned, a warning message is displayed prompting you to manually select the territory from the available territories on account.

13.1.2 Scope Auto-Update of Transaction Owner (Single Territory per Account)

Administrators can select the configuration to determine territory based on the owner of transaction documents.

If you have assigned single territory per account, set the flag to determine automatic realignment of open transaction documents whenever there is a change in territory.

The system runs a scheduled background job every few minutes to process all open transaction documents and aligns them with territory of their account. This background job takes care of reassignments when you manually overrides an account's territory. For documents that do not require an account such as appointments, territory assigned to the owner of the transaction is defaulted.

To use this feature, select the scoping question - *Do you want to determine the transaction's territory based on transaction owner?* under [Business Configuration](#) > [Implementation Projects](#) > [Your Project](#) > [Edit Project Scope](#) > [Questions](#) > [Account and Activity Management](#) > [Territory Management](#) .

13.1.3 Configure Territory-Based Authorization Restrictions for Business Users

Administrators can configure authorizations to business users based on the territory they are associated with.

Edit the access group ID - *Territories* and grant authorizations to the business users that are associated with the territories. If you modify the authorization of a business user in relation to a territory, then that user can view or update the items that are assigned to that territory, or to any corresponding subterritory. For example, if you assign authorization to an employee to view or update items that are related to a certain territory – for example, the United States, or Germany – then that employee can also view or update items that are related to subordinate – for example, California or Florida (in US), or Berlin or Bavaria (in Germany).

13.1.4 Configure Workflow Rule to Auto Calculate Territory

Administrators can define a workflow rule to call *Derive Territories* action on create or save of individual customer or account.

Example

For example, on save when *Override Territory* flag is not selected, then you may want to call *Derive Territories* action automatically to ensure *Derive Territories* action is called for every account created manually or brought in from external application.

13.1.5 Configure Access Restrictions Using Territory Hierarchy

Administrators can use territory hierarchy to configure access restrictions.

Go to ► *Administrators* ► *General Settings* ► *Users* ► *Business Roles* ► and select the business role to edit its *Access Restrictions*. For the *Territory* work center view, access context 2026 includes a restriction rule - *02 Territories*. With this rule selected, users with that business role can see and edit not only the parent territory assigned to them, as well as the child territories. Therefore, when you allow access to a territory hierarchy, the user gets access to all records that belong to the root territory as well as all its sub-territories

13.1.6 Configure Data Sources to Analyze Sales Using Territory Dimension

Administrators can use the *Design Reports* view to create and edit your own reports to suit your business requirements and processes.

Data from key figures and characteristics in a data source or a key figure group serve as the basis for your reports. Data sources are provided in the standard solution for use in territory based reporting are:

- *Territory Master Data* - Data source for Territory Hierarchy (Territory Model)
- *Territory Account Mapping* - Data source for Territory – Account assignment
- *Territory Team* - Data source for Territory Team
- All transactions that support Territory have territory as a characteristic

13.1.7 Configure Account Filters for Realignment Runs

Administrators can configure realignment runs to exclude specific accounts.

Select the scoping question - *Do you want to use account filters to create realignment runs?* under [Business Configuration](#) > [Implementation Projects](#) > [Your Project](#) > [Edit Project Scope](#) > [Questions](#) > [Account and Activity Management](#) > [Territory Management](#) >

13.1.8 Configure Hierarchy Levels and Territory Root

Administrators can configure hierarchy levels for territories. Use territory hierarchy level codes to assign to territories under a territory root.

1. Go to [Business Configuration](#) > [Implementation Projects](#) > [My Project](#) > [Open Activity List](#) > [Fine-Tune](#) > [Territory Hierarchy Level](#) > and in this activity, maintain the territory hierarchy level codes. In the hierarchy level, first define the level code to represent a root.
Next, maintain the subsequent hierarchy level codes depending on geographic, sales, or other representations. When you create or upload territories, you must map each parent territory to a hierarchy level code. For other territories and sub-territories, the hierarchy level code assignment comes from the parent territory.

Note

Since the hierarchy starts from the top, it is recommended that you create the first-level hierarchy code for the root territory with the 'Z' representation, for example Z101.

2. You have defined the hierarchy level codes. Now to define the root territory, go to [Business Configuration](#) > [Implementation Projects](#) > [My Project](#) > [Open Activity List](#) > [Fine-Tune](#) > [Territory Management Root Setup](#) > and choose *Work Center Territory Management* to set up the root territory. A territory root represents the uppermost node of your sales hierarchy. The root is the basis for all subsequent territory

assignments. Under *Territories* work center view, the *Root* appears as the topmost node and you can create territories and sub-territories under the root.


Note

Since you are setting up the root territory, do not select a 'parent territory' for the root.

You have defined the basis for a territory hierarchy and can now proceed to create the further levels in the hierarchy from the *Territory* work center view.

13.1.9 Configure Territory Changes for Open Transaction Documents

Administrators can configure realignment to update territories in open transaction documents associated with the account.



To maintain the configuration, go to [Business Configuration](#) > [Implementation Projects](#) > [Your Project](#) > [Edit Project Scope](#) > [Questions](#) > [Sales](#) > [Account and Activity Management](#) > [Territory Management](#) , and select the scoping question - *Do you want the territory changes you make to an account, to be automatically updated in the open documents associated with the account.*

13.1.10 Implement BAdIs for Territory Realignment Run

The new “automatic default determination” is applied during the territory realignment run simulation with the following behavior.

Note

This is only valid when the following scoping question is enabled:

Go to [Business Configuration](#) > [Implementation Projects](#) . Select your project and navigate to [Edit Project Scope](#) > [Questions](#) > [Sales](#) > [Account and Activity Management](#) > [Territory Management](#)  and select the scoping question: *Do you want to update documents for accounts that have only one assigned territory?*

1. If an account has exactly one derived territory, then this is the “Default” and will be taken over into the business transaction documents.
2. If an account has exactly one dedicated (manually assigned) Territory, then this is the “Default” and will be taken over into the business transaction documents.
3. If an account has more than one territory and no default can be determined automatically, then nothing will be changed in the business transaction documents for this account. You can override this behavior by implementing the BAdI using Cloud Studio:
 1. Determine and return the Main Default-Territory per account.
 2. The BAdI implementation must return only one Territory as Default (from the list of Territories, currently assigned to this account and given as input for the BAdI).

3. The list of territories per account contains not only those territories derived from the “Territory Rules” but also the manually assigned territories.
4. The Default Territory cannot be influenced by the user manually.

This behavior is only applied during the territory realignment run and the default territory is stored within the “Simulation result”. The “default-territory” is not stored in master-data and cannot be seen on the transaction document screens or the Account Details page.

Note

As soon as you implement the BAdI:

- If the BAdI returns “DefaultDetermined == TRUE” the above automatic defaulting is no longer active and you must specify the default Territories via BAdI even if it is unique (because an account has exactly one territory).
- If the BAdI returns “DefaultDetermined == space” the automatic defaulting if an account has exactly one territory is applied.

13.2 Define Territory Hierarchies

Define territory hierarchy to achieve a matrix organizational structure.

Use territory hierarchies to:

- Define complex territory hierarchy structures.
- Adjust your territory structure according to the changing sales markets.
- Define access restrictions based on hierarchy.
- Create, update or delete territory hierarchy or territory team manually.
- Create, update or delete territory hierarchy or territory team and account territory mapping using Data Workbench, or APIs

To define a hierarchy, you must define a root, parent, and sub-territories. The steps for creating a hierarchy are listed here:

- Configure hierarchy level codes with the topmost level code starting with Z (representing the root at the highest level in the hierarchy). The root is the basis for all subsequent territory assignments.
- Define territories as 'parent' territories. Territories that you create directly under the root are Each parent territory is mapped to
Since you have already defined the root territory at this stage, now you can define territories or upload territories using Data Workbench tool, web service APIs, or Microsoft Excel. For more information on uploading territories, see the topic **Upload Territories** in this chapter.
- Define sub-territories under parent territories.

13.2.1 Configure Hierarchy Levels and Territory Root

Administrators can configure hierarchy levels for territories. Use territory hierarchy level codes to assign to territories under a territory root.

1. Go to ► [Business Configuration](#) ► [Implementation Projects](#) ► [My Project](#) ► [Open Activity List](#) ► [Fine-Tune](#) ► [Territory Hierarchy Level](#) and in this activity, maintain the territory hierarchy level codes. In the hierarchy level, first define the level code to represent a root.
Next, maintain the subsequent hierarchy level codes depending on geographic, sales, or other representations. When you create or upload territories, you must map each parent territory to a hierarchy level code. For other territories and sub-territories, the hierarchy level code assignment comes from the parent territory.

Note

Since the hierarchy starts from the top, it is recommended that you create the first-level hierarchy code for the root territory with the 'Z' representation, for example Z101.

2. You have defined the hierarchy level codes. Now to define the root territory, go to ► [Business Configuration](#) ► [Implementation Projects](#) ► [My Project](#) ► [Open Activity List](#) ► [Fine-Tune](#) ► [Territory Management Root Setup](#) and choose [Work Center Territory Management](#) to set up the root territory. A territory root represents the uppermost node of your sales hierarchy. The root is the basis for all subsequent territory assignments. Under [Territories](#) work center view, the [Root](#) appears as the topmost node and you can create territories and sub-territories under the root.

Note

Since you are setting up the root territory, do not select a 'parent territory' for the root.

You have defined the basis for a territory hierarchy and can now proceed to create the further levels in the hierarchy from the [Territory](#) work center view.

13.3 Upload Territories

Map your sales organization to territories and create an offline list of these territories that you can upload to your SAP Cloud for Customer system. Note that in a new implementation, there are no standard territories provided and you have to create territories afresh. When you upload territories, you must follow the hierarchy for the sales organization with the territory root and hierarchy levels.

13.3.1 Upload Territories Using DataWorkbench

Administrators can upload territories and related data using the data workbench object `salesteritories`.

The `salesteritories` data workbench object offers templates to upload the following:

Note

Click the [Download Metadata](#) hyperlink and save the template for uploading relevant object data. Later, use the [Upload](#) hyperlink under the **IMPORT** tab to upload data in the downloaded template format.

- Sales territory, sales territory to account mapping and sales territory to team mapping.
- Code lists to map party roles to territory sales teams.
- Field definition.

For detailed information, see [Data Workbench Object Documentation](#). In this archive, look for **Territories** topic for detailed documentation on migrating territories using data workbench.

13.3.2 Upload Territories Using APIs

Administrators can use web service APIs to upload territories.

The entity - `SalesTerritoryCollection` provides information of Sales Territory. Multiple tasks can be performed on Territory such as creation, change, deletion, and query. Two entity types are offered in this entity: :

- `SalesTerritoryAccountCollection`: This API provides information of sales territory accounts. Multiple tasks can be performed on accounts such as creation, change, deletion, and query.
- `SalesTerritoryTeamCollection`: This API provides information of sales territory team. Multiple tasks can be performed on accounts such as creation, change, deletion, and query.

For detailed information see [Web Service APIs](#).

13.3.3 Upload Territories Using Microsoft Excel®

Administrators can use the Microsoft Excel® Add-In to upload territories. After you download the add-in, use [Upload Territory Team](#) and [Upload Account Mapping](#) actions in the **Territories** work center view to use excel templates to upload territories and related data.

To upload account mapping using excel, follow the steps described here:

1. Choose [Sales](#) > [Territories](#) > [Upload Account Mapping](#) > [Upload Account Territory Mapping](#).

Note

Before you use Microsoft Excel to upload data, you must have downloaded the Add-In for Microsoft Excel®. Go to Download (in the top right corner of your screen) and download the Add-In for Microsoft Excel. If you do not download this add-in, you cannot upload your list).

2. To export a blank Microsoft Excel template to a local file, choose [Download](#), then specify a directory.
3. For each territory that you want to create, make an entry in each of the following columns:
 - Territory ID
 - Account ID

4. Save your entries.
5. From the standard Microsoft Excel workbook you have modified, log on to your solution by using the appropriate URL and logon details.
6. In your modified workbook, select [Save Data To](#). The data in your modified workbook is automatically uploaded.
7. To display the imported mappings in your solution, choose [Refresh](#).

13.4 Define Territory Teams with Roles

Territory teams with roles help you to define indirect assignments of employees and partner contacts to transaction documents.

Maintain role-based assignments of employees to territories. To do this, assign involved party roles to territory team members. Use territory team roles:

- To assign same person to multiple territories, with a specific role in order to support matrix organization.
- To handle employee and partner contacts' reassignments to territories when they leave, or are taking a well deserved vacation, by updating territory team. In such cases, you can simply update the territory team. When an employee or contact is removed from a territory team, the system uses this indirect assignment via territory hierarchy, to remove access to accounts, contacts, individual customer and transaction documents (such as leads, opportunities, activities, sales quotes, tickets and so on).
- For determination and re-determination of involved party in transaction documents.

13.4.1 Sales Territory Managers

As an administrator, use adaptation to make functional enhancements available to sales territory managers.

The following features may be useful for territory managers:

- Enable sales territory managers to display and modify the validity dates for territory team members. To do so, within the [Territory Team](#) tab of any territory, make the [Start Date](#) and [End Date](#) columns visible on the user interface.
- Enable sales territory managers to view changes that have occurred within territories. To do so, make the [Changes](#) tab visible within any territory. From this tab, sales territory managers can also search for territory changes by date and time, by attribute, and by user.
- On the [Accounts](#) tab of any territory, sales territory managers can export the accounts that are associated with a territory, to Microsoft Excel®. No personalization is required to enable this function.

13.5 Use Rules to Realign Territories

Use automatic territory assignments to accounts based on a set of pre-defined rules. Update rules where there are changes to territory definition and coverage and then use these rules to update your accounts using realignment runs.

The realignment runs identify the affected accounts and update them with the new territory assignments. Run the territory realignment rules as batch jobs to align accounts and territory owners as per the new territory definition.

Define rules based on account attributes. Rules matching these attributes at runtime are used to determine territory assignment on accounts. To define rules, follow the steps outlined below:

- Create a new realignment run. Select accounts to be included in the realignment run using Account Selections or use Account Queries provisioned for your user or business role. Select all accounts for realignment or filter accounts that you must realign. Filter using the standard account attributes. Run the realignment runs on single territory or multiple territories per account relationships.
- The following attributes are supported for realignment rules:
- Adjust the sequence of rules to be executed.

→ Recommendation

Account-Territory relationship is calculated based on a central condition table that determines that the first rule that meets the criteria determines the territory. Hence when defining rules, move specific rules on top of the list and the generic (more or less selection for all accounts) towards the end of the realignment list.

- Adapt columns to change fields or attributes to be used for rule definition.
- Assign territories.
- Download and upload rules using Add-In for Microsoft Excel®.
- ABC Classification
- Status
- Role, prospect
- Address (country, city, state, postal codes)
- ERP Sales Area (Sales org., distribution channel, division, customer group)
- Account Owner
- Any extension fields added to account header
- Date of birth (for Individual Customer only)
- Gender (for Individual Customer only)
- Marital status (for Individual Customer only)
- Nationality (for Individual Customer only)
- Occupation (for Individual Customer only)
- Industry (Account only)
- Account hierarchy (Top-level account only)

13.5.1 Maintain Territory Realignment Rules

Define territory realignment rules that are run as batch jobs to reassign territories to accounts and other business documents.

Territory realignment involves the following steps:

- Use queries on account to select a subset of accounts on which you want to run realignment rules.

To create a realignment run, follow these steps:

1. Choose ► [Sales](#) ► [Realignment Runs](#) ► [New](#) ►. A wizard appears to help you create a realignment run.
2. In the first step, define rules for calculating territory owners. These rules determine how accounts are assigned to territories.

Note

You can configure the condition columns within the rules, as desired – for example, by adding or removing them.

Caution

Only one set of rules is currently active for each tenant (company). In other words, if there are more than one administrators in your organization for administering realignment rules, any change made by you or another administrator affects the company's rule set. For example, if you disable a rule in the rule set, it is disabled in the company's rule set. We recommend coordinating your rule-definition efforts to avoid overwriting one another's changes.

In this step, you have the following options:

- Add, insert, remove, copy, or paste rules

Tip

To change the value in each column, click the contents or asterisk (*) in that column.

When you add a rule, define it as follows:

If the cell is...	Specify...
White	Selection criteria to define which items should be assigned
Orange	People or items to which the items defined in this rule should be assigned

- Move rules up or down in the sequence

Note

You are recommended to keep specific rules at the top of the list and generic rules at the bottom. The system processes rules according to their priorities. By default, new rules are added to the

bottom of the list, and so have the lowest priority. To change the priority of a rule, move it up or down in the list.

- If you have allowed only one territory per account, the system uses the first rule that applies when making territory assignments.
- If you have allowed multiple territories per account, the system uses all rules that apply when making territory assignments.

3. Adapt the available columns in the decision table using *Decision Table Configuration* as follows:
 1. Choose *Adapt Columns*.
 2. Under *Available Columns*, select the fields that you want to use in your rules.
 3. To add or delete fields, choose the arrow buttons and click *OK*. Your extension fields are also displayed under *Available Columns*.

Note

The fields *Customer Group*, *Distribution Channel*, *Division*, *Sales Group*, *Sales Office*, and *Sales Organization* are only available if you have enabled multiple territories per account. If you enable multiple territories, but later disable this feature, you must remove any rules with these fields.

- View historical sets of rules
 - Activate the set of rules as the current version
 - Enable or disable individual rules by making the appropriate entry in the *Enabled* column.
 - Save a draft version of the rules.
3. Choose *Next*. In this step, you can add accounts that you want to maintain manually as exceptions to the rules you defined.

Note

The *Define Exceptions* step is only available if multiple territories per account is disabled.

Accounts in this list are not affected by the rules. This list includes all **individual exceptions**, or accounts that sales users have marked as *Override Territory* and manually assigned to a territory or owner.

In this step, you have the following options:

- Upload a list of accounts as exceptions by choosing *New* > *Upload from Microsoft Excel*.
- Remove an account from the list of exceptions so that the territory and owner are calculated by the rules instead.
To do so, select the account and choose *Remove Exceptions*.
- Search the list of exceptions with the basic search or the advanced search.

Note

You cannot add individual exceptions manually on this screen. To mark an existing individual account as an exception, open the account and choose *Override Territory*. To enter a new individual account as an exception, upload it from Microsoft Excel.

4. Choose *Next*. In this step of the wizard, enter a title for the realignment run.
5. Choose *Create*. In the last step of the wizard, the system displays the ID of your realignment run and provides information about where to find it.

6. To display the realignment run, choose the title of the realignment run, which appears as a link. On the overview screen that appears, you can see the status, details, and results of the realignment. You can also access your realignment run as described in the task [Realigning Accounts and Territories](#).
7. To make the changes you defined in this realignment run, you can again realign accounts and territories.

13.5.2 View Status of Realignment Runs

Statuses for realignment runs are designed to ensure you can review changes before making them. View the status of realignment runs for which you are authorized.

Realignment execution has following possible statuses:

- [Simulation Started](#)
- [Simulation Finished](#)
- [Scheduled](#)
- [Realignment Execution Started](#)
- [Realignment Execution Finished](#)

To view status of a realignment run, open the realignment run by choosing the run ID. One of the tabs in this screen allows you to check the status of the rules calculation. This tab appears only if you have defined a realignment run for accounts and territories using rules.

13.5.3 Configure Account Filters for Realignment Runs

Administrators can configure realignment runs to exclude specific accounts.

Select the scoping question - *Do you want to use account filters to create realignment runs?* under [Business Configuration](#) > [Implementation Projects](#) > [Your Project](#) > [Edit Project Scope](#) > [Questions](#) > [Account and Activity Management](#) > [Territory Management](#) .

13.5.4 Territory Realignment for Single Territory-Account Assignments

If your business need necessitates single territory-account assignments, follow the configuration steps detailed below. Read and analyze the benefits and drawbacks of using single territory-account assignments before making the business decision.

Benefits and Drawbacks of using Single Territory Per Account Assignments

Benefits and Drawbacks of Using Single Territory Per Account Assignments

Benefits	Drawbacks
Territory on business documents is auto-populated based on the territory of the associated account. This reduces the need for data entry.	Not possible to use ERP Sales Area assignment to territories that you define in your SAP Cloud for Customer system. Therefore, you cannot map the ERP sales area to territories in your system.
When the single unique territory associated with the account changes, system auto updates the unique territory associated with the business documents (both open and closed) for that account. This also complements with additional visibility with your account.	
The business documents that are covered with re-alignment include Leads, Opportunities, Sales Quote, Sales Order, Contracts, Appointments, Phone Call, E-mail, Task, Messages etc.	
<i>Override Territory</i> flag on the account helps to manually fix the account-territory relationship when there are exceptions to the rules defined for realignment.	

13.5.4.1 Override Territory & Manually Update the Unique Territory on Account/s

Use the *Override Territory* flag for manually updating territory on an account/s.

For named accounts or key accounts where you do not want to calculate territory using rules you can simply use this flag to assign territory of your choice, and account is skipped from rule calculation. Further, the documents are kept aligned with the account's territory.

Note

With multiple territories-per-account assignments, if you use *Override Territory* feature, you must add an extension field (Checkbox) to exclude key accounts from territory rule calculation, thereby avoiding determination of territory based on rules.

The behavior of the *Override Territory* flag is determined as follows:


- All rules are processed and any rules that match accounts attributes result in assignment.
- You can assign multiple territories manually using dedicated sales territories.
- Territory team is derived based on all territories assigned to account.
- Account team has direct assignments of employees.

Note

When realignment rules are run, accounts flagged as manual override (where *Override Territory* flag is selected), are skipped from realignment rules calculations.

13.5.4.2 Configure Territory Changes for Open Transaction Documents

Administrators can configure realignment to update territories in open transaction documents associated with the account.

To maintain the configuration, go to [Business Configuration](#) > [Implementation Projects](#) > [Your Project](#) > [Edit Project Scope](#) > [Questions](#) > [Sales](#) > [Account and Activity Management](#) > [Territory Management](#) , and select the scoping question - *Do you want the territory changes you make to an account, to be automatically updated in the open documents associated with the account.*

13.5.5 Territory Realignment for Multiple Territory-Account Assignments

If your business need necessitates multiple territory-account assignments, follow the configuration steps detailed below. Read and analyze the benefits and drawbacks of using multiple territory-account assignments before making the business decision.

Benefits and Drawbacks of Using Multiple Territories Per Account Assignments

Benefits and Drawbacks of Using Multiple Territories Per Account Assignments

Benefits	Drawbacks
<p>Possibility to use SAP ERP sales area in realignment rules. As a result, the Sales Org., Distribution Channel, Division, Sales Office, Sales Group, and Customer Groups, result in multiple territories assignment per account by sales area.</p>	<p>Since business documents can have only one territory, you need to manually select territory when creating transaction documents.</p>
<div style="background-color: #f0f0f0; padding: 10px; border-left: 2px solid #0070c0;"> <p>→ Remember</p> <p>As multiple combinations are feasible for Sales Area, if you are switching from multiple territories per account to single territory per account to take advantage of keeping documents aligned with account's territory, you need to remove sales area-related columns from decision table manually.</p> </div>	
<p>During realignment runs, territories on business documents are not aligned with those of the account. Therefore, when you modify territory assignments, existing business documents are not realigned because the system cannot logically determine all the documents that need to be updated.</p>	
<p>The <i>Override Territory</i> flag is not available when account is assigned to multiple territories as any such override might impact multiple territories and accounts.</p>	
<p>When creating business documents, territory determination happens only if the document owner & account have a matching territory. If the document owner and account owner do not have same territory assigned, a warning message is displayed prompting you to manually select the territory from the available territories on account.</p>	

13.5.5.1 Configure Territory Determination Using Transaction Owner for Multiple Territory-Account Assignments

Administrators can configure territory determination based on transaction owner.

The system runs a scheduled background job every few minutes to process all open transactions and align them with territory of their account. This background job takes care of reassignments when user manually overrides an account's territory.

- For documents that do not require an account such as appointments, territory assigned to the owner of the transaction is defaulted.
- When multiple territories are assigned to an account and owner, the transaction will default the matching territory,
 - If multiple territories match, the system displays a warning message to the effect.
 - If only one territory exists for the account and none for the owner, the system defaults to the account territory.
 - If only one territory exists for the owner and not for the account, the system defaults to the owner's territory.

Select the scoping question - *Do you want to determine the transaction's territory based on transaction owner?* under [Business Configuration](#) > [Implementation Projects](#) > [Your Project](#) > [Edit Project Scope](#) > [Questions](#) > [Account and Activity Management](#) > [Territory Management](#) .

If you have assigned multiple territories per account, then set the flag to determine that the transactions's territory will be based on transaction owner.

13.5.5.2 Auto-Update of Territory Based on Transaction Owner for Multiple Territory-Account Assignments

The system runs a scheduled background job every few minutes to process all open transactions and align them with territory. This background job takes care of reassignments when user manually overrides an account's territory.

13.5.5.3 Configure Territory Changes for Open Transaction Documents

Administrators can configure realignment to update territories in open transaction documents associated with the account.

To maintain the configuration, go to [Business Configuration](#) > [Implementation Projects](#) > [Your Project](#) > [Edit Project Scope](#) > [Questions](#) > [Sales](#) > [Account and Activity Management](#) > [Territory Management](#) , and select the scoping question - *Do you want the territory changes you make to an account, to be automatically updated in the open documents associated with the account.*

13.5.6 Exclude Transactions from Territory Realignment Runs

Exclude transactions such as Opportunities, Leads, and so on from the territory realignment runs.

To exclude the documents from territory realignment runs:

1. Go to ► [Sales](#) ► [Realignment Runs](#) ► [Edit](#) ⌵.
2. Use the toggle button to select the document from the [Exclude Documents](#) list.
3. Click ► [Actions](#) ► [Set To Active](#) ⌵.

13.5.7 Version Management in Territory Realignment Runs

Access the past versions of the realignment run.

You can select the past versions from the [Version History](#) list by clicking [Version](#) on the [Territory Management Rules](#) window and download them in an excel format.

13.6 Auto-Calculate Territories

On create or save of an individual customer or an account, you may want to automatically assign a territory. Use workflow rules such that if the defined set of conditions are met, the territory is derived for the account or individual customer.

13.6.1 Configure Workflow Rule to Auto Calculate Territory

Administrators can define a workflow rule to call [Derive Territories](#) action on create or save of individual customer or account.

Example

For example, on save when [Override Territory](#) flag is not selected, then you may want to call [Derive Territories](#) action automatically to ensure [Derive Territories](#) action is called for every account created manually or brought in from external application.

13.7 Territory Management Reporting

Use the territory dimension to perform sales analysis.

13.7.1 Configure Data Sources to Analyze Sales Using Territory Dimension

Administrators can use the *Design Reports* view to create and edit your own reports to suit your business requirements and processes.

Data from key figures and characteristics in a data source or a key figure group serve as the basis for your reports. Data sources are provided in the standard solution for use in territory based reporting are:

- *Territory Master Data* - Data source for Territory Hierarchy (Territory Model)
- *Territory Account Mapping* - Data source for Territory – Account assignment
- *Territory Team* - Data source for Territory Team
- All transactions that support Territory have territory as a characteristic

13.8 Set Territories as Main Territories

Set certain territories as *Main Territory* in a multi-territory scenario.

These main territories will be assigned to business transaction documents such as leads, opportunities and so on. Business transactions already have a unique territory assigned. However, if an account has multiple territories, the territory that gets assigned to the transactions will be determined by implementing the BAdI.

Run ID: 35 Run Description: AQ Run2 Status: 1 - In Preparation

Rules **Details** Results

General Data Exclude Documents

Status: 1 - In Preparation
Run ID: 35
Run Description: AQ Run2

Accounts (12)

Account ID	Account Name	New Territory	Main Territory	Dedicated Territory
1001525	Customer	New York	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1001525	Customer	Texas	<input type="checkbox"/>	<input type="checkbox"/>
1001525	Customer	US - Other States	<input type="checkbox"/>	<input type="checkbox"/>
1001527	Customer	New York	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1001527	Customer	Texas	<input type="checkbox"/>	<input type="checkbox"/>

Main Territory Flag for Territories

Note

The *Main Territory* column is only visible when the scoping question is enabled.

13.8.1 Implement BADIs for Territory Realignment Run

The new “automatic default determination” is applied during the territory realignment run simulation with the following behavior.

Note

This is only valid when the following scoping question is enabled:

Go to **Business Configuration > Implementation Projects**. Select your project and navigate to **Edit Project Scope > Questions > Sales > Account and Activity Management > Territory Management** and select the scoping question: *Do you want to update documents for accounts that have only one assigned territory?*

1. If an account has exactly one derived territory, then this is the “Default” and will be taken over into the business transaction documents.
2. If an account has exactly one dedicated (manually assigned) Territory, then this is the “Default” and will be taken over into the business transaction documents.

3. If an account has more than one territory and no default can be determined automatically, then nothing will be changed in the business transaction documents for this account. You can override this behavior by implementing the BAdI using Cloud Studio:
 1. Determine and return the Main Default-Territory per account.
 2. The BAdI implementation must return only one Territory as Default (from the list of Territories, currently assigned to this account and given as input for the BAdI).
 3. The list of territories per account contains not only those territories derived from the "Territory Rules" but also the manually assigned territories.
4. The Default Territory cannot be influenced by the user manually.

This behavior is only applied during the territory realignment run and the default territory is stored within the "Simulation result". The "default-territory" is not stored in master-data and cannot be seen on the transaction document screens or the Account Details page.

Note

As soon as you implement the BAdI:

- If the BAdI returns "DefaultDetermined == TRUE" the above automatic defaulting is no longer active and you must specify the default Territories via BAdI even if it is unique (because an account has exactly one territory).
- If the BAdI returns "DefaultDetermined == space" the automatic defaulting if an account has exactly one territory is applied.

14 User Administration

Users in your SAP Cloud for Customer system refers to employees, business users and other users such as partner contacts. Users are assigned to business roles and technically, access controls in your system are implemented on the business roles.

Note

For detailed information on how authorizations are implemented for users in your system, see - Authorizations and Access Control.

14.1 Business Users: Additional Features

The *Business Users* view allows you to manage users and assign access rights.

Search for Business Users

You can search for business users using employee details with the *Advanced* search option. New fields such as, *First Name*, *Last Name*, *Company ID*, and so on, allow you to specifically search for a particular employee.

1. In the *Business Users* subview, select *Advanced*.
2. Enter relevant details in all or any one of the fields.
3. Click *Go* to view the search results.

Unlock Password

1. In the *Business Users* subview, select the user for whom you want to unlock the password.
2. Click *Edit*, then choose *Attributes*.
3. Deselect the *Password Locked* checkbox.
4. Save your changes.

Generate or Deactivate Password

1. Click *Actions*, then choose *Generate Password*.

2. On the dialog box, click *OK*. An e-mail containing a new password is sent to the user's workplace e-mail address. If no e-mail address has been entered in the system, the password is displayed at the bottom of the screen.
3. To deactivate a user's password, click *Actions*, then choose *Deactivate Password*.

ⓘ Note

If you deactivate a user's password, the employee can no longer log on to the system using a password.

ⓘ Note

The *Generate Password* action is the preferred choice in case of a forgotten password.

Mass Generate or Deactivate Password

You can generate or deactivate passwords for multiple users at one time.

1. In the *Business User* subview, select one or many users for whom you would like to generate or deactivate passwords.
2. Click *Actions*, then choose *Generate Password* or *Deactivate Password* depending on the action you would like to perform.

When generating a new password, a system-generated e-mail is sent out to all selected users with their newly generated password. If you haven't maintained the e-mail address for any selected business user, then the system displays the new password on the screen.

ⓘ Note

You cannot generate passwords for locked users.

Unlock and Lock a Business User

1. In the *Business Users* subview, select the user you want to lock or unlock.
2. Click *Lock User* or *Unlock User*.

ⓘ Note

You cannot lock your own user in the *Business Users* subview.

Mass Unlock and Lock a Business User

You can lock or unlock multiple users at one time.

1. In the *Business User* subview, select one or many users that you want to lock or unlock.

2. Select [Lock User](#) or [Unlock User](#) depending on the action you want to perform.

Note

You cannot lock an already locked user.

Assign Business Roles

You can assign a single business role to multiple business users at one time.

1. In the [Business User](#) subview, select one or many users to whom you would like to assign a particular business role.
2. Click [Assign Business Role](#), and select the business role that you would like to assign to the selected business users.
3. Click [OK](#) to save the assignment.

Note

You won't be able to view the business role assignment immediately in your system. Once you save the assignment, the system triggers a background job. Upon completion of this job, you will be able to see the work center and work center view assignment for the selected user. The time taken will depend on the number of users selected and the business role assigned.

Edit User Attributes

1. In the [Business Users](#) subview, select the user you want to edit.
2. Click [Edit](#), then choose [Attributes](#).
3. You can enter or change the employee's user ID, validity period, password, and global settings, such as language and time zone. If you enter or change the password, the employee is prompted to change the password the next time he or she logs on to the system.

Note

When you change the password of a business user, a system-generated e-mail is sent out to the registered e-mail address of the user notifying them of the change.

You can also specify the security policy that should apply to the password of the user. If you do not specify a security policy, the default security policy is used.

Note

You cannot change your own password in the [Business Users](#) subview. You can only change your password on the logon screen or navigate to your user profile and click [▶ Start Personalization ▶ My Settings ▶ Change Password ▶](#).

4. If you want to edit the certificates that are assigned to the user, click [Actions](#) and then choose [Manage Certificates](#).

Here you can remove certificates from the user and block certificates that were issued prior to a specified date and time. The block date enables you to protect the system against system access by unauthorized persons who have a valid user certificate. You can also upload S/MIME certificates.

5. Save your changes.

Edit or Assign Security Policies

For the extended apps, by default the passcode is enabled. However, you can disable the passcode for the user. To do so, do the following:

1. In the *Business Users* sub view, select the user whose security policy you want to edit.
2. Select **▶ Edit ▶ Attributes ▶**.
3. Under *User Data*, go to *Security Policy* and select *View Details*.
4. In the pop window, go to *Mobile App Logon Password* and uncheck the checkbox *App Password Enabled*. This disables the passcode for the user in extended apps.

⚠ Caution

Currently, when you edit the security policy for the extended apps, the *Mobile App Password Complexity* settings are not considered. The mobile app password, known as passcode has to comply to a fixed complexity rule defined by the extended app .

For information on security, see the SAP Cloud for Customer Security Guide on the [SAP Cloud for Customer](#) product page.

Assign and Edit Access Rights

⚠ Caution

We recommend that you use business roles to assign access rights to users. To assign a business role to a user, navigate to the subview **▶ Business Users ▶ Edit Access Rights ▶ Business Role Assignment ▶**.

If you have a small number of users to whom you want to give individualized access rights, you can also directly assign access rights to the user.

1. In the *Business Users* subview, select the user you want to edit, click *Edit*, then choose *Access Rights*.
2. Then choose one of the following options:
 - **Copy from Business Role** (choose *Actions, Copy from Business Role*)

📌 Note

Using *Copy from Business Role* does not assign the business role to the user.

Choose this option if the following applies:

- You do not want to create an assignment between the business user and business role as described above.

AND

- No business roles are currently assigned to the user.

📘 Note

When you choose this option you can also choose to [Retain Existing Authorizations](#). In this case the user keeps his or her existing authorizations and gains the authorizations in the business role. Again, this does not create an assignment between the business role and business user.

- **Edit Without Business Roles** (choose [Edit Without Business Roles](#))

Choose this option if the following applies:

- You have previously granted access rights to a business user via a business role and want the user to retain these access rights.

📘 Note

This option removes all assigned business roles but retains the existing access rights.

- **Copy from User** (choose [Actions, Copy from User](#))

Select the user from whom you want to copy the access rights. This copies work center and view assignments as well as access restrictions.

- **Assigned All Proposed Work Centers and Views** (choose [Actions, Assigned All Proposed Work Centers and Views](#))

📘 Note

The system proposes the work center according to the function of the org unit to which the user is assigned. If you want to assign all proposed work centers and their views, click [Actions](#) and choose [Assign All Proposed Work Centers and Views](#).

If no function is assigned to the org unit of the user, no work centers and views are proposed. In this case, the option [Assign All Proposed Work Centers and Views](#) is disabled.

- **Assign Access Rights Manually to User** (choose [Work Center and View Assignment](#))

1. Choose the work centers you want to assign to the user from the list of [Available Work Centers](#), and select the [Assigned to User](#) checkbox.
2. To remove a work center, deselect the corresponding checkbox.
3. For each selected work center, the system displays the associated views in the list of [Available Work Centers and Views](#). Choose the views you want to assign to the user and select the [Assigned to User](#) checkbox. You can also remove views by deselecting the corresponding checkbox.
Note that when you assign a work center view to a user, you also assign the corresponding mobile view to the user. There are some exceptions for certain mobile applications. For more information, see the documentation of your SAP mobile application.
4. Check whether the assignments conflict with segregation of duties. Conflicts with segregation of duties are displayed with a red traffic light. If there are any segregation of duty conflicts, see the solution section for resolving the conflict.
5. If you want to restrict read and write access, choose [Access Restrictions](#).
 1. Select the view for which you want to restrict access rights and choose the corresponding access restriction in the [Read Access](#) and [Write Access](#) column. You can choose between the following settings for access restrictions:
 - [No Access](#) (only available as restriction for write access)
The user has no write access.

- *Unrestricted*
The user has access to all business data related to the view.
 - *Restricted*
The user only has access to specific business data, depending on the access context. If you select *Restricted*, you can further restrict read and write access on the basis of the access group under *Detailed Restrictions*. For example, if a view has the Site access context, you can restrict write access in this view for business documents that belong to a specific site. To do so, select or deselect the corresponding checkbox in the *Read Access* or *Write Access* column.
2. If you want to grant the user access to data that is no longer in use, choose *Historic Restrictions*. Select or deselect the corresponding checkbox in the *Read Access* or *Write Access* column.
3. Check Access Rights Consistency
 1. To check whether the access rights are consistent, click *Actions*, then choose *Check Access Rights Consistency*.
Each view provides specific activities that can be performed by a user with corresponding access rights. Note that in some cases the same activities can be performed in multiple views. It may happen that you define different access restrictions for views that provide the same activities. When users perform these activities, the access rights that take effect consist of the sum of the different access restrictions for all views that include the activities. Checking consistency enables you to identify these views and activities.
 2. If there are any activities displayed on the *Check Access Rights Consistency* screen, some access rights are inconsistent. In this case, check whether you need to redefine the access rights. Using the *Show* list box on the *Check Access Rights Consistency* screen, you can choose between the following options:
 - Inconsistencies Excluding Common Authorizations View
 - All Inconsistencies
 - Inconsistencies Excluding All Views of Home
 4. Save your changes.

Update Users/Simulate User Update

If a user is assigned to a business role, the user should have all the access rights defined in the assigned business role. If the access rights deviate from the assigned business roles, you can simulate or start a user update to identify these deviations. Deviations may occur if the user was locked for editing the last time the user update was started or if a business role has been changed without starting the user update. Deviations may also occur if the user has access rights that were previously granted manually. You can see the effects a user update would have by simulating a user update.

In the *Business Users* view, choose *Update Access Rights*, then *Simulate Update of Single User* or *Simulate Update of All Users*. To view the results of the update or the simulation of the update, choose *Update Access Rights*, *Show Background Runs of All Users*. Here you can see the processing status of any update runs. Click on *Display Log* to see detailed information about the update run.

Once you have solved any issues that may have arisen during the simulation, you can start the actual update from either the *Business Roles* or the *Business Users* view:

- From the *Business Users* view, choose *Update Access Rights*, *Update Single User* or *Update All Users*.

- From the *Business Roles* view, select the relevant business role, then choose *Assigned Users*, *Update Users*.

Note

If you have not resolved any deviations that occurred during the simulation, the solution will issue error messages about these deviations. You can review these messages in the *Application Log*.

Manage User License

Determine Counted and Active Business Users in the System

You can determine how many business users in the system are counted users. A counted user is a business user valid on the current date and is unlocked (the *User Locked* flag is not set). A scheduled job run in the system updates the counted users in the system. Note that the determination for a counted user is internal to the system and is a display-only feature.

On the *Business User* screen, the *Counted User* checkbox displays if a user is counted on any given date. This indicator is also selected when you save a business user. This is done to ensure that if the validity dates or user locked indicator are changed on the user interface, the active user indicator determination is executed in real time and does not have to wait for the scheduled job run.

Track Users using Subscription Type

You can also map the business users to a valid user subscription type in order to track the user subscription type that they consume.

In the *Business User* screen, use the *User Subscriptions* tab to assign a *User Type* and *User Subscription* to a business user. To do this, follow the steps below:

1. In the *Business User* screen, select a user and navigate to **Edit** > *User Subscriptions* **▾**. The system opens a new window.
2. Click *Add* to open the *Add Subscription* dialog box.
3. Select a *User Type* from the dropdown list. The user type that you choose will determine the allowed and possible user subscriptions for a business user.
4. Select a *User Subscription* from the dropdown list.
5. Click *Add* and then click *Save and Close*.

You can search for a counted user who is assigned to a user type and to a specific user subscription using the *Counted User*, *User Type*, and *User Subscription* attributes in the business user advanced search.

Segregation of Duties

Segregation of duties (SoD) is designed to minimize the risk of fraud and errors, and protect company assets. This is done through the appropriate assignment of access rights by distributing responsibility for business processes and procedures among several users.

The segregation of duties check helps administrators do their job by enabling them to assign access rights, which are free of conflicts. This check enables them inform business process owners of existing conflicts, so that they can implement process controls to mitigate conflicts.

View SOD Conflicts

To view the SOD conflicts, select the user and click [View SOD Conflicts](#)

You can also view the SOD Conflicts by User or Work center view.

1. Click [View SOD Conflicts](#).
2. Enter the [User](#) and [Work Center View](#) .

14.2 Logon as Another User

For testing purposes, you create users which impersonate other business users.

This feature allows you for example, to respond to issues reported by a business user without directly interacting with the business user. User impersonation avoids the need for screen sharing or password transfer.

To impersonate another user logon to the system as a user with Administration rights. Navigate to [AdministratorGeneral SettingsLogon on as another user](#).

Modify the table by entering the dedicated test user and the corresponding business user. The logon password of the test user is not affected by the table modification.

The test user has the same page layouts, data access, or query results as the business user. If data is modified by the test user, the change is tracked with the test user identity details so that the business user data is unaffected.

A business user cannot be impersonated from the following:

- Home view
- Screen personalization (Adapt or Personalize mode)
- Calendar
- Feed
- Custom coding

→ Remember

Impersonation is only applicable for online usage and not available for offline usage.

Example: You have logged on to the system as a test user created by your administrator. As the test user, you will be able to view the screens listed above but not be able to respond or react as the initial business user.

ⓘ Note

The test user logs on to the solution using an alias KEYTEST user ID, such as KEYTEST01, KEYTEST02. This logon alias avoids inadvertent test access usage by a productive business user. When business user assignments are modified in the table, any previous business role assignments are overwritten by the new business user. When the business user business role or delegation is modified, eliminate the test user assignment and add the business user again to enable the correct impersonation.

If the checkbox is selected, the business user name is copied to the last name of the keytest user. Once logged on as the keytest user, the logon user is visible, for example, *KEYTEST01 < Peter Parker >*.

Note

Removal of the row changes the key user name to *KEYTEST01 KEYTEST01*.

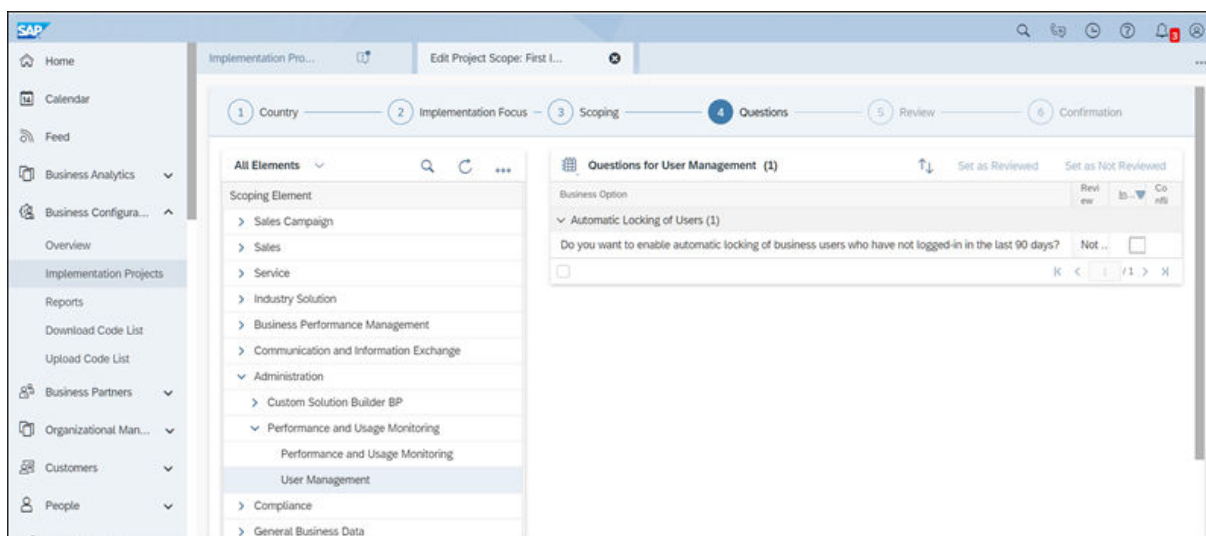
14.3 Auto-Locking of Business User

System access to business users is locked if they do not login for 90 days. An auto-generated reminder mail is sent to the business user ten days prior to the lock.

Following conditions apply:

- Applicable only in production tenants.
- Applicable only for unique e-mail addresses such as for password reset.
- Applicable only for counted dialog users.
- Not applicable for support users
- Not applicable for users who have authorizations to the following work center views under the *Administrator* work center:
 - General Settings
 - Employees
 - Business User

To use this feature, administrators must select the scoping question - *Do you want to enable automatic locking of Business users who have not logged in the last 90 days?* under **Business Configuration > Implementation Projects > Your Project > Edit Project Scope > Scoping Questions > Administration > Performance and Usage Management > User Management > Automatic Locking of Users**.



14.4 View Business User Substitutions

Learn how to view the substitutions for selected business users.

Administrators can view all substitutions for business users. The list includes all active substitutions and those that are planned to act on behalf of the business user.

To view substitutes:

1. Navigate to ► [Administrator](#) ► [Users](#) ► [Business Users](#) ►.
2. From the [Business Users](#) screen, search for the user.
3. Select the user.
4. Click ► [Edit](#) ► [Access Rights](#) ►.
5. Click the [Substitutions](#) tab to view active and planned business user substitutions.

14.5 User Administration Using Business Roles

A business role represents a set of authorizations to access your solution within your organization and system landscape. In SAP Cloud for Customer, a business role defines a hierarchy of access controls that you can assign to application users in your organization. Use roles to assign access to a large number of users at a time. As roles change, you need to update only the access rights within a role and the rights will apply for all assigned users.

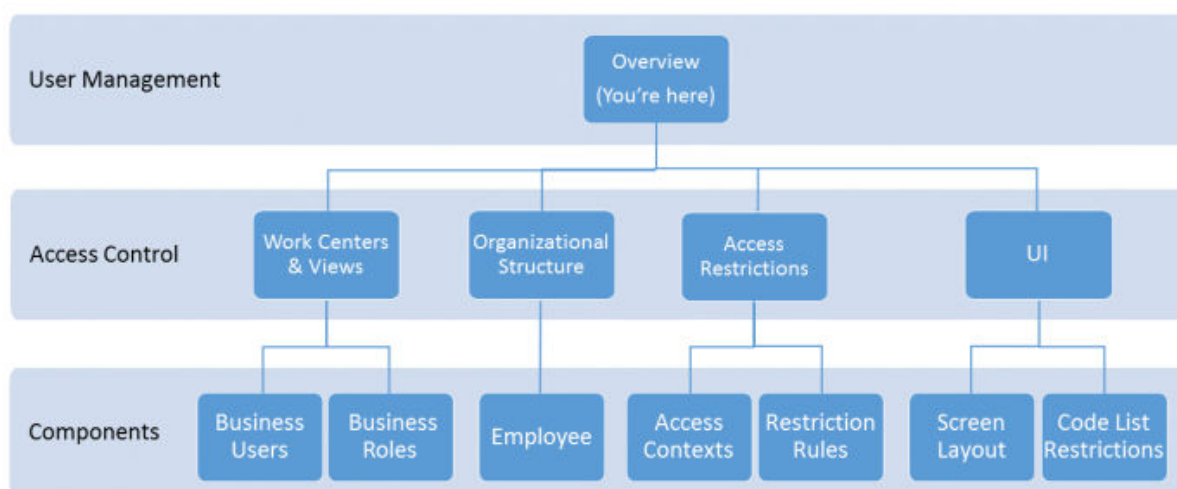
Note

For detailed information, see [Configuring Business Roles](#).

15 Manage Authorizations

Administrators can control the status of users logged in to the system as well as their access to various data within the system. The complete framework of controls is summarized under this chapter - Authorizations and Access Control.

The graphical representation below summarizes the framework for access control for users working in your system.



- [Recommended Business Roles and Work Center Assignments \[page 48\]](#)
- [Set-Up Org. Structures \[page 84\]](#)
- [Configure Access Control and Restrictions for Business Roles \[page 186\]](#)
- [Extensibility \[page 349\]](#)
- [Business Users: Additional Features \[page 150\]](#)
- [Configure Business Roles \[page 161\]](#)
- [Configure Authorizations for Employees \[page 206\]](#)
- [Apply Access Contexts and Restriction Rules \[page 182\]](#)
- [Assigning Authorizations to Work Center Views Using Access Context \[page 185\]](#)
- [Adaptation](#)
- [Define Code List Restrictions \[page 409\]](#)

15.1 Configure Business Roles

What are Business Roles

A business role represents a set of authorizations to access your solution within your organization and system landscape. In SAP Cloud for Customer, a business role defines a hierarchy of access controls that you can assign to application users in your organization. Use roles to assign access to a large number of users at a time. As roles change, you need to update only the access rights within a role and the rights will apply for all assigned users.

15.1.1 Assign Business Users to Business Roles

Assigning business users to business roles is the first step in implementing access controls using business roles. The assignment determines all the controls defined for a role for the selected business users.

1. Go to ► [Administrator](#) ► [Business Users](#) ►.
2. Search for and select the business user to whom you want to assign roles.
3. Choose ► [Edit](#) ► [Access Rights](#) ►.
4. Under [Business Role Assignment](#), use the checkbox to assign roles to the business user.

RESULT:

The system copies the access rights from the business role to the user.

Note

Selecting the [Assigned to User](#) checkbox creates an assignment between the business user and the business role. This ensures that the access rights of the business user are updated when the business role is changed and a user update run is started. For more information about the user update run, see the section **Edit business roles**.

Caution

If a business role is assigned to a user and you save the user's access rights, the access rights in the business role overwrite any access rights that you have previously given to the user manually.

If you want keep the user's current access rights, you can either work without business roles or you can update the business roles with the missing access rights.

5. Save your changes.

15.1.2 Create Business Roles and Assign Work Centers and Views

As part of configuring roles, you can restrict access to entire work centers or views, restrict access to only some actions in a view, or you can hide fields or buttons entirely. You can also restrict access to certain business users or roles.

1. Choose **► Administrator ► General Settings ► Business Roles ► New ► Business Role** **►**.
2. Under *General*, enter the an ID, name and description for the role.
Under *Users Responsible*, you can enter other users to whom you want to give responsibility for the business role. These users will then see the business role when they choose *Show - My Business Roles* in the business role worklist. Note that the user who creates the business role is automatically added to this list. However, anyone who is authorized to make changes in the *Business Roles* view can change the business role.
3. Under *Work Center and View Assignment*, use the checkbox to assign work centers and views to your role. To see and assign individual views, expand the corresponding work center.

📘 Note

Alternatively, you can copy assignments from an existing user or role by using *Copy*.

📘 Note

When you assign a work center view to a business role, you also assign the corresponding mobile view to the business role. There are some exceptions for certain mobile applications. For more information, see the documentation of your SAP mobile application.

→ Tip

If assignments cause segregation-of-duty conflicts, a red indicator appears. For suggestions about how to solve these conflicts, see the table at the bottom of the screen.

4. Check for consistency conflicts and adjust the access restrictions, if necessary, by choosing **► Actions ► Check Access Rights Consistency** **►**.

📘 Note

Each view contains specific activities that can be carried out by a user with the necessary access rights for the view. Some activities can be carried out in multiple views. Therefore, when you grant access rights, you should be aware that if there is a conflict, unrestricted access rights override any restrictions you have defined.

View A and view B both contain activity K. For view A, a user has unrestricted read and write access but for view B, the same user has read-only access. Because unrestricted access rights override restricted access rights, the user will actually have both read and write access to both views.

5. Save your entries.
6. When you are ready to assign your role to users, activate it by choosing **► Actions ► Activate** **►**.

15.1.2.1 Recommended Business Roles and Work Center Assignments

To simplify maintenance and assignment of access rights to users, SAP recommends that you define business roles, to which you assign work centers and views. You can then assign one or more roles to each employee who has a user in the system.

Access rights for SAP Cloud for Customer are based on work centers and the views within each work center.

Note

You can see the pre-delivered SAP business roles in your system as follows:

- `SAP_SALES_REP`: Sales Representative
- `SAP_SERVICE_AGENT`: Service Agent
- `SAP_SERVICE_MANAGER`: Service Manager
- `SAP_REX`: Retail Execution

The *Home* page is accessible by all users and not assigned via a work center. In part, the content and tiles available on the home page are determined by the work centers and authorizations assigned to each user. You can further define the content and layout of the home page for each role.

The following tables outline the recommended business roles and the standard set of work centers and work center views they should include. You can of course create your own set of business roles and assign them access rights that suit your particular business processes.

- To view recommended roles for the functional area you are configuring, select the functional area from the menu in the first table.
- To view recommended work centers and views for a role, select the role from the menu in the second table. Note that the first column shows all roles which use the workcenter, not just the selected role.

Note

These recommendations are dependent on licensing requirements. In addition, not all work centers listed in the system are supported or required by SAP Cloud for Customer.

For a complete list of supported work centers and views for each product, refer to the feature matrix.

Tip

The administrator role described below should be used for most of the setup and configuration activities outlined in the Getting Started topics for administrators.

You need to start by setting up an administrator with the initial user. Administrator roles are common across all functional areas.

Note

SAP Cloud for Customer Professional Services Industry Solution uses the same business roles and work center assignments shown for Sales.

→ Recommendation

The following tables display best viewed with a web browser. Please visit <http://help.sap.com/cloud4customer>.

Recommended Roles by Functional Area

Functional Area	Recommended Roles
Sales	Sales Representative
Sales	Sales Manager
Sales	Sales -Channel Manager
Sales	Sales - Partner Manager
Sales	Sales - Partner Contact
Administration	Administrator
Administration	Administrator - Local
Marketing	Marketing Manager
Marketing	Marketing Operations
Service	Service Agent
Service	Service Technician
Service	Service Manager
Service	Employee Support Agent
Service	Employee Support Manager
Service	Contract Administrator
Social	Social Agent
Social	Social Manager
Utilities	Key Account Manager
Utilities	Call Center Agent
Banking	Financial Advisor
Banking	Product Specialist
Banking	Client Manager
Automotive	Auto Sales Representative

Functional Area	Recommended Roles
Automotive	Auto Sales Manager

Recommendation

For the three partner roles for Sales, we suggest the following:

- Channel Manager
This role is for people within your company who are responsible for partner relations. Set restrictions as needed.
- Partner Manager
This role is for people within a partner company. You should set access restrictions so that people with this role see only the information in these work centers for their own (partner) company.
- Partner Contact
This role is for people within a partner company. Copy the partner manager role, so that people with this role only see the information for their own (partner) company. Then set access restrictions for specific fields. As a rule of thumb, partner contacts see about 80% of the information that partner managers see.

Work Center and View Assignments by Role

Role	Work Center	View
Sales Representative	Activities	All Views
Sales Manager	(COD_ACTIVITIES)	
Sales - Channel Manager		
Sales - Partner Manager		
Sales - Partner Contact		
Administrator		
Administrator - Local		
Marketing Manager		
Marketing Operations		
Service Agent		
Service Technician		
Service Manager		
Employee Support Agent		
Employee Support Manager		
Social Agent; Social Manager		
Utilities - Call Center Agent		
Auto Sales Rep.		
Auto Sales Manager		
Utilities - Key Account Manager	Activities	Appointments
Banking - Product Specialist	(COD_ACTIVITIES)	
Banking - Client Manager		
Utilities - Key Account Manager	Activities	E-Mails, Phone Calls
Banking - Financial Advisor	(COD_ACTIVITIES)	
Banking - Product Specialist		
Banking - Client Manager		

Role	Work Center	View
Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager	Activities (COD_ACTIVITIES)	Tasks
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Service Manager Auto Sales Rep. Auto Sales Manager	Activity Planner (ACTIVITYWORKLIST)	All Views
Administrator Administrator - Local Contract Administrator	Administrator (SEODADMINWCF)	All Views
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Administrator Administrator - Local Marketing Manager Marketing Operations Service Manager Employee Support Manager Social Manager Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	Analysis (COD_ANALYSIS)	Reports
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Administrator Administrator - Local Marketing Manager Marketing Operations Banking - Financial Advisor Banking - Product Specialist Auto Sales Rep. Auto Sales Manager	Analysis (COD_ANALYSIS)	Dashboard, Forecast, Forecast Variance, Pipeline, Pipeline Sourcing, Sales Overview, Sales Performance, Win/Loss

Role	Work Center	View
Sales - Channel Manager Sales - Partner Manager	Analysis (COD_ANALYSIS)	Partner Management
Administrator Administrator - Local Marketing Manager Marketing Operations	Analysis (COD_ANALYSIS)	Marketing Overview
Service Manager Employee Support Manager Social Manager	Analysis (COD_ANALYSIS)	Service Overview
Administrator Administrator - Local	Analysis (COD_ANALYSIS)	Usage Statistics
Administrator Administrator - Local	Application and User Management (ITS_APPLICATIONUSERMANAGEMENT)	Business Task Management
Administrator Administrator - Local	Business Analytics (ANA_BUSINESSANALYTICS)	All Views
Administrator Administrator - Local Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager	Business Configuration (BC_BUSINESSCONFIGURATION)	All Views
Administrator Administrator - Local	Business Partners (BUSINESSPARTNERS_WCF)	All Views
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	Competitors (COD_COMPETITOR_WC)	All Views

Role	Work Center	View
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Service Agent Service Technician Service Manager Contract Administrator Social Agent Social Manager	Contracts (CONTRACT_WCF)	All Views Read only for: Service Agent, Service Technician; and Social Agent
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Service Agent Service Technician Service Manager Contract Administrator Social Agent Social Manager Utilities - Key Account Manager Utilities - Call Center Agent Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	Customers (CODACCOUNTWC)	Accounts and Contacts
Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	Customers (CODACCOUNTWC)	Opportunities
Banking - Client Manager	Customers (CODACCOUNTWC)	Client - Roll Ups

Role	Work Center	View
Marketing Manager Marketing Operations Service Agent Service Technician Service Manager Contract Administrator Social Agent Social Manager Utilities - Call Center Agent Banking - Financial Advisor Banking - Product Specialist Auto Sales Rep. Auto Sales Manager	Customers (CODACCOUNTWC)	Individual Customers
Marketing Manager Marketing Operations Service Agent Service Manager Contract Administrator Social Agent Social Manager	Customers (CODACCOUNTWC)	Target Groups
Auto Sales Rep. Auto Sales Manager	Dashboard (C4CE_DASHBOARD_WCF)	Dashboard
Administrator Administrator - Local Sales Manager Sales - Channel Manager Marketing Manager Service Manager Social Manager Contract Administrator Utilities - Key Account Manager Banking - Client Manager Auto Sales Manager	Data Cleansing (COD_DATACLEANSING_WCF)	All Views
Administrator Administrator - Local	Data Integration (DATA_INTEGRATION)	All Views
Administrator Administrator - Local	Data Privacy Management (DATAPRIVACY)	All Views

Role	Work Center	View
Sales Representative	Feed (COD_FEEDWCF)	Feed
Sales Manager		
Sales - Channel Manager		
Sales - Partner Manager		
Sales - Partner Contact		
Administrator		
Administrator - Local		
Marketing Manager		
Marketing Operations		
Service Agent		
Service Technician		
Service Manager		
Employee Support Agent		
Employee Support Manager		
Social Agent		
Social Manager		
Utilities - Key Account Manager		
Banking - Financial Advisor		
Banking - Product Specialist		
Banking - Client Manager		
Auto Sales Rep.		
Auto Sales Manager		
Sales Representative	Installed Base (COD_IBASE_WCF)	All Views
Sales Manager		
Administrator		
Administrator - Local		
Service Agent		
Service Technician		
Service Manager		
Contract Administrator		
Social Agent		
Social Manager		
Auto Sales Rep.		
Auto Sales Manager		

Role	Work Center	View
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Service Agent Service Technician Service Manager Employee Support Agent Employee Support Manager Social Agent Social Manager Auto Sales Rep. Auto Sales Manager	Library (COD_CONTENT_LIBRARY)	All Views
Administrator Administrator - Local	Sales Campaign (COD_MARKETING)	Campaign File Formats
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Auto Sales Rep. Auto Sales Manager	Sales Campaign (COD_MARKETING)	Campaigns, Response Options
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations	Sales Campaign (COD_Marketing)	Content, Marketing Funds, Promotions

Role	Work Center	View
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	Sales Campaign (COD_MARKETING)	Leads
Administrator Administrator - Local Marketing Manager Marketing Operations Auto Sales Rep. Auto Sales Manager	Sales Campaign (COD_MARKETING)	Lead Score (Read-only for Marketing Manager)
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Auto Sales Rep. Auto Sales Manager	Sales Campaign (COD_MARKETING)	Target Groups
Administrator Administrator - Local	Mass Data Maintenance (MASS-DATAMAINAINANCE_WCF)	All Views
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Auto Sales Rep. Auto Sales Manager	Partners (CODPARTNERWC)	All Views

Role	Work Center	View
Sales Representative Sales Manager Sales - Channel Manager Administrator Administrator - Local Marketing Manager Marketing Operations Service Agent Service Technician Service Manager Employee Support Agent Employee Support Manager Social Agent Social Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	People (CODPEOPLE)	Employees (If you have SAP Jam integration, add Groups, and if you want legacy groups to be visible, add Legacy Groups)
Sales - Channel Manager Sales - Partner Manager	People (CODPEOPLE)	Groups
Auto Sales Manager Utilities - Call Center Agent	Products (COD_PRODUCTDATA)	All Views
Administrator Administrator - Local	Products (COD_PRODUCTDATA)	Products
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local	Products (COD_PRODUCTDATA)	Discount Lists, Price Lists

Role	Work Center	View
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Marketing Manager Marketing Operations Service Agent Service Technician Service Manager Contract Administrator Social Agent Social Manager Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Manager	Products (COD_PRODUCTDATA)	Products
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator	Products (COD_PRODUCTDATA)	Product Administration
Administrator	Products (COD_PRODUCTDATA)	Product Characteristics
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager	Products (COD_PRODUCTDATA)	Product Categories
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Service Manager Contract Administrator Administrator Administrator - Local	Products (COD_PRODUCTDATA)	Product Lists

Role	Work Center	View
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Service Agent Service Technician Service Manager Contract Administrator Social Agent Social Manager	Products (COD_PRODUCTDATA)	Registered Products
Administrator	Products (COD_PRODUCTDATA)	Sales Organization Validity
Auto Sales Rep.	Products (COD_PRODUCTDATA)	Vehicle Management
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Service Manager Contract Administrator Auto Sales Rep.	Products (COD_PRODUCTDATA)	Warranties
Service Manager	Resource Scheduler (LEAN_SCH_WCF)	All Views
Administrator Administrator - Local	Sales (COD_SALES_WCF)	All Views
Sales Manager Sales - Partner Manager Sales - Partner Contact	Sales (COD_SALES_WCF)	Deal Registration
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Administrator Administrator - Local Auto Sales Rep. Auto Sales Manager	Sales (COD_SALES_WCF)	Forecasts, Pipeline Simulation, Realignment Runs

Role	Work Center	View
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Utilities - Key Account Manager Utilities - Call Center Agent Banking - Financial Advisor Auto Sales Rep. Auto Sales Manager	Sales (COD_SALES_WCF)	Leads, Sales Quotes
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Utilities - Key Account Manager Banking - Financial Advisor Banking - Product Specialist Banking - Client Manager Auto Sales Rep. Auto Sales Manager	Sales (COD_SALES_WCF)	Opportunities
Auto Sales Manager	Sales (COD_SALES_WCF)	Policy
Auto Sales Manager	Sales (COD_SALES_WCF)	Quick Quotes, Quotes
Sales Representative Sales Manager Administrator Administrator - Local Auto Sales Rep. Auto Sales Manager	Sales (COD_SALES_WCF)	Sales Orders

Role	Work Center	View
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Administrator Administrator - Local Utilities - Key Account Manager Banking - Financial Advisor Auto Sales Rep. Auto Sales Manager	Sales (COD_SALES_WCF)	Sales Target Planning
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Administrator Administrator - Local Utilities - Key Account Manager Banking - Financial Advisor Auto Sales Rep. Auto Sales Manager	Sales (COD_SALES_WCF)	Territories
Administrator Administrator - Local Social Agent Social Manager Auto Sales Rep. Auto Sales Manager Utilities - Call Center Agent	Service (COD_SEOD_AGENT_QUEUE_WCF)	All Views
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Service Agent	Service (COD_SEOD_AGENT_QUEUE_WCF)	Queue, Templates, Unassociated E-Mail
Sales Representative Sales Manager Administrator Administrator - Local Social Agent	Service (COD_SEOD_AGENT_QUEUE_WCF)	Social Media Messages
Administrator Administrator - Local Service Technician	Service (COD_SEOD_AGENT_QUEUE_WCF)	Territories

Role	Work Center	View
Sales Representative Sales Manager Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local	Service (COD_SEOD_AGENT_QUEUE_WCF)	Tickets
Sales Representative Sales Manager Administrator Administrator - Local Contract Administrator Service Technician	Service (COD_SEOD_AGENT_QUEUE_WCF)	Work Tickets
Administrator Administrator - Local	Service Control Center (CI_CUSTOMER_CONTROL_CENTER)	All Views
Sales Representative Sales Manager Administrator Administrator - Local	Service Entitlements (CRM_SERVICEENTITLEMENTS)	All Views
Service Agent Service Manager Service Technician Administrator Administrator - Local	Stock (COD_STOCKLOCATION_WCF)	Stock
Sales - Channel Manager Sales - Partner Manager Sales - Partner Contact Administrator Administrator - Local Auto Sales Rep. Auto Sales Manager	Surveys (COD_QUESTIONNAIRE_WCF)	All Views
Service Agent Service Technician Service Manager Administrator Administrator - Local	Time Recording (COD_SEOD_TR_WCFP)	All Views
Utilities - Key Account Manager Utilities - Call Center Agent	Utilities (COD_UTILITIES_WCF)	All Views

Role	Work Center	View
Sales Representative	Visits (COD_VISIT_WCF)	All Views
Sales Manager		
Sales - Channel Manager		
Sales - Partner Manager		
Sales - Partner Contact		
Administrator		
Administrator - Local		
Auto Sales Rep.		
Auto Sales Manager		

Work Center Descriptions

Work Center Name	Description
Activities	Access information about appointments, e-mails, phone calls, and tasks.
Activity Planner	Plan activities, such as surveys and tasks, to use when conducting customer visits.
Administrator	Access the activities you need to perform for setup, configuration, and operations. This work center also provides access to the Business Analytics views that enable you to create custom reports.
Analysis	Access system analytical data and reports.
Application and User Management	Process system notifications.
(Beta) Administration	Beta version of an Administrator control center. For testing purposes only. Do not use in productive systems. Use Administrator work center instead.
Business Analytics	Create and edit custom reports.
Business Configuration	Access your implementation project, including scoping and configuration activities.
Business Partners	Access business partner data, including account hierarchies.
Category Structure	Define your category structure, which contains category structure fields that you can freely define. This constitutes of business characteristics.

Work Center Name	Description
<i>Competitors</i>	Access information about competitors and competitor products.
<i>Contracts</i>	Access information about contracts including covered products and service terms.
<i>Coverage Strategy</i>	Define your coverage strategy and assign valid stock and requirement categories to it.
<i>Customer Service</i> (COD_SEOD_AGENT_QUEUE_WCF)	Test system setup, such as social media channels and social media message import runs.
<i>Customers</i>	Access information on corporate accounts, contacts, and individual customers. For Banking, Client — Roll Ups displays account hierarchy, including the roll up of transactional and master data.
<i>Data Integration</i>	Replicate and maintain data from external systems if your solution includes integration to SAP ERP or SAP CRM systems.
<i>Data Privacy Management</i>	Remove employee data and private account data.
<i>Data Workbench</i>	Import and export data in for your solution here.
<i>ECC Search</i>	Search for Sales Orders in an SAP ERP system integrated to your solution.
<i>Employee Support</i>	Create and access support tickets for company employees.
<i>Feed</i>	Send and receive feed updates, allowing you to quickly communicate and collaborate with your network.
<i>Installed Base</i>	Track information for products installed at customer locations.
<i>Library</i>	Manage all of your uploaded documents.
<i>Sales Campaign</i>	Access all of your sales campaign information, from leads and target groups to campaigns.
<i>Mass Data Maintenance</i>	Export and import data using the migration tool.
<i>Master Data Replication</i>	Set up periodic import of employee master data records from SAP ERP or SAP CRM.
<i>Offers</i>	Access information on any offers running in-store or on any product.

Work Center Name	Description
<i>Organizational Management</i>	Contains Org Structures , Job Definition and Work Distribution . These functions are also available from the Administrator work center.
<i>Partner Access - Multi-Customer Solution</i>	Development: Allows partner's user to view or deploy multi-customer solutions in the SAP Cloud Application Studio.
<i>Partner Development</i>	Development: Allows partner access to the software development kit (SDK) as well as administrative tasks, for example, delete sessions and locks for other users.
<i>Partners</i>	Access partner information.
<i>People</i>	Access employee and group information.
<i>Products</i>	Access product information, including registered products. Information on SAP Apparel and Footwear (SAP AFS) products is also available here.
<i>Product Characteristics</i>	Maintain hexadecimal values for color and characteristics of a product.
<i>Recent History</i>	Review objects you have recently created, opened or changed.
<i>Sales</i>	Track leads and opportunities. Build forecasts, simulate your pipeline, define sales territories, and manage deal registration.
<i>Sales Organization Validity</i>	Provides ability to maintain sales organization validity for AFS material.
<i>Season-Collection-Theme</i>	Maintain products based on seasons, collections, and themes for AFS.
<i>Service Control Center</i>	Monitor your SAP Store orders, system availability and system maintenance schedule, your user subscriptions, and maintain your contact details.
<i>Service and Repair</i>	Access and edit tickets that require processing.
<i>Stores</i>	Search for a store and view store details.
<i>Surveys</i>	Create surveys to use during customer visits.
<i>Team Calendar</i>	Managers can use the team calendar to view, reschedule or reassign activities within their team.
<i>Tickets</i>	Read-only access to ticket information

Work Center Name	Description
<i>Utilities</i>	Provide end-to-end opportunity and quotation management for utilities service products.
<i>Visits</i>	Access and manage customer visits.

15.1.2.2 VIDEO: Assigning User Access Rights by Business Roles

For Administrators: find out how to create business roles that you can assign to users for easier maintenance of user access rights.

Related Information

15.1.3 Apply Access Contexts and Restriction Rules

Standard solution provides access contexts bundled with context-specific restriction rules. These access contexts are by default assigned to various work center views. As an administrator, you can choose for a business role, which restriction rule be applied for which view.

What is Access Context and Access Context ID

In SAP Cloud for Customer, the ability to grant and restrict authorizations is supported for most work center views, such as *Accounts*, *Employees*, *Products*, *Activities* or *Opportunities*. Views are assigned via work centers to business roles. Authorizations for certain views can be restricted either to employees or territories associated to the specific item in a view, or via assignment of the employee to an organizational unit.

Access context is maintained only on a business object level and cannot be edited or customized. For example, if the access context for a particular object is employee, you cannot enhance the access context by adding additional criteria such as sales organization.

Access Contexts and Restriction Rules

Access contexts bundle context-specific restriction rules that are assigned to various work center views and you as administrator can choose on business role level which restriction rule shall be used for which view.

You will find a couple of applicable restriction rules when you set at least the *Write Access* to *Restricted*.

For example:

- 1015 - Employee, Territory, Sales Data
 - 1 - Recommended: Territories, Employees (for Managers)
This rule implies that data can be accessed by a manager through a direct employee assignment independent of the employee role, territory assignment, or sales data.
 - 2 - Assigned Territories and Employees of User
This rule implies that data can only be accessed through direct employee assignment independent of the employee role or via territory assignment.
 - 3 - Assigned Territories
This rule implies that data can be only be accessed via territory assignment.
 - 99 - Define Specific Restrictions
This rule should only apply if the above rules do not satisfy the access needs. Note that restriction rule 99 requires the setup of different business roles.

Note

Only a few of the available restriction rules for *1015 - Employee, Territory, Sales Data* are listed above. You will see additional restriction rules in the solution based on the work center views you have selected. Alternatively, see the Related Links section below for a more complete restriction rules table.

- 2001 - Sales Organization , Distrib. Channel
 - 1 - Sales Organization of User
This rule implies that data can be accessed via the organizational assignment of the employee.
 - 2 - Sales Data of Employee
This rule implies that data can be accessed via employee's sales data.
 - 99 - Define Specific Restrictions
This rule should only apply if the above rules do not satisfy the access needs. Note that this restriction rule 99 requires likely the setup of different business roles.

Note

If the Restriction Rule 99 refers to access group using Sales Data, then system will require a selection always on the sub-level including Sales Organization ID and Distribution Channel ID."

- 5 - Service Unit
 - 01 - Service Units of Employee
This rule provides access based on the employee's service unit and its subordinate service units.
 - 2 - Employee
This rule implies that data can be accessed based on the employee only.
 - 3 - Territories
Access is based on the employee's territory assignment only.
 - 4 - Managed Service Units

This rule implies that data can be accessed based on service units (including sub-units) that are managed by an employee.

- 99 - Define Specific Restrictions
This rule should only apply if the above rules do not satisfy the access needs. Note that this restriction rule 99 requires likely the setup of different business roles.

Restricting Authorizations Using Access Context

1. Open the business role by clicking the work center ► [Administrator](#) ► [General Settings](#) ► [Business Roles](#) ► and select the hyperlink of the business roles you want to assign an access context to.
2. Click the [Access Restrictions](#) tab.
3. Select the [Work Center View ID](#) you want to assign an access context to.
4. In the [Read Access](#) field, select [Unrestricted](#) or [Restricted](#).

Note

Choosing [Unrestricted](#) means that the user has access to all business data related to the view. Choosing [Restricted](#) means that the user only has access to specific business data, depending on the access context.

5. Choose [Restricted](#) to restrict the read access further.

Note

Not every work center view has access context that can be modified.

From the [Restriction Rule](#) dropdown, select the desired rule for your work center view.

6. In the [Write Access](#) field, select [Unrestricted](#), [Restricted](#), or [No Access](#).

Note

You can only choose [No Access](#) if the [Write Access](#) has been set to **Restricted** and this selection means that the user has no write access to the work center view.

7. If you choose to restrict the [Write Access](#), from the [Restriction Rule](#) dropdown, select the desired rule you wish to restrict.

Restriction Rule Notes

Restriction Rule	Notes
2 Recommended: Territories, Employees (for Managers)	<p>Q:What if the employee assigned to the role is not a manager? What is the access?</p> <p>A:The assigned employee only sees his or her own objects and orphans.</p>

Restriction Rule	Notes
3 Territories	<p>Q: If a phone call is not assigned to a territory, but has an account that belongs to a territory and the current user belongs to that territory, would that user have access to the phone call because of the account?</p> <p>A: In this case, access is not given by territory. If the user restrictions are based on account (rule 1) and the current user has that account, access is granted.</p>
5 My Workforce	<p>My workforce is based on relationships (employee relationship defined as <i>Supervises</i>). At employee level, you can add your teams. This team is not an organizational team and you do not need to be a manager. You could be a project manager, for example.</p> <p>Defining employee relationships is a more flexible way of creating teams (instead of using organizational models, which are more restrictive).</p>

8. Save your changes.

15.1.3.1 Assigning Authorizations to Work Center Views Using Access Context

1. Open the business role by clicking the work center **Administrator** > **General Settings** > **Business Roles** and select the hyperlink of the business roles you want to assign an access context to.
2. Click the **Access Restrictions** tab.
3. Select the **Work Center View ID** you want to assign an access context to.
4. In the **Read Access** field, select **Unrestricted** or **Restricted**.

Note

Choosing **Unrestricted** means that the user has access to all business data related to the view. Choosing **Restricted** means that the user only has access to specific business data, depending on the access context.

5. Choose **Restricted** to restrict the read access further.

Note

Not every work center view has access context that can be modified.

From the **Restriction Rule** dropdown, select the desired rule for your work center view.

6. In the **Write Access** field, select **Unrestricted**, **Restricted**, or **No Access**.

Note

You can only choose *No Access* if the *Write Access* has been set to **Restricted** and this selection means that the user has no write access to the work center view.

- If you choose to restrict the *Write Access*, from the *Restriction Rule* dropdown, select the desired rule you wish to restrict.

Restriction Rule Notes

Restriction Rule	Notes
2 Recommended: Territories, Employees (for Managers)	<p>Q:What if the employee assigned to the role is not a manager? What is the access?</p> <p>A:The assigned employee only sees his or her own objects and orphans.</p>
3 Territories	<p>Q:If a phone call is not assigned to a territory, but has an account that belongs to a territory and the current user belongs to that territory, would that user have access to the phone call because of the account?</p> <p>A: In this case, access is not given by territory. If the user restrictions are based on account (rule 1) and the current user has that account, access is granted.</p>
5 My Workforce	<p>My workforce is based on relationships (employee relationship defined as <i>Supervises</i>). At employee level, you can add your teams. This team is not an organizational team and you do not need to be a manager. You could be a project manager, for example.</p> <p>Defining employee relationships is a more flexible way of creating teams (instead of using organizational models, which are more restrictive).</p>

- Save your changes.

15.1.3.2 Configure Access Control and Restrictions for Business Roles

As part of configuring roles, you can restrict access to entire work centers or views, restrict access to only some actions in a view. Use access restrictions and access contexts to define restrictions on work centers and views.

Why Do you Need Access Restrictions

→ Tip

Decision Point

- Why restrict access?
If you want to prevent users from accessing certain information, you should restrict access to it. You can restrict access to entire views or work centers, as well as individual fields on screens.
If your organization includes local administrators, you can set up your solution so that these administrators have restricted access to employees and business users, determined by the organizational unit of the local administrator, or by the specific organizational unit you assign to them.
- Why hide information or fields?
If you think most users with this role won't need to use certain pieces of information, but you want to give them the option of adding it to their screens, you should hide it. This way, most users don't see this information, and therefore see simplified screens. Those who want to see the information can add it by personalizing their screens.

15.1.3.3 Table of Standard Access Contexts

15.1.3.4 Table of Access Contexts

Access Contexts

Access Context	Description	Example WoC View	Using Context	Hierarchical	Employee	User	Organization	Territory	Partner	Sales Area	Sales Org + Distribution Channel	Account
1010	Employee		X	X								

Access Context	Description	Example WoC View Using Context	Hierarchical	Employee	User	Organization	Territory	Partner	Sales Area	Sales Org + Distribution Channel	Account
1015	Employee, Territory, Sales Data, Account	Customer Quote, Sales Order, Lead, Opportunity, Contact, Account	X	X			X		X		X
1016	Employee, Territory, Account	Business Activity (Email, Appointment, Visit, Phone-Call, Task)	X	X			X				X
2001	Sales Organization, Distribution Channel	Product								X	
2002	Partner							X			

Access Context	Description	Example WoC View	Using Context	Hierarchical	Employee	User	Organization	Territory	Partner	Sales Area	Sales Org + Distribution Channel	Account
2003	Sales Organization	Library					Sales-Org					
2004	Partner, Sales Organization	Partner					Sales-Org		X			
2006	Sales Organization	Campaign					Sales-Org					
2007	Sales Organization, Service Organization	Questionnaire					Sales-Org+ServiceOrg					
2008	Org. Unit	Employee	X				Any Org. Unit					
2009	Sales Organization	Competitor					Sales Org.					
2010	Employee	Product List	X	X								
2011	Employee, Org. Unit, Territory	Installed Base	X	X			Any Org. Unit	X				
2012	Employee, Territory	Promotion	X	X				X				

Access Context	Description	Example WoC View	Using Context	Hierarchical	Employee	User	Organization	Territory	Partner	Sales Area	Sales Org + Distribution Channel	Account
2013	Employee, Org. Unit, Territory	Registered Product	X	X			Any Org. Unit	X				
2014	Employee	Time Entry	X	X								
2015	Employee	Time Report	X	X								
2016	Sales Organization	Target Group					Sales Org.					
2017	Sales Data	Invoice	X							X		
2018	Employee	Payments	X	X								
2019	Employee, Service Organization	Stock Location	X	X			ServiceOrg					
2020	Employee, Account, Sales Data, Territory	Contract	X					X		X		X
2021	Sales Organization, Service Organization	Activity Worklist					Sales- Org. + ServiceOrg.					

Access Context	Description	Example WoC View	Using Context	Hierarchical	Employee	User	Organization	Territory	Partner	Sales Area	Sales Org + Distribution Channel	Account
2022	Sales Organization, Service Organization	Activity Work list, Router Definition					Sales- Org. + ServiceOrg.					
2023	Sales Organization	Selling Point					Sales- Org. + ServiceOrg.					
2024	Sales Organization	Store Layout					Sales- Org. + ServiceOrg.					
2025	Employee, Service Organization	Tool Stock	X	X			ServiceOrg					
2026	Employee, Territory	Territory	X	X				X				
2027	Employee, Territory, Account, Organization	new 'Document Library	X	X			Sales- Org. + ServiceOrg.	X				X
2028	Territory	Forecast Tracker	X					X				

Access Context	Description	Example WoC View	Using Context	Hierarchical	Employee	User	Organization	Territory	Partner	Sales Area	Sales Org + Distribution Channel	Account
4	Sales Unit			X			Sales					
5	Service Unit	Ticket	X	X			Service	X				
6	Marketing Unit			X			Marketing					
8	Sales Organization						Sales- Org.					
9001	PDI: Sales Organization	Custom BOs (PDI)					Sales- Org.					

15.1.3.5 Overview of Restriction Rules

Learn about restriction rules and which rules are applicable for your users.

Restriction Rules

Access Context	Restriction Rule	Short Description	Description	Employee	Work force	Use r	Organi- za- tion	Ter- ri- tory	Part- ner	Sale Area	Sales Org + Dis- trib- utio n	Ac- count
4	1	Sales units of employee	Access based on the employee's sales unit and the subordinate sales units.				Sales					
4	2	Managed sales units	Access based on sales units (including sub-units) that are managed by an employee.	Sales Manager								
5	1	Service Units of Employee	Access based on the employee's service unit and the subordinate service units.				Service					
5	2	Employee	Access based on the employee only.			X						
5	2	Managed Service Units	Access based on service units (including sub-units) that are managed by an employee.	Service Manager								
5	3	Territories	Access based on the employee's territory assignment only (including sub-territories)					X				
6	1	Marketing Units of Employee	Access based on the employee's marketing unit and the subordinate marketing units.				Marketing					

Access Co ntent	Re- stric tion Rule	Short Descrip- tion	Description	Em plo yee	Work force	Use r	Or- gani- za- tion	Ter- ri- tory	Part- ner	Sale s Area	Sale s Org + Dis- trib- utio n Ac- count
6	2	Managed Market- ing Units	Access based on market- ing units (including sub- units) that are managed by an employee.	Mar ket- ing Ma na- ger							
8	1	Sales Organiza- tion of Employee	Access based on sales organization of the em- ployee in your organiza- tional hierarchy.				Sales Org				
8	2	Sales Organiza- tion of Manager	Access based on sales or- ganizations that are man- aged by an employee.	Sal es Org Ma na- ger							
101 0	1	Employees (for Managers)	Access based on em- ployee and involvement of employees reporting to user in org unit (including sub-units).		X						
101 5	1	Recommended: Territories, Em- ployees (for Man- agers)	Access based on the employee, territory assign- ment, and involvement of employees reporting to user in org unit (including sub-units) Access based on the employee and in- volvement of employees reporting to user in org unit (including sub-units).	X				X			

Access Context	Re- striction Rule	Short Description	Description	Employee	Work force	Use r	Organi- za- tion	Ter- ri- tory	Part- ner	Sale s Area	Sale s Org + Dis- trib- utio n	Ac- count
		Recommended: Employees (for Managers)	Access based on em- ployee and involvement of employees reporting to user in org unit (including sub-units)									
101 5	2	Territories, Em- ployee	Access based on the em- ployee and territory assign- ment (including sub-terri- tories).			X		X				
		Employee	Access based on the employee only (including sub-territories).									
101 5	3	Territories	Access based on the em- ployee's territory assign- ment only.					X				
101 5	4	Employee (exclud- ing active territory assignment)	Access based on the em- ployee only.			X						
101 5	5	Employee, Sales Data of Employee	Access based on the employee and employee sales data.			X				X		
101 5	6	My Workforce	Access based on the em- ployees supervised by the user in the relationship hi- erarchy.		X							
101 5	7	Territories, Em- ployees (for Man- ager), Sales Data of Employee	Access based on em- ployee, territory assign- ment, sales data, involve- ment of employees re- porting to user in org unit (incl. sub-units).	X				X		X		

Access Co ntext	Re- stric tion Rule	Short Description	Description	Em plo yee	Work force	Use r	Or- gani- za- tion	Ter- ri- tory	Part- ner	Sale s Area	Sale s Org + Dis- trib- utio n	Ac- count
101 5	8	Employees (for Managers) (excluding active territory assignment)	Access based on employee and involvement of employees reporting to user in org unit (including sub-units).	X								
101 5	9	Sales Organization of Employee	Access based on sales organization of the employee in your organizational hierarchy.				Sales Org					
101 5	10	Employees for (Non-Managers)	Access based on the employee and employees assigned to user's org unit (including all sub-units).				Org Unit					
101 5	11	Employees, Accounts (Account Team)	Access based on the account via direct employee assignment (max 1000 accounts!) and employee.			X						X
101 5	12	Employees, Accounts (Account and Territory Team)	Access based on the account via direct or indirect employee assignment (max 1000 accounts) and employee.			X						X
101 5	13	Partner contacts of Partner	Access based on the partner contacts of a partner that a user is assigned to.	X								
101 6	1	Obsolete: Territories, Accounts, Employees (for Managers)	Access based on employee, terr. assignment, accounts, involvement of employees reporting to user in org unit (incl. sub-units)	X				X				X

Access Co nt xt	Re- stric tion Rule	Short Description	Description	Em plo yee	Work force	Use r	Or- gani- za- tion	Ter- ri- tory	Part- ner	Sale s Area	Sale s Org + Dis- trib- utio n	Ac- count
101 6	2	Recommended: Territories, Em- ployees (for Man- agers)	Access based on the employee, territory assign- ment, and involvement of employees reporting to user in org unit (including sub-units).	X				X				
		Recommended: Employees (for Managers)	Access based on the em- ployee and involvement of employees reporting to user in org unit (including sub-units).									
101 6	3	Territories	Access based on the em- ployee's territory assign- ment only (including sub- territories).					X				
101 6	4	Employee (exclud- ing active territory assignment)	Access based on the em- ployee only.			X						
101 6	5	My Workforce	Access based on the em- ployees supervised by the user in the relationship hi- erarchy.		X							
101 6	6	Employee, Sales Data of Employee	Access based on the employee and employee sales data.				X			X		
101 6	7	Territories, Em- ployees (for Man- ager), Sales Data of Employee	Access based on em- ployee, terr. assignment, sales data, involvement of employees reporting to user in org unit (incl. sub- units).			X		X		X		

Access Co nt xt	Re- stric tion Rule	Short Descrip- tion	Description	Em plo yee	Work force	Use r	Or- gani- za- tion	Ter- ri- tor y	Part- ner	Sale s Area	Sale s Org + Dis- trib- utio n	Ac- count
101 6	8	Employees (for Non-Managers)	Access based on the em- ployee and employees as- signed to user's org unit (including all sub-units).					Org Unit				
101 6	9	Employee, Ac- counts (Account Team)	Access based on the ac- count via direct employee assignment (max 1000 accounts!) and employee.				X					X
101 6	10	Employee, Ac- counts (Account and Territory Team)	Access based on the ac- count via direct or in- direct employee assign- ment (max 1000 ac- counts!) and employee.				X					X
101 6	11	Partner Contacts of Partner	Access based on the part- ner contacts of a partner that a user is assigned to.	X								
101 6	12	Sales Organiza- tion of Employee	Access based on sales organization of the em- ployee in your organiza- tional hierarchy					Sales- Org				
20 01	1	Sales Organiza- tion of Employee	Access based on sales organization of the em- ployee in your organiza- tional hierarchy.								X	
20 01	2	Sales Data of Em- ployee	Access based on em- ployee sales data							X		
20 02	1	Partner of Partner Contact	Access based on the us- er's direct assignment (partner contact) to a partner.						X			

Access Code	Restriction Rule	Short Description	Description	Employee	Work force	User	Organization	Territory	Partner	Sales Area	Sales Org + Dis- trib- utio n	Account
2004	1	Partner of Partner Contact	Access based on the user's direct assignment (partner contact) to a partner.						X			
2004	2	Sales Organization of Employee	Access based on sales organization of employee in your organizational hierarchy				Sales- Org					
2006	1	Sales Organization of Employee	Access based on sales organization of the employee in your organizational hierarchy.				Sales Org					
2007	1	Sales or Service Organization of Employee	Access based on sales or service organization of the employee in your organizational hierarchy.				Sales or Service Org					
2008	1	Sales Organization of Employee	Access based on sales organization of the employee in your organizational hierarchy.				Sales Org					
2008	2	Org Unit of Employee	Access based on org unit of the employee in your organizational hierarchy.				Org Unit					
2008	3	Employees (for Non-Managers)	Access based on the employee and employees assigned to user's org unit (including all sub-units).	X			Org Unit					
2009	1	Sales Organization of Employee	Access based on sales organization of the employee in your organizational hierarchy.				Sales Org					

Access Co nt xt	Re- stric tion Rule	Short Descrip- tion	Description	Em plo yee	Work force	Use r	Or- gani- za- tion	Ter- ri- tory	Part- ner	Sale s Area	Sale s Org + Dis- trib- utio n	Ac- count
201 0	2	Employee	Access based on the em- ployee only.			X						
201 1	1	Territories	Access based on the em- ployee's territory assign- ment only (including sub- territories).					X				
201 1	2	Service Units of Employee	Access based on the em- ployee's service unit and the subordinate service units.				Serv- ice					
201 1	3	Employee	Access based on the em- ployee only.			X						
201 1	4	Territories, Serv- ice Organization of Employee, Em- ployee	Access based on the em- ployee, territory assign- ment, and service organ- ization of the employee in your organizational hi- erarchy.			X	Serv- ice	X				
201 2	1	Recommended: Territories, Em- ployees (for Man- agers)	Access based on the employee, territory assign- ment, and involvement of employees reporting to user in org unit (including sub-units).	X				X				
		Recommended: Employees (for Managers)	Access based on the em- ployee and involvement of employees reporting to user in org unit (including sub-units).									
201 2	2	Territories, Em- ployee	Access based on the em- ployee and territory assign- ment.			X		X				

Access Co ntent	Re- stric tion Rule	Short Descrip- tion	Description	Em plo yee	Work force	Use r	Or- gani- za- tion	Ter- ri- tory	Part- ner	Sale s Area	Sale s Org + Dis- trib- utio n	Ac- count
		Employee	Access based on the em- ployee only.									
201 2	3	Territories	Access based on the em- ployee's territory assign- ment only (including sub- territories).					X				
201 3	1	Territories	Access based on the em- ployee's territory assign- ment only (including sub- territories).					X				
201 3	2	Service Units of Employee	Access based on the em- ployee's service unit and the subordinate service units.									
201 3	3	Employee	Access based on the em- ployee only.			X						
201 3	4	Territories, Serv- ice Organization of Employee, Em- ployee	Access based on the em- ployee, territory assign- ment, and service organ- ization of the employee in your organizational hi- erarchy.			X		X				
201 4	1	Employees (for Managers)	Access based on em- ployee and involvement of employees reporting to user in org unit (including sub-units).		X							
201 4	2	Employee	Access based on the em- ployee only.			X						
201 4	3	Employees (for Non-Managers)	Access based on the em- ployee and employees as- signed to user's org unit (including all sub-units)									

Access Control	Restriction Rule	Short Description	Description	Employee	Workforce	User	Organization	Territory	Partner	Sales Area	Sales Org + Distribution Account
2015	1	Employees (for Managers)	Access based on employee and involvement of employees reporting to user in org unit (including sub-units).		X						
2015	2	Employee	Access based on the employee only.			X					
2015	3	Employees (for Non-Managers)	Access based on the employee and employees assigned to user's org unit (including all sub-units)				Org. Unit				
2017	1	Sales Data of Employee	Access based on employee sales data.							X	
2018	1	Employees (for Managers)	Access based on employee and involvement of employees reporting to user in org unit (including sub-units).		X						
2018	2	Employee	Access based on the employee only.			X					
2019	1	Employee	Access based on employee.			X					
2019	2	Service Organization of Employee	Access based on service organization of the employee in your organizational hierarchy.					Service Org			
2019	3	Employee, Service Organization of Employee	Access based on the employee and service organization of the employee in your organizational hierarchy.			X		Service Org			

Access	Re-	Short Description	Description	Employee	Work	Use	Organization	Territory	Partner	Sales Area	Sales Org + Distribution	Account
2020	1	Employee	Access based on the employee only.			X						
2020	2	Sales Data of Employee	Access based on employee sales data.							X		
2020	3	Employee, Sales Data of Employee	Access based on the employee and employee sales data			X				X		
2020	4	Sales Organization of Employee	Access based on sales organization of the employee in your organizational hierarchy.				Sales Org					
2020	5	Employees (for Managers)	Access based on employee and involvement of employees reporting to user in org unit (including sub-units).	X								
2025	1	Employee	Access based on employee.			X						
2025	2	Service Organization of employee	Access based on service organization of the employee in your organizational hierarchy.				Service Org					
2025	3	Employee, Service Organization of Employee	Access based on the employee and service organization of the employee in your organizational hierarchy.			X	Service Org					
9001	4	Sales Organization of Employee	Access based on sales organization of the employee in your organizational hierarchy.				Sales Org					

Legend

- **Employee:** The difference between Employee and User is that if the employee is a manager, then for employees also the Org. Units of the manager are considered (the manager gets access for all employees in his/her OrgUnits). For both managers and employees their own user is added.
- **Workforce:** Access based on an employee-to-employee relationships *Supervises*, including roll up of all reverse directions *Works For*.
- **User:** Only the user/employee is added. Managers are also considered users.
- **Organization (Org.):** Org. units of the user are added. Their function is derived from the access context.
- **Territory:** Territories belonging to the user.
- **Partner:** This is only meaningful for users that are partner contacts. This includes the partner of the partner contact.
- **Sales Area:** The sales data maintained in the employee's master data.
- **Sales Org + Distribution:** The sales organization combined with all distribution channels in the system. The sales organization is derived from the assignment of the user in the org. hierarchy.

Related Information

15.1.3.6 Restriction Rules for Accounts

Access to accounts is mainly controlled via Access Context 1015.

Note

Restriction rule 11 and 12 are not applicable for master data and must not be assigned to Accounts, Contacts, or Individual Customers. These rules can be used for transactions only.

Assume rule 11 - Employee, Accounts (Account Team) - is assigned to the work center view Sales Quotes. Based on this rule, a user can access all sales quotes in which the user is a part of the involved parties. Also, this rule gives the user access to all sales quotes using an account, where the user is a part of the Account Team (and Territory Team for rule 12).

However, when the user is a part of the account team exceeding 1.000 Accounts, the account-based access will not be supported anymore, and no sales quotes can be accessed. The user will only view the sales quotes where the user is a part of the involved parties alone.

15.1.3.7 Setup Temporary Delegation

Under  *Administration*  , define delegates to temporarily copy access rights to views from one user to another.

15.1.3.8 Enable or Disable Fields or Actions

Please note that the value *Unrestricted* is only relevant, if a user is assigned to more than one business role. If a business field occurs in one of the business roles with access restriction *Unrestricted*, then the user has no restriction, even if there is another business role restricting the business field. If the business field does not occur in a business role, but is restricted in another business role, then the user is restricted accordingly.

Disable Certain Actions for a User

You can also disable certain actions for a user. Settings for *Fields & Actions* apply to business field, extension field, and business action restrictions. To hide or make certain fields read only:

1. Open the applicable business role, then choose *View All*.
2. Click the **Field & Actions** tab.

Note

Note that if a lead or sales lead has been converted to a follow-on item, such as an opportunity, then it cannot be deleted.

3. Navigate to **Business Field Restrictions, Extension Field Restrictions, and/or Business Action Restrictions**.
4. Choose an action that you want to limit or hide for this role, and specify the corresponding restriction.
5. Click *Add Row*
6. From the *Value Help*, select the name of the field or action you wish to modify.
7. In the *Access Restriction* field, choose the desired access type, such as, **Read-Only, Hidden, or Unrestricted**.
8. Click *Assigned Users Update Users*.
9. Click *Actions Check Access Rights Consistency* to ensure see whether the same activities are used in multiple views with different access restrictions.
10. Save your changes. The revised settings will now be applied to all users assigned to the business role.

→ Tip

To save time, you can use the Copy feature from an existing business role or user.

15.1.3.9 Hide Fields Based on User or Business Role

If you want to hide certain fields or make them read only for a user, you can apply these settings and then assign them to a business role. Alternatively, you can also disable certain actions for a user.

Context

Settings for Fields & Actions apply to business field, extension field, and business action restrictions. To hide or make certain fields read only, follow the steps below.

1. Click [Add Row](#).
2. From the Value Help, select the name of the field or action you wish to modify.
3. In the [Access Restriction](#) field, choose the desired access type, such as, Read-Only, Hidden, or Unrestricted.
4. Click [Assigned Users](#) > [Update Users](#).
5. Click [Actions](#) > [Check Access Rights Consistency](#) to ensure see whether the same activities are used in multiple views with different access restrictions.
6. Save your changes.

The revised settings will now be applied to all users assigned to the business role.

→ Tip

To save time, you can use the **Copy** feature from an existing business role or user.

15.1.4 Configure Authorizations for Employees

You implement authorizations for employees/business users using business roles and org. units.

Employee is a separate entity. However for business configuration within your system, employees are also represented as business users in the system. Therefore, for every employee record that you create, a corresponding business user is automatically created in the system.

ⓘ Note

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

For each employee record that you create, a corresponding business user gets created in the system. The business user allows you to control which work centers and views an employee / user can access in the solution. The access controls for work centers are implemented using business users. Each business user is assigned to a business role.

Business User	Employee
The business user allows you to control which work centers and views a user can access in the solution. All users in the system must be created and maintained as business users.	The employee is also maintained as a business user and lets you manage which data a user interacts with in the solution through the use of organizational structures, team assignments and workflow rules.

Related Information

[Employees \[page 106\]](#)

Create employees as business users in your system.

15.1.4.1 Assign Org. Units and Business Roles

When you create employees, assign them to org. units and business roles to ensure the appropriate authorizations are assigned to the employee.

Assign Employees to Org. Units

Ensure that employees in your system are assigned to org. units. You can assign an employee to multiple org. units or sales areas. You also specify the reporting line function (manager) that can be used for notifications or approval workflows for managers.

Assign Employees to Business Roles

For more information, see the topic **Assign Business Users to Business Roles** in the **Related Links** section below.

Related Information

[Assign Business Users to Business Roles \[page 161\]](#)

Assigning business users to business roles is the first step in implementing access controls using business roles. The assignment determines all the controls defined for a role for the selected business users.

15.1.4.2 Configure Access Restrictions Using Employee Sales Data

The Access Restriction rule *1015 - Employee, Territory, Account, Sales Data* provides access based on employee sales data only.

The following additional restrictions apply.

- Sales data for an employee is used for access restriction with business context 1015 (Sales Documents, Accounts). If an employee is assigned to an organizational unit without an assigned distribution channel or division, that employee will not be restricted from accounts or sales documents based on his or her sales data.
- If an employee is a manager, access is granted to documents or accounts with assigned employees who are in the manager's organizational units (including sub-units), not considering any territory restrictions. The rule applies equally to functional and reporting line managers.

Note

A relationship change triggers a corresponding update for access restrictions. For any changes made to the *Works for* relationship for employees, an update is triggered for the identity restrictions for access restriction rule 6 - *My Workforce*. However the corresponding update of access restrictions happens with a time lag of 24 hours.

15.1.5 Custom UI Switches to Hide Fields

What are UI Switches?

UI switches are defined by custom development and can be used to make fields, buttons, or sections of user interfaces hidden, read-only, or mandatory. In the *UI Switches* tab in business role configuration, you can assign any UI switches that have been developed to the business role here. Using UI switches enables you to assign a particular version of a UI to the business role, and in turn, to the users to whom the business role is assigned

For example, If you think most users for a business role won't need to use certain pieces of information, but you want to give them the option of adding it to their screens, you need hide the fields. This way, most users don't see this information, and therefore see simplified screens. Those who want to see the information can add it by personalizing their screens.

Example

Service agents in your company do not need access to the shopping cart. You modify the screen so that the links related to the shopping cart do not appear for users with the service agent role.

Steps to Configure UI Switches

Note

You have already created the required UI switches using custom development.

To hide information or fields for a role:

1. Under **Administrator** > **General Settings** > **Business Roles**, select a role.
2. Choose **UI Switches**.
3. Add a row to the table of assigned switches.
4. In the **Identifier** column, use the value help to select the appropriate switch.
5. Select the switch that you want to hide.
6. Save your changes.

Tip

Test It!

1. Log on with a user assigned to the role for which you just hid some fields or buttons.
2. Go to the page where you hid fields or buttons, and ensure that those fields or buttons do not appear.
3. Personalize your screen and add the hidden fields or buttons to make them visible on your screen.
4. End personalization and ensure that the previously hidden buttons for fields now appear.

15.1.6 Restrict Access to Content Using WebDAV Integration

Integrating Web Distributed Authoring and Versioning (WebDAV) with your SAP cloud solution allows you to define access rights to specific documents for all users with the same role.

Prerequisites

- You must have access to the WebDAV Integration view (CMSREPOSITORYINTEGRATION).
- During implementation, the communication system and communication arrangement were set up.
- You have created all the roles that you want to specify access rights for.

Context

Example

In the US, your company has state-specific legal and marketing information for Texas and California. You only want sales reps in those two states to access the information specific to their state. You create a

SALESREP_TEXAS and SALESREP_CALIFORNIA role, and assign those roles to the WebDAV repository containing the respective information.

You can restrict access to the WebDAV source by mapping the communication system to specific business roles by completing the following:

Procedure

1. Go to ► [Administrator](#) ► [WebDAV Intgration](#) ► [Maintain Mapping](#) ►.
2. Add a row and select the relevant business role.
3. Use the value help to select the communication system ID that corresponds to the communication system that was set up during implementation.
4. Enter the *Folder Path* in the WebDAV server that you want to give the role access to.

Note

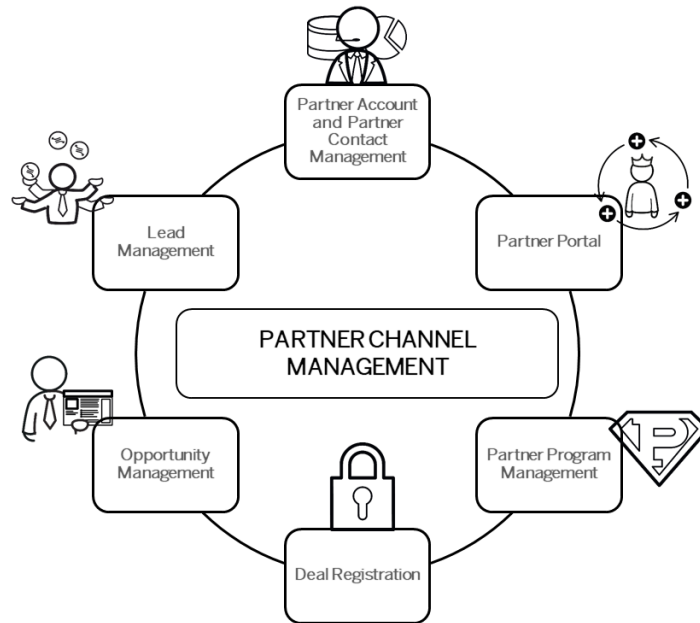
You cannot restrict access within a folder path. Restrictions must take place at the folder level.

Note

After you complete the steps above, you may need to contact your WebDAV administrator to enable communication from the relevant application.

16 Partner Management

Partners in the SAP Cloud for Customer system refers to individuals who are associated with the resellers, brokers, service providers, distributors, or other entities with which your organization collaborates.



The SAP Cloud for Customer system offers following feature possibilities for partners:

- Partner Channel Management that offers a whole lot of possibilities to set-up business and communication channels with your partners.
- Partner Portal that enables channel partners to design a new generation user experience that they can use collaborate on critical opportunities.
- *Partners* work center that facilitates the exchange of information between members of your organization with partner contacts. In the *Partners* work center, you can:
 - Maintain and manage partner and partner contacts
 - Create, edit and mass upload partner and partner contact details
 - Assign partner program and partner type to partners
 - Configure and assign relationships between partners and accounts so that partners are automatically determined in business transactions.

Note

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

16.1 Scope and Configure Partner Data

Following topics discuss the configuration possibilities for partner data.

16.1.1 Configure Partner ABC Classification

Administrators can maintain partner ABC classification.

Go to ► [Business Configuration](#) ► [Implementation Projects](#) ►. Select your project and navigate to ► [Open Activity List](#) ► [Partners](#) ► [Maintain Partner ABC Classification](#) ►.

16.1.2 Enable Partner Channel Management

Administrators can enable Partner Channel Management.

To do this, go to ► [Business Configuration](#) ► [Implementation Projects](#) ►. Select your project and navigate to ► [Edit Project Scope](#) ► [Questions](#) ► [Partner Channel Management](#) ► [Partner Management](#) ► [Partner Program Management](#) ► and scope the following questions:

- Do you want to migrate funds management data?
- Do you want to migrate loyalty management data?
- Do you want to migrate partner programs?
- Do you want to migrate partners?

📌 Note

Following data migration and upload templates are available to support the above scoping questions:

- Partner, Partner Contact with addresses
- Partner Program and Partner Product Dimensions
- Marketing Funds (summary level)
- Loyalty Management (summary level)

The above scoping questions capture the following features of the solution: partner funds management information, partner loyalty points, partner programs and partner types.

16.1.3 Configure Assignments and Access Restrictions

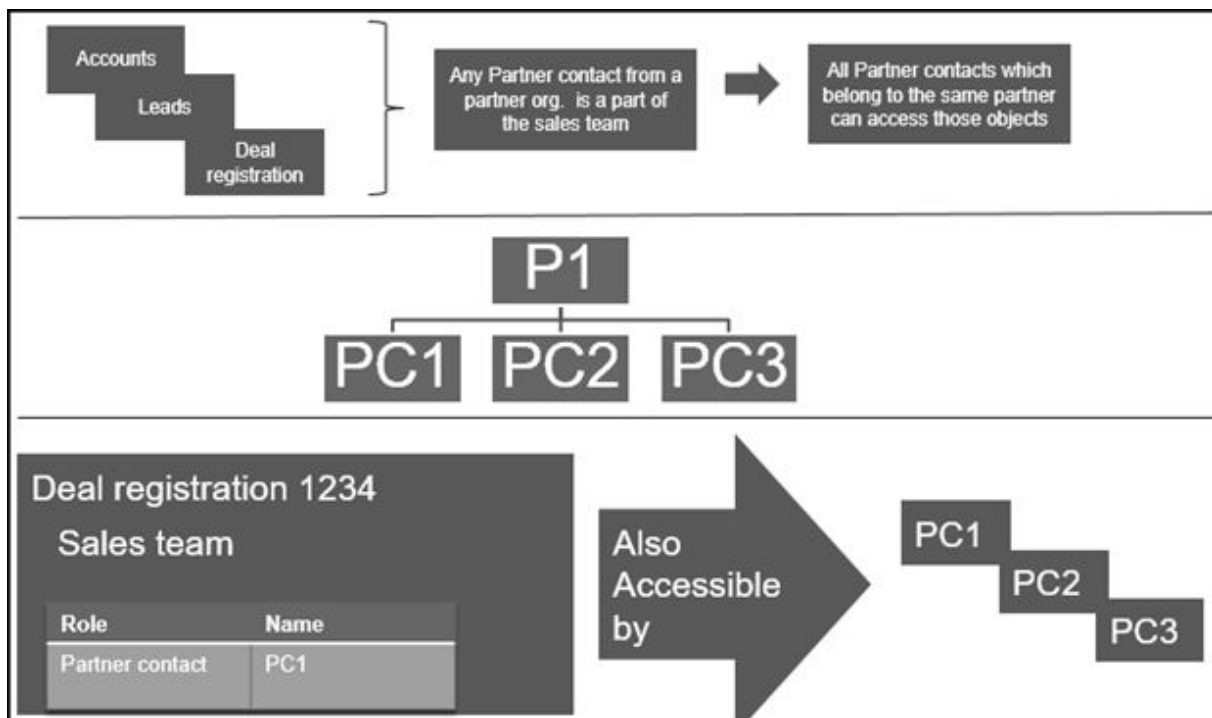
As an administrator, use following assignments to configure access restrictions for partners and partner contacts:

- Organizational unit and business roles
- Territories and accounts
- Transactions such as leads, opportunities, activities, quotes, orders, service tickets and so on.

Restriction Rule - Partner of Partner Contact

Configure business roles with access restriction rule - *Partner Contact of Partner* to enable partner contacts share objects or transactions with other partner contacts within a partner organization. This configuration does not require any further territory or org. assignments.

Currently this restriction rule is available for access contexts **1015** and **1016**. It is possible to restrict all master data and transactional work center views with 1015 (Employee, Territory, Account, Sales Data) and 1016 (Employee, Territory, Account, Sales Data).



16.1.4 Configure Business Partner Types

As an administrator, you can configure business partner types.

Go to [Business Configuration > Implementation Projects](#). Select your project and navigate to [Edit Project Scope > Questions > Sales > Account and Activity Management > Account Management > Business Partner Types](#) and select the scoping question: **Would you like to manage partners, such as resellers, in your system?** This selection allows you to choose partners and partners contacts to manage business relationships with partners (such as resellers) and their contacts.

16.1.5 Configure Partner Programs

Administrators can configure the various partner programs listed below. Go to [Business Configuration](#) [Implementation Projects](#). Select your project and navigate to [Fine-Tune](#) [Partner Channel Management](#) [Partner Management](#) [Partner Program Management](#) [Partner Programs](#), and define the following:

- Codes for partner programs
- Business codes for partner portal
- Tier-level codes for partner programs
- Codes for partner types
- Number ranges for partner programs

16.1.6 Configure Address Type Ahead Search

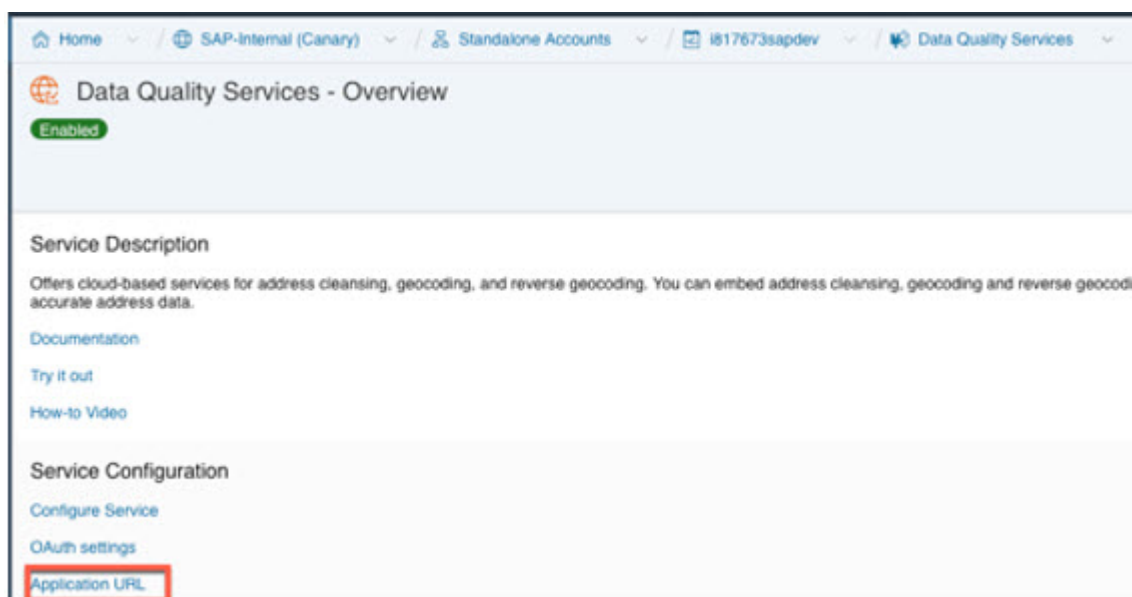
Administrators can configure address type ahead search using standard microservices from SAP Cloud Platform.

Prerequisite

When you purchase a license for the microservice, you are assigned a **Request URL** to access SAP DQM microservices. The URL is unique to your data center on SAP Cloud Platform and is required to activate integration with the SAP Cloud for Customer. You can access this URL under [SCP Cockpit](#) [Services](#) [Data Quality Services](#) [Application URL](#). Copy *Address Cleanse URL* under *Available endpoints* to a notepad on your local machine. You assign this URL when configuring the integration in your cloud for customer system.

Note

Do not use the URL under *Available endpoint when using client certificates*.



Configuration in SAP Cloud Platform

Generate OAuth 2.0 Client IDs and Token Values to configure in SAP Cloud Platform. For detailed documentation on generating OAuth 2.0 certificate to SAP Cloud Platform, see [OAuth 2.0 Authorization](#).

Steps for Configuring Microservice for Address Type Ahead Search in SAP Cloud for Customer

1. Enable the scoping question as follows:
 1. Go to [Business Configuration](#) [Implementation Projects](#).
 2. Select your project and navigate to [Edit Project Scope](#) [Questions](#) [Built in Services and Support](#) [Business Environment](#) [Addresses and Languages](#).
 3. Select the scoping question: *Do you want to use the address type ahead search functionality?*
2. Configure Mashup Web Services
There are two mashup web services need to be configured.
 1. *DQM Address Type Ahead* mashup service:
 1. Go to [Administrator](#) [Mashup Web Services](#).
 2. Select the pre delivered service (SW00095) and *Copy* the template to create new service.

Note

Under *General Information*, retain the *Service Name* and *Description* as it is.

3. Under *Service Information*, update the necessary fields as:
 - *Authorization Method*: OAuth
 - *HTTP Method*: Post
 - *URL*: Maintain the Token Endpoint URL that is provided in OAuth settings from SAP Cloud Platform.
 - Enter the *Consumer Key* and *Consumer Secret* that you have created during OAuth settings.

Note

Ensure that you retain the other fields as it is.

4. Click *Save* and *Activate*.
2. *DQM Address Type Ahead Endpoint* mashup service:
 1. Go to [Administrator](#) [Mashup Web Services](#).
 2. Select the pre delivered service (SW00094) and *Copy* the template to create new service.

Note

Under *General Information*, retain the *Service Name* and *Description* as it is.

3. Under *Service Information*, update the necessary fields:
 - *Authorization Method*: OAuth
 - *HTTP Method*: Post

- *URL*: Maintain the *Address Cleanse URL* from *Available endpoints* list in SAP Cloud Platform.

Note

- Do not use the URL from *Available endpoints* when using client certificates list in SAP Cloud Platform.
- Ensure that you retain the other fields as it is.

4. Click *Save* and *Activate*.

Note

Maintain only one mashup for Token and Service. Multiple mashups for the same will create inconsistency.

Billing for DQM Service for Address Type Ahead Search

The street address type ahead search is enabled by scoping question for each SAP Cloud for Customer to SAP DQM micro service call. The following considerations apply as part of the address type ahead search service:

- Street address type ahead search is considered as two different transactions by DQM service.
- Street and post office box addresses within the same address type ahead search transaction are considered separately.

For detailed information on billing for these API calls, refer to [Billing/Usage Information \(Per API Call\)](#).

Additional Information

For detailed information on enabling and configuring DQM Microservices, see the documentation under [Data Quality Management, microservices for location data \(DQM microservices\)](#).

16.2 Partner Channel Management

Use Partner Channel Management (PCM) solution to work together with partners allowing closer collaboration.

If your solution includes integration with the SAP HANA Cloud Portal, you can make partner channel management available in the partner portal.

Partner Channel Management (PCM) allows you to manage partner relationships to optimize channel operations for sales and service related processes. To achieve this, you can onboard partners and provision access to the SAP Cloud for Customer for the partner contacts. Once onboarded, an active collaboration can be set-up between the vendors and partners including content management. Use the analytics to manage channel partner relationships throughout the partner life cycle.

Highlight of the collaboration is the partner led lead management and deal registration as well as approval process for sales. Also use PCM in managing tickets with service partners.

Example

Social Opportunity Management: A sales manager uses the Deal Room work pattern to collaborate with sales team from SAP Cloud for Customer, with a goal to win a sales opportunity.

[Deal Registration \[page 217\]](#)

Deal registration on partner portal enables channel partners to work with leads and opportunities in sync with and without conflict with other partners.

[Collaborate using SAP JAM \[page 221\]](#)

Bring your partners on a single collaboration platform to increase partner engagement and loyalty. Use dedicated communities to connect with your partner contacts to exchange ideas, collaborate and deliver superior content.

[Deal Registration \[page 217\]](#)

Deal registration on partner portal enables channel partners to work with leads and opportunities in sync with and without conflict with other partners.

[Collaborate using SAP JAM \[page 221\]](#)

Bring your partners on a single collaboration platform to increase partner engagement and loyalty. Use dedicated communities to connect with your partner contacts to exchange ideas, collaborate and deliver superior content.

Related Information

[Scope and Configure Partner Data \[page 212\]](#)

Following topics discuss the configuration possibilities for partner data.

[\(Deprecated\) Partner Portal for Partner Channel Management \[page 221\]](#)

<https://help.sap.com/viewer/908c545d8c224add8d17d7bcd3047242/latest/en-US> [page]

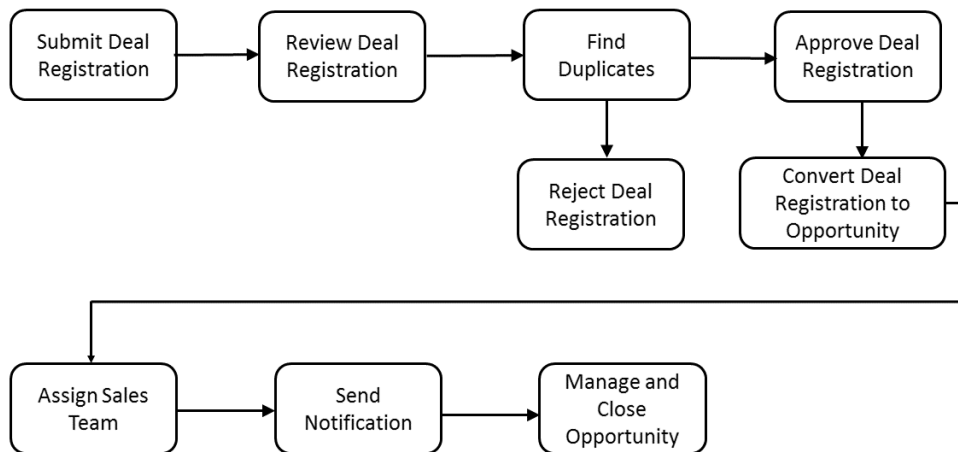
SAP Jam Integration

16.2.1 Deal Registration

Deal registration on partner portal enables channel partners to work with leads and opportunities in sync with and without conflict with other partners.

To enable users to use the deal registration feature, you must ensure that,

- Your business users are authorized to access the [Sales > Deal Registration](#) work center view, where deals are managed.
- The corresponding master data for partner contacts, products, pricing and so on are available in your solution.



Partner contact creates and submits prospective deal

Once deal registration is active in your solution, the partner contact creates and submits a prospective deal, as follows.

1. The partner contact logs on to the solution.
2. The partner contact chooses **Sales > Deal Registration**.
3. On the following screen, the partner contact chooses *New*.
4. All required information is entered.

Note

If desired, the partner contact can select the *Use Existing Account* option to assign the deal to a prospect that already exists in your solution.

5. In the *Status* field, the partner contact specifies one of the following entries:
 - *Draft*, allowing the deal to be finalized later, or
 - *Submitted*, causing the deal to be routed to the brand owner for consideration
6. The partner contact saves the deal.

Note

If the partner contact has submitted the deal, then he or she cannot edit it again, unless the brand owner assigns it *Draft* status at a later time.

Brand owner considers submitted deal

Once the prospective deal is submitted, the brand owner considers it, as follows.

1. The brand owner logs on to the solution.
2. The brand owner chooses ► [Sales](#) ► [Deal Registration](#) ▾.
By default, all deals are displayed.
3. Choosing the [Grouped Deals](#) filter, the brand owner views prospective deals grouped by end customer, product and end date.
4. The brand owner opens any deal in [Submitted](#) status.
5. On the next screen, in the [Status](#) field, the brand owner specifies one of the following entries:
 - [Draft](#), if the deal is to be returned to the partner contact for revisions to occur, or
 - [In Review](#), if the deal is to undergo customer aliasing and potentially receive acceptance
6. The brand owner saves the deal.

Brand owner performs customer aliasing

Once the prospective deal is in review, the brand owner determines whether to create a new account for the prospect, or to assign an existing account to it, as follows.

1. The brand owner opens any deal to which the status [Submitted](#) or [In Review](#) is assigned.
2. The brand owner chooses ► [Actions](#) ► [Convert to Account](#) ▾.
If duplicate checks for business partners are active in the system, potential duplicates are displayed.
3. To complete customer aliasing, the brand owner performs one of the following actions:
 - Clicks on the link of the potential duplicate business partner to assign that account to the deal, or
 - Saves the prospect associated with this deal to complete its conversion into an account.
In response, the account information is assigned to the deal.

Brand owner accepts deal

If the brand owner decides to accept the deal, the following steps occur.

1. The brand owner opens any deal to which the status [In Review](#) is assigned.
2. The brand owner modifies the status from [In Review](#) to [Accepted](#), enabling it to be converted to an opportunity, when applicable.
3. The brand owner saves the deal.

Brand owner converts deal to opportunity

Once the brand owner is satisfied with the accepted deal and wants to convert it to an opportunity, the following steps occur.

1. The brand owner opens any deal to which the status *Accepted* is assigned.
2. The brand owner chooses **► Actions ► Convert to Opportunity ►**.
In response, the deal is converted to an opportunity.
3. The brand owner saves the deal.
In response, the status *Converted* is assigned. Neither the partner contact nor the brand owner can edit the deal further, for it has become an opportunity.

16.2.1.1 Enable Deal Registration

Administrators can enable deal registration in the business configuration.

Scoping and Other
Business Configura-
tion [page 74]

Deal Registration

To make the **► Sales ► Deal Registration ►** work center view visible in your system and thereby enable authorized users to manage deals, you, as an administrator, select the checkbox of the scoping setting **► Sales ► Deal Management ► Deal Registration ►**.

Activity Lists

Deal Registration

In fine tuning, you, as an administrator, add the *Deal Registration* activity, then edit the activity to define the engagement type codes — for example *Co-Sell*, or *Re-Sell* — and to determine the questions that channel partners will answer when they submit prospective deals. If you are not satisfied with these pre-delivered questions, then you can edit or delete them, as desired, or add new ones.

16.2.1.2 Configure Reports for Deal Registration

Administrators can configure and use the reports for deal registration. These reports offer you more insight about deal conversion rate, deal items by product, and deals by status are available, along with new data sources related to deal registration.

The following reports are delivered:

1. Deal Conversion Rate - Last 12 Months, whose technical name is CODDEALU_Q0001, displays the rate of conversion of deals to opportunities in the last 12 months
2. Deal Items by Products, whose technical name is CODDEALI_Q0001, displays the distribution of deal items by products.
3. Deals by Status, whose technical name is CODDEALH_Q0001, displays the distribution of deals by status.

The following data sources are also available:

Data Sources for Deal Registration

Data Source ID	Data Source Name	Description
CODDEALU	Deal Registration Funnel	Contains all deal registrations and their related objects.
CODDEALHB	Deal Registration Header Details	Contains the deal registration document's header information.
CODDEALIB	Deal Registration Item Details	Contains the deal registration document's item information

16.2.1.3 Configure Depersonalization in Deal Registration

The depersonalization function allows you to remove personal data from a business object to ensure compliance with the applicable data protection requirements.

Depersonalization is only available for users with access to the [Data Protection and Privacy](#) work center.

In deal registration, depersonalization triggers a deletion. Once a deal registration is depersonalized, you can go to [Administrators](#) > [General Settings](#) > [Data Management](#) > [Deleted Data](#) to view the deleted record. You cannot depersonalize a deal registration if it contains a person that is blocked for removal.

In case you need to retain certain information, you can download relevant data using OData or Data Workbench prior to depersonalization.

16.2.2 Collaborate using SAP JAM

Bring your partners on a single collaboration platform to increase partner engagement and loyalty. Use dedicated communities to connect with your partner contacts to exchange ideas, collaborate and deliver superior content.

16.3 (Deprecated) Partner Portal for Partner Channel Management

Note

The entire section for Partner Portal documentation is deprecated. The partner portal is powered by SAP Cloud Platform. See the topic [Integration Landscape for Partner Portal](#) in this chapter.

About Partner Portal

The partner portal enables channel partners to design a new generation user experience that they can use collaborate on critical opportunities. Use partner portal to:

- Self-register as a new partner.
- Invite new partner employees.
- Maintain partner contact details.
- Add and track leads and opportunities.
- Manage tasks and appointments.
- Access import content, channel enablement tools and resources.

[Partner Portal Integration Landscape \[page 222\]](#)

Landscape details for the partner portal set-up.

[Partner Registration and Onboarding \[page 223\]](#)

[Set Up Your Partner Portal \[page 223\]](#)

Set up your partner portal so that your channel managers can engage more efficiently with your partner network.

[Partner Portal Integration Landscape \[page 222\]](#)

Landscape details for the partner portal set-up.

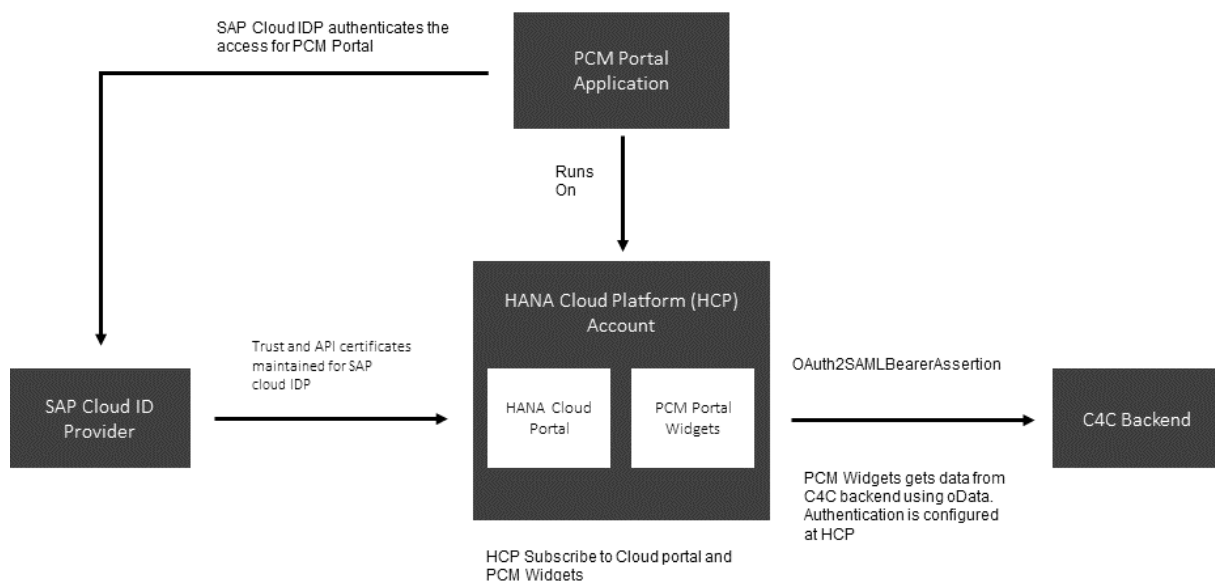
[Partner Registration and Onboarding \[page 223\]](#)

[Set Up Your Partner Portal \[page 223\]](#)

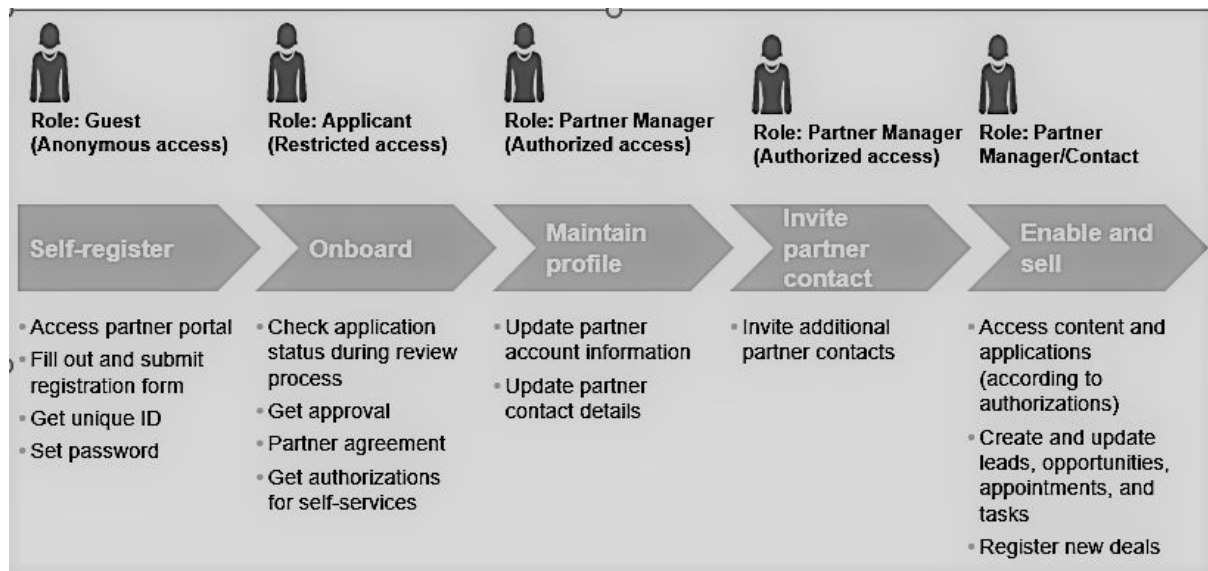
Set up your partner portal so that your channel managers can engage more efficiently with your partner network.

16.3.1 Partner Portal Integration Landscape

Landscape details for the partner portal set-up.



16.3.2 Partner Registration and Onboarding



16.3.3 Set Up Your Partner Portal

Set up your partner portal so that your channel managers can engage more efficiently with your partner network.

You can quickly create a Partner Channel Management (PCM) solution from the SAP HANA Cloud Platform portal service GitHub repository and deploy it to your account. For more information, see: <https://github.com/SAP/hcp-portal-service-for-pcm> . . .

Use the portal to give your partners all the information they need and make it easier to do business with your company. The goal is to help channel managers to efficiently engage with partners and enable their experts by:

- Providing a harmonized, central partner experience
- Providing easy, role-based access to high-value content, key information and intuitive self-services
- Empowering partners to efficiently and self-sufficiently support go-to-market campaigns and drive indirect revenue

Set Up Overview

The partner portal is based on SAP HANA Cloud Platform and leverages various platform services such as the portal launchpad, identity and user management, connectivity and roles, security as well as SAP Web IDE / SAPUI5 for custom development and extensions.

Customers can create their own partner sites or start with the provided apps delivered via the predefined integration with SAP Cloud for Customer which serves as the central system of record for the relevant business objects (partners, leads, opportunities, etc.) and the configuration of their meta data. The partner

portal solution provides pre-configured web applications that visualize the data from SAP Cloud for Customer exposed via oData services.

→ Recommendation

To ensure proper functionality, user accounts for your partner managers must be created on the portal site, **not** on the SAP Cloud for Customer system.

16.3.3.1 Prerequisites

SAP Service Cloud has set up and configured the integration between your SAP Cloud for Customer system and the SAP HANA Cloud Portal, a separately licensed solution.

For information on integrating your SAP Cloud for Customer system with SAP HANA Cloud Portal, contact your SAP Service Cloud representative.

16.3.3.2 Create Trust Between the Customer Account and SCI

To initiate the logon, first create setup the trust between the customer account and SCI.

Context

For the logon scenario, proceed as follows to create trust between the customer account and SCI.

Procedure

1. In the SAP HANA Cloud Platform Cockpit, open the customer account.
 1. Navigate to the *Trust* settings.
 2. Edit the *Local Service Provider* settings.
 3. Change the *Configuration Type* to *Custom*.
 4. Choose *Generate Key Pair* to display the signing key and certificate.
 5. Change the *Principle Propagation* to *Enabled*.
 6. Save your settings, then choose the *Get Metadata* link to download the metadata.
 7. Open the *Trusted Identity Provider* tab, then choose *Add Trusted Identity Provider*.
 8. Browse to locate the IDP metadata file, then upload it.

Note

To find this file, navigate to

```
https://[your SCI account name].[account domain].ondemand.com/saml2/  
metadata.
```

9. On the *General* tab, change the *User ID Source* to attribute and the *Source Value* to mail.
10. On the *Attributes* tab, choose *Add Assertion-Based Attribute*, then add the following attribute mapping.

Assertion Attribute	Principle Attribute
first_name	firstname
last_name	lastname
mail	email

11. Save your entries, then exit the customer account settings.
2. Open the administrator page of your SCI IDP account, located at `https://[your SCI account name].[account domain].ondemand.com/admin`.
 1. Choose *Applications*.
 2. Add a new application, specifying the customer's name as the application name.
 3. Open the SAML 2.0 Configuration and upload the customer's account SP metadata, which you downloaded in step 1f. of the current task.
 4. Save your entries, then exit the applications settings.

Upon completing this procedure, you should be able to log on to the SAP HANA Cloud Portal space with the user ID (that is, e-mail) that was assigned to it when the customer's account was provisioned.

Note

If you cannot log on with this user ID, ensure that it has been added to the SCI account by visiting the SCI administrator page and uploading the user and user details in a `.csv` file format.

16.3.3.3 Create Trust Between the Customer Account and the SCI API

For the SAP ID invitation flow scenario, proceed as follows to create trust between the customer account and the SCI API.

Context

Procedure

1. Request a certificate to be used for authentication from the [SAP Support Portal](#).
2. Open a KeyStore Explorer application, then proceed as follows.
 1. Choose *Create a new KeyStore*.
 2. Specify the *JKS* type.
 3. Choose **Tools** > *Import Key Pair*.
 4. Choose *PKCS #12*.
 5. In the *Decryption Password* field, specify the certificate password, then choose the certificate file.
 6. Choose an alias, or accept the default setting.
 7. When you are prompted to choose a new password, enter the original certificate password.
 8. Save the .jks file with the file name `sapid.jks`.
 9. When you are prompted to choose a new password, enter, again, the original certificate password.
3. In the SAP HANA Cloud Platform Cockpit, open the customer account.
 1. Choose *Destinations*.
 2. Upload the `sapid.jks` file.
4. Open your SCI IDP account.
 1. Choose *Certificate for API Authentication*.
 2. Upload the public part of the P12 certificate that you created, which is determined as follows:
 - Open Microsoft Internet Explorer®.
 - Choose **Internet Options** > *Content* > *Certificates* > *Import*.
 - Choose the P12 file.
 - Enter the password that you specified when you created the certificate.

Note

Accept the default checkbox selections.

- Place the certificate in the Personal store, then choose *Finish*.
- Find the certificate that you uploaded into the Personal store, then choose *Export*.
- Choose *Next* until you view the file format options.
- Select the *Base-64 encoded X.509* (.cer) format.
- Enter a file name for the exported file, then choose *Finish*.
- Using Notepad, open the exported file and copy the entire text, including the header and footer.

16.3.3.4 Create Trust Between the Customer Account and SAP Cloud for Customer

For the SAP Cloud for Customer invitation flow scenario, proceed as follows to create trust between the customer account and SAP Cloud for Customer.

Context

Procedure

1. Open the trust management settings of the SAP HANA Cloud Platform customer account.
 1. Copy the entry in the *Local Provider Name* field.
 2. Copy the entry in the *Signing Certificate* field, and save it in .cer format.
2. Within a separate browser window, log on to SAP Cloud for Customer with administrator authorizations.
 1. In the *Administrator* work center, under *Common Tasks*, choose *Configure OAuth 2.0 Identity Provider*.
 - Choose *New OAuth 2.0 Provider*.
 - In the *Issuing Entity Name* field, paste the entry that you copied in step 1a. of the current task.
 - From the *Primary Signing Certificate* field, choose *Browse* to locate the file in .cer format that you saved in step 1b. of the current task.
 - Select the *E-Mail Address* checkbox.
 - Choose *Submit*.
 2. Choose **► Administrator ► OAuth 2.0 Client Registration ►**.
 - Choose *New*.
 - Specify the client secret, client description, and token lifetime (in seconds).
 - In the *Issuer Name* field, use the dropdown list to specify the identity provider that you created in step 2a. of the current task.
 - Choose *Save* and *Close*.

16.3.3.5 Upload Destinations to the Customer Account

In this step, upload the destinations for each of the associated parameters.

Procedure

1. In the SAP HANA Cloud Platform Cockpit, open the customer account.

2. Upload the following destinations, along with the associated parameters.

1. SAPID

This destination is used for the SAP ID invitation flow scenario, and consists of the following parameters.

📌 Note

Replace any text denoted in bold with the information that pertains to your solution.

```
Name=sapid
Type=HTTP
URL=https://[your SCI account name].[account domain].ondemand.com
ProxyType=Internet
Authentication=ClientCertificateAuthentication
KeyStore Location=sapid.jks
KeyStore Password=[password specified when you created the certificate]
TrustAll=true
```

2. C4C

This destination is used for connecting to SAP Cloud for Customer during its invitation flow scenario, and consists of the following parameters.

📌 Note

Replace any text denoted in bold with the information that pertains to your solution.

Replace NNNNNN with the numbers that are associated with the URL of your SAP Cloud for Customer tenant.

```
Name=C4C
Type=HTTP
URL=https://myNNNNNN.crm.ondemand.com
ProxyType=Internet
Authentication=OAuth2SAMLSAMLBearerAssertion
Audience=myNNNNNN.crm.ondemand.com
Client Key=[OAuth client ID from SAP Cloud for Customer]
Token Service URL=https://myNNNNNN.crm.ondemand.com/sap/bc/sec/oauth2/
token?sap-client=[client number]
Token Service User=[OAuth client ID from SAP Cloud for Customer]
Token Service Password=[password specified in Client Key field during SAML
client configuration]
authnContextClassRef=urn:oasis:names:tc:SAML:2.0:ac:classes:PreviousSession
nameIdFormat=urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress
scope=UIWC:CC_HOME
```

3. C4C Public

This destination is used for connecting to SAP Cloud for Customer during an anonymous scenario on a public site, and consists of the following parameters.

📌 Note

Replace any text denoted in bold with the information that pertains to your solution.

Replace NNNNNN with the numbers that are associated with the URL of your SAP Cloud for Customer tenant.

```
Type=HTTP
authnContextClassRef=urn:oasis:names:tc:SAML:2.0:ac:classes:PreviousSession
Authentication=BasicAuthentication
```

```
Name=C4C__public
ProxyType=Internet
URL=URL=https://myNNNNNNN.crm.ondemand.com/sap/byd/odata/v1/pcmportal
nameIdFormat=urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress
User=[Administrator User ID]
Password=[Administrator Password]
scope=UIWC:CC_HOME
```

4. c4c_pcpublic

Note

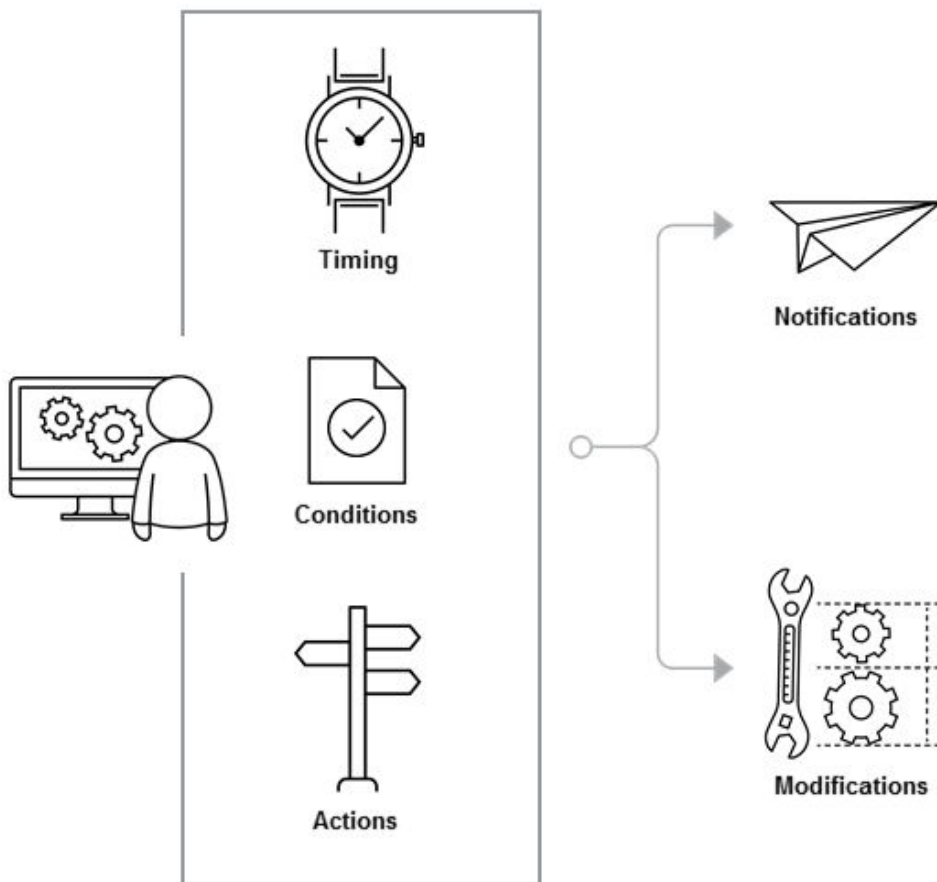
Replace any text denoted in bold with the information that pertains to your solution.

```
Name=c4c_pcpublic
Description=destination to public self-registration widget
URL=[URL of the customer account subscription to the pcpublic Helium
application]
ProxyType=Internet
Type=HTTP
Authentication=NoAuthentication
```

17 Workflows

Learn how you can use workflows to support your business processes.

Automate your business processes using workflows. Configure to send notifications, trigger automatic e-mails and define conditions to update fields or calculated values. Also trigger actions or schedule workflows based on dates, time or other complex conditions. Workflows also allow you to create multi-step approvals.



Workflow configuration involves creating workflow rules that can trigger automatic e-mail messages, notifications, field updates and actions for business objects. Administrators can create workflow rules specifying actions/notifications/field updates for business objects, recipient groups, employees and so on. Workflows enhance the flexibility and adaptability of your Cloud for Customer solution to your custom business requirements.

To configure workflow rules, go to ► [Administrator](#) ► [Workflow Rules](#) ► [New](#) ►. Using workflows, you can activate rules for updating fields, setup automatic notifications, trigger creating tasks, send e-mail notifications to customers and so on. The various configuration possibilities for workflows are described here.

Workflow rules involve a five step process. These include [Business Object](#), [Timing](#), [Conditions](#), [Actions](#), [Review](#) and [Confirmation](#). These components determine how the workflows will be used in the various business processes. The steps are described in detail further in this chapter.

Object

The first step to creating a workflow rule is selecting the business object for which the rule applies.

Timing

The timing determines when the system should evaluate the rule. The three available options are *On Create Only* (when the object is created), *On Every Save* (every time an object is saved) and *Scheduled* (scheduled after an event occurs). You can specify, for example, if a workflow rule be triggered when an object like a sales quote or ticket is created or when saved. There is also an option to schedule the rule for a specific time, for example two days before the due date of an item.

Conditions

Conditions are the criteria which trigger workflow rules. These conditions may be standard fields, extension fields, field value change and so on. For example, if you create a sales quote above a certain value (the condition), the system triggers the associated action. You must maintain conditions in **Groups**. Maintain multiple conditions within a group if you need more than one criteria to be met for the workflow rule. Use separate groups to define **OR** conditions.

Actions

E-mail, Messaging and Actions define tasks that must be executed when a workflow rule is triggered. For example, send an e-mail, generate a notification, send a text message or update a field of the object (both standard and extension fields as well as trigger an action). You can define actions using one of the supported rule-types namely the *Notifications*. To better understand how these actions are triggered, here are the basic steps your administrator takes to set up workflow:

17.1 Configure Workflow Timing

Administrators can configure when a workflow rule must be evaluated and triggered. Timing can be relative to create or change of a business object or can be scheduled.

The three available options in configuring workflow timing are *On Create Only* (when the object is created), *On Every Save* (every time an object is saved) and *Scheduled* (scheduled after an event occurs).

Following options are available:

- *On Create Only* - The rule is applied at every create of a business object instance; No other attributes are considered for *On Create Only* selection.

- *On Every Save* - The rule is applied at every save of a business object instance; No other attributes are considered for *On Every Save* selection.
- *Scheduled* - The rule is applied as scheduled for a business object instance (scheduled after an event occurs); The *Events* to schedule the rule can be defined. You can specify, for example, if a workflow rule be triggered when an object like a sales quote or ticket is created or when saved. There is also an option to schedule the rule for a specific time, for example two days before the due date of an item. For example, a ticket is scheduled for escalation one day after completion is due, if the status is still *In-Process*. Schedule a workflow rule if you refine the workflow based on events like Business Object Change or *Custom Date*. You can select the event and then specify the relative time like *On* (a specific date), *After* (after the specific event with a relative time offset), *Before*. The related attributes for Scheduled Timing are
 - Event

Note

The events listed in the field help are specific to a business object you have selected. Further, the business object selected can be enhanced with a custom field with data type as *Date*.

- Relative Time [like After, Before, On]
- Time Offset [To set the duration]

→ Recommendation

- Workflow rules that are set to with *Timing - On Every Create* or *On Every Save* are run synchronously while the transaction object is being created or saved in user session. Too many rules affect system performance. Therefore it is recommended that you consolidate these rules.
- Use the *Scheduled* option as the scheduled rules run asynchronously and the conditions and actual workflow for scheduled rules are triggered outside the user session.
- Note that workflow time affects all users using the business object within a process and define rules accordingly.

17.2 Configure Workflow Conditions

Administrators can configure conditions to specify criteria that must be fulfilled in order to trigger workflow rules. Conditions can be based on standard fields, extension fields, field value change and so on.

Conditions are structured in groups and include criteria that must be fulfilled if a workflow action must be triggered. More than one condition can be defined using logical operators *AND/OR*. The *AND* operator can be defined using condition within the same group. To add more than one condition, use the *OR* operator. Add a new group to define the OR operator amongst the workflow conditions such that if conditions in at least one group are met, then the overall condition is considered fulfilled and the workflow rule has been triggered.

For example, the value - *Before Object Change*, can be used to define conditions based on the field value changes. For example, a notification is sent when the field - **Escalated** is changed from **Not Escalated** to **Escalated**.

Follow these steps to define conditions.

1. **Define Conditions** (Optional).

1. In the *Define Conditions* step, click *Add Group* to define a new condition group.
2. To start with, you need at least one group to define conditions. Within one group, you can add conditions using either of the following:
 - *Conditions Met* or *Conditions Not Met* criteria that validate if the conditions are true or false respectively.
 - The operands such as *AND* or *OR*. Note that when using operands, the first condition can only be defined using the AND operand. To use the OR operand, you must have defined more than one conditions in the group.
3. In the dialog box, select the field, such as *Status*, for the expression of the condition. Then specify an appropriate *Compare Operator*, and a **value**.

Note

You can also create conditions using custom (adapted) fields. Set up any custom fields first, before you create your workflow rules.

4. If desired, specify conditions with the following options:
 - To add an AND expression, click *Add Condition*.
Conditions within a group are logical AND expressions. All conditions within a group are met for the condition group to be considered fulfilled.
 - To add an OR expression, click *Add Group*.
If all conditions in at least one group are met, then the overall condition for the rule is considered fulfilled.
5. To remove or edit a condition, click the corresponding icons.
To remove a condition group, click *Remove Group*.
6. Click *Next* to define the actions associated with the rule.

17.3 Configure Messaging Workflows

Messaging rules can be configured to send a formatted text message to the mobile device number registered in the master data of the recipients.

Follow these steps to send SMS text messages:

- Select the flag *Create Messaging Activity* to create a business activity for the SMS text messages.
- Specify the *Sender* of this message. This is the Mashup Web Service ID that is used to trigger the SMS text message.
- In the *Text* field, enter the description that should be displayed for the user.
- Placeholders are the field values of the formatted text message. To add placeholders, perform these steps:
 1. Click *Add Row*.
 2. Enter the placeholder as it appears in your chosen template file.

Caution

All placeholders included in notification templates must be in all caps, contain no special characters, and begin and end with a hash tag (#).

For example:

- #ID#
- #ACCOUNT#
- #100#

3. Select from the available list of fields. The list is dependent on the business object you selected for the workflow rule. Custom fields appear in the list, and can be used with template placeholders.
 4. You may also use your defined placeholders in the subject line of the notification.
- To define employees of a particular responsibility category as the recipients, click [Add Determination](#). Then select from the available list and repeat this selection as necessary.

Note

All business partner roles are available for selection in the list. The complete selection list is dynamically added using code list and hence the values in the selection list can be modified. You can use the fields [Top Level Account Owner](#) and [Top Level Account Team](#) as filters to include only the parent company in a notification.

- To define a particular employee as the recipient, click [Add Employee](#). Repeat this selection to add all recipients of the notification.

17.3.1 Enable Messaging Workflows


Administrators must enable messaging before configuring messaging in workflows.

Maintain the following configuration:

- Configure sender service: Go to [Business Configuration](#) > [Implementation Projects](#). Select your project and navigate to [Edit Project Scope](#) > [Questions](#) > [Sales](#) > [Account and Activity Management](#) > [Activity Management](#) > [Activity Types](#) and select the scoping question: *Do you want to record messaging activity?*
- Under [Administrator](#) > [Mashup Web Services](#), create a mash-up web service to integrate to the SMS provider.

17.3.2 Track E-Mail and Messaging Activity

Any e-mail and messaging activity that you trigger using workflows can be tracked in the document flow for an object. This is possible because e-mail and messaging activities created through workflows are now linked to the source object.

RULE SUMMARY	GENERAL DATA
 test email activity	<p>Conditions are structured in groups. Adding groups allows you to overall condition is fulfilled. Conditions within a group are AND conditions. To add a condition</p>
<p>Basic Data</p> <p>Description: test email activity</p> <p>Business Object: Ticket</p> <p>Rule Type: E-Mail</p> <p>Timing: On Every Save</p> <p>Status: Active</p>	<p>Group 1</p> <hr/> <p>ACTIONS: E-Mail</p> <hr/> <p>Sender Information</p> <p>Sender Email:</p> <p>Sender Name:</p> <p>Subject: TestAnk for ticket #1#</p> <p>Create Email Activity: <input checked="" type="checkbox"/></p>

Example

When creating workflows for sales order, if you select the *Create E-Mail Activity* flag, the e-mail activity is linked to the sales order and also available in the *Document Flow* and *Activities* tabs in the sales order.

17.4 Configure Field Updates using Workflow Rules

Field Update rules result in an automatic update to the specified field when the defined conditions are met.

Administrators can configure updates to fields that must be performed when workflow rules are triggered. Field updates change value of the field. For example, when a lead is created with Qualification level as Hot, priority of the lead is automatically changed to Immediate

Follow these steps to configure field updates:

1. In the *Fields to Update* table, click *Add Row* to choose a field to update if the rule conditions are met.
2. Selects the fields that are required for update **OR** or select the Actions that are required to be triggered. For example, if you select the field **Priority**, then select an *Update Type* with value as **Urgent**. Depending on the type of field you select, the *Update Type* displays various options such as *Calculated*, *Value*, *Formula* and *Copy from Field* :
 - *Value* - This option allows you to enter text, numeric value, add/remove for multivalued fields, or even calculate values. These options vary based on the update type that you have selected.

- *Formula* - Enter the formula that is internally in the system to perform the calculations and accordingly update the existing field value.
- *Copy from Field* - Use this option to copy values from another field. It copies values as well as text description of any code list. This function works only if the data types of the fields (copied from and copied to) are the same. Further, note that this feature option is available only if there exist fields of the same type in the business object. The field help for *Field* displays all fields of the same type available in the business object.

ⓘ Note

When workflow rules impact fields from other business objects, then the authorization of the user triggering the workflow is not considered. For example, an administrator configures the workflow to update the account role from **Prospect** to **Customer** when the quote is converted to *Won*. The end user only has a read authorization to customer records even though the user has a create/update authorization of sales quote. When the user converts the quote to Won, the customer's role is updated to Customer even though the user does not have authorization to update customer record.

Then specify a value (such as *Urgent*).

3. If you want to notify appointment attendees of changes, specify additional fields to update by adding more rows to the table.
4. To remove a row, select the row, then click *Remove*.
To edit a row, click the edit icon in the table.

17.4.1 Replace or Update Multi Value Code Lists

You can replace the entire lists and add or remove specific values from value help lists using the *Field Update* option for workflow rules. Note the following checkbox options:

- *Replace all existing values* - Select this checkbox to replace the existing codelist with new values. When you select this flag, the *Add* checkbox is automatically enabled for all the new values you have added in the list.
- *Add* - Enables you to select individual values from the list.
- *Remove* - Enables you to remove select values from the list.

17.5 Configure E-mail Workflows

Understand the various options and process steps involved in configuring workflows for e-mail notifications.

For example, when you define workflow rules for visits, you can send e-mail notifications to visit attendees or visit contacts. You want to ensure that everyone involved in a visit always has the latest information. Define a rule so that anytime a visit is updated (any save), an e-mail notification is sent to the visit contacts and visit attendee.

In the *Define Actions* step, select the *Rule Type - E-mail*. The **E-Mail** rules result in an e-mail being sent to the list of recipients and requires an HTML file for use as the e-mail template. Use the following options to configure an e-mail workflow template:


→ Tip

If you want to use predefined HTML templates for e-mail notifications, add HTML files to the list of allowed MIME types in the *Allowed MIME Types for Document Upload* fine-tuning activity.

- Some appointment attendees may be outside your company and have no access to notifications in the solution. Use rule type *E-Mail* to notify attendees of changes to appointments. When you use rule type *E-Mail*, the option *Appointment Attendees* appears in the *Recipient Determination* section.
- Select *Always Send E-mail* flag if you want to receive an e-mail each time the business object is changed. By default (flag is unchecked), an e-mail is sent only once.
- If you trigger creation of an activity for the e-mails that are triggered based on the workflow rule, select the flag *Create E-mail Activity*.
- Select the flag *Add Attachment* if you want to enable adding custom attachments to the e-mails sent using this workflow rule. Maintain the required logic to collect documents and attach them to e-mail. You maintain this customizing in the enhancement option: `ExitForGettingWorkflowAttachment` using SAP Cloud Application Studio.
- To display the sender name in an e-mail alert, enter the *Sender Name* and *Sender E-mail*.
- Select the flag *Select a Sender E-mail* to determine sender name and e-mail address for workflow generated e-mail notifications. For example, you may want to use e-mail address of the sales representative to send a sales quote. The feature uses party determination to select a sender address. With this feature, any e-mail replies to the workflow generated e-mails are routed to the inbox of the sender and you no longer have to provide a hard-coded sender name and address.

ⓘ Note

Only parties with **employee role** can be used in the sender determination. If there are multiple employees assigned to a party role, the determination selects details of the first employee in the list.

- *Subject Template File - Mandatory* - In order to complete configuring the workflow rule for e-mails, browse for and select a template file that will be used for the e-mail notification.
- Enter the subject displayed for the recipient of the notification. You can also enter the subject in other available languages by clicking 
- Add placeholders to include them in the subject line and the template file of your e-mail notification. Map any placeholders used in the template to fields in your solution. To do this,
 1. Click *Add Row*.
 2. Enter the placeholder as it appears in your chosen template file.

⚠ Caution

All placeholders included in e-mail notification templates must be in all caps, contain no special characters, and begin and end with a hash tag (#).

For example:

- #ID#
- #ACCOUNT#
- #100#

3. Select from the available list of fields. The list is dependent upon the business object you selected for the workflow rule. Custom fields appear in the list, and can be used with template placeholders.
 4. You may also use your defined placeholders in the subject line of the e-mail notification.
- To define employees of a particular responsibility category as the recipients, click [Add Determination](#). Then select from the available list and repeat this selection as necessary.

Note

All business partner roles are available for selection in the list. The complete selection list is dynamically added using code list and hence the values in the selection list can be modified. You can use the fields *Top Level Account Owner* and *Top Level Account Team* as filters to include only the parent company in a notification.

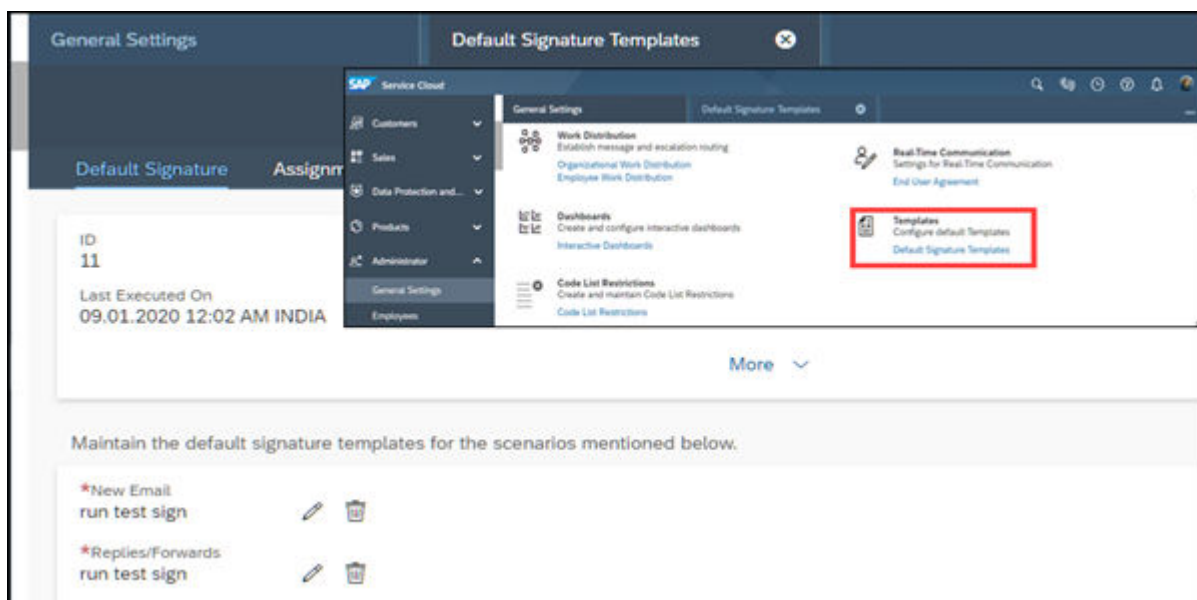
- To define a particular employee as the recipient, click [Add Employee](#). Repeat this selection to add all recipients of the notification.

17.5.1 Configure Signature Templates

Administrators can configure templates with signatures for all e-mail communication including replies and forwards.

Users can be assigned to whom these templates apply. These signature templates will overwrite any existing assigned templates. This feature allows administrators to enforce a uniform template for all users in the organization.

Configure this feature under **Administrator > General Settings > Templates > Default Signature Templates**.



17.5.2 Set Account and Contact of Source Workflow Object in E-mail Notification

Default the account and contact from source workflow object in the e-mail notifications (triggered from workflows for that object).

Administrators can enable this feature by selecting the checkbox for *Activity Creation* under ► *Actions* ► *Workflow Settings* ►.

Example

A workflow rule is configured for a sales quote to send an e-mail notification to contact person. However, the contact person has primary relationships with two accounts, Account1 and Account2. In this scenario, if the sales quote is created for Account2, then the e-mail notification triggered for the sales quote has account defaulted to Account2.

17.5.3 Code List Descriptions in E-mail Notification Templates

Code list descriptions are displayed in the placeholders in e-mail notifications.

These descriptions are more relevant and meaningful and add context to the e-mail. However, if you use formatted texts in template placeholders, the e-mail displays same format in which the field value is saved in the source transaction (for example, sales quote, sales order, ticket and so on).

The graphic explains the difference between using code list descriptions and formatted texts. The placeholder #SOURCE# displays code list description **E-mail request** while the #MANAGERNOTES# placeholder field is replaced by a text **Manager** with bold and colored font.

17.5.4 Track and Manage Bounced E-mails

Track bounced e-mails and correct any inconsistencies in e-mail addresses. The workflow log is also updated with the bounced instances.

Following feature possibilities are available for bounced e-mails:

- Track them in the workflow logs
- View them in the sender inbox; A notification is sent to the sender inbox.
- View the service tickets created to follow-up on the bounced e-mail. A new service ticket is created for each bounced e-mail to help in tracking them.

17.5.5 Configure Employee E-mail Address as Default Sender Address

Sender name and e-mail address can be automatically determined for workflow generated e-mail notifications. For example, you may want to use e-mail address of the sales representative to send a sales quote. The feature uses party determination to select a sender address. With this feature, any e-mail replies to the workflow generated e-mails are routed to the inbox of the sender and you no longer need to provide a hard-coded sender name and address.

Note

Only parties with **employee role** can be used in the sender determination. If there are multiple employees assigned to a party role, the determination selects details of the first employee in the list.

To use this feature, select the checkbox for *Select a Sender E-mail* for rule type - *Actions* under ► *Workflow Rules* ► *Define Actions* ►.

17.5.6 Configure Workflows to Send E-Mail Notifications to Active Delegates


Administrators can configure workflows to allow active delegates in your system can receive e-mail notifications.

Use this feature to ensure information channeled for employees is received by their delegates or substitutes in the absence of the employees. You can configure this feature under ► *Administrator* ► *Workflow Rules* ► *More* ► *Workflow Settings* ► *Recipient Determination* ►. Select the *Determine the active delegates for an employee in the system, as a recipient in Workflow rules* checkbox.

17.5.7 Configure Tracking E-Mail Triggered from Workflows

Possibility to track e-mail and messaging activity triggered from workflows.

As an administrator, any e-mail and messaging activity that you trigger using workflows can be tracked in the document flow for an object. This is possible because e-mail and messaging activities created through workflows are now linked to the source object. To enable tracking e-mails, you must select the flag *Create E-mail Activity* in the workflow rule.

RULE SUMMARY	GENERAL DATA
 test email activity	<p>Conditions are structured in groups. Adding groups allows you to overall condition is fulfilled. Conditions within a group are AND conditions. To add a condition</p>
<p>Basic Data</p> <p>Description: test email activity</p> <p>Business Object: Ticket</p> <p>Rule Type: E-Mail</p> <p>Timing: On Every Save</p> <p>Status: Active</p>	<p>Group 1</p> <hr/> <p>ACTIONS: E-Mail</p> <hr/> <p>Sender Information</p> <p>Sender Email:</p> <p>Sender Name:</p> <p>Subject: TestAnk for ticket #1#</p> <p>Create Email Activity: <input checked="" type="checkbox"/></p>

Example

When creating workflows for sales order, if you select the *Create E-Mail Activity* flag, the e-mail activity is linked to the sales order and also available in the *Document Flow* and *Activities* tabs in the sales order.

17.5.8 Configure to Send E-Mail and SMS to Main Recipient Only

Administrators can configure workflows to send e-mail and SMS only to the main recipient maintained in the address.

Under **Workflow Settings** > **Address Determination**, select *Use main address of the recipient to send out e-mail and sms*, to send e-mail only to the main address that is maintained in the business address for a contact. System behavior when this setting is applied, is documented below:

- E-mail is sent if the e-mail address is available in the business address.
- E-mail is not sent if address is not maintained in the business address, though it is still available from the main personal e-mail address.
- E-mail is sent to the ID maintained in the main personal address, if the contact is not associated with any account.
- E-mail is sent to the e-mail ID maintained in the relationship of the account, that is used in the transaction.
- The logic described above also applies to SMSes.

17.5.9 Attach Business Object Summary as PDF in an Outgoing E-mail

You have the ability to attach the business object summary as PDF in an outgoing e-mail.

When you configure a workflow for triggering email notifications, then depending on the condition of the business object (for example, a sales quote) for which you configure the workflow, a summary of the business object gets attached to the outgoing email.

Note

This feature is possible only if a form template has been maintained for a business object and an e-mail template has been configured in the workflow configuration.

The enhancements have been defined in the third step of workflow configuration - *Define Actions*. Select the *Create E-mail Activity* checkbox to send the PDF summary as an attachment in e-mail. If you do not select this checkbox, only an e-mail notification will be sent without the PDF attachment.

Note

Also note that when you select the *Create E-mail Activity* checkbox, the PDF attachment sent in the e-mail also gets attached to the activity.

Also note the new selection options for the template for PDF summary. The *PDF Template Language* and the *PDF Template Country* together determine the *PDF Template Variant*. You also will need to add the employees who are recipients of this notification rule.

17.6 Configure Social Media Workflow

Understand the various options and process steps involved in configuring workflows for social media channels like WeChat, Facebook and Twitter.

17.6.1 Send Notifications to Social Media Channels as WeChat

Use the push notifications sent to social media channels such as WeChat to communicate and also fill-up surveys.

To receive these notifications, the contacts or users must register on the official social media account, that creates a social media user profile for the contact.

17.6.2 Survey Form for Facebook and Twitter User

Configure workflow rules to send survey link through social messages.

This feature enables you to generate a survey link and send it on the social media channels like Facebook and Twitter.

Note

You must enable the *Value Before Object Change* while defining conditions to prevent multiple executions of the workflow.

17.6.3 Automatic Reply to Facebook or Twitter User

Automate reply message to Facebook or Twitter users social post by configuring workflow.

This feature enables you to reply in the original message thread, public posts, or private messages.

You can also automate the sending of notifications for changes in social ticket for Facebook or Twitter user through social channel.

Note

Your user must enable *Value Before Object Change* while defining conditions to prevent multiple executions of the workflow.

17.7 Configure Workflow Follow-Up Tasks

If defined conditions are fulfilled, this rule type *Activity-Task* triggers creation of a task for the selected business object.

The creation of a task results in a new **Save** of the main object involved (e.g. Opportunity or Ticket), potentially triggering the execution of other workflow rules. Always define the conditions of each rule to be as restrictive as possible, to avoid the risk of creating loops.


Following possibilities exist for creating follow-up tasks:

- Create and assign a new task to an employee responsible
- Link task to the object for which the task is created; This assignment is taken care internally in the system.
- Use placeholders in subjects
- Start date defaulted as workflow execution date

Restriction

Workflow rules of type *Activity Task* cannot be created for activity objects (appointments, tasks, phone calls, and visits).

For each of these tasks, maintain the following:

- By default, creation of a task results in a save instance for the business object. To create a task on every save of the object, select the flag - *Always Create Activity Task*.
- Enter the subject to displayed to the recipient of the notification. Enter the subject in other available languages by clicking 
- Due In (number of days, weeks or months)
- Category for the task such as Customer Visit, User Task, Telephone Call and so on.
- Add placeholders to include them in the subject line and the template file of your e-mail notification. Map any placeholders used in the template to fields in your solution. To do this,
 1. Click *Add Row*.
 2. Enter the placeholder as it appears in your chosen template file.

Caution

All placeholders included in e-mail notification templates must be in all caps, contain no special characters, and begin and end with a hash tag (#).

For example:

- #ID#
- #ACCOUNT#
- #100#

3. Select from the available list of fields. The list is dependent upon the business object you selected for the workflow rule. Custom fields appear in the list, and can be used with template placeholders.
 4. You may also use your defined placeholders in the subject line of the e-mail notification.
- Maintain Recipient Determination; To define a particular employee as the recipient, click *Add Employee*. Repeat this selection until all recipients of the notification are defined.
 - Maintain Employee Determination; To define employees of a particular responsibility category as the recipients, click *Add Determination*. Then select from the available list and repeat this selection as necessary.

Note

All business partner roles are available for selection in the list. The complete selection list is dynamically added using code list and hence the values in the selection list can be modified. You can use the fields *Top Level Account Owner* and *Top Level Account Team* as filters to include only the parent company in a notification.

17.8 Configure Workflow Actions on Business Objects

Rule type - *Actions* allows you to set certain statuses for the business objects.

If the conditions you have defined are fulfilled, you can set following updates to the respective business objects:

- *Activate* - This action changes the account status from *In Preparation* to *Active*.
- *Assign Me as Owner* - This action adds the logged in employee as employee responsible to the account team.

- *Block* - This action changes the account status from *Active* to *Blocked*.
- *Derive Territories* - This action derives the territory for an account.
- *Flag as Obsolete* - This action changes the account status from *Active* or *Blocked* to *Obsolete*.
- *Revoke Obsolescence* - This action changes the account status from *Obsolete* to *Blocked*.
- *Unblock* - This action changes the account status from *Blocked* to *Active*.


17.8.1 Custom Actions on Standard Business Objects using Workflow Engine

You can use the workflow engine to configure custom actions and define when to trigger these custom actions.

This allows you to leverage the scheduling capabilities of the workflow engine. It also allows administrators to modify the standard logic without having to modify the SDK code.

17.9 Design Your Workflows Using Workflow Analysis and System Recommendations

Run workflow analysis to use system generated recommendations to configure workflows for optimum performance.

Administrators can run the workflow analysis using [Administrator](#) > [Workflow Rules](#) > [More](#) > [Workflow Analysis](#) .

Apart from design time analysis of the workflow rules for best system performance, this feature also identifies workflow rules that are maintained without conditions or actions. Recommendations are given to configure workflow rules with specific conditions and actions, in order to maintain a defined scope.

17.10 Workflow Notifications


Internal notifications are those sent only to users of the solution and include the workflow notifications found on the toolbar as well as e-mails.

17.10.1 Configure Workflow Notifications

Notification is sent to the recipient as defined in the workflow rules.

In the [Define Actions](#) step, select the rule type [Notification](#). Notification rules create a new item in the Notifications list available in the toolbar. Only internal recipients receive notifications.

Steps to create a notification:

- [Send Notification](#) determines when the notification must be sent to the recipient. You can specify for example, if the notification be sent on change or create of business object. In the previous Conditions tab, define time-based conditions based on a date or time field of the selected business object. The system uses these conditions to determine when to send notification to the recipient. For example: Send a notification 10 days before the due date of the completion of a business document.
- Specify the expiration period for the notification — for example [10 Day\(s\). Expires After](#) defines when the notification is removed from the Notification List of the recipient. The default validity is set to 30 days after which the notification expires if you have not mentioned an expiration period.
- Under [Cancellation of Task](#), select the criteria, which for cancellation of the notification.
- Enter the subject to be seen by the recipient of the notification. You can also enter language specific subject in other available languages by clicking .
- Placeholders are field values of the object that are used in the subject of the formatted text for notification. Add placeholders to include them in the subject line and the template file of your notification. Map any placeholders used in the template to fields in your solution. Placeholder are the field values of the object that are used in the Subject of the Notification. To do this,
 1. Click [Add Row](#).
 2. Enter the placeholder as it appears in your chosen template file.

Caution

All placeholders included in notification templates must be in all caps, contain no special characters, and begin and end with a hash tag (#).

For example:

- #ID#
- #ACCOUNT#
- #100#

3. Select from the available list of fields. The list is dependent on the business object you selected for the workflow rule. Custom fields appear in the list, and can be used with template placeholders.
 4. You may also use your defined placeholders in the subject line of the notification.
- To define employees of a particular responsibility category as the recipients, click [Add Determination](#). Then select from the available list and repeat this selection as necessary.

Note

All business partner roles are available for selection in the list. The complete selection list is dynamically added using code list and hence the values in the selection list can be modified. You can use the fields [Top Level Account Owner](#) and [Top Level Account Team](#) as filters to include only the parent company in a notification.

- To define a particular employee as the recipient, click [Add Employee](#). Repeat this selection to add all recipients of the notification.

17.10.2 Add Recipients for Failed Workflow Notifications

Administrators can choose to send notifications for failed workflow rules to specific administrators and users.

You can choose whom to send notifications for failed workflow rules. In the [Workflow Rules](#) workcenter view, click on the gear icon for [Actions](#) and then choose [Workflow Settings](#). In the [Workflow Settings](#) screen, click on the hyperlink for [Notifications on Failed Rules](#). You are navigated to [Failed Notification Recipient](#) dialog screen where you can add specific administrators to whom you want to send the notifications for failed workflow rules. Use [Remove](#) to delete administrators from this list.

17.10.3 Receive Notifications outside of Your Inbox

Send push notifications to inbox and mobile devices. Tap on the notification to navigate to the object related to the notification.

Administrators can configure this feature by selecting the [Send Push Notification](#) indicator in the workflow rules of type [Notification](#).

17.10.4 Configure Notifications for Failed Workflow Rules

Notifications for failed workflow rules are generated using an hourly background scheduled run. Note that the notifications are generated only if there are failed workflow rules in the scheduled run. For each of the background job, you can see how many workflow rules have failed.

Follow these steps to view the failed workflow rules notification logs:

1. Click on the [Notifications](#) icon on your screen.
The list contains notifications for each of the hourly scheduled job runs to track failed workflow rules. Each notification also displays the number of workflow rules that have failed in that scheduled run.
2. Click on a notification to view the failed workflow rules.
3. Next, click on [More](#) to view details of the failed workflow rule.
4. Click on an object ID to view for which instance the workflow rule failed.
5. Next, click on an instance to navigate to the rule summary details.

Clean your Notifications

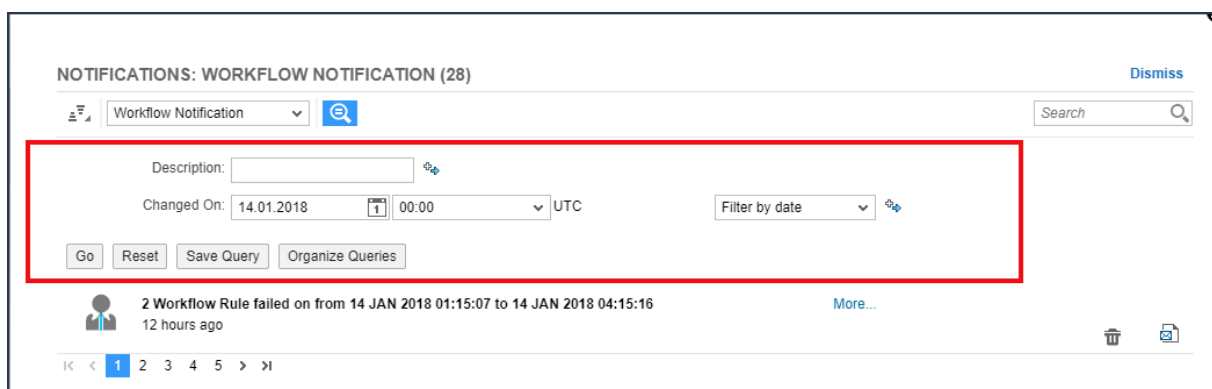
You can now clean up your notifications list using [Dismiss](#). This dismisses the notification for your user but continues to display in the list for other users to whom the notification has been sent. You can also dismiss multiple notifications at a time using multi-select and [Dismiss](#) option.

Personalize Filter Queries for Notifications

In the [Notifications](#) screen, click on the icon for advanced search and create a new query filter or modify existing ones. Save these query filters and use them to search for notifications.

17.10.5 Personalize Filter Queries for Notifications

In the [Notifications](#) screen, click on the icon for advanced search and create a new query filter or modify existing ones. Save these query filters and use them to search for notifications.



17.10.6 Clean Up Notifications List

You can clean up your notifications list using [Dismiss](#).

This dismisses the notification for your user but continues to display in the list for other users to whom the notification has been sent. You can also dismiss multiple notifications at a time using multi-select and [Dismiss](#) option.

17.10.7 Configure Notifications for Employee Delegates

Administrators can define notifications for delegates, where the delegate receives notifications of tasks to be completed, or general notifications for the employee who is absent. Follow the steps given below to create a delegate notification:

Note

When you or the employee activates delegate, the system automatically provides copies of notifications to the delegate without the administrator having to manually maintain this view.

1. Go to [Administrator](#) > [Notification of Delegates](#) >

2. Select the employee for whom you want to create or edit delegates, and choose [Edit Delegates](#).

Note

You will see a list of existing delegates, if any. You can activate them by selecting [Activate](#).

3. To create a new delegate, select [Add Row](#) and enter:
 1. The [Relationship Type](#) depending on whether the employee you selected is the employee who will be absent or the employee who will become the delegate.
 2. The [Related Employee](#) who will either be a delegate for or have work delegated to him or her by the former employee, depending on what you select in the previous column.

Note

To activate this delegate immediately, select [Activate](#).

4. Save your changes.

17.11 Manage Workflow Logs

Administrators can access workflow logs in the actions listed under the [Settings](#) (gear) icon in the [Workflow Rules](#) work center view.

Feature highlights of workflow logs are listed here:

- Workflow logs are listed for all [Past Rules](#) and [Scheduled Rules](#). Choose additional filters to display logs.
- The logs display date and time stamp for the error.
- The logs contain error messages displayed in the business object instance where the error occurred. Click the hyperlink for business object ID to navigate to the business object instance where the error has occurred.
- Select a rule and click [Retry](#) action listed under the actions.
- Click [Export Rules](#) to download the logs in an excel file.

17.11.1 Rule Log

Rule log displays error log for a selected workflow rule. Access this menu option under the settings (gear) icon in the [Workflow Rules](#) work center view. Same set of details as workflow logs are displayed for the selected workflow rule.

17.12 Monitor Workflow Rules

Administrators can monitor, review, schedule and re-trigger workflow rules.

Following actions provided under the gear icon in the [Workflow Rules](#) work center view:

- Deactivate
- Activate
- Rule Schedule
- Workflow Log (shows past rules and scheduled rules to be executed in the future)
- Rule Log
- Workflow Settings (notifications on failed rules)

17.12.1 Monitor Execution Outcome

Monitor the status of the workflow rules that have already been triggered.

Use the [Rule Log](#) action to view the status of executed rules and review the outcome of all rules executed in the past, and confirm if any rules have failed. This feature is helpful to monitor rules scheduled on multiple instances. Further, if the workflow rule fails to execute, you can navigate to the object or to the rule to investigate further.

17.12.2 Re-Execute Failed Rules

Retry executing the failed workflow rules.

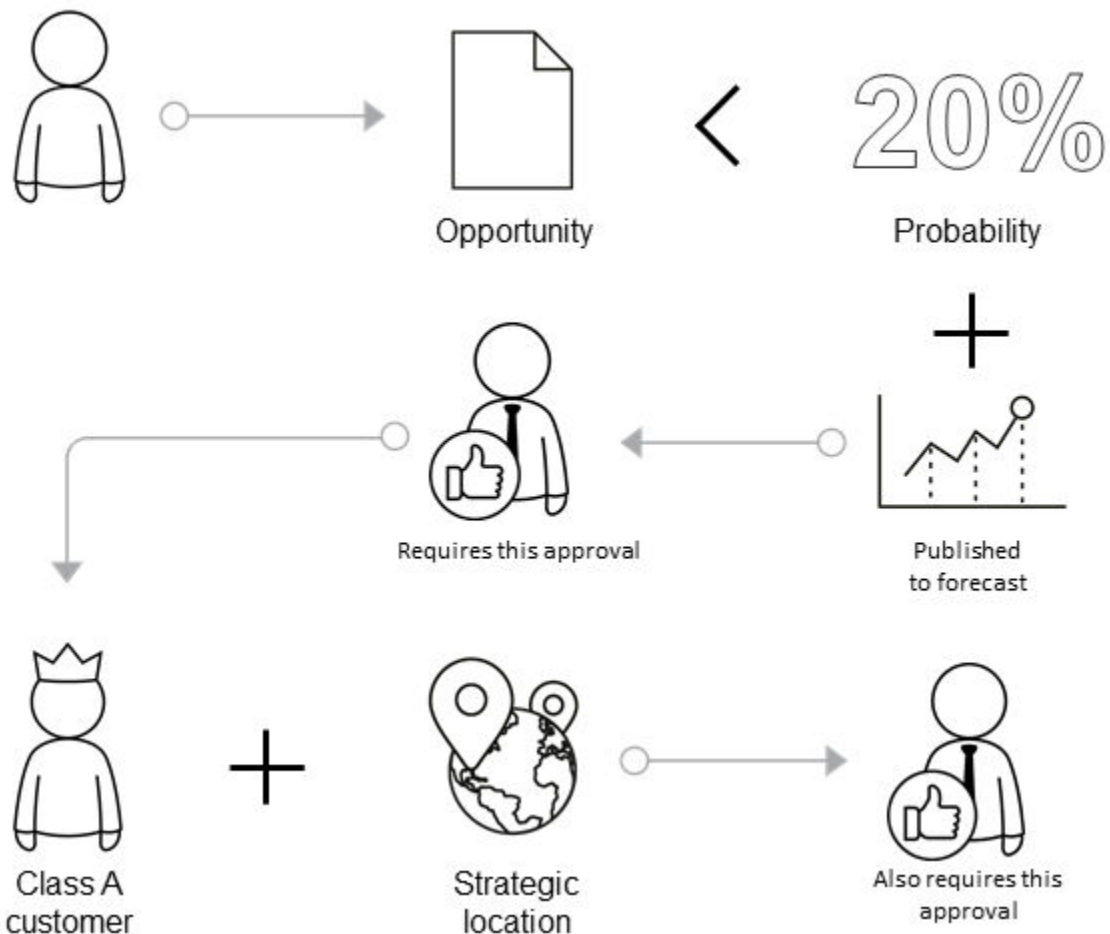
With the [Retry](#) feature, administrators can re-trigger a failed workflow rule. you can filter the logs results by specifying a time frame. For example, select [Today](#) in the selection help to view the logs created on that particular day. A new log is generated with the updated statuses for the rules that have been re-executed. To view the logs, click on [Refresh](#). You can also filter the logs based on [Rule Description](#), [Object Type](#) and [Status](#) in the advanced search.

17.12.3 View Workflow Rule Execution Status

View the execution status for a workflow rule in the [Past Rules](#) table under [Workflow Changes](#).

18 Approvals

Learn how approvals work in the solution.



Approval workflows are configured by your solution administrator and help streamline your business processes. Approvals are typically routed to your reporting line manager, though there may be multiple levels of approval required for certain objects or conditions. Your administrator can also incorporate conditions into the approval process itself such as limits to the amount an approver is allowed to approve. And finally, your administrator can configure your solution to include e-mail approval notifications in addition to the default notifications found in the toolbar.

Important Facts About Approvals

- One business transaction can have one active approval process.
- Within an approval process, you can define several approval steps with different approvers and conditions.

- For multiple approval steps, the system checks each step in succession for the defined conditions. If approval for one step is not granted, then the system will not proceed to the next approval step.
- The approval notifications, such as the request and the confirmation, appear in the notification area of the system for the involved employees and managers.
- If the approver finds an unsatisfactory transaction, then the approver can add a comment and return it to the employee for revision. The employee then revises the transaction and submits it again for approval. Once the business transaction is correct, it can be further processed.
- The approval process can be enhanced with e-mail notifications that are sent directly to the applicable employees, as described in the prerequisites below.

Example: Campaign Approvals

❁ Example

For example, you have activated the approvals for campaigns in your system, and now you want to define a two-step approval process. In the first step, campaigns created for the campaign execution type *Direct E-Mail* are to be approved by one of two employees in your company. In the second step, campaigns with target groups greater than 10,000 members are to be approved by the line manager of the employee.

Now suppose that the employee created a campaign with execution type *Direct E-Mail*, with a target group that contains 10,523 members, but neglected to specify the start and end date of the campaign.

In response, the system first confirms that this campaign requires approval, so the employee is only authorized to select **▶ Actions ▶ Submit for Approval ▶**. Then, one of the approvers checks the campaign and notices that the campaign start and end dates are missing, so the approver adds a comment to the campaign, and returns it to the employee for revision. The employee corrects the campaign accordingly and submits it again for approval.

The campaign is then initially approved, but the employee must wait until the line manager also provides approval, because the target group has more than 10,000 members. The system determines the line manager from the organizational management hierarchy, upward from the employee, until the first manager is found.

Example: Multi-Step Approval for Opportunity

Let's say your system has been set up with a rule that requires your manager's approval for any opportunity that has a less than a 20% probability of closing but that has already been published to the forecast. In addition, there's another rule that requires the top-level account owner's approval for any opportunity at an "A" category customer within a specific region. When you create an opportunity that fits both of these conditions, you are prompted to submit it for approval. The system then notifies your manager who can either approve the opportunity or send it back to you for revision. Once your manager approves it, the system will send a notification to the top-level account owner who also needs to approve the opportunity before it can move to the next stage in your business process.

[Enable Approval Processes \[page 253\]](#)

Scope questions for various business objects for which you need to use approval processes

[Configure Prerequisites for Defining Approvals \[page 255\]](#)

Enable your system to approve business transactions automatically when the defined conditions are fulfilled. Configure the prerequisites before defining the approval processes.

[Configure Approvers Under Work Distribution \[page 255\]](#)

Define approvers who will be involved in the approval processes.

[Configure Approval Conditions \[page 256\]](#)

Conditions allow you to configure the triggers for approval processes.

[Configure Validity for Approval Processes \[page 256\]](#)

Approvals are time dependent and are valid only for a specified period of time.

[Configure S-MIME E-Mail Notifications \[page 257\]](#)

Use CA certificates for E-Mail Notifications.

[Configure E-Mail and Fax Settings for E-mail Notifications \[page 257\]](#)

Maintain the e-mail sender and receiver domains for e-mail notifications.

[Create Workflow Notifications to Set Reminders \[page 258\]](#)

If an approval is pending for a certain time, notifications can be created through workflow rules to inform employees about the delay.

[Monitor Approval Processes \[page 258\]](#)

Monitor status of your approval processes.

[Edit or Delete Approval Processes \[page 259\]](#)

Steps to edit or delete an approval process.

18.1 Enable Approval Processes

Scope questions for various business objects for which you need to use approval processes

Administrators can configure approval processes. Before configuring approval processes, confirm that the following questions are in scope under [Business Configuration](#) > [Implementation Projects](#) . Select your project and navigate to [Edit Project Scope](#) > [Questions](#) .

Scoping Questions for Enabling Automatic Approval Processes

Business Object	Navigation in System	Scoping Question
Campaigns	Sales Campaign > Campaign Management > Campaign Execution >	Do you want to use a multi-step approval for campaigns?
Opportunities	Sales > New Business > Opportunities >	Do you want to use a multistep approval for opportunities?

Business Object	Navigation in System	Scoping Question
		<p>Do you want the system to automatically submit an opportunity for approval?</p> <div data-bbox="1007 495 1394 757" style="border: 1px solid #ccc; padding: 5px;"> <p>Note</p> <p>This question is optional and only relevant if you want trigger automatically an approval for your opportunities if the entered data fulfill the defined criteria.</p> </div>
Sales Quotes	<p>▶ Sales ▶ New Business ▶ Sales Quotes ▶</p>	<p>Do you want to use a multi-step approval for sales quotes?</p>
Tickets	<p>▶ Service ▶ Customer Care ▶ Service Request Management ▶</p>	<p>Do you want to use a multi-step approval for tickets?</p>
		<p>Do you want that the system submits automatically a ticket for approval?</p>
	<p>▶ Service ▶ Employee support ▶ Ticket Management ▶</p>	<p>Do you want to use a multi-step approval for tickets?</p>
		<p>Do you want that the system submits automatically a ticket for approval?</p> <div data-bbox="1007 1547 1394 1809" style="border: 1px solid #ccc; padding: 5px;"> <p>Note</p> <p>This question is optional and only relevant if you want trigger automatically an approval for your tickets if the entered data fulfill the defined criteria.</p> </div>
Contracts	<p>▶ Service ▶ Entitlement Management ▶ Service Contract Management ▶</p>	<p>Do you want to use a multi-step approval for service contracts?</p>

Business Object	Navigation in System	Scoping Question
E-mail Notifications - E-mail encryption and signature	▶ Build-in Services and Support ▶ System Management > Security >	Do you want to use encryption and signature for e-mails?

18.2 Configure Prerequisites for Defining Approvals

Enable your system to approve business transactions automatically when the defined conditions are fulfilled. Configure the prerequisites before defining the approval processes.

- **E-Mail Notifications:** Ensure that the involved employees are business users and have valid e-mail addresses, and that the CA certificates from the employees are uploaded to the system for outgoing e-mails.
- **E-Mail Notifications:** Each involved employee must subscribe to the e-mail notifications by opening the [Notifications](#) view and choosing [Subscribe to E-Mail](#).
- **E-Mail Notifications:** Check that the e-mail clients of the involved employees have enabled the receipt of encrypted e-mails.

18.3 Configure Approvers Under Work Distribution

Define approvers who will be involved in the approval processes.

The following options are available to define an approver:

- **Direct Approvers:** You can select specific employees responsible as direct approvers, provided that they possess the corresponding access rights to the task type and business transaction. Such approvers also require read access to the relevant business transaction data and write access to the notes of the business transaction.

Note

You can enable approvers to trigger actions directly from the details of the item to be approved. To do so, from the Approval tab of any related item, make the Actions column visible on the user interface.

- **Functional Unit Manager:** For example, if the business process must identify a cost center manager to approve a shopping cart in the system, then the system accesses the hierarchy at the level of the employee who created the shopping cart and searches upward in the hierarchy until the responsible functional unit manager is found.
- **(Reporting) Line Manager:** The system accesses the organizational structure at the level of the employee who submitted the approval task and searches upward in the hierarchy until the manager above the employee is found.
- **Responsible for Account**

Special Cases

- No approver found.
If the system cannot find an approver for a particular step, then an unassigned task is created. The administrator is therefore requested to specify an approver.

18.4 Configure Approval Conditions

Conditions allow you to configure the triggers for approval processes.

For each process step, you can create conditions. Note that the system continues to follow the sequence of process steps even if a condition for a specific step is not met. The approval process for a related business transaction only ends when an approver in the process rejects the request as described in the approval task.

Specifics

- **Sender E-Mail Address in E-Mail Campaigns**
You can create an approval condition that shall trigger an approval for a campaign that uses a specific sender e-mail address or only specific strings of an e-mail address.

❁ Example

Here are some examples, how this can look like:

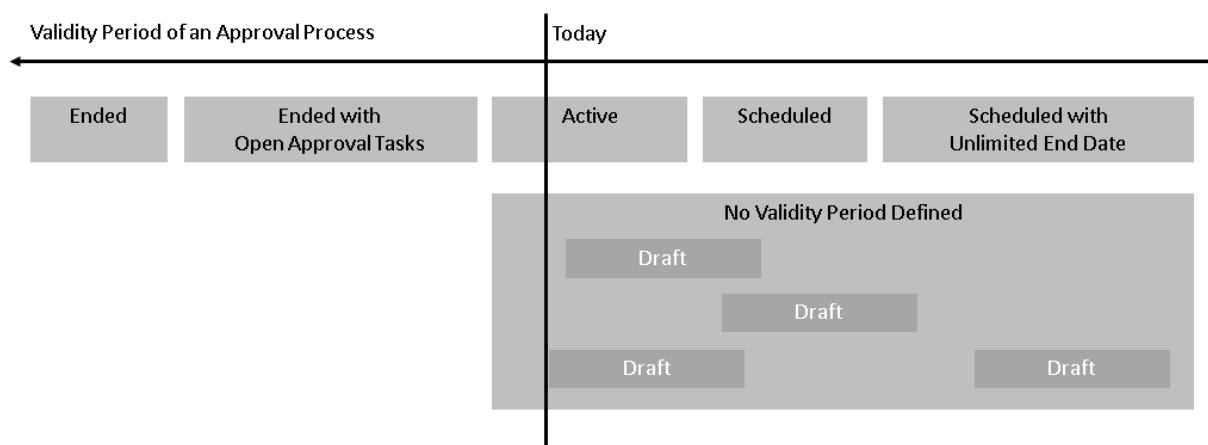
- `*@abccompany.com`
- `info@*.abcompany.com`
- `jeff.james@abccompany.com`

18.5 Configure Validity for Approval Processes

Approvals are time dependent and are valid only for a specified period of time.

Some of the specific features of approval process validity are:

- When you edit the validity of an approval process, the system displays the approval processes of the related business transaction that have not yet ended. Note that the system allows neither gaps nor overlaps in the validity period of the approval processes.
- Note that you must have one approval process with an unlimited end date; the approval process can have either the *Active* or *Scheduled* status.
- Draft approval processes do not have a validity period defined. When you define the validity of an approval process that has the *Draft* status, the *Valid From* date must be later than or equal to today's date. By defining the validity, the status of the approval process changes accordingly.



18.6 Configure S-MIME E-Mail Notifications

Use CA certificates for E-Mail Notifications.

As an administrator, to enable e-mail notifications, you must upload the CA certificates in this area for the generic business task management e-mail address for all involved employees and managers.

1. Choose *Configure S/MIME* in the *Administrator* work center under *Common Tasks*.
2. On the *Incoming E-Mail* tab, upload the CA certificates from all involved employees for the generic incoming e-mail address *Business Task Management Email Notifications*.
3. On the *Outgoing E-Mail* tab, install the system CA certificate in the e-mail client of the involved employee as follows:
 1. Click on *Link to SAP CA* and open the site *SAP Trust Center Service – Root Certificates*.
 2. Click on *SAP Passport CA Certificate*. A popup opens.
 3. Click *Install Certificate* and follow the wizard by clicking *Next >*.
 4. Select *Place all certificate in the following store* and click *Browse...*
 5. Select *Trusted Root Certification Authorities* and click *OK* and then *Next >*.
 Now the CA certificate from the system is installed locally.
4. Now activate the S/MIME on the *Activate S/MIME* tab and select the options:
 - *Check Signature of Incoming E-Mails*
 - *Encrypt Outgoing E-Mails* (optional)
 - *Signing Outgoing E-Mails*

18.7 Configure E-Mail and Fax Settings for E-mail Notifications

Maintain the e-mail sender and receiver domains for e-mail notifications.

You must specify your company domain in the *E-Mail and Fax Settings* activity. To do so, select the activity *E-Mail and Fax Settings* under **► Business Configuration ► Implementation Projects ►**. Select your project and navigate to **► Open Activity List ►**.

Enter your company domain, such as **example.com**, as the *Allowed Sender E-Mail Domain*.

18.8 Create Workflow Notifications to Set Reminders

If an approval is pending for a certain time, notifications can be created through workflow rules to inform employees about the delay.

Related Information

[Workflow Notifications \[page 245\]](#)

Internal notifications are those sent only to users of the solution and include the workflow notifications found on the toolbar as well as e-mails.

18.9 Monitor Approval Processes

Monitor status of your approval processes.

Show Open Approval Tasks

For approval processes that have the status *Active* or *Ended with Open Approval Tasks*, you can view open approval tasks by clicking [Show Open Approval Tasks](#).

Monitor Approval Processes

You can view and monitor approval processes. Use filteres listed in the approval processes launch screen; The following options are available:

Value	Description
All Processes	Shows all approval processes available in the system, including all default approval processes.
Active Processes	Shows approval processes for which the validity period has not expired.

Value	Description
Inactive Processes	Shows approval processes for which the validity period has expired and approval processes that have <i>Draft</i> status.
Expired Processes with Open Approval Tasks	Shows approval processes that have expired with approval tasks that were not processed during the validity period of the approval process.
Active and Scheduled Processes	Shows active approval processes and approval processes for which the validity period lies in the future.

You can also group approval processes by the related business transaction.

18.10 Edit or Delete Approval Processes

Steps to edit or delete an approval process.

Follow these steps to edit validity of an approval process:

1. Select the approval process of the business transaction whose validity periods are to be edited. Note that the approval process must have the status Draft, Active, or Scheduled.
2. Click Edit Validity. All approval processes are displayed for the corresponding business transaction, provided that it has not expired.
3. Specify the validity periods and the corresponding time zones for one or more approval processes.

Note

Ensure that the validity periods do not overlap. The validity of one approval process for each business transaction is unlimited by selecting the *Unlimited Validity* checkbox.

For deleting approval processes, note that you can only directly delete approval processes that have *Draft* status. However, if an approval process has status as *Scheduled*, then you can delete its validity period by clicking *Edit Validity*, then removing the validity period. In response, the status changes to *Draft*, and the approval process can then be deleted.

19 Flexible Offline Pricing









With flexible offline pricing, use the ERP/SAP S/4HANA pricing procedures for estimating prices in your in SAP Cloud for Customer offline mode. You can also use the feature to provide manual discounts for sales orders at header and item levels. Pricing calculation is also supported for SAP ERP field extensions.








The standard solution supports price calculation works for sales orders, sales quotes and service tickets in offline mode. The offline support is extended to support 9 fields in the condition table, in order to support price calculation. This enhancement allows you to cover newer pricing scenarios. The offline pricing engines are enabled to compute the pricing procedure, condition types and access sequences similar to ERP/SAP S/4HANA pricing engine. This feature is based on SAP ERP/SAP S/4HANA Pricing and enables reuse of existing pricing procedures for supported fields from SAP ERP/SAP S/4HANA by simply exporting them from SAP ERP/SAP S/4HANA and uploading them in SAP Cloud for Customer.

Note

- Flexible offline pricing is also supported for your SAP S/4HANA (Version 1809) connections. Note that there is complete feature parity with the offline pricing support for SAP ERP/SAP S/4HANA edition, with the exception of condition limits.
- SAP Cloud for Customer supports offline pricing for only SAP S/4HANA on-premise and not for SAP S/4HANA Cloud.

Notes to be Implemented for Offline Pricing

Note Number	Relevant For
2409457 	Replication of Pricing Customization from SAP ERP/SAP S/4HANA system
2584517 	Replication of Pricing Customization from SAP ERP/SAP S/4HANA system
2556538 	Replication of Pricing Customization from SAP ERP/SAP S/4HANA system
2600999 	Access Sequence fields not downloaded
2627106 	Support for condition limits in Price Calculation in SAP Cloud for Customer Offline pricing
2691816 	Pricing customization upload fails in SAP Cloud for Customer.
2668310 	Usability improvements in Pricing Customization Download Wizard
2700915 	Pricing customization download wizard support for additional fields

Note Number	Relevant For
2585351 	Support for fields Price List and Price Group in Pricing customization download wizard
2788726 	Pricing customization download wizard support for additional fields
2917684 	Support Plant field in offline price determination
2978410 	Additional fields support for offline pricing in SAP Cloud for Customer pricing customization download wizard (SAP S/4HANA)
2767063 	Enhancements to Offline Pricing customization download wizard for S4 Hana
3014767 	Allow downloading of complete pricing procedure customization
2978410 	Additional fields support for offline pricing

19.1 Prerequisites

Ensure that the prerequisites listed in this topic are adhered to before configuring offline pricing in your system.

- The minimum version of SAP ERP/SAP S/4HANA that current offline pricing scenario requires you to run is SAP ERP/SAP S/4HANA Coderint SP36.
- Configure the system landscape as described under [Sales Order Integration with ERP](#).

19.2 Scope of Supported Features

The solution scope includes offline pricing as available in SAP ERP /SAP S/4HANA systems. Any limitations and restrictions are discussed in the following chapters.

19.3 Restrictions Due to Unsupported Customization Data

There are certain restrictions in the offline pricing feature attributed to unavailability of certain attributes of pricing customization objects.

Based on the restrictions listed above, here is the list of feature restrictions that apply for offline pricing:

Condition Type

Attribute/Feature	Supported	Unsupported
Condition Class	B (Price) A(Discount or Surcharge)	P (compare price protection) C (expense reimbursement), D (Taxes), E (Extra Pay), F (Fees or differential), G (Tax classification), H (determining sales deal), Q (Totals record for fees), W (Wage withholding tax)
Condition Category		i (ship & debt1), j (ship & debt 2), I (TPILV), m (SSR discount), n(Profit center internal price), o(AFS season determination), p(SSR partner commission), &(AFS value-added services) Other Domain Values
Structure Condition		A (condition to be duplicated), B (cumulation condition)
Calculation Type	A(Percentage) B(Fixed Amount) C(Quantity) Percentage and Fixed Amount (Only in sales order and sales quote)	J (Per mile), K (Per mile in thousands), T (multi-dimensional), W (Percentage with 6 decimals) Other Domain Values
Scale Type	A(base scale), B (to-scale),	C (not used) Other Domain Values

Condition Type

Attribute/Feature	Supported	Unsupported
Scale Basis	C (quantity scale)	Other domain values B (net value) D (gross weight scale), E (net weight scale), F (volume scale)

Access Sequence

Attribute/Feature	Supported	Unsupported
Requirement Formula		Any value
Access Type	' ' (field in fixed key part)	A (field in free key part) Other Domain Values
Number of fields in access	<=9	>9

Pricing Procedure

Attribute/Feature	Supported	Unsupported
Requirement Formula		Any value
Value Formula		Any value
Base Formula		Any value

Exclusion Processing

Attribute/Feature	Supported	Unsupported
Condition Exclusion Procedure(KAUVF)	A (Best Condition between condition types), B (Best Condition within condition type), C (Best condition between two exclusion groups), D (Exclusive), E (Least favorable within the condition type), F (Least favorable within the two exclusion groups)	L (Least favorable between condition types)

19.4 Known Limitations in Flexible Offline Pricing

Due to restrictions or unavailability of certain attributes, certain features are not yet supported in offline pricing.

See the list of features that are not yet supported in offline pricing:

- Currency conversion

Note

Since currency conversion is not supported in offline pricing, the sales/service document currency should be the same as the currency maintained for price/discount/surcharge condition records in SAP Cloud for Customer.

- User exits
- Data field in condition table
- Structure conditions
- Copy process
- Tax calculation
- Quantity conversion (Only supported in sales order and sales quote)
- Group condition processing (Only supported in sales order and sales quote)

19.5 Configure Integration of Pricing Master Data

Administrators can enable flexible offline pricing in your SAP Cloud for Customer system and perform the requisite configuration steps to bring pricing master data from SAP ERP/SAP S/4HANA to your SAP Cloud for Customer system.

1. [Enable Flexible Offline Pricing in SAP Cloud for Customer \[page 266\]](#)
Administrators can enable flexible offline pricing in SAP Cloud for Customer.
2. [Enable Offline Pricing for Specific Business Roles \[page 266\]](#)
Price master data download is restricted by user role. For example, you can assign price master data download to roles you have created for field service technicians. Administrators must enable offline pricing for specific business roles.
3. [Maintain Pricing Customization Data in Your SAP ERP/S/4HANA System \[page 267\]](#)
As a prerequisite, the pricing customization data (including the pricing procedure and related customization), must be available in your SAP ERP/S/4HANA system. The offline support is extended to support 9 fields in the condition table, in order to support price calculation. If the pricing customization data is already maintained in your system, ignore this step and continue with the next step - to download price customization data.
4. [Download Pricing Customization from ERP/S/4HANA System \[page 268\]](#)
Administrators must configure download of pricing customization.
5. [Maintain Relevant ID and Code List Mapping in SAP Cloud for Customer \[page 269\]](#)
Administrators can maintain the mapping between code lists in SAP Cloud for Customer and the relevant fields in the condition tables.
6. [Upload Pricing Customization to Your Cloud Solution \[page 270\]](#)
To replicate the pricing master data, administrators must upload the data that you have downloaded from the ERP/S/4HANA system.
7. [Verify Customizing Data \[page 274\]](#)
You have uploaded the customizing data from ERP to SAP Cloud for Customer. Verify that all your data has been uploaded to the cloud system.
8. [Maintain Determination Rules for Offline Pricing \[page 274\]](#)
Administrators can maintain offline pricing determination rules in your SAP Cloud for Customer system.
9. [Replicate Pricing Master Data to Your Cloud Solution \[page 275\]](#)
Administrators must run the report to replicate pricing master data from SAP ERP/S/4HANA systems.
10. [Set Up Automatic Delta Download of Pricing Conditions \[page 275\]](#)
Administrators must setup the automatic delta download of pricing conditions.
11. [Verify Replicated Pricing Master Data in Your Cloud Solution \[page 276\]](#)
After the masterdata is downloaded, check the same in the SAP Cloud for Customer system.

19.5.1 Enable Flexible Offline Pricing in SAP Cloud for Customer

Administrators can enable flexible offline pricing in SAP Cloud for Customer.

Note

Before setting up offline pricing, ensure that the required configuration has been pre-defined in both the SAP ERP/SAP S/4HANA system as well as your cloud solution. For detailed information, see [Offline Pricing in SAP Cloud for Customer](#)

Go to [Business Configuration](#) > [Implementation Projects](#). Select your project and navigate to [Edit Project Scope](#) > [Questions](#) > [General Business Data](#) > [Product and Service Pricing](#) > [Sales Price Specifications](#) and ensure the following questions are selected:

- [Do you want to perform offline price calculation using external pricing configuration?](#)
- [Do you want to display the offline pricing price master data from SAP ERP?](#)
Select this scoping question if you want to display the [Pricing](#) work center in your cloud solution. Prices replicated from SAP ERP/SAP S/4HANA system are displayed in this work center.

Parent topic: [Configure Integration of Pricing Master Data \[page 265\]](#)

Next: [Enable Offline Pricing for Specific Business Roles \[page 266\]](#)

19.5.2 Enable Offline Pricing for Specific Business Roles

Price master data download is restricted by user role. For example, you can assign price master data download to roles you have created for field service technicians. Administrators must enable offline pricing for specific business roles.

Enable offline pricing for specific user roles by following these steps:

1. Go to [Administrator](#) > [Offline Settings](#) > [Data Download Rules](#) and select the check box for [Enable queries with grant](#).
2. Select [Add](#).
3. In the pop up, select the [Business Role](#) for which you want to enable price master data download. In the [Workcenter View](#) dropdown, chose [Price Master Data](#) and under [Query](#) dropdown, select [Dependent on data downloaded](#).
4. Finally, select [Add](#) to enable price master data download for that role.

Parent topic: [Configure Integration of Pricing Master Data \[page 265\]](#)

Previous: [Enable Flexible Offline Pricing in SAP Cloud for Customer \[page 266\]](#)

Next: [Maintain Pricing Customization Data in Your SAP ERP/S/4HANA System \[page 267\]](#)

19.5.3 Maintain Pricing Customization Data in Your SAP ERP/S/4HANA System

As a prerequisite, the pricing customization data (including the pricing procedure and related customization), must be available in your SAP ERP/S/4HANA system. The offline support is extended to support 9 fields in the condition table, in order to support price calculation. If the pricing customization data is already maintained in your system, ignore this step and continue with the next step - to download price customization data.

Note

1. If you do not see the tab TMC1T in the downloaded xls from ERP/S/4HANA, then you need to apply the following SAP note 2409457 in your ERP/S/4HANA system.
2. Also apply the following notes in the ERP/S/4HANA system:
 - 2584517
 - 2556538

If the required pricing customization data that you need to replicate to your cloud solution, is not yet available in your SAP ERP/S/4HANA system, then follow these steps to maintain the data:

1. **Create Condition Table:** To create the condition table, perform the transaction [SPRO](#) > [Sap Reference IMG](#) > [Sales and Distribution](#) > [Basic Functions](#) > [Pricing](#) > [Pricing Control](#) > [Define Condition Table](#) > [Create Condition Table](#) >

Note

In SAP Cloud for Customer Offline pricing, the field types supported are only Code and IDs. Please check the list of supported fields for sales and service before creating condition tables. The order in which the fields are present is also specific. Please make sure all code fields appear before ID fields in the table.

1. Code - fields which will be mapped to code fields in SAP Cloud for Customer
 2. IDs - fields which will be mapped to UUIDs in SAP Cloud for Customer
2. **Create Access Sequence:** To create access sequence, go to [SPRO](#) > [Sap Reference IMG](#) > [Sales and Distribution](#) > [Basic Functions](#) > [Pricing](#) > [Pricing control](#) > [Define Access Sequence](#) > [Maintain Access sequences](#) >
 3. **Create Condition Type:** To create condition type, go to [SPRO](#) > [Sap Reference IMG](#) > [Sales and Distribution](#) > [Basic Functions](#) > [Pricing](#) > [Pricing control](#) > [Condition types](#) >

Note

In SAP ERP/S/4HANA it is allowed to create a discount/surcharge condition without a sign. However in SAP Cloud for Customer the sign is mandatory. Please set the Plus/Minus field to X for discounts and A for surcharges.

In SAP ERP/S/4HANA it is allowed to create a scale based condition without mentioning the scale type. However in SAP Cloud for Customer, it is mandatory to maintain a scale type (A or B) if a condition type has a scale basis maintained.

4. **Create Pricing Procedure:** To create condition type, go to [SPRO](#) > [Sap Reference IMG](#) > [Sales and Distribution](#) > [Basic Functions](#) > [Pricing](#) > [Pricing control](#) > [Define and assign pricing procedure](#) >

Now, we need to download the customized pricing with the help of download tool. This downloaded customized pricing will be uploaded in to SAP Cloud for Customer System.

Note

1. If you do not see the tab TMC1T in the downloaded xls from ERP/S/4HANA, then you need to apply the following SAP note 2409457 in your ERP/S/4HANA system.
2. Also apply the following notes in the ERP/S/4HANA system:
 - 2584517
 - 2556538

Parent topic: [Configure Integration of Pricing Master Data \[page 265\]](#)

Previous: [Enable Offline Pricing for Specific Business Roles \[page 266\]](#)

Next: [Download Pricing Customization from ERP/S/4HANA System \[page 268\]](#)

19.5.4 Download Pricing Customization from ERP/S/4HANA System

Administrators must configure download of pricing customization.

Follow the steps below for downloading the customization from ERP/S/4HANA:

1. Go to transaction se38 in the ERP/S/4HANA system. Execute the report program RCOD_PRC_CUST_EXTRACT_TO_EXCEL to download the pricing procedure and related customization.
2. Enter the *Pricing Procedure* created earlier and click *Extract*. All the pricing customization is downloaded in excel.
3. Save the downloaded excel to the local system.

In ERP/S/4HANA system if you are on SAP Cloud for Customer ERP/S/4HANA add-on (CODERINT) CODERINT 6.0 SP36 or above you can use the report program RCOD_PRIC_PROC_CUST_EXTRACT to download the pricing procedure and its related customization.

1. Go to transaction se38 in the ERP/S/4HANA system. Execute the report program RCOD_PRIC_PROC_CUST_EXTRACT to download the pricing procedure and related customization.
2. Enter the pricing procedure created earlier and click *Next*. The pricing procedure steps will be listed down for your selection.

Note

Select the *Allow all fields* checkbox to enable customization download for all fields.

This is available only for code fields; ID fields are not supported.

3. Select the pricing procedure steps you need to download and click *Next*.
4. Now the access steps involved with each of the accesses corresponding to the condition types contained in the pricing procedure steps selected in the previous step will be listed down. Select the access steps you need to download and click *Next*.

5. System will prompt you to save your excel.
6. Save the excel to your local system.

⚠ Caution

Do not make any manual changes to the excel downloaded using the program RCOD_PRIC_PROC_CUST_EXTRACT. This can lead to inconsistencies in the system. SAP is not liable for incorrect customization resulting from manual changes in the downloaded excel.

Parent topic: [Configure Integration of Pricing Master Data \[page 265\]](#)

Previous: [Maintain Pricing Customization Data in Your SAP ERP/S/4HANA System \[page 267\]](#)

Next: [Maintain Relevant ID and Code List Mapping in SAP Cloud for Customer \[page 269\]](#)

19.5.5 Maintain Relevant ID and Code List Mapping in SAP Cloud for Customer

Administrators can maintain the mapping between code lists in SAP Cloud for Customer and the relevant fields in the condition tables.

Maintain the relevant ID and code list mapping in SAP Cloud for Customer

1. The ID mappings for all relevant fields in the condition tables such as products, customers, sales organization, etc., need to be performed in the SAP Cloud for Customer system.
2. Secondly relevant code list mapping also needs to be done for codes like Distribution Channel, country, etc.
3. Maintain the code list mapping for *Scale Axis Step Interval Boundary Type Code* as follows:

The screenshot displays the 'Code List Mapping Definition' interface in SAP Cloud for Customer. It is divided into three main sections:

- Code List Mapping Definition:** A table with columns 'Mapping Group', 'Local Data Type Name', and 'Description'. Two rows are visible:

Mapping Group	Local Data Type Name	Description
SAP On Premise Integration	ScaleAxisBaseCode	Scale Axis Base Code
SAP On Premise Integration	ScaleAxisStepIntervalBoundaryTypeCode	Scale Axis Step Interval Boundary Type Code
- Code List Mapping Rule:** A table with columns 'Mapping Rule', 'Local Context', and 'Description'. One row is visible:

Mapping Rule	Local Context	Description
Map Individual Codes		
- Code List Mapping:** A table with columns 'Local Code', 'Description', and 'External Code'. Two rows are visible:

Local Code	Description	External Code
2	To-scale	B
1	Base-scale	A

4. Maintain the code list mapping for Scale Axis Base Code as follows:

CODE LIST MAPPING

Save and Close | Save | Close | Translate | Restore Defaults

You can maintain mappings for configuration values used in data exchange between your on-demand solution and the external system.

Code List Mapping Definition

Add Row | Remove

Mapping Group	Local Data Type Name	External Data Type	External Data Type Description	Description
	ScaleAxis*			
SAP On Premise Integration	ScaleAxisStepIntervalBoundaryTypeCode			Scale Axis Step Interval Boundary Type Code
SAP On Premise Integration	ScaleAxisBaseCode			Scale Axis Base Code

Code List Mapping Rule

Add Row | Remove | Missing Code Mappings | Proposals from MWB

Mapping Rule	Local Context	Description
Map Individual Codes		

Code List Mapping

Add Row | Remove

Local Code	Description	External Code	Inbound Default	Outbound Default
4	Gross weight	B	<input type="checkbox"/>	<input type="checkbox"/>
3	Net value	A	<input type="checkbox"/>	<input type="checkbox"/>
5	Net weight	D	<input type="checkbox"/>	<input type="checkbox"/>
1	Quantity	C	<input type="checkbox"/>	<input type="checkbox"/>

Parent topic: [Configure Integration of Pricing Master Data \[page 265\]](#)

Previous: [Download Pricing Customization from ERP/S/4HANA System \[page 268\]](#)

Next: [Upload Pricing Customization to Your Cloud Solution \[page 270\]](#)

19.5.6 Upload Pricing Customization to Your Cloud Solution

To replicate the pricing master data, administrators must upload the data that you have downloaded from the ERP/S/4HANA system.

Now upload the pricing customization in SAP Cloud for Customer, where offline pricing using external pricing is scoped. There are three main steps for it.

1. **Create Field Mapping:** Map the fields used in the condition table in ERP/S/4HANA in pricing customization to the fields available in SAP Cloud for Customer.

Follow the steps below to create field mapping-

1. Go to **Business Configuration > Implementation Projects**. Select your project and navigate to **Open Activity List > Fine-Tuning > Offline Pricing Using External Pricing**.
2. Select **Pricing Field Mapping**.

Note

If field mapping was done prior to 1805 upgrade, then you need to perform the mapping all over again for a technical reason. Make sure to delete the existing field mapping and save and then maintain afresh the required field mapping.

- Maintain the field mapping in the resulting view.

📘 Note

Supported fields should be mapped like the following:

SAP Cloud for Customer Field	SAP ERP/S/4HANA Field
COUNTRY/REGION	ALAND
COUNTRY/REGION	LAND1
COVERAGE	BEMOT
BUYER GUID	KUNNR
BUYER GUID	HIENR
BUYER HIERARCHY 1	HIENR01
BUYER HIERARCHY 2	HIENR02
BUYER HIERARCHY 3	HIENR03
BUYER HIERARCHY 4	HIENR04
BUYER HIERARCHY 5	HIENR05
BUYER HIERARCHY 6	HIENR06
BUYER HIERARCHY 7	HIENR07
BUYER HIERARCHY 8	HIENR08
BUYER HIERARCHY 9	HIENR09
INCOTERMS	INCO1
INCOTERMS LOCATION	INCO2
CUSTOMER GROUP	KDGRP
PRODUCT CATEGORY	MATKL
PRODUCT GUID	MATNR
PRODUCT GROUP 1	MVGR1
PRODUCT GROUP 2	MVGR2
PRODUCT GROUP 3	MVGR3
PRODUCT GROUP 4	MVGR4

SAP Cloud for Customer Field	SAP ERP/S/4HANA Field
PRODUCT GROUP 5	MVGR5
PRODUCT GUID	PMATN
DIVISION	SPART
SALES ORGANIZATION	VKORG
DISTRIBUTION CHANNEL	VTWEG
PAYMENT TERMS	ZTERM
GTIN ID	EAN11
ORDER REASON CODE	AUGRU
SHIP-TO PARTY	KUNWE
BILL-TO-PARTY	KUNRE
PAYER PARTY	KUNRG
PAYER PARTY	KNRZE
PRICE LIST	PLTYP
PRICE GROUP	KONDA
PLANT	WERKS

For more information on supported fields, please refer to the related information section.

2. Upload Pricing Procedure and related customization to SAP Cloud for Customer using the customization excel downloaded from ERP/S/4HANA system

Note

Upload process happens in the background and might take some time to complete. The status of upload can be checked under the application log button.

Follow the steps below to upload pricing procedure and related customization into SAP Cloud for Customer:

1. Go to [Business Configuration](#) > [Implementation Projects](#). Select your project and navigate to [Open Activity List](#) > [Fine-Tuning](#) > [Offline Pricing Using External Pricing](#).
2. Select [Offline Price Strategy](#).
3. Choose the external system type as ERP/S/4HANA and browse for the customization excel saved to local machine in step 2.

Note

Condition type, Access sequence, Pricing condition table, pricing table mapping is automatically populated if everything is set properly. Once the condition table is created in SAP Cloud for Customer, the fields of the table cannot be changed.

3. Pricing Procedure Determination for Offline Price Calculation.

You can maintain your pricing procedure determination rule for the combination of sales area and document type. After maintaining the pricing procedure determination rule, ensure the rules have been activated.

RULES

Add Row Insert Row Remove Copy Paste Swap Adapt Columns Upload Download

🔍

Sequence	Sales Org ID	Distribution Channel	Division	Doc Proc Type Code	Pricing Procedure
1	Extended Sales Unit	Direct sales	*	Service Request	ZSERVT
2	Extended Sales Unit	Direct sales	*	Field Service (Z)	ZSERVT

Note

In this screenshot, the * character means nothing is selected and cannot be treated as **Select All**. It doesn't represent the wild card character in this context.

Parent topic: [Configure Integration of Pricing Master Data \[page 265\]](#)

Previous: [Maintain Relevant ID and Code List Mapping in SAP Cloud for Customer \[page 269\]](#)

Next: [Verify Customizing Data \[page 274\]](#)

Related Information

[Sales Scenario \[page 277\]](#)

Specific feature availability for *Sales Orders* and *Sales Quotes* in the new offline pricing calculation.

[Service Scenario \[page 280\]](#)

Offline pricing usage in SAP Service Cloud.

19.5.7 Verify Customizing Data

You have uploaded the customizing data from ERP to SAP Cloud for Customer. Verify that all your data has been uploaded to the cloud system.

Go to ► [Business Configuration](#) ► [Implementation Projects](#) ». Select your project and navigate to ► [Open Activity List](#) ► [Offline Pricing Using External Pricing](#) ». click on the hyperlinked activities to verify the data uploaded into the SAP Cloud for Customer from SAP ERP system.

Parent topic: [Configure Integration of Pricing Master Data \[page 265\]](#)

Previous: [Upload Pricing Customization to Your Cloud Solution \[page 270\]](#)

Next: [Maintain Determination Rules for Offline Pricing \[page 274\]](#)

19.5.8 Maintain Determination Rules for Offline Pricing

Administrators can maintain offline pricing determination rules in your SAP Cloud for Customer system.

Go to ► [Business Configuration](#) ► [Implementation Projects](#) ». Select your project and navigate to ► [Open Activity List](#) ► [Fine-Tune](#) ► [Offline Pricing Using External Pricing](#) ». Maintain the following configuration:

- Pricing Field Mapping
- Offline Price Strategy
- Condition Type
- Pricing Condition Limits
- Access Sequence
- Pricing Condition Table
- Pricing Table Mapping
- Pricing Exclusion Procedure
- Pricing Exclusion Group
- Determine Pricing Procedure

Parent topic: [Configure Integration of Pricing Master Data \[page 265\]](#)

Previous: [Verify Customizing Data \[page 274\]](#)

Next: [Replicate Pricing Master Data to Your Cloud Solution \[page 275\]](#)

19.5.9 Replicate Pricing Master Data to Your Cloud Solution

Administrators must run the report to replicate pricing master data from SAP ERP/S/4HANA systems.

Now execute the report RCOD_CONDITIONS_EXTRACT to create Idocs in ERP/S/4HANA system and send them across to SAP Cloud for Customer system via process integration.

Executing report RCOD_CONDITIONS_EXTRACT provides details such as, valid from, valid to and logical system, table created in first step and logical system, where data need to be sent.

Uncheck the test mode and click *Execute*, then the IDOCS will be created and will be sent to SAP Cloud for Customer System.

Parent topic: [Configure Integration of Pricing Master Data \[page 265\]](#)

Previous: [Maintain Determination Rules for Offline Pricing \[page 274\]](#)

Next: [Set Up Automatic Delta Download of Pricing Conditions \[page 275\]](#)

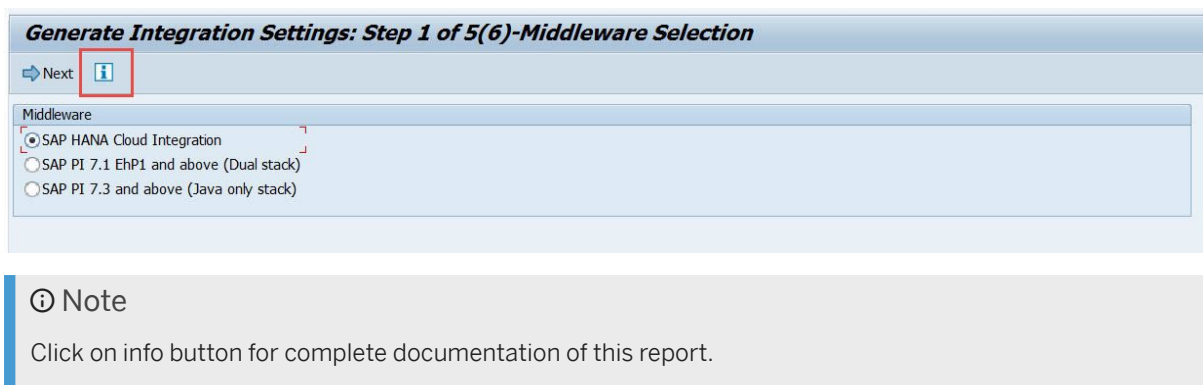
19.5.10 Set Up Automatic Delta Download of Pricing Conditions

Administrators must setup the automatic delta download of pricing conditions.


Delta load is initiated via report RBDMIDOC run with selection as COND_A. If you use the standard connectivity settings report then this is scheduled automatically for you provided you select price condition replication in scoping screen of the report.

Else you can create a variant for input as COND_A and schedule the report RBDMIDOC to run with this variant for the desired interval

Standard Connectivity Report: RCOD_CREATE_CONNECTIVITY_SIMPL.



Generate Integration Settings: Step 1 of 5(6)-Middleware Selection

Next 

Middleware

- SAP HANA Cloud Integration
- SAP PI 7.1 EhP1 and above (Dual stack)
- SAP PI 7.3 and above (Java only stack)

Note

Click on info button for complete documentation of this report.

Parent topic: [Configure Integration of Pricing Master Data \[page 265\]](#)

Previous: [Replicate Pricing Master Data to Your Cloud Solution \[page 275\]](#)

Next: [Verify Replicated Pricing Master Data in Your Cloud Solution \[page 276\]](#)

19.5.11 Verify Replicated Pricing Master Data in Your Cloud Solution

After the masterdata is downloaded, check the same in the SAP Cloud for Customer system.

Follow the steps below to check the downloaded master data in SAP Cloud for Customer:

1. Logon to SAP Cloud for Customer system and go to the *Products* work center view.
2. Go to ► *Products* ► *Prices* ▾, choose the *Condition Type* from the drop down to view the downloaded master data.

Parent topic: [Configure Integration of Pricing Master Data \[page 265\]](#)

Previous: [Set Up Automatic Delta Download of Pricing Conditions \[page 275\]](#)

19.6 Sync Pricing Master Data to Offline

Sync your pricing master data to offline. As a prerequisite, maintain the configuration required to sync your pricing master data to offline.

Based on the configuration, appropriate procedure will be determined for calculation within offline runtime. Scope of the price master data for download is also decided based on this setting from the sales organization perspective.

19.6.1 Offline Business Object Availability for Pricing Master Data Sync

Sync of pricing master data is context based and depends on availability of the corresponding business objects in offline.

The following objects act as context for pricing master data download:

- Sales Organization of the logged in user.
- Accounts
- Products

Note

If the pricing master data involves accounts, products and sales organization, then the corresponding data is downloaded to offline only if those accounts, products and sales organizations are already synced to offline.

19.7 Support for Currency Conversion in Offline Pricing

You can now change the document (sales order and sales quote) currency to estimate prices in a different currency. The currency conversion feature takes care of converting back into the document currency that is maintained in the price master data.

The currency conversion in offline is useful when you have maintained the same pricing procedure across different countries/regions. For users to be able to use this feature, administrators must maintain the required configuration and the conversion data from ERP must be available in sales cloud.

19.7.1 Configure Currency Conversion for Prices in Offline

Administrators must maintain the configuration required for offline currency conversion.

Go to [Business Configuration](#) > [Implementation Projects](#). Select your project and navigate to [Edit Project Scope](#) > [Questions](#) > [General Business Data](#) > [Product and Service Pricing](#) > [Sales Price Specifications](#) and select the scoping question: *Do you want to use currency conversion for calculating prices in flexible offline pricing?*

You must also fetch the currency conversion rates from ERP using the program `RCOD_PRC_CONV_EXTRACT`. This program generates a zip file with multiple excel files containing the currency conversion data. Use the relevant oData service in data workbench to upload this data into Sales Cloud.

19.8 Sales Scenario

Specific feature availability for [Sales Orders](#) and [Sales Quotes](#) in the new offline pricing calculation.

Sales Pricing Features

Apart from the standard features, the following features are available for [Sales Orders](#) and [Sales Quotes](#):

Note

Offline pricing will only be available after a sales order has been simulated while online for each order type, pricing procedure, and sales area combination defined in the fine tuning activity under [Business](#)

[Configuration](#) > [Implementation Projects](#) > Select your project and navigate to [Open Activity List](#) > [Fine-Tune](#) > [Offline Pricing Using External Pricing](#) > [Determine Pricing Procedure Rules](#).

- **Estimate Price**
 - Use the action *Estimate Price* to view price calculation including total estimate price, price per line item, and manual discounts.
 - *Estimated Prices* get transferred to item totals, and the *Total Estimated Price* becomes the total order value.
- **Price Breakdown in Item Proposal Screen**
 - In the item proposal screen, use the *Estimated Price* column to view the price breakdown of each item.
 - You can select a price in the *Estimated Price* column to view the full price breakdown.
 - You see the *Estimated Price* until the order is synced. Once the order is synced, the estimated values are moved to *Net Value* and item totals.

Note

The *Estimate Price* is only available in the *Item Proposal* screen.

- **Net Value**
 - The *Net Value* displays the estimated price of an item including any discounts available.
 - If manual conditions are configured in the pricing procedure, view and maintain manual discounts, both absolute and percentage, using configurable price elements.
 - To view the *Net Value*, *Save* the order.
 - Once an order is synced, whether you're online or offline, you'll no longer see the *Estimated Price*. The estimated price data is moved to item totals and net values.
 - The *Net Value* is still an estimate that will be synced from offline to online. Once you are online, use the *Simulate* or *Transfer* actions to retrieve real-time pricing from ERP/S/4HANA.

Sales Fields

For the feature to work, the supported fields must be used in defining the pricing procedure. The offline pricing procedure for a document type should be a subset of the online pricing procedure and have the same name.

The following standard fields are supported in the offline pricing engine for *Sales Orders* and *Sales Quotes*:

- Customer
- Products
- Sales Organization
- Distribution Channel
- Division
- Country of Sold-to-Party
- Customer Group of Sold-to-Party
- Incoterms
- Incoterms Location
- Payment Terms

- Document Type
- Sales Unit
- Plant
- Sales Group
- Sales Office
- Account Classification
- Item Category
- Document Sales Org
- Material Groups 1-5/Product Groups 1-5 (in SAP Cloud for Customer)
- Material Category/Product Category (in SAP Cloud for Customer)
- Account Hierarchy

ⓘ Note

The new offline pricing is separate from the regular offline pricing feature (already available in SAP Cloud for Customer) that you may have implemented. Once you have enabled the new offline pricing, the previously implemented offline pricing feature will not work.

ⓘ Note

One Manual Discount % and one Manual Discount Absolute are available for Sales. For manual discounts, continue to use configurable price elements (CPE) - **PPE1** and **PPE2**.

ⓘ Note

Component-level breakdown for pricing is available for Sales.

19.8.1 Enable Manual Discount as Header Condition in Sales Orders

Administrators can enable manual discount as a header condition in pricing procedure. This allows users to enter a manual discount in the sales order header.

ⓘ Note

In the ERP/S/4HANA pricing procedure, you must have maintained a header condition type for manual discount condition.

To enable the feature, go to [Business Configuration > Implementation Projects](#). Select your project and navigate to [Open Activity List > Fine-Tune > External Pricing > Assignments of External Price Elements](#), and maintain the following configuration:

- Map the discount field to a configurable price element for header called *Total Price Element*.
- Maintain an appropriate label for the field.
- Assign appropriate authorizations.
- Map the field to the header condition type in the pricing procedure.

19.8.2 Offline Price Calculation based on Net Weight & Gross Weight

Use product weights for estimating prices in offline. Administrators can enable price calculation using weights in flexible offline pricing.

To use this feature, administrators must enable condition types for price calculation based on product net or gross weight. You must also have maintained weights for products in the product master data. To configure the feature, set up a condition type based on condition class - *Gross Weight* or *Net Weight*.

19.9 Service Scenario

Offline pricing usage in SAP Service Cloud.

Service technicians can request estimated pricing information for ticket service parts or products while working in offline mode. Service uses a subset of the offline pricing fields and functionality. The enablement steps are the same whether using offline pricing for Sales or Service.

The following four fields are used for offline pricing in service tickets:

- Sales Organization
- Distribution Channel
- Product
- Country

⚠ Restriction

In addition to the limitations listed in the Solution Scope section, component-level breakdown for pricing is not available for service tickets.

19.10 Extensibility

Map extension fields created in 'Z' space in SAP ERP with extension fields in your SAP Cloud for Customer and use them for offline pricing calculation.

You can also use standard code fields from SAP ERP/S4/HANA and map them to extension fields in Cloud for Customer and maintain field mapping in the pricing fields catalog.

The extension fields can be created in Cloud for Customer using Adaptation or Cloud Applications Studio.

📌 Note

- The pricing customization based on extension fields must be analyzed well as once the customization (based on extension fields) is uploaded, it is not possible to delete the extension fields. You will see an error when you attempt to delete an extension field. Also, it is not possible to delete extension field

mapping to 'Z' field after the customization based on this field is uploaded. This restriction ensures there are no inconsistencies that may arise as a result of deleting extension fields.

- *Offline Pricing* in SAP Cloud for Customer supports only the *Code* data type for the extension or PDI fields. It does not support the *Structure* data type for the extension or PDI fields.

Extension fields from the following scenarios are supported:

- Account Header and extend to Pricing
- Product Header to Pricing
- Sales Order Header to Pricing
- Sales Order Item to Pricing

Note

Prices are not calculated if no data is maintained in the extension fields. Involved parties are also considered for calculating prices.

To use the extension fields from ERP, you must create corresponding extension fields in Cloud for Customer and maintain the mapping for these fields. To maintain the mapping, follow these steps:

1. Create an offline mapping of the Z-fields in SAP ERP to the corresponding extension fields in Cloud for Customer.
2. Upload procedure with Z-fields.
3. Transfer price master data for the required condition tables.
4. Define the procedure determining rules
5. Sync data for offline use.
6. Once created, do not delete the extension fields used in offline pricing calculation as this may cause database inconsistency.

20 Configure Currencies, Measurement Units and Values

All currencies are predefined according to ISO code list 4217. You can use this fine-tuning activity to view all currencies available in your system, and can also maintain the currency for your company and its organizational structures. The maintained currency displays the currency code, description, the decimal value, and the rounding value.

Your company has decided to maintain the type of currency for your company's organizational structure. In the *Administrator* work center, under fine tuning, maintain the activity for currency.

❖ Example

For Swiss Francs, the predefined rounding value is 0.05. This means that rounding is done to multiples of 0.05 CHF as per common business practice. However, you have the option of setting it to 0.01, which means no rounding is done.

Scope Currencies

Enable currencies under ► [Business Configuration](#) ► [Implementation Projects](#) ► [Your Project](#) ► [Open Activity List](#) ► [Fine-Tune](#) ► [Currencies](#) ►

ⓘ Note

Remember to add the currency activity to your project to maintain and edit entries.

You also have the option of translating the description into any of the supported languages.

20.1 Configure Currency at Organizational Level

→ Tip

Decision Point

Why do you need to set the currency?

It is mandatory to set a currency for your company's org structure during the setup stage. This allows you to control the currency defaulting in transactions and reports.

Steps to configure the currency at organizational level:

Under [Administrator](#) > [General Settings](#) > [Org Structures](#), you establish your organizational sales structure as a prerequisite to going live. For details on configuring and maintaining the org structure, refer to *Configuring Organizational Structures*.

While establishing your organizational structure, to set the default currency proceed as follows:

1. On *Org Structure* page, navigate to [New](#) > [Org Unit](#).
2. Specify an ID and the validity period.
3. Under Definitions, select the *Company* toggle button.
4. Enter Address.
5. Select the currency from the drop-down menu.
6. Save your changes

Optionally, you can maintain a currency for org. functions, such as Sales Organization or Sales, as those currencies can also control a usage in your solution.

Currency default determination logic for example, sales quote:

In general, the currency will be copied from the account's sales data, if it exists. Otherwise, the system checks for the currency maintained in the org. model for the corresponding sales organization used in a sales quote. If this also does not exist, the currency is derived from the company (seller party) in the sales quote. This determination logic is also valid for the Opportunity currency for the Expected Value.

Note that the currency (hidden field) can be changed in the quote itself if the key user has added the field to the *Sales Quote* UI.

By using relative selects in reports, you can switch the reporting currency from your company to the currency of a user's department (sales unit). For this you need to maintain the currency of the user's primary org. unit as employee. If a currency is not maintained for the department (sales unit), the system checks the next highest org. unit in the hierarchy, which contains a currency for the report currency.

20.2 Maintain Exchange Rates for Foreign Currencies

You can maintain exchange rates between different currencies in several ways.

You can maintain exchange rates between different currencies in one of the following ways:

- By manually adding or by importing exchange rates from a Microsoft Excel® document, under [Administrator](#) > [Exchange Rate for Foreign Currencies](#).
- By replicating exchange rates from an SAP ERP system to SAP Cloud for Customer, by scheduling a periodic job under [Administrator](#) > [Exchange Rate Request](#).

Note

Only ISO currencies maintained in SAP ERP will be replicated to the SAP cloud solution.

1. You have selected the *Exchange Rates* scoping questions during business configuration.

Note

For more information on scoping, see *Enabling Features in Scoping for SAP Sales Cloud*.

2. You have maintained a communication arrangement for the communication scenario *Request Exchange Rate From External Sources*.

Navigation

Scoping

Questions

Choose ► [Communication and Information Exchange](#)
► [Integration with External Applications and Solutions](#)
► [Integration of Master Data](#) ► [Exchange Rate](#) ►

Communication Arrangement

Choose ► [Administrator](#) ► [Integration](#) ► [Communication Arrangements](#) ►

Exchange Rate Request

You have to initiate the process for an exchange rate request first. To do so:

1. Go to ► [Administrator](#) ► [Exchange Rate Request](#) ►
2. To schedule a job for replicating exchange rates from an external system, click [Schedule](#)
3. Select the scheduling options, and save the scheduled job

Once the scheduled job runs successfully, the exchange rates will be replicated and visible under the [Exchange Rate for Foreign Currencies](#) tab.

You can enter current exchange rates by either adding a new row or editing or copying existing exchange rates. Outdated exchange rates are stored in the exchange rate history. Exchange rates are stored time-dependent on a minute level. Business Processes/Business Objects may access exchange rates on a daily basis only. In this case the entry with the highest time per day is used.

Internally, date and time is stored in UTC time zone. For a daily exchange rate access the date in UTC time zone is relevant. For your convenience, date and time are displayed in the time zone assigned to your user or the time zone assigned to your tenant. However, due to the required conversion the date may change. The Excel based data maintenance displays the UTC date and time.

20.3 Maintain Quantities and Units of Measure

You can maintain the quantity for a product, and can define and maintain trading, and physical units of measure for the same. See this topic for details on how you can maintain this data.

Your company has decided to maintain units of measure and has added it to your activity list.

Navigation

You can access this feature to maintain your trading/physical units of measure from *Fine-Tune*, under business configuration.

Scoping

Fine-Tune

Choose ► *Business Configuration* ► *Implementation Projects* ► *Open Activity List* ► *Fine-Tune* ► *Quantities and Units of Measure* ►

Quantities

You can maintain the quantity for a product for a lead or opportunity as follows:

1. Open the lead or opportunity to which you want to add a product.
2. Choose ► *Products* ► *Add* ►.
3. Enter the category, quantity, and unit of measure, if necessary.
4. Save your changes.

The product now appears in the lead or opportunity.

→ Tip

To edit the quantity, go to the products tab of the opportunity or lead, update the appropriate column, and save your entries.

Units of Measure

You can define and maintain trading units of measurement as follows:

- Trading Units
 - A trading unit of measure is a quantity that you can define to simplify business processes.

❖ Example

Crate, box, and pallet.

- Physical Units
 - A physical unit of measure is a standardized quantity that is used to measure a physical property. It is a fixed reference quantity and an internationally-recognized standard measurement.

❖ Example

One meter has a fixed value of one hundred centimeters.

Create and Maintain Trading Units

For the purposes of quantity conversion, you can further define your new trading UoM by referencing a predefined UoM in the *Product Data* tab. Any new trading UoM that you create can be used internally but not for electronic transactions between one business and another (B2B Communication) unless the new UoM is common to both business partners. UoMs shipped by SAP adhere to the UNECE standards and can be used for B2B Communication.

ⓘ Note

You can only delete UoMs with the status `In Preparation`. Only UoMs with the status `Released` are displayed on the interface.

To create and maintain trading units, follow these steps:

1. Click on [Create and Maintain Trading Units](#)
2. Click on [Add Row](#) to add a new trading unit
3. Click on a row to edit
4. Click on [Remove](#) to delete a record

ⓘ Note

When creating your entries in the table, the unit must begin with the letter Z.

Maintaining Physical Units

Any new physical UoM that you create must reference another predefined physical UoM. This UoM can be used internally, but not for electronic transactions between one business and another (B2B Communication) unless the new UoM is common to both business partners. UoMs shipped by SAP adhere to the UNECE standards and can be used for B2B Communication.

ⓘ Note

You can only delete UoMs with the status `In Preparation`; only UoMs with the status `Released` will be shown on the user interface.

The reference offset and factor are used to convert quantities between the Reference UoM and the new physical UoM. The reference offset is only used in a limited number of cases.

❖ Example

When converting Centigrade to Fahrenheit.

The formula used for conversion is: (Quantity in Reference UoM * Reference Factor) + Reference Offset = converted quantity.

❖ Example

To convert 100 degrees Centigrade to Fahrenheit you set a reference offset of 32 and a reference factor of 1.8. The formula would look like this $(100 * 1.8) + 32 = 212$ degrees Fahrenheit.

The symbol represents the UoM. Most physical UoM symbols are recognized internationally.

❖ Example

kg for kilogram and **lb** for pound.

To create and maintain physical units, follow similar steps, as mentioned in the trading units section above.

20.4 Currency and Quantity Conversion

If a currency field is selected in a condition, currency conversion will be performed during runtime. The currency amount in the condition will be converted into the currency used in the related business object.

❖ Example

The condition specifies that a notification will be sent if the net value is greater than 100 EUR. The net value in the related business object is 80 USD. The system will convert 100 EUR into USD and compare the value in the condition with the one in the business object to determine whether to send a notification.

ⓘ Note

If a quantity field is selected in a condition, quantity conversion will be performed during runtime.

If the quantity in the condition is product-related, quantity conversion will not be performed.

❖ Example

The conversion will not be performed if the quantity unit in the condition is "each" and the quantity unit in the business object is "pallet."

If there is just one quantity in the related business object, for example, in the header of a business document, quantity conversion will be performed if the quantity unit is not product-related. For example, the conversion

will be performed if the quantity unit in the condition is “meters” and the quantity unit in the business object is “centimeters.”

21 Manage Output Forms and Channels

Learn to create rules to determine which output channel should be used for the output of a business document, under a defined set of conditions.

Output management comprises all activities related to the output of documents in print, e-mail, or fax format. Form-based documents can be output on an ad hoc basis or as an integrated part of a business process.

Create Rules to Determine Output Channels

In the *Output Channel Selection* view, administrators can create rules that are used to determine which output channel should be used for the output of a business document under a defined set of conditions. By default, all documents are sent to the output channel printing where they are collected in the default print queue. Documents sent to the default print queue can be printed manually by the document owner.

You can either define an output channel rule that applies to all instances of the selected business document, or you can use the parameters provided to create more complex rules. If you have created more than one rule for a document, you also need to define the sequence of the rules. The system processes the rules in the order in which they appear in the table until a rule is found for which the conditions are met. Therefore, enter more specific rules at the top of the list and generic rules at the bottom. Note that if you create a rule and leave a parameter blank, then this is handled as a wildcard, and any value is considered as having fulfilled the condition.

For example, an output channel rule has already been created specifying that all sales orders should be output as e-mail. You now want to ensure that all sales orders sent to a particular business partner are output as fax. To do this, you need to create a new output channel rule for the Sales Order business document. Specify fax as the output channel and in the parameter settings enter the name of the business partner. After you have created the rule, you need to change the order of the rules in the table to ensure that this rule is applied by the system before the generic rule. To do this change the sequence of the rules and move the new rule to the top of the list.

Note

Note that in some cases, a business document represents a group of related document types. For example, the business document Customer Invoice includes invoices, credit memos, correction invoices, and down payments.

Depending on your solution, you can access this view from the *Application and User Management* or *Administrator* work center under *Input and Output Management*.

Create an Output Channel Rule

1. In the *Output Channel Selection* view, select the business document for which you want to create an output channel rule from *Show Rules For* drop-down list and click *Go*.

2. Click [New](#).
The [Create Output Channel Rule](#) dialog box opens.
3. From the [Output Channel](#) drop-down list, select an output channel.
The list of output channels that are available depends on the business document you selected. In general, you can send business documents electronically by fax or e-mail, or you can send the document to a printer. If you choose printer as the output channel, you need to specify a print queue and the number of copies you want to print.
4. Under [Parameter Settings](#), enter the parameters for which you want this rule to apply.
The parameters available to you depend on the business document selected. These parameters determine when the output channel selected in the previous step is used to output the document. Note that if you leave a parameter blank, this acts as a wildcard.
5. Save your changes.
Note that you may now have to adjust the sequence in which the output channel rules are applied in order to ensure that the rule is applied by the system correctly. See [Change the Sequence of Output Channel Rules](#) below.

Change the Sequence of Output Channel Rules

1. In the [Output Channel Selection](#) view, select the business document for which you want to change the sequence of rules from the [Show Rules For](#) drop-down list and click [Go](#).
2. Click [Change Sequence](#).
3. On the [Change Sequence](#) screen, use the [Move Up](#) and [Move Down](#) buttons to change the order of the rules.
The system processes the rules in order of their appearance in the list starting at the top. The more specific the rule, the higher it should be placed in the list.
4. Save your changes.

21.1 E-Mail and Fax Queues


Learn to manage all documents that are output to the output channels for fax and e-mail in the [E-Mail and Fax Queues](#) view.

In the E-Mail and Fax Queues view, administrators can manage all documents that are output to the output channels fax and e-mail. You can view all jobs that are waiting to be processed and which have already been processed and check the status of each job. A job can have one of the following statuses:

- [Waiting](#)
The job has not yet been processed by the system.
- [In Process](#)
The system is processing the job.
- [On Hold](#)
The job has been manually put on hold, for example, while a technical error is being corrected.
- [Failed](#)
There was an error while processing the job. To view the cause, select the document from the list. An error description is displayed under [Output Details](#).

- *Completed*
The job has been processed and the document sent by e-mail or fax.

Note

If an error occurs, an output error task is created and sent to the document owner, who can view the tasks under [Home](#) > [Work](#) > [Inbox](#) . It is also possible for administrators to take over and resolve a task belonging to another user.

Depending on your solution, you can access this view from the [Application and User Management](#) or [Administrator](#) work center under [Input and Output Management](#).

Delete a Job

1. In the [E-Mail and Fax Queues](#) view, select a job with the status [Waiting](#), [On Hold](#), or [Failed](#).
2. Click [Delete](#).
The job is deleted.

Restart a Job

1. In the [E-Mail and Fax Queues](#) view, select a job with the status [Failed](#).
2. Click [Restart](#).
The job is resent to the business partner's e-mail address or fax number.

Put a Job on Hold

1. In the [E-Mail and Fax Queues](#) view, select a job with the status [Queued](#).
2. Click [Hold](#).
The job is put on hold until you manually resume the job.

Resume a Job

1. In the [E-Mail and Fax Queues](#) view, select a job with the status [On Hold](#).
2. Click [Resume](#).
The document is sent to the output channel defined in the document's output settings.

21.2 Form Template Selection

Learn to create rules to determine which form template is used for the output of a business document, under a defined set of conditions.

In the *Form Template Selection* view, administrators can create rules that are used to determine which form template is used for the output of a business document under a defined set of conditions. A default assignment of form templates to documents is provided by SAP. If you create new templates, you must create a form template rule to define when the templates are used.

You can either define a form template rule that applies to all instances of the selected business document, or you can use the parameters provided to create more complex rules. If you have created more than one rule for a document, you also need to define the sequence of the rules. The system processes the rules in the order in which they appear in the table until a rule is found for which the conditions are met. Therefore, enter more specific rules at the top of the list and generic rules at the bottom. Note that if you create a rule and leave a parameter blank, then this is handled as a wildcard, and any value is considered as having fulfilled the condition.

Note

Note that in some cases, a business document represents a group of related document types. For example, the business document Customer Invoice includes invoices, credit memos, correction invoices, and down payments.

Depending on your solution, you can access this view from the *Application and User Management* or *Administrator* work center under *Input and Output Management*.

Output Management

Output management comprises all activities related to the output of documents in print, e-mail, or fax format. Form-based documents can be output on an ad hoc basis or as an integrated part of a business process.

For more information, see *Output Management* in the Help Center of your solution.

Forms

Form templates are used to define the content and layout of documents that can be output from the system.

For more information, see **Forms**.

Tasks

Create a Form Template Rule

1. In the *Form Template Selection* view, select the business document for which you want to create a form template rule from the *Show Rules For* drop-down list and click *Go*.
2. Click *New*.
The *Create Form Template Rule* activity opens.
3. From the *Form Template* drop-down list, select a form template.
4. Under *Parameter Settings*, enter the parameters for which you want this rule to apply.
The parameters available to you depend on the business document selected. These parameters determine when the form template selected in the previous step is used to output the document. Note that if you leave a parameter blank, this acts as a wildcard.
5. Save your changes.
Note that you may now have to adjust the sequence in which the form template rules are applied in order to ensure that the rule is applied by the system correctly. See *Change the Sequence of Form Template Rules* below.

Change the Sequence of Form Template Rules

1. In the *Form Template Selection* view, select the business document for which you want to change the sequence of form template rules from the *Show Rules For* drop-down list and click *Go*.
2. Click *Change Sequence*.
3. On the *Change Sequence* screen, use the *Move Up* and *Move Down* buttons to change the order of the rules.
The system processes the rules in order of their appearance in the list starting at the top. The more specific the rule, the higher it should be placed in the list.
4. Save your changes.

21.3 Form Templates

Use form templates to define the content and layout of documents that can be output from the system.

Form templates can be one of the following:

- **Print forms** are read-only portable document format (PDF) documents that are generated from data stored in the system. Print forms can be printed, sent as an e-mail attachment, or faxed to business partners.
- **Interactive forms** are interactive PDF files that can be generated from the system and sent as e-mail attachments to business partners. The business partners then enter data directly into the form and send it back. This data can then be uploaded into the system. Interactive forms are based on Interactive Forms by Adobe® (IFbA) technology.

Variants

Variants of a form template are copies of the content displayed in other languages, or with information specific to that country/region.

When a document is output from the system, the system automatically determines which language and country/region version to use. Most form templates in SAP Cloud for Customer are intended for internal review. Therefore the system uses the form template matching the language selected by the user on the log on screen. Certain objects (such as sales quotes) are intended for review by a business partner or customer, and the system selects a template based on the recipient language. Selection of country/region and language form template variant is determined based on the following rules:

- **Country variants** are determined based on the location of the sender's company. For example, if an employee in a German company creates a sales order, the system searches for a German country variant of the sales order form template and uses this to generate the document. If a variant specific to country/region is not available, the generic form template is used.
- **Language variants** are determined by the user log-on language, or in certain cases, by the preferred language of the receiving business partner. For example, if an employee in a German company sends a sales quote to a business partner in France, the system searches for a French language variant of the form template and uses this to generate the document. If a language variant is not available in the recipient's language, then the form template in the fallback language English is used.

Note

Customers and partners can use the SAP Cloud Application Studio development tool to implement custom logic for selecting a template variant.

You can use the appropriate buttons to delete form templates, variants, or e-mail templates.

Restriction

It is not possible to delete a form template that has already been used to output a document because that template is referenced in a document's output history.

Example

The form template variants specific to country/region can be created if a country/region has specific legal requirements relating to a document, or if a country/region requires a different layout or paper size. Language variants are used to provide translations of form templates into other languages.

Versions

Each time you make changes to a form template variant, you create a different version of the form template variant.

You can use the appropriate buttons to delete previous versions, or revert to a previous version.

Note

You can only revert to previous published versions of form templates. If you deleted an unpublished version, it cannot be reinstated.

Example

When you adapt a form template variant, a new version of the template is created with the status *Not Published*. This status means that you can adapt the template without it being available for use by other users. Once you have finished adapting the template, you can publish the template, making it available to end users. At the same time, the system sets the status of the previous version to *Archived* and it can no longer be used to output new documents.

21.3.1 Edit a Form Template

Administrators can use the integrated Adobe® LiveCycle® Designer to make advanced changes to form templates.

Prerequisites




Under *Downloads*, you have installed *Adobe LiveCycle Designer* on your computer.

Context

→ Recommendation

We recommend that you edit form templates provided by SAP or partners instead of creating new form templates. Editing provided templates means that you do not have to adapt any output settings and you can also manage all versions of the template. Form template versions that you customize are not overwritten by SAP or partner upgrades.

Procedure

1. Go to  *Administrator*  *Form Template Maintenance* .
2. Decide whether you want to use a form master template.

- If you use a company-specific form master template, the header, footer, and sender address used in the form are defined and consistent. If you use a form master template, but the system cannot find a company-specific one, it uses the default one. To use a form master template, choose **► Actions ► Change Master Template Usage ►** and select *Use Form Master Template*.
 - If you do not use a form master template, you can edit the header, footers, and logo for this form template using *Adobe LiveCycle Designer*.
3. Select the form template variant you want to edit and choose **► Open ► Adobe LiveCycle Designer ►**.
 4. Make your changes.

In the Adobe LiveCycle Designer, you can make changes such as the following:

- Change position of title, logo, and fields
- Change alignment of title and logo (unless you define these with master templates)
- Change title and template texts
- Change sender address, number, and content of footers (unless you define these with master templates)
- Change style and size of font
- Change line style and add borders
- Adjust visibility of fields, change field labels, and the sequence of fields
- Adjust visibility of columns, change column order, and column headers
- Add standard fields available in the form data structure
If you want to add new fields that are not available in the form data structure, you can add extension fields. Other fields require support from the SAP Cloud Service Center.
- Add placeholders to free text blocks
- Add new texts or captions
- Show and hide page numbers or folder marks

Note

If you require complex changes to a print form, you can also contact the SAP Cloud Service Center. They can assist you with complex scripting such as dynamically displaying or hiding fields, sorting table rows, adding new or extension fields to a form, or creating a completely new form. For more information, see the [Business Center for Cloud Solutions from SAP](#).

For more information about using Adobe LiveCycle Designer, see the Adobe product documentation.

5. To preview your changes, do one of the following:
 - Use your own historical data
You can use your own sample data by navigating to the output history of a document that has already been output.
 1. On the *Output History* screen, select a document and click *View XML Data*.
 2. In Adobe LiveCycle Designer, assign the XML sample data file to the template you are editing.
 - Use sample data
 1. Select the form template variant that you are editing and click *Download*.
 2. Save the archive file on your local computer with the file extension **.zip**.
This archive file contains an XDP file, an XSD schema file, and XML sample data files, if available. Sample data is usually provided in three different sizes for previewing the form template.

3. Extract the XML sample data file that you want to use to preview your changes from the archive file.
4. In Adobe LiveCycle Designer, assign the XML sample data file to the template you are editing.
6. Save your changes.
7. Click *Publish*.

This version of the template is made available for use by all users.

21.3.2 Create a Form Template

You can create custom form templates, but we recommend editing templates provided by SAP, which saves you setup time and provides version management.

Context

→ Recommendation

While it is possible to create new form templates using this procedure, we recommend that you edit form templates provided by SAP or partners instead. Editing provided templates means that you do not have to adapt any output settings and you can also manage all versions of the template. Form template versions that you customize are not overwritten by SAP or partner upgrades. It is also not possible to copy or edit print forms that contain legally-sensitive content.

Procedure

1. Go to ► *Administrator* ► *Form Template Maintenance* ►.
2. Choose ► *Copy* ► *As New Template* ►.
3. Enter a name and description, and select a language.
4. If you are creating a country-specific form template, select the country. If the template is not country-specific, leave this field blank.
5. If you want to use master templates to determine the layout of the template, select the *Form Master Template* checkbox.
6. Click *OK*.

Results

A new form template is created, which you can now open and edit.

21.3.3 Create a Translation or Variant Specific to Country/Region

Variants are copies of an existing form template that are defined in other languages or for other countries/regions. You can use variants to create translations of forms in other languages or versions with elements specific to other countries/regions, such as paper size or legal requirements.

Context

To create a new language or country/region variant of an existing form template:

Procedure

1. Go to ► [Administrator](#) ► [Form Template Maintenance](#) ►.
2. Choose ► [Copy](#) ► [As New Variant](#) ►.
3. In the dialog box that appears, select a language and country/region (if applicable).
4. By default, the [Form Master Template](#) checkbox is selected. If you do not want to use company-specific master templates, deselect the checkbox.
 - If you use a master template, some of the elements are predefined by the master template, which creates consistency among documents.
 - If you do not use a master template, then you can define the template's header, footers, logo, and sender address individually for this template.
5. Click [OK](#).

Results

A new variant of the selected form template is created. You can now edit the variant, if necessary.

21.3.4 Edit the Name or Description of a Form Template

Use the [Actions](#) menu to update the name or description of a form template.

Context

Procedure

1. Go to ► [Administrator](#) ► [Form Template Maintenance](#) ▾.
2. Select any form template variant belonging to the form template for which you want to change the name or description.
3. Choose ► [Actions](#) ► [Maintain General Information](#) ▾.
4. Edit the name and description.

Any changes you make here are applied to the form template and all its variants.

21.3.5 Download a Template Variant

Download a template variant either to edit it offline or to use it as sample data to preview a form template.

Context

Procedure

1. Go to ► [Administrator](#) ► [Business Flexibility](#) ▾ and choose [Form Template Maintenance](#).
2. Select the template you want and choose [Download](#).
3. Save the archive file using `.zip` as the file extension.

The ZIP file contains the following files:

- An XML data package (XDP) file containing the selected form template variant.
- An XML schema definition (XSD) file that defines the structure of the XML document. This is required for offline editing.
- If available, XML files containing sample data for previewing your changes.

Note

If no sample data files are available, you can also create your own sample data files using the [View XML Data](#) button on a document's output history.

21.3.6 Upload a Form Template Variant

After creating or editing a template variant offline, you can upload it either as a new variant or as an updated version of an existing variant.

Context

Procedure

1. Go to ► [Administrator](#) ► [Form Template Maintenance](#) ►.
2. Select any form template variant belonging to the form template that you want to change. You can either upload a new variant or replace a variant.
3. Depending on your goal for the upload, do one of the following:

To perform this action	Click
Create a new variant	► Upload ► As New Variant ► ►
Change an existing variant	► Upload ► To Replace Existing Variant ► ►

4. Browse and select the XDP file and click [OK](#).

21.3.7 Create an E-Mail Template

You can use e-mail templates in HTM or HTML formats to create a consistent look for your company's e-mail correspondence.

Prerequisites

You have created the e-mail templates you need in HTM or HTML format offline, and they are available for upload.

Context

You can create e-mail templates only for certain form template groups and for form templates that have been published. When you upload an e-mail template, you can search for specific form templates in the advanced search and select a form template group from the [Template Groups](#) field.

Procedure

1. Go to ► [Administrator](#) ► [Form Template Maintenance](#) ►.
2. Select the form template for which you want to create an e-mail template and choose ► [Actions](#) ► [Create E-Mail Template](#) ►.
3. In the [Create E-Mail Template](#) dialog box that appears, upload the required e-mail template file.

The system only supports HTM/HTML file format uploads.

In the [E-mail Template](#) column of the selected form template, the word [Yes](#) appears as a hyperlink.

4. You can preview the e-mail template by clicking the [Yes](#) link in the [E-Mail Template](#) column.

For the system to pull up appropriate data in your e-mail template, you must enter the correct placeholder paths, which you can get from the form message type attributes.

If you want the system to pull up the total invoice amount, then the placeholder must be included as follows: "The total invoice amount is [CustomerInvoice-PriceAndTax-GrossAmount] [CustomerInvoice-PricingTerms-CurrencyCode]." You can view the correct placeholder by selecting the required form template, and clicking ► [Open](#) ► [Easy Form Editor](#) ►.

21.3.8 Use a Form Template as an E-Mail Attachment

If you usually e-mail your documents to your business partners, you can adapt a form template and use it as an e-mail attachment.

Context

Form master templates are used to define the logo, header, footers, and sender address to be used in the documents. You can also create an e-mail disclaimer. Typically, one form master template is created for each company in your organization.

Procedure

1. Go to ► [Administrator](#) ► [Master Template Maintenance](#) ►.
2. Show [Form Master Templates](#).
3. Edit the master template.
4. On the [Form Master Template](#) tab, add the logo, header, footers, and sender address that you want to be used for documents sent as an e-mail attachment.
5. On the [E-Mail Disclaimer](#) tab, add a legal disclaimer or any other text that you want to be appended to the end of the e-mails that are sent to your business partners.

6. Go to **Administrator** > **Form Template Maintenance**. Ensure that the use of form master templates is activated for the form template variant.

Results

When documents are output from the system using this form template, the layout as defined in the master template is used to generate a PDF file, which is then e-mailed as an attachment to your business partners. If you defined an e-mail disclaimer, it is appended to the end of the e-mail body.

21.4 Master Template Maintenance

In the Master Template Maintenance view, you can create company-specific master templates for use in form templates. You can also edit Microsoft Office® master templates for Microsoft Excel® and Microsoft Word®.

Form Master Templates

Form master templates are used to define the logo, header, sender address, and language-dependent footer that are used in form-based business documents. Form master templates also contain an e-mail disclaimer, which is added to e-mails when a document is sent as process-integrated output to a business partner.

SAP provides one default form master template for your solution. If you require a different logo or sender address for different companies or org units in your organization, you can create additional form master templates. These can then be assigned to the relevant company/org unit. You can also use form master templates to create a different logo, header, sender address, and footer for different output channels.

If you do not want to use any form master template for a business document, you can deactivate the use of master templates in the form template. If you specify that a master template should not be used for a form template, then you can alternatively create a unique header, logo, and footer for the form template using Adobe® LiveCycle® Designer.

Office Master Templates

Microsoft Office® master templates allow you to insert or delete logos and edit the styles of a cell in Microsoft Excel® or Microsoft Word®, such as the font or date format.

Example: Which Master Template Does the System Use?

When a business document is output, the system uses the following logic to determine which form master template to use:

1. The system searches for a form master template assigned to the company/org unit in which the business document was created and to the relevant output channel. For example, if an invoice is created in the invoicing unit *Sales US West Coast* and is to be sent by e-mail, the system will try to find a master template assigned to the org unit *Sales US West Coast* and output channel *E-Mail*.
2. If no match is found, the system searches for the org unit *Sales US West Coast* and the output channel *All*.
3. If no match is found, the system searches upwards in the organizational structure for a master template assigned to a higher-level org unit and output channel *E-Mail*.
4. If no match is found, the system searches upwards in the organizational structure for a master template assigned to a higher-level org unit and the output channel *All*.
5. If no match is found, the system uses the default master template.

21.4.1 Create a New Form Master Template

If you use templates, creating company-specific master templates gives you a consistent basis for all templates to start from, which saves you time.

Context

You can define company-specific master templates to use as a basis for other forms.

Procedure

1. Go to ► *Administrator* ► *Master Template Maintenance* ►.
2. Show *Form Master Templates*.
3. Click *New*.
4. Enter a name for your new master template.

You can also provide a translation of the master template name for other logon languages that are used in your system as follows:

- a. Click *Add*.
 - b. Select a language and enter the translation in the *Name* column.
5. Choose *Save and Close*, select your new template and choose *Edit*.
 6. On the *Form Master Template* tab, do the following:
 - a. Under *Header*, click *Upload* and browse to find the file you want as logo.

Adjust the size and alignment of the logo, as required. The file formats .gif, .bmp, .jpg, .png, and .tif are supported. The logo should not be larger than 40 mm width x 20 mm height. If you upload a graphic that is larger than 40 mm x 20 mm, it is resized automatically.

- b. If you want a graphical divider to appear on your form, select the *Header Divider* checkbox.
- c. Enter your company's address as the sender address. The sender address is shown above the recipient's address in a letter.
- d. Under *Footer*, choose the number of footer columns you want to display.

Enter the footer text exactly as you would like it to appear on the form. You can maintain up to 4 footer blocks with a maximum of 10 lines per footer.

Note that the width of each footer block is equally divided over the available space. If a line of text in the footer is too long for the current font size, the system will automatically enter a line break. If this automatic line break does not meet your needs, you may need to enter the text after the line break as a separate line.

To maintain multiple languages, you must first add the language from the Add menu and then maintain the texts in that language by selecting the language from the dropdown list.

7. Preview your changes by refreshing the screen.

From the dropdown list under *Preview*, you can select a country/region. The preview is then displayed using template specific to country/region. For example, some countries/regions do not use sender addresses or have different paper sizes.

8. On the *E-Mail Disclaimer* tab, you can enter a disclaimer or other company-specific legal information.

This text is appended to the main text body of e-mails that are created when a document is output by the system. It is not possible to create separate language versions of this text; therefore if your company uses multiple communication languages, you should enter all language versions of the disclaimer here.

9. Save your changes.

You can now assign the master template to one or more companies, org units, or output channels.

21.4.2 Assign Companies, Org Units, and Output Channels to a Form Master Template

If you want form master templates to be applied automatically, you can assign companies, organizational units, and output channels to specific form master templates.

Procedure

1. Go to ► *Administrator* ► *Master Template Maintenance* ►
2. Show *Form Master Templates*.
3. Select a form master template and click *Assign*.
4. Click *Add Row* and enter a rule for when the template should be used.

A company or org unit can only be assigned to one form master template at a time.

Note

When you set a master template as the default, any existing company, org unit or output channel assignments are ignored. Note that these assignments are not deleted. If you set a different template as the default, the existing assignments are reactivated.

5. Save your changes.
6. If you are using multiple form master templates, you can use the [Check Assignment](#) button to check which form master template will be used by the system for a given combination of company/org unit and/or output channel.

21.4.3 Edit Microsoft Office® Master Templates

You can tailor the default Microsoft Office® templates provided in the solution to reflect your business needs.

Procedure

1. Go to ► [Administrator](#) ► [Master Template Maintenance](#) ►
2. Show [Office Master Templates](#).
3. Select the master template that you want to edit.
4. Download the template to your local machine.
 - Microsoft Excel®
Open the template that you saved and in the toolbar, select [Master Template Configuration](#). In the [Master Template Editor](#), you can do the following:
 - In the [Logo Editor](#), you can insert or delete the logo of your company.
 - In the [Style Editor](#), you can edit the formatting for the different cell styles.
 1. To change the style of a cell, select the cell that you want to edit and click [Edit Style](#) in the line that is highlighted.
 - Click [Format](#) and use the Microsoft Excel functions to adapt the formatting according to your needs.
 - Microsoft Word®
Open the template that you saved and make the changes you require.
5. Upload the adapted template from your local machine to the system by clicking [Upload to Replace](#).
6. Select the file from your local machine.
7. If you want to make the master template that you edited available for all users, publish it.

Note

After you have published a template, you can revert it to an older version by selecting the version that you want to use and clicking ► [Versions](#) ► [Revert](#) ►. Make sure to publish the valid version to make it available for use.

21.5 Local Form Template Maintenance

In Local Form Template Maintenance view, you define the content and layout of documents that can be output from the system.

Local Form templates can be printed as read-only portable document format (PDF) documents generated from data stored in the system. A template is created by copying an existing template in the system. Template can be copied as-

- A new template with new name, description, and country/region.
- A variant of an existing template with variation of country/region.

Create a Local Form Template

You can create new local form templates and template variants using the copy function.

Follow the steps below to create a new local form template using *Copy as New Template*:

1. Go to ► [Administrator](#) ► [Local Form Template Maintenance](#) ►.
2. Select a template and choose ► [Copy](#) ► [As New Template](#) ►.
3. Enter a new template name and description, and select the country/region.
4. Click *OK*. A new form template with status *Draft* is created, that can be edited and previewed.

Follow the steps below to create a country/region-specific variant:

1. Go to ► [Administrator](#) ► [Local Form Template Maintenance](#) ►.
2. Choose ► [Copy](#) ► [As New Variant](#) ►.
3. Select a country/region (if applicable).
4. Click *OK*. A new form template with status *Draft* is created, that can be edited and previewed.

Edit a Local Form Template

You can make changes to local form templates in the draft status. You can include or exclude the fields or sections in the template. You can also edit the layout of the country/region-specific form templates.

To edit a template with the published status, follow these rules:

- If the draft of the template exists, search for it and edit the draft template.
- If the template doesn't have a draft, select the template and click *Edit* to create a draft template. Edit the newly created draft template.

Recommendation

Local Form template delivered by SAP is not editable. You can create your own local form templates by copying the standard template provided by SAP, as a new variant or as a new template.

The following features are editable:

- Choosing the text of the header title.
- Adding or removing the fields available in the template.
- Adding or removing sections available in the template.
- Adding or removing tables available in the template.
- Adding or removing columns available in the tables in the template.
- Adding or removing signatures available in the template.
- Choosing the text for the footer of the template.
- Rearranging the sections in the template.

Limitations

⚠ Restriction

This feature is available in English language only.

- Only first 9 columns can be printed in the tables.
- There is limitation for the file size for the header logo (50 KB)
- Only plain text for footer is available.
- Not all fields are available for language adaptation

Change Logo and Alignment

You can customize the logo and its alignment in a local form template.

Steps to customiz your logo settings:

1. Go to ► [Administrator](#) ► and choose [Local Form Template Maintenance](#).
2. Select the local form template you want to edit and click [Logo Settings](#). The system opens a new pop-up window.

📘 Note

If you cannot see the [Logo Settings](#) button due to the size of the screen, click

3. Click [Browse...](#) to select your logo.
The logo file must be in .png, .jpg or .jpeg format. The size of the image must not exceed 50KB
4. Select the [Align Left](#) or [Align Right](#) radio button to specify where the logo should appear on your template.
5. Click [Apply](#), to save the changes.

📘 Note

Refresh the screen for your changes to reflect.

Delete a Local Form Template

You can delete local form templates and template variants using the delete function. Do the following steps to delete a local form template:

1. Select the local form template you want to delete.
2. Choose *Delete*. The deleted template will show with an x sign on the template status under Deleted Forms and All Forms.

→ Remember

Published template having a draft template cannot be deleted. Administrators must first delete draft version and then delete the published template.

Publishing a Template or Template Variant

Administrator can decide when to publish a template. When a template or a template variant is created, it is in Draft status. Administrators can publish the form when it is ready. Only published templates are shown in the list of templates available.

Display Settings

You can maintain the following display settings for a template and apply to a selected template or all local templates:

- Font (includes type, size, and color)
- Group Border (includes section and table)

All the elements in the header, body and footer can be modified. Only when the settings are changed then it can be applied. You can either save the changes and apply it to all the templates or revert to the default settings. The display settings are reflected when you preview the pdf of the template. The name of an element in settings areas and preview are consistent. Display Settings maintained for a template can be copied to other templates.

ⓘ Note

- The names of elements in the Display Settings window are static and do not reflect actual names in the template.
- Display Settings are read-only for Published templates and editable for Draft templates.

Preview

You can select a published form template and preview it by selecting the *Preview* button. In the preview window, you can see the design of the local form template.

Unpublish

You can select a published form template and unpublish it by selecting the [Unpublish](#) button. Unpublishing the form template sets the status to draft and removes it from the published list.

Export and Import

You can export and import local form templates from the test to the production system. For the details on how to do it, please see [Transport Management](#).

→ Remember

- This feature is available in English language only.
- Currently all published templates (irrespective of the country/region) are listed in the list of available templates.
- For tickets, this feature is available both online and offline.
- When you switch back to online mode and do a sync, you can see the same summary under [Attachments](#).

22 System Usage & Monitoring

As an administrator, you'll need to know how to set up and configure your solution as well as perform some day-to-day operations.

22.1 Usage Statistics

Usage statistics provide application usage insights for the administrators that can be used to improve usability, performance, and management of the system. You can view these statistics under Administrator work center under ► [General Settings](#) ► [Usage and Response Time Statistics](#) ► [Usage Statistics](#) ► . ► The following key statistics are currently provided:

Key Performance Indicators (KPIs)

Key performance indicators include:

- The average number of users in a given time range
- The percentage of users logged in to the system in a given time range
- The number of active users i.e. the cumulative number of unique users in a given time range
- The number of inactive users in a given time range
- The highlights of system usage, such as any notable high or low user count or any notable increase or decrease in user count

Usage by Date

The [Usage by Date](#) line chart indicates the number users logged in to the system over a selected time range. The x-axis on the chart represents the dates selected, and the y-axis represents the number of active users.

Usage by Client / Device / Client and Device Types

The Usage by [Client](#) type / [Device](#) type stacked bar chart shows the number of logged-in activities by client or device type. For each client, the related device type is indicated. A heat map is presented for [Usage by Client and Device](#).

- Client Types include [SMARTPHONE](#), [CUSTOMEROD](#), and [C4COUTLOOK](#) (Access from the Outlook add-in for SAP Cloud for Customer)

- Device Types include **iPhone**, **iPad**, **Default** (Desktop or Laptop), **Windows Touch**

For a given set of usage counts $X = (x_1, x_2 \dots x_k)$, the outlier is calculated in terms of mean, variance and standard deviation. The calculations are:

Mean (μ)

$$\mu = \frac{\sum x}{n}$$

Variance

Assuming all outcomes x_i are equally likely (that is, $p_1 = p_2 = \dots = p_k$), variance is calculated as

follows $(X - \mu)^2$

Standard Deviation

Standard deviation is calculated as the square root of the average value of the variance

$$SD = \sqrt{\frac{\sum (X - \mu)^2}{n}}$$

Outlier

The outlier is calculated in terms of the standard deviation (SD), also known as the z-score.

$$Z_x = \frac{x - \mu}{SD}$$

Here, we use +2 and -2 as the upper and lower bounds for the outlier detection. In other words, if Zx is greater than 2, or if Zx is less than -2, the value x is considered an outlier.

22.2 Performance Reports: Usage and Response Times

This topic includes detailed information on the usage and response time reports for SAP Cloud for Customer. The following reports can be found in the Administrator work center under [General Settings](#) > [Usage and Response Time Statistics](#)

List of Reports Available

Reports Business Function	Name of Report
Performance	Response Time by Week – Percentile View Report
	Average. Response Time
	User Interactions by Day Report
	Average. Response Time
	User Interaction by Hour Report
	End to End Response Time Report
	User Logon Activity
	User Login by IP Address and Performance
	Usage Trend and Adoption
	Usage by Screen
	Screen Usage Trend
	Screen Adoption by User

Measurements Used in Reports

- **Server Time:** Duration for the server tenant to process a request from the client. This includes the time to parse the request, execute business logic and provide a response back.
- **Network Time:** Duration for a client's request to reach the server tenant and the subsequent reply back. Typically this includes SSL time, TCP Connect time, Latency etc.
- **End to End Response Time:** Duration from the user-initiated action to the time the page is finally rendered and is available to the end user again. This includes the Server time, Network time and the rendering time on the client browser.

- **Count:** The number of interactions in a given group or window. For example, the number of interactions in a 10 minute window.
- **User Interactions or Transactions:** User-initiated action on the browser to perform a task. During the interaction client logic may perform several server requests to render the desired/expected result.

Report Characteristics

Report Characteristics

Characteristic	Description
Date	Date when the user interaction was initiated from the client
Week	The calendar week number for the particular year. Example: Jan 5th 2016 falls in calendar week 2.
Work Center	Solution work center accessed by user
Unit Code	The units used to the measured interaction time
10 Min	The 10 minute window during which the interactions are recorded
Hour	The one hour window during which the interactions are recorded
Cold/Warm	Modern browsers cache or store static content like images, JavaScript files on the local disk on first page visit. On subsequent user interactions, the browser reads it from the disk rather than over the network increasing page rendering speed. When the cache is empty it is termed as a cold browser whereas in a warm browser, the static content is read from the cache.
User	The logged-on user initiating the action on the browser
Time	Time when the user initiates the interaction
Screen	The screen name within the work center

Response Time by Week – Percentile View

This report shows the response time for a transaction in terms of seconds. It shows the values below which all the transactions in a week complete for a particular percentile like 90%, 95% and 99%.

Running the Report

In the *Administrator* work center under *Usage and Response Time Statistics*, the report is available as *Response Time Statistics* – HTML client. You can run the report by navigating to the *Analysis* work center, *Reports* view. It is available with following name *Percentile Response Time by Week*.

Response Time by Week – Percentile View

This report shows the response time for a transaction in terms of seconds. It shows the values below which all the transactions in a week complete for a particular percentile like 90%, 95% and 99%.

Running the Report

In the *Administrator* work center under *Usage and Response Time Statistics*, the report is available as *Response Time Statistics* – HTML client. You can run the report by navigating to the *Analysis* work center, *Reports* view. It is available with following name *Percentile Response Time by Week*.

Average Response Time by Day

This report shows the average response time of the network and server in terms of days. It shows data of the last 14 days.

Running the Report

In the *Administrator* work center under *Usage and Response Time Statistics*, the report is available as *Response Time Statistics* – HTML client. You can run the report by navigating to the *Analysis* work center, *Reports* view. It is available with following name *Avg. Response Time by Day*.

User Interactions by Day

This report shows the count, which is the number of transactions by day and is represented in a bar graph. It shows data of the last 14 days.

Running the Report

In the *Administrator* work center under *Usage and Response Time Statistics*, the report is available as *Response Time Statistics* – HTML client. You can run the report by navigating to the *Analysis* work center, *Reports* view. It is available with following name *User Interactions by Day*.

Average Response Time by Hour

This report shows the average response time of the network and server in terms of hours and is represented in a bar graph. It shows data of last 24 hours.

Running the Report

In the *Administrator* work center under *Usage and Response Time Statistics*, the report is available as *Response Time Statistics* – HTML client. You can run the report by navigating to the *Analysis* work center, *Reports* view. It is available with following name *Avg. Response Time by Hour*.

User Interaction by Hour

This report shows the count, which is the number of transactions in terms of hours and is represented in a bar graph. It shows the data of last day 24 hours.

Running the Report

In the *Administrator* work center under *Usage and Response Time Statistics*, the report is available as *Response Time Statistics*. You can run the report by navigating to the *Analysis* work center, *Reports* view. It is available with following name *User Interaction by Hour*.

End to End Response Time

This report shows the individual interaction in real time. It shows the data of the last 30 days.

Running the Report

You can run the report by navigating to the *Analysis* work center, *Reports* view. It is available with following name *End to End Response Time*.

User Logon Activity

This report shows the login time of the user, captured in real time. It also includes the mobile app version information. With the app version information, the administrator can inform the users still using the old mobile app version, to upgrade to the latest app version.

User Login by IP Address and Performance

This report shows the performance of the system in terms of time taken by a user for each activity in a particular screen or interface. Additionally the report also shows data like, user name and the IP used to login to the system.

Note

The IP address and user information will only be displayed if the option is scoped in business configuration.

Usage by Screen

This report shows the user interface that is used the most number of times by all users. This is depicted in a graphical representation and shows the top ten screens.

Screen Usage Trend

This report shows the number of times each screen is used or accessed by end users over a period of two weeks. This is depicted in a graphical representation and shows the top ten screens.

Screen Adoption by User

This report shows the pattern on how end users, use the various interfaces. This is depicted in a graphical representation.

22.3 How to Run Background Jobs

Jobs are an important part of how the application operates. A job is a scheduled instance of a mass data run. Users create mass data runs in the solution and then schedule them to run immediately, or regularly at a set time, or after another specified job. When the user schedules the run, the solution represents it as a job. There may be multiple jobs scheduled for one mass data run.

The *Background Jobs* view in the *Administrator* and *Application and User Management* work centers allows you to view the jobs in the solution. You can adjust the list to display all scheduled jobs, all failed jobs, all jobs that are currently running, and all jobs that ran the week before. The status of each job is displayed in the *Status* column. There you can see if a job failed or finished, or if its release was cancelled.

Mass Data Runs

A Mass Data Run (MDR) is the automatic mass processing of a task or a business transaction. MDRs enable mass processing of business data and are used in business processes, for example, invoice runs, payment authorization runs, or balance confirmation runs. When a user schedules an MDR the system represents it as a background job. During scoping, it is possible to provide default variants of the MDRs.

MDRs are created and maintained in the work centers. Using the *Job Scheduler*, users schedule the run to execute once or regularly at specified times.

In the *Background Jobs* view, you can monitor and reschedule MDR jobs that are created by users in other work centers.

For more information, see the documentation about mass data runs.

Application Log

Application logs are created as a result of business processes that require logging of business steps, for example, the execution of mass data runs. The application log displays detailed information about business process steps and their results allowing you to review these at a later point in time.

For more information, see: *Application Log*.

View the Job Log

You can view the job log for any job that was scheduled and was run in the solution. In the job log you can see, for example, the reasons why a job failed and what must be corrected before a job is rescheduled.

1. Select the *Background Jobs* view.
2. In the *Show* field, select *All failed Jobs* or *Jobs run in last week* to see the runs for which you can view the job log.
3. Select the job for which you want to see the job log and choose *View Job Log* to open the *Job Log* screen.
4. Check the job log.
5. Choose *Close* to close the job log and return to the background job overview

View the Application Log

You can view the application log for any job that was scheduled and was run in the solution. In the application log you can see, for example, the summary and the administrative data.

1. Select the *Background Jobs* view.
2. In the *Show* field, select *All failed Jobs* or *Jobs run in last week* to see the runs for which you can view the application log.
3. Select the job for which you want to see the application log and choose *View Application Log* to open the *Application Log* screen.
4. Check the application log.
5. Choose *Close* to close the application log and return to the background job overview

Reschedule a Job

You can reschedule a job that has been created and scheduled by another user.

1. Select the *Background Jobs* view.
2. In the *Show* field select *All Scheduled Jobs* and click *Go*.

3. To reschedule a job, select the job you want to reschedule, and click [Reschedule](#). The [Reschedule Job](#) screen opens.
4. Under [Schedule](#), choose one of the following options for the job run time:
 - Click [Run Immediately](#).
 - Enter the date and time for the job to run.
In the [Recurrence](#) list, choose how often this job occurs.
 - Select the job it should run after.
5. Click [Save and Close](#) to save the new job schedule, and return to the [Background Jobs](#) overview.
The rescheduled job is saved to the solution. The job runs when scheduled.

Cancel a Job

You can cancel any scheduled job or any job that is currently running.

1. Select the [Background Jobs](#) view.
2. In the [Show](#) field select [All Running Jobs](#) or [All Scheduled Jobs](#) and click [Go](#).
3. To cancel a job, select the job that you want to cancel and choose [Cancel Job](#).
The job is now cancelled and the status of the job is set to [Obsolete](#) in the [Background Jobs](#) list.

22.4 Monitor Background Jobs

Jobs are an important part of how the application operates. A job is a scheduled instance of a mass data run. Users create mass data runs in the solution and then schedule them to run immediately, or regularly at a set time, or after another specified job. When the user schedules the run, the solution represents it as a job. There may be multiple jobs scheduled for one mass data run.

The [Background Jobs](#) view in the [Administrator](#) work center allows you to view the jobs in the solution. You can adjust the list to display all scheduled jobs, all failed jobs, all jobs that are currently running, and all jobs that ran the week before. The status of each job is displayed in the [Status](#) column. There you can see if a job failed or finished, or if its release was cancelled.

Mass Data Runs

A Mass Data Run (MDR) is the automatic mass processing of a task or a business transaction. MDRs enable mass processing of business data and are used in business processes, for example, invoice runs, payment authorization runs, or balance confirmation runs. When a user schedules an MDR the system represents it as a background job. During scoping, it is possible to provide default variants of the MDRs.

MDRs are created and maintained in the work centers. Using the [Job Scheduler](#), users schedule the run to execute once or regularly at specified times.

In the [Background Jobs](#) view, you can monitor and reschedule MDR jobs that are created by users in other work centers.

For more information, see the documentation about mass data runs.

Application Logs

Application logs are created as a result of business processes that require logging of business steps, for example, the execution of mass data runs. The application log displays detailed information about business process steps and their results allowing you to review these at a later point in time.

For more information, see the documentation about the application log.

View the Job Log

You can view the job log for any job that was scheduled and ran in the solution. In the job log you can see, for example, the reasons why a job failed and what must be corrected before a job is rescheduled.

1. Select the [Background Jobs](#) view.
2. In the [Show](#) field, select [All failed Jobs](#) or [Jobs run in last week](#) to see the runs for which you can view the job log.
3. Select the job for which you want to see the job log and choose [View Job Log](#) to open the [Job Log](#) screen.
4. Check the job log.
5. Choose [Close](#) to close the job log and return to the background job overview

Reschedule a Job

You can reschedule a job that has been created and scheduled by another user.

1. Select the [Background Jobs](#) view.
2. In the [Show](#) field select [All Scheduled Jobs](#) and click [Go](#).
3. To reschedule a job, select the job you want to reschedule, and click [Reschedule](#). The [Reschedule Job](#) screen opens.
4. Under [Schedule](#), choose one of the following options for the job run time:
 - Click [Run Immediately](#).
 - Enter the date and time for the job to run.
In the [Recurrence](#) list, choose how often this job occurs.
 - Select the job it should run after.
5. Click [Save and Close](#) to save the new job schedule, and return to the [Background Jobs](#) overview.
The rescheduled job is saved to the solution. The job runs when scheduled.

Cancel a Job

You can cancel any scheduled job or any job that is currently running.

1. Select the *Background Jobs* view.
2. In the *Show* field select *All Running Jobs* or *All Scheduled Jobs* and click *Go*.
3. To cancel a job, select the job that you want to cancel and choose *Cancel Job*.
The job is now cancelled and the status of the job is set to *Obsolete* in the *Background Jobs* list.

23 Personal Data Protection and Privacy

Use the [Data Protection and Privacy](#) Work Center to manage personal and sensitive personal data of employees, individual customers, and contacts. As an employee responsible for data protection and privacy regulation compliance in an organization, you can use the Work Center to disclose as well as remove data on request.

Data processing systems store master data or transactional data used to perform business processes and to document them. In many cases, it involves the personal data of employees, individual customers, and contacts. In many countries/regions, the storage, disclosure, and removal of such personal data from data storage systems must be in accordance with statutory data protection laws. One requirement in many countries/regions is that the personal data can only be stored if a clear business reason for this data retention exists. Most data protection legislation orders fixed retention periods, defining how long data can be stored in data systems, after which it must be deleted. In addition, legislation in many countries/regions stipulates that the data protection officer must disclose the personal data of individuals, when they expressly request it.

The [Data Protection and Privacy](#) Work Center allows those responsible for data protection functions in an organization to respond to requests to fulfill the following requirements:

- Disclose personal data of all employees, individual customers, and contacts.
- Remove personal data once the retention period for all relevant data is expired.
- Monitor and manage background data removal processes using an application log.
- Display log data detailing each access made to the [Personal Data Disclosure](#) and [Personal Data Removal](#) overview screens containing personal data.

Note

In this document, employees, individual customers, and contacts are collectively referred to as business partners.

Features

There are a number of key features of Data Protection and Privacy in SAP Cloud for Customer. These are outlined as follows:

Data Disclosure — Obligation to Disclose

A key principle in data protection and privacy is the Obligation to Disclose. This is an obligation set in legislation in many countries/regions where data protection regulation has been adopted. As an administrator responsible for data protection regulation compliance, you can disclose personal data of employees, individual customers, and contacts. You can display a summary of all data associated with these business partners stored in the SAP Cloud for Customer system. You can also access the detailed records.

Data Removal — Deletion on Request

This second data protection and privacy principle refers to the requirement of organizations to delete personal data held on its business partners that is kept in an identifiable form, and retain this data for no longer than

necessary. Where specified, organizations must delete all such personal data after the relevant data retention period has elapsed.

Read Access Logging

Certain categories of personal data are considered sensitive due to their criticality and importance. You can activate tracking of read access to such personal data. You have to carefully review the groups of such personal data available and activate read access logging for those groups which are processed by your organization. In the SAP Cloud for Customer, you can also add custom fields and mark them for read access logging.

Change Log for Personal Data

A log is created whenever there is a change in personal data. You can view the change records for a specific business object in the respective [Changes](#) tab.

If you are an administrator, you can restrict access to the change logs by removing access to the [Changes](#) tab for regular users. You can then create a new layout that includes the [Changes](#) tab and assign this layout to authorized users.

The change logs are not available via regular APIs. You can build the retrieval using the SAP Cloud Applications Studio.

A change log is removed only when an object is completely depersonalized. This means that a log remains unchanged even if personal data is removed from an active object.

Data Protection Roles

In large organizations, employees with the designated role (Data Protection Officer, for example) are responsible for ensuring that data protection and privacy principles are followed, and that the organization complies with all data protection and privacy legislation in force within the country/region (or countries/regions) it operates. However, these tasks can be delegated to other authorized employees, for example, designated Human Resources administrators.

Authorization

The [Data Protection and Privacy](#) Work Center is only available to authorized employees or Data Privacy officers in your organization. It is therefore strongly recommended this Work Center assignment is only given to those employees directly responsible for data protection and privacy regulation compliance in your organization.

Usage Block

This is the point in time for a data set when the processing of personal data is no longer required for the primary business purpose. After the End of Purpose has been reached, the data is blocked and can only be accessed by users with special authorization, for example, tax auditors. In SAP Cloud for Customer, we have the following solution:

- You can set a business process to end-of-purpose via an API call, which helps support integration. It prevents the business process from displaying value helps, so you cannot use it to create new transactions. There is however no standard access restriction. Any user can still search for the business process and open it.
- You can delete or depersonalize data. If the data is still required for later audits, you can export it using the OData APIs.

Note

Employees, such as Data Protection officers with responsibility for data protection have full access rights for the [Data Protection and Privacy](#) Work Center. These access rights allow an authorized user to access

personal data for the selected business partner in all SAP Cloud for Customer Work Centers where such data exists. Because of the ability for an individual user to access large volumes of personal employee data across many Work Centers, the access log is provided to allow transparency and traceability of user access to personal data. The log does not contain detailed personal data, but rather a summary of the types of data accessed, when, and by whom it was accessed.

23.1 Disclose Personal Data

Disclose personal data of employees, individual customers, and contacts in the [Data Protection and Privacy](#) Work Center.

As an administrator responsible for data protection regulation compliance, you can disclose the personal data of employees, individual customers, and contacts. You can display a summary of all data associated with these business partners stored in the SAP Cloud for Customer system. You can also access the detailed records.

Note

In this document, employees, individual customers, and contacts are collectively referred to as business partners.

Procedure

1. In the [Data Protection and Privacy](#) Work Center, open the [Personal Data Disclosure](#) view.
2. To display the disclosure-relevant data for the business partners, select the relevant option from the dropdown. For example: If you want to disclose an employee's data, select [All Employees](#).
3. Select the desired business partner from the list and click [Disclose Data](#). A new overview screen opens that displays all the disclosed data for the selected business partner.

Note

Before the overview screen is loaded, a dialog box appears informing you that your access to this screen is logged. Confirm this message to proceed.

4. Click [Expand all](#) to view all individual records that are to be disclosed. Click the expand and collapse triangle icons to view individual data record summaries for the selected entity.
5. Click the links for the individual records, for example, [General Data](#) or transactional data, such as [Leads](#) or [Opportunities](#), to navigate to the actual data record held in the SAP Cloud for Customer system.

Note

The figure shown in the [Records](#) column represents the number of discreet data records (for example, Sales Orders) of the selected type assigned to the employee in the SAP Cloud for Customer system. A zero indicates that no records of this type exist for the selected employee.

6. Click [Close](#) to return to the [Personal Data Disclosure](#) view.

You have successfully extracted a summary of all personal data required for disclosure to an individual who requests it.

Note

In addition to the above, you can use the following methods for data disclosure:

- **Data workbench:** If you want to disclose more personal details, you can use the data workbench to export full datasets for employees and contacts of individual customers. The data workbench export functions allows you to specify one or more persons to be processed. It also allows you to select the fields you would like to export, for example, ignore technical IDs, don't export business addresses. For more information, see [Data Workbench](#)
- **OData APIs:** You can use APIs to build custom processes to export exactly what you need for your use cases, including all the personal data of the business partner, linked transactions, and other related data. The APIs can be called using custom logic, from excel spreadsheets, and so on. For more details, see [SAP Cloud for Customer OData API v2 Reference](#)

23.2 Remove Personal Data

Delete personal data of employees, individual customers, and contacts on their request in the [Data Protection and Privacy](#) Work Center.

Once the end of purpose has been reached for personal data (e.g. business partners, transactions), it has to be removed. SAP Cloud for Customer offers business partner driven removal (this will delete the person and all the related data/transactions), or transaction driven removal (this targets individual transactions that are no longer needed).

It is now possible for you, as an administrator responsible for data protection regulation compliance, to delete personal data of employees, individual customers, and contacts on their request, at a time in the [Personal Data Removal](#) view of the [Data Protection and Privacy](#) Work Center.

Note

In this document, employees, individual customers, and contacts are collectively referred to as business partners.

Prerequisite

You have defined the retention periods relevant for your country/region in your system configuration. Navigate to [Business Configuration](#) [Overview](#) and search for the following fine-tuning activities:

- [Data Retention Rule for Employees](#)
If you configure this activity, the system runs a query for the employee validity dates. It then checks these validity dates against the retention period configuration, which is similar to private accounts, sales orders and quotes that raise vetoes. It also checks if any sales order or sales quote exists against the retention period configuration, and then proceeds with the data removal process.

- [Data Retention Rule for Private Accounts](#)

If you configure this activity, the system checks if any sales order or sales quote exists against the retention period configuration. If yes, the system uses the validity period end date for sales quotes and the last change date for sales orders to check the data retention period.

Additionally, you can also delete private accounts if sales orders and sales quotes are depersonalized.

Note that even if there is no retention period setup for contacts, they can only be removed if linked sales quotes or sales orders are in status **Complete**.

Note

Users with authorization to access the [Data Protection and Privacy](#) Work Center can perform all data protection and privacy functions within this Work Center, including the disclosure and deletion of personal data. Access to this Work Center is granted in the [Administrator](#) Work Center. Ensure that only employees with authorization to disclose or delete personal data are granted access to the [Data Protection and Privacy](#) Work Center.

Procedure

1. In the [Data Protection and Privacy](#) Work Center, open the [Personal Data Removal](#) view.
2. To display data for removal of employees, individual customers, and contacts, select the relevant option from the drop-down. For example: If you want to remove an employee's data, select [All Employees](#). If you want to delete the data for multiple employees, click the **Show Advanced Filter** icon. In the [Employee ID](#) field, click the **More Options** icon. In the [Employee ID](#) dialog box that opens, enter the employee IDs or employee names in the [Value](#) field and click [Go](#).

Caution

If there is a legal requirement to keep a business partner information in the system, click [Block Removal](#) to block the entity from being depersonalized. Click [Unblock Removal](#) once the blocking need no longer exists.

When a business partner is blocked for removal, it is not possible to trigger a personal data removal run from the [Data Protection and Privacy](#) Work Center. During scoping, you can prevent the deletion of transactions that are assigned to a blocked business partner. To enable this option, navigate to

▮ [Business Configuration](#) > [Implementation Projects](#) ▮. Select your project and navigate to ▮ [Edit Project Scope](#) > [Questions](#) > [Built-in Services and Support](#) > [System Management](#) > [Security](#) > [Data Privacy](#) ▮ and select the related option.

In SAP Cloud for Customer, there shouldn't be any standard use cases which would require enhanced blocking support. Data will be deleted from SAP Cloud for Customer when requested by you. If the data is subject to legal and/or internal retention periods (e.g. for audit needs), the data must be stored in the leading systems that owns the transactions for the corresponding period and not in SAP Cloud for Customer. For example, sales quotes can be replicated to SAP S/4 to complete the business process – in this case, the audits have to happen in SAP S/4.

In cases where SAP Cloud for Customer data is not replicated to other systems/ data bases (e.g. SAP S/4) and would need to be kept past its initial purpose, the system offers an "export and delete" based approach. This means any data that should not be accessible in the system (blocked), but might still be needed for potential audits has to be exported and safely stored, before it is deleted in the system. To know more about how data can be exported, see the **Related Information** section.

3. Select the desired business partner from the list and click [Remove Data](#). A new overview screen opens that displays all the data that can be deleted.
4. To delete personal data of individual customers, and contacts, click [Delete](#).
To delete employee data, follow these steps:
 1. Select the [Marked for Deletion](#) checkbox for each work agreement (and associated documents) and availability calendars you wish to set for later removal from the system
 2. Click [Delete](#) to trigger the removal of all work agreements, availability calendars, and associated application data marked for deletion from your system.
 3. Confirm that you still wish to continue with this irreversible deletion of the selected records. If you are removing the last remaining work agreement held for an employee, the system warns you that continuing with this process removes the employee record from the SAP Cloud for Customer system.
 4. Confirm that you wish to continue with the removal or cancel it.
After clicking [Delete](#) for all records marked for deletion, the [Marked for Deletion](#) checkbox is disabled, while the remainder of the removal process is performed by the system in the background. After the deletion process is successfully completed, for the affected work agreements, the [Marked for Deletion](#) checkbox is disabled and [Retention Period Completion](#) status changes to [No](#) or [No available data](#). The start dates for these records also change .
5. Click [Close](#) to return to the [Personal Data Removal](#) screen.

Note

- The data removal process is local in Cloud for Customer and is not replicated to any external system such as SAP CRM, SAP S/4HANA, or SAP ERP. In an integrated landscape, we presume that the backend systems are the leading system, which governs the life cycle of the customer record because the back end solution ideally has financial documents such as invoices.
As an alternative you can mark the customer record as obsolete and let the automated removal run take care of triggering the removal. Once you mark the records as obsolete, the change is replicated to the connected systems where each of these systems handle the customer records locally.
- If an individual account is deleted, all appearances in any party role for this instance in transactional documents are depersonalized unless it is blocked for deletion.

Caution

Removal of employees and contact persons lead to different results for different transactions. For example, activities might be deleted completely, but other transactions have their descriptions removed or scrambled, or attachments deleted. During scoping, you can choose to retain the transactional data that are assigned to contacts and employees. To enable this option, navigate to [Business Configuration](#) [Implementation Projects](#) [Edit Project Scope](#) [Questions](#) [Built-in Services and Support](#) [System Management](#) [Security](#) [Data Privacy](#) and select the following question: [During personal data removal, do you want to retain the transactional data and remove only the personal data of contacts and employees?](#)

Result

You have successfully removed all work agreements (and associated application data) and availability calendars from the system for the selected unblocked entities. You can verify this removal by starting the [Administer Data Removal Runs](#) common task, and selecting [Successful Removal Runs](#) in the [Show](#) field.

Your access to the data removal overview has been logged.

📘 Note

In addition to the above, you can use the following methods for data removal:

- **Data workbench:** If you want to remove more personal details, you can use the data workbench to export employees and contacts of individual customers. The data workbench export feature allows you to filter one or more persons to be exported. Then using the update feature unwanted records can be deleted. For more information, see [Data Workbench](#)
- **OData APIs:** You can use OData APIs to build custom apps to remove desired personal data. The APIs can be called using custom logic, from excel spreadsheets, and so on. For more details, see [SAP Cloud for Customer OData API v2 Reference](#)

Related Information

[Data Retention \[page 330\]](#)

If the purpose for which you acquired data is not valid anymore, but you must retain it for audit purposes, you can export the data before deleting it from the system.

23.3 Depersonalize Transactional Data

Delete or depersonalize data from all transactional documents.

The processing of personal data is subject to applicable laws related to the deletion of this data when the specified, explicit, and legitimate purpose for processing this personal data has expired. If there's no longer a legitimate purpose that requires the use of personal data, it must be removed. When removing data in a data set, all referenced objects related to that data set must be removed as well.


As an administrator with responsibility for data protection functions, you've the ownership to decide when a document loses its business purpose. In the SAP Cloud for Customer system, you can delete or depersonalize a document based on the following conditions:

- **Delete:** Documents that don't provide any value after personal data is removed, are deleted. They're no longer available in the system.
- **Depersonalize:** Documents that have business value, even if no personal data is available, are depersonalized. The system removes all the personal data, but retains the business data. The documents are still in the system and an authorized person can access them. However, these documents can no longer be changed.

Since depersonalization removes all personal information, the processed objects are no longer available with the **My <business object>** filter. Some data in a depersonalized document is replaced by XXXX, and others, such as, attachments, are deleted. The transaction itself remains, but the personal data is either removed completely, or replaced with XXXX.

Transaction Removal

You can trigger the removal in the following ways:

- Manual Removal**
 To delete or depersonalize a document, navigate to any object worklist (For example: Appointment, lead, opportunity), select the object, and from the actions list , click *Delete*, or *Depersonalize*. If there are no blockers (either because an involved Business Partner being blocked for deletion, or because the object still being active), the selected objects are depersonalized.
 If you're required to keep data without purpose longer because conflicting laws or regulations, you must export it using archiving, data workbench, or the corresponding OData API before you delete or depersonalize it from the system. For more information, see the reference in the **Related Information** section at the end of this document.
- Automated Removal**
 Enable automated removal using the Archiving functionality. You can schedule to remove transactions based on different criteria. If the criteria are met and no vetoes are triggered, the archiving functionality removes the transaction from the system. For more information, see [Archiving](#).

Blocked for Deletion

In the *Data Protection and Privacy* Work Center, under *Personal Data Removal*, it's possible to block person-based business partners from being deleted.

During the depersonalization run, the system checks to ensure that none of the involved business partners have been blocked from deletion. It continues with the depersonalization of the business partners only if they're not blocked for deletion. The same settings also prevent the deletion of transactions that are linked to a business partner who has the deletion block set.

When you mark a document for deletion or depersonalization, the system ignores any defined retention periods since the customer is in full control over what should be deleted or exported.

Blocking access to personal data follows an export and delete approach. This means any data that shouldn't be accessible in the system (blocked), but might still be needed for potential audits has to be exported and safely stored, before it's deleted in the system. To know more about how data can be exported, see the **Related Information** section below.

The following table gives an overview of all the objects that can either be deleted or depersonalized.

Business Objects	Delete	Depersonalize	More Information
Activity Lists	Yes		
Appointments	Yes		
Phone Calls	Yes		Remove Personal Data in Communication Channels
Tasks	Yes		
Visits	Yes		
Chats	Yes		Remove Personal Data in Communication Channels
Routes	Yes		

Business Objects	Delete	Depersonalize	More Information
Plans	Yes		
Deal Registration		Yes	Configure Depersonalization in Deal Registration [page 221]
Sales Lead		Yes	
Leads		Yes	Configure Depersonalization in Leads
Opportunities		Yes	Configure Depersonalization in Opportunities
Sales Forecast	Yes		Configure Depersonalization in Forecasts
Sales Target Plan	Yes		
Sales Territories	Yes		
Promotions		Yes	
Invoice		Yes	
Payments		Yes	
Partner Application		Yes	
Contracts		Yes	Remove Personal Data in Contracts
Customer Orders		Yes	
Customer Quotes		Yes	
Sales POD	Yes		Depersonalization in Contract Account and Sales POD
Installation Point		Yes	Remove Personal Data in Installation Point
Installed Base		Yes	Remove Personal Data in Installed Base
Maintenance Plan		Yes	
Registered Product		Yes	Remove Personal Data in Registered Products

Business Objects	Delete	Depersonalize	More Information
Tickets		Yes	Remove Personal Data in Tickets
Time Entry		Yes	Remove Personal Data in Time Entry and Time Reports
Time Reports		Yes	Remove Personal Data in Time Entry and Time Reports

In addition to the objects in the table, there are some special objects that are handled differently:

- **Surveys:** Surveys aren't intended to collect personal data and are therefore not deleted during a depersonalization run.
- **Routing Rules, Tours, and Routes:** Routing rules, tours, and routes are configuration settings and aren't depersonalized. These objects are directly deleted if they're no longer needed.
- **Territory:** Territory isn't part of document driven deletion. If necessary, Business Partners can be removed from it.
- **Sales Target Plan and Sales Forecast:** Sales target plan and forecast doesn't have an OData based export. It's possible to export planning data as an excel in the OWL.
- **Sales Price Specifications:** Sales Price Specifications are replicated from ERP to Cloud for Customer. This data is read-only in SAP Cloud for Customer and can't be changed. If this information must be removed, it must be deleted in the system that owns those records and then replicated into Cloud for Customer.

Related Information

[Data Retention \[page 330\]](#)

If the purpose for which you acquired data is not valid anymore, but you must retain it for audit purposes, you can export the data before deleting it from the system.

[Archiving](#)

23.4 Data Retention

If the purpose for which you acquired data is not valid anymore, but you must retain it for audit purposes, you can export the data before deleting it from the system.

SAP Cloud for Customer supports this data retention requirement with the following options:

- **Archiving:** Data no longer needed can be removed from the SAP Cloud for Customer system and placed in an archive with limited access. This way, regular users can no longer access the data, but it would still be possible for auditors to review the data. For more information, see [Archiving](#)

Note

Archiving removes data solely based on the retention periods defined per object. If you need more detailed retention criteria, we recommend that you use OData APIs to remove your data.

- **Data workbench:** You can use the data workbench to export full datasets for employees and contacts of individual customers. The data workbench export functions allows you to specify one or more persons to be processed. It also allows you to select the fields you would like to export, for example, ignore technical IDs, don't export business addresses. For more information, see [Data Workbench](#)
- **OData APIs:** You can use APIs to build custom processes to export exactly what you need for your use cases, including all the personal data of the business partner, linked transactions, and other related data. The APIs can be called using custom logic, from excel spreadsheets, and so on. For more details, see [SAP Cloud for Customer OData API v2 Reference](#)

23.5 Administer Data Removal Runs

Check the status of all data removal runs performed in the background.

Removal of personal data in the [Data Protection and Privacy](#) work center is performed automatically in a separate background process. The [Administer Data Removal Runs](#) common task provides you with an overview of planned, current and completed data removal runs, the ability to reschedule failed runs, mark runs as obsolete, and delete runs.

Data removal runs are triggered by users in the [Personal Data Removal](#) view and executed by the system in the background. Within the [Personal Data Removal](#) screen from which the process is started, the user receives no direct feedback on the status of the removal run that has been triggered. You check the outcome of all data removal runs in the system using the [Administer Data Removal Runs](#) common task.

Features

The [Administer Data Removal Runs](#) common task provides you with an entry point to check the status of all background data removal runs performed by the system.

Three key features of this common task are summarized below:

Schedule Job

Select an existing removal run and click [Schedule](#) on the initial [Administer Data Removal Runs](#) screen. Allows you to reschedule runs that have previously failed.

Set Run To Obsolete

Select an existing removal run and click [Actions](#) > [Set to Obsolete](#) . This is useful in situations when, for example, technical issues mean there is no point in retrying the run in question at this point in time.

Delete Run

Select an existing failed removal run with the status [Obsolete](#) and click [Delete](#) . The removal run is deleted from the system. You can also delete successfully completed removal runs.

Note

Information about the removal run itself is stored by the system in the Removal Log if you are deleting a previously successful removal run. However, the deletion of failed removal runs is not logged.

You access this log in the *Common Tasks* section of the *Personal Data Removal* view.

You can also access the *Job Monitor* by selecting an existing removal run and clicking *View Jobs* on the initial *Administer Data Removal Runs* screen. The monitor displays the status for individual removal run jobs that have commenced in the system and can provide more information as to why a particular job has failed, the actual status of the job in the system (for example, Pending), or if there is an error in the job itself.

Application Log Detailed View

Accessed by clicking the *Application Log ID* for a given job in the *Details* section of the initial *Administer Data Removal Runs* screen. Each instance of the Application Log consists of three different tab sections that group the messages posted to the log itself:

- *Overview*
Displays an aggregation of the removal run data collected in *Results*.
- *Settings*
Contains information on the parameters and settings of the business objects in the system background: log parameters, selection criteria used to create the log data, and any relevant data derived from configuration settings.
- *Results*
Provides detailed information and status of the removal run, including any error messages generated during execution.

Example

As the Human Resources administrator, responsible for employee data protection and privacy in Akron Heating, Oliver Adams must remove personal data for an employee who has requested its removal. The statutory retention period for this data is completed, so Oliver can now remove this data from the system. Oliver triggers removal of the employee's data on the *Remove Employee* screen and receives a message that the data removal process for this employee has started in the background. Oliver now checks on the status of the removal run he has triggered as follows:

1. He opens the *Administer Data Removal Runs* common task and in the *Show* field, he selects *All Removal Runs*.
2. He sees from the *Removal Failed* column that the removal run he triggered was not successful.
3. He decides to reattempt this removal run, so clicks *Schedule* and opens the *Schedule Job* screen for his selected run and selects the *Start Immediately* radio button.
4. This removal run unfortunately fails for a second time. Oliver decides therefore to abandon this particular removal run and seek support from colleagues. He sets the run as obsolete and then clicks *Delete* to remove all data about this failed run from the system. As the run failed and no personal data was removed for the employee on this occasion, there is no entry made in the *Removal Log* by the system.

23.6 Automate Removal of Obsolete Business Partners

As a data protection officer, you can schedule automated deletion of obsolete business partners, such as, contacts, employees, and customer with different roles, such as, individual customers and prospects.

In the *Administer Obsolete Business Partner Removal Runs* view, you can create a batch job to schedule deletion runs. You can schedule the runs immediately, or set a recurrence to continuously purge obsolete business partners from the system. The system selects all the business partners that have been set as obsolete before a certain cut-off date. This is required to account for deletion vetoes if a business partner can't be deleted. Once the selection is done, the system creates one data removal run per business partner.

Prerequisite

The business partners are already marked as obsolete.

You can enable mass-setting of the obsolete status for Business Partners using one of the following:

- End-of-purpose APIs that have been provided for integration scenarios. For more information, see [Web Services for Business Partner End-of-Purpose \[page 334\]](#)
- Custom development using the SAP Cloud Applications Studio
- oData APIs or Data Workbench using the following steps:
 1. Export set of Business Partners based on selection criteria
 2. Run further checks if needed, and then update the status flag to **Obsolete**
 3. Import the Business Partners back into the system and update the records

Procedure

1. Navigate to ► *Data Protection and Privacy* ► *Common Tasks* ► and click *Administer Obsolete Business Partner Removal Runs*.
2. Click *New* to open the *Schedule Deletion Run* screen.
3. Enter a *Run ID* and description. The Run ID must be a unique ID with no spaces or special characters.
4. Enter the *Date Offset* period. For example, if you enter the date offset period as 30 days, one of the following things will happen:
 - Contacts and customers with different roles, such as, individual customers and prospects are removed from the system 30 days after they are set to obsolete.
 - Employees are removed from the system 30 days after they are terminated.that the
5. Choose a *Business Partner Type*.

To include business partners that are replicated from other systems to the SAP Cloud for Customer system, select the *Include Business Partners with ID Mapping* checkbox.
If you do not select the checkbox, the system excludes the business partners that are replicated from other external systems such as SAP S/4HANA, and ERP, and only triggers removal for business partners available locally in the SAP Cloud for Customer system.

To further filter, and include only business partners that are not blocked for removal, select the *Only Business Partners marked as End of Purpose* checkbox.

6. Select the run option to either start the run immediately or schedule a recurring run.
7. Click *Save and Close*.

In the *Deletion Runs* overview screen, select your run to see the details in the table below. Click the *Application Log ID* hyperlink to open the screen with details of your run. In the *Results* tab, the system displays the status of all the individual removal runs for each business partner, and the corresponding Run ID, if already scheduled.

Note

- The green icon indicates that the removal run has been already scheduled. This does not mean that the removal is successful. To check the status of the obsolete business partner removal runs performed in the background, navigate to the *Administer Data Removal Runs* view and search by the Run ID.
- The red icon indicates that the system failed to trigger a removal run.

Related Information

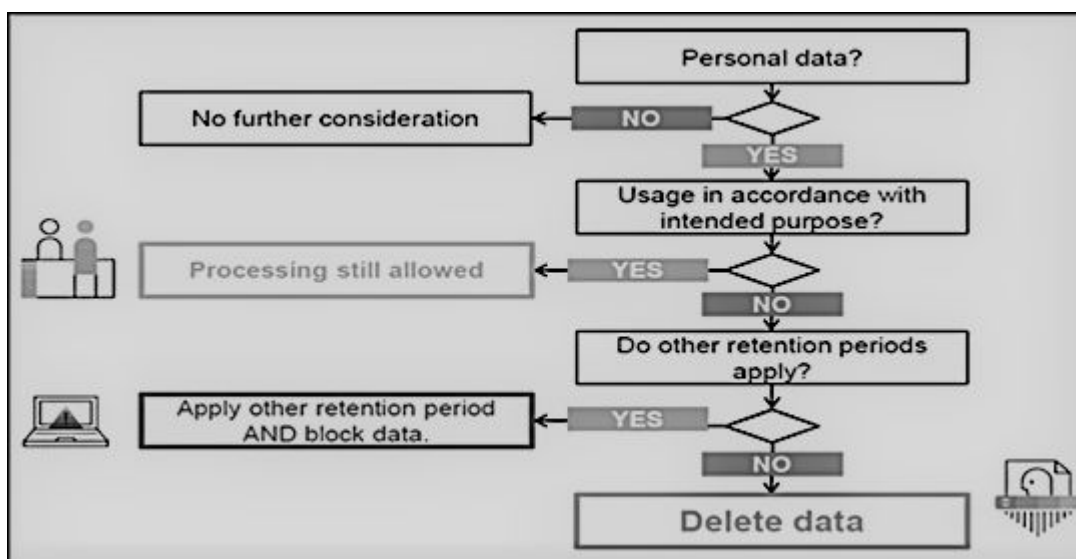
[Web Services for Business Partner End-of-Purpose \[page 334\]](#)

Determine if you need to retain business partner data in your system when that data has already been deleted from an integrated external system.

23.6.1 Web Services for Business Partner End-of-Purpose

Determine if you need to retain business partner data in your system when that data has already been deleted from an integrated external system.

The following graphic describes process flow to determine the End-of-Purpose for your business partner data. You can use web services or manually block such business partners in your system using blocking reasons.



Web service interfaces and enhanced interfaces are enabled to support blocking of business partners. Use these services in scenarios where integrated external systems block or delete business partner data in their system landscape. These interfaces allow the external systems to query and maintain the End-of-Purpose for business partners. Since the definition of what constitutes the end-of-purpose for a business partner is subjective to the external system, these interfaces are empty CHECK interfaces to allow you to create custom queries.

For business partners blocked using the below-mentioned interfaces, data cannot be retrieved in list views in Work Centers, value help in related fields, values selectors, analytics, duplicate checks and web service or oData queries in the application.

Web Services for Business Partner End-of-Purpose

Web Service	Description
II_BUPA_EOP_CHECK_IN	This interfaces uses enhancement spot ES_BUPA_EOP_CHECK to provide a business add-in hook in SAP Cloud Application Studio. Use this hook to create custom query for setting end-of-purpose information.
II_BUPA_EOP_MAINTAIN_IN	Use this interface to set the <i>End-of-Purpose</i> flag for business partners. If this flag is set, then the business partner data is hidden in corresponding Work Centers and value helps and is not visible to users. Note that the data can be viewed by administrators in the <i>Data Protection and Privacy</i> Work Center.
II_BUPA_ERP_EOP_CHECK_IN	This interface uses enhancement spot ES_BUPA_ERP_EOP_CHECK to provide a business add-in hook in SAP Cloud Application Studio. Use this hook to create custom query for setting end-of-purpose information.
II_BUPA_ERP_REPL_IN	New attribute has been added in element structure for the existing interface. Set the indicator for business completed / End-of-Purpose flag. If this flag is set, then the business partner data is hidden in corresponding Work Centers and value helps and is not visible to users. Note that the data can be viewed by administrators in the <i>Data Protection and Privacy</i> Work Center.

23.7 Automate End of Purpose for Business Partners

As a data protection officer, you can schedule end of purpose run for business partners, such as, contact persons, employees, and customers. When the run is over, the system automatically updates the status to *End of Purpose*.

Context

⚠ Caution

This action is irreversible, and the business partner can no longer be viewed.

In the *Administer Business Partner End of Purpose Runs* view, you can create a batch job to schedule end of purpose runs. You can schedule the runs immediately or set a recurrence to continuously set the status of the business partners to *End of Purpose*. The system selects all the business partners that have not been used in any transactions before a certain cut-off date. Once the selection is done and the status is set, the system removes the data during the *Automated Business Partner Removal Run*.

ℹ Note

During the run, only local business partners are considered. If triggered by SAP S/4HANA, business partners that are present via integration from an S/4HANA system will be considered too.

Procedure

1. Navigate to ► *Data Protection and Privacy* ► *Common Tasks* ► and click *Administer Business Partner End of Purpose Runs*.
2. Click *New* to open the *Schedule Business Partner End of Purpose Run* screen.
3. Enter a *Run ID* and *Run Description*.
4. Enter the *Date Offset* period.

In the case of contact persons and customers, if you choose the offset date to *1 Month(s)*, it means the business partner must not have been changed within the last month. Here, the system checks against the last changed date which is called *Changed On* within the contact.

In the case of employees, when it is set to *1 Month(s)*, it means the employee must have been terminated one month ago. Here, the system checks against the termination date which is *validTo* in the employee UI.

⚠ Caution

Ensure you don't create recurrent schedules with high frequency.

5. Choose a *Business Partner Type*.
6. Optional: If you want the run to only consider business partners assigned to a particular country, select a *Country/Region*.

- Optional: Toggle On the *Simulation Mode* switch, if needed. It is advised to execute a simulation run before a real-time end of purpose run.

By using the simulation mode, you can verify the number of business partners for which the status is going to be changed, prevent the status of the business partners from changing, and see any errors that can occur during the run.

- Select the run option to either start the run immediately or schedule a recurring run.
- Click *Save and Close*.

In the *End of Purpose Runs* overview screen, select your run to see the details in the table below. Click the *Application Log ID* hyperlink to open the screen with the details of your run. In the *Results* tab, the system displays the number of business partners for which the status has been changed, and the corresponding Run ID, if already scheduled.

In the *General* tab, you can see the summarized messages if the run was in simulation mode and in the *Settings* tab, you can see the parameters that were set for the executed run.

Note

Summarized Messages

Message 1: Simulation run scheduled for 10235 Business Partners of type Contact Person.

Meaning 1: This indicates the number of business partners picked up for the run.

Message 2: Number of Business Partners that are still referenced: 6441

Meaning 2: The number of business partners that are active and referenced in transactions.

Message 3: Number of Business Partners where end of purpose is set: 3794

Meaning 3: The number of business partners that could be updated.

Note

- The green icon indicates that the end of purpose run has been already scheduled. This does not mean that the run is successful. To check the status of the end of purpose business partner runs performed in the background, navigate to the Administer Business Partner End of Purpose Runs view and search by the Run ID.
- The red icon indicates that the system failed to trigger an end of purpose run.

23.8 Enable Read Access Logging

Use Read Access Logging (RAL) to log and monitor read-access to sensitive personal data such as bank data. You can identify and track who has accessed critical information and when.

In the SAP Cloud for Customer system, you can monitor the access to sensitive personal data in the *Log Display* view under the *Data Protection and Privacy* Work Center.

Read access logging is enabled for the following channels:

- User Interface (UI)

- Attachments
- Web Services
- OData Services
- Data workbench
- Change Log
- Analytics
- Excel Download
- Output Management
- Business Task Management

Whenever sensitive personal data fields are viewed by a user, a Read Access Log (RAL) entry is created. These entries form different RAL field groups in the system.

If the field that you have marked as sensitive personal data is part of a field group that is already active, the system takes one day to start reading the access log for the same. To start read access logging immediately, activate or deactivate the corresponding field group.

ⓘ Note

- You can add sensitive personal data fields only to Business Partner extensions.
- You can't add sensitive personal data fields to object worklists, value selections, enterprise search, or extension scenarios.
- You can't use sensitive personal data fields as placeholders in workflow rules.

Standard RAL Field Group

The standard Read Access Logging enabled field along with the corresponding Field Group is listed in the following table:

Business Object	Field	Field Group
Business Partner	Tax number and Type	Business Partner Tax Data

ⓘ Note

The Field Group configuration is shared between Business by Design and SAP Cloud for Customer. It therefore contains several other field groups that are not relevant for SAP Cloud for Customer. The corresponding functionalities exist only in Business by Design.

Field Groups for Attachments

The following table gives you a list of the objects that support RAL enabled custom document type attachments:

Business Objects	Field Group
Activity	Activity Attachment
Business partner	Business Partner Attachment
Contract	Contract Attachment
Lead	Lead Attachment
Opportunity	Opportunity Attachment
Promotion	Purpose
Sales Document	Sales Document Attachments
Service Request	Service Request Attachment

Other Field Groups

The following list provides an overview of other available field groups:

- **Data Workbench:** Access to files stored in the Data Workbench can be enabled for read access logging.
- **Key User Tools Extension Fields:** This field group contains all custom fields added via the adaptation mode and marked as sensitive personal data. This group is activated or deactivated after each change to the custom field classification
- **Output Management Data:** Data that leaves the system via the Output Management (for example printing) can be tracked via this group.
- **Web Service Message:** The Web service monitoring provides access to the payloads of the processed Web service calls. Because of its potentially sensitive nature, this feature is restricted to administrators.
- **SAP Cloud Applications Studio:** Sensitive personal data custom fields added via the SAP Cloud Applications Studio are controlled via field groups that correspond to their project name.

Note

You are not allowed to debug or trace the SAP Cloud Applications Studio solution in the production system, if RAL is scoped and any RAL field group is active. However, if you want to debug the solution, your administrator must assign your user to the [Production Debugging Authorization](#) work center view. After the debugging is complete, it is recommended that the authorization is removed.

Prerequisites

- You have selected the scoping question *Do you want to switch on the Read Access Logging for sensitive personal data?* To find this question, navigate to ► [Business Configuration](#) ► [Implementation Project](#) ► [Edit Project Scope](#) ► [Questions](#) ► [Built-in Services and Support](#) ► [System Management](#) ► [Security](#) ►.
- You have defined customer document types for attachments using the following steps:
 1. Navigate to ► [Business Configuration](#) ► [Implementation Project](#) ► and click [Open Activity List](#).
 2. Search and select the *Customer-defined document types for attachments* activity.
 3. Under *Customer-Defined Document Types*, click [Add Row](#), and then define your document type.
 4. Select the relevant usage, and click [Save and Close](#).
If you select the applicable usage on both the documents, attachments are copied to a follow-up document.

Field Group Configuration

1. Navigate to ► [Data Protection and Privacy](#) ► [Field Group Configuration](#) ►.
The system displays a list of field groups that are available for the limited set of standard fields, as well as for any documents that support sensitive custom document types. There is also a specific field group to include all extension fields.
2. Select a field group from the available list and click [Activate](#). The data for this field group is now enabled for read access logging.
Click [Deactivate](#), if you do not want read access to that field group information to be included in the log.

To view changes to the field group, click [Changes](#) and enter the date range for which you want to see the changes.

Click ► [Actions](#) ► [Show Read Access Log](#) ► to go directly to the [Read Access Log](#) screen.

Click ► [Actions](#) ► [Generate Field Group Configurations](#) ► to add a new field group to the list of Field Groups whenever it is available in the system.

Download Log Data

To download log data manually, follow these steps:

1. Navigate to ► [Data Protection and Privacy](#) ► [Log Display](#) ►.
2. Click the **Advanced Search** icon and select your date range.
3. Select the desired record and click [Download](#).
The downloaded log entries are available in the XML format. The XML log lists the information about where the data has been accessed, who has viewed the data, when the data was accessed, and what has been accessed.

You can also download the RAL data via Web service [QueryReadAccessLogIn](#). To enable this service, navigate to ► [Administrator](#) ► [Integration](#) ►, and create a new Communication Scenario and a new Communication Arrangement.

Note

- Read access logs are deleted automatically after 14 days.
- The data is stored in a safe place, which is accessible to only a few authorized people.

23.9 Prerequisites for Usage Block Integration

When a business partner is blocked in an SAP CRM, SAP S/4HANA, or ERP system, you must ensure that the usage block is retained when you integrate these systems with the SAP Cloud for Customer system. To do that, you must follow specific guidelines for each system.

Prerequisites for SAP CRM system

- Ensure that the CRM system is at least on SAP CRM EHP3 SP05.
- In the SAP Cloud for Customer system, ensure the following:
 - In the *Business Configuration* work center, navigate to your project and click *Edit Project Scope*. Under **► Questions ► Communication and Information Exchange ► Integration with External Applications and Solutions ► Integration of Master Data**, select the *Do you want to check and maintain end of purpose of a business partner from an external application?* business option.
 - In the *Administration* work center, navigate to **► General Settings ► Integration ► Communication Arrangement** and configure the *Business Partner End of Purpose Check from SAP Business Suite* communication scenario.
 - In the **SAP Cloud Applications Studio**, implement the `CheckBusinessPartnerEndOfPurpose` BAdI in the <http://sap.com/xi/AP/Common/Global> namespace. You can implement end of purpose checks in this BAdI and raise a VETO check .
- If you are using the SAP NetWeaver Process Integration (PI):
 - Download the following PI content versions:
 - CRMCOD01 IC 700 – SP25
 - SAP BYD 2.40 – SP26
 - CRMPCD01 700 – SP25
 - Configure the following operation mapping:
 - CRM_COD_BusinessPartnerEndOfPurposeCheck
 - CRM_COD_BusinessPartnerEndOfPurposeSet.
- If you are using the Cloud Platform Integration:
 - Download the 1805 version of SAP Cloud for Customer Integration with SAP CRM
 - Configure the following iFlows:
 - Check End of Purpose of Business Partners from SAP Business Suite
 - Maintain End of Purpose of Business Partners from SAP Business Suite
- To see how you can control the blocking and deletion of personal data in SAP CRM, refer to the SAP Help Portal for SAP CRM: <http://help.sap.com/crm>. Choose the relevant release, and navigate to **► Application**

Prerequisites for SAP S/4HANA system

- In the SAP Cloud for Customer system, ensure the following:
 - In the *Business Configuration* work center, navigate to your project and click *Edit Project Scope*. Under [Questions](#) > [Communication and Information Exchange](#) > [Integration with External Applications and Solutions](#) > [Integration of Master Data](#) >, select the *Do you want to check and maintain end of purpose of a business partner from an external application?* business option.
 - In the *Administration* work center, navigate to [General Settings](#) > [Integration](#) > [Communication Arrangement](#) > and configure the *Business Partner End of Purpose Check from SAP Business Suite* communication scenario
 - In the **SAP Cloud Applications Studio**, implement the `CheckBusinessPartnerEndOfPurpose` BAdI in the <http://sap.com/xi/AP/Common/Global> namespace. You can implement end of purpose checks in this BAdI and raise a VETO check .
- If you are using the SAP NetWeaver Process Integration (PI):
 - Download the following PI content versions:
 - C4CS4_IC 100 – SP08
 - SAP BYD 2.40 – SP26
 - Configure the following operation mapping:
 - S4_C4C_BusinessPartnerEndOfPurposeCheck
 - S4_C4C_BusinessPartnerEndOfPurposeSet
- If you are using the Cloud Platform Integration:
 - Download the 1805 version of SAP Cloud for Customer Integration with SAP S/4HANA
 - Configure the following iFlows:
 - Check End of Purpose of Business Partners from SAP Business Suite
 - Maintain End of Purpose of Business Partners from SAP Business Suite
- To see how you can control the blocking and deletion of personal data in SAP S/4HANA, refer to the SAP Help Portal for SAP S/4HANA: <http://help.sap.com/s4hana>. Choose the relevant release, and navigate to [Product Assistance](#) > [English](#) > [Cross Components](#) > [Data Protection](#) >.

Prerequisites for ERP system

- Ensure that the ERP system is at least on SAP ERP 6.0 EhP7 SP05.
- In the SAP Cloud for Customer system, ensure the following:
 - In the *Business Configuration* work center, navigate to your project and click *Edit Project Scope*. Under [Questions](#) > [Communication and Information Exchange](#) > [Integration with External Applications and Solutions](#) > [Integration with SAP ERP](#) >, select the *Do you want to integrate with the end of purpose check of SAP ERP?* business option.

- In the *Administration* work center, navigate to **General Settings > Integration > Communication Arrangement** and configure the *Business Partner End of Purpose Check from SAP ERP* communication scenario
- In the **SAP Cloud Applications Studio**, implement the `CheckBusinessPartnerERPEndOfPurpose` BAdI in the <http://sap.com/xi/AP/Common/Global> namespace. You can implement end of purpose checks in this BAdI and raise a VETO check .
- If you are using the SAP NetWeaver Process Integration (PI):
 - Download the following PI content versions:
 - COD_ERP_INT_IC 6.00 – SP25
 - SAP BYD 2.40 – SP26
 - COD_ERP_INT 6.00 – SP25
 - Configure the following operation mapping: `ERP_COD_BusinessPartnerEndOfPurposeCheck`
- If you are using the Cloud Platform Integration:
 - Download the 1805 version of SAP Cloud for Customer Integration with SAP ERP
 - Configure the following iFlows: *Business Partner End of Purpose Check from SAP ERP*
- Read note [2623441](#)
- To see how you can control the blocking and deletion of personal data in ERP, refer to the ILM document: [Data Protection](#)

23.10 Tax Numbers in SAP Cloud for Customer

Your SAP ERP or SAP S/4HANA system can contain various identification numbers, such as tax ID numbers or social security numbers. Some of these identification numbers can be sensitive information and special data protection policies could apply to them. To safeguard such information, you must filter out this information so that these numbers aren't replicated to SAP Cloud for Customer.

⚠ Restriction

While data encryption is addressed in SAP Cloud for Customer in secure communication channels and at rest, there's no specific masking or additional encryption. Therefore, you must filter out sensitive information, such as personal identification numbers, before replicating.

To learn how to set up these filters for SAP ERP, see [Business Partner Tax Code](#).

For instructions on how to set up these filters for SAP S/4HANA, see [Restricting Sensitive Tax Number](#).

For instructions on how to set up these filters for SAP S/4HANA Cloud, see the section on **Restricting Sensitive Tax Number** in the document: [Setting Up Opportunity-to-Order with SAP Cloud for Customer \(1VP\)](#).

23.11 Glossary

The following terms are general to SAP products. Not all terms may be relevant for this SAP product.

Term	Definition
Blocking	A method of restricting access to data for which the primary business purpose has ended.
Consent	The action of the data subject confirming that the usage of his or her personal data shall be allowed for a given purpose. A consent functionality allows the storage of a consent record in relation to a specific purpose and shows if a data subject has granted, withdrawn, or denied consent. The legal, contractual, or in other form justified reason for the processing of personal data to complete an end-to-end business process. The personal data used to complete the process is predefined in a purpose, which is defined by the data controller. The process must be defined before the personal data required to fulfill the purpose can be determined.
Data subject	An identified or identifiable natural person, defined in relation to applicable data protection legislation, for example, the EU GDPR.
Deletion	Deletion of personal data The legal, contractual, or in other form justified reason for the so that the data is no longer available.
End of business	Defines the end of active business and the start of residence time and retention period.
End of purpose (EoP)	End of purpose and start of blocking period. The point in time when the primary processing purpose ends, for example, a contract is fulfilled.
End of purpose (EoP) check	A method of identifying the point in time for a data set when the processing of personal data is no longer required for the primary business purpose . After the EoP has been reached, the data is blocked and can only be accessed by users with special authorization, for example, tax auditors.
Personal data	Any information relating to an identified or identifiable natural person ("data subject"), defined in relation to applicable data protection legislation, for example, the EU GDPR.
Purpose	The information that specifies the reason and the goal for the processing of a specific set of personal data. As a rule, the purpose references the relevant legal basis for the processing of personal data.

Term	Definition
Residence period	The period of time between the end of business and the end of purpose (EoP) for a data set during which the data remains in the database and can be used in case of subsequent processes related to the original purpose. At the end of the longest configured residence period, the data is blocked or deleted. The residence period is part of the overall retention period.
Retention period	The period of time between the end of the last business activity involving a specific object (for example, a business partner) and the deletion of the corresponding data, subject to applicable laws. The retention period is a combination of the residence period and the blocking period.
Sensitive personal data	<p data-bbox="804 797 1385 860">A category of personal data that usually includes the following type of information:</p> <ul data-bbox="815 887 1398 1240" style="list-style-type: none"> <li data-bbox="815 887 1398 1050">• Special categories of personal data, such as data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, genetic data, biometric data, data concerning health or sex life or sexual orientation. <li data-bbox="815 1066 1291 1088">• Personal data subject to professional secrecy <li data-bbox="815 1104 1374 1167">• Personal data relating to criminal or administrative offenses <li data-bbox="815 1182 1398 1240">• Personal data concerning insurances and bank or credit card accounts
Technical and organizational measures (TOM)	<p data-bbox="804 1283 1385 1447">Some basic requirements that support data protection and privacy are often referred to as technical and organizational measures (TOM). The following topics are related to data protection and privacy and require appropriate TOMs, for example:</p> <ul data-bbox="815 1469 1398 1778" style="list-style-type: none"> <li data-bbox="815 1469 1243 1491">• Access control: Authentication features <li data-bbox="815 1507 1230 1529">• Authorizations: Authorization concept <li data-bbox="815 1545 1058 1568">• Read access logging <li data-bbox="815 1583 1342 1606">• Transmission control / Communication security <li data-bbox="815 1621 1166 1644">• Input control / Change logging <li data-bbox="815 1659 1042 1682">• Availability control <li data-bbox="815 1697 1398 1778">• Separation by purpose: Is subject to the organizational model implemented and must be applied as part of the authorization concept.

Term	Definition
Where-used check (WUC)	A process designed to ensure data integrity in the case of potential blocking of business partner data. An application's where-used check (WUC) determines if there is any dependent data for a certain business partner in the database. If dependent data exists, this means the data is still required for business activities. Therefore, the blocking of business partners referenced in the data is prevented.

24 Security of Data Storage and Data Centers

The data centers that support SAP Cloud solutions incorporate multiple safeguards for physical data security and integrity. They also provide high availability of your business data, using redundant networks and power systems.

24.1 Asset Protection and Data Integrity

SAP follows operating best practices for data centers by deploying computation and storage parts of the solution over separated fire-safe areas to support disaster recovery in the event of a fire.

For data backup and recovery purposes, a redundant hardware storage system performs regular backups. To provide enhanced data integrity, your SAP Cloud solution uses an advanced database management solution to store customer data and securely isolate each customer's business information in its own database instance.

24.2 Data Storage

All storage devices use *AES 256* encryption to protect data at rest. Current and backup data is covered by encryption.

24.3 Power Backup and Redundancy

SAP data centers maintain multiple connections to several power companies, making a complete power outage highly unlikely. Even if the local power grid were to fail, the data centers supporting your SAP Cloud solution have an uninterruptible power supply for short-term outages, and a diesel generator backup power supply for longer-term outages. Therefore, power interruptions or outages are unlikely to affect customer data or solution access.

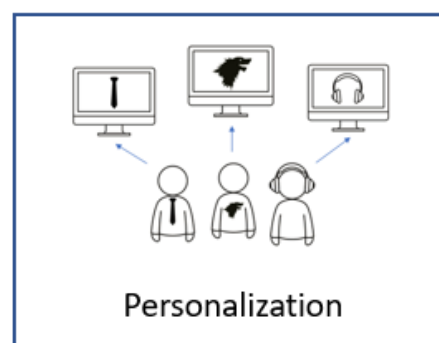
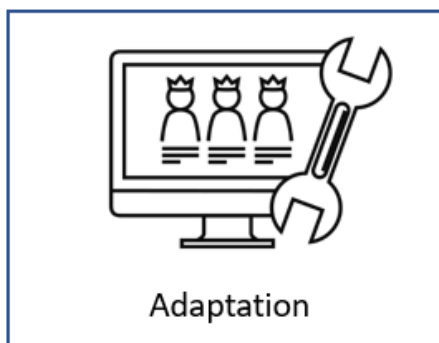
24.4 Restricted Physical Access

SAP data centers, located in the United States of America and Germany, are logically separated and staffed around the clock, 365 days a year. A biometrics security system permits access only to authorized personnel,

and the data centers are partitioned such that authorized personnel can access only their designated areas. Moreover, no direct network connection exists between individual SAP data centers; each SAP data center is fully autonomous.

25 Extensibility

Customize and extend your solution using personalization, adaptation, field extensions, and SAP Cloud Applications Studio.



- [Adaptation](#)
- [Personalization](#) [page 21]
- [Extension Fields](#)
- [SAP Cloud Applications Studio](https://help.sap.com/viewer/p/SAP_CLOUD_APPLICATIONS_STUDIO) [https://help.sap.com/viewer/p/SAP_CLOUD_APPLICATIONS_STUDIO]

27 Integration

Leverage the integration capabilities of your SAP Cloud for Customer solution using prepackaged integration content, OData API and more.

To learn more, see our [Integrate](#) section.

[Profile and Scope Integration Landscape \[page 350\]](#)

You need to profile and scope your integration requirements before setting up the integration landscape.

[Configure Connections \[page 354\]](#)

[\(Deprecated\) Setting Up OData Notifications \[page 369\]](#)

Configure notifications and inform external systems when there are changes to SAP Cloud for Customer business objects.

[Mashups \[page 371\]](#)

Learn how to configure, use, and access mashups.

[Code Lists Maintenance \[page 402\]](#)

In this topic, you can get an overview of all configuration required for code list maintenance.

[Integration with External Systems \[page 410\]](#)

[Support Portal Integration \[page 451\]](#)

Set up a support portal using either SAP Cloud Portal or an external support portal provider.

27.1 Profile and Scope Integration Landscape

You need to profile and scope your integration requirements before setting up the integration landscape.

Parent topic: [Integration \[page 350\]](#)

Related Information

[Configure Connections \[page 354\]](#)

[\(Deprecated\) Setting Up OData Notifications \[page 369\]](#)

Configure notifications and inform external systems when there are changes to SAP Cloud for Customer business objects.

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[Integration with External Systems \[page 410\]](#)

[Support Portal Integration \[page 451\]](#)

Set up a support portal using either SAP Cloud Portal or an external support portal provider.

27.1.1 Enable SAP CRM Integration

This document walks you through the steps of integrating SAP Cloud for Customer with SAP CRM.

Prerequisites

You must decide whether your organization wants to enable the integration of SAP Cloud for Customer with SAP CRM. If your organization does want to enable this integration, then SAP CRM 7.0 with SAP enhancement package 0 or above is required, as well as the following SAP CRM add-on component:

- CRMPCD01 700

For additional technical information about integrating SAP Cloud for Customer with SAP CRM, refer to the corresponding integration guides that are published on [SAP Cloud for Customer](#) product page.

⚠ Caution

Scoping for integration with SAP CRM can only occur during the first implementation of SAP Cloud for Customer. **Integration with SAP CRM at a later date isn't supported**, because serious data inconsistencies can arise if identical sales accounts and contacts exist both in SAP Cloud for Customer and in SAP CRM.

Therefore, before you implement the solution, you must decide whether integration with SAP CRM is in scope, so that you can enable it, if desired, during your first implementation.

Overview

If your organization wants to enable SAP CRM Integration in its planned scope, then proceed as follows:

Procedure

1. Choose **Business Configuration > Implementation Projects**.
2. Select the implementation project entitled *First Implementation*.
The **Project Overview: First Implementation** screen appears.
3. Choose *Edit Project Scope*.
The **Edit Project Scope: First Implementation** screen appears.

- Under **Country/Region**, select *Next*.
 - Under **Implementation Focus**, select *Next*.
4. On the **Scoping** screen, expand the *Communication and Information Exchange* scoping element, then *Integration with External Applications and Solutions*, and then select the *Integration with SAP CRM* checkbox.
 5. Choose *Save Draft*.
 6. Close the **Edit Project Scope: First Implementation** screen.

Integrating SAP Cloud for Social Engagement with Your On-Premise SAP CRM Solution

If your organization uses SAP Cloud for Social Engagement and you would like to copy tickets to your on-premise SAP CRM solution, complete the above procedure, then proceed as follows:

Procedure

1. Choose *Next* until you reach **3. Scoping**.
2. Select *Integration with SAP CRM* from the list *Scoping Element*.
3. Choose *Next* until you reach **4. Questions**.
4. Select *Integration with SAP CRM* from the list *Scoping Element*.
5. Select *Yes* in *Integration with Service Request Processing from on demand to SAP CRM*.
6. Save your changes.

Working with SAP CRM Marketing Attributes in SAP Sales Cloud

If you integrate your solution with SAP Customer Relationship Management (SAP CRM), then your users can access the *Marketing Attributes* tab for accounts and contacts.

For information about scoping your solution, see [Scoping and Other Business Configuration \[page 74\]](#).

If you or your users personalize *Accounts* and *Contacts* work center views to make this tab visible, then metadata for SAP CRM marketing attributes is imported into the solution, and your users can enter values in this tab for various data types, which are returned to SAP CRM for further processing.

→ Tip

If your solution isn't integrated with SAP CRM and therefore doesn't use SAP CRM marketing attributes, then we recommend that you add extension fields in your solution to capture additional attributes, where required.

27.1.2 Enable SAP ERP Integration

This document walks you through the steps of integrating SAP Cloud for Customer with SAP ERP.

Prerequisites

You must decide whether your organization wants to enable the integration of SAP Cloud for Customer with SAP ERP. If your organization does want to enable this integration, then SAP ERP Central Component (SAP ECC) 6.0 with SAP enhancement package 0 or above is required, as well as the following SAP ERP add-on component:

- CODERINT 600 SP 2 or above

Note

Before you implement SAP Cloud for Customer, we recommend that you decide whether integration with SAP ERP lies in scope, so that you can enable it, if desired, during first implementation.

For additional technical information about integrating SAP Cloud for Customer with SAP ERP, see [SAP Cloud for Customer](#) product page.

Overview

If your organization does want to enable SAP ERP integration in its planned scope, then proceed as follows:

Procedure

1. Choose **Business Configuration > Implementation Projects**.
2. Select the implementation project entitled *First Implementation*.
The **Project Overview: First Implementation** screen appears.
3. Choose *Edit Project Scope*.
The **Edit Project Scope: First Implementation** screen appears.
 - Under **Country and Type of Business**, select *Next*.
 - Under **Implementation Focus**, select *Next*.
4. On the **Scoping** screen, expand the *Communication and Information Exchange* scoping element, then select the *Integration with SAP ERP* check box.
5. Choose *Save Draft*.
6. Close the **Edit Project Scope: First Implementation** screen.

27.2 Configure Connections

Parent topic: [Integration \[page 350\]](#)

Related Information

[Profile and Scope Integration Landscape \[page 350\]](#)

You need to profile and scope your integration requirements before setting up the integration landscape.

[\(Deprecated\) Setting Up OData Notifications \[page 369\]](#)

Configure notifications and inform external systems when there are changes to SAP Cloud for Customer business objects.

[Mashups \[page 371\]](#)

Learn how to configure, use, and access mashups.

[Code Lists Maintenance \[page 402\]](#)

In this topic, you can get an overview of all configuration required for code list maintenance.

[Integration with External Systems \[page 410\]](#)

[Support Portal Integration \[page 451\]](#)

Set up a support portal using either SAP Cloud Portal or an external support portal provider.

27.2.1 Create Communication Systems

In the *Communication Systems* view, you can create and edit communication systems to exchange business documents electronically.

You can access this view from the *Administrator* tab under [General Settings](#) > [Integration](#) and/or from the work center.

Business background

Communication Systems and Communication Arrangements

Application and UserA communication system represents an external system which is used for application integration. Communication systems can be, for example, external time recording or master data systems. Before you can use a communication system in an application integration scenario, you need to create a communication arrangement. For more information about communication arrangements, see **Communications Arrangements Quick Guide**.

Tasks

Create a Communication System

1. In the *Communication Systems* view, click *New*.
2. In the *Basic Information* section, enter the details of the communication system.
 1. In the *ID* field, enter a unique ID for the communication system.
 2. If the communication system is part of the SAP Business Suite, select the *SAP Business Suite* checkbox.
In the *System Instance* section, the columns *Business System ID*, *IDoc Logical System ID*, and *SAP Client* are displayed.
 3. In the *Host Name* field, enter the host name for the communication system.
 4. In the *System Access Type* list, choose the correct communication method for your communication system.
3. In the *Technical Contact* section, enter the details of the communication systems contact.
4. Optional: In the *Internal Comment* section, enter a note.
5. In the *System Instance* section, enter a unique ID in the *System Instance ID* column.
If you use an SAP system, enter the following data:
 1. In the *Business System ID* column, enter the ID of the business system as defined in the System Landscape Directory (SLD), for example `PRD_999`.
 2. In the *IDoc Logical System ID* column, enter the ID of the IDoc Logical System, which participates in IDoc message exchange either as a sending or receiving SAP system, for example `PRDCLNT999`.
 3. In the *SAP Client* column, enter the SAP client of the SAP system, for example `999`.
6. When you have entered all the details, click *Save and Close* to return to the *Communication Systems* view.
The communication system you just created has the status *In Preparation*.
7. In the *Communication Systems* view, select the communication system you have created and click *Actions*, then choose *Set to Active*.
If the status changes to *Active*, the configuration is ready to be used.

Edit a Communication System

1. In the *Communication Systems* view, select a line and click *Edit* to open the *Communication System* screen.
2. Change the relevant settings.
3. Save your changes and close the screen to return to the worklist.

Set a Communication System to Obsolete

If a communication system has the status *Active*, and you no longer wish to use it, you can set it to *Obsolete*.

Note

You must set a communication system to *Obsolete* before you can delete it.

In the *Communication Systems* view, select a line and click *Actions*, then choose *Set to Obsolete*.

In the *Status* column, the status changes to *Obsolete*.

Note

If you have set a communication system to *Obsolete*, you can undo this action. To do this, click *Actions*, then choose *Undo Obsolescence*. In the *Status* column, the status changes to *Active*.

Delete a Communication System

If a communication system has the status *In Preparation*:

1. In the *Communication Systems* view, select a line and click *Delete*.
2. In the dialog box that opens, click *Delete* to confirm the deletion.

If a communication system has the status *Active*:




1. In the *Communication Systems* view, select a line and click *Actions* then choose *Set to Obsolete*.
2. If the *In Use* checkbox is selected, it means that communication arrangements are assigned to the communication system. Delete these communication arrangements in the *Communication Arrangements* view.
3. In the *Communication Systems* view, select the line again and click *Delete*.
4. In the dialog box that opens, click *Delete* to confirm the deletion.

27.2.2 Maintain Communication Arrangements

The *Communication Arrangements* view enables administrators to create and edit communication arrangements that your company has set up with a communication partner.

Configure Communication Arrangements

The *Communication Arrangements* view enables administrators to create and edit communication arrangements that your company has set up with a communication partner.

You can access this view from the *Administrator* work center, under  *General Settings*  *Integration*  and/or from the *Application and User Management* work center.

Business Background

Communication Arrangements

Communication arrangements help you to configure the electronic data exchange between the solution and a communication partner. Communication arrangements can be set up for multiple business documents and communication methods. The solution provides communication scenarios for inbound and outbound communication that you can use to create communication arrangements. Inbound communication defines how business documents are received from a communication partner, and the outbound communication defines how business documents are sent to a communication partner.

In the *Communication Arrangements* view the following communication types are supported:

- Business-to-business (B2B)
This communication type defines an electronic data exchange with a business partner.
- Application integration
This communication type defines an electronic data exchange with a communication system. For more information about communication systems, see the Communication Systems Quick Guide.

Note

Some communication arrangements are automatically created in your solution configuration. This is indicated by the selected *Predefined* checkbox in the worklist of the *Communication Arrangements* view. For predefined communication arrangements with inbound communication, you only have to define the communication account.

Tasks

Create a Communication Arrangement

1. To open the *New Communication Arrangement* guided activity in the *Communication Arrangements* view, click *New*.
2. In the *Select Scenario* step, select the communication scenario for which you want to create a communication arrangement and click *Next*.

Note

Based on the communication scenario you selected, the system presets the fields in the next steps with default values. Where possible, you can change the default values if necessary.

3. In the *Define Business Data* step, enter business data.
The entry fields on the screen depend on the communication type of the selected communication scenario.
 1. If you've selected a B2B scenario, enter the ID of the business partner and select the associated *Identification Type*. If necessary, you can also enter the ID of the contact person at the business partner.
If you've selected an application integration scenario, enter the *System Instance ID* of the communication system with which you want to set up a communication arrangement.

Note

Before you create a communication arrangement, you need to create a communication system. For more information, see the **Communication Systems Quick Guide**.

2. In the *My Communication Data* section, check the default values and make changes, if necessary. Enter the company that communicates with your communication partner. By default, the *Company ID* field is preset with the company to which you're assigned. If you use a B2B scenario, you must also enter a valid identification type.
3. If a communication arrangement contains a service interface that supports code list mapping, the *Code List Mapping* field is displayed. In this field, you can choose the relevant code list-mapping group for the communication scenario that you're using. For more information, please refer to the relevant integration guide on [SAP Cloud for Customer](#) product page.
4. Click *Next*.
4. In the *Define Technical Data* step, define the technical settings for inbound and outbound communication.
 1. Select the *Communication Method* you want to use for the communication arrangement. To communicate with your business partner, you can either establish a direct connection or you can use a collaboration service provider that provides services for B2B communication.
 2. If you use inbound communication, select the *Application Protocol* and *Authentication Method* in the *Inbound Communication: Basic Settings* section.
 3. In the *User ID* field, click *Edit Credentials*. Depending on the chosen authentication method, you need to define the credentials of the communication user as described in the following table. The user ID of the communication user is created automatically.

Authentication Method	Settings
-----------------------	----------

SSL Client Certificate If you use this authentication method, you need to upload the public key certificate that has been provided by your communication partner. If your communication partner can't provide a certificate, you can create and download a PKCS#12 key pair file. The PKCS#12 file is password encrypted and contains a public key certificate and a private key. You need to provide the PKCS#12 file to your communication partner.

1. Choose [Certificate](#).
2. Click [Upload Certificate](#) and choose the relevant certificate.
3. Click [OK](#).

To create a PKCS#12 key pair file, perform the following steps:

1. Choose [Certificate](#).
2. Click [Create and Download Key Pair](#).
3. Define a name for the PKCS#12 file and save it.
4. Define a password for the PKCS#12 file and click [OK](#).
5. Click [OK](#).

Note

- You've to provide your communication partner with the PKCS#12 file and the corresponding password.
- To import the PKCS#12 key pair file to a third-party tool, see [Importing Key Pair file to a third-party Tool](#).

User ID and Password	<p>If you use this authentication method, you need to define a password as follows:</p> <ol style="list-style-type: none"> 1. Choose Change Password. 2. Enter a password. Note that you've to provide your communication partner with the user ID and password. 3. Click .
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4. If you use outbound communication, select the [Application Protocol](#), [Authentication Method](#), and enter the [Host Name](#) in the [Outbound Communication: Basic Settings](#) section. Depending on the chosen authentication method, you need to define the relevant settings as described in the following table.

Authentication Method	Authentication	Settings
<i>SSL Client Certificate</i>	<i>SAP System Key Pair</i>	<p>If you use this authentication, the relevant certificate must be known to the communication partner. Therefore, you need to download the certificate as follows:</p> <ol style="list-style-type: none"> 1. In the <i>Authentication</i> field, click <i>Download</i>. 2. Choose a location to save the certificate. 3. Provide your communication partner with the downloaded certificate.
	<i>Trusted third-party Key Pair</i>	<p>If you use this authentication, you need to upload the PKCS#12 key pair file provided by your communication partner. The PKCS#12 file is password encrypted and contains a public key certificate and a private key.</p> <ol style="list-style-type: none"> 1. In the <i>Authentication</i> field, click <i>Edit Key Pair</i>. 2. Click <i>Upload Key Pair</i> and choose the PKCS#12 file you want to upload. 3. <i>OK</i>.
<i>User ID and Password</i>		<p>If you use this authentication method, you need to enter the user ID and password that is used by the communication partner for the same communication arrangement. Enter the required password and click.</p> <ol style="list-style-type: none"> 1. In the <i>User ID</i> Enter the required password and click field, click <i>Edit Credentials</i>. 2. Enter the <i>User ID</i> and <i>Password</i>. 3. Click <i>OK</i>.

5. If necessary, you can individually configure each service that is used in the communication scenario in the advanced settings.

Note

The service URLs for outbound communication are calculated from the protocol, port, host name, and path. If you use SAP NetWeaver XI or IDoc, you don't need to change anything in the advanced settings since the path is preset. However, if you use Web Services Reliable Messaging, you've to enter the path for each service in the advanced settings.

To edit the advanced settings, click *Edit Advanced Settings*.

Select the service you want to configure.

In the *Details* section, deselect the *Use Basic Settings* checkbox and change the relevant settings.

6. Click *Next*.
5. In the *Review* step, review the data you entered in the previous steps.
 1. To ensure that all data is correct, click *Check Completeness*. You also see the service URLs for inbound and outbound communication. If you use an inbound scenario, you must provide your communication partner with the URLs for inbound communication since it's the address to which messages should be sent.

2. To create and activate your communication arrangement in the system, click [Finish](#).
You can also save an inactive version of the communication arrangement by clicking [Save as Draft](#).
6. If you've created a communication arrangement for a B2B outbound scenario, you've to activate the output channel for the business document that is used in this scenario.

The system now uses electronic data exchange for the configured communication scenario.

Create a Communication Arrangement for On-Premise Integration

Multiple Communication arrangements can be created for an on-premise integration through a guided activity. Instead of repeating common information each time you create a communication arrangement, you can enter common information once and create communication arrangements in bulk.

You can access this from the [Administrator > Create Communication Arrangement for On-Premise Integration](#) common task.

Note

This functionality is only valid for On-Premise integrations.

1. To open the [New Communication Arrangement](#) guided activity in the [Communication Arrangements](#) view, click [New](#).
2. In the [Select Communication System](#) step, enter business data.
 1. Under [Integration Details](#) select the system that you want to [Integrate with](#) and the relevant [Integration Middleware](#) that you want to use.

Note

If [PI](#) is selected as the middleware, fill in the system details in the field [PI Business System](#)

2. Under Communication System enter the [System Instance ID](#) of the communication system with which you want to set up a communication arrangement.

Note

Before you create a communication arrangement, you need to create a communication system.

With this action, the [Communication System](#), [User ID \(Inbound Communication Credentials\)](#) and [HostName](#) automatically populated.

If a communication arrangement contains a service interface that supports code list mapping, the [Code List Mapping](#) field is displayed. In this field, you can choose the relevant code list mapping group for the communication scenario that you are using. For more information, please refer to the relevant integration guide on [SAP Cloud for Customer](#) product page.

3. If you use inbound communication, select the [Authentication Method](#) in the [Inbound Communication Credentials](#) section.

In the User ID field, click [Edit Credentials](#)

Depending on the chosen authentication method, you need to define the credentials of the communication user as described in the following table. The user ID of the communication user is created automatically.

Authentication Method	Settings
<i>SSL Client Certificate</i>	<p>If you use this authentication method, you need to upload the public key certificate that has been provided by your communication partner. If your communication partner cannot provide a certificate, you can create and download a PKCS#12 key pair file. The PKCS#12 file is password encrypted and contains a public key certificate and a private key. You need to provide the PKCS#12 file to your communication partner.</p> <ol style="list-style-type: none"> 1. Choose <i>Certificate</i>. 2. Click <i>Upload Certificate</i> and choose the relevant certificate. 3. Click <i>OK</i>. <p>To create a PKCS#12 key pair file, perform the following steps:</p> <ol style="list-style-type: none"> 1. Choose <i>Certificate</i>. 2. Click <i>Create and Download Key Pair</i>. 3. Define a name for the PKCS#12 file and save it. 4. Define a password for the PKCS#12 file and click <i>OK</i>. 5. Click <i>OK</i>. <p>Note that you've to provide your communication partner with the PKCS#12 file and the corresponding password.</p>

<i>User ID and Password</i>	<p>If you use this authentication method, you need to define a password as follows:</p> <ol style="list-style-type: none"> 1. Choose <i>Change Password</i>. 2. Enter a password. Note that you have to provide your communication partner with the user ID and password. 3. Click <i>OK</i>.
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If you use outbound communication, select the *Authentication Method*. Depending on the chosen authentication method, you need to define the relevant settings as described in the following table.

Authentication Method	Authentication	Settings
<i>SSL Client Certificate</i>	<i>SAP System Key Pair</i>	<p>If you use this authentication, the relevant certificate must be known to the communication partner. Therefore, you need to download the certificate as follows:</p> <ol style="list-style-type: none"> 1. In the <i>Authentication</i> field, click <i>Download</i>. 2. Choose a location to save the certificate. 3. Provide your communication partner with the downloaded certificate.

Authentication Method	Authentication	Settings
	<i>Trusted Third-Party Key Pair</i>	<p>If you use this authentication, you need to upload the PKCS#12 key pair file provided by your communication partner. The PKCS#12 file is password encrypted and contains a public key certificate and a private key.</p> <ol style="list-style-type: none"> 1. In the <i>Authentication</i> field, click <i>Edit Key Pair</i>. 2. Click <i>Upload Key Pair</i> and choose the PKCS#12 file you want to upload. 3. Enter the required password and click <i>OK</i>.
	<i>User ID and Password</i>	<p>If you use this authentication method, you need to enter the user ID and password that is used by the communication partner for the same communication arrangement.</p> <ol style="list-style-type: none"> 1. In the <i>User ID</i> field, click <i>Edit Credentials</i>. 2. Enter the <i>User ID</i> and <i>Password</i>. 3. Click <i>OK</i>.

3. In the *Communication Arrangements* step, select one or more *Communication Scenarios*.

Note	
Status	Interpretation
<i>Create</i>	This status indicates that you have selected a communication scenario to be created for the relevant communication arrangement.
<i>Not Created</i>	This status indicates that the communication scenario hasn't yet been created and, the check-box is unchecked.
<i>Already Exists</i>	This status indicates that a communication scenario has been created already and, the check box will be disabled.

4. The *Inbound* and *Outbound* tabs are displayed, depending on the selected *Communication Scenario*. For example, if a communication arrangement has only an inbound service interface, then the *Inbound* tab is displayed
5. Perform the following actions under the *Inbound* tab as necessary:

Enabled	The checkbox can be unchecked if it isn't required.
Service	If the service is mandatory the checkbox is disabled.

Application Protocol	Choose a protocol from the dropdown list.
Service URL	Displays the URL of the service.

To check the information on the inbound service, click [Check Service](#)
 Perform the following actions under the [Outbound](#) tab as necessary:

Enabled	The checkbox can be unchecked if it isn't required.
Service	If the service is mandatory the checkbox is disabled.
Application Protocol	Choose a protocol from the dropdown list.
Host Name	This field displays the host name of the system and is not editable.
Port	Enter the port or path for the outbound service.
Service URL	Displays the URL of the service.

6. To ensure that all data is correct, click [Check Completeness](#).
7. To create and activate your communication arrangement in the system, click [Finish](#).

A success message is shown once the communication arrangement has been created successfully.

Note

After the communication system has been set up, you can check the connectivity of the system by clicking [Test Connection](#) in the communication arrangements screen. You can view the result of the test under the Connection Result screen. The screen lists the Message Type and Message Description and from the message list you can select a message to display the entire description of the message.

Edit a Communication Arrangement

1. To open the [Edit Communication Arrangement](#) quick activity in the [Communication Arrangements](#) view, select the relevant communication arrangement and click [Edit](#).

Note

You can't edit predefined communication arrangements.

2. Change the relevant settings.
3. To save your changes and return to the worklist, click [Save and Reactivate](#).
4. In the worklist, you can click [Check Completeness](#) to see if your changes have been updated in the system. It may take about a minute for the system to update the information.

Edit the Communication Credentials for a Predefined Communication Arrangement

This task is only relevant for predefined communication arrangements with inbound communication.

1. In the *Communication Arrangements* view, select the relevant communication arrangement. Predefined communication arrangements are indicated by the selected *Predefined* checkbox.
2. Click *Edit Credentials*.
3. Depending on the authentication method that you agreed on with your communication partner, you need to define the credentials of the communication user as described in the following table. The user ID of the communication user is created automatically.

Authentication Method	Settings
<i>SSL Client Certificate</i>	<p>If you use this authentication method, you need to upload the public key certificate that has been provided by your communication partner. If your communication partner can't provide a certificate, you can create and download a PKCS#12 key pair file. The PKCS#12 file is password encrypted and contains a public key certificate and a private key. You need to provide the PKCS#12 file to your communication partner.</p> <p>To upload a public key certificate, perform the following steps:</p> <ol style="list-style-type: none">1. Choose <i>Certificate</i>.2. Click <i>Upload Certificate</i> and choose the relevant certificate. <p>To create a PKCS#12 key pair file, perform the following steps:</p> <ol style="list-style-type: none">1. Choose <i>Certificate</i>.2. Click <i>Create and Download Key Pair</i>.3. Define a name for the PKCS#12 file and save it.4. Define a password for the PKCS#12 file and click <i>OK</i>. <div data-bbox="523 1361 1398 1592"><p>Note</p><ul style="list-style-type: none">• You've to provide your communication partner with the PKCS#12 file and the corresponding password.• To import the PKCS#12 key pair file to a third-party tool, see Importing Key Pair file to a third party Tool.</div>
<i>User ID and Password</i>	<p>If you use this authentication method, you need to define a password. The user ID is automatically predefined.</p> <p>Perform the following steps:</p> <ol style="list-style-type: none">1. Choose <i>Change Password</i>.2. Enter a password. <p>Note that you to provide your communication partner with the user ID and password.</p>

4. Click *OK*.

Delete a Communication Arrangement

1. In the *Communication Arrangements* view, select the relevant communication arrangement.
2. Click *Delete*.
3. In the dialog box that opens, click *Delete* to confirm the deletion.

Note

Predefined communication arrangements can't be deleted.

27.2.3 Service Explorer

View the list of all available inbound web services, access technical data and documentation for services, and download assigned WSDL services.

Service Explorer contains documentation and technical data for each web service. In addition, you can download the assigned WSDL services here. Once users know which service is available, they can create a new communication arrangement with one of the available communication scenario that contains one or more services.

If you have a development tool that reads WSIL, you can open the WSIL and get a list of all scoped active end-point URLs and the related WSDLs.

You can access this view from either the *Administrator* work center or the *Application and User Management* work center under *Input and Output Management*.

Business background

Communication Scenarios

Communication scenarios are sets of inbound and outbound services that allow you to create communication arrangements in the solution. Inbound web services are web services that you have created based on SAP business processes or web services provided by SAP. Outbound services are external web services that you have integrated in to your solution.

outputclass

Communication Arrangements

Communication arrangements help you to configure the electronic data exchange between the solution and a communication partner. Communication arrangements can be set up for multiple business documents and communication methods. Your solution provides communication scenarios for inbound and outbound communication that you can use to create communication arrangements. A communication arrangement

is based on a communication scenario and provides an alternative method to authorize a user to access a service. The Communication Arrangements view supports electronic data exchange with a business partner (B2B) or with a communication system (application integration), which can also be an internal system.

For more information about communication arrangements, see the [Maintain Communication Arrangements \[page 356\]](#) in the Related Links sections.

WSDL

The Web Services Description Language (WSDL) is an XML-based language that is used for describing the functions offered by a web service. WSDL is often used in combination with SOAP and an XML schema document to define web services in the internet. WSDL files can be downloaded and used to integrate external services into the solution.

For more information about web services, see [Web Services](#).

WSIL

The Web Services Inspection Language (WSIL) is a service discovery method used for aggregating different types of service descriptions. WSIL gives you a list of available active end-point URLs and the related WSDLs of the system.

Important tasks

Browse Available Services

1. In the *Show* list box, select *All Inbound Synchronous Operations*.
2. In the *Group By* list box, select the sort order of the list.
3. If required, enter a key word in the *Find* field. Click *Go*.
4. Result: The list of available services is displayed.

Search for Services by Name or Business Object

1. In the *Show* list box, select *All Inbound Synchronous Operations*.
2. Enter the name of a service or business object, such as **Accounts** or **Sales Orders**, in the *Find* field.
You can also use the advanced search to specify the name of the service, operation, or business object that you are looking for.
3. Click *Go*.
4. Result: The list of available services with the key word is displayed.

Find Technical Detail and Documentation on a Service Operation

1. In the *Show* list box, select *All Inbound Synchronous Operations*.
2. Select the service operation that you need more detailed information.

→ Tip

You can tell the access type of an operation by its name. If the name of a service operation starts with *Check*, it is a read-only operation; if the name starts with *Maintain*, it is a modify/write operation.

3. In the below *Detail* pane, you can find technical information of the operation, such as service namespace, service URL, operation description, the release status and deprecation release of the operation.
4. To view the documentation for the related service and operations, under the Service section, click the documentation *Link*.
The documentation provides you technical information on the definition, business context, prerequisites, examples, and constraints of the service and its operations.

Download Web Services Description Language (WSDL)

1. In the *Show* list box, select *Scoped Synchronous Operations*.
2. In the *Group By* list box, select the sort order of the list.
3. If required, enter a key word in *Find* field. Click *Go*.
4. The list of released services available in your solution scope is displayed.
5. Select your chosen service and click *Download WSDL*.
6. The *Save As* dialog box is displayed.
7. Save to your computer.

Open Web Services Inspection Language (WSIL)

To get a list of all scoped services in standard WSIL format, click *OPEN WSIL*. The WSIL file opens in a new window with an URL of the form <http://<your-system>/sap/ap/srt/wsil>. You can then use the URL directly in your Web services development tool to select which services to use and import their WSDLs.

Related Information

[Maintain Communication Arrangements \[page 356\]](#)

The *Communication Arrangements* view enables administrators to create and edit communication arrangements that your company has set up with a communication partner.

27.3 (Deprecated) Setting Up OData Notifications

Configure notifications and inform external systems when there are changes to SAP Cloud for Customer business objects.

Prerequisites

Note

The feature *OData: Event Notification to External Systems* is deprecated. *Event Notifications* is now available. For more information, see [SAP Cloud for Customer](#) > Integration > Event Notifications

You have scoped *Event Notification* in business configuration. To perform this step, follow these instructions:

Go to *Business Configuration, First Implementation*. In step 4 (Questions) choose, ► *Communication and Information Exchange* ► *People Collaboration, Intranet and External Services* ► *Communities, Document Management and External Services* ► Under *Group: Event Notification*, set *Do you want to use Event Notification to inform External Applications?* as *In Scope*.

Context

This functionality notifies external systems of changes to business objects in SAP Cloud for Customer. Use this procedure to register your end points and set up authentication details. A typical use for this functionality is to send a notification to SAP Commerce Cloud when a new employee is created in your C4C system, or to notify custom applications of changes to business objects.

Procedure

1. If your HTTPS enabled endpoint uses certificates, add certificates used to the solution certificate list. Find this list under ► *Administrator* ► *Common Tasks* ► *Edit Certificate Trust List* ►.
2. Navigate to the ► *Administrator* ► *General Settings* ► work center.
3. Choose *OData Event Notification to External Systems* under the *Custom Object Builder* section.
4. Click *Add Row* under *Consumers*, and provide the *Name* and *Consumer End Point*.

Your consumer end points must be in the public domain, must use HTTPS protocol, and must be in front of any firewalls in your network. Additionally, consumer end points must be running an application that can understand and persist the following four fields: **businessObject**, **businessObjectID**, **odataServiceEndpoint**, **event**.

→ Remember

If the consumer end point is behind a firewall the connection check will fail.

5. Select *Basic Authorization*.
6. Click *Add Row* under *Subscriptions*.
7. Select the *Business Object*, *OData Service*, *OData Entity Collection*, and the event type (create, update, delete).
8. Choose a consumer endpoint in the table, and then select *Check connection*.
 - If the connection test succeeds, then the solution will send OData Notifications to your endpoint.
 - If the connection test fails, then check that your endpoint is not behind a firewall and that you have added the certificates used by the endpoint into the certificate list.
9. Click *Save*.

Results

When business objects listed under any of the subscriptions are modified, the external consumer is called asynchronously.

Example payload in JSON format:

```
{ "businessObject": "CUSTOMER", "businessObjectId": "00163E08BFEC1ED785AE497656AA26FE",  
  "odataServiceEndpoint": "https://my123456.ondemand.com/sap/byd/odata/v1/c4codata/  
  AccountCollection('00163E08BFEC1ED785AE497656AAXXX')", "event": "create" }
```

The external system can call back to your C4C tenant using the URL format: `https://my123456.ondemand.com/sap/byd/odata/v1/c4codata/AccountCollection('00163E08BFEC1ED785AE497656AAXXX')`

This call returns the details of the object modified.

Task overview: [Integration \[page 350\]](#)

Related Information

[Profile and Scope Integration Landscape \[page 350\]](#)

You need to profile and scope your integration requirements before setting up the integration landscape.

[Configure Connections \[page 354\]](#)

[Mashups \[page 371\]](#)

Learn how to configure, use, and access mashups.

[Code Lists Maintenance \[page 402\]](#)

In this topic, you can get an overview of all configuration required for code list maintenance.

[Integration with External Systems \[page 410\]](#)

[Support Portal Integration \[page 451\]](#)

Set up a support portal using either SAP Cloud Portal or an external support portal provider.

27.3.1 OData Editor

View standard OData services provided by SAP to create and edit custom OData services.

Overview

The *OData Service Explorer* view in the *Administrator* work center allows you to create, edit, and manage OData services.

This view lists the services created by you and the standard OData services offered by SAP. To view the services created by you, select *Custom OData Services* from *Show*. To view SAP OData Services, select *SAP OData Services* from *Show*.

For more information, see https://help.sap.com/viewer/p/SAP_CLOUD_FOR_CUSTOMER and go to the **Integration** section.

27.4 Mashups

Learn how to configure, use, and access mashups.

Mashups are used to integrate data from SAP's cloud solution with data provided by an online Web service or application. Users can access the content provided by these Web services and applications, and use it in their daily work. Mashups can include Web searches, company or industry business information, or online map searches.

Prerequisites

- You have enabled *Communities, Document Management and External Services* in your system configuration. To find this business option, go to the *Business Configuration* work center and choose the *Implementation Projects* view. Select your implementation project and click *Edit Project Scope*. In the *Scoping* step of the project, ensure that *People Collaboration, Intranet and External Services* is selected within *Communication and Information Exchange*.
- In the *Questions* step, expand the *Communication and Information Exchange* scoping element and select *People Collaboration, Intranet and External Services*. Select *Communities, Document Management and External Services* and answer the question related to *Mashups, Web Services, and External Search Providers Integration*.
- Before a mashup can be used, it must be activated by an administrator. This administrator must have authorization for the *Mashup Authoring* and *Mashup Web Services* work center views.

Note

Some mashups may not be applicable to your country/region. Your administrator should ensure that the mashup is valid for your country/region before activating it for company-wide usage.

Mashups can be preconfigured or created by administrators.

Preconfigured Mashups Provided in SAP Cloud for Customer

The following preconfigured mashups for Web services are provided in SAP Cloud for Customer:

Preconfigured Mashups

Relevant For	Mashup Name	Mashup Type	Mashup Category	Port Binding
Sales & Social	SAP (sap.com)	URL Mashup	News & Reference	Search Provider
Sales & Social	Embedded Map (bing.com)	Custom Mashup	Location & Travel	Web Map
Sales & Social	Embedded Route (bing.com)	Custom Mashup	Location & Travel	Route Planner
Sales	Sales Intelligence for Accounts (insideview.com)	HTML Mashup	Business & Finance	InsideView Account Information
Sales	Sales Intelligence for Contacts (insideview.com)	HTML Mashup	Business & Finance	InsideView Contact Information
Social	Tweets by Handle	Data Mashup	Business & Finance	Additional Account Information

In addition, the following preconfigured mashup Web services are provided, which the administrator can use to create mashups:

Preconfigured Mashup Web Services

Relevant For	Mashup Web Service Name	Service ID	Web Service Type	Service Domain
Social	Snap Engage Chat URL Generator	BYD_SNAPENG	REST	snapengage.com
Social	KloutScore	BYD_COD/KLOUT	REST	api.klout.com
Social	KloutUser	BYD_COD/KLOUTUSER	REST	api.klout.com
Social	Bitly URL Shortener	BYD_COD/BITLY	REST	api-ssl.bitly.com
Social	MindTouch KBAs	CW00003	RSS/Atom	sapserviceod.mindtouch.us

Creating Mashups for Your Organization

As an administrator, you can create new URL, HTML, or data mashups based on a mashup category provided by SAP. Depending on your solution, preconfigured mashup Web services are provided, which you can use to create data and HTML mashups. To display them, go to [Administrator](#) > [Mashup Web Services](#).

How to Access Mashups

Once a mashup has been activated and made visible on screens, you can access it in the following ways:

- A mashup can be displayed as an embedded screen.
- You can click a link on the screen.
- You can click [Web Services](#) and choose the mashup.
- You can use [Enterprise Search](#) and access external search providers that are integrated there.

Features

There are four different mashup types:

- **URL Mashups**
A mashup that sends data from SAP's cloud solution to the URL of an online service provider. The service provider uses the data, for example, to perform a search, and the results are displayed in a new browser window.
- **HTML Mashups**
A mashup that embeds an HTML or JavaScript based Web page directly on a screen.
- **Data Mashups**
A mashup combines and displays data from both internal and external sources. To create a data mashup, an integrated authoring tool is used to transform or merge external Web services with internal business data using industry-standard Web service protocols.
- **Custom Mashups**
A mashup that has been created as an add-on solution by SAP.

Administrators can create new data, URL, and HTML mashups. Custom mashups can be created only by SAP.

In particular, mashups are distinguished by the following characteristics:

- **Mashup Categories**
Mashups are grouped together into categories according to the type of service or information that they provide.
- **Port Binding**
Certain fields on screens are predefined as screen out-ports and in-ports. These screen out-ports and in-ports are grouped together as a port binding.
The port binding defines the type of information that can be used in the mashup and defines on which screens you can use the mashup. The mashup category specifies which port bindings are available.

API Keys and Authentication

- **API Keys**
Some Web services require a unique API key to allow you to access their services. You can generate a company-specific API key on the service provider's Web site and then use this key to authenticate access to the service from SAP's cloud solution.

You can identify which mashups require an API key by the icon displayed in the *API Keys* column. The *Enter API Keys* dialog box displays the API keys that are required by the selected mashup.

- **Basic Authentication**
Basic authentication allows you to enter a user name and password for authenticating access to a Web service. This user name and password is then used to automatically authenticate all other users accessing the service.
- **Secure Authentication**
For Web services that support the OAuth authentication protocol, you can set up secure authentication. The OAuth protocol enables secure, user-based access to Web services from SAP's cloud solution. Unlike other authentication methods, OAuth gives the user full control of his or her own authentication details. To use a mashup based on an OAuth authenticated Web service, users need to authenticate themselves on the service provider's web site, where they are given a unique PIN code. This PIN code is then used to authenticate access to the service from SAP's cloud solution.

Note

The mashup framework supports OAuth 1.0 only.

Configuring Mashups

Administrators can configure mashups in the following ways:

- Centrally
Navigate to ► *Administrator* ► *Mashup Authoring* ►
- On a particular screen
Use the *Adapt* function on any screen enabled for mashups to access the adaptation sidecar.

Administrators can configure mashups as follows:

- Activate mashups for use by all users or deactivate unwanted mashups
- Activate mashup partner solutions from the SAP Store
- Change the way in which mashups are displayed, and test and publish the changes to all users
- Create new mashups by copying an existing mashup and adapting the settings in the copied mashup
- Add new Web services for use in data mashups
- Create new URL, HTML, or data mashups based on a mashup category provided by SAP

Parent topic: [Integration \[page 350\]](#)

Related Information

[Profile and Scope Integration Landscape \[page 350\]](#)

You need to profile and scope your integration requirements before setting up the integration landscape.

[Configure Connections \[page 354\]](#)

[\(Deprecated\) Setting Up OData Notifications \[page 369\]](#)

Configure notifications and inform external systems when there are changes to SAP Cloud for Customer business objects.

[Code Lists Maintenance \[page 402\]](#)

In this topic, you can get an overview of all configuration required for code list maintenance.

[Integration with External Systems \[page 410\]](#)

[Support Portal Integration \[page 451\]](#)

Set up a support portal using either SAP Cloud Portal or an external support portal provider.

27.4.1 Work with Mashup Authoring

Activate preconfigured mashups, and create new mashups either from scratch or by copying a preconfigured mashup.

After a mashup has been activated, it can be made visible on the screens for which it is configured. The administrator does this centrally for all users via adaptation. For more information, see [Add Mashups on Screens \[page 391\]](#).

Note

If a mashup is not activated, the administrator can edit and activate it at a later date from the *Mashup Authoring* view.

27.4.1.1 Activate Preconfigured Mashups

Depending on your cloud solution, preconfigured mashups are provided that give access to services and content provided by third-party service providers. As an administrator, you can activate these preconfigured mashups and make them visible on selected screens.

Note

Some Web services may pass your business data to a third-party organization, for example, account data is passed to a search engine when performing a reverse lookup in an online address book. We recommend that you check whether the mashup conforms to your company's data privacy policies before activating the mashup.

Procedure

Go to ► *Administrator* ► *Mashup Authoring* ►, and perform the following steps:

1. Select *URL Mashups* or *Data Mashups* from the dropdown menu.
2. Find the mashup you want and, if required, click on the mashup name to display further details.
3. Click *Activate*.

Note

Certain Web services require API keys. If a mashup uses such a Web service, ensure that this Web service has been activated and that you have entered the required API keys for it. You can do this on the [Mashup Web Services](#) view.

To activate an HTML or custom mashup:

1. Select [HTML Mashups](#) or [Custom Mashups](#) from the dropdown menu.
2. Find the mashup you want and, if required, click on the mashup name to display further details.
3. Check the [API Keys](#) column. If a red symbol is displayed, then you need to create a unique API key from the Web service provider's Web site and enter this API key in SAP's cloud solution. A gray symbol means that no API key is required and a green symbol means that the API key has already been entered.
4. Select the mashup and click [Enter API Keys](#).
In the [Enter API Keys](#) dialog box, click [Show API Key](#) and enter the key provided to you by the Web service provider in the [API Key Value](#) column and save your changes.
5. Click [Activate](#).

Note

The solution renders all custom mashup in an iframe. Some custom mashups are not designed to be rendered in an iframe, which is a limitation of the selected mashup.

As the solution cannot determine whether a custom mashup will be rendered in iframe or not, you will see all the custom mashups in the list of available mashups.

To check if the mashup can be rendered correctly, use preview option in the mashup authoring tool. If there is an error, the selected mashup will not work with the solution.

27.4.1.2 Activate Mashup Partner Solutions

As an administrator, you can activate a mashup partner solution in your SAP cloud solution.

Prerequisites

You have procured a mashup partner solution from the SAP Store at <https://store.sap.com>.

Procedure

Check Scoping Element

1. Go to the [Business Configuration](#) work center, [Implementation Projects](#) view.
2. Select your project and click [Edit Project Scope](#).

3. On step 3 of the *Edit Project Scope* activity, check that the ► *Communication and Information Exchange* ► *People Collaboration, Intranet and External Services* ► *Communities, Document Management and External Services* ► scoping element has been selected.

Answer Scoping Question

1. On step 4 of the activity, go to ► *Communication and Information Exchange* ► *People Collaboration, Intranet and External Services* ► *Communities, Document Management and External Services* ►.
2. Select *Yes* beside the scoping question for the mashup partner solution.
3. Complete and deploy your project.

Check Mashup Settings

Navigate to the *Administrator* workcenter, and perform the following steps:

1. In the *Mashup Web Services* view, check that any Web services belonging to the mashup partner solution are activated and that API keys have been maintained.
2. In the *Mashup Authoring* view, check that the mashups belonging to the mashup partner solution are activated and that any necessary API keys have been maintained.

Note

Note that if the mashup partner solution contains multiple mashups and you only want one of these to be available to business users, you can deactivate the unwanted mashups in the *Mashup Authoring* view by selecting the mashup and clicking *Deactivate*.

27.4.1.3 Create URL Mashups

Create URL mashups to send data from your cloud solution to a URL of a Web service provider. The results are displayed on the Web service provider's Web site, which is opened in a new browser window.

Note

Some Web services may pass your business data to a third-party organization, for example, account data is passed to a search engine when performing a reverse lookup in an online address book. We recommend that you check whether the mashup conforms to your company's data privacy policies before activating the mashup.

Prerequisites

You know the end-point URL of the Web site providing the service. This could be, for example, the search results page of an online search provider.

Procedure

Go to ► [Administrator](#) ► [Mashup Authoring](#) ►. Click ► [New](#) ► [URL Mashup](#) ►, and follow these steps:

1. Under *General Information*, perform the following steps:
 1. Select the Port Binding Type. The port binding defines which screen out-ports or in-ports can be used in the mashup and on which screens the mashup can be used.
 - If you select *With Port Binding*, click the value help to choose a port binding from the available list.
 - If you select *Without Port Binding*, choose a mashup category from the dropdown. The mashup category is used to group mashups by the type of information they provide.
 2. Enter a name and a description for the mashup.

The mashup name will be displayed to business users when using the mashup.

Note

By default, the status of mashup is *Inactive*. This means it will not be available for use when saved. If you want users to access the mashup immediately, change the status to *Active*.

2. Under *URL Information*, enter the URL of the Web service and click *Extract Parameters*.

The URL can be taken directly, for example, from the search results Web page of an online search provider. Copy and paste this URL directly into the field. The system then extracts all parameters from the URL and displays them in the table.

Note

Note that for URLs that do not use queries you can manually add curly brackets around terms that should act as placeholders. For example, in the URL <https://mail.google.com/mail/#search/SAP>, you can replace the word **SAP** with a search term in curly brackets, for example, `{term}`.

If you then enter <https://mail.google.com/mail/#search/{term}> in the URL field and click *Extract Parameters*, the word in brackets is extracted as a parameter.

3. Enter a HTTP method.
4. Under *Request Parameters*, map the dynamic parameters to screen out-ports by selecting an out-port from the value help in the *Parameter Binding* column .

The *Parameter Binding* dialog box displays a list of screen out-ports that have been configured for the selected mashup category and screen. Select the parameter you want to bind to the URL parameter. Note that If you are creating a mashup for the category route planner, you can also define the following optional settings:

 - *Code Format Conversion*: For parameters that contain a code, you can change how code formats are converted.
 - *Start Index for List*: You can define whether the array parameter starts with 0 or 1.
 - *Prefix for First Value/Prefix for Next Value*: You can only define prefixes for URLs that have the index pattern `$I` and for which the start index has been set to zero.
5. Click the *Preview* button to display the end result of the mashup.
6. Save your changes.

27.4.1.4 Create Data Mashups

Create data mashups for integrating data provided by third-party Web services with business data from your SAP cloud solution.

Note

Some Web services may pass your business data to a third-party organization, for example, account data is passed to a search engine when performing a reverse lookup in an online address book. We recommend that you check whether the mashup conforms to your company's data privacy policies before activating the mashup.

Prerequisites

Web services that you have integrated for use in data mashups must use the XML service protocol. You have either integrated a new Web service or have decided to base your mashup on one or more of the preconfigured Web services provided by SAP or partners.

You can display a list of available Web services in [Administrator > Mashup Web Services](#).

Remember

Data Mashup actions are supported only when the response is flat and not complex.

Procedure

Go to [Administrator > Mashup Authoring](#). Click [New > Data Mashup](#), and follow these steps:

1. Under *General Information*, enter a name and a description for the mashup.
The mashup name is displayed to business users when using the mashup.

Note

By default, the status of mashup is *Inactive*. This means it will not be available for use when saved. If you want users to access the mashup immediately, change the status to *Active*.

2. Under *Binding*, select the port binding type. The port binding defines which screen out-ports or in-ports can be used in the mashup and on which screens the mashup can be used.
 - If you select *With Port Binding*, click the value help to choose a port binding from the available list.
 - If you select *Without Port Binding*, choose a mashup category from the dropdown. The mashup category is used to group mashups by the type of information they provide. It is shown to business users when they personalize mashups in the side pane.
3. Click *Next*.
4. On the *Define Mashup Details* step, create the mashup by adding building blocks and adjusting the properties. First, define the source of input for the mashup. You have the following options:

User Inputs

User inputs allow you to define a field in which a user can enter or select a value. This value is then used as input for the mashup. To add a user input to the mashup, click [+User Input](#). Click the block title to edit its properties in the pop-out window.

User Inputs

Text Input	Allows users to enter a string of characters as input for the mashup.
Number Input	Allows users to enter a number as input for the mashup.
Select Option Input	Allows users to select an option from a dropdown list as input for the mashup.

In the *Label* field, enter the field label that should be shown to users for this input field. You can enter a name in the *Name* field. This can then be mapped to an input parameter, for example, in a search service. For text and number inputs you can also define a default *Value*, which can then be overwritten by other users. If you have selected a *Select Option Input* building block, click the button next to *List Options* to define the list of options that the user can choose from.

Services

Select the services you want to integrate into the mashup. Click [+Service](#) to choose the service source. Click the block title to edit its properties in the pop-out window. You have the following options:

Data Sources

CSV Data Source	Use a CSV file as input for the mashup. You can choose to either upload a file or reference an online CSV file. Click the block title to open a pop-out window and select your file.
XML Data Source	Use an XML file as input for the mashup.
REST Service	All Web services that have been configured and activated in the view are listed in the value help and can be integrated into the mashup. These Web services are either SAP partner Web services or Mashup Web Services
RSS/Atom Service	
SOAP Service	

To preview the mashup results you may have to manually add a value to the input field of the mashup in-port or user input. To do this click the block title and under properties, enter a value. In the runtime version, these values will be replaced automatically by either the parameter taken from the screen out-port or by the user entering their own value.

Note

If you are using a service that uses the authentication method OAuth 1.0, then you will need to log on to the service and generate a PIN code in order to preview the service results. Afterwards when users are accessing the mashup, they will be prompted to create their own PIN code.

Actions

Actions allow you to transform the content retrieved by the Web services. Click [+Actions](#) to choose one of the following options:

Actions

Filter Data	Filter the items returned by the service. You can create rules based on the parameters provided by the service.
Sort Data	Sort the display order of items in the results based on the parameters provided by the service.
Truncate Data	Truncate the number of items displayed in a feed after a given number.
Merge Data	Mashup WebMerge multiple feeds to display in a common results list. You can use this action to combine data from two sources that have the same format into a single results list.
Join Data	Join two data sources based on conditional rules to form a new data source. You can use this action to combine data from two sources that do not have the same format.
Add Field	Add one or more fields available in the parameters returned by the service to the results.
Rename Field	Rename one or more fields in the results.
Delete Field	Delete one or more fields from the results.
Extract Field	Extract a specific piece of information from the results, for example to use as input for another service within the same mashup.
Replace Text	Replace a specific piece of text in the results with a different text.
Convert Text	Convert text based on conditional rules. For example, by applying formatting to the text.
Concatenate Text	Concatenate text in the results. For example, you can use this action to concatenate two parameters in the search results to display in the same field.
Replace Value	Replace a value in the results based on conditional rules.
Arithmetic Operation	Perform an arithmetic operation with the results based on operation rules.

Output Parameters

For mashup categories that allow the results data returned by the service to be integrated back into the screen, click [+Output Parameters](#) to add a Mashup Out-Port building block to the mashup.

Adjust the display settings of the mashup results.

By default, the results are displayed in a table format. Click [Edit Display Settings](#) and select one or more formats in which the mashup will be made available to all users. You must specify a default display option. For each display option you can also configure additional display properties, such as the maximum number of items that should be displayed. Note that the XML view is provided for your information while creating the mashup but will not be shown to other users.

If required, you can also change the default refresh settings that are used to determine when the Web service used in the mashup is called. You have the following options:

- [Refresh on Mashup Loaded](#): Deselect this checkbox if you do not want the Web service to be called when the mashup is loaded for the first time.
- [Refresh on In-Port Data Changed](#): Deselect this checkbox if you do not want the Web service to be called when the user changes the in-port value.

These options can be used if, for example, your mashup involves complex services such as calculations or uses a paid service such as an SMS sending service that should only be triggered manually.

5. On the *Review* step, you can view how the mashup will be displayed to users. Review your settings and click *Confirm* to create the mashup.

27.4.1.5 Create HTML Mashups

Create HTML mashups to embed an HTML or JavaScript based Web page into a screen of your SAP cloud solution.

Note

Some Web services may pass your business data to a third-party organization, for example, account data is passed to a search engine when performing a reverse lookup in an online address book. We recommend that you check whether the mashup conforms to your company's data privacy policies before activating the mashup.

Prerequisites

You know the URL of the Web site that you want to embed.

Procedure

Go to **Administrator** > **Mashup Authoring**. Click **New** > **HTML Mashup**, and follow these steps:

1. Under *General Information*, perform the following steps:
 1. Select the Port Binding Type. The port binding defines which screen out-ports or in-ports can be used in the mashup and on which screens the mashup can be used.
 - If you select *With Port Binding*, click the value help to choose a port binding from the available list.
 - If you select *Without Port Binding*, choose a mashup category from the dropdown. The mashup category is used to group mashups by the type of information they provide.
 2. Enter a name and a description for the mashup.
The mashup name will be displayed to business users when using the mashup.

Note

By default, the status of mashup is *Inactive*. This means it will not be available for use when saved. If you want users to access the mashup immediately, change the status to *Active*.

2. Under *Configuration Information*, enter the following information:
 - Specify the type of mashup you want to create. That is, select whether you want to enter HTML code or a URL.
Depending on what you have selected, do one of the following:
 - **Enter a URL**
 1. Enter a URL in the *URL* field and click *Extract Parameters*.

The system extracts the parameters from the URL and adds them to the table below, where you can edit constants and bind parameters to the screen out-ports available for the selected port binding.

Note

For URLs that do not use queries you can manually add curly brackets around terms that should act as placeholders. For example, in the URL <https://mail.google.com/mail/#search/SAP>, you can replace the word **SAP** with a search term in curly brackets, for example, **{term}**. If you then enter <https://mail.google.com/mail/#search/{term}> in the *URL* field and click *Extract Parameters*, the word in brackets is extracted as a parameter.

2. Click *Preview* to display the end result of the mashup.

• Enter HTML Code

1. In the *HTML Code Editor* you can copy or enter your own HTML code.
In addition, you can use a third-party REST service or create your own REST service. We recommend that you use JSON service protocol for your REST service.
To add the Web service to the HTML mashup, click *Add REST Service* and select a Web service from the *REST Services* dialog box. The code template of the API is inserted automatically in the HTML code editor.

Note

To assist you in coding HTML Mashups, some example APIs are documented here: [Example APIs for HTML Mashups \[page 384\]](#).

2. Under *Input Parameters* and *Output Parameters*, the parameters are listed depending on the port binding that you have chosen. If required, you can copy the string code for a parameter to the HTML code editor by selecting the parameter and clicking *Copy*. The string code of the parameter is copied to the first row of the editor. You can then move this code string to the required location in the code.
3. Click *Preview* to display the end result of the mashup.
4. To test the mashup, you can enter sample values for the parameters, and click *Update Parameter Values* to the right of the HTML code editor.

Note

If you change the code, you need to click *Preview* again to display the updated result of the mashup.

- Adjust the display height, as required. The default height is 200 pixels.
3. Save your changes.

27.4.1.6 Example APIs for HTML Mashups

This document provides some example APIs to help you to code HTML mashups.

External REST Service Call

Method

```
sap.byd.ui.mashup.callService(serviceOptions)
```

Usage

When you click [Add REST Service](#) in the toolbar of the editor, the code template of this API is inserted automatically.

Parameters

serviceOptions is a JSON object with the following parameters:

Parameter	Description	Mandatory/Optional
serviceID	The ID of the REST service called	Mandatory
parameter	A JSON object that parameterizes the service	Optional
onComplete	Callback method name if the service call succeeds	Optional
onError	Callback method name if the service call fails	Optional

Example

```
sap.byd.ui.mashup.callService({
  serviceId: 'CW00001'
  parameter: { 'query': 'SAP' },
  onComplete: 'serviceCallback_CW00001',
  onError: 'exceptionHandler_CW00001'
});
```

Responding to Application Context Update

Method

```
sap.byd.ui.mashup.onContextUpdate()
```

Usage

If a port binding is assigned in the mashup, all the context parameters from out-port of the application and the pre-defined system parameters are displayed in the [Input Parameters](#) table. If you select an input parameter

and click [Copy](#), the system automatically copies the parameter in the selected row as a code string to the first line of the editor. You can then move this code string to the required location in the code.

After you have finished entering the code and clicked [Preview](#) to preview the results of the mashup, you can test the `onContextUpdate` API. Enter sample values for the input parameters and then click [Update Parameter Values](#).

Parameters

The context can be accessed via `sap.byd.ui.mashup.context`, which is a JSON object with the following objects:

- In-port
if the mashup defines port binding, the values from the corresponding application out-port can be accessed by using `inport.ParameterName`.
- System
Mashup system parameters

Parameter	Description
<code>system.LogonLanguage</code>	Current display language in your SAP solution
<code>system.ProductVersion</code>	Current version of your SAP solution
<code>system.ShortHostname</code>	Short host name of your SAP solution

Example

```
sap.byd.ui.mashup.onContextUpdate = function() {
  var ctx = sap.byd.ui.mashup.context;
  // context parameters
  console.log('Logon language:' + ctx.system.LogonLanguage);
  // whole list of parameters for Port Binding Reverse Lookup
  console.log('Company name:' + ctx.inport.CompanyName);
  console.log('Address:' + ctx.inport.Address);
  console.log('Street:' + ctx.inport.AddressStreet);
  console.log('Street with house No.:' + ctx.inport.AddressStreetHouseNumber);
  console.log('House No.:' + ctx.inport.AddressHouseNumber);
  console.log('City:' + ctx.inport.AddressCity);
  console.log('Country:' + ctx.inport.AddressCountry);
  console.log('Country code:' + ctx.inport.AddressCountryCode);
  console.log('Postal code:' + ctx.inport.AddressPostalCode);
  console.log('State/province:' + ctx.inport.AddressStateProvince);
  console.log('State/province code:' + ctx.inport.AddressStateProvinceCode);
};
```

Write Back Data to Application UI

Method

`sap.byd.ui.mashup.fireResultUpdate(resultObject)`

Usage

To consume this API, a writeback port binding (for example, Reverse Lookup) should be specified in the mashup. The [Output Parameters](#) table contains the parameters used to write back data to the corresponding

application in-port. Click [Copy](#) to copy the corresponding parameter of the selected row to the editor. Using this API method, the preview values are filled with the values from the HTML application.

Parameters

resultObject is a JSON object which reflects the corresponding in-port of the application UI.

Example

```
// Example: Port Binding Reverse Lookup
// Address is a local object.
sap.byd.ui.mashup.fireResultUpdate({
  'CompanyName': address.name,
  'AddressStreetHouseNumber': address.street,
  'AddressStreet': address.street,
  'AddressCountryCode': address.country,
  'AddressStateProvinceCode': address.state,
  'AddressCity': address.city,
  'AddressPostalCode': address.zipCode
});
```

27.4.1.7 Copy Existing Mashups

Create a copy of a mashup delivered by SAP or partners. This enables you to adapt preconfigured mashups or to create your own mashup based on the configuration settings of an existing mashup.

1. In the [Mashups Authoring](#) view, select the mashup you want to copy by clicking on the mashup name.
2. On the mashup details screen, click [Copy](#).
The system opens a copy of the mashup.
3. Enter a new name for the mashup and adapt the configuration settings, as required.
4. Save your changes.

27.4.1.8 Delete or Deactivate Mashups

Delete or deactivate mashups that you and other users have created.

1. In the [Mashup Authoring](#) view, select a mashup.
2. Click [Delete](#), or [Deactivate](#).
If you click deactivate, the mashup is no longer visible on screens. If you select delete, the mashup is removed from the [Mashup Authoring](#) view and is also deleted from all screens for which it had been made visible.

27.4.1.9 Track Flexibility Change Log for Mashup Authoring

Track and manage changes made in the adaptation mode.

The [Flexibility Change Log](#) view contains all changes that have been made by administrators in adaptation mode and in the [Mashup Authoring](#) view regardless of the version you are using. This includes changes to

screens, extension fields, and mashups. This view allows administrators and auditors to trace the way in which data is being accessed by users. For example, by creating calculated extension fields and mashups, administrators can grant users access to data that they were not originally authorized to access. You can access this view from the *Administrator* work center.

You can use this view to track and manage changes to objects. By default, the list of changed objects displays all objects that have been changed by you. You can view changes made by others by selecting an option from the *Show* dropdown menu. In the *Status of Changes* column, you can see whether the object contains any changes that have not been published. You can then decide whether to publish or discard all changes to the object. For each changed object you can also view the change history which is a detailed log of each change that has been made.

To help you keep track of why changes were made, you can add a tags to the individual changes in an object's change history.

View the Change History of an Object

1. In the *Flexibility Change Log* screen, select a changed object.
2. Click *Change History*.
The *Change History* screen opens displaying a list of all changes that have been made to the object. You can filter for your changes only, or view changes by all users. You can also sort the list for changes that have not been published.

Add Tags to Changes

You can add tags to individual changes in the change history of an object. This helps you keep track of why you made your changes, for example, if you made the change in the context of a scope change project.

1. In the *Flexibility Change Log* screen, select a changed object and click *Change History*.
The *Change History* screen opens displaying a list of all changes that have been made to the object.
2. On the *Change History* screen, select a row in the table and enter a text in the *Tag* column.
We recommend that you use one or more key words related to why you have made this change. If you enter multiple tags for different changes, these are listed for the changed object on the *Flexibility Change Log* screen.

Publish Non-Published Changes

You can publish changes that have been made to an object but which have not yet been published.

1. In the *Flexibility Change Log* screen, select a changed object that contains not published changes.
2. Click *Publish*.
The changes are made visible to other users.

Discard a Single Change

You can discard a single change to an object if it has not been published.

1. In the *Flexibility Change Log* screen, select a changed object and click *Change History*.
2. On the *Change History* screen, select a row in the table and click *Discard*.
The administrator change is deleted from the object.

Discard All Changes for an Object

You can discard all administrator changes to an object.

1. In the *Flexibility Change Log* screen, select a changed object.
2. Click *Discard*.

All administrator changes are deleted from the object and it is restored to its original state.

Export a List of All Changed Objects

You can export a detailed list of all changed objects containing all changes that were made to each object. Note that to use this function, you must install the add-in for Microsoft Excel® on your local computer.

1. In the *Flexibility Change Log* screen, select *All Changes* from the *Show* dropdown menu.
All changed objects are displayed along with all changes.
2. Click *Export*.
3. On the *Export To Microsoft Excel* dialog, select a language and click *Download*.

27.4.2 Mashup for Add-Ons

You can create only *HTML Mashups* of type *URL* for Add-Ons. To create an HTML mashup, follow the steps under [Create HTML Mashups \[page 382\]](#).

Note

You must select *Port Binding* as *Add-On information*. For more information, see [Generic Port Definition for Add-On Mode](#).

Related Information

[Mashups \[page 371\]](#)

Learn how to configure, use, and access mashups.

27.4.3 Create Mashup Web Services

Create mashup web services to integrate third-party services with your solution.

As an administrator, you can create mashup web services to integrate third-party web services with SAP Cloud for Customer and use them in data or HTML mashups. You can integrate the following types of web services:

- RSS/Atom
- REST
- SOAP

Prerequisites

- For RSS or Atom feeds, you know the end-point URL of the Web service or the WSDL location.
- For REST Web services, you need to know the request URL as well as any relevant parameters.
- For SOAP Web services, you need to know the WSDL location (URL).

Typically, you can find this information on the Web site of the service provider.

Procedure

Navigate to ► [Administrator](#) ► [Mashup Web Services](#) ►. Click [New](#), select the type of web service you want to create, and follow these steps:

1. Enter a name and description for the web service.
2. Depending on the type of mashup you are creating, do the following:

RSS or Atom Feed

1. On the [RSS/Atom Service](#) screen, under [Service Information](#), select an authorization method, if required.

ⓘ Note

You can only use the OAuth 1.0 standard to authenticate users accessing the service if OAuth 1.0 is supported by the provider. You can find all of the information required on the Web site of the provider.

2. Enter the URL of the RSS or Atom feed and click [Extract Parameters](#).
The system extracts any parameters and displays them under [Input Parameters](#). You can adjust these as required. Note that only those parameters that have empty constants can later be mapped to a mashup in-port or user input with default or dynamic values when creating a data mashup.

ⓘ Note

For URLs that do not use queries you can manually add curly brackets around terms that should act as placeholders. For example, in the URL <https://mail.google.com/mail/#search/SAP>, you can replace the word **SAP** with a search term in curly brackets, for example, `{term}`. If you then enter

<https://mail.google.com/mail/#search/{term}> in the URL field and click *Extract Parameters*, the word in brackets is extracted as a parameter.

REST

1. On the *REST Service* screen, under *Service Information*, select an authorization method, if required.

Note

You can only use the OAuth 1.0 standard to authenticate users accessing the service if OAuth 1.0 is supported by the provider. You can find all of the information required on the Web site of the provider.

2. Select an HTTP method.
3. Depending on the method you selected, do the following:

If you selected GET:

1. Enter the URL of the web service and click *Extract Parameters*.
2. The system extracts any parameters and displays them under *Input Parameters*. You can adjust these as required.

Note

For URLs that do not use queries you can manually add curly brackets around terms that should act as placeholders. For more information, see the related note in the RSS or Atom Feed section.

If you selected POST:

1. Select a content type. If you select *Form*, proceed as described in the GET method. If you select *XML Body*, proceed as follows.
2. Enter the URL of the web service and the XML code.
3. Click *Generate Body Parameters* to extract the parameters from the code, if applicable. The system extracts any parameters and displays them under *Input Parameters*. You can adjust these as required. Note that only those parameters that have empty constants can later be mapped to a mashup in-port or user input with default or dynamic values when creating a data mashup.

Note

You can also use curly brackets to define parameters in POST XML bodies. For example, you can replace a value returned by the REST service with a placeholder, for example `{placeholder}`, which can then be mapped to a screen out port in a mashup.

SOAP

1. On the *SOAP Service* screen, under *Service Information*, enter the WSDL URL and click *Import*. The system extracts the WSDL content.
2. Select a service operation.
3. If required, click *Copy Description* to copy the service operation description into the mashup's *Service Description* under *General Information*.
4. Enter constants, if required.
Only those parameters that have empty constants can later be mapped to a mashup in-port or user input with default or dynamic values when creating a data mashup.

Note

The following restrictions apply when creating SOAP-based web services: the XSD extensions union, list, and restriction are not supported; it is not possible to use header messages, imports in WSDLs, and maximum or minimum occurrence indicators; the XSD complex type structure is always handled as a sequence; for WSDLs containing more than one service, multiple ports with the same name are not supported; and SOAP 2.0 is not supported.

3. Save your changes.
4. Select [Activate](#) to make the web service available for integration with a data or HTML mashup.

27.4.4 Add Mashups on Screens

As an administrator, you can add a mashup to a screen and make it visible to all users. Each mashup can be added to a predefined set of screens based on the mashup category and port binding.



Tip

Alternatively, if you do not want to make a mashup visible to all users who have access to a screen, then individual users can add the mashups by going to [Personalize](#) > [Start Personalization](#). This means that only users who have personalized the screen will be able to use it.

Prerequisite

The mashup has been activated.

Procedure

1. Navigate to the screen on which you want to make the mashup available to all users.
2. Go to your user profile, and from the dropdown list select [Start Adaptation](#). The system opens in the [Adaptation Mode](#).
3. Click the blue icon  on a header, section, or tab and the system highlights the area with a red border to indicate that changes can be made. In the side pane, click the reverse arrow icon  to navigate to the [View](#).

Note

- You can add URL mashups in headers only.
- You can add HTML and Data mashups in sections and tabs only.

4. Click [Add](#) > [Mashup](#) to open a new window.

5. Select the row that contains the required mashup to display the *Properties* header.
6. Select the checkbox against the same mashup to make the properties editable.
7. If required, you can adjust the appearance of the mashup by selecting one of the following options under *Properties*.

Note

The options available to you will vary depending on the mashup.

- *Appearance*
 - **New Screen Section:** The mashup is embedded directly into the screen as a new section.
 - **Link:** The mashup is embedded into the screen as a link. This is available for URL mashups only.
 - Select the *Full Width* checkbox if you want the mashup to take up the full width of the screen.
 - Select the *Show Pane Header* checkbox if you want to see the mashup title on the screen.
 - *Height(%)*

You can define the height of HTML Mashups to be displayed in the available screen. For example, if you set the value of Height(%) to 100, the newly added mashup will occupy the full height of the screen.
8. If the *Input Binding* or *Output Binding* section is displayed, select the extension fields that should be mapped to the parameters.
 9. Click *Apply*.
 10. To save your settings, click your profile and select *End Adaptation*.

Note


We recommend that you do not add more than one mashup on a screen. This can cause delays and affect performance.

27.4.5 Add Mashups as Tabs

As an administrator, you can add a mashup as a new tab.

Using page layouts and visibility property you can control who is allowed to use the mashup.

To add a mashup as a tab, follow these steps:

1. **Create a tab on a screen.**
 1. Navigate to a screen where you want to add the mashup.
 2. Click your profile on the top right corner of your screen, and select *Start Adaptation*. The system opens in the *Adaptation Mode* and the section where the changes can be made is highlighted with a red border.
 3. In the side pane, under *Overview*, click **Add > Tab**.
 4. In the *Tab* dialog box, add a title for the new tab and a new section.
 5. Click *Apply*. The new tab is added to the header of the screen.
2. **Add a mashup to the tab.**
 1. Navigate to the new tab and open it.
 2. Click the blue icon . The system highlights the area with a red border to indicate that changes can be made.

3. In the side pane, click the reverse arrow icon ← to navigate to the [View](#).
4. Click ► [Add](#) ► [Mashup](#) ► to open a new window.
5. Add the mashup. For more information on how to add mashups, see [Add Mashups on Screens \[page 391\]](#)
6. To save your settings, click your profile and select [End Adaptation](#).

27.4.6 Web Service Message Monitoring

The [Web Service Message Monitoring](#) view allows you to monitor and process web service messages that are based on the SOAP protocol.

The default view in Web Service Message Monitoring offers the following messages:

- All asynchronous messages
- Synchronous messages with errors

To see all synchronous messages, go to the action menu and select [Start Trace](#). The trace is active for 30 minutes. To stop the trace, go to the action menu and select [Stop Trace](#).

Web Service Message Monitoring aggregates information from several sources and synchronizes this information automatically every 15 minutes. The last synched time is available in the user interface. To manually start the synchronization, select [Refresh](#). Synchronization can run for longer depending on the number of messages to be processed.

⚠ Caution

The Web Service Message Monitor is intended for technically skilled persons with in-depth knowledge of SOA technology.

Retention Period for Asynchronous Messages

Message Status	Retention Period
Messages in status Successful or Canceled	42 days
Messages with errors	90 days + 5 days

📌 Note

Asynchronous messages with errors automatically move to [Canceled](#) after 90 days. After a further 5 days, these messages are deleted.

Retention Period for Synchronous Messages

Message Status	Retention Period
Messages in status <i>Successful</i>	2 days
Note Successful synchronous messages are available only when a trace is activated.	
Messages with errors.	62 days

Tasks and Actions

The following tasks and actions can be performed in the Web Service Message Monitoring view:

1. Sort and Filter

Use Sort, Donut Chart, or Advanced Search to find the messages relevant to you.

2. Message Details

Selecting a web service message and review details such as *Status*, *Message ID*, *Parent Message ID*, *SAP Passport ID*, *Detailed Error Information*, *Service Interface Name*, *Communication Party*, *User*, *Creation Date Time*, *Last Execution Date Time*, and *Message Size*.

3. Message Payload

To enable this feature, select the following scoping question:

► [Business Configuration](#) ► [Implementation Projects](#) ► [\(your project\)](#) ► [Edit Project Scope](#) ► [Scoping](#) ► [Communication and Information Exchange](#) ► [Business Process Management](#) ► [Process-Integrated Input and Output Management](#) ► [Web Service Message Monitoring](#) ► [Question: "Do you want to enable the display of a message payload?"](#) ►

To view the payload of a webservice message, select a message and select ► [View](#) ► [Payload/Response Payload](#) ►. You can see the message in an XML format and also [Download](#) it for further analysis and troubleshooting.

Note

This feature is available only for synchronous messages.

For more information on messages with errors, select the message and navigate to ► [View](#) ► [Error Log](#) ►.

4. Restart Failed Messages

Restart failed asynchronous messages as background jobs using one of the following actions:

- [Restart](#) ► [Selected](#) ►

Use this option to select up to 1000 messages for restart.

- [Restart](#) ► [Based on filter criteria](#) ►

Use this option to select all messages in a query for restart. This option doesn't consider any filters set in the query. To restart a large number of messages, use this option.

5. Cancel Failed Messages

Cancel any failed messages to avoid reprocessing and rewriting of older messages on newer data. Use one of the following options:

- [Cancel](#) > [Selected](#)

Use this option to cancel up to 1000 messages.

- [Cancel](#) > [Based on filter criteria](#)

Use this option to cancel all messages in a query. This option doesn't consider any filters set in the query. To cancel a large number of messages, use this option.

6. Parent-Child Message

To navigate to parent-child messages, select a message and go to [View](#) > [Parent Message/Child Messages](#) . Parent-child relationship between messages occurs in the following cases:

- If an error occurs during processing of asynchronous inbound bulk messages, these messages could be split. The bulk message is considered the parent message and the split message is considered the child message.
- Often, there are two related asynchronous outbound messages. The first one is sent to a virtual endpoint where tasks such as ID mapping and code list mapping are performed. The second message is sent to the real endpoint. In this case, these messages are linked with a parent-child relationship.

7. Messages with Same Application Sequence

In cases where there are several inbound messages for the same business object ID, you can view their sequence.

A business object could receive an older message after the latest message is already processed. In such cases, the web service runtime's inbuilt sequencing automatically sets older messages to obsolete. The sequencing is based on the `SenderSequenceNumberValue` field in the message payload.

To see the sequence of the inbound messages and analyze them, go to [View](#) > [Application Sequence Messages](#) .

8. Subscribe to Statistics

Subscribe to a daily email to see the statistics of successful, failed, and total messages. From the action menu, click [Subscribe](#). To unsubscribe from the daily email, select [Unsubscribe](#).

9. Download Message List

To download messages, filter your messages as needed and go to [Export](#) > [To Microsoft Excel](#) , select your language and click [Download](#).

You can also [Export with errors](#) and download a CSV.

27.4.7 Configure External Search Sources

Learn how to activate or deactivate several external sources (URL mashups) that are shipped with the solution.

The enterprise search feature can be configured to include external sources. You can also add new external sources by creating a new URL mashup of the [News & Reference](#) category.

Activate or Deactivate Existing External Search Sources

1. Go to [Administrator](#) > [Mashup Authoring](#) .
2. Filter the list to show [URL Mashups](#).
3. Sort the list by [Mashup Category](#).

All the external search sources are of the category, [News & Reference](#).

- To activate a source, select the table row for that mashup and click [Activate](#).
That URL mashup is now active and available for selection in the enterprise search drop down list.
- To deactivate a source, select the table row for that mashup and click [Deactivate](#).
That URL mashup is now inactive and is not available for selection in the enterprise search drop down list.

Add a New External Search Source

- Go to ► [Administrator](#) ► [Mashup Authoring](#) ▾.
- Click [New](#), then [URL Mashup](#).
- Complete the required entries and save your new mashup.

⚠ Caution

The *Mashup Category* must be *News & Reference*.

The *Port Binding* must be *Search Provider*.

The *Status* must be *Active*.

The new URL mashup is now available for selection in the enterprise search drop down list.

27.4.7.1 Configure Google Maps or AutoNavi Maps

Administrators can configure Google Maps or AutoNavi Maps for different accounts.

Configure the Maps Mashup

To enable map view via mashup, proceed as follows:

- Choose ► [Administrator](#) ► [Mashup Authoring](#) ▾.
- On the [Mashup Authoring](#) screen, select [Custom Mashups](#) from the dropdown menu.
- Perform a search for the mashup ID. The mashup IDs for the available maps are as follows:
 - Google - **SM00078**
 - AutoNavi - **SM00079**: For use in the countries such as China where Google Maps are not supported.
- Select the mashup and click [Enter API Keys](#). The [Enter API Keys](#) dialog box opens.
- Click [Show API Key](#) and, in the [API Key Value](#) column, enter the API key that you received from the service provider.
- Save your changes.

📌 Note

- The use of the Google Maps Service is subject to Google Terms of Service, which are written in <http://www.google.com/intl/en/policies/terms/> 📄. If you do not accept such Terms of Service, including but

not limited to all limitations and restrictions therein, you may not be able to use Google Maps Service in SAP Cloud for Customer. The use of Google Maps Service in or through SAP Cloud for Customer constitutes your acceptance of Google Terms of Service, and it can be terminated by SAP without reason at any time and SAP is not required to provide an equivalent service via another provider. As a prerequisite, please create a support ticket to obtain and use the SAP API key for Google Maps.

- The use of AutoNavi Maps Service is subject to AutoNavi Terms of Service, which are written in <https://lbs.amap.com/home/terms/>. If you do not accept such Terms of Service, including but not limited to all limitations and restrictions therein, you may not be able to use AutoNavi Maps Service in SAP Cloud for Customer. The use of AutoNavi Maps Service in or through SAP Cloud for Customer constitutes your acceptance of AutoNavi Terms of Service, and it can be terminated by SAP without reason at any time and SAP is not required to provide an equivalent service via another provider. As a prerequisite, please create a support ticket to obtain and use the SAP API key for AutoNavi Maps.

27.4.7.2 Configure Knowledge Base Integration

Enable agents to search for solutions and attach articles to responses without having to leave the workspace by integrating an external knowledge base.

Overview

By integrating an external knowledge base, you enable agents to search for solutions and attach articles to responses without having to leave the workspace. The workspace will also include a list of recommended articles based on an automatic search of the knowledge base using the product and other keywords identified via text analysis as the search parameters.

Prerequisites

- You have an external knowledge base that supports the OpenSearch standard with an RSS or Atom based search API.
- You know the URL for the API (from your knowledge base vendor).
- You know the search term input parameter for the API (from your knowledge base vendor).

Note

Single sign on (SSO) is **not** supported for knowledge base integration.

Enabling Knowledge Base Integration

As part of your scoping activities for your SAP Cloud for Customer implementation project, you need to enable the *Knowledge Base Integration* business option. This basically turns on the solution finder feature of the workspace where your external knowledge base is integrated.

1. Go to ► [Business Configuration](#) ► [Implementation Projects](#) ► and select the relevant implementation project.
2. Click [Edit Project Scope](#).
3. Click [Next >](#) until you reach [Questions](#).
4. In the [Scoping Elements](#) list, select ► [Service](#) ► [Customer Care](#) ► [Service Request Management](#) ►.
5. Enable [Knowledge Base Integration](#) by selecting [In Scope](#) for that question.
6. Click [Next](#).
7. Review and confirm your project scope.

Creating a Knowledge Base Web Service

1. Go to ► [Administrator](#) ► [Mashup Web Services](#) ►.
2. Click [New](#), then [RSS/Atom Service](#).

Note

Single sign on (SSO) is **not** supported for knowledge base integration.

3. Enter the URL of the RSS or Atom feed and click [Extract Parameters](#).
The system extracts any parameters and displays them under [Input Parameters](#).
You can also manually enter the input parameters if you know them.
4. Adjust the input parameter values as required, ensuring that the search term parameter is blank.

Example

For example, if the URL for the RSS or Atom feed for your knowledge base vendor is `https://KBvendor.com/search?q=test`, then the system would extract the parameter, `q`, with the constant, `test`. You would need to delete the constant value so it remains blank.

5. Save your entries.

Creating a Knowledge Base Data Mashup

Once you've created the web service for your knowledge base, you need to create a data mashup to specify the mapping between the search parameters used by the system and the web service input parameters.

1. Go to ► [Administrator](#) ► [Mashup Authoring](#) ►.
2. Click [New](#), then [Data Mashup](#).
The guided activity for creating a new data mashup opens.

Defining the General Information

1. For *Mashup Name*, enter **KNOWLEDGE_BASE**.

⚠ Caution

The name **must** be **KNOWLEDGE_BASE**.

2. For *Mashup Category*, choose *News & Reference*.
3. For *Port Binding*, choose *Knowledge Base Search*.
4. Click *Finish & Activate*.

Defining the Mashup Details

1. The knowledge base web service you created needs to be added as a source for the data mashup. Click on the *Sources* tab.

→ Tip

Depending on the size of your screen, you may have to scroll within the left pane to see the *Sources* tab. By default, the *Parameters* tab is active.

2. Drag and drop the *RSS/Atom Services* building block onto the central authoring canvas.
3. In the dialog box, select the web service you created for your knowledge base.
4. Using the cursor, draw a connection between the bottom of *Mashup In-Port* and the top of *Fetch Feed* boxes of the new service.
5. With *Fetch Feed* selected, in the properties pane on the right, select *SearchExpression* for the search term parameter.
6. Now with *Mashup In-Port* selected, in the properties pane on the right, enter a search expression that you're sure will return results.
7. Click *Preview Result*.
The results of your search expression are displayed in the result pane.
8. If the results are what you expected, click *Next*.

Reviewing the Mashup

If all the information for the mashup is correct and OK, save it by clicking *Finish*.

⚠ Caution

Make sure the status is active.

27.4.7.3 Configure the URL Shortener

Learn how to configure the URL shortner using an existing web service.

The URL Shortener is used when attaching knowledge base articles to message responses. It is configured using an existing web service.

1. Go to **Administrator** > **Mashup Web Services**.
2. Search for the **BYD_COD/BITLY** service.
3. Select the service and click **Enter API Keys**.
The **Enter API Keys** dialog box opens.
4. Click **Show API Key** and, in the **API Key Value** column, enter the Bitly login and API key provided by the service provider.

Example

For example, you can find the Bitly values at `http://bitly.com/a/your_api_key/`.

5. Save your changes.

27.4.7.4 Configure the Chat URL Generator

Learn how to configure a chat URL generator using an existing mashup web service.

Overview

The chat URL generator enables an agent to send the customer an invitation and link to a chat session. It is configured using an existing mashup web service.

Note

This mashup web service integrates with a third-party chat solution by SnapEngage. SAP is not responsible for setup or support. Contact SnapEngage directly if you have questions or issues related to chat integration.

Prerequisites

- You have an account with SnapEngage.
- You have enabled the **Application Programming Interfaces (APIs)** scoping element.
 1. Go to **Business Configuration** > **Implementation Projects** then select your project and click **Edit Project Scope**.
 2. Click **Next** until you get to **Scoping**.

3. Then under **Communication and Information Exchange** > **Business Process Management**, select **Application Programming Interfaces (APIs)**.

Configuring the Web Service

1. Go to **Administrator** > **Mashup Web Services**.
2. Search for the **BYD_COD/SNAPENG** service.
3. Select the service and click **Enter API Keys**.
The **Enter API Keys** dialog box opens.
4. Click **Show API Key**.
5. Enter the **API Key Value** provided by SnapEngage for each of the following API keys:
 - **w**
This is the API key GUID and will look something like this: **ad02xxx1-fax3-xxx7-axxxd-4xx2f1e64xxx**
 - **b**
This is the URL of the page you want to display behind the SnapEngage chat client when a customer opens the chat link sent by an agent. For example: **http://www.<your company>.com/<product support>**.
6. Save your changes.

Results

The insert chat link option is now available in the workspace.

27.4.7.5 Configure Web Services for Klout

Learn how to configure Klout web services for Twitter social media customer profiles and to retrieve the customers' Klout scores and associated information.

Overview

The Klout web services are used for Twitter social media customer profiles to retrieve the customers' Klout scores and associated information. There are two existing web services for which you need to maintain the API keys.

1. Go to **Administrator** > **Mashup Web Services**.
2. First, search for the **BYD_COD/KLOUT** service.
3. Select the service and click **Enter API Keys**.
The **Enter API Keys** dialog box opens.

4. Click [Show API Key](#) and, in the *API Key Value* column, enter the API key provided by the service provider.
5. Save your changes.
6. Next, search for the **BYD_COD/KLOUTUSER** service.
7. Select the service and click [Enter API Keys](#).
8. Click [Show API Key](#) and, in the *API Key Value* column, enter the API key provided by the service provider.
9. Save your changes.

27.5 Code Lists Maintenance

In this topic, you can get an overview of all configuration required for code list maintenance.

Business background

Code lists are code values defined in the fine tuning in SAP Cloud for Customer and the Customizing of on-premise system. These codes are used as selection values for field help.

❁ Example

Value Numbers and Code Lists in Cloud System	Value Numbers and Code Lists in On-Premise System
1. Student	1. Student
2. Professional	2. Entrepreneur
3. Entrepreneur	3. Professional
4. Unemployed	4. Unemployed

In the above example, you see that values 2 & 3 do not match in the cloud and on-premise systems. When a request for value 2 is sent from cloud system, it will receive an incorrect value from the on-premise system. It is therefore imperative to maintain a valid mapping between code list values across systems as code lists in the various systems may or may not be identical.

Code list mapping is therefore a critical step to ensure that integration works functionally and with correct required data. Code list mapping can be used to map certain codes, such as partner roles, distribution channels, or legal forms of a business between an SAP on-premise solution and SAP Cloud for Customer.

Parent topic: [Integration \[page 350\]](#)

Related Information

[Profile and Scope Integration Landscape \[page 350\]](#)

You need to profile and scope your integration requirements before setting up the integration landscape.

[Configure Connections \[page 354\]](#)

[\(Deprecated\) Setting Up OData Notifications \[page 369\]](#)

Configure notifications and inform external systems when there are changes to SAP Cloud for Customer business objects.

[Mashups \[page 371\]](#)

Learn how to configure, use, and access mashups.

[Integration with External Systems \[page 410\]](#)

[Support Portal Integration \[page 451\]](#)

Set up a support portal using either SAP Cloud Portal or an external support portal provider.

Important tasks

The following sections describe the process flow tasks for code list maintenance:

Maintain Code List Groups

In SAP Cloud for Customer, maintain code list groups under ► [Business Configuration](#) ► [Implementation Projects](#) ► [Open Activity List](#) ► [Code List Mapping for Integration with External Applications and Solutions](#) ► [Maintain Code List Mapping Groups](#) ►.

You can create multiple code list mappings and assign them to a mapping group. As mapping groups are assigned to communication arrangements, you can ensure that all code list mappings for an on-premise system are grouped together in a mapping group. Also note that a mapping group can be assigned to several communication arrangements.

Base Code List Mapping Group

Use a base mapping group such as 03 – SAP On Premise Integration to maintain your mappings with the mapping rule set to [Local and Remote Codes are Equal](#). You can assign this group to several communication arrangements.

Why Create New Code List Groups: You may need to create new code list groups for the following reasons:

- To extend the standard code lists supported for SAP Cloud for Customer and maintain deviating mappings.
- To modify read-only code lists that are delivered with the base group 03 – SAP On Premise Integration.
- To use the same codes to work differently for different business scenarios.
- Same code lists are maintained for a field in different on-premise systems but these code lists have different business meaning.

❁ Example

The unit of measure for distance in:

- On-premise backend 1 is meters with the code m

- On-premise backend 2 is miles with the code m
If both of these on-premise systems are connected to SAP Cloud for Customer, then, for the code list — Distance, you cannot maintain the mapping “m” for both meters and miles. You will need to create separate code list groups to maintain this deviating mappings.

Maintain Code List Mapping

SAP Cloud for Customer supports manual and automatic code list mapping. Automatic mapping is recommended for initial load and delta load. Manual mapping can be maintained when you need to manually make delta changes to your code list mapping for code lists that are not supported for automatic mapping.

Maintain Code List Restrictions

You can even restrict access to specific code lists for a particular business role. To do this, you must select the business object and field that you need to restrict and select the role for which you want to maintain this restriction. For detailed information, see [Configuring Code List Restrictions \[page 409\]](#)

27.5.1 Configure Automatic Code List Mapping

Settings to configure for automatic code list mapping are described in this topic.

Business background

Automatic code list mapping is recommended for both initial load and delta maintenance. This section describes the steps to configure automatic mapping of code lists.

Important Information Before You Configure Automatic Code List Mapping

1. **Automatic Mapping Supported for a set of Standard Code Lists Only:** Automatic code list mapping is valid only for the code lists supported for the standard solution. For other code lists, you need to manually maintain the mapping in the fine tuning activity.
2. **Code List Exceptions that are not Supported for Automatic Mapping:** In the code lists *CashDiscountTermsCode* and *BusinessPartnerRelationshipCategoryCode*, not all the values are transferred to Cloud. Hence, if you use either of these two code lists, review and adjust the values and mappings manually directly in the fine tuning activity.

3. **Deleted Code Lists in On-Premise not Refreshed in Cloud Solution:** If code lists are deleted in the on-premise system, the corresponding code list and the mapping are not automatically deleted in the cloud system during upload.
4. **Differential Mapping Overwrites Existing Mapping:** Existing mapping automatically overwritten by differential mapping from on-premise system. This happens because when differential mapping is proposed for a code list, the mapping rule is switched from *Local and Remote are Equal* to *Map Individual Codes* and the differential mapping is updated in the cloud solution.

Important tasks

Download Code Lists from SAP Cloud for Customer

Download code lists in SAP Cloud for Customer under ► [Business Configuration](#) ► [Download Code List](#) ►

→ Tip

Make sure you save the zip file by entering a file name with a file extension **.zip**, for example **Download.zip**.

All the code lists in the Cloud solution, and the mappings maintained in the fine tuning activity for the selected mapping group and in the selected language will be downloaded into a zip archive file. The zip file contains two .csv files. The `CodeList.csv` contains all the code lists in the Cloud solution and `CodeMapping.csv` contains the mapping details. The mapping also indicates if the mapping rule is set to *Local and Remote Codes are Equal*.

Download Mappings from On-Premise System

Download mapping information from on-premise system (► [Transaction SPRO](#) ► [Integration with Other mySAP Components](#) ► [Integration with](#) ► SAP Cloud for Customer ► [Download ERP Customizing Information for Code Lists \(if on-premise is an ERP system\)](#) ►).

ⓘ Note

Alternatively (instead of the SPRO activity), you can use the reports `CRMP_CD_CUST_EXCHANGE` for CRM or the report `CODD_CODE_LIST_MAPPING` for ERP.

To download, follow these steps:

- **Group Code ID:** Enter the code list mapping group ID as the Group Code ID.
- **Merged Customizing Directory**
Specify the path where the mapping information from the on-premise system must be saved. You must specify the complete file name along with the .ZIP file extension, and the folder where the file should be downloaded. For example, C:\SAP\CloudCodeList.zip.

Result: The zip file contains two .csv files. The codelist.csv contains all the code lists All the code lists in the cloud solution, and the mappings maintained in the fine tuning activity for the selected mapping group and in the selected language will be downloaded into a zip archive file.

- Ensure that the *CSV Delimiter* that is specified here is the same as the delimiter that you had specified while downloading the code lists in SAP Cloud for Customer. By default it is set to ',' (coma).
- *C4C BusinessConfiguration File:* Specify the path to the Microsoft Excel file downloaded from SAP Cloud for Customer.
- *Additional Languages:* If you want to download the code lists in additional languages, select the required languages. Code lists in all the selected languages will be downloaded and these can be further used to upload to SAP Cloud for Customer.
- *Consider C4C Code List Mapping:* Set this flag if you want to only consider delta code lists for mapping.

⚠ Caution

If you do not set this flag, then complete set of code list mapping from the on-premise system will be considered and the existing mapping in SAP Cloud for Customer will be overwritten.

Result: The merged zip file also contains two .csv files.

- **CodeList.csv**
This file contains all code lists from the on-premise system.
- **CodeMapping.csv**
This file contains the code list mapping between the on-premise system and the cloud solution.

Review Downloaded Mappings

The merged .csv mapping file from the on-premise system proposes an *Action Code*. This code describes the action that will be performed when the code lists are uploaded to SAP Cloud for Customer. For example, the action code *No Action* indicates that the code list mapping remains same and an action code *Overwrite* indicates that the existing mapping in cloud solution will be overwritten. If the action code is not appropriate for your business, you can review the mapping and make required changes.

⚠ Caution

The formatting of the code lists is not applied in Microsoft Excel. For example, code 001 or 0002 will only be displayed as 1 or 2. This may lead to incorrect mapping of the code lists. Therefore SAP recommends that you review code lists in a different editor such as Notepad ++.

Upload Finalized Mapping to SAP Cloud for Customer

The final step in the process is to upload the reviewed mappings to SAP Cloud for Customer. To do this, go to [Upload Code List](#) in SAP Cloud for Customer under [Business Configuration](#) > [Upload Code List](#) >

To upload, you must select the same code list group that you used when you downloaded the mapping from SAP Cloud for Customer. Click on [Upload](#) to trigger the background job for uploading the code list mapping.

Review Status of Upload in Application Log

Under [Business Configuration](#) > [Upload Code List](#) , click on [Application Log](#) to review the status of the background job. The log displays the Processing Status (success or failure of the upload), *Maximum Severity* (severity of failure if any) and number of *Warnings* or *Errors*.

You can use the advanced search feature to search using an *Application Log ID* and *Processing Status*.

You can use manual mapping to correct the mappings that have not been successfully uploaded to the cloud solution.

27.5.2 Configure Manual Code List Mapping

Configurations for manually maintaining code list mapping are described in this topic.

Business background

Manual code list mapping must be performed to accommodate deviating mappings or mappings for code lists that are not supported for automatic mapping.

Prerequisites

If you need to maintain deviating mappings that are not supported by a base mapping group, you must create the required mapping groups. You can maintain code list mapping groups in the fine-tuning activity [Maintain Code List Mapping Groups](#) under [Implementation Projects](#) > [Open Activity List](#) > [Code List Mapping for Integration with External Application and Solutions](#) . You will need new mapping groups to manually maintain deviating mappings that are not supported by a base mapping group.

Important tasks

Maintain Code List Mapping Definition

In the [Implementation Projects](#) work center, click on [Open Activity List](#) and select the activity [Code List Mapping for Integration with External Application and Solutions](#) to define the following configuration:

1. Select the mapping group to which you need to assign the code list mappings.
SAP recommends that you use a base mapping group such as 03 – SAP On Premise Integration for standard mappings and create new business groups to maintain deviating mappings.

2. For the selected mapping group, select the [Local Code Type](#). You will need to maintain separate code list mappings for each local code type. You can also choose to map an [External Data Type](#) to the local data type.

Select Code List Mapping Rule

SAP provides two standard code list mapping rules.

1. **Local And Remote Codes Are Equal**
Set this rule if code list values in the cloud and on-premise systems are same.
When you select the row for a mapping group, you will see that the mapping rule is set to [Local And Remote Codes Are Equal](#) by default. You can set this mapping rule if a one-to-one direct mapping exists between the codes in cloud and on-premise systems. That is, the codes being mapped are the same in cloud and on-premise solutions.
2. **Map Individual Codes**
Set this rule if you need to maintain deviating mappings where the local and external codes do not match.

Determine Missing Mappings

1. **Determine Missing Mappings**
For the selected mapping group, click on [Missing Code Mappings](#) to determine codes that have not yet been mapped. Select the codes for which you need to maintain the mapping. These codes are now displayed in the table for [Code List Mapping](#). In this table, specify the mapping between local and external codes..
2. **Determine Mapping Proposals from Migration Workbench**
Click on [Mappings from MWB](#) to determine the mappings proposed by the migration workbench. You can use these proposals to manually maintain the code list mapping.

Map Local Codes to External Codes

In the table [Code List Mapping](#), maintain a one-to-one mapping between the local and external codes. Select the values for local and external codes to create a mapping. You can also simply enter the codes if you know them.

Note

You cannot change existing values in the Code List Mapping section directly, because both codes are key fields. If you have to make changes, delete the entries first and create new ones.

Flags Inbound and Outbound

If you have maintained n : n mappings between local and external codes, then you need to select the value that must be used as default. For example, you have two external codes in on-premise system that represent one code in your cloud solution, you must select the [Outbound](#) flag for one of these external codes. Similarly, if you

have more than one local codes that represent one code in the external system, you must set the flag *Inbound* for one of these local codes to be used as a default.

After you have completed maintaining the mappings, *Save* and close the configuration screen.

27.5.3 Define Code List Restrictions

You can restrict the values available from a drop-down list by creating and maintaining code list restrictions for different business objects. By default, the system allows all the code values for a business object to be visible. You can restrict those values based on an instance field and/or a business role through a combination of the following values: *Business Object*, *Code Type*, *Business Role* and *Control Field*.

Important tasks

Maintain Code List Restrictions

Login with administrator authorizations and perform the following steps:

1. Go to ► *Administrator* ► *General Settings* ► *Code List Restrictions* ►
2. In the *Code List Restrictions* screen, click on *New* to define a new restriction.
3. In the *New Code List Restriction* dialog screen, select the following:
 1. *Business Object* for which you want to restrict certain code types.
 2. *Code to Restrict* that is the code that you want to restrict for the business object. You can select from the code values that are displayed for the selected code type of the business object.

Note

By default, the system allows all the code values for that business object to be visible. To restrict all or some of the values, you must deselect the check boxes on the right.

3. *Business Role* for which you need to impose this restriction.
 4. *Control Fields*: Additionally, apart from business object and code types, you can also choose to maintain restrictions for individual control fields. You must specify if these control fields are business or extension fields. The selection values will be displayed accordingly.
4. Save your entries.

Result: You have restricted certain code values from appearing in certain drop-downs. This restriction will be based on either a field or a business role, or a combination of both field and business role.

Example

You have made the following selections:

- *Business Object*: Sales Data
- *Code to Restrict*: Cash Discount Term Code
- *Control Field Type*: Business Field

● **Control Field:** Distribution Channel

The system displays all the available code list values for the code Cash Discount Term Code, for the business object Sales Data. You will have an option to restrict or allow the code values for the control field values *Direct Sales* and *Indirect Sales* individually.

27.6 Integration with External Systems

[SAP Real-Time Offer Management \[page 411\]](#)

SAP Real-Time Offer Management (RTOM) is a real-time decision solution that provides intelligent product offers and messages during customer interactions. This topic

[Avention Integration \[page 418\]](#)

This topic describes how to integrate SAP Cloud for Customer with Avention.

[Computer Telephony Integration \(CTI\) Communication Channel \[page 422\]](#)

This document is intended for customers and partners who want to integrate their third party Computer Telephony Integration (CTI) adapters and widgets with SAP Cloud for Customer.

Parent topic: [Integration \[page 350\]](#)

Related Information

[Profile and Scope Integration Landscape \[page 350\]](#)

You need to profile and scope your integration requirements before setting up the integration landscape.

[Configure Connections \[page 354\]](#)

[\(Deprecated\) Setting Up OData Notifications \[page 369\]](#)

Configure notifications and inform external systems when there are changes to SAP Cloud for Customer business objects.

[Mashups \[page 371\]](#)

Learn how to configure, use, and access mashups.

[Code Lists Maintenance \[page 402\]](#)

In this topic, you can get an overview of all configuration required for code list maintenance.

[Support Portal Integration \[page 451\]](#)

Set up a support portal using either SAP Cloud Portal or an external support portal provider.

27.6.1 SAP Real-Time Offer Management

SAP Real-Time Offer Management (RTOM) is a real-time decision solution that provides intelligent product offers and messages during customer interactions. This topic

Overview

SAP Real-Time Offer Management (RTOM) is a real-time decision solution that provides intelligent product offers and messages during customer interactions.

Integration of SAP Cloud for Customer with RTOM is supported via SAP Cloud Applications Studio, also known as the SDK. If you integrate SAP Cloud for Customer with RTOM via the SDK, then you can adapt the work center view ► [Customers](#) ► [Accounts](#) ► to include fields for offers, then import offers that reside in RTOM into these accounts. Sales representatives can then identify offers that the account has accepted, and create leads from them.

Prerequisites

- You have successfully implemented RTOM. For additional information, visit [SAP Help Portal](#).
- You have successfully installed the SDK. For additional information, visit SAP Help Portal as well, at http://help.sap.com/studio_cloud.

Integration Overview

When the above prerequisites are met, integration of SAP Cloud for Customer with RTOM via the SDK is enabled as follows:

- SAP Cloud for Customer allows the persistence of offers, as a standard business object, as well as a user interface in which to render them.
- Within the SDK, you, as an administrator, must create and configure a customer-specific solution to meet your business requirements. A sample template for RTOM integration is provided for you to import into your customer-specific solution and adapt to meet your business requirements. Through the customer-specific solution that you configure with your adapted template, requests are sent to RTOM, and offers from RTOM are received in SAP Cloud for Customer and rendered in the standard solution format.
- Communication between SAP Cloud for Customer and RTOM is realized through a BAiI (Business Add-In) interface that you, as an administrator, implement in the SDK as part of your customer-specific solution. When your implementation is complete, you define the communication system and communication arrangements in SAP Cloud for Customer as the final steps to completing integration with RTOM.

Note

In this document, RTOM is discussed as the standard engine from which you can import offers into SAP Cloud for Customer. However, in the SDK, you can configure your customer-specific solution to import offers from other engines as well.

- Once you, as an administrator, have completed the integration and set up and tested data to your satisfaction, sales representatives can choose ► *Customers* ► *Accounts* ►, then *Offers*, to access the offers that are imported from RTOM into SAP Cloud for Customer.

Parent topic: [Integration with External Systems \[page 410\]](#)

Related Information

[Avention Integration \[page 418\]](#)

This topic describes how to integrate SAP Cloud for Customer with Avention.

[Computer Telephony Integration \(CTI\) Communication Channel \[page 422\]](#)

This document is intended for customers and partners who want to integrate their third party Computer Telephony Integration (CTI) adapters and widgets with SAP Cloud for Customer.

27.6.1.1 Configure Integration with SAP Real-Time Offer Management

Perform the following procedures, in the sequence indicated below, to integrate SAP Cloud for Customer with RTOM via the SDK.

Note

The name of each procedure indicates whether it is to be performed in the SDK or in SAP Cloud for Customer.

Create and Configure Service Agents in the Solution

Before you start to develop in the SDK, you have created the required development users with the relevant administration or developer rights. (You do this by creating service agents in SAP Cloud for Customer, and assigning the relevant user ID, password, and work centers to those service agents.)

To do so, consult the *User Setup Quick Guide*, which is delivered with the user resources on SAP Help Portal, at http://help.sap.com/studio_cloud, and complete the following three activities described therein:

- *Create a Service Agent and Request a User (for Development Users)*
- *Assign a User ID and a Password to the Service Agent (for Development Users)*


- [Assign Work Centers to the Service Agent \(for Development Users\)](#)

In the SDK: Connect to the Repository

1. Open the SDK.
2. Specify the following entries:
 - **System**
From the dropdown, choose the technical name and URL of your SAP Cloud for Customer tenant.
 - **User ID**
Enter the user ID of the service agent that you created and configured in the previous activity.
 - **Password**
Enter the password of that service agent.
3. Choose [OK](#).

In the SDK: Identify Additional Tenants

If you intend to perform integration or testing activities in an SAP Cloud for Customer tenant other than the tenant specified in the previous activity, proceed as follows:

1. Open the SDK.
2. Choose [Administration](#) > [Options and Settings...](#) .
3. In the dialog box that follows, enter the [Name](#) and [Host](#) of the repository system of your SAP Cloud for Customer tenant.
4. Choose [Save](#).
5. Choose [OK](#) to close the dialog box.

In the SDK: Create a New Customer-Specific Solution

1. On the [My Solutions](#) screen, choose [Create Solution](#).
2. In the dialog box that follows, in each field indicated, perform the corresponding entry.

Field	Entry
Solution Type	Choose Customer-Specific Solution .
Description:	Enter a description of your choosing — for example, RTOM_SOLUTION.
Deployment Unit:	Choose Customer Relationship Management .

Field	Entry
<i>Company:</i>	Enter the name of your company.
<i>Contact Person:</i>	Enter the name of the contact person.
<i>E-Mail:</i>	Enter the e-mail address of the contact person.

Note

In the remainder of this document, it is assumed that `RTOM_SOLUTION` is the description of the customer-specific solution.

3. Choose *OK* to close the dialog box.

Download the Sample Template for RTOM Integration

1. Open SAP Note [1923364](#).
2. On the resultant screen, choose *Attachments*, where the sample template for RTOM integration resides.
3. In the *Filename* column, click on the `RTOM_SAMPLE_TEMPLATE` link.
4. In the dialog box that follows, choose *Save > Save as*.
5. Save the sample template in your preferred directory.

In the SDK: Import and Adapt the Sample Template

1. On the *My Solutions* screen of the SDK, select the `RTOM_SOLUTION` node.
2. Choose *Administration > Implementation Manager*.
3. On the *Implementation Manager* screen, under *Current Version*, choose *Import Solution Template*.
4. Navigate to your preferred directory, then select the sample template.
5. Choose *Open*.
When the import is complete, the contents of the sample template are displayed on the *Solution Explorer* screen.
6. Adapt the sample template to meet your business requirements.

In the SDK: Adjust and Deploy the Customer-Specific Solution

1. On the *Solution Explorer* screen of the SDK, right-click on the `RTOM_SOLUTION` node, then choose *Activate > All Items*.
2. On the same screen, right-click on the `AccountExtension.xbo` node, then choose *Enhance Screen*.
 1. In the dialog box that follows, select the checkbox *COD_Account_TI*.

2. Choose *OK*.
In response, the UI Designer opens. The remainder of this procedure describes how to add the *Credit Rating* extension field — which is delivered with the sample template — to the account header.
3. On the *Extensibility Explorer* screen of the UI Designer, select the *Header* entity, then choose *Add Extension Field to Section Group*.
 1. In the dialog box that follows, select the checkbox *Add*, then choose *Apply*.
4. On the *Extensibility Explorer* screen of the UI Designer, select the *Undefined* entity, then choose *Add View with Embedded Component*.
 1. In the dialog box that follows, enter the tab title `OFFERS`.

Note

The title you enter here is what users will select — within **Customers > Accounts** — to access offers that are imported from RTOM.

2. For the Embedded Component field, select *...*, then expand the resultant tree structure as follows:
Repository Content > BYD_COD > SalesOnDemand > Offer
3. Select *Offers_EC*, then choose *OK* to close the dialog box.
5. Choose *Bind*.
 1. In the dialog box that follows, in the *Outport* dropdown, choose *PublicOutportECCustomerRoot*.
 2. In the *Inport* dropdown, choose *OfferInPort*.
 3. Select outport parameter *AccountID*, then inport parameter *AccountID*, then choose *Bind*.
 4. Select outport parameter *AccountUUID*, then inport parameter *AccountUUID*, then choose *Bind*.
 5. Choose *OK* to close the dialog box.
6. Choose *Apply*.
7. Choose *Save and Activate*.
In response, the *Offers* tab is now displayed.
8. Choose **File > Exit** to exit the UI Designer.
9. On the *Solution Explorer* screen of the SDK, right-click on the `RTOM_SOLUTION` node, then choose *Deploy Business Configuration*.
 1. In the dialog box that follows, select the second option.
 2. Choose *OK* to close the dialog box.

You can now test the functionality of your customer-specific solution in the current tenant. Alternatively, you can assemble and deploy your solution to a productive tenant, provided that it is assigned to the same customer number.
10. Choose **File > Exit** to exit the SDK.

Maintain Communication Systems in the Solution

1. Log on to the solution as an administrator.
2. Choose the *Administrator* tab.
3. Choose *Communication Systems*.
4. Choose *New*.
5. On the screen that follows, in each field indicated, perform the corresponding entry.

Field	Entry
<i>ID:</i>	Enter a description of your choosing — for example, RTOM2.
<i>SAP Business Suite:</i>	Select this checkbox.
<i>Host Name:</i>	Enter the relevant host name or IP address.
<i>System Access Type:</i>	Choose <i>Internet</i> .

1. Choose **Actions** > **Set to Active**.
2. Choose **Save and Close**.

6. Exit the *Communication Systems* screen.

Maintain Communication Arrangements in the Solution

1. Choose *Communication Arrangements*.
2. Choose *New*.
3. On the screen that follows, choose *RTOMCommunicationScenario*, then *Next*.
4. On the next screen, specify the appropriate *System Instance ID* — for example, RTOM2 — then choose *Next*.
5. Under *Outbound Communication: Basic Settings*, in each field indicated, perform the corresponding entry.

Field	Entry
<i>Outbound Communication Enabled:</i>	Select this checkbox.
<i>Application Protocol:</i>	Select <i>Web Service</i> .
<i>Authentication Method:</i>	Select your preferred authentication method.

6. Choose *Edit Advanced Settings*.
 1. On the screen that follows, in each field indicated, perform the corresponding entry.

Field	Entry
<i>Use Basic Settings:</i>	Deselect this checkbox.
<i>Application Protocol:</i>	Select <i>Web Service</i> .
<i>Protocol:</i>	Select your preferred protocol.
<i>Host Name:</i>	Do not modify the proposed entry.
<i>Port:</i>	Enter the port.

Field	Entry
<i>Path:</i>	Enter the path — for example, / RTOMSiteAdaptorWS/CODRTOMOffers.asmx.

2. Save your entries.
7. Exit the *Communication Arrangements* screen.

Set Your Customer-Specific Solution In Scope in the Solution

The sample template that you import and adapt includes a Business Adaptation Catalog (BAC) element, which enables you to set your customer-specific solution in scope. Once the sample template is adapted to your requirements and you are logged on to SAP Cloud for Customer, proceed as follows to locate this element, and set your customer-specific solution in scope.

1. Choose **Business Configuration** > **Implementation Projects**.
2. Select the title of the appropriate implementation project.
The **Project Overview** screen appears.
3. Choose **Edit Project Scope**.
The **Edit Project Scope** screen appears.
 - Under **Country and Type of Business**, select **Next**.
 - Under **Implementation Focus**, select **Next**.
 - Under **Scoping**, select **Next**.
4. On the **Questions** screen, expand the **Sales** scoping element, then expand the **Account and Activity Management** scoping element, then select the **Communication for Account and Activity Management** scoping element.

Note

This is the location of the scoping element as delivered in the sample template. As you adapt the sample template to meet your business requirements, you can specify a different location, if you prefer.

5. Select the checkbox **In Scope** to activate integration of SAP Cloud for Customer with SAP Real-Time Offer Management.
6. Choose **Save Draft**.
7. Close the **Edit Project Scope** screen.

Result

Once you have successfully performed the above procedures, integration of SAP Cloud for Customer with RTOM is complete.

Once you have tested this integration to your satisfaction, sales representatives can choose **Customers** > **Accounts**, then **Offers** — if that is the tab title you configured — to access the offers that are imported

from RTOM into SAP Cloud for Customer. Sales representatives can then identify offers that the account has accepted, and create leads from them.

27.6.2 Avention Integration

This topic describes how to integrate SAP Cloud for Customer with Avention.

Integration with Avention enables you to increase the potential of triggers that your organization has defined in that solution with respect to leads in SAP Cloud for Customer. Once you have defined the corresponding triggers in Avention and activated integration with Avention in your solution, data from Avention is automatically imported into your solution on the basis of your triggers, and results as leads in SAP Cloud for Customer. Your sales personnel can then funnel the resultant leads into the deal finder to drive sales. In short, integration with Avention is an optional capability to import additional leads into the solution for use by your sales personnel.

In order to work with leads that result from integration with Avention, sales users must have access to the work center view [Sales > Leads](#) or [Sales Campaign > Leads](#).

Note

For more information on recommended work center assignments, see [Recommended Business Roles and Work Center Assignments \[page 48\]](#)

Parent topic: [Integration with External Systems \[page 410\]](#)

Related Information

[SAP Real-Time Offer Management \[page 411\]](#)

SAP Real-Time Offer Management (RTOM) is a real-time decision solution that provides intelligent product offers and messages during customer interactions. This topic

[Computer Telephony Integration \(CTI\) Communication Channel \[page 422\]](#)

This document is intended for customers and partners who want to integrate their third party Computer Telephony Integration (CTI) adapters and widgets with SAP Cloud for Customer.

Important tasks

Perform the following tasks, in the sequence indicated below, to configure integration with Avention.

Enable Integration with Avention in Scoping

1. While editing your project scope, within the *Scoping* section, select ► *Sales* ► *Lead Management* ► *Leads* ►.
2. Within the *Questions* section, select ► *Sales* ► *Lead Management* ► *Leads* ►, then select the *In Scope* checkbox for the following question:
 - *Do you want to enable integration with Avention?*

For more information on scoping your solution, see *Enabling Features in Scoping for SAP Sales Cloud* in the Related Links section.

Suppress Duplicate Checks for Avention Integration (optional)

If you have enabled duplicate checks for business partners in your solution, but if you wish to suppress duplicate checks for accounts that are associated with leads to be created in the solution via data that is imported from Avention, then proceed as follows:

1. Choose ► *Business Configuration* ► *Implementation Projects* ►.
2. Select your project, then click *Open Activity List*.
3. Select the *Fine-Tune* tab.
4. Open the *Leads* activity.
5. On the following screen, click *Maintain Sources*.
6. On the screen thereafter, select the *Avention* source.
7. Select the *Suppress Duplicate Checks During Upload* checkbox.
8. Choose *Save and Close*.

Set Up a Communication System

To set up a communication system for integration with Avention, proceed as follows:

1. Choose ► *Administrator* ► *General Settings* ►, then select *Communication Systems*.
2. Create a new communication system.
3. Fill in the necessary information, including an ID and the host name **AVENTION**, and select *Internet* for the system access type.
4. Specify **AVENTION** as the System Instance ID.
5. Save your new communication system.
6. Choose *Actions*, then *Set to Active*.

For more information on communication systems, see the *Communication Systems Quick Guide* in the Related Links section.

Set Up a Communication Arrangement in SAP Cloud for Customer

To set up an arrangement to allow your SAP Cloud for Customer solution to communicate with Avention, proceed as follows:

1. Choose ► [Administrator](#) ► [General Settings](#) ►, then select [Communication Arrangements](#).
2. Create a new communication arrangement.
3. Select the [Manage Leads](#) communication scenario, then choose [Next >](#).
4. In the [Define Business Data](#) step, Specify the system instance ID – for example, **AVENTION** – that you created when you set up your communication system, then choose [Next >](#).
5. In the [Define Technical Data](#) step, specify [Web Service](#) as the application protocol, and [SSL Client Certificate](#) as the authentication method.
 1. Note the user ID, which will be used to authenticate the service in Avention.
 2. Choose [Edit Credentials](#), then enter a password. This is the password you will use to establish the communication arrangement in Avention.
 3. Choose [Next >](#).
6. Choose [Finish](#) to save and activate the communication arrangement.

For more information on communication arrangements, see the [Communication Arrangements Quick Guide](#) in the Related Links section.

Note

Upon successfully establishing the communication arrangement with Avention, we recommend that you modify your Web browser settings to identify <https://app.vention.com> and <https://signon.onsource.com> as trusted Web sites.

Set Up a Communication Arrangement and Triggers in Avention

Within the Avention solution, set up the communication arrangement that completes configuration with SAP Cloud for Customer, and define the triggers for data that will result in the import of data into SAP Cloud for Customer, and creation of leads.

Test Integration

To test the data that you have imported from Avention into SAP Cloud for Customer, proceed as follows:

1. Choose ► [Sales](#) ► [Leads](#) ► or ► [Sales Campaign](#) ► [Leads](#) ►.
2. Choose [Show Advanced Filter](#).
3. In the [Source](#) dropdown, choose [Avention](#), then choose [Go](#).

In response, the solution displays leads that have been created in SAP Cloud for Customer on the basis of data that was imported from Avention.

Configuring the Avention Mashup Web Service

To configure the standard mashup Web service for Avention, proceed as follows:

1. Choose ► *Administrator* ► *Mashup Web Services* ►.
2. Select the service ID **BYD_COD/AVENTION**.
3. Click *Enter API Keys*.
The *Enter API Keys* dialog box opens.
4. Click *Show API Keys* and, in the *API Key Value* column, enter the corresponding key.

Note

The API key to be entered corresponds to the token that appears within the connectivity settings of Avention.

5. Save your changes.

Note

If desired, you may personalize your solution by embedding a standard mashup, with the mashup ID **BYD_COD/AVENTION**, on the *Overview* screen within the item details of a lead. If you embed this standard mashup on that screen, then users can access Avention directly by opening the *Overview* screen of leads that originated in Avention.

Related Information

[Recommended Business Roles and Work Center Assignments \[page 48\]](#)

To simplify maintenance and assignment of access rights to users, SAP recommends that you define business roles, to which you assign work centers and views. You can then assign one or more roles to each employee who has a user in the system.

[Create Communication Systems \[page 354\]](#)

In the *Communication Systems* view, you can create and edit communication systems to exchange business documents electronically.

[Maintain Communication Arrangements \[page 356\]](#)

The *Communication Arrangements* view enables administrators to create and edit communication arrangements that your company has set up with a communication partner.

27.6.3 Computer Telephony Integration (CTI) Communication Channel

This document is intended for customers and partners who want to integrate their third party Computer Telephony Integration (CTI) adapters and widgets with SAP Cloud for Customer.

SAP Service Cloud can integrate with external computer telephony integration (CTI) solutions to support service processes. Download and install the CTI connector, and save the **CTI Client Adapter** shortcut to your desktop.

Your administrator can customize the CTI adapter behavior by downloading the project source code for the SAP Cloud for Customer CTI Client Adapter from the **Service Marketplace Software Download** area.

Depending on your CTI provider your administrator may also have the option to use widget-based integration to the solution. Widget-based integration eliminates the need for an external telephony client app and the adapter download.

This video demonstrates how to set up computer telephony integration with your SAP Cloud for Customer system.

[CTI Call Process Flows \[page 423\]](#)

See how the system processes out and inbound call information and passes call information to and from your CTI system.

[Computer Telephony Integration Options \[page 425\]](#)

You can integrate third-party CTI system providers with your solution using an SAP local adapter, or a widget.

[Set Up Inbound Call Handling \[page 436\]](#)

SAP Cloud for Customer does not have a native Computer Telephony Integration (CTI) capability; instead is able to integrate to other CTI solutions to support service processes.

[Set Up Outbound Call Handling \(Click-to-Call\) \[page 444\]](#)

You can make a phone call from any screen within our solution with the click of a mouse. With CTI integration enabled, outbound calls also create a phone activity linked to the call.

Parent topic: [Integration with External Systems \[page 410\]](#)

Related Information

[SAP Real-Time Offer Management \[page 411\]](#)

SAP Real-Time Offer Management (RTOM) is a real-time decision solution that provides intelligent product offers and messages during customer interactions. This topic

[Avention Integration \[page 418\]](#)

This topic describes how to integrate SAP Cloud for Customer with Avention.

27.6.3.1 CTI Call Process Flows

See how the system processes out and inbound call information and passes call information to and from your CTI system.

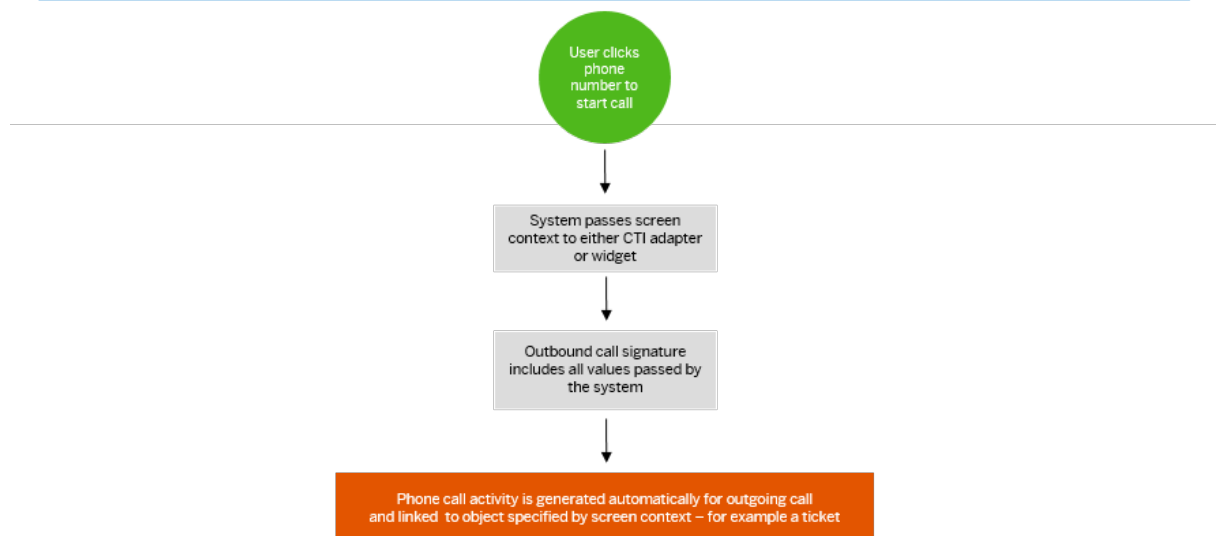
27.6.3.1.1 Outbound Calls (Click-to-Call)

SAP Cloud for Customer supports initiating outbound calling from any screen within our solution via click-to-call feature.

Note

Maintain computer telephony integration (CTI) vendor integration to use the call feature. Call handling is done on CTI vendor application.

Outgoing Call from Computer Telephony Integration (CTI)



27.6.3.1.2 Inbound Calls

SAP Cloud for Customer supports inbound calling with display screen of incoming caller information.

Note

Maintain computer telephony integration (CTI) vendor integration to use the call feature. Call handling is done on CTI vendor application.

Incoming Call from Computer Telephony Integration (CTI)



Search of phone number fields for ANI number populates call notification. Only number shown if multiple results or no results.

User clicks notification to accept call, open Live Activity Center

Live Activity Center Search Results and Display Location

A: Default search on ANI

B: Search on IVR Info sent from CTI system

C: BAdI Exit - Custom Search Logic

Call Information Pane
Customer Name and Number if *one* customer found - number only if *multiple* or *no* customers found

Search Pane
Customer (if found) and results of text search for phone number in all configured fields.

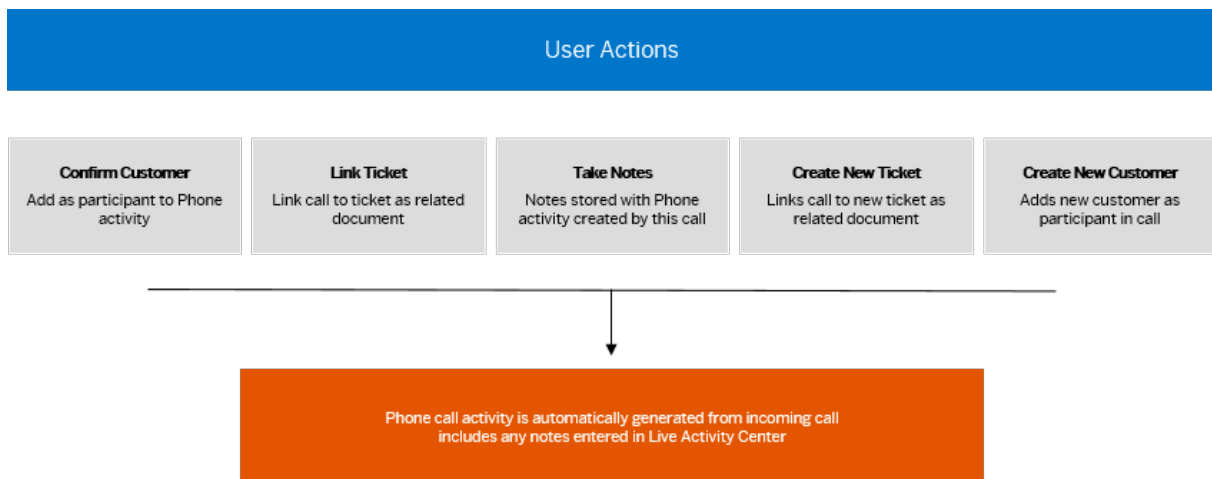
Call Information Pane
Same as default search plus IVR results converted to links to tickets, serial IDs, etc.

Search Pane
Customer, IVR Search results, text search results for phone number in all configured fields.

Note: BAdI must return exactly one result

Call Information Pane
Customer Name and Number if found - number only if *no* customer found

Search Pane
Customer (if found) and results of text search for phone number in all configured fields.



27.6.3.2 Computer Telephony Integration Options

You can integrate third-party CTI system providers with your solution using an SAP local adapter, or a widget.

Description	Related Information
Local adapter integration connects your third-party Computer Telephony Integration (CTI) provider with SAP Cloud for Customer using a separate application running on the agent's computer.	Local Adapter Integration [page 425]
Live Activity is where you integrate your third-party communication system provider's CTI widget. Interact with customers through real-time communication channels that may or may not result in ticket creation.	Widget Integration with Live Activity

27.6.3.2.1 Local Adapter Integration

Local adapter integration connects your third-party Computer Telephony Integration (CTI) provider with SAP Cloud for Customer using a separate application running on the agent's computer.

The adapter software communicates with the agent's desk phone and displays a call window in the solution. Every agent must download the CTI Adapter application to their local system. The CTI adapter software is available in SAP Cloud for Customer under [Downloads](#).

The adapter application provides an empty method that partners can fill with their end point (the number where a call is placed or received). Every inbound or outbound call is routed to the end point defined by your communication system partner. Adapter-based integration is a reliable and tested method for telephony integration with SAP Cloud for Customer.

⚠ Restriction

Local adapter integration is **not** compatible with virtual desktops.

27.6.3.2.1.1 Prerequisites

These items are required to integrate your CTI solution to SAP Cloud for Customer.

Supported Operating System	Microsoft Windows Vista or later
Client-Side Application	Only client-side Integration is supported so you must have a client-side application to communicate via the built in adapter. Agents using the CTI solution must have this client-side application running on their desktop.
Microsoft® Visual Studio	In order to enable the outbound call feature, you need to use Microsoft® Visual Studio to edit the CTI Connector project.
SAP Cloud for Customer CTI Client Adapter	The adapter must be installed and run on each agent's desktop. The installation file for the CTI Client Adapter is available on the Downloads page of SAP Cloud for Customer.

ⓘ Note

If you want to use the https protocol to connect to your CTI client, you must start the adapter with administrator rights (right-click and select *run as administrator*).

If you are **not** using https, you can start the adapter normally.

SAP Service Marketplace	Access to SAP Service Marketplace is required to download the CTI Connector project used for enabling outbound calls.
--------------------------------	---

ⓘ Note

Access restrictions for Live Activity are determined from the Queue workcenter. Therefore any user or role assigned Live Activity must also be assigned Queue.

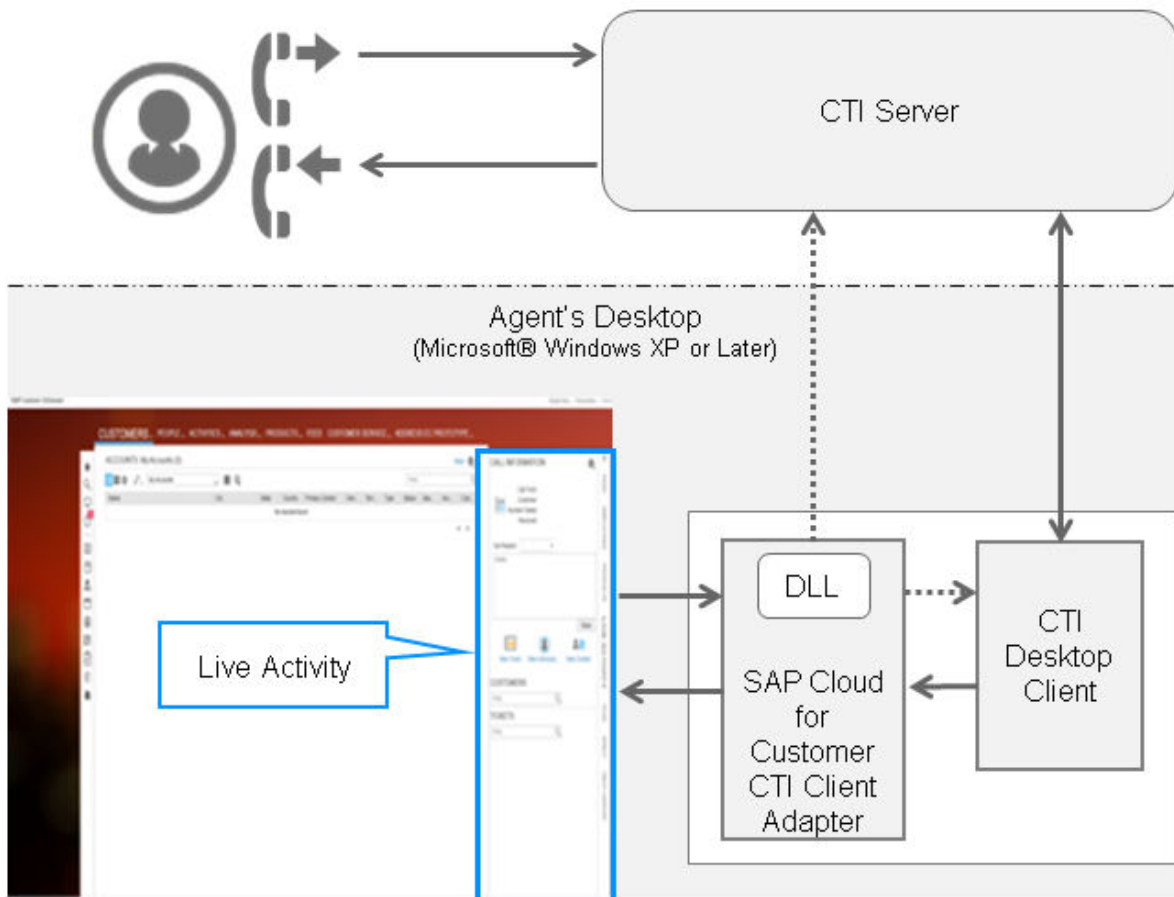
27.6.3.2.1.2 Architecture

A high level overview of the architecture that allows CTI integration with SAP Cloud for Customer.

Inbound calls are achieved using a parameterized URL that your client-side application passes to the SAP Cloud for Customer CTI Client Adapter. This allows the call attached data to display in the Live Activity pane in the solution.

Outbound calls are achieved by using a DLL which passes the dial out phone number from SAP Cloud for Customer to your CTI solution and in which you have included the necessary dial-out logic.

The architecture of the completed integration is modeled in the following diagram.



SAP Cloud for Customer CTI Integration Architecture

27.6.3.2.1.3 Enable Inbound Calls

URL parameters required to enable inbound phone calls.

Inbound call integration uses a parameterized URL call from the CTI desktop client to the SAP Cloud for Customer CTI Client Adapter to pass information like the ANI, DNIS, and CAD to the solution.

The URL is: `http://localhost:36729/?`

`CID=<cid>&ANI=<phonenumber>&DNIS=<phonenumber2>&&cad1=xxxx&cad2=yyyy>`.

Additional parameters can be added to the URL so that extra information can be passed to SAP Cloud for Customer.

The following table lists the parameter names and the information each parameter contains:

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
Type	CALL CHAT Defaults to CALL if no parameter specified.	
CID	The client ID. This is mandatory value.	
	<div style="border: 1px solid #ccc; background-color: #f9f9f9; padding: 10px;"> <p>Note</p> <p>Supported values are currently limited to: BCM1234, AVAYA5678, CISCO9876, GEN8923 (Genesys), SIE5281 (Siemens). Use CID=BCM1234 for other providers.</p> </div>	
ANI	The caller's number	✓
DNIS	The number dialed	
BP	The caller's account ID	✓
TicketID	The ID of a ticket associated with the call	✓
SerialNo	A registered product serial number	✓
Email	Caller's e-mail address	✓
ExternalReferenceID	Unique call ID in the CTI system	
ExternalOriginalReferenceID	Original Reference ID of the call being transferred	
EventType	Supported Values: INBOUND OUTBOUND UPDATEACTIVITY TRANSFER	
Custom_1-4	Four fields you can use to pass any other call data	
ActivityUUID	Phone call activity UUID (if available). Available after UPDATEACTIVITY event is triggered by click-to-call action.	

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
Transcript	Chat transcript passed back to system once chat is ended	

Note

All of these parameters are included in the following extension spot, available in the SDK:
ES_COD_CTI_CALL_HANDLING

Your customer requires that the following data is passed from your CTI solution to their SAP solution:

ANI (Dialing From):	408-361-3611	External ID:	56432156787890
Number Dialed:	1-800-455-5555	Custom_1:	value1
AccountID	1000655	Custom_2:	value2
Serial Number	XY234567T	Custom_3:	value3
TicketID	8003456	Custom_4:	value4

You would enter the following URL:

```
http://localhost:36729/?
CID=BCM1234&ANI=408-361-3611&DNIS=1-800-455-5555&BP=1000655&SerialNo=XY234567T&TicketID=8003456&
ExternalReferenceID=56432156787890&Custom_1=value1&Custom_2=value2&Custom_3=value3&
Custom_4=value4.
```

Example

Example of C# code to send a parameterized call to SAP Cloud for Customer:

```
urlparam1 =
"ANI=408-361-3611&DNIS=1-800-455-5555&BP=1000655&SerialNo=XY234567T&TicketID=8003
456&Type=CALL&EventType=INBOUND";
urlparam2 = urlparam1 +
ExternalReferenceID=56432156787890&Custom_1=value1&Custom_2=value2&Custom_3=valu3
1&Custom_4=value4";
"url = http://localhost:36729/?CID=BCM1234&" + urlparam2;
HttpRequest webReq = (HttpRequest)WebRequest.Create(url);
HttpWebResponse WebResp = (HttpWebResponse)webReq.GetResponse();
```

In this example, Urlparam is split into multiple strings only for better readability.

27.6.3.2.1.4 Enable Outbound Calls

How to build your DLL file to enable outbound phone calls.

Context

To enable outbound calls, the SAP Cloud for Customer CTI Client Adapter uses the DLL, `CODCTIConnector.dll`, which contains a method for handling outbound calls. You must build your own DLL and in it specify your dial-out logic.

In order to facilitate this process, SAP provides the Microsoft Visual Studio project, **CTI Connector**. This project contains the class, **OutboundCallHandler**, which contains the method, **dialOut**. The phone number to dial is passed from the solution (when an agent initiates a call via Live Activity) as the parameter for the method.

To enable outbound phone calls, perform the following steps:

Procedure

1. Download the **CTI Connector** project from the Help Portal product page here: <https://help.sap.com/http.svc/rc/67be88de0bdd4e53b662fae4f15a2b81/1805/en-US/SAPC4CCTIConnectorSetup.zip> and install it.
2. Open the project in Microsoft Visual Studio.
3. Add the logic in the **dialOut** method to pass the phone number to the CTI solution (see the following example for details).
4. Build the DLL and deploy it in CTI Client Adapter file structure.

To deploy the DLL, copy the DLL to `C:\Program Files (x86)\SAP\SAP Cloud for Customer CTI Client`.

5. Restart the adapter.

`OutboundCallHandler.cs`:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.IO;
using System.Runtime.InteropServices;
namespace SAP.COD.CTI.Connector
{
    public class OutboundCallHandler
    {
        Logger logUtil;
        //Add constructor to initiate logging
        public OutboundCallHandler()
        {
            logUtil = new Logger();
        }
        //Destructor
        ~OutboundCallHandler()
        {

```

```

logUtil.Close();
}
public bool dialOut(string dialData)
{
logUtil.writeLog("Dialed number:" + dialData);
//Add the logic to connect to the CTI system here
return true;
}
}
}
>>> MISSING TARGET TEXT FOR TEXT-ID: 'XTXT_ally_SPEexampleEnd' <<<
Top of Page

```

27.6.3.2.1.5 Implement Outbound Calls in Fiori client Via CTI Adapter

This feature lets you implement and enable the outbound calling feature in SAP Cloud for Customer.

Prerequisites

Ensure *Live Activity Center* configuration has appropriate settings for the provider. The provider type should be **CTI Adapter** and provider URL field should be left blank.

Context

These instructions are pertinent to customers who have integrated using CTI adapter. (Customers using their own call system need not follow these steps). Follow these steps to enable the *Click to Call* feature in the Fiori client via CTI adapter.

Procedure

1. Uninstall the current version of CTI Adapter installed on your machine.
2. Download and install the latest SAP CTI Adapter from the [Download](#) section.
An older version of CTI Adapter (prior to May 2018 release) will not work with Fiori client.
3. Download the CTI Connector project from <https://help.sap.com/http.svc/rc/67be88de0bdd4e53b662fae4f15a2b81/1805/en-US/SAPC4CTIConnectorSetup.zip> on the Help Portal.
4. Extract the zip file and import the project to Microsoft Visual Studio.
5. Open file **OutboundCallHandler.cs** and add the logic in the *dialOut* method to pass the phone number and context information to the CTI solution.
6. Next, save the file and build the project to generate a new **SAPCODCTIConnector.dll** file.

7. Once the **SAPCODCTIConnector.dll** file is generated, copy the DLL to: C:\Program Files (x86)\SAP\SAP Cloud for Customer CTI Client to deploy the DLL.
8. Restart the adapter.

27.6.3.2.1.6 Create a Security Certificate for HTTPS-Enabled Computer Telephony Integration (CTI)

You can enable HTTPS security for outbound phone calls made from your solution. To fully enable this feature, you need to create a security certificate. This example uses Windows PowerShell.

Context

To make outbound calls, you must have a CTI provider such as Sinch Contact Center (previously SAP Contact Center) or other third-party product.

After you complete this process, users will be able to call customers directly from the solution without having to navigate to another system.

Follow these steps to create a security authority and a security certificate from Windows PowerShell.

Procedure

1. Create a **root certificate authority** by opening PowerShell and entering the following commands (replacing **CODCTI Authority** with your desired name):

```
New-SelfSignedCertificate -DnsName "CN=CODCTI Authority" -CertStoreLocation
"Cert:\LocalMachine\Root" -KeyAlgorithm RSA -KeyLength 2048 -HashAlgorithm
SHA256 -NotAfter (Get-Date).AddYears(10)
```

2. Create a **server certificate** signed by the previously created authority with these commands, again replacing **CODCTI Authority** with your desired name.

These commands generate a server certificate for **localhost**.

```
$rootCert = Get-Item -Path "Cert:\LocalMachine\Root\CODCTI Authority"
$cert = New-SelfSignedCertificate -DnsName "localhost" -CertStoreLocation
"Cert:\LocalMachine\My" -Signer $rootCert -KeyAlgorithm RSA -KeyLength 2048
-HashAlgorithm SHA256 -NotAfter (Get-Date).AddYears(1)
```

3. Configure the SSL binding using the generated certificate.

In the following commands, replace **\$port** with your desired port, **\$certThumbprint** with the thumbprint of the server certificate (which you can find using the certificate manager), and **\$appId** with the appId of the CTI Client Adapter.

```
$certThumbprint = $cert.Thumbprint
$appId = "{7e46cd40-39c6-4813-b414-019ad22e55b2}"
$port = 36731
```



```
netsh http add sslcert ipport=0.0.0.0:$port certhash=$certThumbprint  
appid=$appId
```

27.6.3.2.1.7 Live Activity - Chat Integration

If you are using a computer telephony integration (CTI) solution with SAP Cloud for Customer, you can enable chat integration in the Live Activity pane.

Integration with CTI Partner

The Live Activity pane provides capabilities to identify the customer by email address. Live Activity works with integration software running locally on the agent's desktop. The **SAP Cloud for Customer CTI Adapter** software acts as an adapter which communicates information to the Live Activity pane. You can download the adapter from the [Download](#) area within SAP Cloud for Customer.

The CTI Adapter runs a local server on the agent's system. This acts as a communication bridge with external CTI solutions. Posting information to CTI Adapter pushes information to Live Activity pane.

Incoming Chat Integration

A localhost GET/POST request is used to provide information to an agent about an incoming chat.

Example of a localhost get request:

```
http://localhost:36729/?  
Type=CHAT&CID=BCM1234&EventType=INBOUND&Email=example@example.com&ExternalReference  
ID=12345678
```

Chat Wrap up and Passing Transcript

A localhost GET/POST request can also be used after the chat has ended to post the chat transcript.

Example GET request to post a transcript:

```
http://localhost:36729/?  
Type=CHAT&CID=BCM1234&EventType=UPDATEACTIVITY&Action=END&Email=example@example.com  
&ExternalReferenceID=12345678&Transcript=<chat message transcript>
```

Fields Used with CTI Adapter

The following fields can be passed to the CTI adapter with the GET request:

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
Type	CALL CHAT Defaults to CALL if no parameter specified.	
CID	The client ID. This is mandatory value.	
	<div style="border: 1px solid #ccc; background-color: #f9f9f9; padding: 10px;"> <p>Note</p> <p>Supported values are currently limited to: BCM1234, AVAYA5678, CISCO9876, GEN8923 (Genesys), SIE5281 (Siemens). Use CID=BCM1234 for other providers.</p> </div>	
ANI	The caller's number	✓
DNIS	The number dialed	
BP	The caller's account ID	✓
TicketID	The ID of a ticket associated with the call	✓
SerialNo	A registered product serial number	✓
Email	Caller's e-mail address	✓
ExternalReferenceID	Unique call ID in the CTI system	
ExternalOriginalReferenceID	Original Reference ID of the call being transferred	
EventType	Supported Values: INBOUND OUTBOUND UPDATEACTIVITY TRANSFER	
Custom_1-4	Four fields you can use to pass any other call data	
ActivityUUID	Phone call activity UUID (if available). Available after UPDATEACTIVITY event is triggered by click-to-call action.	

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
Transcript	Chat transcript passed back to system once chat is ended	

27.6.3.2.1.8 Simulate CTI Call

Simulate an incoming call in Live Activity with the SAP Cloud for Customer CTI Client Adapter.

Prerequisites

- Download, install, and launch the SAP Cloud for Customer CTI Client Adapter.
- Log on to SAP Cloud for Customer and open Live Activity.

Context

Use the CTI Client Adapter to simulate an inbound phone call to test the connection to Live Activity.

Procedure

1. Open the SAP Cloud for Customer CTI Client Adapter window on your computer.
2. Choose *Simulate*.
3. Enter the information you want to use for the inbound call or chat in the *SIMULATION* window.
4. Choose *Simulate* to simulate an inbound phone call.

Results

The information you entered in the simulation window appears in Live Activity as an incoming phone call.

27.6.3.3 Set Up Inbound Call Handling

SAP Cloud for Customer does not have a native Computer Telephony Integration (CTI) capability; instead is able to integrate to other CTI solutions to support service processes.

Note

Scope phone as a communication channel via business configuration to use the phone call feature.

The CTI Client sends phone activity and attached data captured via IVR to our solution in the [Live Activity](#) screen via CTI Client adapter.

Live Activity feature looks up the customer or ticket using the data received and creates a new customer or ticket. In the incoming phone activity display window you are able to accept, reject, end, or transfer calls via CTI Client provided by the CTI vendor.

27.6.3.3.1 Enable Phone as a Communication Channel

The administrator must enable phone as a communication channel via business configuration to use the call feature in our solution.

Go to ► [Business Configuration](#) ► [First Implementation](#) ► [Edit Project Scope](#) ► [Service](#) ► [Customer Care](#) ► [Service Request Management](#) ► ► [Questions](#) ▾, and select the question: **Do you want to support Computer Telephony Integration (CTI)?**

27.6.3.3.2 Enable Inbound Calls

URL parameters required to enable inbound phone calls.

Inbound call integration uses a parameterized URL call from the CTI desktop client to the SAP Cloud for Customer CTI Client Adapter to pass information like the ANI, DNIS, and CAD to the solution.

The URL is: `http://localhost:36729/?`

`CID=<cid>&ANI=<phonenumber>&DNIS=<phonenumber2>&<cad1=xxxx&cad2=yyyy>.`

Additional parameters can be added to the URL so that extra information can be passed to SAP Cloud for Customer.

The following table lists the parameter names and the information each parameter contains:

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
Type	CALL CHAT Defaults to CALL if no parameter specified.	
CID	The client ID. This is mandatory value.	
	<div style="border: 1px solid #ccc; background-color: #f9f9f9; padding: 10px;"> <p>Note</p> <p>Supported values are currently limited to: BCM1234, AVAYA5678, CISCO9876, GEN8923 (Genesys), SIE5281 (Siemens). Use CID=BCM1234 for other providers.</p> </div>	
ANI	The caller's number	✓
DNIS	The number dialed	
BP	The caller's account ID	✓
TicketID	The ID of a ticket associated with the call	✓
SerialNo	A registered product serial number	✓
Email	Caller's e-mail address	✓
ExternalReferenceID	Unique call ID in the CTI system	
ExternalOriginalReferenceID	Original Reference ID of the call being transferred	
EventType	Supported Values: INBOUND OUTBOUND UPDATEACTIVITY TRANSFER	
Custom_1-4	Four fields you can use to pass any other call data	
ActivityUUID	Phone call activity UUID (if available). Available after UPDATEACTIVITY event is triggered by click-to-call action.	

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
Transcript	Chat transcript passed back to system once chat is ended	

Note

All of these parameters are included in the following extension spot, available in the SDK:
ES_COD_CTI_CALL_HANDLING

Your customer requires that the following data is passed from your CTI solution to their SAP solution:

ANI (Dialing From):	408-361-3611	External ID:	56432156787890
Number Dialed:	1-800-455-5555	Custom_1:	value1
AccountID	1000655	Custom_2:	value2
Serial Number	XY234567T	Custom_3:	value3
TicketID	8003456	Custom_4:	value4

You would enter the following URL:

```
http://localhost:36729/?
CID=BCM1234&ANI=408-361-3611&DNIS=1-800-455-5555&BP=1000655&SerialNo=XY234567T&TicketID=8003456&
ExternalReferenceID=56432156787890&Custom_1=value1&Custom_2=value2&Custom_3=value3&
Custom_4=value4.
```

Example

Example of C# code to send a parameterized call to SAP Cloud for Customer:

```
urlparam1 =
"ANI=408-361-3611&DNIS=1-800-455-5555&BP=1000655&SerialNo=XY234567T&TicketID=8003
456&Type=CALL&EventType=INBOUND";
urlparam2 = urlparam1 +
ExternalReferenceID=56432156787890&Custom_1=value1&Custom_2=value2&Custom_3=value3
1&Custom_4=value4";
"url = http://localhost:36729/?CID=BCM1234&" + urlparam2;
HttpRequest webReq = (HttpRequest)WebRequest.Create(url);
HttpWebResponse WebResp = (HttpWebResponse)webReq.GetResponse();
```

In this example, Urlparam is split into multiple strings only for better readability.

27.6.3.3.3 Context Parameters for Incoming Calls

With an incoming phone call, call information is passed to our solution based on certain parameters.

When you click on the incoming call display window, our solution displays the Live Activity Center window with associated information for that incoming phone number.

In our solution, an incoming call information is passed based on ANI (incoming phone number), Search for Business Partners such as: Contact, Account, and Individual Customers.

Solution search could identify a unique customer, multiple customers, or may not identify any customer at all.

The following list displays the various parameters passed from the CTI Adapter or Widget for an incoming call. The system would either call all the properties (mentioned below), or a subset depending on parameters maintained in the adapter or widget.

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
Type	CALL CHAT Defaults to CALL if no parameter specified.	
CID	The client ID. This is mandatory value.	
<div style="border: 1px solid #ccc; background-color: #f9f9f9; padding: 10px; margin: 10px 0;"> <p>Note</p> <p>Supported values are currently limited to: BCM1234, AVAYA5678, CISCO9876, GEN8923 (Genesys), SIE5281 (Siemens). Use CID=BCM1234 for other providers.</p> </div>		
ANI	The caller's number	✓
DNIS	The number dialed	
BP	The caller's account ID	✓
TicketID	The ID of a ticket associated with the call	✓
SerialNo	A registered product serial number	✓
Email	Caller's e-mail address	✓
ExternalReferenceID	Unique call ID in the CTI system	

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
ExternalOriginalReferenceID	Original Reference ID of the call being transferred	
EventType	Supported Values: INBOUND OUTBOUND UPDATEACTIVITY TRANSFER	
Custom_1-4	Four fields you can use to pass any other call data	
ActivityUUID	Phone call activity UUID (if available). Available after UPDATEACTIVITY event is triggered by click-to-call action.	
Transcript	Chat transcript passed back to system once chat is ended	

Example


The following is a sample of the incoming call payload:

```
<?xml version='1.0' encoding='utf-8' ?>
<payload>
<ANI>PHONENUMBER</ANI>
<TicketID>TICKETID</TicketID>
<ExternalReferenceID>EXTERNALREFID</ExternalReferenceID>
<Serial>SERIALID</Serial>
<DNIS>DIALLEDNUMBER</DNIS>
<BP>BPID</BP>
<Custom_1>CUSTOM1</Custom_1>
<Custom_2>CUSTOM2</Custom_2>
<Custom_3>CUSTOM3</Custom_3>
<Custom_4>CUSTOM4</Custom_4>
</payload>
```


27.6.3.3.4 Configure Dimensions for Live Activity Display Window

You can configure the size of the phone activity display window in the [Live Activity](#) tab.

Configure the phone activity display window dimensions so you are able to see all displayed information without using scroll bars.

Required Configuration: Go to [Administration](#) > [Service and Social](#) > [Communication Channels](#) > [Live Activity Configuration](#) , and set the appropriate height and width in the [Provider Control Dimensions](#) section.

27.6.3.3.5 Simulate CTI Call

Simulate an incoming call in Live Activity with the SAP Cloud for Customer CTI Client Adapter.

Prerequisites

- Download, install, and launch the SAP Cloud for Customer CTI Client Adapter.
- Log on to SAP Cloud for Customer and open Live Activity.

Context

Use the CTI Client Adapter to simulate an inbound phone call to test the connection to Live Activity.

Procedure

1. Open the SAP Cloud for Customer CTI Client Adapter window on your computer.
2. Choose [Simulate](#).
3. Enter the information you want to use for the inbound call or chat in the [SIMULATION](#) window.
4. Choose [Simulate](#) to simulate an inbound phone call.

Results

The information you entered in the simulation window appears in Live Activity as an incoming phone call.

27.6.3.3.6 Warm Transfer for Computer Telephony Integration (CTI)

A warm transfer consists of an incoming or outgoing call that gets transferred to other consecutive agents. The persistent unique Original External ID, and incremental External IDs for each transfer identifies a warm transfer. Read on to know more about a typical warm transfer scenario.

Warm Transfer Scenario

An agent receives a call from a customer. The system identifies the customer based on the phone number, and is also able to associate it to the related ticket. The agent is unable to help the customer and transfers the call to Agent 2 after adding notes to the call activity.

Agent 2, receives the call, and can see the notes added by the first agent, the confirmed customer, and linked ticket in the *Live Activity* center. Unable to help the customer, Agent 2 takes additional notes and transfers the call to a third agent.

Agent 3 receives the call and is able to see the call context from Agent 2 and Agent 1 in the *Live Activity* screen. Agent 3 handles the call and helps the customer.

A warm transfer can pass the following context information:

- confirmed caller
- notes
- linked ticket

A warm transfer has a unique Original *External ID*, which remains constant through all the transfers. However, the *External ID* for each consecutive transfer changes. The Original *External ID* associates the transfers to the original call.

Note

Update CTI vendor integration with our solution to be able to pass additional information.

You can view the entire warm transfer flow in the *Document Flow* tab.

27.6.3.3.7 Ticket Assignment Notification

If your organization assigns tickets with an external system you can also receive assignment notifications in the same way as incoming call notifications.

Organizations that assign tickets with an external system can use an API call to send a notification message to the assignee.

Notification works with both CTI Adapter integration or third-party widget integration in the same way as a call or chat is integrated with Live Activity.

When you assign a ticket with notification, the *Live Activity* notification popup opens displaying the Ticket ID. When you click the pop-up, the ticket detail view opens for the corresponding ticket.

Ticket Assignment Notification Signature Parameters

Parameter	Details
Type	Value is NOTIFICATION for push routing.
ObjectID	Object ID being pushed (assigned). The ticket ID. Prerequisite: This object must already exist in the system.
ObjectUUID	Used for navigation
EventType	Is Push since the ticket is pushed to an agent.
ThingType	Used for navigation
Text	Define a length. Optional parameter. If not provided, default is New Notification

Examples of the signature in XML and JSON.

Sample Code

XML

```
<?xml version="1.0" encoding="UTF-8"?>
<payload>
<Type>Notification</Type>
<ObjectID>ObjectID</ObjectID>
<ObjectUUID>ObjectUUID</ObjectUUID>
<EventType>Push</EventType>
<ThingType>ThingType of the object</ThingType>
</payload>
```

Sample Code

JSON

```
{
  "payload": {
    "Type": "NOTIFICATION",
    "ObjectID": "OBJECTID",
    "ObjectUUID": "UUID of the Object",
    "EventType": "Push",
    "ThingType": "Thing Type of the object"
  }
}
```

27.6.3.4 Set Up Outbound Call Handling (Click-to-Call)

You can make a phone call from any screen within our solution with the click of a mouse. With CTI integration enabled, outbound calls also create a phone activity linked to the call.

❖ Example

If the call is made from ► *Ticket* ► *Customer* ► phone number, the phone activity is linked to the corresponding Ticket and Customer.

With CTI integration enabled when making the outbound call, the system can track and link the call with related information for that phone number.

❖ Example

Related information could be a ticket, an account, contact, customer, or lead.

To display the *Live Activity Center* screen and search for related objects during the call, click the call status window (displays during a call).

ⓘ Note

This feature is available in SAP Fiori Client only.

→ Remember

- You must have the Live Activity work center assigned to you.
- Enable CTI integration.

If your system lacks CTI integration, clicking a phone number dials out using your operating system's default phone channel (for example, Skype on Windows OS). Automatic activity generation and linking requires CTI integration.

27.6.3.4.1 Enable Phone as a Communication Channel

The administrator must enable phone as a communication channel via business configuration to use the call feature in our solution.

Go to ► *Business Configuration* ► *First Implementation* ► *Edit Project Scope* ► *Service* ► *Customer Care* ► *Service Request Management* ► *Questions* ►, and select the question: **Do you want to support Computer Telephony Integration (CTI)?**

27.6.3.4.2 Click-to-Call in Fiori Client Via CTI Adapter

You can easily make outgoing phone calls from your system using the Click-to-Call feature via CTI integration.

Use the Click to Call feature in any of the following ways:

- Click phone number in a ticket to initiate phone call via CTI
From the *Overview* tab of a ticket, under the *Customer* section, click a phone number to place a call.
- Click the phone call status display to bring up the *Live Activity Center* screen that displays context of the call and the associated ticket.
You can search using any or all available categories. These categories are available as search parameters from the *Live Activity Center* tab as well.

Note

You can add custom search categories via configuration.

- When you click the phone number to initiate a call, the system creates the phone call activity with the ticket reference and the business partner as the participant to the activity.
All this information is created and auto-populated in the *Live Activity Center* screen's Call Information section.

Note

You must have the *Live Activity Center* assigned to use the Click to Call feature. This feature is available only in the Fiori Client.

27.6.3.4.3 Implement Outbound Calls in Fiori client Via CTI Adapter

This feature lets you implement and enable the outbound calling feature in SAP Cloud for Customer.

Prerequisites

Ensure *Live Activity Center* configuration has appropriate settings for the provider. The provider type should be **CTI Adapter** and provider URL field should be left blank.

Context

These instructions are pertinent to customers who have integrated using CTI adapter. (Customers using their own call system need not follow these steps). Follow these steps to enable the *Click to Call* feature in the Fiori client via CTI adapter.

Procedure

1. Uninstall the current version of CTI Adapter installed on your machine.

2. Download and install the latest SAP CTI Adapter from the [Download](#) section.
An older version of CTI Adapter (prior to May 2018 release) will not work with Fiori client.
3. Download the CTI Connector project from <https://help.sap.com/http.svc/rc/67be88de0bdd4e53b662fae4f15a2b81/1805/en-US/SAPC4CCTIConnectorSetup.zip> on the Help Portal.
4. Extract the zip file and import the project to Microsoft Visual Studio.
5. Open file **OutboundCallHandler.cs** and add the logic in the *dialOut* method to pass the phone number and context information to the CTI solution.
6. Next, save the file and build the project to generate a new **SAPCODCTIConnector.dll** file.
7. Once the **SAPCODCTIConnector.dll** file is generated, copy the DLL to: C:\Program Files (x86)\SAP\SAP Cloud for Customer CTI Client to deploy the DLL.
8. Restart the adapter.

27.6.3.4.4 Configure Dimensions for Live Activity Display Window

You can configure the size of the phone activity display window in the [Live Activity](#) tab.

Configure the phone activity display window dimensions so you are able to see all displayed information without using scroll bars.

Required Configuration: Go to ► [Administration](#) ► [Service and Social](#) ► [Communication Channels](#) ► [Live Activity Configuration](#) ►, and set the appropriate height and width in the [Provider Control Dimensions](#) section.

27.6.3.4.5 Context Parameters for Outbound Calls

When you make a phone call from the solution, the system triggers several context parameters related to the phone number that is passed to the Live Activity Center. The Live Activity Center in turn creates a phone call activity for this outbound call and also passes this information to the CTI adapter or third party widget (based on which one you've integrated to), embedded in the call display window. This context is used to track the phone activity and link it to call details such as the call transcript or link to the recording.

When you make a call from a phone number within the system, it gets routed to the adapter or widget, which has a blank method that should be configured by the partner. Based on what value the partner has configured in the blank method, the system routes the phone call to the end point (defined by the partner). Click-to-Call can be made with or without context.

With Context

When the partner defines the blank method, calls are made using all or a sub-set of parameters provided by our solution (see list below). This indicates that calls are made with context.

The following list displays the various parameters passed to the CTI Adapter or Widget for a call. The system would either call all the properties (mentioned below), or a subset. This depends on what the system is sending which in turn is based on where the call originated.

Context Parameters	Description
BusinessPartnerID	BP ID of the callee
ObjectID	ID of the Object from where the call was triggered
ObjectUUID	UUID of the Object from where the call was triggered
ObjectTypeCode	Object Type Code from where the call was triggered
ESObjectID	Enterprise Search Object ID of from where the call was triggered
PhoneNumber	Phone Number called
ObjectThingType	Object Thing Type from where the call was triggered
IsBTDDRef	True if the originating object is linked to the phone call activity
Direction	OUT for outbound call
LoggedInUserID	Logged in user ID of the person originating the call
ActivityUUID (this value is based on the business object from where the call is made)	UUID of the phone call activity created

Without Context

When the partner does not define the call parameters, calls are made using a set of three basic default parameters provided by our solution (see list below). This indicates that calls are made without context.

- PhoneNumber
- LoggedInUserID
- ActivityUUID

The call widget or adapter display window shows information based on the parameter fields maintained by the customer or partner.

Example

The following are samples of the outgoing call payload options:1. When context is passed, the payload would consist of the following or a subset of it.

```
{
  BusinessPartnerID: "1666454",
  ObjectID: "4008867",
  ObjectUUID: "00163E07C01D1EE7B98941B0821ABD2B",
  ObjectTypeCode: "118",
  ESObjectID: "COD_SERVICE_REQUEST_ES_CO",
  PhoneNumber: "+91 943748393",
```

```
ObjectThingType: "COD_SRQ_AGENT_TT",
IsBTDDRef: "X",
Direction: "OUT",
LoggedInUserID: "SOCIALADMIN01",
ActivityUUID: "00163E07C0211ED7BC99F84A3DF7622E"
}
When no context is passed:
{
PhoneNumber: "+91 943748393",
LoggedInUserID: "SOCIALADMIN01",
ActivityUUID: "00163E07C0211ED7BC99F84A3DF7622E"
}
```

27.6.3.4.6 Store External ID in Phone Activity

With the ability to store the External ID in a phone activity, you can access additional information on a customer phone call such as call transcript or a link to the call recording.

With enabled CTI integration, the third party vendor can communicate with customers via phone activity. When the CTI vendor initiates a phone call, The External ID from the CTI vendor gets populated in the phone call activity details as a reference. This ID helps identify the phone activity associated with it. Besides the External ID, the vendor also has the ability to save other details of a phone call such as the call transcript, or a link to the call recording. Our solution provides you with the ability to store the external ID in the system so the vendor can recall the phone call activity associated with it.

Phone activity details provides you with improved call analytics.

Required Configuration: To enable the ability to store External ID in phone activity, create a new communication system using the required fields and update Live Activity settings with the new communication system ID.

Note

See **SAP Cloud for Customer Administrator Guide** for details.

Go to ► [Administration](#) ► [Service and Social](#) ► [Communication Channels](#) ► [Live Activity Configuration](#) ►, and enter External ID.

27.6.3.4.7 Phone Activity UUID for Outbound Calls

The phone activity UUID value is passed from our solution to the CTI vendors for all outbound calls made within our solution. This provides you with integration flexibility and ease of use.

The third party CTI vendors can update the phone calls made from our solution with additional information such as: call transcript and link to the call recording. Additionally, they can use the phone activity UUID value to update all phone call activities using OData APIs provided by our solution.

❖ Example

The phone activity UUID lets you update a phone call with an end time or URL with the call recording.

This functionality provides you with improved call analytics.

ⓘ Note

The feature works with CTI third party vendors and Widget based integration; and can be viewed in SAP Fiori Client only.

27.6.3.4.8 Click-to-Call Search

You can search in the Live Activity display window using the unique customer ID. Additionally, you can store the External ID for an outbound phone call.

Search by Customer ID

When the service agent clicks on a customer, by default the system searches based on that unique customer ID, which helps save time by displaying related information for that contact number.

❖ Example

Search results display Customer and Related Tickets for that customer.

ⓘ Note

The agent can always override this default search parameter with a manual search.

27.6.3.4.9 Search Enabled for All Telephone Numbers

Our solution allows search for both: regular and mobile telephone numbers, which is the default behavior.

The system searches for both, regular and mobile phone numbers, providing higher work efficiency by saving time and providing better customer identification.

27.6.3.4.10 Click-to-Call Screen Behavior Examples

The following table displays the various parameters and contexts used for a call:

Screen	Context Passed	Window Display	Default Search Behavior	Linked Phone Activity
Ticket > Customer Card > Overview	<ul style="list-style-type: none"> • Business Partner ID • Ticket ID • Phone Number • Enterprise Search Object ID 	Caller is identified from the business partner ID	The result list displays the related ticket and caller	Ticket and Customer
Ticket Quick View	<ul style="list-style-type: none"> • Business Partner ID • Ticket ID • Phone Number • Enterprise Search Object ID 	Caller is identified from the business partner ID	The result list displays the related ticket and caller	Ticket and Customer
Customer Quick View	<ul style="list-style-type: none"> • Business Partner ID • Phone Number 	Caller is identified from the business partner ID	The result list displays the caller	Customer
Contact Quick View	<ul style="list-style-type: none"> • Business Partner ID • • • 	Caller is identified from the business partner ID	The result list displays the caller	Customer
Lead Overview	<ul style="list-style-type: none"> • Business Partner ID • Phone Number • Lead ID 	Caller cannot be identified as the business partner cannot be searched	No result list displays as lead cannot be searched on	Lead and Customer
Phone Activity List	<ul style="list-style-type: none"> • Phone Activity UUID • Phone Number 	Caller is searched based on phone number	The result list displays based on phone number search.	Phone Activity (from where call is made)

* Enterprise Search Object ID in Click-to-Call comprises of object IDs for Account, Contact, Individual Customer, and Registered Product. When making a call from a ticket, the system uses these search parameters to call up related information.

27.6.3.4.11 Warm Transfer for Computer Telephony Integration (CTI)

A warm transfer consists of an incoming or outgoing call that gets transferred to other consecutive agents. The persistent unique Original External ID, and incremental External IDs for each transfer identifies a warm transfer. Read on to know more about a typical warm transfer scenario.

Warm Transfer Scenario

An agent receives a call from a customer. The system identifies the customer based on the phone number, and is also able to associate it to the related ticket. The agent is unable to help the customer and transfers the call to Agent 2 after adding notes to the call activity.

Agent 2, receives the call, and can see the notes added by the first agent, the confirmed customer, and linked ticket in the *Live Activity* center. Unable to help the customer, Agent 2 takes additional notes and transfers the call to a third agent.

Agent 3 receives the call and is able to see the call context from Agent 2 and Agent 1 in the *Live Activity* screen. Agent 3 handles the call and helps the customer.

A warm transfer can pass the following context information:

- confirmed caller
- notes
- linked ticket

A warm transfer has a unique Original *External ID*, which remains constant through all the transfers. However, the *External ID* for each consecutive transfer changes. The Original *External ID* associates the transfers to the original call.

Note

Update CTI vendor integration with our solution to be able to pass additional information.

You can view the entire warm transfer flow in the *Document Flow* tab.

27.7 Support Portal Integration

Set up a support portal using either SAP Cloud Portal or an external support portal provider.

A support portal enables your customers or employees to create and update tickets in SAP Cloud for Customer using a browser-based interface.

Note

For setting up Support Portal, see the documentation for the topic Setting up Your Partner Portal in the related information section.

Parent topic: [Integration \[page 350\]](#)

Related Information

[Profile and Scope Integration Landscape \[page 350\]](#)

You need to profile and scope your integration requirements before setting up the integration landscape.

[Configure Connections \[page 354\]](#)

[\(Deprecated\) Setting Up OData Notifications \[page 369\]](#)

Configure notifications and inform external systems when there are changes to SAP Cloud for Customer business objects.

[Mashups \[page 371\]](#)

Learn how to configure, use, and access mashups.

[Code Lists Maintenance \[page 402\]](#)

In this topic, you can get an overview of all configuration required for code list maintenance.

[Integration with External Systems \[page 410\]](#)

[Set Up Your Partner Portal \[page 223\]](#)

Set up your partner portal so that your channel managers can engage more efficiently with your partner network.

27.7.1 Support Portal with SAP Business Technology Platform

Set up a support portal for customers or employees to create and update tickets.

Enable your customers and employees to report cases and create support requests with a web-enabled portal based on SAP Business Technology Platform.

Note

Employee support requires integration with SuccessFactors Employee Central.

- The portal site template is responsive - designed to run on mobile and desktop browsers
- No configuration necessary on your SAP Cloud for Customer system - Integration via oData APIs
- Fully customizable solution - incorporate your own branding

27.7.2 External Customer Service Portal Integration

If your SAP Cloud for Customer system is not integrated with SAP Cloud Portal, Support Site Edition, you can choose to include integration with an external customer service portal during the scoping phase of your implementation project. This option allows you to extend your customer service capabilities to include a self-service offering provided by a partner over the Internet.

For information on integrating your SAP Cloud for Customer system with SAP Cloud Portal, Support Site Edition, contact your SAP Service Cloud representative.

Prerequisites

Your system has been provisioned with the Add-On for External Customer Service Portal Integration.

Activating External Customer Service Portal Integration

1. Go to ► [Business Configuration](#) ► [Implementation Projects](#) ► and select the relevant implementation project.
2. Click [Edit Project Scope](#).
3. Click [Next >](#) until you reach [4 Questions](#).
4. In the [Scoping Elements](#) list, select [Service > Customer Care > Communication for Customer Care](#).
5. To enable [External Customer Service Portal Integration](#), select [Yes](#).
6. Click [Next >](#).
7. Review and confirm your project scope.

Follow-On Activities

1. Create a new communication system to connect to your partner system for the customer service portal.
2. Create and maintain communication arrangements settings for the customer service portal communication system.

For more information, see the topic [Configuring an External Customer Service Portal](#) in the SAP Cloud for Customer Administrator Guide.

27.7.3 Configuring an External Customer Service Portal

If your SAP Cloud for Customer system is not configured with integration to SAP Cloud Portal, Support Site Edition, you can still configure your system to communicate with an external customer service portal.

For information on integrating your SAP Cloud for Customer system with SAP Cloud Portal, Support Site Edition, contact your SAP Service Cloud representative.

You selected to include an external customer service portal integration in your implementation project scope. For more information, see: [External Customer Service Portal Integration](#) in the Related Links section.

Tasks

Create a Communication System

1. Go to ► [Administrator](#) ► [General Settings](#) ► then under *Integration*, click [Communication Systems](#).
2. Click [New](#).
For more information, see the *Communication Systems Quick Guide* in the Related Links section.
3. For the *System Access Type*, choose [Internet](#).
4. Add the *System Instance* information.
5. Save your entries and activate the communication system.

Create a Communication Arrangement

1. Go to ► [Administrator](#) ► [General Settings](#) ► then under *Integration*, click [Communication Arrangements](#).
2. Click [New](#).
For more information, see the *Communication Arrangements Quick Guide* in the Related Links section.
3. For the communication scenario, select [Customer Service Portal Integration](#). Click [Next >](#).
4. Select the *System Instance ID* of the communication system you created for your customer service portal. Click [Next >](#).
5. For *Authentication Method*, choose [User ID and Password](#).
6. Click [Edit Credentials](#) and enter your user and password information. Click [Next >](#).
7. When you're satisfied with your settings, click [Finish](#).
The communication arrangement is saved and activated.

Information for Your External Customer Service Portal Partner

You need to provide your external partner the information they need to consume the services related to ticket integration.

1. From the [Communications Arrangements](#) screen, click on the communication scenario you created for your customer service portal.
2. In the list of [Inbound Communication Services](#), select a service and click [Download WSDL](#).
Additionally, if [Display Documentation](#) is active, you can review the technical documentation associated with the service.
3. Continue downloading the WSDL for each service in the list and provide the complete set to your customer service portal partner.

Results

The [Portal](#) tab is available in the workspace.

Follow-On Tasks

If you choose to partner with SnapEngage for your customer service portal and chat, you need to configure the chat URL generator to enable the link in the agent workspace. For more information, see *Configuring the Chat URL Generator* in the Related Links section.

Related Information

[External Customer Service Portal Integration \[page 452\]](#)

If your SAP Cloud for Customer system is not integrated with SAP Cloud Portal, Support Site Edition, you can choose to include integration with an external customer service portal during the scoping phase of your implementation project. This option allows you to extend your customer service capabilities to include a self-service offering provided by a partner over the Internet.

[Maintain Communication Arrangements \[page 356\]](#)

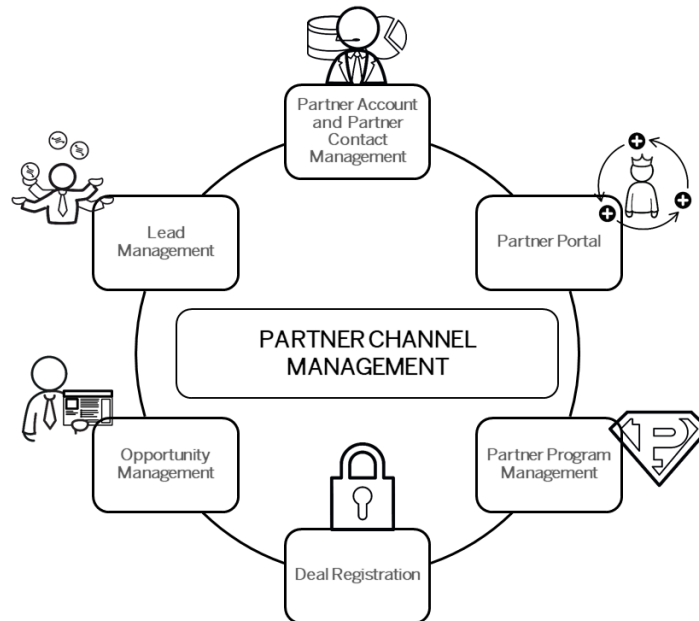
The *Communication Arrangements* view enables administrators to create and edit communication arrangements that your company has set up with a communication partner.

[Configure the Chat URL Generator \[page 400\]](#)

Learn how to configure a chat URL generator using an existing mashup web service.

28 Partner Management

Partners in the SAP Cloud for Customer system refers to individuals who are associated with the resellers, brokers, service providers, distributors, or other entities with which your organization collaborates.



The SAP Cloud for Customer system offers following feature possibilities for partners:

- Partner Channel Management that offers a whole lot of possibilities to set-up business and communication channels with your partners.
- Partner Portal that enables channel partners to design a new generation user experience that they can use collaborate on critical opportunities.
- *Partners* work center that facilitates the exchange of information between members of your organization with partner contacts. In the *Partners* work center, you can:
 - Maintain and manage partner and partner contacts
 - Create, edit and mass upload partner and partner contact details
 - Assign partner program and partner type to partners
 - Configure and assign relationships between partners and accounts so that partners are automatically determined in business transactions.

Note

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

28.1 Scope and Configure Partner Data

Following topics discuss the configuration possibilities for partner data.

28.1.1 Configure Partner ABC Classification

Administrators can maintain partner ABC classification.

Go to [Business Configuration](#) > [Implementation Projects](#) . Select your project and navigate to [Open Activity List](#) > [Partners](#) > [Maintain Partner ABC Classification](#) .

28.1.2 Enable Partner Channel Management

Administrators can enable Partner Channel Management.

To do this, go to [Business Configuration](#) > [Implementation Projects](#) . Select your project and navigate to [Edit Project Scope](#) > [Questions](#) > [Partner Channel Management](#) > [Partner Management](#) > [Partner Program Management](#) and scope the following questions:

- Do you want to migrate funds management data?
- Do you want to migrate loyalty management data?
- Do you want to migrate partner programs?
- Do you want to migrate partners?

Note

Following data migration and upload templates are available to support the above scoping questions:

- Partner, Partner Contact with addresses
- Partner Program and Partner Product Dimensions
- Marketing Funds (summary level)
- Loyalty Management (summary level)

The above scoping questions capture the following features of the solution: partner funds management information, partner loyalty points, partner programs and partner types.

28.1.3 Configure Assignments and Access Restrictions

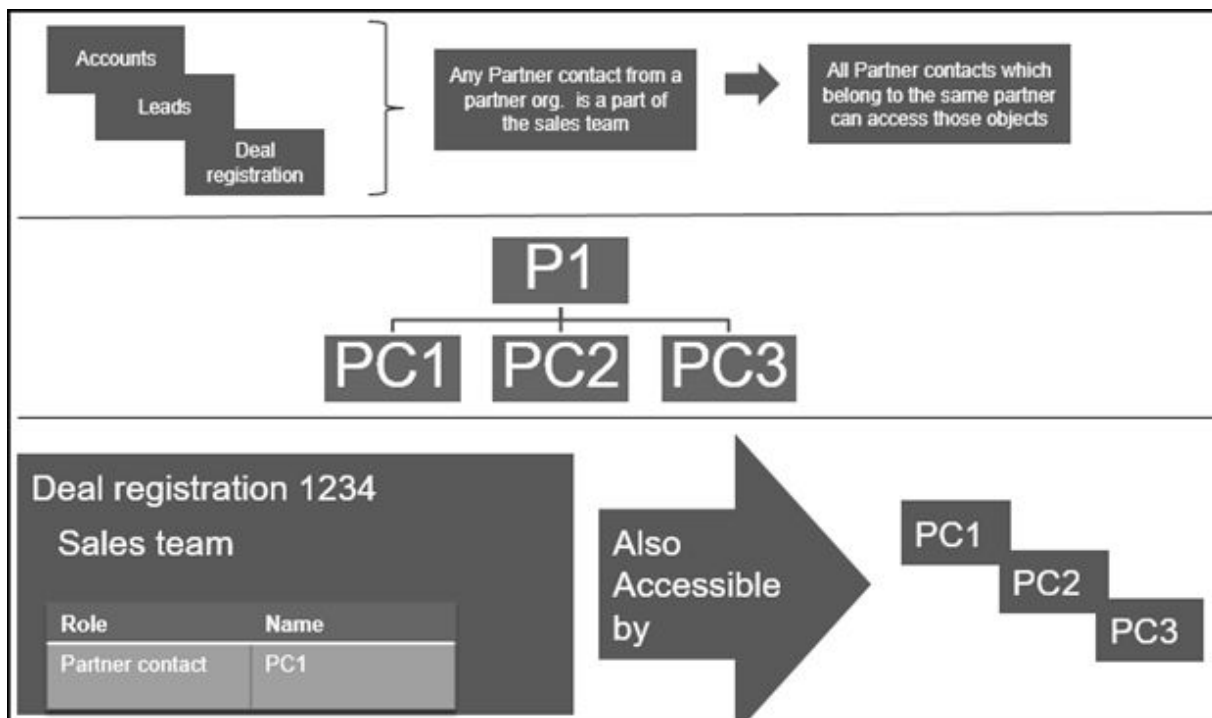
As an administrator, use following assignments to configure access restrictions for partners and partner contacts:

- Organizational unit and business roles
- Territories and accounts
- Transactions such as leads, opportunities, activities, quotes, orders, service tickets and so on.

Restriction Rule - Partner of Partner Contact

Configure business roles with access restriction rule - *Partner Contact of Partner* to enable partner contacts share objects or transactions with other partner contacts within a partner organization. This configuration does not require any further territory or org. assignments.

Currently this restriction rule is available for access contexts **1015** and **1016**. It is possible to restrict all master data and transactional work center views with 1015 (Employee, Territory, Account, Sales Data) and 1016 (Employee, Territory, Account, Sales Data).



28.1.4 Configure Business Partner Types

As an administrator, you can configure business partner types.

Go to [Business Configuration > Implementation Projects](#). Select your project and navigate to [Edit Project Scope > Questions > Sales > Account and Activity Management > Account Management > Business Partner Types](#) and select the scoping question: **Would you like to manage partners, such as resellers, in your system?** This selection allows you to choose partners and partners contacts to manage business relationships with partners (such as resellers) and their contacts.

28.1.5 Configure Partner Programs

Administrators can configure the various partner programs listed below. Go to [Business Configuration > Implementation Projects](#). Select your project and navigate to [Fine-Tune > Partner Channel Management > Partner Management > Partner Program Management > Partner Programs](#), and define the following:

- Codes for partner programs
- Business codes for partner portal
- Tier-level codes for partner programs
- Codes for partner types
- Number ranges for partner programs

28.1.6 Configure Address Type Ahead Search

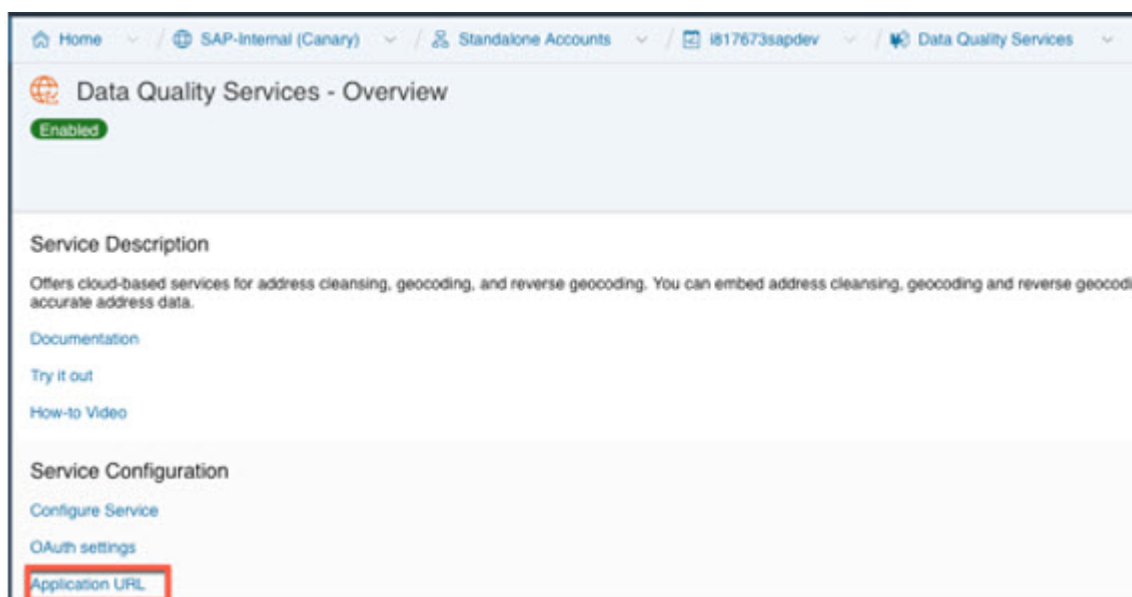
Administrators can configure address type ahead search using standard microservices from SAP Cloud Platform.

Prerequisite

When you purchase a license for the microservice, you are assigned a **Request URL** to access SAP DQM microservices. The URL is unique to your data center on SAP Cloud Platform and is required to activate integration with the SAP Cloud for Customer. You can access this URL under [SCP Cockpit > Services > Data Quality Services > Application URL](#). Copy *Address Cleanse URL* under *Available endpoints* to a notepad on your local machine. You assign this URL when configuring the integration in your cloud for customer system.

Note

Do not use the URL under *Available endpoint when using client certificates*.



Configuration in SAP Cloud Platform

Generate OAuth 2.0 Client IDs and Token Values to configure in SAP Cloud Platform. For detailed documentation on generating OAuth 2.0 certificate to SAP Cloud Platform, see [OAuth 2.0 Authorization](#).

Steps for Configuring Microservice for Address Type Ahead Search in SAP Cloud for Customer

1. Enable the scoping question as follows:
 1. Go to [Business Configuration](#) [Implementation Projects](#).
 2. Select your project and navigate to [Edit Project Scope](#) [Questions](#) [Built in Services and Support](#) [Business Environment](#) [Addresses and Languages](#).
 3. Select the scoping question: *Do you want to use the address type ahead search functionality?*
2. Configure Mashup Web Services

There are two mashup web services need to be configured.

1. *DQM Address Type Ahead* mashup service:
 1. Go to [Administrator](#) [Mashup Web Services](#).
 2. Select the pre delivered service (SW00095) and *Copy* the template to create new service.

Note

Under *General Information*, retain the *Service Name* and *Description* as it is.

3. Under *Service Information*, update the necessary fields as:
 - *Authorization Method*: OAuth
 - *HTTP Method*: Post
 - *URL*: Maintain the Token Endpoint URL that is provided in OAuth settings from SAP Cloud Platform.
 - Enter the *Consumer Key* and *Consumer Secret* that you have created during OAuth settings.

Note

Ensure that you retain the other fields as it is.

4. Click *Save* and *Activate*.
2. *DQM Address Type Ahead Endpoint* mashup service:
 1. Go to [Administrator](#) [Mashup Web Services](#).
 2. Select the pre delivered service (SW00094) and *Copy* the template to create new service.

Note

Under *General Information*, retain the *Service Name* and *Description* as it is.

3. Under *Service Information*, update the necessary fields:
 - *Authorization Method*: OAuth
 - *HTTP Method*: Post

- *URL*: Maintain the *Address Cleanse URL* from *Available endpoints* list in SAP Cloud Platform.

Note

- Do not use the URL from *Available endpoints* when using client certificates list in SAP Cloud Platform.
- Ensure that you retain the other fields as it is.

4. Click *Save* and *Activate*.

Note

Maintain only one mashup for Token and Service. Multiple mashups for the same will create inconsistency.

Billing for DQM Service for Address Type Ahead Search

The street address type ahead search is enabled by scoping question for each SAP Cloud for Customer to SAP DQM micro service call. The following considerations apply as part of the address type ahead search service:

- Street address type ahead search is considered as two different transactions by DQM service.
- Street and post office box addresses within the same address type ahead search transaction are considered separately.

For detailed information on billing for these API calls, refer to [Billing/Usage Information \(Per API Call\)](#).

Additional Information

For detailed information on enabling and configuring DQM Microservices, see the documentation under [Data Quality Management, microservices for location data \(DQM microservices\)](#).

28.2 Partner Channel Management

Use Partner Channel Management (PCM) solution to work together with partners allowing closer collaboration.

If your solution includes integration with the SAP HANA Cloud Portal, you can make partner channel management available in the partner portal.

Partner Channel Management (PCM) allows you to manage partner relationships to optimize channel operations for sales and service related processes. To achieve this, you can onboard partners and provision access to the SAP Cloud for Customer for the partner contacts. Once onboarded, an active collaboration can be set-up between the vendors and partners including content management. Use the analytics to manage channel partner relationships throughout the partner life cycle.

Highlight of the collaboration is the partner led lead management and deal registration as well as approval process for sales. Also use PCM in managing tickets with service partners.

Example

Social Opportunity Management: A sales manager uses the Deal Room work pattern to collaborate with sales team from SAP Cloud for Customer, with a goal to win a sales opportunity.

[Deal Registration \[page 217\]](#)

Deal registration on partner portal enables channel partners to work with leads and opportunities in sync with and without conflict with other partners.

[Collaborate using SAP JAM \[page 221\]](#)

Bring your partners on a single collaboration platform to increase partner engagement and loyalty. Use dedicated communities to connect with your partner contacts to exchange ideas, collaborate and deliver superior content.

[Deal Registration \[page 217\]](#)

Deal registration on partner portal enables channel partners to work with leads and opportunities in sync with and without conflict with other partners.

[Collaborate using SAP JAM \[page 221\]](#)

Bring your partners on a single collaboration platform to increase partner engagement and loyalty. Use dedicated communities to connect with your partner contacts to exchange ideas, collaborate and deliver superior content.

Related Information

[Scope and Configure Partner Data \[page 212\]](#)

Following topics discuss the configuration possibilities for partner data.

[\(Deprecated\) Partner Portal for Partner Channel Management \[page 221\]](#)

<https://help.sap.com/viewer/908c545d8c224add8d17d7bcd3047242/latest/en-US> [page]

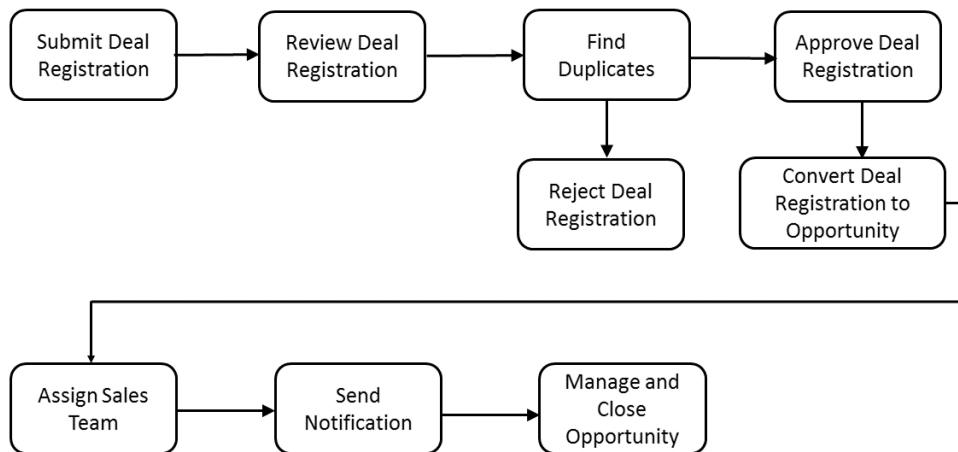
SAP Jam Integration

28.2.1 Deal Registration

Deal registration on partner portal enables channel partners to work with leads and opportunities in sync with and without conflict with other partners.

To enable users to use the deal registration feature, you must ensure that,

- Your business users are authorized to access the [Sales > Deal Registration](#) work center view, where deals are managed.
- The corresponding master data for partner contacts, products, pricing and so on are available in your solution.



Partner contact creates and submits prospective deal

Once deal registration is active in your solution, the partner contact creates and submits a prospective deal, as follows.

1. The partner contact logs on to the solution.
2. The partner contact chooses **Sales > Deal Registration**.
3. On the following screen, the partner contact chooses *New*.
4. All required information is entered.

Note

If desired, the partner contact can select the *Use Existing Account* option to assign the deal to a prospect that already exists in your solution.

5. In the *Status* field, the partner contact specifies one of the following entries:
 - *Draft*, allowing the deal to be finalized later, or
 - *Submitted*, causing the deal to be routed to the brand owner for consideration
6. The partner contact saves the deal.

Note

If the partner contact has submitted the deal, then he or she cannot edit it again, unless the brand owner assigns it *Draft* status at a later time.

Brand owner considers submitted deal

Once the prospective deal is submitted, the brand owner considers it, as follows.

1. The brand owner logs on to the solution.
2. The brand owner chooses **► Sales ► Deal Registration ▾**.
By default, all deals are displayed.
3. Choosing the *Grouped Deals* filter, the brand owner views prospective deals grouped by end customer, product and end date.
4. The brand owner opens any deal in *Submitted* status.
5. On the next screen, in the *Status* field, the brand owner specifies one of the following entries:
 - *Draft*, if the deal is to be returned to the partner contact for revisions to occur, or
 - *In Review*, if the deal is to undergo customer aliasing and potentially receive acceptance
6. The brand owner saves the deal.

Brand owner performs customer aliasing

Once the prospective deal is in review, the brand owner determines whether to create a new account for the prospect, or to assign an existing account to it, as follows.

1. The brand owner opens any deal to which the status *Submitted* or *In Review* is assigned.
2. The brand owner chooses **► Actions ► Convert to Account ▾**.
If duplicate checks for business partners are active in the system, potential duplicates are displayed.
3. To complete customer aliasing, the brand owner performs one of the following actions:
 - Clicks on the link of the potential duplicate business partner to assign that account to the deal, or
 - Saves the prospect associated with this deal to complete its conversion into an account.
In response, the account information is assigned to the deal.

Brand owner accepts deal

If the brand owner decides to accept the deal, the following steps occur.

1. The brand owner opens any deal to which the status *In Review* is assigned.
2. The brand owner modifies the status from *In Review* to *Accepted*, enabling it to be converted to an opportunity, when applicable.
3. The brand owner saves the deal.

Brand owner converts deal to opportunity

Once the brand owner is satisfied with the accepted deal and wants to convert it to an opportunity, the following steps occur.

1. The brand owner opens any deal to which the status *Accepted* is assigned.
2. The brand owner chooses **► Actions ► Convert to Opportunity ►**.
In response, the deal is converted to an opportunity.
3. The brand owner saves the deal.
In response, the status *Converted* is assigned. Neither the partner contact nor the brand owner can edit the deal further, for it has become an opportunity.

28.2.1.1 Enable Deal Registration

Administrators can enable deal registration in the business configuration.

Scoping and Other
Business Configura-
tion [page 74]

Deal Registration

To make the **► Sales ► Deal Registration ►** work center view visible in your system and thereby enable authorized users to manage deals, you, as an administrator, select the checkbox of the scoping setting **► Sales ► Deal Management ► Deal Registration ►**.

Activity Lists

Deal Registration

In fine tuning, you, as an administrator, add the *Deal Registration* activity, then edit the activity to define the engagement type codes — for example *Co-Sell*, or *Re-Sell* — and to determine the questions that channel partners will answer when they submit prospective deals. If you are not satisfied with these pre-delivered questions, then you can edit or delete them, as desired, or add new ones.

28.2.1.2 Configure Reports for Deal Registration

Administrators can configure and use the reports for deal registration. These reports offer you more insight about deal conversion rate, deal items by product, and deals by status are available, along with new data sources related to deal registration.

The following reports are delivered:

1. Deal Conversion Rate - Last 12 Months, whose technical name is CODDEALU_Q0001, displays the rate of conversion of deals to opportunities in the last 12 months
2. Deal Items by Products, whose technical name is CODDEALI_Q0001, displays the distribution of deal items by products.
3. Deals by Status, whose technical name is CODDEALH_Q0001, displays the distribution of deals by status.

The following data sources are also available:

Data Sources for Deal Registration

Data Source ID	Data Source Name	Description
CODDEALU	Deal Registration Funnel	Contains all deal registrations and their related objects.
CODDEALHB	Deal Registration Header Details	Contains the deal registration document's header information.
CODDEALIB	Deal Registration Item Details	Contains the deal registration document's item information

28.2.1.3 Configure Depersonalization in Deal Registration

The depersonalization function allows you to remove personal data from a business object to ensure compliance with the applicable data protection requirements.

Depersonalization is only available for users with access to the [Data Protection and Privacy](#) work center.

In deal registration, depersonalization triggers a deletion. Once a deal registration is depersonalized, you can go to [Administrators](#) > [General Settings](#) > [Data Management](#) > [Deleted Data](#) to view the deleted record. You cannot depersonalize a deal registration if it contains a person that is blocked for removal.

In case you need to retain certain information, you can download relevant data using OData or Data Workbench prior to depersonalization.

28.2.2 Collaborate using SAP JAM

Bring your partners on a single collaboration platform to increase partner engagement and loyalty. Use dedicated communities to connect with your partner contacts to exchange ideas, collaborate and deliver superior content.

28.3 (Deprecated) Partner Portal for Partner Channel Management

Note

The entire section for Partner Portal documentation is deprecated. The partner portal is powered by SAP Cloud Platform. See the topic [Integration Landscape for Partner Portal](#) in this chapter.

About Partner Portal

The partner portal enables channel partners to design a new generation user experience that they can use collaborate on critical opportunities. Use partner portal to:

- Self-register as a new partner.
- Invite new partner employees.
- Maintain partner contact details.
- Add and track leads and opportunities.
- Manage tasks and appointments.
- Access import content, channel enablement tools and resources.

[Partner Portal Integration Landscape \[page 222\]](#)

Landscape details for the partner portal set-up.

[Partner Registration and Onboarding \[page 223\]](#)

[Set Up Your Partner Portal \[page 223\]](#)

Set up your partner portal so that your channel managers can engage more efficiently with your partner network.

[Partner Portal Integration Landscape \[page 222\]](#)

Landscape details for the partner portal set-up.

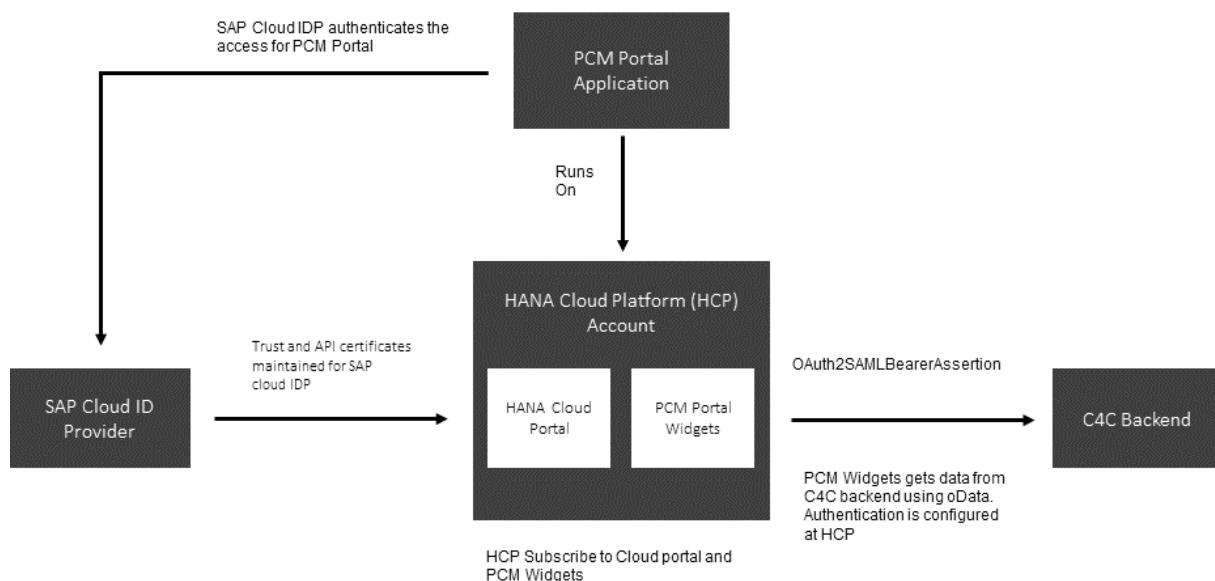
[Partner Registration and Onboarding \[page 223\]](#)

[Set Up Your Partner Portal \[page 223\]](#)

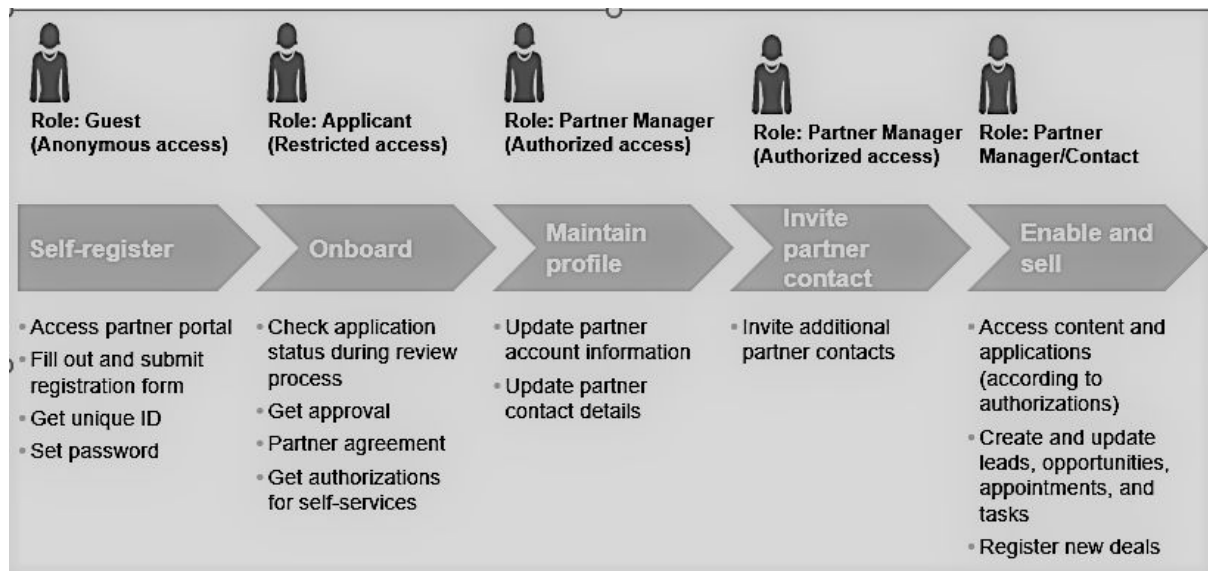
Set up your partner portal so that your channel managers can engage more efficiently with your partner network.

28.3.1 Partner Portal Integration Landscape

Landscape details for the partner portal set-up.



28.3.2 Partner Registration and Onboarding



28.3.3 Set Up Your Partner Portal

Set up your partner portal so that your channel managers can engage more efficiently with your partner network.

You can quickly create a Partner Channel Management (PCM) solution from the SAP HANA Cloud Platform portal service GitHub repository and deploy it to your account. For more information, see: <https://github.com/SAP/hcp-portal-service-for-pcm> . . .

Use the portal to give your partners all the information they need and make it easier to do business with your company. The goal is to help channel managers to efficiently engage with partners and enable their experts by:

- Providing a harmonized, central partner experience
- Providing easy, role-based access to high-value content, key information and intuitive self-services
- Empowering partners to efficiently and self-sufficiently support go-to-market campaigns and drive indirect revenue

Set Up Overview

The partner portal is based on SAP HANA Cloud Platform and leverages various platform services such as the portal launchpad, identity and user management, connectivity and roles, security as well as SAP Web IDE / SAPUI5 for custom development and extensions.

Customers can create their own partner sites or start with the provided apps delivered via the predefined integration with SAP Cloud for Customer which serves as the central system of record for the relevant business objects (partners, leads, opportunities, etc.) and the configuration of their meta data. The partner

portal solution provides pre-configured web applications that visualize the data from SAP Cloud for Customer exposed via oData services.

→ Recommendation

To ensure proper functionality, user accounts for your partner managers must be created on the portal site, **not** on the SAP Cloud for Customer system.

28.3.3.1 Prerequisites

SAP Service Cloud has set up and configured the integration between your SAP Cloud for Customer system and the SAP HANA Cloud Portal, a separately licensed solution.

For information on integrating your SAP Cloud for Customer system with SAP HANA Cloud Portal, contact your SAP Service Cloud representative.

28.3.3.2 Create Trust Between the Customer Account and SCI

To initiate the logon, first create setup the trust between the customer account and SCI.

Context

For the logon scenario, proceed as follows to create trust between the customer account and SCI.

Procedure

1. In the SAP HANA Cloud Platform Cockpit, open the customer account.
 1. Navigate to the *Trust* settings.
 2. Edit the *Local Service Provider* settings.
 3. Change the *Configuration Type* to *Custom*.
 4. Choose *Generate Key Pair* to display the signing key and certificate.
 5. Change the *Principle Propagation* to *Enabled*.
 6. Save your settings, then choose the *Get Metadata* link to download the metadata.
 7. Open the *Trusted Identity Provider* tab, then choose *Add Trusted Identity Provider*.
 8. Browse to locate the IDP metadata file, then upload it.

Note

To find this file, navigate to

```
https://[your SCI account name].[account domain].ondemand.com/saml2/metadata.
```

9. On the *General* tab, change the *User ID Source* to attribute and the *Source Value* to mail.
10. On the *Attributes* tab, choose *Add Assertion-Based Attribute*, then add the following attribute mapping.

Assertion Attribute	Principle Attribute
first_name	firstname
last_name	lastname
mail	email

11. Save your entries, then exit the customer account settings.
2. Open the administrator page of your SCI IDP account, located at `https://[your SCI account name].[account domain].ondemand.com/admin`.
 1. Choose *Applications*.
 2. Add a new application, specifying the customer's name as the application name.
 3. Open the SAML 2.0 Configuration and upload the customer's account SP metadata, which you downloaded in step 1f. of the current task.
 4. Save your entries, then exit the applications settings.

Upon completing this procedure, you should be able to log on to the SAP HANA Cloud Portal space with the user ID (that is, e-mail) that was assigned to it when the customer's account was provisioned.

Note

If you cannot log on with this user ID, ensure that it has been added to the SCI account by visiting the SCI administrator page and uploading the user and user details in a `.csv` file format.

28.3.3.3 Create Trust Between the Customer Account and the SCI API

For the SAP ID invitation flow scenario, proceed as follows to create trust between the customer account and the SCI API.

Context

Procedure

1. Request a certificate to be used for authentication from the [SAP Support Portal](#).
2. Open a KeyStore Explorer application, then proceed as follows.
 1. Choose *Create a new KeyStore*.
 2. Specify the *JKS* type.
 3. Choose **Tools** > *Import Key Pair*.
 4. Choose *PKCS #12*.
 5. In the *Decryption Password* field, specify the certificate password, then choose the certificate file.
 6. Choose an alias, or accept the default setting.
 7. When you are prompted to choose a new password, enter the original certificate password.
 8. Save the `.jks` file with the file name `sapid.jks`.
 9. When you are prompted to choose a new password, enter, again, the original certificate password.
3. In the SAP HANA Cloud Platform Cockpit, open the customer account.
 1. Choose *Destinations*.
 2. Upload the `sapid.jks` file.
4. Open your SCI IDP account.
 1. Choose *Certificate for API Authentication*.
 2. Upload the public part of the P12 certificate that you created, which is determined as follows:
 - Open Microsoft Internet Explorer®.
 - Choose **Internet Options** > *Content* > *Certificates* > *Import*.
 - Choose the P12 file.
 - Enter the password that you specified when you created the certificate.

Note

Accept the default checkbox selections.

- Place the certificate in the Personal store, then choose *Finish*.
- Find the certificate that you uploaded into the Personal store, then choose *Export*.
- Choose *Next* until you view the file format options.
- Select the *Base-64 encoded X.509 (.cer)* format.
- Enter a file name for the exported file, then choose *Finish*.
- Using Notepad, open the exported file and copy the entire text, including the header and footer.

28.3.3.4 Create Trust Between the Customer Account and SAP Cloud for Customer

For the SAP Cloud for Customer invitation flow scenario, proceed as follows to create trust between the customer account and SAP Cloud for Customer.

Context

Procedure

1. Open the trust management settings of the SAP HANA Cloud Platform customer account.
 1. Copy the entry in the *Local Provider Name* field.
 2. Copy the entry in the *Signing Certificate* field, and save it in .cer format.
2. Within a separate browser window, log on to SAP Cloud for Customer with administrator authorizations.
 1. In the *Administrator* work center, under *Common Tasks*, choose *Configure OAuth 2.0 Identity Provider*.
 - Choose *New OAuth 2.0 Provider*.
 - In the *Issuing Entity Name* field, paste the entry that you copied in step 1a. of the current task.
 - From the *Primary Signing Certificate* field, choose *Browse* to locate the file in .cer format that you saved in step 1b. of the current task.
 - Select the *E-Mail Address* checkbox.
 - Choose *Submit*.
 2. Choose **► Administrator ► OAuth 2.0 Client Registration ►**.
 - Choose *New*.
 - Specify the client secret, client description, and token lifetime (in seconds).
 - In the *Issuer Name* field, use the dropdown list to specify the identity provider that you created in step 2a. of the current task.
 - Choose *Save* and *Close*.

28.3.3.5 Upload Destinations to the Customer Account

In this step, upload the destinations for each of the associated parameters.

Procedure

1. In the SAP HANA Cloud Platform Cockpit, open the customer account.

2. Upload the following destinations, along with the associated parameters.

1. SAP ID

This destination is used for the SAP ID invitation flow scenario, and consists of the following parameters.

📌 Note

Replace any text denoted in bold with the information that pertains to your solution.

```
Name=sapid
Type=HTTP
URL=https://[your SCI account name].[account domain].ondemand.com
ProxyType=Internet
Authentication=ClientCertificateAuthentication
KeyStore Location=sapid.jks
KeyStore Password=[password specified when you created the certificate]
TrustAll=true
```

2. C4C

This destination is used for connecting to SAP Cloud for Customer during its invitation flow scenario, and consists of the following parameters.

📌 Note

Replace any text denoted in bold with the information that pertains to your solution.

Replace NNNNNN with the numbers that are associated with the URL of your SAP Cloud for Customer tenant.

```
Name=C4C
Type=HTTP
URL=https://myNNNNNN.crm.ondemand.com
ProxyType=Internet
Authentication=OAuth2SAMLSAMLBearerAssertion
Audience=myNNNNNN.crm.ondemand.com
Client Key=[OAuth client ID from SAP Cloud for Customer]
Token Service URL=https://myNNNNNN.crm.ondemand.com/sap/bc/sec/oauth2/
token?sap-client=[client number]
Token Service User=[OAuth client ID from SAP Cloud for Customer]
Token Service Password=[password specified in Client Key field during SAML
client configuration]
authnContextClassRef=urn:oasis:names:tc:SAML:2.0:ac:classes:PreviousSession
nameIdFormat=urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress
scope=UIWC:CC_HOME
```

3. C4C Public

This destination is used for connecting to SAP Cloud for Customer during an anonymous scenario on a public site, and consists of the following parameters.

📌 Note

Replace any text denoted in bold with the information that pertains to your solution.

Replace NNNNNN with the numbers that are associated with the URL of your SAP Cloud for Customer tenant.

```
Type=HTTP
authnContextClassRef=urn:oasis:names:tc:SAML:2.0:ac:classes:PreviousSession
Authentication=BasicAuthentication
```

```
Name=C4C__public
ProxyType=Internet
URL=URL=https://myNNNNNNN.crm.ondemand.com/sap/byd/odata/v1/pcmportal
nameIdFormat=urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress
User=[Administrator User ID]
Password=[Administrator Password]
scope=UIWC:CC_HOME
```

4. c4c_pcpublic

Note

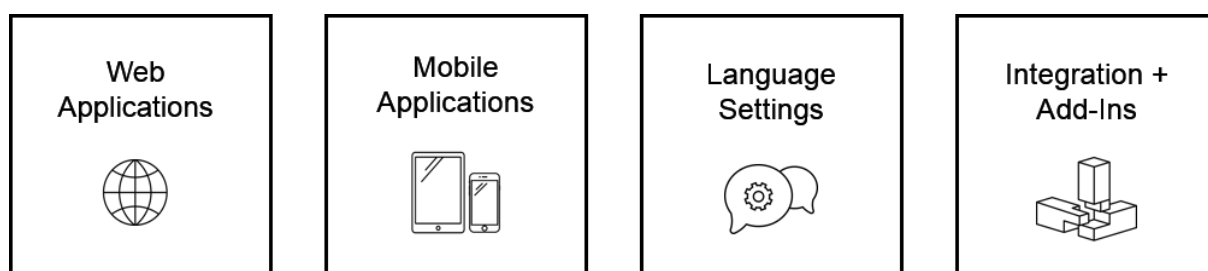
Replace any text denoted in bold with the information that pertains to your solution.

```
Name=c4c_pcpublic
Description=destination to public self-registration widget
URL=[URL of the customer account subscription to the pcpublic Helium
application]
ProxyType=Internet
Type=HTTP
Authentication=NoAuthentication
```

29 Minimum System and Software Requirements

Graphical navigation for system and software requirements for SAP Cloud for Customer.

Click the boxes to access more information on your desired topic.



- [Web Applications \[page 475\]](#)
- [Mobile Device Requirements \[page 478\]](#)
- [Language Settings \[page 481\]](#)
- [Integration and Add-Ins \[page 483\]](#)

29.1 Web Applications

Minimum requirements for SAP Cloud for Customer Web applications.

29.1.1 Minimum Hardware Requirements

Minimum desktop and laptop hardware requirements for SAP Cloud for Customer.

- Processor: Intel Core 2 Duo (2.4 GHz with a 1066 megahertz {MHz} front-side bus) or better
- Memory: 6 gigabytes (GB), or more

29.1.2 Minimum Network Requirements

Minimum bandwidth and latency requirements for SAP Cloud for Customer.

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

Network latency should be 200ms or better.

Note

The calculations consider only bandwidth used by SAP Cloud for Customer and don't include any other internet or internal network traffic.

SAP Support may request wired networking during investigation of cases.

For detailed calculations and more information about bandwidth requirements refer to the blog at: <https://blogs.sap.com/2018/02/07/network-sizing/>

29.1.3 Display Resolution

SAP Cloud for Customer is best displayed at a screen resolution of 1280 x 768.

29.1.4 Additional Software

Working with certain functions of SAP Cloud for Customer requires additional software.

- Adobe Reader 8.1.3 or higher

29.1.5 Browser Settings

Download settings and formats, pop-up settings and advanced settings for Microsoft Internet Explorer.

Downloads

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

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

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

Pop-ups

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

Advanced Internet Options Settings in Internet Explorer

If you use Internet Explorer, make the following advanced internet option settings:

- The browser should be configured to use HTTP 1.1, both for connections in general and for connections through a proxy.
- The user interface of the on-demand solution may react more quickly if you disable the setting *Do not save encrypted pages to disk*.

29.1.6 Browser Versions

Versions tested and handling browser updates.

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

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

29.1.7 Domain Settings

Allow applications to access resources from the ***.ondemand.com** domains.

If you use a URL filter to blacklist a category of websites, you must allow ***.ondemand.com** domains as an exception.

29.1.8 SAP Cloud for Customer, Fiori Client for Desktops and Laptops

Browser support by operating system for desktops and laptops.

Platform	OS	Recommended Browser	Supported
Microsoft Windows	Windows 7	Google Chrome	Google Chrome
	Windows 8.1		<div style="border: 1px solid #ccc; background-color: #f9f9f9; padding: 5px;"> <p>Note</p> <p>Internet Explorer isn't supported with 2011 release.</p> </div>
	Windows 10	Google Chrome	Google Chrome
	Windows 11		Microsoft Edge (Legacy) Microsoft Edge (Chromium) <div style="border: 1px solid #ccc; background-color: #f9f9f9; padding: 5px; margin-top: 5px;"> <p>Note</p> <p>Internet Explorer isn't supported with 2011 release.</p> </div>
Apple Mac OS X	10.10 "Yosemite"	Apple Safari (latest version)	Apple Safari (latest version)

29.2 Mobile Device Requirements

Minimum requirements for SAP Cloud for Customer mobile applications.

For information on the Mobile application, refer the [SAP Cloud for Customer Mobile Apps](#) guide.

29.2.1 Minimum Network Requirements for Mobile Devices

Minimum bandwidth requirements for mobile devices using SAP Cloud for Customer apps.

- Upstream: 2 mbps
- Downstream: 2 mbps
- Latency: 200ms or better

A Wi-Fi or cellular network connection is required to communicate with SAP Cloud for Customer servers. For Wi-Fi, minimum bandwidth requirements are listed above. For cellular connections, a 4G network or faster is required. For the best performance, we recommend using Wi-Fi or LTE.

29.2.2 Mobile Device Performance

Performance specification and processor recommendations.

SAP tests the supported and recommended devices. Recommended devices provide better performance and usability. Devices with similar or better specifications than the recommended devices should be compatible, but are not tested by SAP.

For the supported and recommended devices, Intel Core M microprocessors are **not** recommended because sufficient performance cannot be guaranteed.

29.2.3 SAP Cloud for Customer Applications

Supported and recommended device and operating system requirements for using SAP Cloud for Customer apps.

⚠ Restriction

The Surface Pro tablet is recognized as a desktop computer by the SAP Cloud for Customer app.

To provide a better experience in the solution, the user interface is slightly different on tablets than on desktop devices. For example: Editing formatted text happens inline on desktops and in a full screen pop-up window on tablets.

The solution checks various browser properties plus the width of the device screen to recognize tablets. Browser properties on the Surface Pro tablet appear the same as a Windows 10 desktop device, and the display width of Surface Pro tablet is greater than 1024 pixels. This width is considered large enough to be a desktop display by SAP user interface standards. For these reasons, the Surface Pro is recognized as a desktop device and any tablet-specific user interface elements aren't available.

Tablet Device Requirements (Effective Mar 2023)

Device	Supported Operating System	Recommended Device Model	Supported Device Model	Minimum Hardware Specification	End of Support
Apple iPad	iPadOS 16.5.1 and above	Apple iPad 10th Gen (A14 Bionic)	Apple iPad 8th Gen and above	3 GB RAM, A12 Bionic chip with 64-bit architecture Hexa-core (2x2.5 GHz Vortex + 4x1.6 GHz Tempest), 32/128 GB HD	September 2025 (iPad 8th Gen)

→ Recommendation

Use the latest iOS version available

Device	Supported Operating System	Recommended Device Model	Supported Device Model	Minimum Hardware Specification	End of Support
Android Tablet	Android 11, 12 and 13	Samsung Galaxy Tab S8	Samsung Galaxy Tab S7 and above	8 GB RAM, Octa-core (1x3.09 GHz Cortex-A77 & 3x2.42 GHz Cortex-A77 & 4x1.80 GHz Cortex-A55, 64 GB HD	Mar 2025 (Samsung Galaxy Tab S7)
Microsoft Windows Tablet	Microsoft Windows 10, version 2004 or above, Microsoft Windows 11	Surface Pro 8	Surface Pro 7+ and above	8 GB RAM, Quad-core 11th Gen Intel® Core™ i5-1135G7 Processor, 256 GB HD	Mar 2026 (Surface Pro 7+)

⚠ Restriction

Only x64 processor based devices are supported. ARM based processor not supported.

📌 Note

- The recommended devices will be reviewed once in 2 years and updated, as required.
- If there's any change in the end of support date, then it will be communicated six months in advance.
- Any device with hardware specifications equal to or above the minimum hardware specification will be supported.
- Offline support is available on all supported devices.

⚠ Restriction

- Mobile Devices with device width less than 360 px aren't supported. For more information, see the following links:
 - [Compare devices](#) ➡
 - [iOS Device Compatibility Reference](#) ➡
- Mobile apps aren't supported in the browser of mobile devices.

Smartphone Device Requirements (Effective Mar 2023)

Supported Operating System	Recommended Device Model	Supported Device Model	Minimum Hardware Specification	End of Support
iOS 16.5.1 and above	Apple iPhone 13 (A15 Bionic)	Apple iPhone 11 and above iPhone SE3 and above	4 GB RAM, A13 BionicHexa-core (2x2.65 GHz Lightning + 4x1.8 GHz Thunder), 64/128 GB HD	September 2025 (Apple iPhone 11)
<p>→ Recommendation</p> <p>Use the latest iOS version available</p>		<p>⚠ Restriction</p> <p>iPhone SE devices aren't supported.</p>		
Android 11, 12 and 13	Samsung Galaxy S21	Samsung Galaxy S20 and above	8 GB RAM, Octa-core (2x2.73 GHz Mon-goose M5 & 2x2.50 GHz Cortex-A76 & 4x2.0 GHz Cortex-A55) CPU, 64 GB HD	Mar 2025 (Samsung Galaxy S20)

📘 Note

- The recommended devices will be reviewed once in 2 years and updated, as required.
- If there's any change in the end of support date, then it will be communicated six months in advance.
- Any device with hardware specifications equal to or above the minimum hardware specification will be supported.
- Offline support is available on all supported devices.

29.3 Language Settings

Browser settings for language support.

29.3.1 General and Portal Settings

Browser settings for language support.

General Language Settings

To ensure that SAP Cloud for Customer texts appear consistently in the same logon language, review the following three language settings:

- Before you log on to SAP Cloud for Customer, choose the preferred language from the [Language](#) dropdown list.

- After you log on, to define the preferred language, choose ► [Personalize](#) ► [My Settings](#) ► [Regional Settings](#) ► [Language](#) ►.
- In the operating system itself, ensure that the preferred language is defined as the display language.

ⓘ Note

If English is defined as the display language both of the operating system and under ► [Personalize](#) ► [My Settings](#) ► [Regional Settings](#) ► [Language](#) ►, and if you log on to SAP Cloud for Customer in Spanish, then the texts that you see may not consistently appear in Spanish. Instead, a mixture of texts — in Spanish and English — may appear.

Portal Language Settings

If your solution includes the SAP HANA Cloud Portal, Support Site Option, only one language pack per browser is fully supported. If more than one language is defined in the browser settings, widget and page content may not display as fully translated.

29.3.2 Languages Supported

Supported languages and restrictions for specific languages.

The SAP Cloud for Customer user interface is available in the following languages.

ⓘ Note

Apart from languages supported in the standard solution, the solution allows you to add new languages that you may require in your business. For more information, see [Translate and Adapt User Interface Texts](#)

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

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

📌 Note

Right-to-left languages (Arabic script and the Hebrew alphabet are written from right to left) are **NOT SUPPORTED** for the following scenarios:

- **SAP Sales Cloud**
For e-mail integration, analytics, or maps. Moreover, the activity timeline, the deal finder, the influencer map, marketing attributes, and document flow are only supported for left-to-right (LFR) languages.
- **SAP Service Cloud**
Within the agent workspace for viewing the document flow and the creation of response templates. Right-to-left languages are supported by Adobe Acrobat output forms, but translated examples are not provided. The use of the SAP Cloud for Customer Add-In for Microsoft Outlook® is not supported for right-to-left languages in SAP Service Cloud.
- **Industries**
SAP Cloud for Customer industry solutions.

📌 Note

When you download multiple files using the [Download](#) button from the [Surveys](#) and [Related Attachments](#) workcenter views, a zip file is created. The file names supported must only contain characters that are mentioned [here](#) .

29.4 Integration and Add-Ins

This topic describes the additional software requirements for integration scenarios and add-ins.

SAP Cloud for Customer delivers additional functionality through integration to external systems, and software that can be installed, via the [Download](#) screen, for specific business purposes and end-users.

29.4.1 Requirements for Software Integration

To increase sales efficiency, large enterprises can integrate existing SAP ERP, SAP S/4HANA, and SAP S/4HANA Cloud systems with SAP Cloud for Customer. Existing installations of SAP Customer Relationship Management (SAP CRM) can also be integrated with SAP Cloud for Customer, where desired.

For more information on SAP ERP Integration with SAP Cloud for Customer, SAP CRM Integration with SAP Cloud for Customer, SAP S/4HANA Integration with SAP Cloud for Customer, or SAP S/4HANA Cloud Integration with SAP Cloud for Customer, see:

- [Prepackaged Integration with SAP ERP](#)
- [Prepackaged Integration with SAP CRM](#)
- [Prepackaged Integration with SAP S/4HANA](#)

29.4.2 Requirements for Add-In for Microsoft Excel (version 4.0 or higher)

Supported versions and prerequisite packages required by the add-in.

- Microsoft Office 2007, Microsoft Office 2010, Microsoft Office 2013 (32-Bit), Microsoft Office 2016 (32-bit and 64-bit versions), Microsoft Office 2016 for Office 365 ProPlus desktop version, and Microsoft 365
- Microsoft .Net Framework 4.0 (Web Installer)
- Microsoft Visual Studio 2010 Tools for Office Runtime (VSTOR 2010) Redistributable (x86)
- Microsoft Visual Studio 2010 Tools for Office Runtime (VSTOR 2010) Redistributable (x64)
- Microsoft Windows Operating System (up to and including Windows 11)

29.4.3 Requirements for SAP Cloud for Customer Add-In for Microsoft Outlook (version 4.0 or higher)

Microsoft Outlook versions supported by the add-in and required frameworks and packages.

Note

The same user should not use both the client-side and the server-side add-in for Microsoft Outlook. If you decide to use SAP Cloud for Customer, server-side integration for Microsoft Outlook, uninstall the SAP Cloud for Customer Add-In for Microsoft Outlook.

- Microsoft Office support:

Outlook Version	Types Supported
Outlook 2016	<ul style="list-style-type: none">• Office Professional Plus• Office 365 ProPlus

Outlook Version	Types Supported
Outlook 2013 (32-Bit or 64-Bit)	<ul style="list-style-type: none"> Office Professional Plus Office 365 ProPlus
Outlook 2010 (32-Bit or 64-Bit)	<ul style="list-style-type: none"> Office Professional Plus Professional Standard

Note

Microsoft Exchange 2010 and 2013 are supported.

- Microsoft .Net Framework 4.5.2 (Web Installer)
- Microsoft Visual Studio 2010 Tools for Office Runtime (VSTOR 2010) Redistributable (x86)
- Microsoft Visual Studio 2010 Tools for Office Runtime (VSTOR 2010) Redistributable (x64)
- Microsoft Windows Operating System up to and including Windows 10

29.4.4 Requirements for SAP Cloud for Customer, server-side integration for Microsoft Outlook

Client and server software versions required to use SAP Cloud for Customer, server-side integration for Microsoft Outlook.

Note

A specific business user can use either the client-side, or the server-side add-in for Microsoft Outlook, but not both. If you decide to use SAP Cloud for Customer, server-side integration for Microsoft Outlook, remove the SAP Cloud for Customer Add-In for Microsoft Outlook (client add-in).

Supported systems for SAP Cloud for Customer, server-side integration for Microsoft Outlook:

- Microsoft Exchange 2013 or above
- Microsoft Office 365
- Outlook-rich clients:
 - Microsoft Windows and Apple Mac
 - Outlook Web App
 - Outlook Web App for devices or mobile browsers (requires Microsoft Exchange 2013 or above)

Synchronization also supports Microsoft Exchange 2010.

29.4.5 Requirements for CTI Client Adapter Add-In

The CTI client adapter is only available for, and requires a Microsoft Windows operating system.

30 RACI Compliance Matrix for SAP Cloud for Customer



Click on the link to download the [RACI Compliance Matrix for SAP Cloud for Customer](#).

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