Installation Guide | PUBLIC
Document Version: 1.0 – 2022-12-02

Common Installation Guide for SAP Customer Activity Repository applications bundle 5.0 FPS04

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Content

1 How to Use this Common Installation Guide. 5
1.1 Naming Conventions. 7
1.2 Information Available on SAP Help Portal. 10

2 Plan your System. 13
2.1 System Landscape. 14
2.2 Deployment Options. 16
2.3 Integration with Source Master Data Systems. 17

3 Install the Prerequisites. 19

4 Prepare the Installation. 34
4.1 Implement SAP Notes for the Installation. 34
4.2 Verify SAP HANA Users and Privileges. 49
4.3 Verify Correct Schema Mapping. 55
4.4 Generate Time Data for Gregorian Calendar. 59
4.5 Configure AFL Usage. 61
Enable Usage of PAL Functions (SAP Assortment Planning). 61
Check the OFL Installation. 62

5 Install the Software. 64
5.1 Verify Prerequisites and SAP Notes (Pre-Installation). 64
5.2 Install ABAP Back-End Server. 65
Download and Install `SAP RTL AFL FOR SAP HANA`. 66
Download and Install SAP XRP AFL (Only for SAP Replenishment Planning). 69
Install `SAP CARAB` Back-End Product Version. 72
Set Up SAP Client. 75
5.3 Install ABAP Front-End Server. 78
Verify Installation of SAP Gateway Foundation. 79
Verify Installation of Central SAP Fiori UI Component. 80
Install `SAP FIORI FOR SAP CARAB` Front-End Product Version. 81
5.4 Verify SAP Notes and RINs (Post-Installation). 83

6 Set Up the Applications. 85
6.1 SAP Customer Activity Repository. 85
Core (Mandatory for All Applications). 86
Advanced (Optional). 124
Troubleshooting. 241

6.2 SAP Merchandise Planning 260
Perform Core Steps for SAP Customer Activity Repository. 260
Configure SAP Merchandise Planning. 260
Verify the Connection Between the SAP Merchandise Planning System and SAP Analysis for Microsoft Office. 265
Activate SAP Merchandise Planning Omnichannel BI Planning Framework Content. 265
Configure Data Replication Steps. 302
Create Market Hierarchy. 309
Specify Analysis Workbook Settings. 310
6.3 SAP Assortment Planning. 311
Perform Core Steps for SAP Customer Activity Repository. 313
Configure Assortment Planning. 313
Maintain Fiscal Year Variant for Retail Week. 314
Maintain Fiscal Year Variant for Month. 316
Generate Time Data - Fiscal Calendar. 318
Activate Planning Framework Content (SAP Assortment Planning). 319
Configure Data Replication. 328
Run the Validation Report. 328
Configure Front-End. 329
Extend an SAP Fiori App for SAP Assortment Planning. 335
Additional Information for Retail SAP BW Structure. 335
6.4 SAP Promotion Management. 340
Perform Core Steps for SAP Customer Activity Repository. 341
Activate Internet Communication Framework (ICF) Services. 341
6.5 SAP Allocation Management. 341
Perform Core Steps for SAP Customer Activity Repository. 342
Activate SAP HANA Content for SAP Allocation Management 342
Check Procedure Associated with Function GENIOS_SOLVE Is Active. 346
Configure SAP Allocation Management. 347
Configure Data Replication. 348
Configure Front End. 351
Implement BAdI for Real-Time Inventory. 354
6.6 SAP Replenishment Planning. 355
Perform Core Steps for SAP Customer Activity Repository. 355
Implement SAP Notes for the Integration of SAP Replenishment Planning with SAP ERP or SAP S/4HANA. 356
Specify RFC Destinations for Source Master Data Systems. 357
Enable the Use of Scheduling Groups. 358
Adjust the Use of Shelf Life Information. 358
Set Up SAP Fiori Apps for SAP Replenishment Planning. 359
Make Fiori Launchpad Tiles for SAP GUI Transactions Accessible With Hub Deployment. 389

Set Up Database Roles and Authorizations. 391
Set Up Back-End Roles and Authorizations. 392
Set Up Authorizations for Transfer of Order Plan Items to Source Master Data System. 398
Perform Configuration Steps in SAP Customer Activity Repository. 399
Ensure a Suitable Configuration of the Enqueue Server. 400
Configure SAP Replenishment Planning. 401
Define the Parameterization Profiles and the Assignment. 406
Configure Exception Management. 407
Configure Process Packaging and Parallelization. 409
Set Up Real-Time Inventory Integration. 410
Configure SAP Analytics Cloud for Replenishment-Related Analytics (Optional). 411
Check Performance-Related Configuration Options (Optional). 412
6.7 Configure Access to Documentation on SAP Help Portal (Optional for All Applications). 413
6.8 Enable In-App Help. 416
Install and Configure SAP Web Dispatcher. 417
Set Up the In-App Help Plugin. 419

1 How to Use this Common Installation Guide

This guide describes how to install and set up the applications included in SAP Customer Activity Repository applications bundle 5.0 FPS04. Learn what applications are included in this release, and get an overview of the main installation steps.

Applications in this Release (Functional View)

> ⚠ Caution
>
> If you already have an existing installation of any of these applications, you must perform a **software upgrade** rather than a new installation. In this case, see the *Common Upgrade Guide* for this release at https://help.sap.com/viewer/p/CARAB.

Functionally, SAP Customer Activity Repository applications bundle 5.0 FPS04 includes the following applications:

- SAP Customer Activity Repository 5.0 FPS04
- SAP Merchandise Planning 5.0 FPS04
- SAP Assortment Planning 5.0 FPS04
- SAP Promotion Management 5.0 FPS04
- SAP Allocation Management 5.0 FPS04
- SAP Replenishment Planning 5.0 FPS04

Product Documentation

You can find this guide and all product documentation for these applications on SAP Help Portal for SAP Customer Activity Repository applications bundle at https://help.sap.com/viewer/p/CARAB.

> ℹ Note
>
> You can set up your back-end system to consume documentation directly from SAP Help Portal. For more information, see Configure Access to Documentation on SAP Help Portal (Optional for All Applications) [page 413].

What to Install (Technical View)

Technically, SAP Customer Activity Repository applications bundle 5.0 FPS04 is delivered in the form of two installable **product versions**, one for the back-end and one for the front-end.

Product Versions for this Release	Purpose
SAP CARAB 5.0 FPS04	**Back-end product version** Contains several software components that provide the ABAP back-end functionality and the business content for all the applications in SAP Customer Activity Repository applications bundle 5.0 FPS04. For example, this includes SAP HANA views and SQLScript procedures, local BI Content, application function libraries, and workbooks, where applicable.
SAP FIORI FOR SAP CARAB 5.0 FPS04	**Front-end product version** Contains one software component that includes the SAP Fiori apps for the applications in SAP Customer Activity Repository applications bundle 5.0 FPS04. This product version is also referred to as the *product-specific SAP Fiori UI component*.

Installation at a Glance

This guide leads you through the following main activities:

1. First you **prepare** the installation. Here you ensure that the technical prerequisites are installed. You also implement mandatory corrections, verify authorizations, and do other preparatory tasks. These steps are described in section Install the Prerequisites [page 19] and section Prepare the Installation [page 34].
2. Then you **install** the back-end product version and the front-end product version. These steps are described in section Install the Software [page 64]. You must do these steps regardless of the application that you want to set up later on.
3. Now you can **set up** the desired applications. These steps are described in section Set Up the Applications [page 85]. First you must do the general setup steps in section Core (Mandatory for All Applications) [page 86]. You must do these core steps regardless of the application that you want to set up. After the core steps, you only need to do the steps that are required for your application. You do not need to read sections that do not apply to your application.

→ Tip

Get Notified of SAP Note Updates

This guide references several SAP Notes that are regularly updated with new information. If a note is particularly relevant for your scenario and you want to be informed of updates, you can easily set up email notifications. See SAP Note 2478289 (*How to set up notifications for SAP Notes and/or KBAs with Expert Search filters*).

→ Tip

Get SAP Universal ID for Easy Login

With an SAP Universal ID, you get a single user login and profile. You are able to log in once to gain access to all of your authorized SAP platforms and applications.

SAP Universal ID is a free service offered by SAP which requires no software installation. For more information, see https://discover.sap.com/universalid/en-us/about.html.

1.1 Naming Conventions

This section explains **important terms** used in this guide. It also explains the meaning of **important variables** (for example, SAPHANADB). Additionally, you get an overview of **naming differences** that exist between the consuming applications.

Important Terms

Term	Definition
Common Installation Guide Common Upgrade Guide	These two common guides are your entry points for all the applications and scenarios included in *SAP Customer Activity Repository applications bundle*. Use the *Common Installation Guide* if you wish to do a completely new installation. Use the *Common Upgrade Guide* if you wish to upgrade from a lower release. You can find both guides on SAP Help Portal at https://help.sap.com/viewer/p/CARAB under *Implement*.
consuming application	An application consuming data from SAP Customer Activity Repository. Examples: • SAP Allocation Management • SAP Assortment Planning • SAP Merchandise Planning • SAP Promotion Management • SAP Replenishment Planning
back-end server / back-end system	The SAP NetWeaver-based ABAP back-end server Depending on your deployment scenario, this is where you might install the SAP CARAB back-end product version of SAP Customer Activity Repository applications bundle..
front-end server / front-end system	The SAP NetWeaver-based ABAP front-end server Depending on your deployment scenario, this is where you might install SAP Gateway, the central SAP Fiori UI component (including SAP Fiori launchpad), and the SAP FIORI FOR SAP CARAB front-end product version of SAP Customer Activity Repository applications bundle.

Term	Definition
logical schema	A term used in the *Display Mappings of Database Schemas* transaction in SAP Customer Activity Repository. The term is synonymous with the **authoring schema** concept in SAP HANA studio.
source master data system	SAP Customer Activity Repository applications bundle must be deployed alongside an SAP ERP (SAP Retail, SAP Fashion Management) or SAP S/4HANA (SAP S/4HANA Retail) central component as the single source of truth for all master data. Whenever this guide refers to a *source master data system*, it refers to the SAP ERP or SAP S/4HANA central component that you choose for your implementation. For more information, see Integration with Source Master Data Systems [page 17].
SAP ERP	Unless otherwise specified, references in this guide to *SAP ERP* are comprehensive. That is, they apply to SAP Retail and SAP Fashion Management.
SAP S/4HANA	Unless otherwise specified, references in this guide to *SAP S/4HANA* are comprehensive. That is, they apply to SAP S/4HANA Retail for merchandise management and to SAP S/4HANA for fashion and vertical business.

Important Variables

> **i Note**
>
> Variables are placeholders for objects that have different names in your customer system landscape or are user-defined.
>
> When you come across a variable in this guide, replace it with your customer-specific name of the respective object.

> **Example**
>
> An instruction states to map the authoring schema to the SAPHANADB physical schema in your ABAP back-end system.
>
> - In your customer system landscape, this physical schema is called *ABC01*.
> - You therefore replace the SAPHANADB variable with *ABC01*. That is, you map the authoring schema to the *ABC01* physical schema.

Variable	Description
Depending on the documentation and user interface, you might come across any of the following variables. **They all mean the same:** • `SAPHANADB` • `SAP<SID>` • `SAPABAP<num>`	Stands for the name of the ABAP back-end system, database schema, or database user in your customer system landscape. → Tip If you don't know what the name is in your customer system landscape, there are two easy ways to find it: • Log on to your ABAP back-end system using SAP Logon. Choose *System* > *Status*. In the section titled *Database data*, see the name for *Schema*. • In SAP HANA studio, log on to your back-end system. The schema name is listed under *Catalog*. For more information, see SAP Note 2535951 (*FAQ: SAP HANA Users and Schemas*).
`<DBSID>`	Database ID in uppercase letters
`<dbsid>`	Database ID in lowercase letters
`<INSTDIR>`	Installation directory for the SAP system
`<DVD_DIR>`	Directory on which a DVD is mounted
`<OS>`	Operating system name within a path

Naming Differences

Due to naming differences between the underlying technical objects, the following terms are **used interchangeably** in this guide:

SAP Customer Activity Repository (all modules except for UDF and DDF)	Unified Demand Forecast (UDF) and Demand Data Foundation (DDF) SAP Merchandise Planning SAP Assortment Planning SAP Promotion Management SAP Replenishment Planning	SAP Allocation Management	SAP Retail and SAP S/4HANA
article	product	product	article material
article variant	product variant	product variant or product/color/size	article variant
store	location (used as an umbrella term for stores, distribution centers, etc.)	store	store site

1.2 Information Available on SAP Help Portal

Quickly find information on prerequisite platforms and components and get quick links to helpful SAP sites.

Information on Prerequisite Platforms and Components

Information On	Path	Title
Installing SAP HANA	https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Installation and Upgrade* ▶ *SAP HANA Server Installation and Update Guide*	*SAP HANA Server Installation and Update Guide*

Information On	Path	Title
Installing SAP HANA database clients	https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Installation and Upgrade* ▶ *SAP HANA Client Installation and Update Guide*	*SAP HANA Client Installation and Update Guide*
Installing SAP HANA studio	https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Installation and Upgrade* ▶ *SAP HANA Studio Installation and Update Guide*	*SAP HANA Studio Installation and Update Guide*
Installing SAP LT (Landscape Transformation) Replication Server for SAP HANA	https://help.sap.com/viewer/p/SAP_HANA_REAL_TIME_REPLICATION ▶ *<Version>* ▶ *Installation and Upgrade*	*Installation Guide*
Managing major operational aspects of the SAP LT (Landscape Transformation) Replication Server for SAP HANA	https://help.sap.com/viewer/p/SAP_HANA_REAL_TIME_REPLICATION ▶ *<Version>*	Versions up to 3.0 SP04: *Application Operations Guide* Version 3.0 SP04: *Application Help* Version 3.0 SP05 and higher: *Getting Started*
Using SAP HANA	https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Administration* ▶ *SAP HANA Administration Guide*	*SAP HANA Administration Guide for SAP HANA Platform*
Using the SAP HANA development tools to create comprehensive analytical models and to build applications with SAP HANA interfaces and integrated development (for developers)	https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Development* ▶ *SAP HANA Developer Guide (For SAP HANA Studio)*	*SAP HANA Developer Guide*
Defining data models for use in SAP HANA (for modelers, business analysts)	https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Development* ▶ *SAP HANA Modeling Guide (For SAP HANA Studio)*	*SAP HANA Modeling Guide for HANA Studio*

Information On	Path	Title
Installing Foundation on SAP NetWeaver AS for ABAP 7.52, version for SAP HANA	https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 ▶ *<Version>* ▶ *Installation and Upgrade* ▶ *Master Guide* ▶	*Master Guide*
Installing SAP ERP 6.0	https://help.sap.com/viewer/p/SAP_ERP ▶ *<Version>* ▶ *Installation and Upgrade* ▶ *Installation Guide* ▶	*Installation Guide*
Installing SAP S/4HANA	https://help.sap.com/viewer/p/SAP_S4HANA_ON-PREMISE ▶ *<Version>* ▶ *Implement* ▶ *Installation Guide* ▶	*Installation Guide*

General Quick Links

SAP Site	Path
SAP Help Portal	https://help.sap.com
Knowledge Base Articles and SAP Notes	https://support.sap.com/en/index.html
Product Availability Matrix (PAM)	https://support.sap.com/pam
Maintenance and release strategy	https://support.sap.com/en/release-upgrade-maintenance.html
SAP Software Download Center	https://support.sap.com/swdc
SAP Solution Manager	https://support.sap.com/solutionmanager
SAP Security Optimization Services Portfolio	https://support.sap.com/en/offerings-programs/support-services/security-optimization-services-portfolio.html
Data Protection and Privacy	2590321 *Upgrade recommendations to support GDPR compliance*
Support information (quick access via SAP ONE Support Launchpad; requires login)	https://launchpad.support.sap.com/#/productsearch
Support package stacks, latest versions, patch level requirements	https://support.sap.com/patches
System sizing	https://www.sap.com/about/benchmark/sizing.html

2 Plan your System

Plan your customer landscape so that it best serves your business scenario. Choose the best deployment option, and see from which source master data systems you can replicate data to your SAP Customer Activity Repository applications bundle system.

System Landscape [page 14]
Find out what a typical system landscape for SAP Customer Activity Repository applications bundle looks like. You can see the main layers in the diagram (database, back-end, front-end).

Deployment Options [page 16]
Learn about the two deployment options for your SAP Customer Activity Repository applications bundle solution.

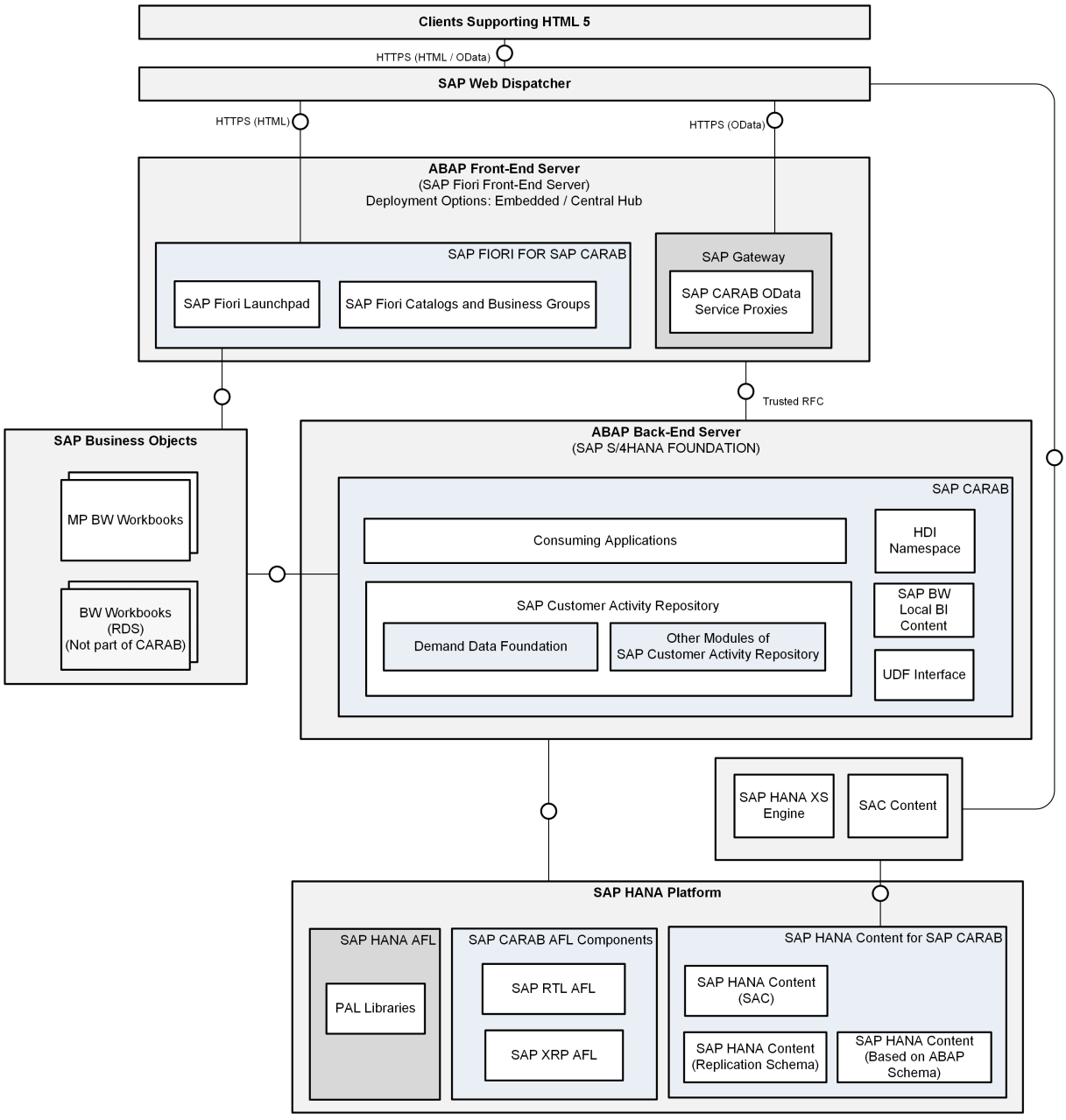
Integration with Source Master Data Systems [page 17]
Get an overview of the source master data systems from which you can replicate master data and transactional data to SAP Customer Activity Repository applications bundle.

2.1 System Landscape

Find out what a typical system landscape for SAP Customer Activity Repository applications bundle looks like. You can see the main layers in the diagram (database, back-end, front-end).

System Landscape Example

The applications included in SAP Customer Activity Repository applications bundle require a layered system landscape, as shown in the following example:



System Landscape Example

→ Tip

Planning Help

- For more information on possible deployment scenarios, see Deployment Options [page 16].
- For the minimum versions required for this release, see Install the Prerequisites [page 19].

2.2 Deployment Options

Learn about the two deployment options for your SAP Customer Activity Repository applications bundle solution.

To help you decide on the best deployment option for your scenario, please see SAP Note 2997851 (*SAP Customer Activity Repository applications bundle 5.0: Front-end deployment options*).

What is Central Hub Deployment?

With central hub deployment, you install the back-end product version (`SAP CARAB`) in your ABAP back-end system, while you install the front-end product version (`SAP FIORI FOR SAP CARAB`) and the SAP Fiori front-end server in a separate front-end system.

As a result, the SAP Fiori apps are deployed in separate systems (UIs in the front-end system, related OData services in the back-end system).

What is Embedded Deployment?

With the embedded deployment option, you install the SAP Fiori front-end server in the same system as your ABAP back-end server. For your SAP Customer Activity Repository applications bundle solution, this means that you install the back-end product version (`SAP CARAB`) and the front-end product version (`SAP FIORI FOR SAP CARAB`) in the same system (that is, your `SAP S/4HANA FOUNDATION` back-end system).

> ⚠ Caution
>
> If you wish to use or are already using an embedded deployment scenario for SAP Customer Activity Repository applications bundle **in the same system as the SAPS/4HANA source master data system**, carefully read SAP Note 2948396 (*Deployment options for SAP Customer Activity Repository applications bundle and SAP S/4HANA source master data system*).
>
> The note contains important deployment information for the following scenario:
>
> - Your current source master data system is SAP S/4HANA 1709 or 1809.
> - You want to install or upgrade to SAP S/4HANA 1909 or higher.
> - You are using your source master data system in an embedded deployment scenario. That is, you are also using it as your front-end system for SAP Customer Activity Repository applications bundle. In other words, you have installed the front-end product version `SAP FIORI FOR SAP CARAB` (containing the software component `UICAR001` with the SAP Fiori apps) on your SAP S/4HANA system.
>   The advantage of this option is that you do not require a separate front-end system.
> - Be aware that such an embedded scenario is no longer possible as of **SAP S/4HANA 1909**. For more information and for supported deployment alternatives, please see SAP Note 2948396.

More Information

> → Tip
>
> To help you decide on the best deployment option for your scenario, see SAP Note 2997851 (*SAP Customer Activity Repository applications bundle 5.0: Front-end deployment options*).

For more information on deployment options for SAP Fiori, see the following:

- For a system landscape overview showing the ABAP back-end server and the ABAP front-end server, see https://help.sap.com/viewer/p/FIORI_IMPLEMENTATION and choose *Implement* > *Installation and Upgrade* > *SAP Fiori: Setup and Configuration* > *Setup of SAP Fiori System Landscape*.

2.3 Integration with Source Master Data Systems

Get an overview of the source master data systems from which you can replicate master data and transactional data to SAP Customer Activity Repository applications bundle.

Overview

You can deploy your scenario of SAP Customer Activity Repository applications bundle in parallel with one of the following source master data systems:

Source Master Data System	Flavor
SAP ERP	SAP Retail (add-on to SAP ERP)
	SAP Fashion Management (add-on to SAP Retail)
SAP S/4HANA	SAP S/4HANA Retail for merchandise management
	SAP S/4HANA for fashion and vertical business

> ℹ Note
>
> Unless otherwise specified, references in this guide to *SAP ERP* are comprehensive. That is, they apply to SAP Retail and SAP Fashion Management.
>
> The same is true for references to *SAP S/4HANA*. That is, they apply to SAP S/4HANA Retail for merchandise management and to SAP S/4HANA for fashion and vertical business.
>
> For more information on these and other important terms used in this guide, see Naming Conventions [page 7].

Prerequisites

For information on what versions of the source master data systems are required for this release, see Install the Prerequisites [page 19].

3 Install the Prerequisites

This section lists all the prerequisite platforms, applications, and components that must be installed and configured to prepare the system landscape for **a new installation of this release**.

> **i Note**
>
> If you are **upgrading from a previous release**, the information in this *Common Installation Guide* is not relevant for you. Instead, proceed with the *Common Upgrade Guide* available at https://help.sap.com/viewer/p/CARAB on the *Implement* tab.

The prerequisites are grouped in two categories:

- *Common Prerequisites*, which must be installed regardless of the business scenario you are planning to implement
- *Application-Specific Prerequisites*, which are only relevant for specific applications under specific conditions

> **⚠ Caution**
>
> The prerequisites should be installed and configured by an experienced SAP Basis administrator.

> **→ Tip**
>
> This guide references several SAP Notes that are updated on a regular basis. If you want to be informed of such updates because a note is particularly relevant for your scenario, you can easily set up email notifications for it. For instructions, see SAP Note 2478289 (*How to set up notifications for SAP Notes and/or KBAs with Expert Search filters*).

Common Prerequisites

> **⚠ Caution**
>
> Always first consult SAP Note 2957259 (*Latest news on SAP Customer Activity Repository applications bundle 5.0 (any release)*) before installing or upgrading any of the prerequisites. There you can find the latest updates on the following:
>
> - information on higher versions of the prerequisites not yet mentioned in this guide
> - technology and support updates
> - other news and helpful references
>
> You can also find the note on SAP Help Portal at https://help.sap.com/viewer/p/CARAB under *Implement* > *Important SAP Notes*.

SAP S/4HANA FOUNDATION

> **i Note**
>
> SAP S/4HANA foundation is the next-generation business suite foundation platform. It cannot be used standalone but only as a foundation in combination with an add-on (such as the `SAP CARAB 5.0` back-end product version).

The minimum requirement for this release is as follows, regardless of the business scenario you are planning to implement:

Minimum Requirement	Installation Information
• `SAP S/4HANA FOUNDATION 1909 – SPS05 (11/2021)`	• SAP Note 2750164 (*SAP S/4HANA FOUNDATION 1909: Release Information Note*)
• `SAP S/4HANA FOUNDATION 2020 – Initial Shipment Stack`	• SAP Note 2912919 (*SAP S/4HANA FOUNDATION 2020: Release Information Note*) **i Note** If you plan to use SAP Assortment Planning, implement the SAP Note 3072121.

• `SAP S/4HANA FOUNDATION 2021 – Initial Shipment Stack`	• SAP Note 3015497 (*SAP S/4HANA FOUNDATION 2021: Release Information Note*)
	i Note
	The following are important points to consider:
	• Unified Demand Forecast (UDF) requires the implementation of the following SAP Notes:
	  • 3148263
	  • 3148911
	  • 3140456
	• SAP Replenishment Planning requires the implementation of the SAP Note 3141677.
	• SAP Assortment Planning requires the implementation of the SAP Note 3072121.

SAP HANA Platform 2.0

- **SAP HANA database** component:
  The minimum requirement for this release is as follows, regardless of the business scenario you are planning to implement: **SAP HANA database 2.0 SPS05 revision 2.00.059 (sometimes referred to as revision 59)**

  > **⚠ Caution**
  >
  > **Guidance for Selecting a Higher Revision than the Minimum Revision**

If you wish to use a **higher revision**, we recommend that you select one of the "maintenance revisions". See SAP Note 2378962 (*SAP HANA 2.0 Revision and Maintenance Strategy*) and consult the information under *Last Released Revision or Maintenance Revision*.

Also use this same strategy if the minimum revision is no longer available for download from the **Software Download Center**. This situation might occur depending on when you perform the actual installation and how long ago the revision was released.

If you wish to use the **latest SAP HANA support package stack**, be aware that there are no maintenance revisions for it. In this case, we recommend the following:

1. To avoid incompatibilities, first consult SAP Note 2818378 (*Which releases of SAP HANA Platform are supported for which releases of SAP Customer Activity Repository applications bundle (SAP CARAB)?*).
   Select a supported combination of releases. This applies not only during a new installation or an upgrade, but is equally relevant during operations later on (for example, if you decide to upgrade your SAP HANA Platform to a higher revision or support package stack).
2. Install the latest SAP HANA support package stack in your test system. Test it carefully to evaluate its impact on your customer system landscape. Only roll it out to your production system when you are sure that it integrates well with your day-to-day business processes.

- **SAP HANA AFL** component:
  The minimum requirement for this release is the **SAP HANA AFL revision that is compatible with the selected SAP HANA database revision**.

For installation information, see the following:

- SAP Note 2818378 (*Which releases of SAP HANA Platform are supported for which releases of SAP Customer Activity Repository applications bundle (SAP CARAB)?*)
- SAP Note 2378962 (*SAP HANA 2.0 Revision and Maintenance Strategy*, lists the available maintenance revisions)
- SAP Note 2115815 (*FAQ: SAP HANA Database Patches and Upgrades*, helpful information on database upgrades, downgrades, downtimes, patch levels, and more)
- SAP HANA 2.0 Revision Strategy (what are revisions, what are support package stacks, what is the SAP HANA product availability and maintenance strategy)
- SAP Note 2958224 (*SAP HANA Revision Release Details*, easy entry point to all released revisions)
- SAP Note 2844322 (*SAP HANA Platform 2.0 SPS 05 Release Note*)
- *SAP HANA Server Installation and Update Guide* for your SAP HANA Platform version at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM
- Overview, important links, and download of SAP HANA Platform 2.0: http://support.sap.com *Software Downloads* > *By Alphabetical Index (A-Z)* > *H* > *SAP HANA PLATFORM EDITION* > *SAP HANA PLATFORM EDITION 2.0* > *INFO*
- SAP Note 2339267 (*HANA Client version and installation manifest file doesn't match currently available HANA server version information*)

SAP RTL AFL FOR SAP HANA

> **i Note**
>
> `SAP RTL AFL FOR SAP HANA` is a back-end software component of SAP Customer Activity Repository applications bundle. However, you must always install this component together with the SAP HANA

Platform. You must do this **before** installing the `SAP CARAB` back-end product version. This guide leads you through the correct steps.

The minimum revision for `SAP RTL AFL FOR SAP HANA` applies regardless of the business scenario you are planning to implement. **There is a minimum AFL revision for each SAP HANA database revision.** Whichever AFL revision you choose, it must be compatible with the SAP HANA database revision.

When you download an AFL revision from the SAP Support Portal, the compatible SAP HANA database revision is always indicated.

The minimum supported revision of `SAP RTL AFL FOR SAP HANA` is 59.404 (patch 404 of revision 59), and this revision is compatible with SAP HANA database 2.0 Revision 59.04.

⚠ Caution

Criteria for Selecting a Revision

- No matter which AFL revision you choose, always install the **highest patch** available for download.
- Be aware that patches for different revisions can occur at different points in time. For example, an AFL patch for revision 55 might be released after an AFL patch for revision 56.
- If you decide to install a **higher revision** of `SAP RTL AFL FOR SAP HANA`, it must again be compatible with the SAP HANA database revision.
- For information on higher revisions, see SAP Note 2818378 (*Which releases of SAP HANA Platform are supported for which releases of SAP Customer Activity Repository applications bundle (SAP CARAB)?*).

ℹ Note

`SAP RTL AFL FOR SAP HANA` contains back-end functionality for two modules of SAP Customer Activity Repository: Unified Demand Forecast (UDF) and On-Shelf Availability (OSA). You must always **install** the component, regardless of the scenario you are planning to implement. You only need to **configure** UDF and/or OSA if you wish to use the functionality in your scenario.

ℹ Note

To avoid issues related to rendering of charts in the SAP Fiori Apps for your forecast scenario (*Analyze Forecast*, *Analyze Forecast*, and *Manage Demand Influencing Factors*) resulting from SAP HANA content activation, see SAP Note 3266666 (*SAP Fiori apps for Forecast Scenario: HANA content activation issue (SAP CARAB 5.0, 5.0 FPS01, 5.0 FPS02, 5.0 FPS03, 5.0 FPS04)*).

SAP Landscape Transformation Replication Server

We strongly recommend that you install **SAP Landscape Transformation Replication Server for SAP S/4HANA 1.0** as a standalone system.

For installation information and possible dependencies to other components, see the following:

- *Installation Guide for the latest support package (to see all the options of replicating data from a master data system)* at https://help.sap.com/slts4hana
- SAP Note 1605140 (*SAP Landscape Transformation Replication Server (SLT)*): This is the central note for enabling trigger-based data replication (functional overview, download, installation, upgrade, corrections, implementation).

- SAP Note 2014562 (*FAQ: SAP HANA LT Replication Server (SLT)*)
- SAP Note 2707835 (*SLT Licensing*, licensing and deployment overview by source master data system)
- SAP Note 2572945 (*DMIS compatibility with S/4HANA*, integration of the `DMIS` component into `S4CORE` layer, release overview and guidance for SAP S/4HANA source master data systems)

SAP Fiori

> **Note**
>
> SAP Fiori front-end server is an add-on product version. It contains the front-end software components required to run SAP Fiori apps and the SAP Fiori launchpad.

The minimum requirement for this release is one of the following, regardless of the business scenario you are planning to implement:

Minimum Requirement	Installation Information
`SAP FIORI FRONT-END SERVER 6.0 - SAP Frontend Server 7.54 SP02 (05/2020)` The minimum `SAPUI5` version is 1.71.	• SAP Note 2775163 (*SAP-Fiori-Frontend-Server 6.0 - General Information*) • SAP Note 2825540 (*Release of Fiori Product Versions for SAP Fiori front-end server 6.0*) • For overall planning and implementation information, see the note below this table.

Minimum Requirement	Installation Information
`SAP Fiori front-end server 2020 for SAP S/4HANA SP01 (02/2021)` **i Note** SAP FES 2020 SP01 is the front-end server version supporting central hub deployment for the `UICAR001 500` front-end component of SAP Customer Activity Repository applications bundle. SAP FES 2020 SP01 contains `SAP_UI 7.55 SP02` (with the `SAPUI5` long-term maintenance version 1.84) and `UIBAS001 600 SP01`. You can use one of the following instances: • `SAP FIORI FES 2020 FOR S/4HANA - SAP Frontend Server 7.52 (Hub) SP01 (02/2021)` • `SAP FIORI FES 2020 FOR S/4HANA - SAP Frontend Server 7.55 SP01 (02/2021)` **i Note** Front-end server instances 7.53 and 7.54 are currently not supported. If this situation changes in the future, we will indicate it in SAP Note 2957259 (*Latest news on SAP Customer Activity Repository applications bundle 5.0 (any release)*).	• SAP Note 2919182 (*SAP Fiori front-end server 2020 for SAP S/4HANA*) – main entry note where you can find an overview, prerequisites, and important references • SAP Note 2977715 (*Release of Fiori Product Versions for SAP Fiori front-end server 2020 for SAP S/4HANA*) • SAP Note 2935725 (*General Information: Installation details of SAP Fiori front-end server 2020 for SAP S/4HANA*) – overview for setting up systems to run SAP S/4HANA 2020 and SAP Business Suite Fiori apps on SAP Fiori front-end server 2020 for SAP S/4HANA (as hub deployment or embedded) • For overall planning and implementation information, see the note below this table. **→ Tip** Install the latest support package of the FES version that you wish to use. **i Note** With SAP Fiori front-end server 2020, you can use spaces and pages in SAP Fiori launchpad. For more information and an example, see the Spaces and Pages section in the SAP Fiori launchpad documentation. Note that SAP Customer Activity Repository applications bundle does not deliver any spaces and pages by default. However, you can add customer-specific spaces and pages to the launchpad as needed.

i Note

Overall planning and implementation information:

- SAP Fiori Overview (your entry point to all documentation)
- SAP Fiori Deployment Options and System Landscape Recommendations (regularly updated, very helpful guidelines and landscape diagrams)
- Overview of SAP Fiori front-end server components and versions
- SAP Note 2217489 (*Maintenance and Update Strategy for SAP Fiori Front-End Server*)
- SAP Fiori Implementation Information (select your front-end server version at the top)
- SAP Note 2590653 (*SAP Fiori front-end server deployment for SAP S/4HANA*)

→ Tip

If you wish to check what SAPUI5 version is currently installed in your system, there is an easy way to do this. See SAP Note 2282103 (*How to check the version of SAPUI5 you have installed*).

Source Master Data Systems

- Either SAP ERP or SAP S/4HANA must be installed.

  i Note

  Unless otherwise specified, references in this guide to *SAP ERP* are comprehensive. That is, they apply to SAP Retail and SAP Fashion Management.

  The same is true for references to *SAP S/4HANA*. That is, they apply to SAP S/4HANA Retail for merchandise management and to SAP S/4HANA for fashion and vertical business.

  For more information on these and other important terms used in this guide, see Naming Conventions [page 7].

- The minimum requirements for this release are as follows, regardless of the business scenario you are planning to implement:

Source Master Data System	Minimum Requirement	Installation Information
SAP ERP	• SAP ERP 6.0 Enhancement Package 7 SP16 or higher • SAP ERP 6.0 Enhancement Package 8 SP09 or higher	*Installation Guide* at https://help.sap.com/viewer/p/SAP_ERP

Source Master Data System	Minimum Requirement	Installation Information
SAP S/4HANA	• SAP S/4HANA 1709 FPS2 or higher • SAP S/4HANA 1809 Initial Shipment Stack or higher • SAP S/4HANA 1909 Initial Shipment Stack or higher • SAP S/4HANA 2020 Initial Shipment Stack or higher • SAP S/4HANA 2021 Initial Shipment Stack or higher **⚠ Caution** If you wish to use or are already using an embedded deployment scenario for SAP Customer Activity Repository applications bundle **in the same system as the SAPS/4HANA source master data system**, carefully read SAP Note 2948396 (*Deployment options for SAP Customer Activity Repository applications bundle and SAP S/4HANA source master data system*). The note contains important deployment information for the following scenario: • Your current source master data system is SAP S/4HANA 1709 or 1809. • You want to install or upgrade to SAP S/4HANA 1909 or higher. • You are using your source master data system in an embedded deployment scenario. That is, you are also using it as your front-end system for SAP Customer Activity Repository applications bundle. In other words, you have installed the front-end product version `SAP FIORI FOR SAP CARAB` (containing the software component `UICAR001` with the SAP Fiori apps) on your SAP S/4HANA system. The advantage of this option is that you do not require a separate front-end system. • Be aware that such an embedded scenario is no longer possible as of **SAP S/4HANA 1909**. For more information and	• *Installation Guide* at https://help.sap.com/viewer/p/SAP_S4HANA_ON-PREMISE • SAP Note 2482453 (*SAP S/4HANA 1709: Release Information Note*) • SAP Note 2625407 (*SAP S/4HANA 1809: Release Information Note*) • SAP Note 2769531 (*SAP S/4HANA 1909: Release Information Note*) **i Note** To set up the data replication from SAP S/4HANA 1909 or higher, you need to do some preparatory steps. For more information, see Create/Replicate Source Master Data System Tables [page 94]. • SAP Note 2884313 (*SAP S/4HANA 2020: Release Information*) • SAP Note 3015539 (*SAP S/4HANA 2021: Release Information Note*) **i Note** The table MBEW cannot be replicated from the master data system SAP S/4HANA 2021. For more information and to solve this issue, see the SAP Note 3156410. Since the views MBV_MBEW and MBV_MBEW_BASE are not relevant for SAP Customer Activity Repository applications bundle, you do not have to manually copy them.

Source Master Data System	Minimum Requirement	Installation Information
	for supported deployment alternatives, please see SAP Note 2948396.	

> **i Note**
>
> There are some scenarios that are supported on older source master data systems than the minimum requirements specified above. For more information, see SAP Note 2696488 (*SAP Customer Activity Repository - Alignment with Source Master Data Versions Outside of the Minimum (SAP Retail, SAP S/4HANA)*).

> **→ Tip**
>
> If you are planning to convert from SAP ERP to SAP S/4HANA, you can use the SAP Readiness Check to check the readiness of your SAP ERP system. For more information, see SAP Note 2758146 (*SAP Readiness Check 2.0 & Next Generation SAP Business Scenario Recommendation*).

Application-Specific Prerequisites

SAP Customer Activity Repository

Prerequisites for SAP Customer Activity Repository

Prerequisite	Minimum Requirement	Mandatory/Optional	Installation Information
SAP Customer Relationship Management (SAP CRM)	The minimum requirement for this release is one of the following: • SAP Enhancement Package 2 for SAP CRM 7.0 • SAP Enhancement Package 2 for SAP CRM 7.0, Version for SAP HANA or higher	Optional, depending on whether or not you choose to implement customer determination with SAP CRM.	*Installation Guide* at https://help.sap.com/viewer/p/SAP_CUSTOMER_RELATIONSHIP_MANAGEMENT

Prerequisite	Minimum Requirement	Mandatory/Optional	Installation Information
SAP Smart Business	SAP Smart Business foundation component 1.0, most recent SPS	Optional, depending on whether or not you choose to implement the **SAP Smart Business for Multichannel Sales Analytics** dashboard within SAP Customer Activity Repository. **i Note** SAP Smart Business is not supported with SAP Fiori front-end server 2020 for SAP S/4HANA (or higher). Instead, you can use the SAP Fiori Launchpad Designer to access and set the configuration parameters required for the analytical apps in the multichannel sales analytics cockpit. For more information, see Using SAP Fiori Launchpad Designer.	SAP Note 2018360 (*Release Information Note for SAP SMART BUSINESS*)
SAP Marketing solution (SAP Marketing or SAP Marketing Cloud)	SAP Marketing 1.10 or higher	Optional, depending on whether or not you choose to implement customer determination with your SAP Marketing solution.	• For SAP Marketing, see the *Installation and Configuration Guide* at https://help.sap.com/viewer/p/SAP_HYBRIS_MARKETING. • For SAP Marketing Cloud, see https://help.sap.com/viewer/p/SAP_MARKETING_CLOUD.
SAP Commerce	SAP Commerce 1811 or higher (in particular, the Accelerator, the Data Hub, and SAP Asynchronous Order Management)	Optional, depending on whether or not you choose to implement **Omnichannel Article Availability and Sourcing** (OAA) or **Omnichannel Promotion Pricing** (OPP) within SAP Customer Activity Repository.	https://help.sap.com/viewer/p/SAP_COMMERCE/

Prerequisite	Minimum Requirement	Mandatory/Optional	Installation Information
SAP Commerce, integration package for SAP for Retail	SAP Commerce, integration package for SAP for Retail 1811 or higher	Optional, depending on whether or not you choose to implement **Omnichannel Article Availability and Sourcing** (OAA) or **Omnichannel Promotion Pricing** (OPP) within SAP Customer Activity Repository.	See the *Administration Guide* delivered with the software package or from https://help.sap.com/viewer/p/IPR.
SAP Analytics Cloud	Content Innovation 12	Optional, depending on whether or not you choose to implement **Omnichannel Article Availability and Sourcing** (OAA) within SAP Customer Activity Repository. You only need to run and connect this application if you want to use the set of OAA analyses that has been predefined in SAP Analytics Cloud and that is part of the standard delivery of SAP Analytics Cloud. If you are using a different analytics tool, or if you do not run analytics at all, you do not need this application.	System Requirements and Technical Prerequisites

Prerequisite	Minimum Requirement	Mandatory/Optional	Installation Information
	Content Innovation 20	Optional, depending on whether or not you want to use the **forecast-related analytics**. This is a set of predefined analyses templates for analyzing UDF forecast data. The templates are delivered as part of the standard delivery of SAP Analytics Cloud, in the form of content packages `SAP__RT_UDF_DEMANDFORECASTING_LIVE` (*SAP Retail: Unified Demand Forecast*) and `SAP__RT_RPL_UDF_DASHBOARD_LIVE` (*SAP Retail: Replenishment Planning and Unified Demand Forecast Dashboard*). For more information, see the *Forecast-Related Analytics* section in the application help for SAP Customer Activity Repository at https://help.sap.com/viewer/p/CARAB. If you are using a different analytics tool, or if you do not run analytics at all, you do not need SAP Analytics Cloud.	
SAP IQ	SAP IQ 16.0, SP8 or higher	Optional, depending on whether or not you choose to use the *Table Content Aging* report to move data from SAP Customer Activity Repository to SAP IQ.	https://help.sap.com/viewer/product/SAP_IQ/16.1.latest/en-US?task=implement_task

Prerequisite	Minimum Requirement	Mandatory/Optional	Installation Information
SAP HANA Dynamic Tiering	SAP HANA Dynamic Tiering is delivered with the SAP HANA Platform. See the *Common Prerequisites* section above.	Optional, depending on whether or not you choose to use the *Table Content Aging* report to move data from SAP Customer Activity Repository to extended storage using SAP HANA Dynamic Tiering.	*SAP HANA Dynamic Tiering: Installation and Update Guide* at https://help.sap.com/viewer/p/SAP_HANA_DYNAMIC_TIERING
SAP HANA extended application services, advanced model (XSA)	SAP HANA XSA, version 1.0.88 or higher We recommend that you use the highest version available.	Optional, depending on whether or not you choose to use **Omnichannel Promotion Pricing** (OPP) within SAP Customer Activity Repository with a central deployment of the promotion pricing service (PPS).	*SAP HANA Server Installation and Update Guide* at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM, search for section *Installing XS Advanced Runtime*

SAP Merchandise Planning

Prerequisites for SAP Merchandise Planning

Prerequisite	Minimum Requirement	Mandatory/Optional	Installation Information
SAP Analysis	SAP Analysis for Microsoft Office 2.8 SP02	Mandatory	*Administrator Guide* at https://help.sap.com/viewer/p/SAP_BUSINESSOBJECTS_ANALYSIS_OFFICE

SAP Assortment Planning

Prerequisites for SAP Assortment Planning

Prerequisite	Minimum Requirement	Mandatory/Optional	Installation Information
SAP Analysis	SAP Analysis for Microsoft Office 2.8 SP02	Mandatory	*Administrator Guide* at https://help.sap.com/viewer/p/SAP_BUSINESSOBJECTS_ANALYSIS_OFFICE

SAP Promotion Management

SAP Promotion Management requires only the common prerequisites.

SAP Allocation Management

SAP Allocation Management requires the common prerequisites.

In addition, the bar chart used to display the purchase order quantity by status requires the **SAPUI5 library version 1.71.14 or higher**. In lower library versions, additional color is shown in the bar chart even if the

purchase order quantity is zero. This affects SAP Fiori apps (*My Allocation Workload - Promotional Push*, *My Order Workload - Promotional Buy*, and *My Allocation Plans* for buy plans) in the business scenarios for promotional push and promotional buy.

SAP Replenishment Planning

SAP Replenishment Planning requires the SAP XRP AFL.

> **i** Note
>
> SAP XRP AFL is a back-end software component of SAP Customer Activity Repository applications bundle. You must install this component **before** using SAP Replenishment Planning for the first time but you can do it after installing or upgrading the SAP CARAB back-end product version. This guide leads you through the correct steps.

The minimum revision of SAP XRP AFL applies regardless of the business scenario you are planning to implement. There is a minimum AFL revision for each SAP HANA database revision. **Whichever AFL revision you choose, it must be compatible with the SAP HANA database revision.**

Compatible Minimum Revisions

Minimum Revision of SAP XRP AFL	Compatible With This Revision of SAP HANA Database
AFL revision 54.0006 (patch 6 of revision 54)	SAP HANA database 2.0 revision 2.00.054
AFL revision 55.0006 (patch 6 of revision 55)	SAP HANA database 2.0 revision 2.00.055
AFL revision 56.0002 (patch 2 of revision 56)	SAP HANA database 2.0 revision 2.00.056
AFL revision 57.0000 (patch 0 of revision 57)	SAP HANA database 2.0 revision 2.00.057
AFL revision 58.0000 (patch 0 of revision 58)	SAP HANA database 2.0 revision 2.00.058
AFL revision 59.0000 (patch 0 of revision 59)	SAP HANA database 2.0 revision 2.00.059

> **⚠** Caution
>
> No matter which AFL revision you choose, always install the **highest patch** available for download.
>
> Be aware that patches for different revisions can occur at different points in time.
>
> > **✤** Example
> >
> > The AFL patch 54.0006 might be released later than the AFL patch 55.0006.
>
> If you decide to install a **higher revision** of SAP XRP AFL, it must again be compatible with the SAP HANA database revision.
>
> When you download an AFL revision from the SAP Support Portal, the compatible SAP HANA database revision is always indicated.

SAP Analytics Cloud is optional for SAP Replenishment Planning.

You only need to run and connect the **Content Innovation 20** or later release of this application with SAP Replenishment Planning depending on whether or not you choose to use the set of replenishment-related

analyses that has been predefined in SAP Analytics Cloud and that is part of the standard delivery of SAP Analytics Cloud. If you are using a different analytics tool, or if you do not run analytics at all, you do not need this application. For installation information related to SAP Analytics Cloud, see System Requirements and Technical Prerequisites.

4 Prepare the Installation

Before you start with the actual installation of SAP Customer Activity Repository applications bundle 5.0 FPS04, you must first perform several preparatory tasks.

1. Implement SAP Notes for the Installation [page 34]
   This section lists SAP Notes (corrections) that you must read and — when appropriate — implement **at different points in the installation process**. The section also points you to the release information notes (RINs) for this release. There you can find the back-end and front-end corrections that have become available since the software was released. The RINs complement the SAP Notes listed in this chapter.
2. Verify SAP HANA Users and Privileges [page 49]
   SAP Customer Activity Repository applications bundle requires a multi-level system landscape: Level 1 is the SAP HANA database. Level 2 is the ABAP back-end server. Level 3 is the ABAP front-end server with SAP Gateway and the SAP Fiori apps. Each level requires specific users with specific privileges. In this procedure, you set up the authorizations for the SAP HANA database (level 1).
3. Verify Correct Schema Mapping [page 55]
   In SAP HANA studio, verify that the **authoring schemas** delivered by SAP are mapped to the correct **physical schemas** of your customer landscape. First do an n:1 mapping (all authoring schemas of SAP Customer Activity Repository applications bundle to the same `SAPHANADB` physical schema). Then do a 1:1 mapping (the authoring schema of each source master data system to a unique physical schema for that system). If necessary, create any mappings that are missing.
4. Generate Time Data for Gregorian Calendar [page 59]
   Perform a generic calendar setting in SAP HANA studio. This generates the time data (calendar) for several scenarios and SAP Fiori apps in SAP Customer Activity Repository applications bundle. Setting up the *Gregorian* calendar is mandatory. Optionally, you can choose to set up the *Fiscal* calendar as well.
5. Configure AFL Usage [page 61]
   Perform configuration tasks to enable the usage of application function libraries (such as the PAL and the OFL) for the applications SAP Assortment Planning and SAP Allocation Management.

4.1 Implement SAP Notes for the Installation

This section lists SAP Notes (corrections) that you must read and — when appropriate — implement **at different points in the installation process**. The section also points you to the release information notes (RINs) for this release. There you can find the back-end and front-end corrections that have become available since the software was released. The RINs complement the SAP Notes listed in this chapter.

Prerequisites

- Make sure that you have the latest version of *Note Assistant* (transaction `SNOTE`) installed. This is required so that notes can be implemented correctly. For more information, see the following:
  - Versions of *Note Assistant*: See https://support.sap.com/en/my-support/knowledge-base/note-assistant.html#section_2043200365.
  - Mandatory corrections for *Note Assistant*: See SAP Note 1668882 (*Note Assistant: Important notes for SAP_BASIS 730,731,740,750,751,752,753,754,755,756*).
- Make sure that you have the up-to-date version of each SAP Note, which you can always find on the SAP Support Portal at http://support.sap.com/notes.

Release Information Notes (RINs) and Performance Note with Latest Corrections for All Applications

After the publication of this guide, additional corrections might become available. You can find these additional corrections in the following SAP Notes:

- Release Information Notes (RINs):
  - For the latest **back-end corrections**, see SAP Note 3223444.
  - For the latest **front-end corrections**, see SAP Note 3223460.
- Performance note:
  - For the latest **performance corrections and recommendations**, see SAP Note 2958143.

The notes are regularly updated if new corrections become available.

> → Tip
>
> If a note is particularly relevant for your scenario and you want to be informed of updates, you can easily set up email notifications. See SAP Note 2478289 (*How to set up notifications for SAP Notes and/or KBAs with Expert Search filters*).

> ⚠ Caution
>
> Always consult the **SAP Notes for SAP Customer Activity Repository**, regardless of your scenario. Notes listed here are often common corrections, applicable to all applications.

SAP Notes for SAP Customer Activity Repository

SAP Notes for SAP Customer Activity Repository

Implement	Area	SAP Note	Description
Prior to the installation	Front-end	2436567 *UI for Basis Applications - General Information*	Only relevant if you are using the *Manage Workloads* app to create new workloads.
After the installation	SAP S/4HANA 1909 back-end	2835297 *Missing OAA ATP Change Indicator entries for S/4HANA 1909*	Only required if your source master data system is SAP S/4HANA 1909. Mandatory if you are using omnichannel article availability and sourcing (OAA), for both sales channel mode and OAA profile mode. Not required for functions other than OAA and source master data systems other than SAP S/4HANA 1909.
After the installation	Back-end	2857334 *Unsupported data type DECFLOAT34 / D34N when replicating from an SAP S/4HANA 1909 on premise system*	Mandatory correction if your source master data system is SAP S/4HANA 1909. In that case, the note is required for all the applications of SAP Customer Activity Repository applications bundle.
After the installation	Back-end	3212199 *PPHY Replication: Dump observed during data replication when a site is unassigned from the location hierarchy in transaction REFSITE*	Mandatory correction to replicate the location hierarchy data from the master data system to Demand Data Foundation.

Implement	Area	SAP Note	Description
After the installation	Back end	3245095 *PMAT: Articles with only Price list prices are not replicated through DRFOUT*	Mandatory correction to replicate the product data from the master data system to Demand Data Foundation.
After the installation	Back end	3252656 *PMAT replication is taking more time as prices that are not required are also getting replicated to CARAB*	Mandatory correction to replicate the product data from the master data system to Demand Data Foundation.
After the installation	Back-end	3266580 *"Persist Aggregated Sales and Forecast Data for Analytics" (transaction /DMF/FCST_AGGR_PRST) report: Unique value violation constraint during insert of aggregated data*	Mandatory correction for the UDF Aggregation SAP HANA view available for Forecast-Related Analytics.
After the installation	Front-end	3260648 *"Reuse Components for Forecast": missing translations (SAP FIORI FOR SAP CARAB 5.0 FPS04)*	This note provides the texts related to the features in the demand forecasting apps (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*) that could be missing in some of the supported languages.

Implement	Area	SAP Note	Description
After the installation	Front-end	3260428 *"Analyze Forecast" app: missing translations (SAP FIORI FOR SAP CARAB 5.0 FPS04)*	This note provides the texts related to the features in the *Analyze Forecast* app that can be missing in some of the supported languages.
Prior to the installation	SAP HANA database	3266666 *SAP Fiori apps for Forecast Scenario: HANA content activation issue (SAP CARAB 5.0, 5.0 FPS01, 5.0 FPS02, 5.0 FPS03, 5.0 FPS04)*	Important information to verify the order of activation HANA content to avoid the issue of charts not rendering in case of SAP Fiori app for Forecast Scenario.
After the installation	Back-end	3275752 *Process Packaging and Parallelization (PPP): Performance Improvement in SAP CARAB 5.0 FPS01, 5.0 FPS02, CARAB 5.0 FPS03 or CARAB 5.0 FPS04*	Optional correction to improve performance and only relevant if you are using the Process Packaging and Parallelization framework for your workloads.
After the installation	SAP ERP or SAP S/4HANA Back-end	3254769 *ERP Inbound: buffering of master data*	Optional correction to improve performance.

SAP Notes for SAP Merchandise Planning

> **i Note**
>
> Always consult the table for SAP Customer Activity Repository, regardless of your scenario. Notes listed there are often common corrections, applicable to all consuming applications.

SAP Notes for SAP Merchandise Planning

Implement	Area	SAP Note	Description
After the installation	Back-end	2913238 *Error transferring single key value from variable to SID*	If you receive an error when variables are submitted, consult this note for possible solutions.
After the installation	Back-end	2938084 *Current member and characteristics referencing to 0FISC**	Mandatory correction if a figure or structure element isn't calculated correctly.
After the installation	Back-end	2950567 *BRAIN 629 when Save a Planning Sequence*	Mandatory correction if a planning sequence uses a mandatory variable without default value or error *Specify a value for variable (BRAIN 629) is received*.
After the installation	Back-end	2941202 *Not required part provider access for current member query*	Mandatory correction if a global filter is deleted during query runtime.
After the installation	Back-end	2946337 *Wrong data in current member query*	Mandatory correction if a query shows incorrect data.

SAP Notes for SAP Assortment Planning

> **i Note**
>
> Always consult the table for SAP Customer Activity Repository, regardless of your scenario. Notes listed there are often common corrections, applicable to all consuming applications.

SAP Notes for SAP Assortment Planning

Implement	Area	SAP Note	Description
After the installation	Back-end	3224893 *Bug Fixes for the Listing of Long-Lifecycle Assortments: SAP CARAB*	Mandatory correction to fix bugs when listing long-lifecycle assortments.
After the installation	Back-end	3226353 *Ability to Preserve Status of Products in Future Revisions of an Assortment*	Mandatory correction for the *Manage Assortments* app.
After the installation	Back-end	3241306 *Performance Improvement for the KPI Calculation Report /RAP/ALC_RECALCULATE_KPIS (Delta)*	Mandatory correction for the *Manage Assortments* app.
After the installation	Back-end	3265016 *Modified Module Status Text in the Domain /DMF/AL_MD_STATUS*	Optional correction to modify the module status text *In Progress* in the domain `/DMF/AL_MD_STATUS`.
After the installation	Back-end	3261582 *CARAB 5.0 - Module content copy adaptations*	Mandatory correction to the module copy feature of the *Manage Assortments* app relating to future product statuses. The behavior should depend on how the customer configures the product settings. If the option *Do Not Overwrite Product Status in Future Revisions* is disabled, the status from only one revision is retained and future statuses are discarded.

Implement	Area	SAP Note	Description
After the installation	Back-end	3270825 *APR5.0 – Adjust module cluster assignments when limiting the validity interval of the module*	Mandatory correction to the *Manage Assortment Modules* app. With this correction, when the *Valid To* date of one or more modules is set using the Set Valid To feature, the module's existing cluster and location assignments are updated accordingly.
After the installation	Back-end	3276539 *Bug Fix for Incorrect Referenced KPIs at the Distribution Chain Level in the Manage Assortments App*	Mandatory correction for the *Manage Assortments* app.

SAP Notes for SAP Promotion Management

> **i Note**
>
> Always consult the table for SAP Customer Activity Repository, regardless of your scenario. Notes listed there are often common corrections, applicable to all consuming applications.

> **i Note**
>
> There are no mandatory SAP Notes to be implemented for SAP Promotion Management at the time of publishing this guide. For corrections made available after the publication of this guide, see Release Information Notes (RINs) and Performance Note with Latest Corrections for All Applications [page 35]

SAP Notes for SAP Allocation Management

> **i Note**
>
> Always consult the SAP Notes for SAP Customer Activity Repository, regardless of your scenario. Notes listed there are common corrections, applicable to all consuming applications.

> **i Note**
>
> Some SAP Notes must be implemented **before** the activation of the SAP HANA content. If this is the case, this is indicated in the description of the note. Otherwise, the note must be implemented **after** the activation of the SAP HANA content.

SAP Notes for SAP Allocation Management

Implement	Area	SAP Note	Description
After the installation	Front-end	3274460 *AMR 5.0 : Fiori Reuse Lib - Performance issue while creating a basket and plan*	This note can be implemented to improve application performance affected by multiple selection of products from workload table, which are then added to a basket/cross-basket for plan creation.
After the installation	Front-end	3274456 *AMR 5.0 : My Allocation Workload - Performance issue while creating a basket and plan*	This note can be implemented to improve application performance affected by multiple selection of products from workload table, which are then added to a basket/cross-basket for plan creation.
After the installation	Back-end	3262972 *SAP Allocation Management: Mix display with 0 ATA but Components have ATA - Background scheduling*	This note can be implemented to resolve the issue of plans not getting created, occuring when scheduling a promo push plan with a mixed display having no ATA, but with components comprising of ATAs.
After the installation	Back-end	3260633 *SAP Allocation Management: Save Button missing in Buy plan when recalculation is scheduled*	This note can be implemented to resolve the error of a missing *Save* button for plans with a mixed display or items of buy plan set for scheduled recalculation.

Implement	Area	SAP Note	Description
After the installation	Back-end	3259906 *SAP AMR 5.0 - Stores with 0 demand get larger UOM allocated*	This note can be implemented to resolve the error of stores with no demand receiving larger UOMs allocated.
After the installation	Back-end	3257772 *SAP AM 4.0 - /AMR/ SEAS_DAT_REORG - Delete season-dependent dates but not the registers without year*	This note can be implemented to resolve issues while deleting entries with season-dependent dates.
After the installation	Back-end	3256756 *SAP Allocation Management: /AMR/ SCHEDULE_ALLO_PLAN - UNCAUGHT_EXCEPTION*	This note can be implemented to resolve unexpected program erros in the allocation plans.
After the installation	Back-end	3255514 *SAP Allocation Management: Mixed article stores not getting considered in /AMR/ PRE_PRD_PSR*	This note can be implemented to resolve the issue of stores with mixed displays not getting considered for product pressure calculation, leading to incorrect calculations.

Implement	Area	SAP Note	Description
After the installation	Back-end	3251930 *Allocation Management 5.0 - schedule plan articles with 0 ATA still in status scheduled*	This note can be implemented to resolve errors caused when creating regular or cross plans with 0 ATA articles via a scheduling report, resulting in articles being stuck in the status "Scheduled".
After the installation	Back-end	3248217 *SAP Allocation Management 5.0 - Long optimizer runtimes for OFL (Presolve in the SCIP-Component)*	This note can be implemented to reduce the delays in plan creation by users, which are caused due to long runtimes for the OFL presolver.
After the installation	Back-end	3121019 *SAP Allocation Management : RFC Error in Allocation Workload app*	This note can be implemented to resolve RFC errors in the *Allocation Workload* app, occuring due to multiple seclections in the variant.
After the installation	Back-end	2982741 *SAP Allocation Management - BAdI Implementation for Real-Time Inventory View*	Starting with SAP Allocation Management 5.0, a BAdI implementation is required for retrieving real-time inventory. This SAP Note provides steps for implementing the standard BAdI logic.

Implement	Area	SAP Note	Description
After the installation	Back-end	2951092 *RFC function module to create allocation table for SAP Allocation Management in source system (Allocation Management 5.0)*	Provides an RFC function module for handling allocation tables in the business scenarios for promotional push and promotional buy.
After the installation	Back-end	2777415 *SAP Allocation Management: Activating /AMR/* views ends in Error*	This note can be implemented if activation fails for CDS views for SAP Allocation Management.
After the installation	Back-end	2631613 *SAP Allocation Management - Customizing - Define Business Scenarios*	Follow the instructions to create a valid business scenario ID.
After the installation	SAP S/4HANA Retail for merchandise management	2522603 *Wrapper RFC for ATP via Controller*	This note can be implemented for calling ATP (available-to-promise) for multiple products in the target SAP S/4HANA or ECC system. This note is intended to increase the performance of the ATP call to the target system
After the installation	Back-end	2474287 *Handling of units of measure inside SAP Allocation Management*	This note resolves inconsistent maintenance of units of measure between SAP ECC and SAP Customer Activity Repository.

Implement	Area	SAP Note	Description
After the installation	Back-end	2441184 *Static ABAP generation error of classes /AMR/CL... when installing CARAB 1.0 FP03, CARAB 2.0, CARAB 4.0, CARAB 5.0*	The manual instructions in the note must be implemented for the successful activation of SAP Allocation Management applications. This note is mandatory.

SAP Notes for SAP Replenishment Planning

> **i Note**
>
> Always consult the table for SAP Customer Activity Repository, regardless of your scenario. Notes listed there are often common corrections, applicable to all consuming applications.

SAP Notes for SAP Replenishment Planning

Implement	Area	SAP Note	Description
After the installation	Back-end	3102701 *Value 00:00:00 is not accepted as valid time input for mandatory fields.*	This note provides a correction to define that **`00:00:00`** is a valid input for a mandatory time field.
Prior to the installation	Front-end	2436567 *UI for Basis Applications - General Information*	Only relevant if you are using the *Manage Workloads* app to create new workloads.
After the installation	Back-end	3078242 *Dump ASSIGN_LENGTH_0 in free selections WHERE2RANGE if '' as literal*	Only relevant if you want to use parallel processing while executing the *Replenishment Calculation* (`/XRP/REPLENISHMENT_CALC`) and *Order Plan Outbound Processing* (`/XRP/ORDERPLAN_OUTBOUND`) reports.

Implement	Area	SAP Note	Description
After the installation	Front-end	3261050 *REPL_SIMULATION - missing translations (SAP FIORI FOR SAP CARAB 5.0 FPS04)*	This note provides the texts related to constraint profiles in the *Simulate Replenishment* app that could be missing in some of the supported languages.
After the installation	Back-end	3261377 *Replenishment Planning 5.0: Improvement in Performance and Memory Consumption when persisting high and low level messages*	Optional correction to improve performance and memory consumption.
After the installation	Back-end	3265208 *Replenishment Planning 5.0: Improvement in Performance and Memory Consumption when reading demands*	Optional correction to improve performance and memory consumption.
After the installation	Back-end	3268168 *Replenishment Planning 5.0: Improvement in Performance and Memory Consumption when reading open goods movements*	Optional correction to improve performance and memory consumption.

Implement	Area	SAP Note	Description
After the installation	Back-end	3249708 *Replenishment Planning 5.0: Improvement in Performance and Memory Consumption when reading demands and processing future order dates*	Optional correction to improve performance and memory consumption.
After the installation	Back-end	3275752 *Process Packaging and Parallelization (PPP): Performance Improvement in SAP CARAB 5.0 FPS01, 5.0 FPS02, CARAB 5.0 FPS03 or CARAB 5.0 FPS04*	Optional correction to improve performance and only relevant if you are using the Process Packaging and Parallelization framework for your workloads.
After the installation	Back-end	3270631 *"Review Order Plan Items" app: "Meets MOQ" field is "Yes" even when a relevant candidate does not meet MOQ in SAP Replenishment Planning 5.0 FPS04*	Mandatory correction for the *Review Order Plan Items* app.
After the installation	Back-end	3258447 *Persist OPIs with zero order quantity*	Optional correction to improve performance of the replenishment calculation and its subprocesses by disabling the creation of zero-quantity order plan items and only relevant if you want to use this feature.

Implement	Area	SAP Note	Description
After the installation	Back-end	3252753 *Order Plan Outbound in Parallel Mode stops with CX_SY_DYNAMIC_OSQL*	Optional correction of errors that occur while transferring order plan items in parallel mode and only relevant if you are using the Process Packaging and Parallelization framework for the order plan outbound.
After the installation	Back-end	3252778 *Long runtime of Replenishment Calculation due to Real-Time Inventory Determination*	Optional correction to reduce the runtime of the replenishment calculation by disabling the determination of real-time inventory if no product locations are relevant for the real-time inventory determination.
After the installation	Back-end	3251427 *Performance improvement in procurement schedule determination*	Optional correction to improve performance.
After the installation	Back-end	3258460 *Parallel Processing Options for Order Plan Purge*	Optional correction to improve performance by using Process Packaging and Parallelization to purge order plan items.

Parent topic: Prepare the Installation [page 34]

Next: Verify SAP HANA Users and Privileges [page 49]

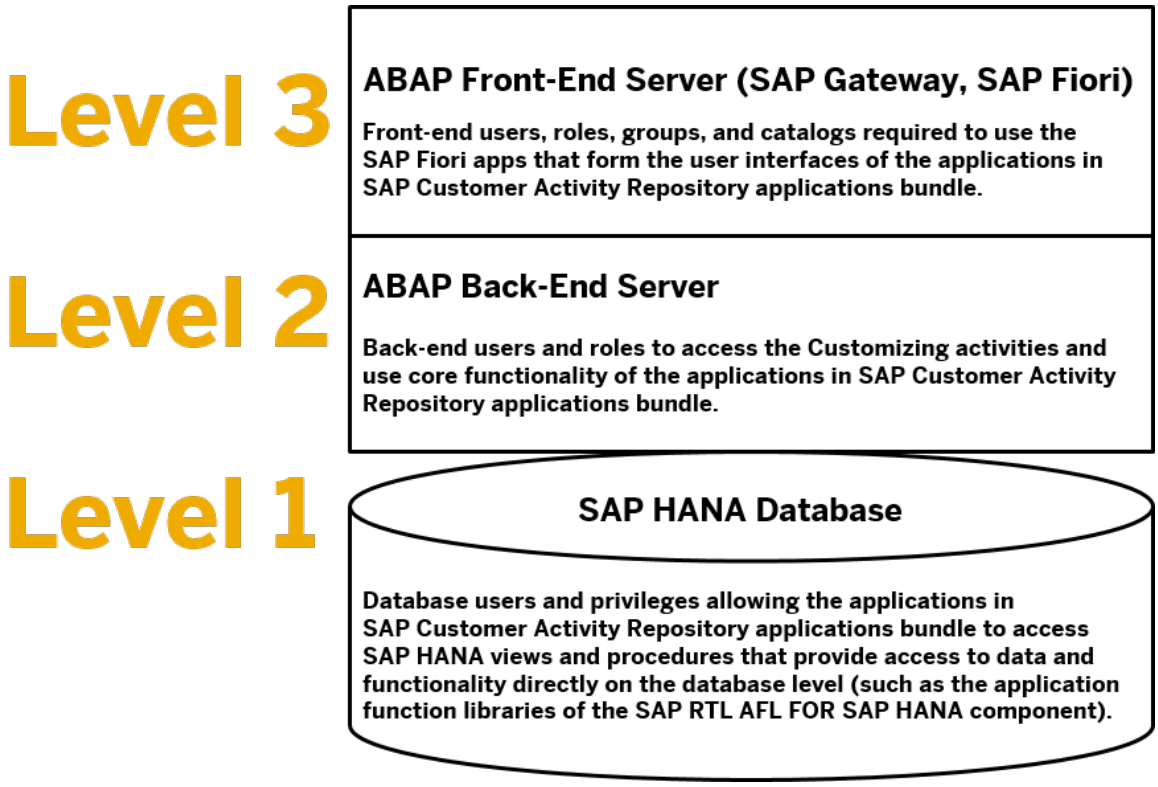
4.2 Verify SAP HANA Users and Privileges

SAP Customer Activity Repository applications bundle requires a multi-level system landscape: Level 1 is the SAP HANA database. Level 2 is the ABAP back-end server. Level 3 is the ABAP front-end server with SAP Gateway and the SAP Fiori apps. Each level requires specific users with specific privileges. In this procedure, you set up the authorizations for the SAP HANA database (level 1).

Overview

In the following diagram, you can see an overview of the three levels and the required authorizations:

> **i** Note
>
> Depending on your deployment scenario, the concrete implementation in your customer system landscape can vary. For example, if you have an embedded deployment scenario, you are using the ABAP back-end server also as your front-end system, and have no separate ABAP front-end server.
>
> For more information, see Deployment Options [page 16]. For an overview diagram, see System Landscape [page 14].



Authorization Levels for SAP Customer Activity Repository applications bundle

> **⚠** Caution
>
> **Level 1:** You must always set up the SAP HANA users and privileges first, that is, **before** installing SAP Customer Activity Repository applications bundle on the ABAP back-end server and the ABAP front-end server. This procedure is described below.

> **i** Note
>
> **Level 2 and Level 3**: You can only set up these authorizations **after** the actual installation. In most cases, you only need to do this if you are doing a new installation. If you are doing an upgrade from a lower support package stack or feature package stack, the authorizations should already be available.
>
> - Level 2: This procedure is described in section *Verify Back-End Users and Roles*.

- Level 3: The required authorizations depend on the consuming application and SAP Fiori apps that you wish to use. For example, the procedures are described in the following sections:
  SAP Customer Activity Repository: *Set Up SAP Fiori Apps for SAP Customer Activity Repository*; SAP Assortment Planning: *Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad*; SAP Allocation Management: *Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad*; SAP Replenishment Planning: *Set Up SAP Fiori Apps for SAP Replenishment Planning*

Prerequisites

- You are authorized to maintain users and assign privileges in the SAP HANA system.

  > **i Note**
  >
  > For more information or if you encounter any issues during the procedure below, see the *SAP HANA Administration Guide for SAP HANA Platform* at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM. Select your version at the top and choose the *Operate* tab. In the guide, search for section *Managing SAP HANA Users* and section *User Authorization*.

- You know what the source master data system is (for example, SAP S/4HANA or SAP Retail).
- You know what the name of the `SAPHANADB` ABAP database schema is in your customer system landscape.

  > **i Note**
  >
  > In this guide, `SAPHANADB` is used as a variable. Replace it with the name of the database user or database schema in your ABAP back-end system. You might also come across documentation or user interfaces that use `SAP<SID>`. Both variables mean the same.
  >
  > For more information and an example, see the *Important Variables* in section Naming Conventions [page 7].
  >
  > For more information about database users and schemas, see SAP Note 2535951 (*FAQ: SAP HANA Users and Schemas*).

  > **→ Tip**
  >
  > If you don't know the `SAPHANADB` of your system, there are two easy ways to find it:
  >
  > - Log on to your back-end system using SAP Logon. Choose *System* > *Status*. In the section titled *Database data*, see the name for *Schema*.
  > - Log on to your back-end system in SAP HANA studio. The schema name is listed under *Catalog*.

- Ensure that physical schemas, corresponding to the following authoring schemas of your source master data systems, are created on the SAP HANA database of your SAP Customer Activity Repository back-end system:

Authoring Schema Name	Source Master Data System
SAP_ECC	SAP ERP (SAP Retail)
SAP_S4H	SAP S/4HANA Retail

These are the physical schemas to which the SAP Retail and/or SAP S/4HANA data will be replicated.

> **i** Note
>
> Ensure that the physical schemas that you create have unique names and are different from the name of the SAPHANADB ABAP database schema.

Procedure

To set up the authorizations, follow these steps:

1. Open SAP HANA studio and log on to your back-end system.
2. Choose *Window* > *Perspective* > *Open Perspective* > *SAP HANA Administration Console*.
3. In the *Systems* view, choose *Security* > *Users* to display the list of database users.
4. Verify that the following users exist and that they have the required privileges and roles. If necessary, assign any missing privileges and roles.

> ⚠ Caution
>
> **Users marked * must be identical on all three levels.** Make sure these users have the same name on the SAP HANA database level, on the ABAP back-end server, and on the ABAP front-end server.

Users	Privileges / Roles

SAPHANADB
 	
This is the generic database user that you need for the connection from the ABAP back-end server to the SAP HANA database.
	• Privilege `REPO.IMPORT`
	• Privilege `ROLE ADMIN`
	• Privilege `STRUCTUREDPRIVILEGE ADMIN`
	• Privilege `EXECUTE` on procedure `TRUNCATE_PROCEDURE_OBJECTS`
	• Privilege `EXECUTE` on procedure `GET_PROCEDURE_OBJECTS`
	• Privilege `CREATE SCHEMA`
	• Privilege `SELECT` on the physical schema corresponding to `SAP_ECC` (required if your source master data system is SAP Retail)
	
	→ Tip
	
	You can also use the following example SQL statement to grant this privilege using the SQL console:
	
	`GRANT SELECT on SCHEMA <Your physical schema name> TO SAPHANADB;`
	
	You can do this for other privileges with similar SQL statements.
	
	• Privilege `SELECT` on the physical schema corresponding to `SAP_S4H` (required if your source master data system is SAP S/4HANA)
	• Role `CONTENT_ADMIN`
	• Role `AFLPM_CREATOR_ERASER_EXECUTE`
	This role enables the user to execute functions of the PAL library (required by SAP Assortment Planning, for example).
	For more information, see Enable Usage of PAL Functions [page 61] and SAP Note 2046767.
	• Role `AFL__SYS_AFL_OFL_AREA_EXECUTE`
	• Additionally, grant the following privileges, with option *Grantable to others*, on these schemas:
	On schema `_SYS_BIC`:
	  • Privilege `CREATE ANY`
	  • Privilege `ALTER`
	On schema `<your SAP S/4HANA or SAP Retail schema name>`:
	  • Privilege `SELECT`

Users	Privileges / Roles

_SYS_REPO	• Privilege SELECT, with option *Grantable to others*, on the following physical database schemas:
	  • Physical database schema of your back-end system (referred to as SAPHANADB in this guide)
	  • Physical database schema that contains the SAP S/4HANA or SAP Retail tables
	  • Physical database schema that contains the SAP CRM tables
	  • Physical database schema that contains the SAP Marketing Cloud tables
	  • Authoring schema SAP_S4H (required if your source master data system is SAP S/4HANA)
	  • Authoring schema SAP_ECC (required if your source master data system is SAP Retail)
	
	→ Tip
	You can use the following example SQL statement to grant the privilege:
	`GRANT SELECT ON SCHEMA <Your schema name> TO _SYS_REPO WITH GRANT OPTION;`
	• Role UDF_DEPLOY_SYS_REPO.
	For information about the privileges automatically assigned with this role, see Set Up Authorizations for Unified Demand Forecast (UDF) [page 90].
	• For SAP Allocation Management, grant the following additional privileges:
	  • Privilege CREATE ANY on schema _SYS_BIC
	This privilege enables the user to create a schema in the SAP HANA database.

Users	Privileges / Roles
`<Your User Name> *`	• Privilege `SELECT` on schema `_SYS_BI` • Privilege `SELECT` on schema `SAPHANADB` • Privilege `EXECUTE` on procedure `REPOSITORY_REST` • Privilege `SELECT` on the physical schema corresponding to `SAP_S4H` (if your source master data system is SAP S/4HANA) • Privilege `SELECT` on the physical schema corresponding to `SAP_ECC` (if your source master data system is SAP Retail) • Set the *Session Client* of this database user to the correct back-end system client. This step is required to enable the SAP Assortment Planning planning framework, where SAP Analysis for Microsoft Office workbooks obtain data from SAP HANA views. **i Note** If you encounter issues with the steps below, see the *Assign Default Client* section in the *SAP HANA Modeling Guide* at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM. 1. Still under *Security* > *Users*, select the user. 2. On the *User* tab, set the *Session Client* to the client number created in the *Set Up SAP Client* section.

5. Save your changes.

Result

You have successfully set up the users and privileges in the SAP HANA back-end system. Continue with the next section.

Parent topic: Prepare the Installation [page 34]

Previous: Implement SAP Notes for the Installation [page 34]

Next: Verify Correct Schema Mapping [page 55]

4.3 Verify Correct Schema Mapping

In SAP HANA studio, verify that the **authoring schemas** delivered by SAP are mapped to the correct **physical schemas** of your customer landscape. First do an n:1 mapping (all authoring schemas of SAP Customer Activity Repository applications bundle to the same `SAPHANADB` physical schema). Then do a 1:1 mapping

(the authoring schema of each source master data system to a unique physical schema for that system). If necessary, create any mappings that are missing.

Context

Why Schema Mapping?

- Schema mapping is a prerequisite to activate the SAP HANA content.
- SAP CARAB requires the authoring schema name to be either `SAP_ECC` or `SAP_S4H`. If the corresponding physical schema name in SAP Customer Activity Repository is anything other than `SAP_ECC` or `SAP_S4H`, then this schema mapping is mandatory.

What are Authoring Schemas and Physical Schemas?

The SAP HANA content of SAP Customer Activity Repository applications bundle is delivered with several authoring schemas (for different scenarios and different source master data systems).

- The *authoring schema* is the logical database schema to which the physical schema is mapped to. The authoring schema is listed in each object's properties in SAP HANA studio. Different objects can have different authoring schemas.
- The *physical schema* is the logical database schema of your customer back-end system (referred to as `SAPHANADB`).

In the procedure below, you must map the *authoring schemas* to the *physical schemas* of your customer back-end system.

Prerequisites

- You have set up the authorizations as described in Verify SAP HANA Users and Privileges [page 49].
- You know what the name of the `SAPHANADB` database schema is in your customer back-end system. This is the physical schema name that you need to enter in the mapping procedure below.

> **i Note**
>
> In this guide, `SAPHANADB` is used as a variable. Replace it with the name of the database user or database schema in your ABAP back-end system. You might also come across documentation or user interfaces that use `SAP<SID>`. Both variables mean the same.
>
> For more information and an example, see the *Important Variables* in section Naming Conventions [page 7].
>
> For more information about database users and schemas, see SAP Note 2535951 (*FAQ: SAP HANA Users and Schemas*).

→ Tip

If you don't know the SAPHANADB of your system, there are two easy ways to find it:

- Log on to your back-end system using SAP Logon. Choose *System* > *Status*. In the section titled *Database data*, see the name for *Schema*.
- Log on to your back-end system in SAP HANA studio. The schema name is listed under *Catalog*.

Authoring Schemas

The following tables show the two sets of authoring schemas that are relevant for this release. In the procedure below, you map these authoring schemas to the physical schemas of your customer system landscape.

Table 1: Authoring Schemas for SAP Customer Activity Repository applications bundle

Schema Name	Required For
SAP_CAR	SAP HANA objects for SAP Customer Activity Repository
SAP_DDF	SAP HANA objects for Demand Data Foundation and Unified Demand Forecast
SAPOSA	SAP HANA objects for On-Shelf Availability
SAP_RAP	SAP HANA objects for consuming applications (for example, SAP Assortment Planning, SAP Merchandise Planning, or SAP Promotion Management)
SAP_RTLRAP_AMR	SAP HANA objects for SAP Allocation Management

Table 2: Authoring Schemas for Source Master Data Systems

Schema Name	Required For
SAP_CRM	SAP Customer Relationship Management
SAP_CUAN	SAP Marketing Cloud
SAP_ECC	SAP ERP (SAP Retail)
SAP_S4H	SAP S/4HANA Retail

Example

The following are a couple of examples of the schema setup and mapping in SAP Customer Activity Repository:

Scenario 1

Authoring Schema	Physical Schema
SAP_ECC	ECC_DATA
SAP_S4H	S4H_DATA

In this example, the physical schema names are different from the authoring schema names and so we map the authoring schemas to the physical schemas.

Scenario 2

Authoring Schema	Physical Schema
SAP_ECC	SAP_ECC
SAP_S4H	SAP_S4H

In this example, the physical schema names are the same as the authoring schema names. In such a setup you do not need to map the authoring schemas to the physical schemas.

Procedure

> **i Note**
>
> If you encounter issues during the steps below, see the *SAP HANA Modeling Guide for SAP HANA Studio* at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM. Select your version at the top. Search for section *Map Authoring Schema to Physical Schema* and also consult the subsections.

1. In SAP HANA studio, log on to your back-end system.
2. Choose *Window* > *Perspective* > *Open Perspective* > *SAP HANA Modeler*.
3. Choose *Help* > *Quick View* > *Schema Mapping*.
4. Select the system and choose *Add*.
5. Enter the authoring schemas and physical schemas that you want to map:

   > **⚠ Caution**
   >
   > Make sure that you enter the names correctly.
   >
   > Make sure there are no leading or trailing spaces before or after a name. Space characters cause issues with schema mapping.

   1. Map all authoring schemas from Table 1 to the same physical schema (SAPHANADB) of your customer system. This is the n:1 mapping step. If necessary, add new mappings.

2. Map each authoring schema from Table 2 to a unique physical schema for the respective source master data system in your customer system. This is the 1:1 mapping step. If necessary, add new mappings.

   > **i** Note
   >
   > In this step, each physical schema that you map to must have a different name. Do not map the authoring schemas from Table 2 to the same physical schema (`SAPHANADB`) used in the previous step (a).

6. Choose *OK*.

> **i** Note
>
> If you are using an **SAP HANA system with multiple isolated tenant databases** to perform cross-database access between tenants, you must provide the authoring database name and the physical database name in the schema-mapping definition.
>
> You maintain schema-mapping definitions in the `SYS_BI.M_DATABASE_SCHEMA_MAPPING` table.

Parent topic: Prepare the Installation [page 34]

Previous: Verify SAP HANA Users and Privileges [page 49]

Next: Generate Time Data for Gregorian Calendar [page 59]

4.4 Generate Time Data for Gregorian Calendar

Perform a generic calendar setting in SAP HANA studio. This generates the time data (calendar) for several scenarios and SAP Fiori apps in SAP Customer Activity Repository applications bundle. Setting up the *Gregorian* calendar is mandatory. Optionally, you can choose to set up the *Fiscal* calendar as well.

Use

Perform this procedure to generate the time data for the calendar type *Gregorian*.

> **i** Note
>
> There is a second calendar type called *Fiscal*. It is used if the financial year is not the same as the calendar year (for example, April to March).
>
> The Fiscal calendar is required for SAP Assortment Planning and for SAP Merchandise Planning.
>
> You can set up both calendar types already now. Or you can set up the fiscal calendar type later on when you get to the application-specific sections (Generate Time Data - Fiscal Calendar [page 318]).

Prerequisites

- You are familiar with the calendar information for SAP HANA Platform.

  > **Note**
  >
  > For more information, see https://help.sap.com/viewer/p/SAP_HANA_PLATFORM and select your version. Choose *Develop* > *Development* > *SAP HANA Modeling Guide for SAP HANA Studio*. Search for the *Generate Time Data* section and see also the subsections.

Procedure

1. Open SAP HANA studio and log in to your back-end system.
2. Open the *SAP HANA Modeler* perspective.
3. On the *Quick View* tab, choose *Generate Time Data*.
4. Select your back-end system and choose *Next*.
5. Set up the Gregorian calendar:
   - Select the calendar type *Gregorian*.
   - Enter a *From Year* and a *To Year*.

     > **Note**
     >
     > The range of years should include all the years of data that you plan to store in SAP Customer Activity Repository.

     > **Example**
     >
     > If you plan to start using SAP Customer Activity Repository on January 1, 2019, enter 2019 as your starting year. But if you plan to access sales documents created in SAP Retail that date back to January 2017, enter 2017 as your starting year.

   - Select the granularity.

     > **Note**
     >
     > *Day* is the minimum granularity required for SAP Customer Activity Repository. You can choose a finer level of granularity, for example *Hour*, if necessary.

   - Choose *Finish*.
6. (Optional) If you wish to set up the fiscal calendar as well, follow the instructions in Generate Time Data - Fiscal Calendar [page 318].

Parent topic: Prepare the Installation [page 34]

Previous: Verify Correct Schema Mapping [page 55]

Next: Configure AFL Usage [page 61]

4.5 Configure AFL Usage

Perform configuration tasks to enable the usage of application function libraries (such as the PAL and the OFL) for the applications SAP Assortment Planning and SAP Allocation Management.

Enable Usage of PAL Functions (SAP Assortment Planning) [page 61]
To enable the usage of the PAL algorithm for SAP Assortment Planning, perform the required setup steps.

Check the OFL Installation [page 62]
Confirm that the OFL algorithm was installed successfully as prerequisite for SAP Assortment Planning and SAP Allocation Management.

Parent topic: Prepare the Installation [page 34]

Previous: Generate Time Data for Gregorian Calendar [page 59]

4.5.1 Enable Usage of PAL Functions (SAP Assortment Planning)

To enable the usage of the PAL algorithm for SAP Assortment Planning, perform the required setup steps.

Use

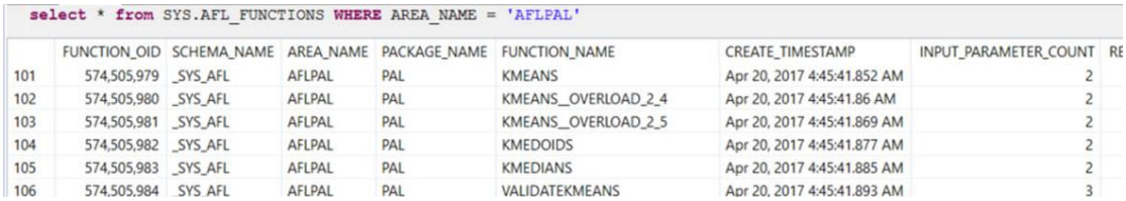
The installation of SAP HANA Platform includes the installation of the PAL algorithm, a prerequisite for SAP Assortment Planning.

To enable the usage of the PAL algorithm, as required by SAP Assortment Planning, perform the following procedure.

> **i** Note
>
> You do not need to create the `AFL_WRAPPER_GENERATOR` or `AFL_WRAPPER_ERASER` procedures, nor do you need to generate any special PAL procedures; this is done automatically.

Procedure

1. To confirm that the PAL functions were installed successfully, you can run `SELECT` statements in the three relevant public views as follows:
   - **`SELECT * FROM SYS.AFL_AREAS WHERE AREA_NAME = 'AFLPAL';`**
     In the case of a successful installation, the statement should return 1 row.
   - **`SELECT * FROM SYS.AFL_PACKAGES WHERE AREA_NAME = 'AFLPAL';`**
     In the case of a successful installation, the statement should return 1 row.
   - **`SELECT * FROM SYS.AFL_FUNCTIONS WHERE AREA_NAME = 'AFLPAL';`**
     In the case of a successful installation, the statement should return many rows. Verify that the function `KMEANS` is part of the list.



```
select * from SYS.AFL_FUNCTIONS WHERE AREA_NAME = 'AFLPAL'
```

	FUNCTION_OID	SCHEMA_NAME	AREA_NAME	PACKAGE_NAME	FUNCTION_NAME	CREATE_TIMESTAMP	INPUT_PARAMETER_COUNT	RE
101	574,505,979	_SYS_AFL	AFLPAL	PAL	KMEANS	Apr 20, 2017 4:45:41.852 AM	2	
102	574,505,980	_SYS_AFL	AFLPAL	PAL	KMEANS_OVERLOAD_2_4	Apr 20, 2017 4:45:41.86 AM	2	
103	574,505,981	_SYS_AFL	AFLPAL	PAL	KMEANS_OVERLOAD_2_5	Apr 20, 2017 4:45:41.869 AM	2	
104	574,505,982	_SYS_AFL	AFLPAL	PAL	KMEDOIDS	Apr 20, 2017 4:45:41.877 AM	2	
105	574,505,983	_SYS_AFL	AFLPAL	PAL	KMEDIANS	Apr 20, 2017 4:45:41.885 AM	2	
106	574,505,984	_SYS_AFL	AFLPAL	PAL	VALIDATEKMEANS	Apr 20, 2017 4:45:41.893 AM	3	

More Information

- Section Install the Prerequisites [page 19] ▶ *Common Prerequisites* ▶ *SAP HANA Platform* ▶
- http://help.sap.com/hana_platform ▶ *<Version>* ▶ *Machine Learning* ▶ *SAP HANA Predictive Analysis Library (PAL)* ▶

4.5.2 Check the OFL Installation

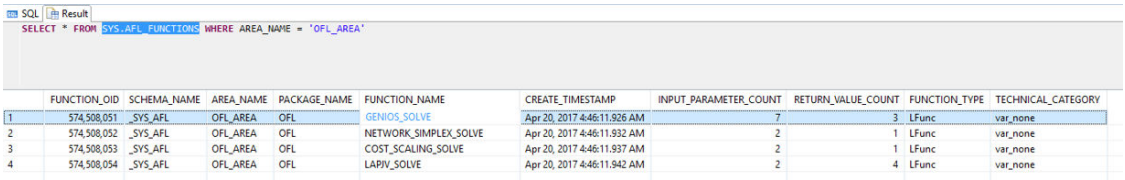
Confirm that the OFL algorithm was installed successfully as prerequisite for SAP Assortment Planning and SAP Allocation Management.

Use

The installation of SAP HANA Platform includes the installation of the OFL algorithm, a prerequisite for SAP Assortment Planning.

Procedure

1. To confirm that the OFL was installed successfully, you can run `SELECT` statements in the three relevant public views as follows:
   - **`SELECT * FROM SYS.AFL_AREAS WHERE AREA_NAME = 'OFL_AREA';`**
     In the case of a successful installation, the statement should return 1 row.
   - **`SELECT * FROM SYS.AFL_PACKAGES WHERE AREA_NAME = 'OFL_AREA';`**
     In the case of a successful installation, the statement should return 1 row.
   - **`SELECT * FROM SYS.AFL_FUNCTIONS WHERE AREA_NAME = 'OFL_AREA';`**
     In the case of a successful installation, the statement should return 4 rows. Verify that the function `GENIOS_SOLVE` is part of the list.



SQL | Result

```
SELECT * FROM SYS.AFL_FUNCTIONS WHERE AREA_NAME = 'OFL_AREA'
```

	FUNCTION_OID	SCHEMA_NAME	AREA_NAME	PACKAGE_NAME	FUNCTION_NAME	CREATE_TIMESTAMP	INPUT_PARAMETER_COUNT	RETURN_VALUE_COUNT	FUNCTION_TYPE	TECHNICAL_CATEGORY
1	574,508,051	_SYS_AFL	OFL_AREA	OFL	GENIOS_SOLVE	Apr 20, 2017 4:46:11.926 AM	7	3	LFunc	var_none
2	574,508,052	_SYS_AFL	OFL_AREA	OFL	NETWORK_SIMPLEX_SOLVE	Apr 20, 2017 4:46:11.932 AM	2	1	LFunc	var_none
3	574,508,053	_SYS_AFL	OFL_AREA	OFL	COST_SCALING_SOLVE	Apr 20, 2017 4:46:11.937 AM	2	1	LFunc	var_none
4	574,508,054	_SYS_AFL	OFL_AREA	OFL	LAPJV_SOLVE	Apr 20, 2017 4:46:11.942 AM	2	4	LFunc	var_none

5 Install the Software

For a correct **installation**, you must first install the required prerequisites and implement the pre-installation SAP Notes. Then you install the back-end components and the front-end components. Finally, you implement the SAP Notes that can only be applied after the installation.

> → Tip
>
> If you encounter issues during these procedures, see the Troubleshooting [page 241] section for possible solutions.

1. Verify Prerequisites and SAP Notes (Pre-Installation) [page 64]
   Ensure that the required prerequisites and pre-installation SAP Notes have been implemented in your system landscape.
2. Install ABAP Back-End Server [page 65]
   First install the SAP HANA database together with the AFL components for this release. Then install the SAP CARAB 5.0 FPS04 back-end product version of SAP Customer Activity Repository applications bundle. Complete the back-end installation by setting up one or more SAP clients.
3. Install ABAP Front-End Server [page 78]
   Install the complete UI layer in the front-end system. The UI layer consists of three components: SAP Gateway, the central SAP Fiori UI component (SAP Fiori front-end server with SAP Fiori launchpad), and the product-specific SAP Fiori UI component (front-end product version SAP FIORI FOR SAP CARAB 5.0 FPS04 of SAP Customer Activity Repository applications bundle).
4. Verify SAP Notes and RINs (Post-Installation) [page 83]
   There are SAP Notes (corrections) that can only be implemented **after** you have installed the back-end product version and the front-end product version. You must therefore do this additional check and implement the required notes, before you move on to the setup steps for the applications.

5.1 Verify Prerequisites and SAP Notes (Pre-Installation)

Ensure that the required prerequisites and pre-installation SAP Notes have been implemented in your system landscape.

Procedure

1. Verify that you have installed and configured the prerequisites that are required for your scenario:
   In Install the Prerequisites [page 19], see the *Common Prerequisites* and the *Application-Specific Prerequisites*.

2. Verify that **all SAP Notes** that must be applied **before the installation** have been implemented for your scenario:
   See Implement SAP Notes for the Installation [page 34].

   > ⚠ Caution
   >
   > Always consult the table for SAP Customer Activity Repository, regardless of your scenario. Notes listed there are often common corrections, applicable to all consuming applications.

Parent topic: Install the Software [page 64]

Next: Install ABAP Back-End Server [page 65]

5.2 Install ABAP Back-End Server

First install the SAP HANA database together with the AFL components for this release. Then install the SAP CARAB 5.0 FPS04 back-end product version of SAP Customer Activity Repository applications bundle. Complete the back-end installation by setting up one or more SAP clients.

Context

- The application function library (AFL) components run directly in the SAP HANA database. The revision of each AFL component must be compatible with the revision of the SAP HANA database.
- The ABAP back-end server is based on the foundation component (`SAP S/4HANA FOUNDATION`).
- On the ABAP back-end server, you install the SAP CARAB 5.0 FPS04 back-end product version. The back-end product version provides the business logic and the back-end data (for example, users, roles, and authorizations).

> ℹ Note
>
> In an embedded deployment scenario, you plan to use the ABAP back-end server also as your front-end system. This means that when you get to the installation of the front-end components later on (Install ABAP Front-End Server [page 78]), you perform this installation here on the ABAP back-end server.
>
> For more information, see Deployment Options [page 16].

1. Download and Install SAP RTL AFL FOR SAP HANA [page 66]
   Install **compatible revisions** of the SAP HANA database and the application function library components (`SAP HANA AFL` and `SAP RTL AFL FOR SAP HANA`). You must do this **before** you install the back-end product version of SAP Customer Activity Repository applications bundle. This procedure is mandatory for all the scenarios.
2. Download and Install SAP XRP AFL (Only for SAP Replenishment Planning) [page 69]

This procedure is only required if you want to use SAP Replenishment Planning. Download a revision of the SAP XRP AFL component that is compatible with the revision of your SAP HANA database and install it in your SAP HANA system.

3. Install SAP CARAB Back-End Product Version [page 72]
   Install the SAP CARAB 5.0 FPS04 back-end product version of SAP Customer Activity Repository applications bundle 5.0 FPS04 in your ABAP back-end system. First create a stack XML file with Maintenance Planner. Then install this file with Software Update Manager (SUM).
4. Set Up SAP Client [page 75]
   Set up one or more SAP clients in your ABAP back-end system. Map the client of each source master data system to a client in your ABAP back-end system. The steps to follow depend on whether your scenario uses the Demand Data Foundation (DDF) module in SAP Customer Activity Repository or not.

Parent topic: Install the Software [page 64]

Previous: Verify Prerequisites and SAP Notes (Pre-Installation) [page 64]

Next: Install ABAP Front-End Server [page 78]

5.2.1 Download and Install SAP RTL AFL FOR SAP HANA

Install **compatible revisions** of the SAP HANA database and the application function library components (SAP HANA AFL and SAP RTL AFL FOR SAP HANA). You must do this **before** you install the back-end product version of SAP Customer Activity Repository applications bundle. This procedure is mandatory for all the scenarios.

Overview

There is one software component in SAP Customer Activity Repository applications bundle that you must always install (or upgrade) first:

- SAP RTL AFL FOR SAP HANA

You must install (upgrade) this component together with the following components of SAP HANA Platform:

- SAP HANA AFL
- SAP HANA DATABASE

The revision of each AFL component must be **compatible** with the revision of the SAP HANA database. Be aware of the following dependencies.

Dependencies Between AFL Components and the SAP HANA Database

The AFL components (`SAP HANA AFL`, `SAP RTL AFL FOR SAP HANA`) run directly in the SAP HANA database. Because of this, they are released in sync with the SAP HANA database.

The releases are called "revisions". Whenever a new revision of the SAP HANA database is released, a new revision of each AFL component is released. As a result, there are always several revisions of each component available for download.

> ⚠ Caution
>
> **Compatible Revisions**
>
> For each revision of an AFL component, there is **only one compatible revision** of the SAP HANA database. Whenever you upgrade the AFL components to a new revision, you must also upgrade the database. Whenever you upgrade the database to a new revision, you must also upgrade the AFL components.
>
> This applies not only during a **new installation** or an **upgrade**, but is equally relevant during **normal business operations**.
>
> **Patches for Same Revision**
>
> Patches are the sole exception to this rule. Within the same revision, you **can and should** upgrade the AFL components to the **highest available patch**. Here is an example:
>
> - Your current revision is:
>   `SAP RTL AFL FOR SAP HANA` *revision* **55**.*000***4** *for SAP HANA database 2.0 SPS05 revision 2.00.0***55**
> - A higher patch might be:
>   `SAP RTL AFL FOR SAP HANA` *revision* **55**.*000***5** *for SAP HANA database 2.0 SPS05 revision 2.00.0***55**
>
> In this case, you should install the higher patch of the AFL. You do not need to update the database.

> → Tip
>
> You can easily check which revision is currently installed:
>
> 1. Execute transaction `DB02` to open the *Diagnostics: Missing Tables and Indexes* screen.
> 2. Choose *Current Status* > *Overview* to open the *SAP HANA database* overview.
> 3. Under *Installed Plug-Ins*, choose *RTL* to open the table with the plug-in details.
> 4. Search for **`SAP RTL AFL`** and see the values for *rev-number* and *rev-patchlevel*.

Download and Install `SAP RTL AFL FOR SAP HANA`

> → Tip
>
> When you download AFL components from the SAP Support Portal, the compatible revision of the SAP HANA database is always indicated.

1. Determine which revision of the SAP HANA database and the AFL components you need.

To select the best revision for your scenario, see the *Common Prerequisites* in section Install the Prerequisites [page 19]. Carefully read the information under *SAP HANA Platform 2.0* and *SAP RTL AFL FOR SAP HANA*:

- Note the **minimum revision** of the SAP HANA database and the AFL components. You need at least this revision for the current release.
- Read the *Caution* to know what to do if you wish to select a **higher revision than the minimum revision**.

Once you have selected a revision, this gives you the compatible revisions of the other components.

2. Download the compatible revisions from the SAP Support Portal at http://support.sap.com under *Software Downloads*:

> → Tip
>
> Alternatively, you can log in to the SAP ONE Support Launchpad at https://launchpad.support.sap.com/#/softwarecenter/ and follow the navigation from there.

- `SAP RTL AFL FOR SAP HANA`:
  The component is included in the `SAP CARAB` back-end product version. To download one of the available revisions, choose *By Alphabetical Index (A-Z)* > *C* > *CAR RETAIL APPLICATIONS BUNDLE* > *SAP CARAB 5.0* > *Support Packages and Patches* > *DOWNLOADS* > *COMPRISED SOFTWARE COMPONENT VERSIONS* > *SAP RTL AFL FOR SAP HANA 200*.

  > → Tip
  >
  > If you cannot see the revision you are looking for, select a different *LINUX* option from the dropdown to display more revisions.

  > ⚠ Caution
  >
  > Always select the **highest available patch** of any revision.

- `SAP HANA AFL` **and** `SAP HANA DATABASE`:
  These components are part of SAP HANA Platform. To download one of the available revisions, choose *By Alphabetical Index (A-Z)* > *H* > *SAP HANA PLATFORM EDITION* > *SAP HANA PLATFORM EDITION 2.0* > *Support Packages and Patches* > *DOWNLOADS* > *SAP HANA AFL 2.0* and *SAP HANA DATABASE 2.0*.

3. Install the selected revisions of `SAP RTL AFL FOR SAP HANA`, `SAP HANA AFL`, and `SAP HANA DATABASE` in your back-end system.
   See SAP Note 2377894 (*Install or Upgrade SAP RTL AFL FOR SAP HANA*) and carefully follow the steps for the new installation scenario.

> → Tip
>
> If you encounter issues, see the Troubleshooting [page 241] section for possible solutions.

→ Tip

For installation and upgrade information for SAP HANA Platform, see the following sections of the *SAP HANA Server Installation and Update Guide* (select your release at the top):

- Installing an SAP HANA System
- Updating the SAP HANA System

Result

You have successfully installed the `SAP RTL AFL FOR SAP HANA` component.

→ Remember

For future updates of your system landscape, remember that the dependencies between the AFL components and the SAP HANA database still apply:

- For example, should you decide to upgrade your SAP Customer Activity Repository applications bundle scenario to a higher release requiring a higher AFL revision, you will also need to upgrade the SAP HANA database and SAP HANA AFL.
- Likewise, should you decide to upgrade your SAP HANA database to a higher revision (for example, to use new features in SAP HANA), you will need to also upgrade the AFL components.

Parent topic: Install ABAP Back-End Server [page 65]

Next: Download and Install SAP XRP AFL (Only for SAP Replenishment Planning) [page 69]

5.2.2 Download and Install SAP XRP AFL (Only for SAP Replenishment Planning)

This procedure is only required if you want to use SAP Replenishment Planning. Download a revision of the `SAP XRP AFL` component that is compatible with the revision of your SAP HANA database and install it in your SAP HANA system.

Context

ⓘ Note

`SAP XRP AFL` is only required if you use SAP Replenishment Planning.

`SAP XRP AFL` is the application function library (AFL) component for SAP Replenishment Planning. Basically, it is the calculation engine for your replenishment-related processes.

It is delivered as a component in the SAP CARAB 5.0 FPS04 back-end product version of SAP Customer Activity Repository applications bundle.

SAP XRP AFL runs in the database layer of your system landscape. Because of technical dependencies, the component follows the release cycle of the SAP HANA database. The releases are called “revisions”.

This section describes where to download the correct revision of SAP XRP AFL and how to install it.

Prerequisites

- You are aware of the SAP HANA Platform prerequisites for this release of SAP Customer Activity Repository applications bundle.
  See section Install the Prerequisites [page 19] and consult the information under *Common Prerequisites* > *SAP HANA Platform 2.0*. The information about minimum revisions and maintenance revisions also applies to SAP XRP AFL.
- You know that the SAP XRP AFL revision must always be compatible with the SAP HANA DATABASE revision.
  See section Download and Install SAP RTL AFL FOR SAP HANA [page 66] and consult the information under *Dependencies Between AFL Components and the SAP HANA Database*.
- You have already installed compatible revisions of the following components in your SAP HANA system:
  - Components of SAP HANA Platform: SAP HANA DATABASE and SAP HANA AFL
  - Component of SAP Customer Activity Repository applications bundle: SAP RTL AFL FOR SAP HANA

Procedure

To install SAP XRP AFL, follow these steps:

1. **Select a revision:**
   Select the SAP XRP AFL revision that is compatible with your SAP HANA database revision.

   > **i Note**
   >
   > No matter which AFL revision you choose, always install the **highest patch** available for download.

2. **Download the revision:**
   1. Navigate to the SAP Support Portal at http://support.sap.com and choose the *Software Downloads* icon.
      Alternatively, you can log in to the SAP ONE Support Launchpad at https://launchpad.support.sap.com/#/softwarecenter/ and follow the navigation from there.
   2. Choose *By Alphabetical Index (A-Z)* > *C* > *CAR RETAIL APPLICATIONS BUNDLE* > *SAP CARAB 5.0* > *Support Packages and Patches* > *DOWNLOADS* > *COMPRISED SOFTWARE COMPONENT VERSIONS* > *SAP XRP AFL 1.0*.
   3. Download the selected revision (*.sar file).

      > **i Note**
      >
      > The compatible SAP HANA database revision is always indicated.

3. **Install the revision:**

> **i** Note
>
> Your tool for this step is the **SAP HANA database lifecycle manager (HDBLCM)**.
>
> You have several options for installing or upgrading components with the HDBLCM. For more information, see the *SAP HANA Server Installation and Update Guide* for your SAP HANA Platform version at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM under *Installation and Upgrade*.
>
> In particular, consult the following sections:
>
> - *Choosing the Correct SAP HANA HDBLCM for Your Task*
> - *Installing or Updating SAP HANA Components*
> - *Parameter Reference*
>
> If you encounter issues using the HDBLCM, see SAP Notes 2078425 (*Troubleshooting note for SAP HANA platform lifecycle management tool hdblcm*) and 2082466 (*Known Issues in SAP HANA Platform Lifecycle Management (HDBLCM)*) for possible solutions.

1. Log in as user `root`.
2. Load the `SAP XRP AFL` revision into your directory (`<download path>`).
3. Change to the SAP HANA resident directory where the HDBLCM is located:
   `cd /<sapmnt>/<SID>/hdblcm`

   > **i** Note
   >
   > `<SID>` is your customer-defined database system ID.

4. Call the resident HDBLCM tool at command line level with the following option as user `root`:
   `./hdblcm --action=update_components --component_dirs=/<download path>/SAP_XRP_AFL`
5. Follow the on-screen instructions.
6. Check that the script server for the SAP HANA database is active. If it isn't, activate it as described in SAP Note 1650957 (*SAP HANA Database: Starting the Script Server*).
7. Check that the `SAP XRP AFL` component is now installed and active in your SAP HANA database:
   - Follow the instructions in SAP Note 2188129 (*Application Function Library (AFL): Check what AFLs are installed and active in a SAP HANA Database*).
   - You should get the message “registration was successful” (for `PLUGIN_NAME = 'xrp'` and `PLUGIN_NAME = 'afl'` in view `M_PLUGIN_STATUS`).
   - If you get the message “registration failed”, repeat the installation steps above. Then restart the server and the SAP HANA database.
   - If you encounter other issues, see section Troubleshooting [page 241] for possible solutions.

Result

You have successfully installed the `SAP XRP AFL` component. Continue with the next step.

> **→** Remember
>
> For future updates of your system landscape, remember that the dependency between the AFL and the SAP HANA database still applies.

For example, should you later decide to upgrade your SAP Replenishment Planning and SAP Customer Activity Repository system to a higher release requiring a higher AFL revision, you will also need to upgrade the revision of the SAP HANA database.

Vice versa, should you decide to upgrade your SAP HANA database to a higher revision (for example, to use new features in SAP HANA), you will also need to upgrade the AFL to the compatible revision.

Parent topic: Install ABAP Back-End Server [page 65]

Previous: Download and Install SAP RTL AFL FOR SAP HANA [page 66]

Next: Install SAP CARAB Back-End Product Version [page 72]

5.2.3 Install SAP CARAB Back-End Product Version

Install the `SAP CARAB 5.0 FPS04` back-end product version of SAP Customer Activity Repository applications bundle 5.0 FPS04 in your ABAP back-end system. First create a stack XML file with Maintenance Planner. Then install this file with Software Update Manager (`SUM`).

> **i Note**
>
> The back-end product version contains the software components listed below. You can also find the components on the SAP Support Portal, in the download area for the back-end product version:
>
> - `RTLCAB 500`
> - `XI CONTENT RTLCAB 500`
> - `XSAC_OPP_PPS_2`
> - `SAP RTL AFL FOR SAP HANA 200`: This component requires a separate installation procedure, which you have already done (see Download and Install SAP RTL AFL FOR SAP HANA [page 66]).
> - `SAP XRP AFL 1.0`: This component is only required for SAP Replenishment Planning. If this is your scenario, you have already installed this component as well (see Download and Install SAP XRP AFL (Only for SAP Replenishment Planning) [page 69]).

Prerequisites

- You have completed all of the procedures described in the previous sections of this guide. In particular, see the tasks in section Prepare the Installation [page 34].
- You have installed compatible revisions of the SAP HANA database and the mandatory AFL components (`SAP HANA AFL` and `SAP RTL AFL FOR SAP HANA 200`).
- You know which version of `SAP S/4HANA FOUNDATION` is required for this release. For more information, see Install the Prerequisites [page 19] and consult the *Common Prerequisites*.

> **Note**
>
> The stack XML file that you create in the procedure below, will contain the foundation component and, as an add-on, the SAP CARAB back-end product version.

Overview

In the procedures below you do the following:

Use this tool...	To do this...
Maintenance Planner More information: https://help.sap.com/viewer/p/MAINTENANCE_PLANNER	Plan your system landscape and create a stack XML file based on the required product versions. This stack XML file will include the foundation component and the SAP CARAB add-on component that you select in the procedure below.
Software Update Manager (SUM) More information: https://support.sap.com/en/tools/software-logistics-tools/software-update-manager.html	Install or upgrade components using the stack XML file.

> **Note**
>
> It may be possible to install or upgrade components using the SAP Add-On Installation Tool (transaction SAINT) or the Support Package Manager (transaction SPAM). However, these alternative procedures are not described in this guide. For information on whether they are supported for your implementation scenario and on how to proceed in this case, see SAP Note 1803986.

Create Stack XML File With Maintenance Planner

> **Note**
>
> If you encounter issues with Maintenance Planner, see the following sources for possible solutions:
>
> - Maintenance Planner Troubleshooting Guide on the SAP Community Wiki
> - SAP Note 2535751: *Can not select the higher release for Netweaver in Maintenance Planner*
> - SAP Note 2314463: *Required file K-XXXxxxxxxxx.SAR is not visible for your user Sxxxxxxx*

1. Log on to Maintenance Planner at https://support.sap.com/en/alm/solution-manager/processes-72/maintenance-planner.html under ▶ *Access Maintenance Planner* ◀.

2. Choose *Plan a New System*.
3. Choose *Plan*.
4. Choose the system type *ABAP (Install an ABAP System)* and enter a three-character system ID (SID).
5. Select the system type that you wish to install (*SAP S/4HANA FOUNDATION*).
6. Select a product version and a support package stack of the foundation component.
7. Select an instance (for example, product instance *SAP S/4HANA Foundation*).
8. Choose *Confirm Selection*.
9. Choose *Install or Maintain an Add-On*.
10. Select the back-end product version `SAP CARAB 5.0` and the support package stack `FPS04 (12/2022)`.
11. Select the instance `CAR Retail Application Bundle`.
12. Choose *Confirm Selection*.
13. Choose *Next*.
14. Select the operating system and database for your scenario.
15. Choose *Confirm Selection*.
16. Review the details of your stack dependent and stack independent files. If everything is OK, choose *Next*.
17. Choose *Download Stack XML*.
    You have now created the stack XML file.

Install Stack XML File With Software Update Manager (SUM)

1. Download and install the SUM tool:
   1. See the SAP Support Portal at https://support.sap.com/en/tools/software-logistics-tools/software-update-manager.html.
   2. Consult the information for SUM 2.0 SP xx and follow the instructions.
2. In SUM, install your add-on product using the stack XML file that you have created in the first procedure.

Result

You have successfully installed the back-end product version.

> **i** Note
>
> With this installation, several SAP HANA content packages have already been activated automatically. This saves you manual activation steps later on.

Continue with the next section.

Parent topic: Install ABAP Back-End Server [page 65]

Previous: Download and Install SAP XRP AFL (Only for SAP Replenishment Planning) [page 69]

Next: Set Up SAP Client [page 75]

5.2.4 Set Up SAP Client

Set up one or more SAP clients in your ABAP back-end system. Map the client of each source master data system to a client in your ABAP back-end system. The steps to follow depend on whether your scenario uses the Demand Data Foundation (DDF) module in SAP Customer Activity Repository or not.

Prerequisites

Verify whether your scenario requires data replicated from the source master data system via the SAP System Landscape Transformation Replication Server (SLT).

- The non-DDF scenarios all use the SLT replication.
- The DDF scenarios all use the data replication framework (DRF, transaction `DRFOUT`). However, some scenarios can additionally use the SLT replication:
  - SAP Allocation Management: **mandatory**
  - SAP Assortment Planning: optional (depends on your customer-specific implementation)
  - SAP Merchandise Planning: optional (depends on your customer-specific implementation)
  - SAP Replenishment Planning: required if you want to use real-time inventory, otherwise optional (depends on your customer-specific implementation)

If your scenario uses the SLT replication, you must define **SLT transformation rules to map the clients**. You must do this mapping before the actual replication. The procedures below describe how you do this for each scenario.

> **i Note**
>
> You define an SLT transformation rule by matching a client number in the source master data system to a client number in your SAP Customer Activity Repository applications bundle ABAP back-end system (*SAP Client* `MANDT`). Without this mapping, errors may occur (for example, table joins can fail and the scenarios relying on master data would not be functional).

> **i Note**
>
> If you need more information about the client concept, see SAP NetWeaver Library: Function-Oriented View and select your support package (SP). Choose *Application Server ABAP* > *Other Services* > *Services for Administrators* and consult the *Client Concept* section and the *Multichannel Administration* section.

Procedure for All Scenarios Using Demand Data Foundation

Follow this procedure in the following cases:

- You want to model and forecast demand using the UDF module in SAP Customer Activity Repository.
- You want to use the Omnichannel Promotion Pricing (OPP) module in SAP Customer Activity Repository.
- You want to use SAP Allocation Management.

- You want to use SAP Assortment Planning.
- You want to use SAP Merchandise Planning.
- You want to use SAP Promotion Management.
- You want to use SAP Replenishment Planning.

Follow these steps:

1. In transaction SCC4, create the necessary client in your ABAP back-end system.

   > ⚠ Caution
   >
   > If you are performing a client copy, only do this after you have successfully imported all related software components. Also, only import or transfer Customizing tables after the client copy is complete. For instructions, see SAP Note 337623 (*Customizing after installation or upgrade*).

2. In Customizing (transaction SPRO), choose *Cross-Application Components* > *Demand Data Foundation* > *Basic Settings* > *Define Logical Systems*.

   > i Note
   >
   > If you have multiple source master data systems and/or clients, you must define a logical system for each system/client.

   > i Note
   >
   > For the DDF scenarios with SLT replication, you also use this Customizing activity to define SLT transformation rules. You do this by matching a *Logical System* (your back-end system client) to an *ERP Client* (client number) for an *MD Sys Typ* (source master data system type).

   1. Carefully read the activity documentation for detailed instructions and examples.
   2. Define the logical systems that you need and map the clients as required for your scenario.

Procedure for Scenarios Not Using Demand Data Foundation

Follow this procedure if you are implementing a non-DDF scenario:

> i Note
>
> All of the following scenarios are modules in SAP Customer Activity Repository.

- POS Data Transfer and Audit
- Multichannel Transaction Data Management
- Inventory Visibility (including Omnichannel Article Availability and Sourcing, OAA)
- On-Shelf Availability

Follow these steps:

1. Verify the client numbers in the source master data systems:
   - source SAP Retail system

- source SAP S/4HANA system
- source systems of any optional products that you wish to implement with SAP Customer Activity Repository (such as SAP CRM or SAP Marketing Cloud)

> **i Note**
>
> SAP Customer Activity Repository includes SAP HANA content that provides views on a combination of client-dependent data authored in these source master data systems. For instance, sales documents are created in a source SAP Retail system and are replicated to SAP Customer Activity Repository.
>
> Likewise, customer information can be optionally replicated from a source SAP CRM or SAP Marketing Cloud system.

2. In transaction `SCC4`, create the necessary client in your ABAP back-end system.

   > **⚠ Caution**
   >
   > If you are performing a client copy, only do this after you have successfully imported all related software components. Also, only import or transfer Customizing tables after the client copy is complete. For instructions, see SAP Note 337623 (*Customizing after installation or upgrade*).

   Cross-system information is client-dependent. As a result, the *SAP Client* (`MANDT`) attribute must be used as one of the join attributes in the SAP HANA views to combine cross-system sales and master data.
   If you want to replicate data from only a single source master data system, all data (whether created or replicated) must be affiliated with the same client number. Note that this does not apply to scenarios with multiple source master data systems (for more information, see the optional step below).

   > **⚠ Caution**
   >
   > **SLT Transformation Rules:**
   >
   > Using the same client number might not be possible due to the specifics of your implementation and client setup rules. In this case, **you must use SLT transformation rules before replicating the data**. The rules allow you to transform the source SAP Retail or SAP S/4HANA clients and, optionally, the source SAP CRM or SAP Marketing Cloud clients to match the client in your back-end system.
   >
   > **Example:**
   >
   > SAP Retail and SAP CRM (or SAP Marketing Cloud) are set up on client 100 in your implementation. In this case, you should also set up your installation on client 100. If, for any reason, you are unable to do so, you can transform the source client to 100 using SLT transformation rules.

3. (Optional) Do this step if you have multiple source master data systems:
   1. For configuration options for scenarios with multiple source master data systems, see the Multiple ECC Support section in the application help for SAP Customer Activity Repository.
   2. In Customizing, do the client mapping:
      Choose *SAP Customer Activity Repository* > *General Settings* > *Client Mapping For Multiple ERP Systems*.
   3. Carefully read the activity documentation.
   4. Enable the multiple ERP support and map the clients for each of the systems.

Parent topic: Install ABAP Back-End Server [page 65]

Previous: Install SAP CARAB Back-End Product Version [page 72]

5.3 Install ABAP Front-End Server

Install the complete UI layer in the front-end system. The UI layer consists of three components: SAP Gateway, the central SAP Fiori UI component (SAP Fiori front-end server with SAP Fiori launchpad), and the product-specific SAP Fiori UI component (front-end product version SAP FIORI FOR SAP CARAB 5.0 FPS04 of SAP Customer Activity Repository applications bundle).

Context

- The **ABAP front-end server** contains all the infrastructure components to generate SAP Fiori app-specific UIs for the client and to communicate with the back-end systems.
- The **central SAP Fiori UI component** (SAP Fiori front-end server) is a framework that provides the common infrastructure for all SAP Fiori apps. The component contains the SAP Fiori launchpad, which is the basis of all SAP Fiori apps and provides fundamental functions (such as logon, surface sizing, navigation between apps, and role-based app catalogs). End-users access SAP Fiori apps from the SAP Fiori launchpad.
- The **product-specific SAP Fiori UI component** (`SAP FIORI FOR SAP CARAB 5.0 FPS04` front-end product version) contains the SAP Fiori apps delivered with this release of SAP Customer Activity Repository applications bundle.

> **i** Note
>
> Where you install the front-end components depends on your chosen deployment option. With the central hub deployment, you install the front-end components in a separate front-end system. With the embedded deployment, you install the front-end components in your ABAP back-end system. Please refer to SAP Note 2997851 (*SAP Customer Activity Repository applications bundle 5.0: Front-end deployment options*) to help you decide which deployment option is the best for your scenario.
>
> For more information, see Deployment Options [page 16].

1. Verify Installation of SAP Gateway Foundation [page 79]
   SAP Gateway Foundation (`SAP_GWFND`) is a component in SAP NetWeaver. In this procedure, you verify that the required version is installed in your front-end system.
2. Verify Installation of Central SAP Fiori UI Component [page 80]
   The central SAP Fiori UI component includes the SAPUI5 control library and the SAP Fiori launchpad. The component is delivered as part of the SAP Fiori front-end server. Verify that the required version of SAP Fiori front-end server is installed in your front-end system.
3. Install SAP FIORI FOR SAP CARAB Front-End Product Version [page 81]
   Install the SAP FIORI FOR SAP CARAB 5.0 FPS04 front-end product version in your front-end system. The product version contains the SAP Fiori apps for this release of SAP Customer Activity Repository applications bundle. First create a stack XML file with Maintenance Planner and then install the stack XML file with Software Update Manager (`SUM`).

Parent topic: Install the Software [page 64]

Previous: Install ABAP Back-End Server [page 65]

Next task: Verify SAP Notes and RINs (Post-Installation) [page 83]

5.3.1 Verify Installation of SAP Gateway Foundation

SAP Gateway Foundation (`SAP_GWFND`) is a component in SAP NetWeaver. In this procedure, you verify that the required version is installed in your front-end system.

Context

As of SAP NetWeaver 7.40, the major components of SAP Gateway have been integrated into SAP NetWeaver as SAP Gateway Foundation (`SAP_GWFND`). SAP Gateway Foundation has since been an integral part of SAP NetWeaver.

SAP Gateway Foundation handles the communication between the ABAP back-end server and the client on the front-end. It establishes a connection between SAP Business Suite or application data and the target clients, platforms, and programming framework.

Procedure

1. Ensure that the required SAP NetWeaver version is installed on your front-end server. For more information, see the following:
   - For the required version, see Install the Prerequisites [page 19] and choose *Common Prerequisites* > *SAP S/4HANA FOUNDATION* and *SAP Fiori*.
   - For information on deployment options, see the following:
     - Section Deployment Options [page 16]
     - Section Quick Configuration in the SAP Gateway Foundation Configuration Guide
   - For installation, configuration, and security information, see again the product documentation at SAP Gateway Foundation (SAP_GWFND).
   - For installation and upgrade information for SAP Fiori, see https://help.sap.com/viewer/p/FIORI_IMPLEMENTATION and choose *Implement* > *Installation and Upgrade* > *SAP Fiori: Setup and Configuration* > *Setup of SAP Fiori System Landscape*. Here you can also find a system landscape diagram.

Parent topic: Install ABAP Front-End Server [page 78]

Next: Verify Installation of Central SAP Fiori UI Component [page 80]

5.3.2 Verify Installation of Central SAP Fiori UI Component

The central SAP Fiori UI component includes the SAPUI5 control library and the SAP Fiori launchpad. The component is delivered as part of the SAP Fiori front-end server. Verify that the required version of SAP Fiori front-end server is installed in your front-end system.

Context

The SAP Fiori front-end server contains the software components that are required to run SAP Fiori scenarios.

You can find an overview of a typical system landscape and its components at Setup of SAP Fiori System Landscape.

> **i Note**
>
> Where you install the front-end components depends on your chosen deployment option. With the central hub deployment, you install the front-end components in a separate front-end system. With the embedded deployment, you install the front-end components in your ABAP back-end system. Please refer to SAP Note 2997851 (*SAP Customer Activity Repository applications bundle 5.0: Front-end deployment options*) to help you decide which deployment option is the best for your scenario.
>
> For more information, see Deployment Options [page 16].

Procedure

1. Verify what version of SAP Fiori front-end server is required for this release.
   In section Install the Prerequisites [page 19], see under *Common Prerequisites* > *SAP Fiori*. This section also points you to the installation information.
2. Ensure that the required version is installed on your front-end server.

   > **i Note**
   >
   > For installation instructions, see Installing SAP Fiori in the *Setup and Configure your SAP Fiori Landscape* documentation.

Parent topic: Install ABAP Front-End Server [page 78]

Previous: Verify Installation of SAP Gateway Foundation [page 79]

Next: Install SAP FIORI FOR SAP CARAB Front-End Product Version [page 81]

5.3.3 Install SAP FIORI FOR SAP CARAB Front-End Product Version

Install the SAP FIORI FOR SAP CARAB 5.0 FPS04 front-end product version in your front-end system. The product version contains the SAP Fiori apps for this release of SAP Customer Activity Repository applications bundle. First create a stack XML file with Maintenance Planner and then install the stack XML file with Software Update Manager (SUM).

> **i Note**
>
> The front-end product version contains the software component UICAR001 500. You can also find the component on the SAP Support Portal. See the download area for the front-end product version and choose *SAP FIORI FOR SAP CARAB* > *SAP FIORI FOR SAP CARAB 5.0* > *COMPRISED SOFTWARE COMPONENT VERSIONS*.

Prerequisites

You have completed the previous procedures in this guide.

> **i Note**
>
> Where you install the front-end components depends on your chosen deployment option. With the central hub deployment, you install the front-end components in a separate front-end system. With the embedded deployment, you install the front-end components in your ABAP back-end system. Please refer to SAP Note 2997851 (*SAP Customer Activity Repository applications bundle 5.0: Front-end deployment options*) to help you decide which deployment option is the best for your scenario.
>
> For more information, see Deployment Options [page 16].

Overview

In the procedures below you do the following:

Use this tool...	To do this...
Maintenance Planner More information: https://help.sap.com/viewer/p/MAINTENANCE_PLANNER	Plan your system landscape and create a stack XML file based on the required product versions.
Software Update Manager (SUM) More information: https://support.sap.com/en/tools/software-logistics-tools/software-update-manager.html	Install or upgrade components using the stack XML file.

> **Note**
>
> It may be possible to install or upgrade components using the SAP Add-On Installation Tool (transaction `SAINT`) or the Support Package Manager (transaction `SPAM`). However, these alternative procedures are not described in this guide. For information on whether they are supported for your implementation scenario and on how to proceed in this case, see SAP Note 1803986.

Create Stack XML File With Maintenance Planner

> **Note**
>
> If you encounter issues with Maintenance Planner, see the following sources for possible solutions:
>
> - Maintenance Planner Troubleshooting Guide on the SAP Community Wiki
> - SAP Note 2535751: *Can not select the higher release for Netweaver in Maintenance Planner*
> - SAP Note 2314463: *Required file K-XXXxxxxxxxx.SAR is not visible for your user Sxxxxxxx*

1. Log on to Maintenance Planner at https://support.sap.com/en/alm/solution-manager/processes-72/maintenance-planner.html under *Access Maintenance Planner*.
2. Choose *Plan a New System*.
3. Choose *Plan*.
4. Choose the system type *ABAP (Install an ABAP System)* and enter a three-character system ID (<SID>).
5. Select the system type that you wish to install.
6. Select a product version and a support package stack.
7. Select a product version instance.
8. Choose *Confirm Selection*.
9. Choose *Install or Maintain an Add-On*.
10. Select the `SAP FIORI FOR SAP CARAB 5.0` front-end product version and the `FPS04 (12/2022)` support package stack.
11. Select an instance of SAP Fiori front-end server.
12. Choose *Confirm Selection*.
13. Choose *Next*.
14. Select the operating system and database for your scenario.
15. Choose *Confirm Selection*.
16. Review the details of your stack dependent and stack independent files. If everything is OK, choose *Next*.
17. Choose *Download Stack XML*.
    You have now created the stack XML file.

Install Stack XML File With Software Update Manager (SUM)

1. Download and install the SUM tool:
   1. See the SAP Support Portal at https://support.sap.com/en/tools/software-logistics-tools/software-update-manager.html.

2. Consult the information for SUM 2.0 SP xx and follow the instructions.

2. In SUM, install your add-on product using the stack XML file that you have created in the first procedure.

Result

You have successfully installed the front-end product version for this release.

Continue with the next section.

Parent topic: Install ABAP Front-End Server [page 78]

Previous: Verify Installation of Central SAP Fiori UI Component [page 80]

5.4 Verify SAP Notes and RINs (Post-Installation)

There are SAP Notes (corrections) that can only be implemented **after** you have installed the back-end product version and the front-end product version. You must therefore do this additional check and implement the required notes, before you move on to the setup steps for the applications.

Prerequisites

Make sure that you have the up-to-date version of each SAP Note, which you can always find on the SAP Support Portal at http://support.sap.com/notes.

Procedure

Check whether there are SAP Notes that can only be implemented *after the installation*. See the Implement SAP Notes for the Installation [page 34] section and do the following:

a. Always check the release information notes (RINs) indicated there. The RINs list the installation- and upgrade-relevant corrections that have become available since this guide was published and the software was released. Implement any corrections from the RINs that are required for your scenario.
b. Always check the table for SAP Customer Activity Repository. SAP Notes listed there are often common corrections, applicable to all consuming applications.
c. Then check the SAP Notes for your consuming application. Implement any corrections required for your scenario.

Task overview: Install the Software [page 64]

Previous: Install ABAP Front-End Server [page 78]

6 Set Up the Applications

You have installed the back-end components and front-end components of SAP Customer Activity Repository applications bundle. Now you must first do the setup steps under *SAP Customer Activity Repository* > *Core (Mandatory for All Applications)*. These steps are required for **all the applications**. Then you either continue with the setup steps under *SAP Customer Activity Repository* > *Advanced (Optional)* or do the setup steps for your application.

For **SAP Allocation Management**, first consult the information in section SAP Allocation Management. Then do the setup steps under *SAP Customer Activity Repository* > *Core (Mandatory for All Applications)*.

SAP Customer Activity Repository [page 85]
: First do the setup steps under *SAP Customer Activity Repository* > *Core (Mandatory for All Applications)*. Then you can continue with the setup steps under *SAP Customer Activity Repository* > *Advanced (Optional)* or do the setup steps for your application.

SAP Merchandise Planning [page 260]
: Post-installation setup for SAP Merchandise Planning

SAP Assortment Planning [page 311]
: Post-installation setup for SAP Assortment Planning

SAP Promotion Management [page 340]
: Using SAP Promotion Management functions

SAP Allocation Management [page 341]
: Post-installation setup for SAP Allocation Management

SAP Replenishment Planning [page 355]
: Post-installation setup for SAP Replenishment Planning

Configure Access to Documentation on SAP Help Portal (Optional for All Applications) [page 413]
: In transaction SR13, configure your ABAP back-end system to access documentation on SAP Help Portal.

Enable In-App Help [page 416]
: In-app help is available for several SAP Fiori apps of SAP Customer Activity Repository applications bundle. To enable the in-app help, you need to make it available in the SAP Fiori launchpad by setting up the underlying framework.

6.1 SAP Customer Activity Repository

First do the setup steps under *SAP Customer Activity Repository* > *Core (Mandatory for All Applications)*. Then you can continue with the setup steps under *SAP Customer Activity Repository* > *Advanced (Optional)* or do the setup steps for your application.

Core (Mandatory for All Applications) [page 86]

Perform the core steps to set up SAP Customer Activity Repository as the common platform. The core steps are mandatory **for SAP Customer Activity Repository** and **for all the consuming applications**.

Advanced (Optional) [page 124]
: After you have completed the core steps, perform the advanced steps that are relevant to your scenario. The advanced steps are optional. They enable specific functionality in SAP Customer Activity Repository.

Troubleshooting [page 241]
: Diagnose and resolve issues that may arise when you install, upgrade, and set up your scenario. If you need to report a customer incident, see the information at the end of this section.

6.1.1 Core (Mandatory for All Applications)

Perform the core steps to set up SAP Customer Activity Repository as the common platform. The core steps are mandatory **for SAP Customer Activity Repository** and **for all the consuming applications**.

> ⚠ Caution
>
> Always do the core steps first. Then you can continue with the *Advanced (Optional)* steps for SAP Customer Activity Repository or with the setup steps for your application.

1. Verify Back-End Users and Roles [page 87]
   Ensure that the required users on the **SAP HANA database** level and on the **back-end application** level have the privileges, roles, and authorizations required for your scenario.
2. Set Up Authorizations for On-Shelf Availability (OSA) [page 89]
   In SAP HANA studio, grant the `AFL__SYS_AFL_POSDM_AREA_EXECUTE` role to the `SAPHANADB` user in your back-end system. This short procedure is mandatory for **all the applications**, because it is required for the successful activation of the SAP HANA content later on.
3. Set Up Authorizations for Unified Demand Forecast (UDF) [page 90]
   In SAP HANA studio, create three roles for UDF and grant the required privileges. Then assign two roles to the `SAPHANADB` user (sometimes also called the `SAP<SID>` user) and one role to the `_SYS_REPO` standard user. This procedure is **mandatory for all the applications** because the authorizations are needed for the successful activation of the SAP HANA content later on.
4. Create/Replicate Source Master Data System Tables [page 94]
   Create the tables in SAP Customer Activity Repository that are required for replicating data from your source master data system. Then perform the actual replication of the data. You need SAP HANA studio and the SAP Landscape Transformation Replication Server (SLT) for this procedure. For reference, you can download a spreadsheet that lists the required tables for each source master data system (SAP Retail, SAP S/4HANA).
5. Activate SAP HANA Content [page 98]
   Activate the SAP HANA content for your scenario by running the `/CAR/ACTIVATE_HTA` report in the back-end system. This procedure is mandatory for all the applications. You can run the report as many times as required. For example, if you choose to extend your scenario at a later point in time, simply run the report again to activate the SAP HANA content for the added options.
6. Activate SAP HANA Content for Demand Data Foundation (DDF) [page 101]

If your scenario includes DDF services such as the calculation of distribution curves or the similar products search, do the steps described here to activate and deploy the required SAP HANA content packages. All steps are mandatory.

7. Activate SAP HANA Script Server [page 104]
   Activate the script server for the SAP HANA database. This step is mandatory for all the applications.
8. Configure Demand Data Foundation [page 105]
   Configure the DDF module in SAP Customer Activity Repository as required for your scenario.
9. Configure SAP Gateway [page 110]
   Perform several configuration steps for SAP Gateway and activate the OData services for the SAP Fiori apps. The steps to follow depend on the SAP NetWeaver version on your front-end server.

6.1.1.1 Verify Back-End Users and Roles

Ensure that the required users on the **SAP HANA database** level and on the **back-end application** level have the privileges, roles, and authorizations required for your scenario.

Prerequisites

- You are aware that user names in the **front-end application** must be the same as those in the SAP HANA database and the back-end application.
- You have performed the steps in section Verify SAP HANA User and Privileges [page 49].

Procedure

Ensure that your **back-end application user** has the following roles and authorizations:

User	Role / Authorization
<Your User Name>*	• SAP_ISR_DDF_MASTER • SAP_ISR_AP_MASTER • /RAP/BW_AP_WORKBOOKS • /RAP/BW_MPR_WORKBOOKS • In transaction **RS2HANA_VIEW**, set SAP HANA User Mapping to **C** (*DBMS user, else SAP HANA user with same name as BW user*). • In transaction **RS2HANA_CHECK**, verify that authorizations for generating SAP HANA views out of local BI Content objects are set up. Correct any resulting issues. For more information, see Authorizations for Generated SAP HANA Views . • If you need detailed information about PAK execution, the user profile must have the following parameters maintained. Be aware that as a result of the additional logging, these settings might slow down the performance. In transaction SU3, select the *Parameters* tab. Enter the parameter and the desired value as shown below and choose *Save*. **Parameter** / **Value** RSPLS_HDB_PE_TRACE / **Y**

More Information

For information on setting up front-end application users, see the following:

- For SAP Assortment Planning: Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad [page 334]
- For SAP Allocation Management: Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad [page 353]

Parent topic: Core (Mandatory for All Applications) [page 86]

Next: Set Up Authorizations for On-Shelf Availability (OSA) [page 89]

6.1.1.2 Set Up Authorizations for On-Shelf Availability (OSA)

In SAP HANA studio, grant the `AFL__SYS_AFL_POSDM_AREA_EXECUTE` role to the `SAPHANADB` user in your back-end system. This short procedure is mandatory for **all the applications**, because it is required for the successful activation of the SAP HANA content later on.

Context

The `AFL__SYS_AFL_POSDM_AREA_EXECUTE` role enables the `SAPHANADB` user to call the OSA application function library (part of the `SAP RTL AFL FOR SAP HANA` component) in the SAP HANA database.

Prerequisites

- You have mapped authoring schemas to physical schemas as described in Verify Correct Schema Mapping [page 55].
- You have installed the `SAP RTL AFL FOR SAP HANA` component as described in Download and Install SAP RTL AFL FOR SAP HANA [page 66].
- You have database administrator rights so that you can grant roles to users.
- You have an `SAPHANADB` user and an `SAPHANADB` physical schema in your SAP HANA database. **The names must be identical.**

> **i** Note
>
> The name `SAPHANADB` is used as a variable. Replace it with the name of the database user or database schema in your ABAP back-end system. Instead of `SAPHANADB`, you might also come across documentation or user interfaces that mention `SAPHANADB`. Both variables mean the same.
>
> For more information and an example, see the *Important Variables* in Naming Conventions [page 7].
>
> If you need more information on database users and schemas, see section Verify Correct Schema Mapping [page 55].

Procedure

> → Tip
>
> - If you encounter issues related to authorization or authentication, see section *Security-Related Issues* of the *SAP HANA Troubleshooting and Performance Analysis Guide*, which you can find at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM for your SAP HANA Platform version.
> - We have provided an example SQL statement below that you can adapt as needed for your system landscape.

1. In SAP HANA studio, access your back-end system and open the *SAP HANA Administration Console*.
2. Choose *Security* > *Users*.
3. Select your `SAPHANADB` user and open the user details (or double-click the user).
4. On the *Granted Roles* tab, choose the plus icon and select **`AFL__SYS_AFL_POSDM_AREA_EXECUTE`** as the role name.

   > **Example**
   >
   > SQL example: `grant AFL__SYS_AFL_POSDM_AREA_EXECUTE to SAPHANADB;`

5. Save your changes by choosing the *Deploy (F8)* icon at the top right.

Result

You have successfully set up the authorizations for OSA. Continue with the next section.

Parent topic: Core (Mandatory for All Applications) [page 86]

Previous: Verify Back-End Users and Roles [page 87]

Next: Set Up Authorizations for Unified Demand Forecast (UDF) [page 90]

6.1.1.3 Set Up Authorizations for Unified Demand Forecast (UDF)

In SAP HANA studio, create three roles for UDF and grant the required privileges. Then assign two roles to the `SAPHANADB` user (sometimes also called the `SAP<SID>` user) and one role to the `_SYS_REPO` standard user. This procedure is **mandatory for all the applications** because the authorizations are needed for the successful activation of the SAP HANA content later on.

Context

The three roles for UDF have the following purpose:

Role	Purpose
`UDF_EXECUTE`	Required to execute UDF. Enables the `SAPHANADB` user to call the UDF application function library (AFL) in the SAP HANA database.

Role	Purpose
UDF_DEPLOY	Required to activate the SAP HANA content for UDF. Enables the SAPHANADB user to deploy the SAP HANA content for UDF.
UDF_DEPLOY_SYS_REPO	Required to activate the SAP HANA content. Defines additional privileges for the _SYS_REPO standard user.

> **i Note**
>
> If you need more information on standard users (such as _SYS_REPO), see the following guides for your SAP HANA Platform version at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM:
>
> - *SAP HANA Security Guide*: Search for section *SAP HANA User Management*.
> - *SAP HANA Security Checklists and Recommendations*: Search for section *Recommendations for Database Users, Roles, and Privileges*.

Prerequisites

- You have mapped the authoring schemas to the physical schemas as described in Verify Correct Schema Mapping [page 55].
- You have installed the SAP RTL AFL FOR SAP HANA component as described in Download and Install SAP RTL AFL FOR SAP HANA [page 66].
- You have database administrator rights so that you can grant roles to users.
- You have an SAPHANADB user and an SAPHANADB physical schema in your SAP HANA database. **The names must be identical.**

  > **i Note**
  >
  > SAPHANADB is used as a variable. Replace it with the name of the database user or database schema in your ABAP back-end system.
  >
  > **Instead of** SAPHANADB**, you might also come across documentation or user interfaces that mention** SAP<SID>**. Both variables mean the same.**
  >
  > For more information and an example, see the *Important Variables* in Naming Conventions [page 7].
  >
  > If you need more information on database users and schemas, see Verify Correct Schema Mapping [page 55].

Procedure

→ Tip

- If you encounter issues related to authorization or authentication, see the *Security-Related Issues* section of the *SAP HANA Troubleshooting and Performance Analysis Guide*, which you can find at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM under *Operate*. Select your version at the top.
- We have provided example SQL statements below that you can adapt as needed for your system landscape.

1. In SAP HANA studio, log on to your back-end system and open the *SAP HANA Administration Console*.
2. Navigate to *Security* > *Roles* and select *New Role* from the context menu.
3. In the *Role Name* field, enter `UDF_EXECUTE`.

   Example

   SQL example: `create role UDF_EXECUTE;`
4. Make the following settings for this role:
   - On the *Granted Roles* tab: Choose the plus icon and select the `AFL__SYS_AFL_UDFCORE_AREA_EXECUTE` role from the list.

     Example

     SQL example: `grant AFL__SYS_AFL_UDFCORE_AREA_EXECUTE to UDF_EXECUTE;`
   - On the *Object Privileges* tab: Add the following catalog objects and grant them the following privileges:
     - Catalog object (schema name) `SAPHANADB`: privileges *SELECT*, *INSERT*, *UPDATE*, *DELETE*

       Example

       SQL example: `grant SELECT, INSERT, UPDATE, DELETE on schema SAPHANADB to UDF_EXECUTE;`
     - Catalog object (schema name) `_SYS_BIC`: privileges *SELECT*, *EXECUTE*

       Example

       SQL example: `grant SELECT, EXECUTE on schema _SYS_BIC to UDF_EXECUTE;`
   - On the *Analytic Privileges* tab: Add the `_SYS_BI_CP_ALL` privilege.

     Example

     SQL example:
     ```
     call GRANT_ACTIVATED_ANALYTICAL_PRIVILEGE('_SYS_BI_CP_ALL','UDF_EXECUTE');
     ```
5. Save your changes by choosing the *Deploy (F8)* icon at the top right.
6. Navigate to *Security* > *Users*.
7. Select the `SAPHANADB` user from the list and open the details screen (or double-click the user).
8. On the *Granted Roles* tab, add the `UDF_EXECUTE` role.

> ### Example
>
> SQL example: `grant UDF_EXECUTE to SAPHANADB`

9. Save your changes by choosing the *Deploy (F8)* icon at the top right.

> ### Note
>
> You have created the first role with the required privileges and granted the role to the SAPHANADB user.

10. Now create the second role. Navigate again to *Security* > *Roles* and select *New Role* from the context menu.
11. In the *Role Name* field, enter `UDF_DEPLOY`.

> ### Example
>
> SQL example: `create role UDF_DEPLOY;`

12. Make the following settings for this role:
    - On the *Granted Roles* tab: Choose the plus icon and select the `CONTENT_ADMIN` role from the list.

      > ### Example
      >
      > SQL example: `grant CONTENT_ADMIN to UDF_DEPLOY;`

    - On the *System Privileges* tab: Add the `CATALOG READ` privilege.

      > ### Example
      >
      > SQL example: `grant CATALOG READ to UDF DEPLOY;`

13. Save your changes by choosing the *Deploy (F8)* icon at the top right.
14. Navigate again to *Security* > *Users*.
15. Select the SAPHANADB user from the list and open the details screen (or double-click the user).
16. On the *Granted Roles* tab, add the `UDF_DEPLOY` role.

> ### Example
>
> SQL example: `grant UDF_DEPLOY to SAPHANADB;`

17. Save your changes by choosing the *Deploy (F8)* icon at the top right.

> ### Note
>
> You have created the second role and granted the role to the SAPHANADB user.

18. Now create the third role. Navigate again to *Security* > *Roles* and select *New Role* from the context menu.
19. In the *Role Name* field, enter `UDF_DEPLOY_SYS_REPO`.

> ### Example
>
> SQL example: `create role UDF_DEPLOY_SYS_REPO;`

20. On the *Object Privileges* tab, make these settings:
    Add the catalog object (schema name) `SAPHANADB` and grant the privileges *SELECT*, *INSERT*, *UPDATE*, and *DELETE*.

    > **Example**
    >
    > SQL example: `grant SELECT, INSERT, UPDATE, DELETE on schema SAPHANADB to UDF_DEPLOY_SYS_REPO;`

21. Save your changes by choosing the *Deploy (F8)* icon at the top right.
22. Navigate again to *Security* > *Users*.
23. Select the `_SYS_REPO` user from the list and open the details screen (or double-click the user).
24. On the *Granted Roles* tab, add the `UDF_DEPLOY_SYS_REPO` role.

    > **Example**
    >
    > SQL example: `grant UDF_DEPLOY_SYS_REPO to _SYS_REPO;`

25. Save your changes by choosing the *Deploy (F8)* icon at the top right.

    > **Note**
    >
    > You have created the third role with the required privileges and granted the role to the `_SYS_REPO` user.

Result

You have successfully set up the authorizations for UDF.

Parent topic: Core (Mandatory for All Applications) [page 86]

Previous: Set Up Authorizations for On-Shelf Availability (OSA) [page 89]

Next task: Create/Replicate Source Master Data System Tables [page 94]

6.1.1.4 Create/Replicate Source Master Data System Tables

Create the tables in SAP Customer Activity Repository that are required for replicating data from your source master data system. Then perform the actual replication of the data. You need SAP HANA studio and the SAP Landscape Transformation Replication Server (SLT) for this procedure. For reference, you can download a spreadsheet that lists the required tables for each source master data system (SAP Retail, SAP S/4HANA).

Prerequisites

- You have completed the previous procedures in this guide.
- You have installed the SAP Landscape Transformation Replication Server. For the minimum version required, installation, and implementation information, see Install the Prerequisites [page 19] and consult the *Common Prerequisites*.
- To be able to replicate the data from an SAP S/4HANA 1909 (or higher) system, you have performed the steps in SAP S/4HANA 1909 or Higher: Prepare Data Replication with SAP Landscape Transformation Replication Server [page 98].

Context

The applications in SAP Customer Activity Repository applications bundle can use data originating from a single or multiple source master data systems.

The list of tables to create and replicate depends on your leading source master data system:

- **SAP Retail:** for installations based on the SAP_ECC schema
- **SAP S/4HANA Retail:** for installations based on the SAP_S4H schema

In this procedure, you first create and then replicate the required tables.

> **i** Note
>
> It is possible to combine the steps *create* and *replicate*.

Procedure

1. **Download the spreadsheet with the SLT tables for your version of SAP Customer Activity Repository applications bundle:**
   a. Navigate to SAP Help Portal at https://help.sap.com/viewer/p/CARAB and select your version at the top.
   b. Choose *Implement* > *Implementation Help* > *SLT Tables for SAP Customer Activity Repository applications bundle 5.0* and download the archive.
   c. Extract the spreadsheet and see the tables listed for your source master data system.
2. > **⚠** Caution
   >
   > You must always create and replicate **all the tables** listed for your source master data system in the spreadsheet. This is necessary not only for the data replication itself but also for the successful activation of the SAP HANA content later on.

   Create all the tables listed for your source master data system.
   a. Configure access from the SAP Landscape Transformation Replication Server to the source SAP Retail or SAP S/4HANA Retail system (RFC connection), and from the SAP Landscape Transformation

Replication Server to the target SAP HANA database of your SAP Customer Activity Repository back-end system.

For more information, see the *Installation Guide* at https://help.sap.com/slts4hana. If necessary, select a different version at the top.

b. Ensure that your SAP Customer Activity Repository back-end system is connected to SAP HANA studio.

If necessary, set the connection as follows:

1. Log on to SAP HANA studio.
2. Right-click in the *Navigator* pane and select *Add System*.
3. In the *Specify System* dialog, enter the *Host Name*, *Instance Number*, and *Description*.
4. In the *Connection Properties* dialog, enter your system *User Name* and *Password*.
5. Save your changes.

c. Ensure that the database schemas are created on the SAP HANA database of your back-end system. These are the schemas on your SAP HANA database to which the SAP Retail and/or SAP S/4HANA data will be replicated.

> **i Note**
>
> For more information, see the Create a Schema section of the *SAP HANA Developer Guide*.

d. Create **all the tables** for your source master data system.

1. Log on to the SAP Landscape Transformation Replication Server.
2. Execute transaction **LTRC** (*SAP LT Replication Server Cockpit)*).
3. Define and select your replication configuration.

> **i Note**
>
> For more information, see *SAP Library* at https://help.sap.com/slts4hana. Search for section *Creating a Configuration*.

4. Choose `Execute (F8)`. A screen opens that shows the details of this replication configuration.
5. Select the *table overview* tab. You can now see the *data provisioning* function.
6. Execute the *table overview* function. On the subsequent pop-up, select the function for table creation.
7. Choose the multiple selection push-button next to the table name field.
8. In the next screen, you can either enter the table names manually or upload a text file with the table names (recommended):
   Create this text file from the spreadsheet that you downloaded before. Make sure that the text file contains only the table names and no other data. Then upload the text file.
9. Choose `Copy (F8)` to return to the previous screen.
10. Choose `Execute (F8)` to trigger the creation of the tables.

You have successfully created the tables in your SAP Customer Activity Repository back-end system.

3. **Replicate all the tables listed for your source master data system.**

> **i Note**
>
> If your SAP Retail or SAP S/4HANA Retail system and your back-end SAP Customer Activity Repository system are co-deployed on the same SAP HANA database, you do not need to replicate the tables.

a. Save a CSV file of the required tables. You will later load the tables from this file.
b. In SAP HANA studio, choose *Window* > *Perspective* > *Open Perspective* > *SAP HANA Modeler*.
c. In the *Quick View* panel, choose *Data Provisioning* to open the *Data Provisioning Editor* for your system.

   If the *Quick View* panel is not displayed, choose *Help* > *Quick View*.
d. In the *Data Provisioning Editor*, make any necessary adjustments: remove or add tables, select the appropriate source system, and select the target schema for the replication.
e. Choose *Replicate* to open the *Replicate Request* screen.
f. Choose *Load from file*, browse to the location where you saved the CSV file, and select it.
g. The tables in the file are added to the *Selected* column on the right-hand side. Choose *Finish*.

> **i Note**
>
> In the *Data Provisioning Editor*, you can monitor the action status of the tables using *Data Load Management*.

Results

You have successfully replicated the tables from your source master data system into your SAP Customer Activity Repository back-end system. Continue with the next section.

Task overview: Core (Mandatory for All Applications) [page 86]

Previous: Set Up Authorizations for Unified Demand Forecast (UDF) [page 90]

Next task: Activate SAP HANA Content [page 98]

6.1.1.4.1 SAP S/4HANA 1909 or Higher: Prepare Data Replication with SAP Landscape Transformation Replication Server

Only perform this procedure if your source master data system is SAP S/4HANA 1909 or higher. If so, you must do the steps described here before doing the actual replication.

Context

To be able to replicate data from your SAP S/4HANA system into SAP Customer Activity Repository, you first need to prepare the replication as described below.

This preparation has the added advantage that it gives you the option to use a standalone SAP LT Replication Server.

Procedure

Prepare data replication from SAP S/4HANA 1909 or higher to SAP Customer Activity Repository, using an embedded or a standalone SAP LT Transformation Server:

1. Pause your current SLT replication routine with the SAP LT Replication Server.
2. Upgrade your source master data system to SAP S/4HANA 1909 or higher as described in the corresponding product documentation. For more information, see SAP Help Portal for SAP S/4HANA 1909. Consult the *Upgrade Guide* and, if applicable, also the *Conversion Guide*.
   If necessary, select a different version at the top.
3. If you use SAP Landscape Transformation Replication Server 2.0 (DMIS 2011) or SAP Landscape Transformation Replication Server 3.0 (DMIS 2018) as a standalone system, then implement SAP Note 2857334 (*Unsupported data type DECFLOAT34 / D34N when replicating from a S/4 HANA OP1909 system*) in your SAP S/4HANA system.
4. Adjust your SLT configuration as described in the note.
5. Now you can resume the data replication. Return to section Create/Replicate Source Master Data System Tables [page 94] and follow the instructions.

6.1.1.5 Activate SAP HANA Content

Activate the SAP HANA content for your scenario by running the `/CAR/ACTIVATE_HTA` report in the back-end system. This procedure is mandatory for all the applications. You can run the report as many times as required. For example, if you choose to extend your scenario at a later point in time, simply run the report again to activate the SAP HANA content for the added options.

Prerequisites

You have successfully completed all the previous procedures in this guide.

Context

The `/CAR/ACTIVATE_HTA` report activates the SAP HANA Transport for ABAP (HTA) objects for your scenario. For more information on the report, see the accompanying documentation in transaction `SE38`.

> → Tip
>
> If you encounter issues during the activation, see the Troubleshooting [page 241] section for possible solutions.

Procedure

1. Start transaction `SE38`.
2. Enter **`/CAR/ACTIVATE_HTA`** as the program (report) and choose *Execute* (F8).
3. On the *Activate SAP HANA Content for SAP CARAB* screen, select all the options for which you wish to activate the SAP HANA content. Use the following table for reference:

> ⚠ Caution
>
> **Always activate the SAP HANA content for SAP Customer Activity Repository first.** This content must be active before you can activate the content for additional options.

> → Tip
>
> If the SAP HANA content is already active for an option, you can see this directly on the screen.

To activate the SAP HANA content for...	Select at least these options...

SAP Customer Activity Repository	• *ECC Mode*: Select your source master data system.
	• *Scenario Options*:
	  • If your system landscape includes **more than one** SAP ERP or SAP S/4HANA system, select either *Multiple SAP ERP* or *Multiple S/4HANA*, respectively.
	  • If you want to use multichannel sales analytics apps, then select *Multichannel Sales Analytics*.
	• *Business Scenarios Activation*: Select *Customer Activity Repository*.

To activate the SAP HANA content for...	Select at least these options...
SAP Allocation Management	Follow the instructions in Activate SAP HANA Content for SAP Allocation Management [page 342].
Demand Data Foundation (DDF services such as the similar products search or the calculation of distribution curves without using SAP Allocation Management)	1. Run the report with these settings: • *ECC Mode*: Select your source master data system. • *Scenario Options*: If your system landscape includes **more than one** SAP ERP or SAP S/4HANA system, select either *Multiple SAP ERP* or *Multiple S/4HANA*, respectively. • *Business Scenarios Activation*: Select *Customer Activity Repository* and *Demand Data Foundation*. 2. Follow the instructions in Activate SAP HANA Content for Demand Data Foundation (DDF) [page 101].
SAP Assortment Planning	No action required. The SAP HANA content was already activated automatically during the installation of the back-end product version.
Unified Demand Forecast (UDF) and SAP Fiori apps for demand forecasting	No action required. The SAP HANA content was already activated automatically during the installation of the back-end product version.
On-Shelf Availability	• *ECC Mode*: Select your source master data system. • *Business Scenarios Activation*: Select *On-Shelf Availability* and *Customer Activity Repository*.
Omnichannel Article Availability and Sourcing (OAA)	• *ECC Mode*: Select your source master data system. • *Business Scenarios Activation*: Select *Omnichannel Article Availability*.
SAP Merchandise Planning	No action required. The SAP HANA content was already activated automatically during the installation of the back-end product version.
SAP Replenishment Planning	There is no specific SAP HANA content for SAP Replenishment Planning. However, if you use the real-time inventory, select at least these options: • *ECC Mode*: Select your source master data system. • *Scenario Options*: If your system landscape includes **more than one** SAP ERP or SAP S/4HANA system, select either *Multiple SAP ERP* or *Multiple S/4HANA*, respectively. • *Business Scenarios Activation*: Select *Customer Activity Repository* and *Demand Data Foundation*.
SAP Promotion Management	No action required.

4. Do a test run to verify your selections:
   a. Select *Perform Prerequisite Check* and choose *Execute* (F8).

b. Read the system log and first resolve any issues found during the check. See the Troubleshooting [page 241] section for possible solutions.

5. Activate the SAP HANA content for real:
   a. Deselect *Perform Prerequisite Check*.
   b. Choose *Execute* (F8) to run the report again.
6. Verify that the activation was successful. There are three ways how you can do this:
   a. Simply rerun the report. You can see all the options that are now active.
   b. Or: Start transaction `SCTS_HTA_DEPLOY`. Specify an SAP HANA content package (for example, `sap.is.retail`), select *Include subpackages*, and choose *Execute* (F8). You can get a list of all the packages and objects, including their respective status, activation date, and more.
   c. Or: Navigate to the desired package in SAP HANA studio or SAP Web IDE and check whether all its views are active.

Results

You have successfully activated the SAP HANA content for your scenario. Continue with the next section.

> → Remember
>
> You can run the report again whenever you need to activate additional SAP HANA content packages.

Task overview: Core (Mandatory for All Applications) [page 86]

Previous task: Create/Replicate Source Master Data System Tables [page 94]

Next: Activate SAP HANA Content for Demand Data Foundation (DDF) [page 101]

6.1.1.6 Activate SAP HANA Content for Demand Data Foundation (DDF)

If your scenario includes DDF services such as the calculation of distribution curves or the similar products search, do the steps described here to activate and deploy the required SAP HANA content packages. All steps are mandatory.

> ⚠ Caution
>
> If you wish to calculate distribution curves for SAP Allocation Management (that is, for the "distribution curve analysis"), skip the steps below and follow the instructions in Activate SAP HANA Content for SAP Allocation Management [page 342].

Run the Report for Creating the Dummy Schema and Dummy Tables

The `/DMF/CREATE_SLT_TABLES` (*Create SLT Tables*) report checks for a missing physical schema and, if necessary, creates this as a dummy schema together with the corresponding dummy tables.

Prerequisites

You have an SAP HANA database user in the ABAP back-end system with the authorization to create the dummy schema (that is, the `SAPHANADB` user requires the `CREATE ANY` privilege on schema `_SYS_BIC`). This should already be the case if the authorizations were set up as described in section Verify SAP HANA Users and Privileges [page 49].

Procedure

1. Run the report `/DMF/INSERT_SLT_TABLES_TO_DB` (*Insert SLT Table Entries to Database* in insert mode (by deselecting the simulation setting).
2. In your ABAP back-end system, start transaction `SE38`. Enter `/DMF/CREATE_SLT_TABLES` as the program and choose *Execute*.
3. Select your source master data system. For SAP S/4HANA, also select the version.
4. For the *Physical Source Schema*, enter the name of the physical schema into which your SLT tables should be replicated.

   > **i** Note
   >
   > If the physical source schema already exists in the SAP HANA database, only the dummy tables in this schema are created when you execute the report.

5. For the *Physical Dummy Schema*, enter the name of the schema to be created.
6. Select the simulation mode for a test run and execute the report. Check for errors in the application log and resolve them.
7. Run the report again, this time without simulation mode.

Maintain Schema Mapping

Check the name of your physical schema:

1. If it is one of the default names below, no further action is required:
   - `SAP_S4H`, for SAP S/4HANA
   - `SAP_ECC`, for SAP Retail and SAP Fashion Management
2. If your physical schema has a **different name**, do the following:
   In SAP HANA studio, create a schema mapping where your customer-specific name is used as the authoring schema for the physical schema. For instructions, see Verify Correct Schema Mapping [page 55].

Set PREWORK_DONE Indicator for DDF Packages

Demand Data Foundation (DDF) has a number of SAP HANA content packages that are relevant:

- sap.is.ddf.ecc
- sap.is.ddf.fms
- sap.is.ddf.fms_s4h
- sap.is.ddf.cross.ecc
- sap.is.ddf.cross.fms
- sap.is.ddf.cross.fms_s4h
- sap.is.ddf.cross
- sap.is.ddf.deps
- sap.is.ddf.dc

These packages have the activation mode P (*Package and its objects deployed only after prework done*). In this procedure, you confirm that the prework has been done. You do this by setting the PREWORK_DONE indicator in the CTS_HOT_PREWORK table to X for all the packages above.

Procedure

1. Start transaction SE16, enter CTS_HOT_PREWORK as the table, and choose *Execute*.
2. Enter **sap.is.ddf.*** as ABAP_HANA_PACKAGE_ID and choose *Execute*.
3. You now see a list that includes the DDF packages above. Switch to change mode to edit the entries.
4. Check whether all of the DDF packages above have the PREWORK_DONE indicator set to X.
5. If the setting is still missing for one of the DDF packages above, double-click the entry and set PREWORK_DONE to **X**.
6. Save your changes.

> **i** Note
>
> Here is how you can always check the current settings and display details for each package:
>
> 1. Start transaction SE16, enter CTS_HOT_PACKAGE as the table, and choose *Execute*.
> 2. Enter **sap.is.ddf.*** as ABAP_HANA_PACKAGE_ID and choose *Execute*.
> 3. You now see a list that includes the DDF packages above. For each of the DDF packages above, double-click the entry to display the package details.
> 4. For each package, verify the current setting in field HOT ACTIVATION MODE (set to P).

Check and Activate the SAP HANA Content for Demand Data Foundation (DDF)

Depending on your scenario, there might still be inactive DDF packages even though you have already activated the content as described in the previous section (Activate SAP HANA Content [page 98]).

Now you make sure that those packages are activated as well.

Procedure

1. Execute transaction `SCTS_HTA_DEPLOY` (*SAP HANA Transport for ABAP - Deployment*).
2. Deploy each of the following packages **in exactly the same order** as listed below. One by one, enter the package ID in *SAP HANA Repository Package* and choose *Execute*.

   > ⚠ Caution
   >
   > **Do not select** the *Include subpackages* option.

   1. `sap.is.ddf.ecc`
   2. `sap.is.ddf.fms`
   3. `sap.is.ddf.fms_s4h`
   4. `sap.is.ddf.cross.ecc`
   5. `sap.is.ddf.cross.fms`
   6. `sap.is.ddf.cross.fms_s4h`
   7. `sap.is.ddf.cross`
   8. `sap.is.ddf.deps`
   9. `sap.is.ddf.dc`

Result

You have successfully activated and deployed the SAP HANA content packages for Demand Data Foundation.

Parent topic: Core (Mandatory for All Applications) [page 86]

Previous task: Activate SAP HANA Content [page 98]

Next task: Activate SAP HANA Script Server [page 104]

6.1.1.7 Activate SAP HANA Script Server

Activate the script server for the SAP HANA database. This step is mandatory for all the applications.

Context

The script server is an auxiliary SAP HANA server that is required to execute application function libraries (AFLs). For example, this applies to the `SAP HANA AFL` component (which includes the SAP HANA Predictive Analysis Library (PAL) and other libraries) and to the `SAP RTL AFL FOR SAP HANA` component (which includes the libraries for Unified Demand Forecast and On-Shelf Availability).

> **Note**
>
> - The service name is `scriptserver`.
> - The operating system process is `hdbscriptserver`.
> - The operating system process can be started while the SAP HANA database is already running.

Procedure

1. In SAP HANA studio, verify that the script server is active.
2. If the script server is not active, restart it manually as described in SAP Note 1650957 (*SAP HANA Database: Starting the Script Server*).

Task overview: Core (Mandatory for All Applications) [page 86]

Previous: Activate SAP HANA Content for Demand Data Foundation (DDF) [page 101]

Next: Configure Demand Data Foundation [page 105]

6.1.1.8 Configure Demand Data Foundation

Configure the DDF module in SAP Customer Activity Repository as required for your scenario.

Required Configuration

The configuration of DDF is mandatory for the following scenarios:

- You want to model and forecast demand using the UDF module in SAP Customer Activity Repository.
- You want to use the Omnichannel Promotion Pricing (OPP) module in SAP Customer Activity Repository.
- You want to use SAP Allocation Management.
- You want to use SAP Assortment Planning.
- You want to use SAP Merchandise Planning.
- You want to use SAP Promotion Management.
- You want to use SAP Replenishment Planning.

> **Note**
>
> The configuration of DDF is optional for the following SAP Customer Activity Repository scenarios:
>
> - POS Data Transfer and Audit
> - Multichannel Transaction Data Management

- Inventory Visibility (including Omnichannel Article Availability and Sourcing, OAA)
- On-Shelf Availability

For additional configuration and integration information, see the following sources:

- In the application help for SAP Customer Activity Repository at http://help.sap.com/viewer/p/CARAB, search for section *Master Data Replication from SAP ERP to Demand Data Foundation*.
- In the *SAP Customer Activity Repository Administration Guide*, see section *Configure Demand Data Foundation (DDF)* and section *Configure Data Replication from SAP ERP to DDF*.

> **i** Note
>
> If you encounter issues during the configuration, see the Troubleshooting [page 241] section for possible solutions.

Overview of DDF Configuration Tasks

1. Perform General Demand Data Foundation Configuration [page 107]
   Perform various configuration steps in Customizing for DDF. DDF must be fully configured and operational for all the scenarios for which it is mandatory.
2. Activate Services [page 107]
   Activate services for DDF using transaction `SICF`.
3. Configure Automatic Flattening of Hierarchies [page 108]
   Configure the system so it automatically creates and updates flat structures for the product and location hierarchies in DDF. The flat structures are required so that the consuming applications can correctly recognize the hierarchies.
4. Import SAP NetWeaver Portal Roles for DDF [page 109]
   Set up user authorizations for DDF using the `PFCG` roles from the SAP NetWeaver Business Client (NWBC) and from the SAP NetWeaver Portal (optional). Both sets of roles operate in the same manner.
5. Check Performance-Related Configuration Options (Optional) [page 110]
   Use additional configuration options for Demand Data Foundation (DDF) to optimize performance for different use cases.

Parent topic: Core (Mandatory for All Applications) [page 86]

Previous task: Activate SAP HANA Script Server [page 104]

Next: Configure SAP Gateway [page 110]

6.1.1.8.1 Perform General Demand Data Foundation Configuration

Perform various configuration steps in Customizing for DDF. DDF must be fully configured and operational for all the scenarios for which it is mandatory.

Procedure

1. Perform all of the Customizing activities that are required for DDF.
   For more information, see the *Configure Demand Data Foundation (DDF)* section of the *SAP Customer Activity Repository Administration Guide*.

Parent topic: Configure Demand Data Foundation [page 105]

Next: Activate Services [page 107]

6.1.1.8.2 Activate Services

Activate services for DDF using transaction `SICF`.

Procedure

1. Execute transaction `SICF`.
2. On the Maintain Service screen, expand the *Virtual Hosts/Services* node and activate all of the following services:
   1. `default_host sap bc nwbc*`
   2. `default_host sap bc webdynpro sap POWL*`
   3. `default_host sap bc webdynpro dmf*`
   4. `default_host sap public bc*`
   5. `default_host sap public myssocntl`
   6. `default_host sap bc Gui sap Its / webgui`
      *Activate all services.

Parent topic: Configure Demand Data Foundation [page 105]

Previous: Perform General Demand Data Foundation Configuration [page 107]

Next task: Configure Automatic Flattening of Hierarchies [page 108]

6.1.1.8.3 Configure Automatic Flattening of Hierarchies

Configure the system so it automatically creates and updates flat structures for the product and location hierarchies in DDF. The flat structures are required so that the consuming applications can correctly recognize the hierarchies.

Context

Flat structures describe the parent-child relationships of hierarchies in a flattened format. A hierarchy can be vertically or horizontally flattened. Each row of the resulting flat structure contains one parent-child relationship.

When you create (or update) a product hierarchy, product group, location hierarchy, or location group in Demand Data Foundation (DDF), the system should create (or update) the corresponding flat structure. Without this, you get hierarchy errors in the consuming applications.

To configure the automatic flattening of hierarchies, follow these steps:

Procedure

1. Carefully read SAP Note 1425876 and follow the instructions.
2. Execute transaction **SWETYPV** and ensure that you have activated all required event type linkages and have enabled the specified event queues. In particular, check that the *Linkage Activated* and *Enable Event Queue* options are for each of the following events: `LOCATION_CREATED`, `LOCATION_UPDATED`, `CREATE_LOC_HIER`, `CREATE_PROD_HIER`. If you need to change a setting, you can do so in the *Details* screen of each event.

   For more information about event handling, see SAP Note 1098805, in particular sections *Events* and *Transactions for troubleshooting*.

Results

You have set up the automatic flattening of the hierarchies. When you now create (or update) a hierarchy, the system will automatically run the `/DMF/TREE_FLATTENER_PROD_INS` report (for product hierarchies) or the `/DMF/TREE_FLATTENER_LOC_INS` report (for location hierarchies) and create (or update) the corresponding flat structure.

Task overview: Configure Demand Data Foundation [page 105]

Previous: Activate Services [page 107]

Next: Import SAP NetWeaver Portal Roles for DDF [page 109]

6.1.1.8.4 Import SAP NetWeaver Portal Roles for DDF

Set up user authorizations for DDF using the PFCG roles from the SAP NetWeaver Business Client (NWBC) and from the SAP NetWeaver Portal (optional). Both sets of roles operate in the same manner.

Use

The roles have been designed for use in SAP NetWeaver Business Client. To use the functions of these roles in SAP NetWeaver Portal, you must upload the roles from the SAP back-end system to the portal. The uploaded objects are converted into portal objects.

Procedure

1. Use the *Role Upload* tool to generate the SAP NetWeaver Portal roles automatically. For information about this tool, see SAP Note 1685257.
   You can also enhance the SAP NetWeaver Portal roles; for example, you can create your own iViews.
   You can upload the following roles for DDF:
   - `SAP_ISR_DDF_MASTER`
   - `SAP_ISR_DDF_READONLY_MASTER`

For descriptions of these roles and information about maintaining roles in SAP Customer Activity Repository, see section *Authorizations* in the *SAP Customer Activity Repository Administration Guide*.

Parent topic: Configure Demand Data Foundation [page 105]

Previous task: Configure Automatic Flattening of Hierarchies [page 108]

Next: Check Performance-Related Configuration Options (Optional) [page 110]

6.1.1.8.5 Check Performance-Related Configuration Options (Optional)

Use additional configuration options for Demand Data Foundation (DDF) to optimize performance for different use cases.

Procedure

See the following options and implement those that are relevant for you:

Use Case	Configuration Option
You have a great number of products and locations, so that the resulting tables are very large.	Consider table partitioning. For information, see the *Partition Tables for UDF and DDF* section of the *SAP Customer Activity Repository Administration Guide*.
You want to optimize workload distribution.	Consider setting up load balancing. For information, see https://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Application Help* ▶ *SAP Customer Activity Repository* ▶ *Demand Data Foundation* ▶ *General Services* ▶ *Configure Load Balancing* ▶.
You are using DDF together with UDF to model and forecast consumer demand.	Optimize performance for modeling and forecasting processes. For information, see the Optimize UDF Performance*Optimize UDF Performance* section of the *SAP Customer Activity Repository Administration Guide*.

Parent topic: Configure Demand Data Foundation [page 105]

Previous: Import SAP NetWeaver Portal Roles for DDF [page 109]

6.1.1.9 Configure SAP Gateway

Perform several configuration steps for SAP Gateway and activate the OData services for the SAP Fiori apps. The steps to follow depend on the SAP NetWeaver version on your front-end server.

Perform General SAP Gateway Configuration [page 111]
: Make several general configuration settings (for example, set profile parameters, activate ICF services, or make language settings). The settings may vary depending on the SAP NetWeaver version installed on your front-end server, or on other specifics related to your system landscape.

Connect SAP Gateway to Your Back-End System [page 112]
: Set up the connection between SAP Gateway on your front-end server and your back-end system. In other words, set up the OData Channel (ODC).

Activate SAP Gateway [page 113]
: Before you can use SAP Gateway, you must activate it globally on your front-end server.

Activate OData Services [page 114]
: First activate all the common OData services for SAP Fiori (mandatory). Then select the OData services for the application and SAP Fiori apps that you wish to use and activate these services as well.

Configure SAP Fiori Launchpad [page 120]
: Perform the general configuration of SAP Fiori launchpad. You must do this before you can set up the SAP Fiori apps for your application.

Calculate SAPUI5 Application Index for SAP Fiori Apps [page 122]
: Configure and run the `/UI5/APP_INDEX_CALCULATE` (*Calculation of SAPUI5 Application Index for SAPUI5 Repositories*) report in your front-end system. The report updates the SAPUI5 application index. If the index is up-to-date, the system can find data related to SAP Fiori apps significantly faster.

Parent topic: Core (Mandatory for All Applications) [page 86]

Previous: Configure Demand Data Foundation [page 105]

6.1.1.9.1 Perform General SAP Gateway Configuration

Make several general configuration settings (for example, set profile parameters, activate ICF services, or make language settings). The settings may vary depending on the SAP NetWeaver version installed on your front-end server, or on other specifics related to your system landscape.

Use

The steps are not specific to this guide and are described in the product documentation of your SAP NetWeaver version.

Procedure

1. Determine the SAP NetWeaver version on your front-end server.
2. Consult the product documentation for your SAP NetWeaver version to determine what settings to make. For SAP Gateway for SAP NetWeaver 7.52, see https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 and choose ▶ *<Version>* ▶ *Application Help* ▶ *SAP Gateway Foundation (SAP_GWFND)* ▶ *SAP Gateway Foundation Configuration Guide* ▶ *General Configuration Settings* ▶.

3. Perform the general SAP Gateway configuration specific to your SAP NetWeaver version.

> **i Note**
>
> If you encounter issues, see SAP Note 1797736 (*SAP Gateway Troubleshooting Guide*) for possible solutions.

6.1.1.9.2 Connect SAP Gateway to Your Back-End System

Set up the connection between SAP Gateway on your front-end server and your back-end system. In other words, set up the OData Channel (ODC).

Use

The steps are not specific to this guide and are described in the product documentation for your SAP NetWeaver version.

> **i Note**
>
> As of SAP NetWeaver 7.40, the major components of SAP Gateway have been integrated into the SAP NetWeaver system as SAP Gateway Foundation (`SAP_GWFND`). SAP Gateway Foundation has since been an integral part of SAP NetWeaver.

Procedure

1. Determine the SAP NetWeaver version on your front-end server.
2. Set up the OData Channel as described in the *SAP Gateway Foundation Configuration Guide* for your SAP NetWeaver version.
   Use SAP Help Portal for SAP NetWeaver as your entry point and navigate to the guide for your version.
   Here are two examples:

   > **Example**
   >
   > For SAP Gateway on Foundation for ABAP Platform, see the SAP Gateway Foundation Configuration Guide.
   >
   > If required, select a different version at the top.
   >
   > Search for section *Connection Settings for the SAP Gateway Hub System* and follow the instructions.

   > **Example**
   >
   > For SAP Gateway for SAP NetWeaver 7.52, see https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752.

> Select your version at the top and choose *Application Help* > *SAP Gateway Foundation (SAP_GWFND)* > *SAP Gateway Foundation Configuration Guide* > *SAP Gateway Configuration* > *User, Developer, and Administrator Roles* and *Connection Settings for the SAP Gateway Hub System*.

3. Set up the required roles on the front-end server and assign your user to these roles.
4. Specify the connection settings on the SAP Gateway hub system:
   - Connection from SAP Gateway to consumer systems
     These settings allow you to connect the SAP Gateway host to the consumer systems (clients from which you access the SAP Fiori apps).
   - Connection from SAP Gateway to SAP back-end system
     These settings allow you to connect SAP Gateway to your back-end system. They include the following steps:
     - Creating a type 3 connection from the SAP Gateway host to your back-end system
     - Defining a trust relationship between your back-end system and the SAP Gateway host
     - Configuring your back-end system to accept SAP assertion tickets from the SAP Gateway host
     - Configuring your SAP Gateway host to accept SAP assertion tickets from your back-end system
     - Configuring the necessary system aliases

6.1.1.9.3 Activate SAP Gateway

Before you can use SAP Gateway, you must activate it globally on your front-end server.

Use

The steps are not specific to this guide and are described in the product documentation for your SAP NetWeaver version.

> ℹ Note
>
> As of SAP NetWeaver 7.40, the major components of SAP Gateway have been integrated into the SAP NetWeaver system as SAP Gateway Foundation (`SAP_GWFND`). SAP Gateway Foundation has since been an integral part of SAP NetWeaver.

Procedure

1. Determine the SAP NetWeaver version on your front-end server.
2. Follow the steps in the *Activating SAP Gateway* section of the *SAP Gateway Foundation Configuration Guide* for your SAP NetWeaver version.

Use SAP Help Portal for SAP NetWeaver as your entry point and navigate to the guide for your version. Here are two examples:

> **Example**
>
> For SAP Gateway on Foundation for ABAP Platform, see the SAP Gateway Foundation Configuration Guide.
>
> If required, select a different version at the top.
>
> Search for section *Activating SAP Gateway* and follow the instructions.

> **Example**
>
> For SAP Gateway for SAP NetWeaver 7.52, see https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752.
>
> Select your version at the top and choose *Application Help* > *SAP Gateway Foundation (SAP_GWFND)* > *SAP Gateway Foundation Configuration Guide* > *SAP Gateway Configuration* > *Activating SAP Gateway*.

6.1.1.9.4 Activate OData Services

First activate all the common OData services for SAP Fiori (mandatory). Then select the OData services for the application and SAP Fiori apps that you wish to use and activate these services as well.

Context

For security reasons, the OData services are delivered in an inactive state:

- The **common OData services** are delivered as part of the SAP Fiori front-end server. They are required for the SAP Fiori launchpad and you must always activate them.
- The **application-specific OData services** are delivered with SAP Customer Activity Repository applications bundle. You only need to activate the services that are relevant for your application and scenario.

Procedures

Mandatory: Activate Common OData Services for SAP Fiori

1. Log on to your front-end server (your SAP Gateway system).
2. In transaction SPRO, navigate to *SAP Reference IMG* > *SAP NetWeaver* > *SAP Gateway* > *OData Channel* > *Administration* > *General Settings* > *Activate and Maintain Services* and execute the Customizing activity.

> → Tip
>
> As a shortcut to the same screen, use transaction `/n/IWFND/MAINT_SERVICE`.

The *Service Catalog* shows you all the services that are currently active in your SAP Gateway system.

3. To add and activate more services, choose *Add Service*.
   The *Add Selected Services* screen is displayed.
4. In *System Alias*, select the alias of your local back-end system.
   This is the alias that you have created in Connect SAP Gateway to your Back-End System [page 112]. For example, `LOCAL`.
5. In *Technical Service Name*, specify **`/UI2*`**.
6. Choose *Get Services* (or press ENTER).
7. Select all the common OData services for SAP Fiori:

Common OData Services for SAP Fiori
`/UI2/PAGE_BUILDER_CONF`
`/UI2/PAGE_BUILDER_CUST`
`/UI2/PAGE_BUILDER_PERS`
`/UI2/TRANSPORT`
`/UI2/INTEROP`

8. Choose *Add Selected Services* and follow the instructions.

Result

The common OData services are now active in your SAP Gateway system.

Activate Application-Specific OData Services for SAP Customer Activity Repository applications bundle

1. Log on to your front-end server (your SAP Gateway system).
2. In transaction `SPRO`, navigate to *SAP Reference IMG* > *SAP NetWeaver* > *SAP Gateway* > *OData Channel* > *Administration* > *General Settings* > *Activate and Maintain Services* and execute the Customizing activity.

> → Tip
>
> As a shortcut to the same screen, use transaction `/n/IWFND/MAINT_SERVICE`.

The *Service Catalog* shows you all the services that are currently active in your SAP Gateway system.

3. Activate the services that are required for your application:
   1. Choose *Add Service*.
      The *Add Selected Services* screen is displayed.
   2. In *System Alias*, select the alias of your back-end system.
   3. Choose *Get Services* (or press ENTER).
      The available services are displayed.

4. Use the following table for reference and select the services for your application:

> → Tip
>
> You can also see the required OData services for each app in the SAP Fiori Reference Library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/. Search for the app name, choose *IMPLEMENTATION INFORMATION*, and select a delivery. The OData services are listed under *Configuration*.

For this Application...	Activate These OData Services...

SAP Customer Activity Repository	• For POS Data Transfer and Audit: No OData services for SAP Gateway
	• For Multichannel Transaction Data Management: No OData services for SAP Gateway
	• For Unified Demand Forecast and the apps for demand forecasting (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*):
	  • `/DMF/ANALYZEFORECAST_SRV`
	  • `/DMF/DEMAND_PLAN_UTILITIES_SRV`
	  • `/DPL/OD_ADJUST_FORECAST_SRV`
	  • `/DPL/OD_DEMAND_PLANNING_SRV`
	  • `/DMF/OD_FC_TIME_SERIES_VIZ_SRV`
	• For Demand Data Foundation (optional; alternative to using the DRF data replication framework for importing master data):
	  • `/DMF/API_DOCUMENT`
	  • `/DMF/API_GENERIC_TIME_SERIES`
	  • `/DMF/API_INVENTORY`
	  • `/DMF/API_LOCATION`
	  • `/DMF/API_LOCATION_HIERARCHY`
	  • `/DMF/API_PRODUCT`
	  • `/DMF/API_PRODUCT_HIERARCHY`
	  • `/DMF/API_PRODUCT_LOCATION`
	  • `/DMF/API_SALES_HISTORY`
	  • `/DMF/API_TRANSPORTATION_LANE`
	  • `/DMF/API_ATTRIBUTES`
	  • `/DMF/API_IMAGES`
	  • `/DMF/API_MERCHANDISE_PLAN_KPI`
	  • `/DMF/API_PHPS`
	• For the *Manage Product Attributes* app:
	  • `/DMF/API_ATTRIBUTES_SRV` (optional, to import external attributes for integration scenarios with non-SAP source master data systems)
	• For the *Manage Alerts*, *Manage Alert Profiles*, and *Manage Configuration Assignments* apps:
	  • `/DMF/MANAGE_RTLPLNG_ALERTS_SRV`
	  • `APS_CHANGE_DOCUMENTS_SRV`
	  • `/DMF/MANAGE_RTLPLNG_ALERT_PRFL_SRV`
	  • `/DMF/PARAMETER_ASSIGNMENT_SRV`
	• For the *Manage Workloads* app:
	  • `/DMF/PCPMNGWRKLD_SB`
	  • `APJ_JOB_MANAGEMENT_SRV`
	  • `APL_LOG_MANAGEMENT_SRV`
	• For Omnichannel Promotion Pricing: none
	• For Omnichannel Article Availability and Sourcing (part of Inventory Visibility):
	  • With SAP S/4HANA back-end:
	  `/OAA/F3391_MSN_SRV`

For this Application...	Activate These OData Services...
	/OAA/F2586_MSS_SRV /OAA/F2659_MSC_SRV /OAA/F3392_MS_SRV • With SAP Retail back-end: /OAA/F2530_MSN_SRV /OAA/F2586_MSS_SRV /OAA/F2659_MSC_SRV /OAA/F3003_MS_SRV • For On-Shelf Availability: • /OSA/ON_SHELF_AVAILABILITY • For SAP Smart Business for Multichannel Sales Analytics: none
Distribution Curves	For the *Configure Distribution Curves* app and the calculation of distribution curves: • /DMF/DIST_CURVE
SAP Allocation Management	• /AMR/OD_ALLOCATIONPLAN_SRV • /AMR/OD_COMMON_SRV • /AMR/OD_MARKETUNIT_SRV • /AMR/OD_PARAM_SRV • /AMR/OD_WORKLOAD_SRV • /AMR/OD_PRODUCT_FLOW_SRV • /AMR/OD_KPI_CONFIG_SRV • /AMR/OD_ALLOCATIONRESULT_SRV • /AMR/OD_BASKET_SRV • /AMR/OD_ALLOCATIONPLAN_SEARCH_SRV • /AMR/OD_CAPACITYMANAGEMENT_SRV

For this Application...	Activate These OData Services...

SAP Assortment Planning	• /DMF/CURRENCY_LIST_SRV
	• /DMF/LOCATION_CLUSTERSET_SRV
	• /DMF/MASTER_DATA_SRV
	• /DMF/MODULE_MANAGEMENT_SRV
	• /DMF/OBJ_ATTRIBUTE_SRV
	• /DMF/PLAN_CONFIG_SRV
	• /DMF/SEARCH_LOCATIONS_SRV
	• /DMF/SEARCH_PRODUCTS_SRV
	• /DMF/SEASONS_SRV
	• /RAP/ASSORTMENT_LIST_SRV
	• /RAP/OPTION_PLAN_SRV
	• /RAP/PHP_MATCH_SRV
	• /RAP/VALIDITY_PERIOD_SRV
	• /RAP/V_OP_KPI_Q_CDS_CDS
	• /RAP/OPT_PLN_KPI_SRV
	• /RAP/V_OP_OCLST_PRSL_Q_CDS_CDS
	• For the *Manage Style Lists* app:
	  • /RAP/STYLE_PLAN_SRV
	• For the *Manage Ranking Keys* app:
	  • /DMF/RANKING_KEY_SRV
	• For the *Manage Business Rules* app:
	  • /DMF/OD_BUSINESS_RULE_SRV
	• For the *Manage Placeholder Products* app:
	  • /DMF/MANAGE_PROD_DETAILS
	  • /RAP/MANAGE_PROD_DETAILS_PLAN
	• For the *Manage Assortment Modules* app:
	  • /DMF/MODULE_ASSORTMENT_SRV
	• For the *Manage Assortments* app:
	  • /RAP/GENERIC_ASSORTMENT
	  • /DMF/MASTER_DATA
	  • /RAP/ASSORTMENT_LIST
	  • /DMF/SEARCH_PRODUCTS
	  • /DMF/MODULE_MANAGEMENT
	  • /DMF/OBJ_ATTRIBUTE
	• For the *Manage Planning Periods* app:
	  • /DMF/PLN_CALENDAR

SAP Merchandise Planning	Not applicable (this application does not have SAP Fiori apps)

For this Application...	Activate These OData Services...
SAP Promotion Management	• /DMF/PROD_MD_SRV (*Master Data Retrieval*) • /DMF/OFFER_MANAGEMENT_V2_SRV (*Manage Promotional Offers*) • /DMF/PRODUCT_GROUP_SRV (*Manage Product Groups*) • /DMF/LOCATION_SUBGROUP_SRV (*Manage Location Subgroups*) • /PRM/OFFER_CONTENT_SRV (*Offer Content Assignment*) • /PRM/ EVENT_PREVIEW_SRV (*Event Preview*)
SAP Replenishment Planning	For information about the OData services for SAP Replenishment Planning, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] and refer to subsection *Activate Application-Specific OData Services for SAP Replenishment Planning*.

4. Choose *Add Selected Services* and follow the instructions.

> **i Note**
>
> User roles are only needed if you want to have connections to multiple back-end systems or multiple clients on the same back-end. The user roles are system-specific and are not delivered by default. If required, you must create them manually. If you define multiple user roles for different connections, make sure you have only one role assigned to your user at any time. If you need to change roles, first remove the old role from your user, then assign the new role.

Result

The application-specific OData services that you have selected are now active in your SAP Gateway system.

> **→ Tip**
>
> To ensure that your apps start quickly from the launchpad, you can schedule a report to enable regular updating of cached OData metadata. For more information, see Scheduling Update of OData Metadata Caching.

6.1.1.9.5 Configure SAP Fiori Launchpad

Perform the general configuration of SAP Fiori launchpad. You must do this before you can set up the SAP Fiori apps for your application.

Context

SAP Fiori launchpad is the entry point to SAP Fiori apps on mobile and desktop devices. It gives users the relevant information at a glance and centers on their needs and how they work. Technically, SAP Fiori launchpad is a shell that hosts the SAP Fiori apps and provides them with services such as navigation, personalization, embedded support, and configuration.

For feature descriptions, administration and end user information, see the product documentation for SAP Fiori Launchpad.

Prerequisite

You have installed SAP Fiori launchpad as described in section Verify Installation of Central SAP Fiori UI Component [page 80].

Procedure

1. To set up and configure SAP Fiori launchpad, see the following sections of the SAP Fiori Launchpad Administration Guide:

   > **i** Note
   >
   > If necessary, select a different version at the top, based on your deployment scenario and the SAP NetWeaver version on your front-end system.

   - Initial Setup of the Launchpad (including all subsections; there you can find information on embedded deployment scenarios and central hub scenarios)
   - Managing Launchpad Settings
2. (Optional) Configure additional settings to improve the performance of SAP Fiori launchpad. These settings are relevant for the following scenario:
   - Your source master data system is SAP S/4HANA 1809 or higher.
   - You are using Web Dynpro applications or SAP GUI for HTML transactions as tiles on SAP Fiori launchpad.

   See SAP Help Portal at https://help.sap.com/viewer/product/SAP_S4HANA_ON-PREMISE/latest/en-US?task=implement_task and select your version at the top. Open the *Upgrade Guide* and search for section *SAP Fiori Launchpad Settings for Improved Performance*.

More Information

For an overview of installation, upgrade, and implementation information for SAP Fiori, see SAP Help Portal at https://help.sap.com/viewer/product/FIORI_IMPLEMENTATION/FES6.0/en-US?task=implement_task.

6.1.1.9.6 Calculate SAPUI5 Application Index for SAP Fiori Apps

Configure and run the `/UI5/APP_INDEX_CALCULATE` (*Calculation of SAPUI5 Application Index for SAPUI5 Repositories*) report in your front-end system. The report updates the SAPUI5 application index. If the index is up-to-date, the system can find data related to SAP Fiori apps significantly faster.

Use

The SAPUI5 application index provides indexing and caching for data related to SAP Fiori apps, components, and libraries. This data is contained in SAPUI5 repositories on the SAP NetWeaver Application Server for ABAP.

Initially, the index is empty. It is calculated and updated each time you run the report.

Prerequisites

You are familiar with the prerequisites, configuration options, and requirements of the `/UI5/APP_INDEX_CALCULATE` report. For more information, see the following:

- SAP Note 2227577 (*Recalculation of the SAPUI5 Application Index After Implementing an SAP Note*)
- Report documentation in transaction `SE38`
- *SAPUI5: UI Development Toolkit for HTML5*: Here you can find detailed information on the SAPUI5 application index and the report.
  For more information, see SAPUI5 Application Index.

Configuration

To configure how the index should be calculated, you can choose from several options in the `/UI5/APP_INDEX_CALCULATE` report:

- Tab *Complete Index*, option *Depending on Expiry Period and Import of Transport Requests*:
  This option updates those SAPUI5 repositories and the distribution layer where either the specified expiration period (in hours and minutes) has elapsed or where a transport has changed the content of the repositories and the distribution layer since the last update.

  > **i Note**
  >
  > This is the default mode with an expiration period of 24 hours. We recommend that you use this mode when scheduling the report for periodic execution.

- Tab *Complete Index*, option *Full Calculation*:
  This option performs a full update of all SAPUI5 repositories and the distribution layer regardless of any expiration dates.

- *Single SAPUI5 Repository Only*: Here you select the repository for which you wish to update the index.
- *SAPUI5 Distribution Layer Only*: Here you update the index only based on the distribution layer.

Operation

Configure and run the report in all your front-end systems.

> → Tip
>
> You can run the report manually, but we recommend the following best practices:
>
> - **Schedule** the report as a periodic job for all follow-on systems to which the changes are transported. This ensures that the application index is updated based on the transports imported by each system.
>
> For example, you can use transaction `SM36` for this purpose.
> For more information, see Scheduling the Creation of the SAPUI5 Application Index.
> - **Always run** the report in the following situations:
> - after any changes to the content of SAPUI5 ABAP repositories (for example, implementation of SAP Notes, upgrades, changes to SAP Gateway systems)
> - after installing a new version of the distribution layer
> - after implementing an SAP Note containing changes to an SAP Fiori app

Procedure

> i Note
>
> If you experience issues, see the following troubleshooting tips for possible solutions:
>
> - SAP Note 2364579 (*SAPUI5 application index is not calculated, is outdated or contains errors*)
> - SAP Community at Fiori - How to Troubleshoot SAPUI5 Application Index Specific Issues

1. Log on to your front-end system.
2. Execute transaction `SE38`, specify **`/UI5/APP_INDEX_CALCULATE`** as the program (report), and choose *Execute* (F8).
3. Configure the report.
4. Choose *Execute* (F8) again to run the report manually.

   > → Tip
   >
   > Schedule the report to run on a regular basis in all your front-end systems.

Result

The SAPUI5 application index is updated based on your settings.

6.1.2 Advanced (Optional)

After you have completed the core steps, perform the advanced steps that are relevant to your scenario. The advanced steps are optional. They enable specific functionality in SAP Customer Activity Repository.

Prerequisites

You have completed the steps in Core (Mandatory for All Applications) [page 86].

Advanced Steps

Replicate Optional Tables [page 125]
Set up the table replication from your SAP CRM source system and from your SAP Marketing Cloud source system. Both procedures are optional.

Configure Multichannel Sales Analytics [page 130]
Do these procedures if you wish to use the multichannel sales analytics cockpit. The cockpit provides you with an overview of the most important key performance indicators for a category manager. The KPI tiles are provided using SAP Smart Business or SAP Fiori Launchpad Designer.

Configure Process Packaging and Parallelization [page 132]
You only need to do this if you want to use Forecast-Related Analytics that has been predefined in SAP Analytics Cloud and that is part of the standard delivery of SAP Analytics Cloud and/or execute Replenishment Calculation in parallel.

Configure SAP Analytics Cloud for Forecast-Related Analytics [page 132]
You only need to do this if you want to use Forecast-Related Analytics that has been predefined in SAP Analytics Cloud and that is part of the standard delivery of SAP Analytics Cloud. If you are using a different analytics tool, or if you do not run analytics at all, you may skip this section.

Install Alternate Storage [page 133]
You only need to implement this procedure if you plan on using the *Table Content Aging* report delivered with SAP Customer Activity Repository. This report allows you to copy your transaction log (TLOG) data and its extensions from your SAP HANA database to an alternate storage technology (such as SAP IQ or Apache Hadoop), thereby reducing your total cost of hardware ownership.

Ensure that Third-Party CRM Sales Orders are Transferred to SAP ERP [page 143]
Do this procedure if sales orders were created in a third-party customer relationship management (CRM) system. You must ensure that this data is transferred to the source master data system. From there, it can be replicated to (or accessed directly by) SAP Customer Activity Repository.

Partition /POSDW/TLOGF and Aggregation Tables [page 143]
If you wish to use the POS Data Transfer and Audit module, we recommend that you partition the `/POSDW/TLOGF` table and several aggregation tables (such as `/POSDW/TLOGF_EXT`). This improves standard database operations (such as inserting, updating, deleting, and reading) and mass operations (such as archiving or index merging).

Customize Copies of SAP HANA Views [page 145]

Do this procedure if you have extended the delivered data model (for example, if you have added custom fields to tables). First create copies of views included in SAP HANA Live for SAP ERP or in the SAP HANA content for SAP Customer Activity Repository. Then customize these copies to reflect your specific data model extensions.

Complete UDF Setup [page 146]
Set up the Unified Demand Forecast (UDF) module in SAP Customer Activity Repository to enable demand modeling and forecasting for different scenarios and consuming applications. To be able to use UDF, you must at least do the mandatory steps. Additionally, you can choose from several optional steps. We also point you to helpful performance information for UDF.

Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 154]
Perform common setup steps that are required for the apps in SAP Customer Activity Repository. For example, check that the prerequisites are installed and prepare the system landscape. Then set up the apps that you want to use in your scenario.

Configure On-Shelf Availability [page 200]
Configure the On-Shelf Availability (OSA) module in SAP Customer Activity Repository. All steps are **optional** and depend on your implementation scenario.

Configure Omnichannel Article Availability and Sourcing for Use with SAP Customer Activity Repository [page 202]
To set up the OAA module, you need to integrate the source master data system (SAP S/4HANA or SAP Retail), SAP Customer Activity Repository, SAP Commerce, and SAP Commerce, integration package for SAP for Retail. You also need to set up asynchronous order management and the data replication between SAP S/4HANA or SAP Retail, SAP Commerce, and SAP Customer Activity Repository.

Configure Omnichannel Promotion Pricing for Use with SAP Customer Activity Repository [page 205]
To use the OPP module, you need to activate the functionality in Customizing and configure it for your specific scenario.

6.1.2.1 Replicate Optional Tables

Set up the table replication from your SAP CRM source system and from your SAP Marketing Cloud source system. Both procedures are optional.

6.1.2.1.1 Replicate SAP CRM Tables (Optional)

Set up the replication of tables from your SAP CRM source system. You only need to perform this procedure if you have an SAP CRM system in your SAP Customer Activity Repository landscape and you are planning

to use the standard SAP implementation of customer identification delivered with the SAP Customer Activity Repository.

Procedure

1. Ensure that the SAP LT Replication Server is installed and that a user with the appropriate authorizations is set up in the target SAP HANA database.
   If you have already ensured proper installation of the SAP LT Replication Server during previous procedures, skip to the next step. Otherwise, refer to one of the following for more information:
   - http://help.sap.com/hana *SAP HANA* > *SAP HANA Options* > *SAP HANA Real-Time Replication* > *SAP HANA Trigger-Based Data Replication Using SAP LT Replication Server* > *Installation Information*
   - http://help.sap.com/hana *SAP HANA* > *SAP HANA Options* > *SAP HANA Real-Time Replication* > *SAP HANA Trigger-Based Data Replication Using SAP LT Replication Server* > *System Administration and Maintenance Information* > *Technical Prerequisites and Authorization Aspects*
2. Set up a user in the source SAP CRM system and grant relevant authorizations to this user.
   For more information, see http://help.sap.com/hana *SAP HANA* > *SAP HANA Options* > *SAP HANA Real-Time Replication* > *SAP HANA Trigger-Based Data Replication Using SAP LT Replication Server* > *System Administration and Maintenance Information* > *Configuration Information and Replication Concepts* > *System Connections and Authorizations*.
3. Specify a configuration in SAP LT Replication Server, which contains the definition of the connections between:
   - The source SAP CRM system and the SAP LT Replication Server
   - The SAP LT Replication Server and the target SAP HANA database

   For more information, see http://help.sap.com/hana *SAP HANA* > *SAP HANA Options* > *SAP HANA Real-Time Replication* > *SAP HANA Trigger-Based Data Replication Using SAP LT Replication Server* > *System Administration and Maintenance Information* > *Accessing the Configuration and Monitoring Dashboard*.
   The name that you assign to your configuration will be also be used as the name of the database catalog schema that is automatically created on the target SAP HANA database. This is the schema to which you will replicate the tables from the source SAP CRM system.
   Once you save the configuration, a schema GUID and a mass transfer ID are automatically created and assigned to the configuration. Furthermore, several dictionary tables are automatically replicated from your source system to your target SAP HANA database.
   For more information, see http://help.sap.com/hana *SAP HANA* > *SAP HANA Options* > *SAP HANA Real-Time Replication* > *SAP HANA Trigger-Based Data Replication Using SAP LT Replication Server* > *System Administration and Maintenance Information* > *Important Transactions and Control Tables*.
4. Define client transformation rules for all the SAP CRM tables that you plan to replicate.
   In most cases, you need to apply transformation rules to map the client of the source SAP CRM system to the client on the target SAP Customer Activity Repository system.

> ⚠ Caution
>
> Transformation rules must be defined **prior** to replicating tables.

For more information, refer to one of the following:

- *Set Up SAP Client* section in the *Common Installation Guide*.
- http://help.sap.com/hana *SAP HANA* > *SAP HANA Options* > *SAP HANA Real-Time Replication* > *SAP HANA Trigger-Based Data Replication Using SAP LT Replication Server* > *System Administration and Maintenance Information* > *Important Transactions and Control Tables* > *Data Transformation Capabilities within SAP Landscape Transformation Replication Server*
- SAP Note 1733714

5. Specify which SAP ERP tables to replicate using information from one of the two following sources:
   - SAP Note 2538135, for installations based on the SAP_ECC schema
   - SAP Note 2538187, for installations based on the SAP_S4H schema

   For more information, see:
   - http://help.sap.com/hba *Installation, Security, Configuration, and Operations Information* > *Administrator's Guide* > *Configuration Steps* > *Replicate Data (Side-by-Side Only)*
   - http://help.sap.com/hana *SAP HANA* > *SAP HANA Options* > *SAP HANA Real-Time Replication* > *SAP HANA Trigger-Based Data Replication Using SAP LT Replication Server* > *System Administration and Maintenance Information* > *Configuration Information and Replication Concepts* > *(* `<Managing the Replication Process Using the SAP HANA Studio>` *and* `<Important Transactions and Control Tables>` *)*
6. Map the authoring schema `SAP_CRM` to your particular physical database schema which contains the SAP CRM tables. If the physical database schema is already named `SAP_CRM`,this schema mapping is not required.

Authoring Schema	Physical Schema
`SAP_CRM`	`<Name of Your Schema for Storing SAP_CRM Data>`

For more information, see http://help.sap.com/hana_platform *Development and Modeling* > *SAP HANA Modeling Guide* > *Importing Table Definitions and Data* > *Map Authoring Schema to the Physical Schema*.

> **i Note**
>
> Every time you make changes to the schema mapping, the SAP HANA content must be redeployed.
>
> You can do this using one of two methods:
>
> - Execute the `/CAR/ACTIVATE_HANA_CONTENT` report as described in SAP Note 2330386.
> - Manually redeploy only those SAP HANA objects which are impacted by your schema mapping change.

6.1.2.1.2 Replicate SAP Marketing Cloud Tables (Optional)

Set up the replication of tables from your SAP Marketing Cloud source system. You only need to perform this procedure if you have a SAP Marketing Cloud system in your SAP Customer Activity Repository landscape and

you are planning to use the standard SAP implementation of customer identification delivered with the SAP Customer Activity Repository.

Procedure

1. If you plan to implement SAP Marketing Cloud co-deployed with SAP Customer Activity Repository, the SAP Marketing Cloud tables will not be replicated because they already exist in the same SAP HANA database and the same database schema.

   > **i Note**
   >
   > Client transformation is not possible without table replication, therefore a co-deployed scenario is only possible if the client numbers in the two back-end systems are identical.
   >
   > For more information, see *Set Up SAP Client* section in the *Common Installation Guide*.

2. If you plan to implement SAP Marketing Cloud side-by-side with SAP Customer Activity Repository, do the following:
   1. Define client transformation rules for all the SAP Marketing Cloud tables that you plan to replicate. In most cases, you need to apply transformation rules to map the client of the source SAP Marketing Cloud system to the client on the target SAP Customer Activity Repository system.

      > **⚠ Caution**
      >
      > Transformation rules must be defined **prior** to replicating tables.

      For more information, refer to one of the following:
      - *Set Up SAP Client* section in the *Common Installation Guide*.
      - http://help.sap.com/hana *SAP HANA* > *SAP HANA Options* > *SAP HANA Real-Time Replication* > *SAP HANA Trigger-Based Data Replication Using SAP LT Replication Server* > *System Administration and Maintenance Information* > *Important Transactions and Control Tables* > *Data Transformation Capabilities within SAP Landscape Transformation Replication Server*
      - SAP Note 1733714
   2. Specify which SAP ERP tables to replicate using information from one of the two following sources:
      - SAP Note 2538135, for installations based on the SAP_ECC schema
      - SAP Note 2538187, for installations based on the SAP_S4H schema

      For more information, see:
      - http://help.sap.com/hba *Installation, Security, Configuration, and Operations Information* > *Administrator's Guide* > *Configuration Steps* > *Replicate Data (Side-by-Side Only)*
      - http://help.sap.com/hana *SAP HANA* > *SAP HANA Options* > *SAP HANA Real-Time Replication* > *SAP HANA Trigger-Based Data Replication Using SAP LT Replication Server* > *System Administration and Maintenance Information* > *Configuration Information and Replication Concepts* > *(* `<Managing the Replication Process Using the SAP HANA Studio>` *and* `<Important Transactions and Control Tables>` *)*
3. Regardless of whether you implement SAP Marketing Cloud co-deployed or side-by-side with SAP Customer Activity Repository, map the authoring schema `SAP_CUAN` to your particular physical database

schema that contains the SAP CRM tables. If the physical database schema is already named `SAP_CUAN`, this schema mapping is not required.

Authoring Schema	Physical Schema
`SAP_CUAN`	`<Name of Your Schema for Storing SAP Marketing Cloud Data>`

For more information, see http://help.sap.com/hana_platform *Development and Modeling* > *SAP HANA Modeling Guide* > *Importing Table Definitions and Data* > *Map Authoring Schema to the Physical Schema*.

> **i Note**
>
> Every time you make changes to the schema mapping, the SAP HANA content must be redeployed.
>
> You can do this using one of two methods:
>
> - Execute the `/CAR/ACTIVATE_HANA_CONTENT` report as described in SAP Note 2330386.
> - Manually redeploy only those SAP HANA objects that are impacted by your schema mapping change.

Side-by-Side Scenario (SLT)

1. Define client transformation rules for all the SAP Marketing Cloud tables that you plan to replicate.
   In most cases, you need to apply transformation rules to map the client of the source SAP Marketing Cloud system to the client on the target SAP Customer Activity Repository system.

   > **⚠ Caution**
   >
   > Transformation rules must be defined **prior** to replicating tables.

   For more information, refer to one of the following:
   - *Set Up SAP Client* section in the *Common Installation Guide*.
   - http://help.sap.com/hana *SAP HANA* > *SAP HANA Options* > *SAP HANA Real-Time Replication* > *SAP HANA Trigger-Based Data Replication Using SAP LT Replication Server* > *System Administration and Maintenance Information* > *Important Transactions and Control Tables* > *Data Transformation Capabilities within SAP Landscape Transformation Replication Server*
   - SAP Note 1733714
2. Read SAP Note 1897025 and replicate the tables listed in the `.txt` file attached to this SAP Note.
   For more information, see http://help.sap.com/hana *SAP HANA* > *SAP HANA Options* > *SAP HANA Real-Time Replication* > *SAP HANA Trigger-Based Data Replication Using SAP LT Replication Server* > *System Administration and Maintenance Information*.

6.1.2.2 Configure Multichannel Sales Analytics

Do these procedures if you wish to use the multichannel sales analytics cockpit. The cockpit provides you with an overview of the most important key performance indicators for a category manager. The KPI tiles are provided using SAP Smart Business or SAP Fiori Launchpad Designer.

Use

The steps in this section are optional and depend on your specific implementation requirements.

> **i Note**
>
> For more information about the cockpit, see the application help for SAP Customer Activity Repository at https://help.sap.com/docs/CARAB. Search for section *Multichannel Sales Analytics*.

6.1.2.2.1 Install the SAP Smart Business Modeler Apps Framework

> **i Note**
>
> The installation of SAP Smart Business Modeler Apps Framework is not needed if you plan to use SAP Fiori Launchpad Designer to access and set the configuration parameters for the analytical apps in the multichannel sales analytics cockpit.

You can access and set the configuration parameters for the analytical apps in the multichannel sales analytics cockpit using SAP Smart Business. SAP Smart Business requires installation and setup of the SAP Smart Business Modeler Apps Framework, which includes the following:

- Installation of SAP Smart Business Modeler apps on the front-end server
- Installation of SAP Smart Business products on the SAP HANA Server
- Installation of SAP Web Dispatcher
- Communication channels
- App implementation

For more information on these topics, see https://help.sap.com/viewer/p/UI_ADD-ON_FOR_SAP_NETWEAVER_10 ▶ *Application Help* ▶ *SAP Library* ▶ *SAPUI5: UI Development Toolkit for HTML5* ▶ *SAPUI5 Application Frameworks* ▶ *SAP Smart Business* ▶ *Setting up the SAP Smart Business Modeler Apps Framework* ▶.

> **i Note**
>
> If you are installing User Interface Add-On 2.0 for SAP NetWeaver, you must download and install add-on object UISAFND1 100 as described in SAP Note 2183947.

6.1.2.2.2 Configure SAP Web Dispatcher for Multichannel Sales Analytics Apps

SAP Web Dispatcher lies between the Internet and your SAP system. It is the entry point for HTTP(s) requests into your system. As a “software web switch”, SAP Web Dispatcher can reject or accept connections. It contributes to security and also balances the load in your SAP system.

Where to Find Configuration Information

To find the SAP Web Dispatcher information for your SAP NetWeaver release, see the following:

- Central SAP Web Dispatcher note: 908097 *SAP Web Dispatcher: Release, Installation, Patches, Documentation*
- Product documentation: https://help.sap.com/viewer/p/SAP_NETWEAVER. Choose your SAP NetWeaver Platform and select the support package stack at the top right.
  For configuration information, search for *“Administration of the SAP Web Dispatcher”*.
  For a configuration example, search for *“SAP Web Dispatcher Configuration Reference”*.
  For architecture information, search for *“Architecture and Functions of the SAP Web Dispatcher”*.

How to Configure SAP Web Dispatcher for Multichannel Sales Analytics Apps

The following parameters values are required:

- Source master data system: SAP ECC
  Parameter `wdisp/system_542` requires the following URL: `/sap/is/retail/car/mcsa/odata`
  Resulting setting: `wdisp/system_542 /sap/is/retail/car/mcsa/odata`
- Source master data system: SAP S/4HANA
  Parameter `wdisp/system_542` requires the following URL: `/sap/is/retail/car_s4h/mcsa/odata`
  Resulting setting: `wdisp/system_542 /sap/is/retail/car_s4h/mcsa/odata`

Other Solutions

If you use any other reverse proxy, see the manufacturer's documentation for more information.

6.1.2.3 Configure Process Packaging and Parallelization

You only need to do this if you want to use Forecast-Related Analytics that has been predefined in SAP Analytics Cloud and that is part of the standard delivery of SAP Analytics Cloud and/or execute Replenishment Calculation in parallel.

- You maintain values for the settings used by process packaging and parallelization in the Customizing *Maintain Basic Settings* under *SAP Customer Activity Repository* > *Demand Data Foundation* > *Basic Settings* > *Process Packaging and Parallelization*.
- You maintain the size of each workload task (*Task Size*) and the maximum work processes (*Max WP*) you wish to run in parallel for SAP-delivered workload types in the Customizing *Define Parameters for Workload Types* under *SAP Customer Activity Repository* > *Demand Data Foundation* > *Basic Settings* > *Process Packaging and Parallelization*.
- You maintain the job catalogs `/DMF/PCP_WRKLD_GENERATE_JOB` and `/DMF/PCP_WRKLD_PROC_JOB` as entries in the Customizing *Activation of Scope-Dependent Application Job Catalog Entries* under *SAP NetWeaver* > *Application Server* > *System Administration*.
- To use the Dispatcher Daemon for processing of workloads, you must execute the one-time report *Set up Start Up Configuration* (transaction `/DMF/PCP_DISP_START`) in the system.

For more information, see the sections *Process Packaging and Parallelization* and *Manage Workloads* in the application help for SAP Customer Activity Repository at https://help.sap.com/viewer/product/CARAB/latest/en-US?task=use_task.

6.1.2.4 Configure SAP Analytics Cloud for Forecast-Related Analytics

You only need to do this if you want to use Forecast-Related Analytics that has been predefined in SAP Analytics Cloud and that is part of the standard delivery of SAP Analytics Cloud. If you are using a different analytics tool, or if you do not run analytics at all, you may skip this section.

Prerequisites

- You run and connect the **Content Innovation 20** or later release of **SAP Analytiics Cloud** with SAP Customer Activity Repository to use the predefined set of forecast-related analyses. For installation information related to SAP Analytics Cloud, see System Requirements and Technical Prerequisites.
- You can use the *Adjust Forecast* app to manually adjust the system forecast calculated by Unified Demand Forecast (UDF). To use the adjusted forecasts thus created in your analyses, you must execute the report *Persist Forecast Corrections* (`/DMF/FCC_PERSIST`) using transaction `SE38` in the system. This report should be scheduled after your forecast run is complete.

→ Tip

You can delete persisted forecast corrections created exclusively for your analyses using the *Persist Forecast Corrections* report by executing the report *Delete Forecast Corrections* (`/DMF/FCC_DELETE`) using transaction `SE38` in the system.

These reports make use of the Process Packaging and Parallelization Framework. For more information, see Configure Process Packaging and Parallelization [page 132].

Set Up Live Connection Between SAP Customer Activity Repository and SAP Analytics Cloud

1. Configure SAP Customer Activity Repository to support cross-origin resource sharing (CORS), for cross-domain communication from the browser.
   For more information, see the application help for SAP Analytics Cloud at https://help.sap.com/viewer/product/SAP_ANALYTICS_CLOUD and search for the *Live Data Connection to SAP HANA On-Premise Using a Direct Connection* topic.
2. In SAP Analytics Cloud, navigate to *Home* > *Connection* and select live connection `SAPRTCARAB` (*SAP Replenishment Planning and Unified Demand Forecast*). This connection is part of the standard delivery.
3. Click *Edit Connection* and enter your custom details for *Host*, *HTTPS Port*, and *Client*.

6.1.2.5 Install Alternate Storage

You only need to implement this procedure if you plan on using the *Table Content Aging* report delivered with SAP Customer Activity Repository. This report allows you to copy your transaction log (TLOG) data and its extensions from your SAP HANA database to an alternate storage technology (such as SAP IQ or Apache Hadoop), thereby reducing your total cost of hardware ownership.

Use

For more information, see SAP Help Portal at https://help.sap.com/viewer/p/CARAB *<Version>* > *Use* > *Application Help* > *SAP Customer Activity Repository* > *POS Data Transfer and Audit* > *Implementing a POS Transaction Data Storage Strategy* > *Using the Table Content Aging Report*.

i Note

If your scenario includes demand modeling and forecasting with the Unified Demand Forecast (UDF) module, we recommend retaining the historical sales data in memory.

Process Flow

In order to successfully install alternate storage, you must execute the following procedures:

1. Do one of the following:
   - Install and set up integration with SAP IQ, **or**
   - Install and set up integration with Apache Hadoop, **or**
   - Install and set up integration with SAP HANA Dynamic Tiering
2. Create the remote source in SAP HANA studio (not applicable for integration with SAP HANA Dynamic Tiering).
3. Create the virtual table.
4. Set the deploy mode in SAP HANA Transport for ABAP.

> **i** Note
>
> As an alternative to the *Table Content Aging* report (`/CAR/TABLE_CONTENT_AGING`), you could consider using SAP HANA Native Storage Extension, which does not require any additional installation steps because it comes with SAP HANA Platform 2.0 SPS 05 Revision 050.00 or higher. For more information, see Using SAP HANA Native Storage Extension.

6.1.2.5.1 Install and Set Up Integration with SAP IQ

You use these procedures to install and set up SAP IQ to support the *Table Content Aging* report (transaction `/CAR/TABLE_AGING`) delivered with SAP Customer Activity Repository.

The SAP HANA database points to your SAP IQ database using SAP HANA smart data access (SDA), which exposes data from SAP IQ remote sources as virtual tables.

For more information, see SAP Help Portal at https://help.sap.com/viewer/p/CARAB ▶ *<your release>* ▶ *Use* ▶ *Application Help* ▶ *SAP Customer Activity Repository* ▶ *POS Data Transfer and Audit* ▶ *Implementing a POS Transaction Data Storage Strategy* ▶ *Using the Table Content Aging Report* ▶.

Install SAP IQ

A detailed procedure is described in the *SAP IQ Installation and Update Guide*.

For more information, see SAP Help Portal at https://help.sap.com/viewer/p/SAP_IQ ▶ *Implement* ▶ *Installation and Upgrade* ▶ *SAP IQ Installation and Update Guide for <your operating system>* ▶.

Configure SAP IQ

1. Allocate sufficient space into which your data will be loaded.

   > **i Note**
   >
   > The default DBSpaces provided during installation are intended to be used for SAP IQ system management. You should create your own DBSpace under the *Main* store with a DB File that is large enough to satisfy your sizing requirements.
   >
   > For more information, see SAP Help Portal at https://help.sap.com/viewer/p/SAP_IQ ▶ *Use* ▶ *Reference* ▶ *SAP IQ SQL Reference* ▶ *SQL Statements* ▶ *CREATE DBSPACE Statement* ▶.

2. Create an in-memory row-level versioning (RLV) store.

   For more information, see SAP Help Portal at https://help.sap.com/viewer/p/SAP_IQ ▶ *Operate* ▶ *Administration* ▶ *SAP IQ Administration: In-Memory Row-Level Versioning* ▶ *About In-Memory Row-Level Versioning* ▶.

   > **i Note**
   >
   > Click *View All* if topic does not appear in initial list.

3. Create a database under the content created at the beginning of this procedure.

   > **i Note**
   >
   > Ensure the following:
   >
   > - The SAP IQ stores are configured with a large enough cache configuration, main memory, and temporary memory.
   > - The page size should be set to 128KB.
   > - The concurrency aligns with the amount of processes that will be triggered during the data copy.

   For more information, see SAP Help Portal at https://help.sap.com/viewer/p/SAP_IQ ▶ *Implement* ▶ *Configuration* ▶ *Performance and Tuning Guide* ▶.

4. Create the following tables in the DBSpace created at the beginning of the procedure:
   - `/POSDW/TLOGF`
   - `/POSDW/TLOGF_EXT`
   - `/POSDW/TLOGF_X`
   - `/POSDW/PLOGF`

   > **i Note**
   >
   > These tables should have the same structure as the tables in your SAP HANA system. One possible way is to export the table structure via Export SQL on the SAP HANA side, and import it on the SAP IQ side using the SQL console.
   >
   > The SQL statement requires some modifications, such as:
   >
   > - Converting all the column names in the exported SQL statement to lower case (for example, “RETAILSTOREID becomes “retailstoreid”).
   >   You can simply convert the entire SQL statement into lower case and then only convert the table name to upper case to keep the table name unchanged.

- Renaming of NVARCHAR to VARCHAR.
- Removing references to CS_* (for example, CS_FIXED).

5. Enable the RLV for the tables you just created.
6. Set the snapshot versioning property of the transaction to row-level.

> Example
>
> ```
> set option Snapshot_Versioning = 'Row-level';
> ```

7. Enable connection blocking and set the blocking timeout threshold.

> Example
>
> ```
> set option blocking = 'On';
> set option blocking_timeout = '0';
> ```

Install SAP IQ Drivers

Install and configure the ODBC database drivers required to connect to the remote source.

> Note
>
> Each data source driver setup is described in its own section. The prerequisites are given as a simple guide; you will need to consult the original driver documentation provided by the driver manufacturer for more detailed information.

A detailed procedure is described in the *SAP HANA Administration Guide*.

For more information, see SAP Help Portal at http://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *Administration* ▶ *SAP HANA Administration Guide for SAP HANA Platform* ▶ *Data Access* ▶ *SAP HANA Smart Data Access* ▶ *Setting Up ODBC Drivers* ▶ *SAP IQ ODBC Driver*.

6.1.2.5.2 Install and Set Up Integration with Apache Hadoop

You use these procedures to install and set up Apache Hadoop to support the *Table Content Aging* report (transaction `/CAR/TABLE_AGING`) delivered with SAP Customer Activity Repository.

The SAP HANA database points to your Hadoop cluster using SAP HANA smart data access (SDA), which exposes data from Hadoop remote sources as virtual tables.

For more information, see SAP Help Portal at http://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Use Application Help* ▶ *SAP Customer Activity Repository* ▶ *POS Data Transfer and Audit* ▶ *Implementing a POS Transaction Data Storage Strategy* ▶ *Using the Table Content Aging Report*.

Process Flow

To successfully install and set up integration with Apache Hadoop, you must execute the following procedures:

1. Install Apache Hadoop.
2. Do one of the following:
   - Install and set up the Apache Hive ODBC driver, **or**
   - Install and set up the SAP HANA Spark controller.
3. Create and partition tables in Apache Hive.
4. Create a NFS mount on SAP NetWeaver.

Install Apache Hadoop

According to the *SAP HANA Administration Guide for SAP HANA Platform*, SAP HANA smart data access is supported by Hortonworks Distribution for Apache Hadoop: version 2.3 (supported on Intel-based hardware platforms only).

For more information on integration between SAP HANA and Apache Hadoop, see SAP Help Portal at http://help.sap.com/viewer/p/SAP_HANA_PLATFORM *Administration* *SAP HANA Administration Guide for SAP HANA Platform* *Data Access* *SAP HANA Smart Data Access*.

For more information on installing Apache Hadoop, see http://docs.hortonworks.com *All* *HDP* *2.3* *HDP 2.3.0 (GA)*.

Install and Set Up Apache Hive ODBC Driver

> **i** Note
>
> Integration between SAP HANA and Apache Hadoop requires **either** an Apache Hive ODBC driver **or** an SAP HANA Spark controller.
>
> Implement this procedure only if you wish to integrate SAP HANA with Apache Hadoop via the Apache Hive ODBC driver.

1. According to the *SAP HANA Administration Guide for SAP HANA Platform*, SAP HANA smart data access is supported by Hortonworks Distribution for Apache Hadoop: version 2.3 (This includes Apache Hadoop version 1.0.3 and Apache Hive 0.9.0; supported on Intel-based hardware platforms only).
   For more information on integration between SAP HANA and Apache Hadoop, see SAP Help Portal at http://help.sap.com/viewer/p/SAP_HANA_PLATFORM *Administration* *SAP HANA Administration Guide for SAP HANA Platform* *Data Access* *SAP HANA Smart Data Access*.
   For more information on installing the Apache Hive ODBC driver, see http://docs.hortonworks.com *All* *HDP* *2.3* *HDP 2.3.0 (GA)*.

2. Set up the driver as described in the *SAP HANA Administration Guide for SAP HANA Platform* at http://help.sap.com/viewer/p/SAP_HANA_PLATFORM *Administration* > *SAP HANA Administration Guide for SAP HANA Platform* > *Data Access* > *SAP HANA Hadoop Integration*.

Install and Set Up the SAP HANA Spark Controller

> **i** Note
>
> Integration between SAP HANA and Apache Hadoop requires **either** an Apache Hive ODBC driver **or** an SAP HANA Spark controller.
>
> Implement this procedure only if you wish to integrate SAP HANA with Apache Hadoop via the SAP HANA Spark controller.

1. Confirm the right combination of versions required between SAP HANA, Apache Spark, and the SAP HANA Spark controller. Use the *SAP HANA Spark Controller Compatibility Matrix* to do this. This document is available under https://help.sap.com/viewer/p/SAP_HANA_SPARK_CONTROLLER. Navigate to *Additional Information* > *SAP HANA Spark Controller Compatibility Matrix*.
2. Install and set up the SAP HANA Spark controller as described in SAP Note 2273047.

For more information on installing and setting up the SAP HANA Spark controller, see SAP Help Portal at http://help.sap.com/viewer/p/SAP_HANA_PLATFORM *Administration* > *SAP HANA Administration Guide for SAP HANA Platform* > *Data Access* > *SAP HANA Hadoop Integration*.

Create and Partition Tables

Create the SAP schema, tables, and table partitions as described in SAP Note 2317597.

Create a NFS Mount on SAP NetWeaver

The TLOG data and its extensions are copied from your SAP HANA database to Hadoop using the HDFS NFS Gateway on your Hadoop system. To enable this you must create a mount point on your SAP NetWeaver system for the data files to be created directly in the Hadoop File System (HDFS).

> **i** Note
>
> The following steps are only **guidelines** which provide an example of how to mount Network File System (NFS) on an SAP NetWeaver Linux-based client.

1. Make sure the NFS client is installed based on the examples provided:

Operating System	Command
Red Hat, CentOS	`sudo yum install nfs-utils`
Ubuntu	`sudo apt-get install nfs-common`
SUSE	`sudo zypper install nfs-client`

2. List the NFS shares exported on the server.
   Example
   `showmount -e <host>`
3. Set up a mount point for an NFS share.
   Example
   `sudo mkdir <folder>`

   > **i** Note
   >
   > You must ensure that the folder paths share the same naming conventions, as follows:
   >
   > | | |
   > | --- | --- |
   > | Temporary data folder | `/tmp/tct_csv_out/temp` |
   > | Data folder | `/tmp/tct_csv_out/data` |

4. Mount the cluster using NFS.
   Example
   `sudo mount -o hard, nolock <host> <folder>`

On your HDFS, the different tables are stored under a folder using the following convention:

`<data directory>/<schema>/<table>/<businessdaydate=partition_value>/{files}`

On the SAP NetWeaver file system, the Hadoop files are stored under a physical path and file name that is derived from a customer-definable logical path or file name. The configuration is provided via the `FILE` transaction. Inside the `FILE` transaction, you also need to make use of parameters `PARAM_1` and `PARAM_2`. `PARAM_1` will be populated during runtime by the program (generated file name) and `PARAM_2` will be populated by the program during runtime `<schema>/<table>/<businessdaydate=partition_value>`.

Example (Data Directory)

If the Hadoop data files are stored in Unix/Linux folder ,<schema>/<table>/businessdaydate=partition_value/{files}`PARAM_1.CSV` and physical directory `/tmp/tct_csv_out/data/hdp/apps/hive/warehouse/<PARAM_2><FILENAME>`.

You create the following logical path in the `FILE` transaction as follows:

Logical path	`/CAR/HDFS_DATA`
Name	HDFS Data

Syntax group	UNIX
Physical path	`/tmp/tct_csv_out/data/hdp/apps/hive/warehouse/<PARAM_2><FILENAME>`

You create the following logical file in the `FILE` transaction as follows:

Logical file	`/CAR/HDFS_DATA`
Name	HDFS Data
Physical file	`<PARAM_1>.CSV`
Data format	WK1
Application area	IS
Logical path	`/CAR/HDFS_DATA`

Example (Temporary Directory)

/tmp/tct_csv_out/data/hdp/apps/hive/warehouse/On top of the Hadoop data files, you also need to provide a temporary directory in which the program will populate script files and also temporarily store data files to be compressed.

If the temporary files are stored in Unix/Linux folder `/tmp/tct_csv_out/temp/{files}`, you create the following logical path in the `FILE` transaction as follows:

Logical path	`/CAR/HDFS_TEMP`
Name	HDFS Temp
Syntax group	UNIX
Physical path	`/tmp/tct_csv_out/temp/<FILENAME>`

You create the following logical file in the `FILE` transaction as follows:

Logical file	`/CAR/HDFS_TEMP`
Name	HDFS Temp
Physical file	`<PARAM_1>.SH`
Data format	
Application area	IS
Logical path	`/CAR/HDFS_TEMP`

6.1.2.5.3 Install and Set Up Integration with SAP HANA Dynamic Tiering

You use these procedures to install and set up SAP HANA Dynamic Tiering to support the *Table Content Aging* report (transaction `/CAR/TABLE_AGING`) delivered with SAP Customer Activity Repository.

SAP HANA Dynamic Tiering adds the SAP HANA dynamic tiering service to your SAP HANA system. You use this service to create the extended store and extended tables. Extended tables behave like all other SAP HANA tables, but their data resides in the disk-based extended store.

For more information, see SAP Help Portal at http://help.sap.com/viewer/p/CARAB ▸ *<your release>* ▸ *Use Application Help* ▸ *SAP Customer Activity Repository* ▸ *POS Data Transfer and Audit* ▸ *Implementing a POS Transaction Data Storage Strategy* ▸ *Using the Table Content Aging Report*.

Install SAP HANA Dynamic Tiering

A detailed procedure is described in the *SAP HANA Dynamic Tiering: Installation and Update Guide*.

For more information, see SAP Help Portal at http://help.sap.com/hana_options_dt ▸ *Implement* ▸ *Installation and Upgrade*.

Create Extended Storage

A detailed procedure is described in the *SAP HANA Dynamic Tiering: Administration Guide*.

For more information, see SAP Help Portal at http://help.sap.com/hana_options_dt ▸ *Operate* ▸ *Administration* ▸ *SAP HANA Dynamic Tiering: Administration Guide* and consult the following subsections:

- ▸ *System Administration* ▸ *Managing Extended Storage*
- ▸ *System Administration* ▸ *Managing Tables* ▸ *Extended Store Tables* ▸ *Convert HANA Tables to Extended Store Tables Using the SAP HANA Cockpit*

6.1.2.5.4 Create the Remote Source in SAP HANA Studio

> **i Note**
>
> This step is not applicable if you are integrating the alternate storage feature with SAP HANA Dynamic Tiering.

Create a remote source by selecting the appropriate adapter and configuring the connection properties and user credentials.

A detailed procedure is described in the *SAP HANA Administration Guide for SAP HANA Platform*.

For more information, see SAP Help Portal at http://help.sap.com/viewer/p/SAP_HANA_PLATFORM *Administration* > *SAP HANA Administration Guide for SAP HANA Platform* > *Data Access* > *SAP HANA Smart Data Access* > *Managing Remote Sources* > *Creating a Remote Source*.

6.1.2.5.5 Create the Virtual Table

Create the following virtual tables to access the data stored in remote tables:

Virtual Table	Remote Table
VT_TLOGF_NLS	/POSDW/TLOGF
VT_TLOGF_X_NLS	/POSDW/TLOGF_X
VT_TLOGF_EXT_NLS	/POSDW/TLOGF_EXT
VT_PLOGF_NLS	/POSDW/PLOGF

A detailed procedure is described in the *SAP HANA Administration Guide for SAP HANA Platform*.

For more information, see SAP Help Portal at http://help.sap.com/viewer/p/SAP_HANA_PLATFORM *Administration* > *SAP HANA Administration Guide for SAP HANA Platform* > *Data Access* > *SAP HANA Smart Data Access* > *Managing Virtual Tables*.

6.1.2.5.6 Activate Alternate Storage

1. In your back-end system, execute report `/CAR/ACTIVATE_HTA`.
2. Confirm or set the following:
   - In the *ECC Mode* section, choose the relevant ECC mode for your system.
   - In the *External Systems* section, choose *Nearline Storage*.
3. Press *Execute*.

This deploys package `sap.is.retail.car.nls` for ECC mode SAP ERP, or `sap.is.retail.car_s4h.nls` for ECC mode S/4HANA. Each package contains views that combine TLOG data from SAP HANA with TLOG data from the alternate storage system.

6.1.2.6 Ensure that Third-Party CRM Sales Orders are Transferred to SAP ERP

Do this procedure if sales orders were created in a third-party customer relationship management (CRM) system. You must ensure that this data is transferred to the source master data system. From there, it can be replicated to (or accessed directly by) SAP Customer Activity Repository.

Use

Sales documents are accessed by SAP Customer Activity Repository (either through replication or direct data access) from a source SAP ERP system.

One way that sales documents of type *Sales Order* can be generated in a SAP ERP system is through the transfer of sales orders created using an SAP CRM source system or a third-party CRM system.

When customers create sales orders using SAP CRM systems, these sales orders are inherently compatible to the sales document structure in SAP ERP. They are transferred to SAP ERP via the *Data Exchange for Sales Orders: CRM Enterprise - ERP System* process. For more information, see SAP Library for SAP CRM on SAP Help Portal at http://help.sap.com/crm. Select the applicable version of SAP CRM. Under *Application Help*, open SAP Library and choose *Basic Functions* > *Business Transaction* > *Data Exchange for Business Transactions* >.

Customers who use third-party CRM systems to create sales orders, and who want to access these sales orders from SAP Customer Activity Repository, must ensure that their sales order data meets the following criteria:

- It includes the information required by SAP Customer Activity Repository.
- It has been transferred to SAP ERP so that SAP Customer Activity Repository can access the data.

Procedure

1. Ensure that the fields required by SAP Customer Activity Repository are filled during the transfer of sales order data from your third-party CRM system to SAP ERP.
2. Ensure that sales order data has been transferred from your third-party CRM system to SAP ERP.

6.1.2.7 Partition /POSDW/TLOGF and Aggregation Tables

If you wish to use the POS Data Transfer and Audit module, we recommend that you partition the `/POSDW/TLOGF` table and several aggregation tables (such as `/POSDW/TLOGF_EXT`). This improves standard database

operations (such as inserting, updating, deleting, and reading) and mass operations (such as archiving or index merging).

Use

SAP Customer Activity Repository contains the POS Data Transfer and Audit module, which is used to receive a large volume of data from your connected stores. POS Data Transfer and Audit, or more specifically, its POS Inbound Processing Engine (PIPE), processes the incoming transactions and stores them in the `/POSDW/TLOGF` table.

Since every point-of-sale transaction line item is stored as a separate row in the `/POSDW/TLOGF` table, the table can quickly grow to become very large and should therefore be partitioned.

Also, you can select to store extension segments in a dedicated `/POSDW/TLOGF_EXT` table using the *Store Extensions in Separate Table* option of the *Define General Settings* Customizing activity. The `/POSDW/TLOGF_EXT` table should be partitioned in the same way as the `/POSDW/TLOGF` table.

For more information about extension segments, see the *Appendix* section in the *SAP Customer Activity Repository Administration Guide*.

> **i** Note
>
> Partitioning is typically used in distributed systems, but it may also be beneficial for single-host systems.

Procedure

1. Read the *Table Partitioning in the SAP HANA Database* section of the *SAP HANA Administration Guide for SAP HANA Platform* at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM.
2. Plan your **partition specifications** in accordance to the following guidelines:
   - A single partition should not contain more than 1 billion rows.
   - The total number of partitions of a single table should not exceed 1000.
   - Because the actual act of partitioning a table also uses system resources, do not start partitioning the `/POSDW/TLOGF` table until its volume has surpassed 250 million rows.
3. Partition the `/POSDW/TLOGF` table as required according to SAP Note 1719282 (*POS TLOG Table Partitioning Information*).
4. Depending on your requirements, you may also optionally partition the following tables. The same SAP Note is relevant for these as well.
   - `/POSDW/TLOGF_EXT`
   - `/POSDW/AGGR01`
   - `/POSDW/ACCRTB`

6.1.2.8 Customize Copies of SAP HANA Views

Do this procedure if you have extended the delivered data model (for example, if you have added custom fields to tables). First create copies of views included in SAP HANA Live for SAP ERP or in the SAP HANA content for SAP Customer Activity Repository. Then customize these copies to reflect your specific data model extensions.

Use

For example, you need to execute this procedure if you have extended your POS transaction data model. The views delivered with the SAP HANA content for SAP Customer Activity Repository are built on the standard `/POSDW/TLOGF` table. If you have added custom fields to the `/POSDW/TLOGF` table, you have to create views that expose these fields.

> ⚠ Caution
>
> Do not modify standard SAP HANA content.

In general, if you have extended any standard SAP data models, you must copy and adapt the standard SAP HANA content.

> ⚠ Caution
>
> If you have created a copy of a view shipped as part of the standard SAP HANA content and have made modifications to this copy, a subsequent upgrade of SAP HANA Live for SAP ERP or SAP HANA content for SAP Customer Activity Repository will not update your copied and modified version of the view. SAP Notes or enhancements shipped by SAP will also have to be manually implemented on the copied, and subsequently modified, SAP HANA content.

Procedure

1. Log on to SAP HANA studio.
2. Open the *Modeler* and use the *Navigator* to access the folder that contains the view that you want to copy.
   For example, *<Your System Name>* > *Content* > *sap* > *is* > *retail* > *car* > *Calculation Views*.
3. Identify the view you want to copy. For example, `sap.is.retail.car/POSSalesQuery`.
4. Use the *Auto Documentation* feature of SAP HANA studio to identify all reuse and private views that are consumed by your selected view, as well as any query views that might consume your view:
   1. Right-click on the selected view, and choose *Auto Documentation* from the context menu.
   2. Browse to the location where you want to save the file and choose *Finish*.
   3. Open the generated `*.pdf` file, and locate the *Cross-References* section of the document.
      The *Cross-References* section displays the hierarchy of calculation (query, reuse, and private) views that are accessed by the selected view. Affected underlying, as well as all consuming views, in this hierarchy must also be copied and modified as a result of your extension.

> **Example**
>
> Calculation views `sap.is.retail.car/POSSales`, `sap.is.retail.car/POSLogItem`, and `sap.is.retail.car/TLOGF_ITEM_COM` are all consuming the `/POSDW/ TLOGF` table and are consumed by the `sap.is.retail.car/POSSalesQuery` view.
>
> Therefore, if you have extended the `/POSDW/TLOGF` table, all these views must be copied and modified.

5. For each view identified in the previous step, do the following:
   1. In the *Navigator* panel, select an object and in the context menu, choose *Copy*.
   2. Navigate to the package where you want to paste the view and choose *Paste*.

      > **Note**
      >
      > You must have write permissions on the target package to which you are pasting the view. Also, you should copy the view to your own package. Do not modify the original `sap` package.

   3. Modify the copied view as required.
      For more information, see the *Creating Views* section of the *SAP HANA Developer Guide*.
   4. Right-click on the copied and modified view and select *Activate*.

6.1.2.9 Complete UDF Setup

Set up the Unified Demand Forecast (UDF) module in SAP Customer Activity Repository to enable demand modeling and forecasting for different scenarios and consuming applications. To be able to use UDF, you must at least do the mandatory steps. Additionally, you can choose from several optional steps. We also point you to helpful performance information for UDF.

Use

UDF supports the following scenarios:

Scenario	Setup and Configuration of UDF
Apps for demand forecasting (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*)	Mandatory for all the apps
Manage Alerts app	Mandatory if you wish to use the *High Forecast* alert Optional in all other cases
SAP Replenishment Planning	Mandatory

Scenario	Setup and Configuration of UDF
SAP Promotion Management	Mandatory (if you want to use UDF to generate what-if forecasts for offer planning) Optional (without what-if forecasts)
SAP Assortment Planning SAP Allocation Management	Optional in general, but depends on your customer scenario Both applications offer functionality that can use UDF forecast data. For more information, see SAP Help Portal at https://help.sap.com/viewer/p/CARAB and consult the *Application Help* and *Administration Guide* of either application.
Forecast-related analytics	Forecast-related analytics can help you to analyze your UDF forecast data over certain time periods to identify patterns and monitor trends that influence your business. **i Note** As a part of the standard delivery of SAP Analytics Cloud, SAP provides a set of predefined analyses templates. These templates are not part of the delivery of SAP Customer Activity Repository but are delivered separately with SAP Analytics Cloud, in the form of content packages `SAP__RT_UDF_DEMANDFORECASTING_LIVE` (*SAP Retail: Unified Demand Forecast*) and `SAP__RT_RPL_UDF_DASHBOARD_LIVE` (*SAP Retail: Replenishment Planning and Unified Demand Forecast Dashboard*). The content packages contain stories that require a live connection to SAP Customer Activity Repository applications bundle (SAP CARAB). For more information on this scenario, see the *Forecast-Related Analytics* section in the application help for SAP Customer Activity Repository at https://help.sap.com/viewer/p/CARAB.
SAP Forecasting and Replenishment	UDF is required if you wish to retrieve the UDF forecasts via the `/DMF/UFC_RETRIEVE_RESULTS` function module. For more information on this scenario, see the *UDF and SAP Forecasting and Replenishment* section in the application help for SAP Customer Activity Repository at https://help.sap.com/viewer/p/CARAB. **i Note** SAP Forecasting and Replenishment is not part of SAP Customer Activity Repository applications bundle.

> **i Note**
>
> There is currently no integration between UDF and SAP Merchandise Planning.

Prerequisites

- You have set up the users, roles, and privileges for UDF as described in Set Up Authorizations for Unified Demand Forecast (UDF) [page 90].
- You have configured the DDF module as described in Configure Demand Data Foundation [page 105].

Procedure

> **→ Tip**
>
> If you encounter issues during the setup, see the Troubleshooting [page 241] section for possible solutions.

Perform Mandatory Setup Steps

1. Log on to your ABAP back-end system.
2. In transaction SPRO, do the Customizing for UDF that is required for all the scenarios:

> **i Note**
>
> For more information about each Customizing activity, see the accompanying system documentation in SPRO.

Customizing for UDF (All Scenarios)

Do These Steps	Here in Customizing
Define the time series source with historical demand data that you wish to import to DDF and use as input for UDF.	*Cross-Application Components* > *Demand Data Foundation* > *Imported Data Time Series* > *Define Time Series for Key Figure Configuration* **⚠ Caution** **Additional Customizing for SAP Promotion Management** If you wish to use what-if forecasts in SAP Promotion Management, additionally configure this second activity: *Cross-Application Components* > *Demand Data Foundation* > *Data Maintenance* > *Define Time Series Source*

Do These Steps	Here in Customizing
Define settings for modeling and forecasting.	*Cross-Application Components* > *Demand Data Foundation* > *Modeling and Forecasting* : See all the activities under this node.

Do These Steps	Here in Customizing
Review the default settings of the business exceptions that UDF can raise; adjust the settings as required for your scenario.	*Cross-Application Components* > *Demand Data Foundation* > *Basic Settings* > *Alert and Exception Management*: • *Maintain Configuration Data for High Level Exceptions* 1. Execute the activity to display the table of exceptions. **i Note** You might need to scroll to the right to see all table columns. 2. Filter the table by the application area `/DMF/UDF_BUSINESS`. Here you can find the business exceptions for UDF. You can configure the behavior of each exception and switch it on or off as needed. If such an exception is raised for a UDF job, you will get a corresponding message, which you can then review in the *Monitor Exceptions* service in transaction `NWBC`. **i Note** You can see the message numbers and short texts in the table. If you wish to display details, select the message in the table and double-click *Assignment Business Area*. If you wish to display the long text of a message, execute transaction `SE91` and enter `/DMF/UDF_BUSINESS` as the message class. Select the message that you are interested in and choose *Long Text*. 3. In the *Default Priority* column, verify the priority setting of each exception. If required, change to edit mode and adjust the setting. If an exception is not relevant for your scenario, set it to *Not Relevant/ Switched Off*. **→ Tip** There are 3 messages (exceptions) for which we recommend that you switch them off for best performance. Only switch them on if you really need them for your scenario. The messages are: • Message 019: *No historical demand data for product &1 location &2 using priors* • Message 020: *No demand model for product &1 location &2 multi-channel &3 using priors* • Message 060: *Product &1 and location &2 removed from service due to MRP type* **Context:** The messages indicate issues in the input data (such as the time series source with historical demand data). Depending on the quality of this data, the messages might be raised for a great many product locations, and this can impact performance.

Do These Steps	Here in Customizing
	It's best to check the integrity of the input data before running UDF jobs. For example, you can use the data validation report described in SAP Note 2161484. **Behavior:** Note that the messages have a different default priority depending on your release of SAP Customer Activity Repository. Adjust the configuration as follows: • For any release of SAP Customer Activity Repository 4.0 or for SAP Customer Activity Repository 5.0 Initial Shipment Stack: The messages are switched on by default. If you have upgraded from any of these releases, now set the default priority of each message that you don't need to *Not Relevant/ Switched Off*. • As of SAP Customer Activity Repository 5.0 FPS01, the messages are switched off by default. We recommend that you only switch on those messages that you actually need for your scenario. 4. Save your changes. • *Maintain Configuration Data for Low Level Exceptions*: (Optional) This activity works similarly to the previous one. Here you can find the technical exceptions for UDF in the application area `/DMF/UDF_TECHNICAL`. Each technical exception is already assigned to a business exception. Technical exceptions typically indicate issues that need to be solved by system administrators. → Tip We recommend that you keep the default settings. • *Define Customer-Specific Replacement Messages*: (Optional) Configure this activity if you wish to use different message texts than the ones provided by default. • *Define Customizable Message Status*: (Optional) Configure this activity if you wish to use different or additional statuses than the ones provided by default.

3. Check and, if necessary, change the setting for how the covariance matrix is generated during modeling.
   1. Navigate to *Cross-Application Components* > *Demand Data Foundation* > *Modeling and Forecasting* > *Define Modeling Control Settings* and execute the Customizing activity.
   2. Check that the `MOD_COV_REDUCED` parameter is configured correctly for your scenario.

The parameter controls whether the “full covariance matrix” (default) or the “reduced covariance matrix” should be generated:

For These Scenarios	Use this Setting
You want to use UDF to generate the forecast confidence index (FCI) for SAP Promotion Management.	The **full covariance matrix** is mandatory for the FCI. **i Note** Be aware that the generation of the full covariance matrix is performance-intensive. **Correct setting of `MOD_COV_REDUCED`:** • Either the parameter is not listed at all under *Configuration Type Code*. • Or the parameter is listed under *Configuration Type Code* and the *Configuration Value* is empty. Either setting activates the default (full covariance matrix is generated).
All other scenarios, that is: • You want to calculate hierarchical priors (HPRs). • You want to use SAP Promotion Management, but without generating the FCI. • You want to use other consuming applications, but not SAP Promotion Management.	The **reduced covariance matrix** is sufficient for those scenarios and also saves runtime. **Correct setting of `MOD_COV_REDUCED`:** • The parameter is listed under *Configuration Type Code* and the *Configuration Value* is set to **X**. This setting overrides the default.

3. Make any other settings as required for your scenario and save your changes.

4. Configure the modeling and forecasting features that you wish to use in your scenario.
   See the *Configure Unified Demand Forecast (UDF)* section of the *SAP Customer Activity Repository Administration Guide*.

   → Tip

   You can find detailed configuration information for a number of UDF features in this section. Here you can fine-tune UDF for your customer scenario and requirements.

5. Set up your forecast scenario for best performance.
   See the following sections of the *SAP Customer Activity Repository Administration Guide*:
   1. Optimize the performance of modeling, forecasting, and the calculation of hierarchical priors. See *Optimize UDF Performance*.
   2. Set up routines for regular data housekeeping. For example, schedule reports to regularly delete obsolete data. See *Performance — Optimize the Data Lifecycle* and *Administration Tools*.

> → Tip
>
> We highly recommend that you read this information carefully and implement any performance tips that are relevant for your scenario.

6. Set up the integration and data replication between your source master data system and your SAP Customer Activity Repository system.
   See the following sections of the *SAP Customer Activity Repository Administration Guide*:
   - For integration information for UDF and DDF, see *Introduction to SAP Customer Activity Repository* and *Configure DDF Integration Scenarios*.
   - For setup information on the data replication framework (DRF, transaction `DRFOUT`) for replicating master and transactional data, see *Configure Data Replication from SAP ERP and SAP S/4HANA to DDF*.
7. In the future development of your scenario, you might implement custom code or change UDF output tables. Carefully read the following information to ensure that such adaptations will continue to function correctly for your scenario:

> ⚠ Caution
>
> With the release of SAP Customer Activity Repository 4.0 FPS03, the UDF database storage design was refactored to enhance system performance. Be aware that as a result, the following open SQL statements are no longer supported for the following UDF tables:

Do not use any of these SQL statements...	... with any of these tables
`UPDATE FROM wa`	`/DMF/UMD_TSD`
`UPDATE FROM TABLE itab`	`/DMF/UMD_TS`
`DELETE FROM wa`	`/DMF/UFC_TSD`
`DELETE FROM TABLE itab`	`/DMF/UFC_TS`
`DELETE WHERE UP TO N ROWS`	`/DMF/UFC_TRC`
`MODIFY FROM wa`	`/DMF/UMD_PAR`
`MODIFY FROM TABLE itab`	`/DMF/UMD_PAR_COV`
`ORDER BY PRIMARY KEY`	`/DMF/UMD_PRI`
`SELECT SINGLE FOR UPDATE`	`/DMF/TS_PS`
`Usage of Table Buffer`	
`EXPORT/IMPORT`	

You have now completed the mandatory setup steps for UDF.

Perform Optional Setup Steps

You have the following additional options:

1. (Highly recommended) Set up the apps for demand forecasting (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*) and the *Manage Alerts* app.

See the Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 154] section.

2. Verify the data replication results that are relevant for UDF:
   For example, verify that the following data is replicated correctly from the source master data system: product hierarchy, location hierarchy, product prices, delisting information for product locations (table `/DMF/PRODLOC_TD`), closing days and public holidays for locations (tables `/DMF/LOC`, `/DMF/TSTRM`, `/DMF/LOC_TSTRM`, and `/DMF/TSTRM_DAY`).

   > **i Note**
   >
   > For more information on the data replication, see *Configure Data Replication from SAP ERP and SAP S/4HANA to DDF* section in the *SAP Customer Activity Repository Administration Guide*.

3. To achieve a high forecast accuracy right from the beginning, provide ample promotional data:
   - Load the historical promotions into UDF (if this data is available).
   - Define user DIFs in the past to account for the historical promotions.
   - Check the offer lift type codes of offers that were created in SAP Promotion Management and transferred (translated) to UDF. In particular, check for the offer lift type codes 98 and 99 and solve the underlying issues. For more information, see Verify Integration with SAP Promotion Management.
4. Implement SAP Note 2161484: Here you can find information about an ABAP validation report that you can use to check the input data for modeling and forecasting and solve potential issues.

6.1.2.10 Set Up SAP Fiori Apps for SAP Customer Activity Repository

Perform common setup steps that are required for the apps in SAP Customer Activity Repository. For example, check that the prerequisites are installed and prepare the system landscape. Then set up the apps that you want to use in your scenario.

Context

You can find a list of the apps included in SAP Customer Activity Repository in the SAP Fiori for SAP Customer Activity Repository section in the application help.

For a diagram of a typical SAP Fiori system landscape, see the UI Content and Authorization Concept section in the *SAP Fiori: App Implementation* .

> **i Note**
>
> Depending on your scenario, some of the following prerequisites might already be available in your system landscape. If so, you can skip the corresponding step.

General Prerequisites

- **SAP Fiori front-end server:** You have installed the `SAP FIORI FRONT-END SERVER` add-on product version for this release. For the minimum requirement, see section Install the Prerequisites [page 19] and consult the information under *Common Prerequisites* > *SAP Fiori*.

  > → Tip
  >
  > There is a quick way how you can check the SAPUI5 version currently installed in your system. See SAP Note 2282103 (*How to check the version of SAPUI5 you have installed*).

- **SAP Fiori launchpad:** You have set up the launchpad as described in section Configure SAP Fiori Launchpad [page 120].
- **SAP Fiori launchpad designer:** You have set up the designer as described in the product documentation of SAP Fiori launchpad, in section Initial Setup of the Launchpad Designer. Depending on your front-end system, select a different version at the top.
- **SAP Gateway:** You have done the general SAP Gateway configuration and you have activated the common OData services and Internet Communication Framework (ICF) services. For instructions, see the following:
  - Section Configure SAP Gateway [page 110] in this guide, including the subsections
  - SAP Note 1560585 (*SAP Gateway 2.0 Release Note*)

Prerequisites Specific to SAP Customer Activity Repository applications bundle

1. You have installed the correct revision of the `SAP RTL AFL FOR SAP HANA` component in the SAP HANA database. See section Download and Install SAP RTL AFL FOR SAP HANA [page 66].
2. You have installed the back-end product version. This ensures that all app features of the current release are supported by the back-end. See section Install ABAP Back-End Server [page 65].
3. You have installed the front-end product version. This ensures that you get the newest app UIs on the front-end. See section Install ABAP Front-End Server [page 78].
4. You have implemented any SAP Notes (back-end and front-end corrections) for the apps that you wish to set up. See section Implement SAP Notes for the Installation [page 34] and consult the release information notes (RINs) mentioned there and also the table for SAP Customer Activity Repository.
5. You have performed all mandatory setup steps for SAP Customer Activity Repository. For example, this includes activating the OData services for the apps and calculating the SAPUI5 application index. For instructions, see section Core (Mandatory for All Applications) [page 86].
6. You have set up the system connections:
   - You have set up the following dedicated RFC connections in transaction `SM59` (*Configuration of RFC Connections*):
     - between your front-end system and your back-end system
     - between your front-end system and your source master data system
   - You have defined a system alias for your back-end system. See section Activate OData Services [page 114] and search for *alias*.
7. (Optional) If you wish to set up the apps included in OAA, follow the steps in section *Configure Omnichannel Article Availability and Sourcing for Use with SAP Customer Activity Repository* in this guide.

Result

After you have prepared the system landscape in this way, you can now set up the apps that you wish to use.

> → Tip
>
> If you encounter issues during the setup, see the Troubleshooting SAP Fiori Apps section in the *SAP Fiori: Operations* documentation.

Set Up the Apps for Demand Forecasting [page 156]
: The apps for demand forecasting are *Analyze Forecast*, *Adjust Forecast*, and *Manage Demand Influencing Factors*. Get step-by-step instructions for the setup and make app-specific settings in the back-end system and the front-end system.

Set Up the Apps for Demand Data Foundation (DDF) [page 179]
: Do this procedure to set up the DDF apps for standalone scenarios. The DDF apps are: *Configure Distribution Curves*, *Manage Location Clusters*, *Manage Product Attributes*, *Manage Product Groups*, *Manage Promotional Offers*. To access any of these apps, you need to assign the required role(s) to your front-end user. This gives you access to the relevant business catalogs and business catalog groups so that you can then open the apps in SAP Fiori launchpad.

6.1.2.10.1 Set Up the Apps for Demand Forecasting

The apps for demand forecasting are *Analyze Forecast*, *Adjust Forecast*, and *Manage Demand Influencing Factors*. Get step-by-step instructions for the setup and make app-specific settings in the back-end system and the front-end system.

Context

The apps for demand forecasting help you manage forecast scenarios with Unified Demand Forecast (UDF). UDF is the common forecasting engine in the back-end. The apps and UDF are all delivered as part of SAP Customer Activity Repository. The apps are sometimes also referred to as the “forecast apps” or the “UDF apps”.

> ℹ Note
>
> If you need information on the app features, see the SAP Fiori Apps for Your Forecast Scenario section in the application help for SAP Customer Activity Repository.

Prerequisites

- You have migrated the pricing data to the `/DMF/PRC` table as described in Migrate to New Default Table for Sales Pricing Data (/DMF/PRC).

- You have set up Unified Demand Forecast in your back-end system as described in Complete UDF Setup [page 146].
- You have verified the prerequisites and prepared the system landscape as described in Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 154].

Procedures

1. Set the `APPSTATE_TRANSIENT` parameter to `false` in SAP Fiori Customizing:
   The parameter controls whether app state data for navigation is kept in the browser memory only (transient) or stored in the database of the front-end server. With this setting, you can ensure that your selection of products and locations will be kept when you navigate between the apps.
   1. Log on to your front-end system.
   2. Execute transaction `/UI2/FLP_CUS_CONF` to open the *"FLP Configuration": Overview* screen.
   3. Choose *FLP Configuration* > *New Entries* and make the following settings:
      - *FLP Property ID*: `APPSTATE_TRANSIENT`
      - *Property Value*: `false`

      > → Tip
      >
      > You can find a detailed description of the parameter in the Launchpad Configuration Parameters section of the *SAP Fiori Launchpad* documentation. If necessary, select a different version at the top.
      >
      > If you encounter any issues, see the configuration instructions in the Setting Parameters in SAP Fiori Customizing section of the *SAP Fiori Launchpad* documentation.
   4. Save your changes.

      > → Tip
      >
      > We recommend that you schedule a report to clean up expired app states on a daily basis. For more information, see the Cleanup of Expired Application State section of the *SAP Fiori Launchpad* documentation.
2. Continue with the app-specific setup as described in the following sections.

   Set Up the Analyze Forecast App [page 158]
   Perform several tasks on the front-end server and the back-end server to set up the *Analyze Forecast* app. First do all the mandatory steps. Then perform any of the optional steps that are helpful for your scenario. At the end, we point you to configuration information for specific app features.

   Set Up the Adjust Forecast App [page 165]
   Perform several tasks on the front-end server and the back-end server to set up the *Adjust Forecast* app and the related tiles *Forecast Correction Classification* and *Forecast Correction Overlapping Rules*. First do all the mandatory steps. Then perform any of the optional steps that are helpful for your scenario. At the end, we point you to configuration information for specific app features.

   Set Up the Manage Demand Influencing Factors App [page 171]
   Perform several tasks on the front-end server and the back-end server to set up the *Manage Demand Influencing Factors* app and the related tile *Demand Influencing Factors Library*. First do all the

mandatory steps. Then perform any of the optional steps that are helpful for your scenario. At the end, we point you to configuration information for specific app features.

Adjust Forecast App and Manage Demand Influencing Factors App: Schedule Reports to Delete Obsolete Drafts [page 177]

When a user creates or updates a forecast correction in the *Adjust Forecast* app, the system automatically saves a draft in the background. The same is true when a user creates or updates a DIF assignment in the *Manage Demand Influencing Factors* app. The drafts remain available as user-specific working versions. For performance reasons, you should delete obsolete drafts on a regular basis. The two reports `/DPL/REORG_DRAFT_TABLES` and `/DPL/REORG_DIF_DRAFT_TABS` are available for this.

6.1.2.10.1.1 Set Up the Analyze Forecast App

Perform several tasks on the front-end server and the back-end server to set up the *Analyze Forecast* app. First do all the mandatory steps. Then perform any of the optional steps that are helpful for your scenario. At the end, we point you to configuration information for specific app features.

Context

This app is one of the "apps for demand forecasting", a group of forecast-related apps delivered with SAP Customer Activity Repository. All apps for demand forecasting have the following in common:

- The forecasting engine in the back-end is Unified Demand Forecast (UDF). The UDF application function library (delivered via the `SAP RTL AFL FOR SAP HANA` component) runs directly in the SAP HANA database.
- Cross-navigation is supported. For example, users can navigate directly from *Analyze Forecast* to *Adjust Forecast* and *Manage Demand Influencing Factors*.

> **i Note**
>
> Be aware that the app is not meant to be a reporting UI at the enterprise level, but a tool to analyze specific forecast issues at lower levels.

Prerequisites

- You have verified the prerequisites and prepared the system landscape as described in Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 154].
- You have set up Unified Demand Forecast as described in Complete UDF Setup [page 146].
- You know where to find additional information on the *Analyze Forecast* app if necessary:
  - Technical details for each delivery are available in the SAP Fiori apps reference library. For the latest delivery (latest wave), see https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html?appId=F1773A.

- If you need information on the app features and the app history, see https://help.sap.com/viewer/p/CARAB. Select your version at the top, open the application help for SAP Customer Activity Repository, and search for the *Analyze Forecast* section.

Procedure

To set up the app, perform all the mandatory steps and any of the optional steps that you need in your scenario.

Mandatory Steps

> **i** Note
>
> The steps point you to different sections of the SAP Fiori implementation information. When following a link, you might need to select a different version at the top, depending on your front-end system release.
>
> You can always use the following link as your main entry point to SAP Fiori implementation information: https://help.sap.com/viewer/product/FIORI_IMPLEMENTATION/latest/en-US?task=implement_task.

> **→** Tip
>
> If you encounter issues during the setup, see the Troubleshooting [page 241] section in this guide and also the Troubleshooting SAP Fiori Apps section in the *SAP Fiori: Operations* documentation.

1. **Log on to your front-end server.**
2. **Configure the SAP Fiori launchpad designer for the app.**
   1. Launch the SAP Fiori launchpad designer in one of the following modes:
      - The `CUST` mode is for client-specific configurations. Use the following URL and replace `<client>` with the respective system client:
        `https://<server>:<port>/sap/bc/ui5_ui5/sap/arsrvc_upb_admn/main.html?sap-client=<client>#/Catalog/X-SAP-UI2-CATALOGPAGE:SAP_ISR_CAR_TC_A`
      - The `CONF` mode is for global configurations across all clients. It additionally includes the `<CONF>` parameter. Use the following URL:
        `https://<server>:<port>/sap/bc/ui5_ui5/sap/arsrvc_upb_admn/main.html?sap-client=<client>&scope=<CONF>#/Catalog/X-SAP-UI2-CATALOGPAGE:SAP_ISR_CAR_TC_A`
   2. Configure the app tile in the SAP Fiori launchpad designer.

      > **i** Note
      >
      > You can configure tiles only in catalogs. By default, the tiles of the apps for demand forecasting are in the technical catalog `SAP_DPL_TC_T`. The catalog is shipped with the launchpad configuration.
      >
      > For more information on catalogs and tiles, see the UI Content and Authorization Concept section in the *SAP Fiori: App Implementation* documentation.

      If the app tile has not yet been created, create it as a static tile using the following settings:

      - *Title*: **`Analyze Forecast`**
      - *Icon*: **`sap-icon://Fiori5/F0812`**

- *Use semantic object navigation*: Select this option.
- *Semantic Object*: **`ForecastDemand`**
- *Action*: **`showUDFAnalyzeForecast`**
- Leave the other options empty.

3. Configure the target mapping in the SAP Fiori launchpad designer.

> **i Note**
>
> If you need more information on configuring target mappings, see the Maintaining Business Catalogs and Business Groups section in the *SAP Fiori: App Implementation* information.

If the target mapping has not yet been created, choose *Target Mappings* and create a new entry with the following settings:

- *Semantic Object*: **`ForecastDemand`**
- *Action*: **`showUDFAnalyzeForecast`**
- *Application Type*: **`SAPUI5 Fiori App`**
- *Title*: **`Analyze Forecast`**
- *URL*: **`/sap/bc/ui5_ui5/sap/analyzfcst_v2`**
- *ID*: **`retail.udf.analyzeforecastv2`**
- *Device Types*: Select *Desktop*.
- *Allow additional parameters*: Select this option.

3. **Complete the app setup on the front-end server.**

> **i Note**
>
> You can find the general SAP Fiori help for this step in the Implementation Tasks on Front-End Server section in the *SAP Fiori: App Implementation* information.
>
> Use this section as your starting point. However, to configure the app, you only need to do some of the steps described there.

1. Verify that the SAP Gateway OData services for Unified Demand Forecast and the apps for demand forecasting have been activated. If a service is not active, activate it.
See section Activate OData Services [page 114].
2. Activate the following Internet Communication Framework (ICF) services for the app:

ICF Services for Analyze Forecast

Combined Service Path and Name	Service Path	Service Name
`/sap/bc/bsp/sap/analyzfcst_v2`	`/sap/bc/bsp/sap/`	`analyzfcst_v2`
`/sap/bc/lrep`	`/sap/bc/`	`lrep`
`/sap/bc/ui5_ui5/sap/analyzfcst_v2`	`/sap/bc/ui5_ui5/sap/`	`analyzfcst_v2`
`/sap/bc/bsp/sap/udfreuse`	`/sap/bc/bsp/sap/`	`udfreuse`
`/sap/bc/ui5_ui5/sap/udfreuse`	`/sap/bc/ui5_ui5/sap/`	`udfreuse`

1. Execute transaction `SICF` (*Define Services*) and search for each service from the table above.
    1. As *Hierarchy Type*, select *SERVICE*.
    2. Enter the *Service Path* from the table.
    3. Enter the *Service Name* from the table.
    4. Execute the search (F8).
2. Once you have found a service, activate it:

    In the *Virtual Hosts/Services* column, select the `analyzfcst_v2` entry and choose *More* > *Service/Host* > *Activate*.

> **i Note**
>
> If you need more information on activating services, see section Activating ICF Services of SAPUI5 Application.

3. Create your custom copy of the `SAP_CAR_TCR_A` standard role on the front-end server:

> **i Note**
>
> `SAP_CAR_TCR_A` is the front-end server authorization role delivered for analytical apps in SAP Customer Activity Repository. The role contains the catalogs, groups, and start authorizations for the OData services required to access the app.

> **⚠ Caution**
>
> Standard roles are delivered as templates. They begin with the prefix `SAP_*`. Never change the standard roles, but only your custom copies of these roles (`Z_*`). Otherwise, any standard roles that you have changed will be overwritten by newly delivered standard roles during a later upgrade or release change.

    1. Execute transaction `PFCG` (*Role Maintenance*) and search for the `SAP_CAR_TCR_A` standard role.
    2. Choose *Role* > *Copy* and enter a name from the customer namespace for your copied role.
    3. Switch to change mode and adjust the copied role as needed for your scenario.
    4. Assign the required launchpad catalogs and groups.
       Follow the steps in Creating PFCG Role on Front-End and Assigning Launchpad Catalogs and Groups.
    5. Save your changes.
4. Create your custom copy of the `SAP_DPL_TCR_T` standard role on the front-end server:

> **i Note**
>
> `SAP_DPL_TCR_T` is the front-end server authorization role for the apps for demand forecasting. It contains the catalogs, groups, and start authorizations for the OData services required to access the apps.

> **⚠ Caution**
>
> Standard roles are delivered as templates. They begin with the prefix `SAP_*`. Never change the standard roles, but only your custom copies of these roles (`Z_*`). Otherwise, any standard roles

that you have changed will be overwritten by newly delivered standard roles during a later upgrade or release change.

> **i Note**
>
> This step is similar to the previous one, and you can consult the same references.

1. Execute transaction `PFCG` to open the *Role Maintenance* screen. Search for the role.
2. Choose *Role* > *Copy* and enter a name from the customer namespace for your copied role.
3. Switch to change mode and adjust the copied role as needed for your scenario.
4. Assign the required launchpad catalogs and groups.
   Follow the steps in Creating PFCG Role on Front-End and Assigning Launchpad Catalogs and Groups
   .
5. Save your changes.

4. **Set up the catalogs, groups, and roles in the SAP Fiori launchpad.**
   Follow the steps in Maintaining Business Catalogs and Business Groups.
5. **Assign the two custom copies (which you created from the two standard roles) to the users of the app.**
   Follow the steps in Assigning Roles to Users on Front End.

> **→ Tip**
>
> If you already have an SAP Fiori launchpad open, clear your browser cache to see your changes on the user interface.

6. **Complete the setup on the back-end server.**
   1. Log on to the back-end server.
   2. Create your custom copy of the `/DMF/DPL` standard role:

> **i Note**
>
> `/DMF/DPL` (*Demand Planner (Retail)*) is the back-end authorization role for the apps for demand forecasting.

> **⚠ Caution**
>
> Standard roles are delivered as templates. They begin with the prefix `SAP_*`. Never change the standard roles, but only your custom copies of these roles (`Z_*`). Otherwise, any standard roles that you have changed will be overwritten by newly delivered standard roles during a later upgrade or release change.

   1. Execute transaction `PFCG` to open the *Role Maintenance* screen.
   2. Search for the role.
   3. Choose *Role* > *Copy* and enter a name from the customer namespace for your copied role.
   4. Switch to change mode and adjust the copied role as needed for your scenario. For example, assign users to the role.
   5. Assign the required launchpad catalogs and groups.
      Follow the steps in Creating PFCG Role on Back End for Launchpad Catalogs.

6. Save your changes.

3. Assign areas of responsibility (AORs):
   Assign a product hierarchy AOR and a location hierarchy AOR to each ABAP back-end user of the app. This enables the respective front-end user to use the *Product Hierarchy* and *Location Hierarchy* filters in the app and display the assigned hierarchy nodes.

   You assign AORs in transaction `NWBC` under *Services* > *Maintain Area of Responsibility*. For information on the supported hierarchy types and instructions, see the Maintain Area of Responsibility section in the application help for SAP Customer Activity Repository.

> **i Note**
>
> You have completed the mandatory setup steps for the app. Take a look at the optional steps and implement any that are relevant for your scenario.

Optional Steps - Highly Recommended

Perform any of the following optional steps that are helpful for your scenario:

- **Enable the in-app help:**
  Enable this feature so users can display on-screen help directly in the app. Set up SAP Web Dispatcher and the In-App Help plug-in as described in Enable In-App Help [page 416].

  > **→ Tip**
  >
  > After a successful setup, you can see the Help icon (question mark) at the top of the app. Simply choose this icon (or press `F1`) to display the in-app help and call up a detailed app description.

- **Set up the related apps:**
  See Set Up the Apps for Demand Forecasting [page 156].
- **Set up single sign-on (SSO):** Set up the single sign-on between the front-end server and the back-end server.
  The authentication concept for SAP Fiori apps comprises initial user authentication on the ABAP front-end server, followed by authentication of all requests to back-end systems. The available SSO mechanisms may differ depending on your customer system landscape. For more information, see SAP Fiori: Security, select your version, and choose *User Authentication and Single Sign-On (SSO)*.

Configuration

After this technical setup, you can now configure the app for your specific scenario. For example, you can do the following:

- **Enable the display of future prices:**
  If you wish to display future prices in *Analyze Forecast*, you must first enable **forecast tracing** in Unified Demand Forecast (UDF). This is because the app uses the price information from the tracing results table (`/DMF/UFC_TRC`). Forecast tracing is available for all supported time series.

  > **i Note**
  >
  > Be aware that forecast tracing can have an impact on performance (sizing, runtime).

You enable forecast tracing in Customizing:

1. Execute transaction SPRO and choose *Cross-Application Components* > *Demand Data Foundation* > *Modeling and Forecasting* > *Define Forecasting Control Settings*.
2. Choose *New Entries*.
3. Add an entry with the following settings:
   - *Configuration Type Code*: FC_OUTPUT_TRACE
   - *Configuration Value*: X (=ON)
4. Save your changes.
5. Run forecasting.

- **Enable the demand decomposition for concrete troubleshooting and support cases:**
  To be able to see the decomposition time series in the *Decomposition Chart*, you must first enable the demand decomposition for the model or forecast job that you wish to view in the app. Similarly, you must enable the demand decomposition if you wish to display the DIF effects of past and future variable seasons in this chart.
  For instructions, see the Configure Demand Decomposition section in the *SAP Customer Activity Repository Administration Guide*.

  > ⚠ Caution
  >
  > Be aware that the demand decomposition can have a considerable impact on performance. Activate it only for concrete analyses, and then only for diagnostic jobs with a very small selection of product locations. Never activate the demand decomposition for production modeling or production forecasting.
  >
  > Because of the performance impact, the demand decomposition is disabled by default.

App Extensibility

If you wish to extend the app with custom content, do the following:

1. Navigate to the SAP Fiori App Reference Library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html.
2. Search for the app.
3. On the app details screen, choose *IMPLEMENTATION INFORMATION* and select a delivery.
4. Consult the information under *Extensibility*. For example, here you can find a list of the available extension points and controller hooks.
5. Consult SAP Note 2274090 (*Steps to be followed to extend SAP Fiori Apps for SAP CARAB*). Here you can find an example of how to extend apps in SAP Customer Activity Repository applications bundle.
6. For general extensibility information for SAP Fiori, see the SAP Fiori Overview and consult the information under *Extend and Develop SAP Fiori Apps*.

Result

You have successfully set up the *Analyze Forecast* app.

6.1.2.10.1.2 Set Up the Adjust Forecast App

Perform several tasks on the front-end server and the back-end server to set up the *Adjust Forecast* app and the related tiles *Forecast Correction Classification* and *Forecast Correction Overlapping Rules*. First do all the mandatory steps. Then perform any of the optional steps that are helpful for your scenario. At the end, we point you to configuration information for specific app features.

Context

This app is one of the "apps for demand forecasting", a group of forecast-related apps delivered with SAP Customer Activity Repository. All apps for demand forecasting have the following in common:

- The forecasting engine in the back-end is Unified Demand Forecast (UDF). The UDF application function library (delivered via the `SAP RTL AFL FOR SAP HANA` component) runs directly in the SAP HANA database.
- Cross-navigation is supported. For example, users can navigate directly from *Analyze Forecast* to *Adjust Forecast* and *Manage Demand Influencing Factors*.

Prerequisites

- You have verified the prerequisites and prepared the system landscape as described in Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 154].
- You have set up Unified Demand Forecast as described in Complete UDF Setup [page 146].
- You have set up *Analyze Forecast* as described in Set Up the Analyze Forecast App [page 158].
- You know where to find additional information on the *Adjust Forecast* app if necessary:
  - Technical details for each delivery of the app are available in the SAP Fiori apps reference library. For the latest delivery (latest wave), see https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html?appId=F3479.
  - If you need information on the app features and the app history, see https://help.sap.com/viewer/p/CARAB. Choose your version at the top, open the application help for SAP Customer Activity Repository, and search for the *Adjust Forecast* section.

Procedure

To set up the app, perform all the mandatory steps and any of the optional steps that you need in your scenario.

Mandatory Steps

> **i Note**
>
> The steps point you to different sections of the SAP Fiori implementation information. When following a link, you might need to select a different version at the top, depending on your front-end system release.

You can always use the following link as your main entry point to SAP Fiori implementation information: https://help.sap.com/viewer/product/FIORI_IMPLEMENTATION/latest/en-US?task=implement_task.

→ Tip

If you encounter issues during the setup, see the Troubleshooting [page 241] section in this guide and also the Troubleshooting SAP Fiori Apps section in the *SAP Fiori: Operations* documentation.

1. **Log on to your front-end server.**
2. **Configure the SAP Fiori launchpad designer for the app.**
   1. Launch the SAP Fiori launchpad designer in one of the following modes:
      - The `CUST` mode is for client-specific configurations. Use the following URL and replace `<client>` with the respective client:
        `https://<server>:<port>/sap/bc/ui5_ui5/sap/arsrvc_upb_admn/main.html?sap-client=<client>#/Catalog/X-SAP-UI2-CATALOGPAGE:SAP_DPL_TC_T`
      - The `CONF` mode is for global configurations across all clients. It additionally includes the `<CONF>` parameter. Use the following URL:
        `https://<server>:<port>/sap/bc/ui5_ui5/sap/arsrvc_upb_admn/main.html?sap-client=<client>&scope=CONF#/Catalog/X-SAP-UI2-CATALOGPAGE:SAP_DPL_TC_T`
   2. Configure the app tiles in the SAP Fiori launchpad designer.

      i Note

      You can configure tiles only in catalogs. By default, the tiles of the apps for demand forecasting are in the technical catalog `SAP_DPL_TC_T`. The catalog is shipped with the launchpad configuration.

      For more information on catalogs and tiles, see the UI Content and Authorization Concept section in the *SAP Fiori: App Implementation* documentation.

      If the app tiles have not yet been created, create them as static tiles using the following settings:
      For *Adjust Forecast*:
      - *Title*: **`Adjust Forecast`**
      - *Icon*: **`sap-icon://Fiori5/F0819`**
      - *Use semantic object navigation*: Select this option.
      - *Semantic Object*: **`ForecastDemand`**
      - *Action*: **`editUDFAdjustForecast`**
      - Leave the other options empty.

      For *Forecast Correction Classification*:
      - *Title*: **`Forecast Correction Classification`**
      - *Icon*: **`sap-icon://group-2`**
      - *Information*: **`/DMF/FCC_MAINT_CLSCF`**
      - *Use semantic object navigation*: Select this option.
      - *Semantic Object*: **`DemandPlanConfiguration`**
      - *Action*: **`create`**
      - Leave the other options empty.

      For *Forecast Correction Overlapping Rules*:
      - *Title*: **`Forecast Correction Overlapping Rules`**

- *Icon*: **sap-icon://Fiori2/F0306**
- *Information*: **/DMF/FCC_MAINT_RULES**
- *Use semantic object navigation*: Select this option.
- *Semantic Object*: **DemandPlanConfiguration**
- *Action*: **manage**
- Leave the other options empty.

3. Configure the target mapping in the SAP Fiori launchpad designer.

> **i Note**
>
> If you need more information on configuring target mappings, see the Maintaining Business Catalogs and Business Groups section in the *SAP Fiori: App Implementation* information.

If the target mappings have not yet been created, choose *Target Mappings* and create new entries with the following settings:
For *Adjust Forecast*:

- *Semantic Object*: **ForecastDemand**
- *Action*: **editUDFAdjustForecast**
- *Application Type*: **SAPUI5 Fiori App**
- *Title*: **Adjust Forecast**
- *URL*: **/sap/bc/ui5_ui5/sap/adjustforecast**
- *ID*: **retail.dpl.adjustforecast**
- *Device Types*: Select *Desktop*.
- *Allow additional parameters*: Select this option.

For *Forecast Correction Classification*:

- *Semantic Object*: **DemandPlanConfiguration**
- *Action*: **create**
- *Application Type*: **Transaction**
- *Title*: **Forecast Correction Classification**
- *Transaction*: **/DMF/FCC_MAINT_CLSCF**
- *System Alias*: **<replace the delivered default entry with your customer-specific system alias>**
- *Information*: **Transaction /DMF/FCC_MAINT_CLSCF**
- *Device Types*: Select *Desktop*.
- *Allow additional parameters*: Select this option.

For *Forecast Correction Overlapping Rules*:

- *Semantic Object*: **DemandPlanConfiguration**
- *Action*: **manage**
- *Application Type*: **Transaction**
- *Title*: **Forecast Correction Overlapping Rules**
- *Transaction*: **/DMF/FCC_MAINT_RULES**
- *System Alias*: **<replace the delivered default entry with your customer-specific system alias>**
- *Information*: **Transaction /DMF/FCC_MAINT_RULES**
- *Device Types*: Select *Desktop*.

- *Allow additional parameters*: Select this option.

3. **Complete the app setup on the front-end server.**

> **i Note**
>
> You can find the general SAP Fiori help for this step in the Implementation Tasks on Front-End Server section in the *SAP Fiori: App Implementation* information.
>
> Use this section as your starting point. However, to configure the app, you only need to do some of the steps described there.

1. Verify that the SAP Gateway OData services for Unified Demand Forecast and the apps for demand forecasting have been activated. If a service is not active, activate it.
   See Activate OData Services [page 114].
2. Activate the Internet Communication Framework (ICF) service for the app:
   1. Execute transaction `SICF` (*Define Services*).
   2. As *Hierarchy Type*, select *SERVICE*.
   3. As *Service Path*, enter **`/sap/bc/ui5_ui5/sap/`**.
   4. As *Service Name*, enter **`adjustforecast`**.
   5. Execute the search (F8).
   6. In the *Virtual Hosts / Services* column, select the `ADJUSTFORECAST` entry and choose *More* > *Service/Host* > *Activate*.

   > **i Note**
   >
   > If you need more information on activating services, see section Activating ICF Services of SAPUI5 Application.

3. Check the OData Services for the app.
   Execute transaction `/IWFND/MAINT_SERVICE` (*Activate and Maintain Services*) and check if the following services are listed in the service catalog:
   - **Adjust Forecast OData Service**:
     - *Type*: `BEP`
     - *Technical Service Name*: `ZOD_ADJUST_FORECAST_SRV`
     - *Service Description*: DPL Fiori Adjust Forecast App OData Service
     - *External Service Name*: `OD_ADJUST_FORECAST_SRV`
     - *Namespace*: /DPL/
   - **Time Series OData Service**:
     - *Type*: `BEP`
     - *Technical Service Name*: `ZOD_FC_TIME_SERIES_VIZ_SRV`
     - *Service Description*: OData Srv. for Forecast-Related Time Series Visualization
     - *External Service Name*: `OD_FC_TIME_SERIES_VIZ_SRV`
     - *Namespace*: /DMF/
   - **Demand Plan OData Service for Reuse**:
     - *Type*: `BEP`
     - *Technical Service Name*: `ZDEMAND_PLAN_UTILITIES_SRV`
     - *Service Description*: Demand Plan OData Service for Reuse

- *External Service Name*: `DEMAND_PLAN_UTILITIES_SRV`
- *Namespace*: `/DMF/`

If a service is not listed, do the following:

1. Choose *Add Service*, enter your back-end system alias, and choose *Get Services*.
2. Search for the service that you want to add:
   - `/DPL/OD_ADJUST_FORECAST_SRV`
   - `/DMF/OD_FC_TIME_SERIES_VIZ_SRV`
   - `/DMF/DEMAND_PLAN_UTILITIES_SRV`
3. Select the entry and choose *Add Selected Services*.
4. Take over the provided data and enter the local package assignment.

4. Create your custom copy of the `SAP_DPL_TCR_T` standard role on the front-end server:

> **i Note**
>
> `SAP_DPL_TCR_T` is the front-end server authorization role for the apps for demand forecasting. It contains the catalogs, groups, and start authorizations for the OData services required to access the apps.

> **⚠ Caution**
>
> Standard roles are delivered as templates. They begin with the prefix `SAP_*`. Never change the standard roles, but only your custom copies of these roles (`Z_*`). Otherwise, any standard roles that you have changed will be overwritten by newly delivered standard roles during a later upgrade or release change.

   1. Execute transaction `PFCG` to open the *Role Maintenance* screen.
   2. Search for the role.
   3. Choose *Role* > *Copy* and enter a name from the customer namespace for your copied role.
   4. Switch to change mode and adjust the copied role as needed for your scenario.
   5. Assign the required launchpad catalogs and groups.
      Follow the steps in Creating PFCG Role on Front-End and Assigning Launchpad Catalogs and Groups.
   6. Save your changes.
5. **Set up the catalogs, groups, and roles in the SAP Fiori launchpad.**
   Follow the steps in Maintaining Business Catalogs and Business Groups.
6. Assign the custom copy of the role (which you created from the standard role) to the users of the app.
   Follow the steps in Assigning Roles to Users on Front End.

> **→ Tip**
>
> If you already have an SAP Fiori launchpad open, clear your browser cache to see your changes on the user interface.

4. **Complete the setup on the back-end server.**
   1. Log on to the back-end server.

2. Create your custom copy of the `/DMF/DPL` standard role:

> **i Note**
>
> `/DMF/DPL` (*Demand Planner (Retail)*) is the back-end authorization role for the apps for demand forecasting.

> **⚠ Caution**
>
> Standard roles are delivered as templates. They begin with the prefix `SAP_*`. Never change the standard roles, but only your custom copies of these roles (`Z_*`). Otherwise, any standard roles that you have changed will be overwritten by newly delivered standard roles during a later upgrade or release change.

   1. Execute transaction `PFCG` to open the *Role Maintenance* screen.
   2. Search for the role.
   3. Choose *Role* > *Copy* and enter a name from the customer namespace for your copied role.
   4. Switch to change mode and adjust the copied role as needed for your scenario. For example, assign users to the role.
   5. Assign the required launchpad catalogs and groups.
      Follow the steps in Creating PFCG Role on Back End for Launchpad Catalogs.
   6. Save your changes.
3. Assign areas of responsibility (AORs):
   Assign a product hierarchy AOR and a location hierarchy AOR to each ABAP back-end user of the app. This enables the respective front-end user to use the *Product Hierarchy* and *Location Hierarchy* filters in the app and display the assigned hierarchy nodes.

   You assign AORs in transaction `NWBC` under *Services* > *Maintain Area of Responsibility*. For information on the supported hierarchy types and instructions, see the Maintain Area of Responsibility section in the application help for SAP Customer Activity Repository.

> **i Note**
>
> You have completed the mandatory steps for the app. Take a look at the optional steps and implement any that are relevant for your scenario.

Optional Steps - Highly Recommended

Perform any of the following optional steps that are helpful for your scenario:

- **Enable the in-app help:**
  Enable this feature so users can display on-screen help directly in the app. Set up SAP Web Dispatcher and the In-App Help plug-in as described in Enable In-App Help [page 416].

  > **→ Tip**
  >
  > After a successful setup, you can see the Help icon (question mark) at the top of the app. Simply choose this icon (or press `F1`) to display the in-app help and call up a detailed app description.

- **Set up the related apps:**
  See Set Up the Apps for Demand Forecasting [page 156].
- **Set up single sign-on (SSO):** Set up the single sign-on between the front-end server and the back-end server.

The authentication concept for SAP Fiori apps comprises initial user authentication on the ABAP front-end server, followed by authentication of all requests to back-end systems. The available SSO mechanisms may differ depending on your customer system landscape. For more information, see SAP Fiori: Security, select your version, and choose *User Authentication and Single Sign-On (SSO)*.

Configuration

After this technical setup, you can now configure the app for your specific scenario. For example, you can do the following:

- Define overlapping rules for percentage, additive, and absolute forecast corrections.
  For more information, see the Settings for Forecast Corrections section in the application help for SAP Customer Activity Repository.
- Performance: Schedule the `/DPL/REORG_DRAFT_TABLES` report as a periodic job so that obsolete forecast correction drafts are deleted on a regular basis.
  For more information, see the *Adjust Forecast App and Manage Demand Influencing Factors App: Schedule Reports to Delete Obsolete Drafts* section in the *SAP Customer Activity Repository Administration Guide*.

Result

You have successfully set up the *Adjust Forecast* app and the *Forecast Correction Classification* and *Forecast Correction Overlapping Rules* tiles.

6.1.2.10.1.3 Set Up the Manage Demand Influencing Factors App

Perform several tasks on the front-end server and the back-end server to set up the *Manage Demand Influencing Factors* app and the related tile *Demand Influencing Factors Library*. First do all the mandatory steps. Then perform any of the optional steps that are helpful for your scenario. At the end, we point you to configuration information for specific app features.

Context

This app is one of the “apps for demand forecasting”, a group of forecast-related apps delivered with SAP Customer Activity Repository. All apps for demand forecasting have the following in common:

- The forecasting engine in the back-end is Unified Demand Forecast (UDF). The UDF application function library (delivered via the `SAP RTL AFL FOR SAP HANA` component) runs directly in the SAP HANA database.
- Cross-navigation is supported. For example, users can navigate directly from *Analyze Forecast* to *Adjust Forecast* and *Manage Demand Influencing Factors*.

Prerequisites

- You have verified the prerequisites and prepared the system landscape as described in Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 154].
- You have set up Unified Demand Forecast as described in Complete UDF Setup [page 146].
- You know where to find additional information on *Manage Demand Influencing Factors* if necessary:
  - Technical details for each delivery of the app are available in the SAP Fiori apps reference library. For the latest delivery (latest wave), see https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html?appId=F3885.
  - If you need information on the app features and the app history, see https://help.sap.com/viewer/p/CARAB. Choose your version at the top, open the application help for SAP Customer Activity Repository, and search for the *Manage Demand Influencing Factors* section.

Procedure

To set up the app, perform all the mandatory steps and any of the optional steps that you need in your scenario.

Mandatory Steps

> **i** Note
>
> The steps point you to different sections of the SAP Fiori implementation information. When following a link, you might need to select a different version at the top, depending on your front-end system release.
>
> You can always use the following link as your main entry point to SAP Fiori implementation information: https://help.sap.com/viewer/product/FIORI_IMPLEMENTATION/latest/en-US?task=implement_task.

> **→** Tip
>
> If you encounter issues during the setup, see the Troubleshooting [page 241] section in this guide and also the Troubleshooting SAP Fiori Apps section in the *SAP Fiori: Operations* documentation.

1. **Log on to your front-end server.**
2. **Configure the SAP Fiori launchpad designer for the app:**
   1. Launch the SAP Fiori launchpad designer in one of the following modes:
      - The `CUST` mode is for client-specific configurations. Use the following URL and replace `<client>` with the respective system client:
        `https://<server>:<port>/sap/bc/ui5_ui5/sap/arsrvc_upb_admn/main.html?sap-client=<client>#/Catalog/X-SAP-UI2-CATALOGPAGE:SAP_DPL_TC_T`
      - The `CONF` mode is for global configurations across all clients. It additionally includes the `<CONF>` parameter. Use the following URL:
        `https://<server>:<port>/sap/bc/ui5_ui5/sap/arsrvc_upb_admn/main.html?sap-client=<client>&scope=CONF#/Catalog/X-SAP-UI2-CATALOGPAGE:SAP_DPL_TC_T`
   2. Configure the app tiles in the SAP Fiori launchpad designer.

> **Note**
>
> You can configure tiles only in catalogs. By default, the tiles of the apps for demand forecasting are in the technical catalog `SAP_DPL_TC_T`. The catalog is shipped with the launchpad configuration.
>
> For more information on catalogs and tiles, see the UI Content and Authorization Concept section in the *SAP Fiori: App Implementation* documentation.

If the app tiles have not yet been created, create them as static tiles using the following settings:
For *Manage Demand Influencing Factors*:

- *Title*: **`Manage Demand Influencing Factors`**
- *Icon*: **`sap-icon://create-entry-time`**
- *Use semantic object navigation*: Select this option.
- *Semantic Object*:
- *Action*: **`manage`**
- Leave the other options empty.

For *Demand Influencing Factors Library*:

- *Title*: **`Demand Influencing Factors Library`**
- *Icon*: **`sap-icon://FioriInAppIcons/Hierarchical Tree`**
- *Information*: **`/DMF/DIF_LIBRARY`**
- *Use semantic object navigation*: Select this option.
- *Semantic Object*: **`ForecastDemand`**
- *Action*: **`change`**
- Leave the other options empty.

3. Configure the target mappings in the SAP Fiori launchpad designer.

> **Note**
>
> If you need more information on configuring target mappings, see the Maintaining Business Catalogs and Business Groups section in the *SAP Fiori: App Implementation* information.

If the target mapping has not yet been created, choose *Target Mappings* and create entries with the following settings:
For *Manage Demand Influencing Factors*:

- *Semantic Object*: **`ForecastDemand`**
- *Action*: **`manage`**
- *Application Type*: **`SAPUI5 Fiori App`**
- *Title*: **`Manage Demand Influencing Factors`**
- *URL*: **`/sap/bc/ui5_ui5/sap/managedifs`**
- *ID*: **`retail.dpl.managedif`**
- *Device Types*: Select *Desktop*.
- *Allow additional parameters*: Select this option.

For *Demand Influencing Factors Library*:

- *Semantic Object*: **`ForecastDemand`**
- *Action*: **`change`**
- *Application Type*: **`Transaction`**

- *Title*: **Demand Influencing Factors Library**
- *Transaction*: **/DMF/DIF_LIBRARY**
- *System Alias*: **<replace the delivered default entry with your customer-specific system alias>**
- *Device Types*: Select *Desktop*.
- *Allow additional parameters*: Select this option.

3. **Complete the app setup on the front-end server.**

> **i Note**
>
> You can find the general SAP Fiori help for this step in the Implementation Tasks on Front-End Server section in the *SAP Fiori: App Implementation* information.
>
> Use this section as your starting point. However, to configure the app, you only need to do some of the steps described there.

1. Verify that the SAP Gateway OData services for Unified Demand Forecast and the apps for demand forecasting have been activated. If a service is not active, activate it.
   See Activate OData Services [page 114].
2. Activate the Internet Communication Framework (ICF) service for the app:
   1. Execute transaction `SICF` (*Define Services*).
   2. As *Hierarchy Type*, select *SERVICE*.
   3. As *Service Path*, enter **/sap/bc/ui5_ui5/sap/**.
   4. As *Service Name*, enter **managedifs**.
   5. Execute the search (F8).
   6. In the *Virtual Hosts / Services* column, select the `MANAGEDIFS` entry and choose *More* > *Service/Host* > *Activate*.

   > **i Note**
   >
   > If you need more information on activating services, see Activating ICF Services of SAPUI5 Application.

3. Check the OData Services for the app.
   Execute transaction `/IWFND/MAINT_SERVICE` (*Activate and Maintain Services*) and check if the following services are listed in the service catalog:
   - **Demand Plan OData Service**:
     - *Type*: `BEP`
     - *Technical Service Name*: `ZOD_DEMAND_PLANNING_SRV`
     - *Service Description*: Demand Plan OData Service
     - *External Service Name*: `OD_DEMAND_PLANNING_SRV`
     - *Namespace*: /DMF/
   - **Demand Plan OData Service for Reuse**:
     - *Type*: `BEP`
     - *Technical Service Name*: `ZDEMAND_PLAN_UTILITIES_SRV`
     - *Service Description*: Demand Plan OData Service for Reuse
     - *External Service Name*: `DEMAND_PLAN_UTILITIES_SRV`

- *Namespace*: /DMF/

If a service is not listed, do the following:

1. Choose *Add Service*, enter your back-end system alias, and choose *Get Services*.
2. Search for the external service name, select the entry, and choose *Add Selected Services*.
3. Take over the provided data and enter the local package assignment.

4. Create your custom copy of the `SAP_DPL_TCR_T` standard role on the front-end server:

> **i Note**
>
> `SAP_DPL_TCR_T` is the front-end server authorization role for the apps for demand forecasting. It contains the catalogs, groups, and start authorizations for the OData services required to access the apps.

> **⚠ Caution**
>
> Standard roles are delivered as templates. They begin with the prefix `SAP_*`. Never change the standard roles, but only your custom copies of these roles (`Z_*`). Otherwise, any standard roles that you have changed will be overwritten by newly delivered standard roles during a later upgrade or release change.

   1. Execute transaction `PFCG` to open the *Role Maintenance* screen.
   2. Search for the role.
   3. Choose *Role* > *Copy* and enter a name from the customer namespace for your copied role.
   4. Switch to change mode and adjust the copied role as needed for your scenario.
   5. Assign the required launchpad catalogs and groups.
      Follow the steps in Creating PFCG Role on Front-End and Assigning Launchpad Catalogs and Groups.
   6. Save your changes.
5. Set up the catalogs, groups, and roles in the SAP Fiori launchpad.
   Follow the steps in Maintaining Business Catalogs and Business Groups.
6. Assign the custom copy of the role (which you created from the standard role) to the users of the app.
   Follow the steps in Assigning Roles to Users on Front End.

> **→ Tip**
>
> If you already have an SAP Fiori launchpad open, clear your browser cache to see your changes on the user interface.

4. **Complete the setup on the back-end server.**
   1. Log on to the back-end server.
   2. Create your custom copy of the `/DMF/DPL` standard role:

> **i Note**
>
> `/DMF/DPL` (*Demand Planner (Retail)*) is the back-end authorization role for the apps for demand forecasting.

> **⚠ Caution**
>
> Standard roles are delivered as templates. They begin with the prefix `SAP_*`. Never change the standard roles, but only your custom copies of these roles (`Z_*`). Otherwise, any standard roles

that you have changed will be overwritten by newly delivered standard roles during a later upgrade or release change.

1. Execute transaction `PFCG` to open the *Role Maintenance* screen.
2. Search for the role.
3. Choose *Role* > *Copy* and enter a name from the customer namespace for your copied role.
4. Switch to change mode and adjust the copied role as needed for your scenario. For example, assign users to the role.
5. Assign the required launchpad catalogs and groups.
   Follow the steps in Creating PFCG Role on Back End for Launchpad Catalogs.
6. Save your changes.

3. Assign areas of responsibility (AORs):
   Assign a product hierarchy AOR and a location hierarchy AOR to each ABAP back-end user of the app. This enables the respective front-end user to use the *Product Hierarchy* and *Location Hierarchy* filters in the app and display the assigned hierarchy nodes.

   You assign AORs in transaction `NWBC` under *Services* > *Maintain Area of Responsibility*. For information on the supported hierarchy types and instructions, see the Maintain Area of Responsibility section in the application help for SAP Customer Activity Repository.

> **i Note**
>
> You have completed the mandatory steps for the app. Take a look at the optional steps and implement any that are relevant for your scenario.

Optional Steps - Highly Recommended

Perform any of the following optional steps that are helpful for your scenario:

- **Enable the in-app help:**
  Enable this feature so users can display on-screen help directly in the app. Set up SAP Web Dispatcher and the In-App Help plug-in as described in Enable In-App Help [page 416].

  > **→ Tip**
  >
  > After a successful setup, you can see the Help icon (question mark) at the top of the app. Simply choose this icon (or press F1) to display the in-app help and call up a detailed app description.

- **Set up the related apps:**
  See Set Up the Apps for Demand Forecasting [page 156].
- **Set up single sign-on (SSO):** Set up the single sign-on between the front-end server and the back-end server.
  The authentication concept for SAP Fiori apps comprises initial user authentication on the ABAP front-end server, followed by authentication of all requests to back-end systems. The available SSO mechanisms may differ depending on your customer system landscape. For more information, see SAP Fiori: Security, select your version, and choose *User Authentication and Single Sign-On (SSO)*.

Configuration

After this technical setup, you can now configure the app for your specific scenario. For example, you can do the following:

- Configure technical user DIFs for modeling and forecasting so that you can start working with the DIF Library.
  For more information, see the following sections:
  - Working with the DIF Library in the application help for SAP Customer Activity Repository
  - *Configure User DIFs* in the *SAP Customer Activity Repository Administration Guide*
- Performance: Schedule the `/DPL/REORG_DIF_DRAFT_TABS` report as a periodic background job so that obsolete DIF assignment drafts are deleted on a regular basis.
  For more information, see the *Adjust Forecast App and Manage Demand Influencing Factors App: Schedule Reports to Delete Obsolete Drafts* section in the *SAP Customer Activity Repository Administration Guide*.
- Enable general SAP Fiori push notifications for the app. This might be helpful for forecast simulations, in particular. You will then get a notification once the simulation results are available.

  > **i** Note
  >
  > Alternatively, you can simply refresh the simulation view until you see the results.

Result

You have successfully set up the *Manage Demand Influencing Factors* app and the *Demand Influencing Factors Library* tile.

6.1.2.10.1.4 *Adjust Forecast* App and *Manage Demand Influencing Factors* App: Schedule Reports to Delete Obsolete Drafts

When a user creates or updates a forecast correction in the *Adjust Forecast* app, the system automatically saves a draft in the background. The same is true when a user creates or updates a DIF assignment in the *Manage Demand Influencing Factors* app. The drafts remain available as user-specific working versions. For performance reasons, you should delete obsolete drafts on a regular basis. The two reports `/DPL/REORG_DRAFT_TABLES` and `/DPL/REORG_DIF_DRAFT_TABS` are available for this.

Concept

“Drafts” are a general SAP Fiori concept. A draft is an interim version of a business entity that has not yet been explicitly saved as an active version. Drafts support a stateless communication. They enable field validation

and dynamic field control and provide default values for fields based on recent entries and selections. Drafts ensure that users don't inadvertently lose any of their changes.

Autosave of Drafts

The autosave function does the following:

- Keeps unsaved changes if editing is interrupted, even when the data for a forecast correction or a DIF assignment is not complete. Users can resume editing later on.
- Prevents data loss if the app terminates unexpectedly.
- Prevents multiple users from editing the same object concurrently (locking mechanism).
- Makes one user aware of parallel unsaved changes by another user.

> ⚠ Caution
>
> An autosaved draft is only a personal working version. Users still need to save the draft so that their changes become active (via the *Save* button in either app).

Lifecycle of Drafts

The lifecycle of drafts is managed by CDS annotations. Drafts of forecast corrections and DIF assignments have the following settings:

- Time frame after which a draft can be deleted.
- Time frame after which the draft assignment to a user expires.
- Time frame for which a draft is locked (en queue).

> i Note
>
> If you need more information on the draft concept, see the following:
>
> - In the SAP Fiori Design Guidelines. see Draft Handling.
> - In the ABAP Programming Model for SAP Fiori, see ObjectModel Annotations.

Procedure

1. Delete obsolete drafts on a regular basis using the following reports:
   - For the *Adjust Forecast* app, schedule the `/DPL/REORG_DRAFT_TABLES` report as a regular background job. The report deletes forecast correction drafts.
   - For the *Manage Demand Influencing Factors* app, schedule the `/DPL/REORG_DIF_DRAFT_TABS` report as a regular background job. The report deletes DIF assignment drafts.

> → Tip
>
> We recommend that you schedule both reports to run **outside of regular working hours**. This is because the autosave of drafts is blocked in either app while the report is running.

6.1.2.10.2 Set Up the Apps for Demand Data Foundation (DDF)

Do this procedure to set up the DDF apps for standalone scenarios. The DDF apps are: *Configure Distribution Curves*, *Manage Location Clusters*, *Manage Product Attributes*, *Manage Product Groups*, *Manage Promotional Offers*. To access any of these apps, you need to assign the required role(s) to your front-end user. This gives you access to the relevant business catalogs and business catalog groups so that you can then open the apps in SAP Fiori launchpad.

Context

The DDF apps are available as part of SAP Customer Activity Repository. They support different scenarios and consuming applications.

Different Scenarios for DDF Apps

- **Standalone scenarios:** You can use the apps standalone, that is, to support generic scenarios in SAP Customer Activity Repository.
- **Integrated scenarios:** Or you can integrate the apps with the consuming application installed on top of SAP Customer Activity Repository (for example, SAP Assortment Planning, SAP Allocation Management, or SAP Promotion Management).

> **i** Note
>
> Some apps support only specific consuming applications. For more information, see the product documentation of the application that you wish to use.

Procedure

> **i** Note
>
> The steps are always the same, regardless of how many of the DDF apps you wish to use.

1. Determine the scenario for which you want to use the apps. Follow the instructions for your scenario:

Scenario	Instructions
Standalone — SAP Customer Activity Repository	Continue with step 2 below.
Integrated — SAP Assortment Planning	Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad [page 334]

Scenario	Instructions
Integrated — SAP Allocation Management	Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad [page 353]
Integrated — SAP Promotion Management	Activate Internet Communication Framework (ICF) Services [page 341]

2. Log on to your front-end system.
3. Execute transaction `SU01` to open the *User Maintenance* screen.
4. Enter your front-end user name in the *User* field and choose *Change*.
5. On the *Roles* tab, assign the *Demand Data Foundation Administrator* (`SAP_ISR_BR_DDF_ADMIN`) role to your user.
6. Save your changes.
7. Execute transaction `LPD_CUST` to open the *Overview of Launchpads*.
8. Verify that the following two roles are listed:
   - `UIPMR001`
   - `UIRAP001`
9. Open SAP Fiori launchpad and verify that you can see and access the tiles for the apps.

   > → Tip
   >
   > If you already have an SAP Fiori launchpad open, clear your browser cache to see the changes.

10. If your app is *Manage Product Attributes*, continue with the Set Up the Manage Product Attributes App [page 180] section and do any steps not covered here.

6.1.2.10.2.1 Set Up the Manage Product Attributes App

Perform several tasks on the front-end server and the back-end server to set up the transactional app *Manage Product Attributes*. This is one of the Demand Data Foundation (DDF) apps included in SAP Customer Activity Repository.

Use

The *Manage Product Attributes* app enables planning administrators to create, configure, assign, and maintain product attributes for a selected product hierarchy. The app supports different scenarios and consuming applications. For example, this includes SAP Allocation Management, SAP Assortment Planning, the similar products search, or the calculation of distribution curves.

Prerequisites

- You are aware of the technical implementation information for the app in the SAP Fiori apps reference library:
  For the latest delivery (latest wave), see: https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html?appId=F0829A
- You have performed all setup tasks under *Core (Mandatory for All Applications)* in this guide.
- You have checked whether there are any corrections for the app in the current release:
  See section Implement SAP Notes for the Installation [page 34]. Implement any corrections relevant for the app.
- You have done the general setup for the DDF apps. See Set Up the Apps for Demand Data Foundation (DDF) [page 179].

> **i Note**
>
> To set up the app, do the steps in the following sections.
>
> If your scenario includes SAP Allocation Management or SAP Assortment Planning, some steps might already have been performed in your system landscape. If so, skip the step and continue with the next one.

Activate ICF Services

Context

For security reasons, the Internet Communication Framework (ICF) services are delivered in an inactive state. You must activate the services that are required for the app.

Procedure

1. Log on to your front-end server.
2. Execute transaction `SICF`.
3. In the *Define Services* screen, make the following selections:
   - *Hierarchy Type*: **`SERVICE`**
   - *Virtual Host*: **`DEFAULT_HOST`**
   - *Service Path*: **`/sap/bc/ui5_ui5/sap/attribmgmt_v2/`**
4. Choose *Execute* (F8).
5. Under *Virtual Hosts / Services*, double-click the `attribmgmt_v2/` service to open the *Create/Change a Service* screen.
6. To activate a service, choose *Service/Host* > *Activate*.

   > **i Note**
   >
   > You can check the activation status by selecting the service and opening the context menu. If the *Activate Service* option is grayed out, this means the service is already active.

7. Repeat steps 3 to 6, this time using **`/sap/bc/ui5_ui5/sap/ddfreuse_v2/`** as the service path.

Activate OData Services

1. See section Activate OData Services [page 114] and consult the table for SAP Customer Activity Repository.
2. Make sure that all mandatory OData services for the app are active.

Enable the App for SAP Fiori Launchpad

Context

To be able to access the app from the SAP Fiori launchpad, your front-end system user must have the necessary role(s) assigned. This allows you to access the business catalogs and business catalog groups required for the app.

The app requires the following business role: *Demand Data Foundation Administrator* (`SAP_ISR_BR_DDF_ADMIN`)

> **i Note**
>
> Should you wish to use the app for SAP Allocation Management or SAP Assortment Planning, use the *Planning Administrator* (`SAP_RAP_BCR_PLANNING_ADMIN`) business role instead.

Procedure

1. Log on to your front-end system.
2. Execute transaction `SU01` to open the *User Maintenance* screen.
3. Enter your front-end user name in the *User* field and choose *Change*.
4. On the *Roles* tab, assign the *Demand Data Foundation Administrator* (`SAP_ISR_BR_DDF_ADMIN`) role to your user.
5. Save your changes.

   > **→ Tip**
   >
   > If you already have an SAP Fiori launchpad open, clear your browser cache or you won't be able to see the changes.

6. Verify role settings for SAP Fiori launchpad.
   1. Execute transaction `LPD_CUST` to open the *Overview of Launchpads*.
   2. Double-click the role `UIRAP001` to view the role details.
   3. Expand the role *Planning Administrator* and select the *Manage Product Attributes* app.
   4. Display the advanced parameters and check that the app has all the mandatory settings listed below. You do not need to make any additional settings.
      - *Link Text*: *Manage Product Attributes*
      - *Application Type*: `URL`
      - *URL*: `/sap/bc/ui5_ui5/sap/attribmgmt_v2`
      - *Application Alias*: `AssignProductAttribute`
      - *Additional Information*: `SAPUI5.Component=retail.ddf.attributemgmtv2`

- *Navigation Mode*: `EXT_HEAD Leaderless Portal Window`
- *History Mode*: *1 Navigation Entry can Occur Once in History*
- *Parameter Forwarding*: *G Get Parameters*

If you have updated any settings, save your changes.

Assign Area of Responsibility (AOR) to ABAP Back-End User

You can only display and select product hierarchies in the app that have been assigned as the area of responsibility to your ABAP back-end user. The main steps are as follows:

1. Log on to your ABAP back-end system.
2. Execute transaction `NWBC` to open the SAP NetWeaver Business Client.
3. Choose *Services* > *Maintain Area of Responsibility* > *Product Hierarchy*.
4. Select your ABAP back-end user, choose *Continue*, and define the AOR.

> → Tip
>
> For step-by-step instructions, see the application help for SAP Customer Activity Repository at https://help.sap.com/viewer/p/CARAB. Search for section *Maintain Area of Responsibility* and follow the instructions.

6.1.2.10.2.2 Set Up the Manage Alerts App

Perform several tasks on the front-end server and the back-end server to set up the transactional app *Manage Alerts*. This is a generic Demand Data Foundation (DDF) app available to different scenarios.

Context

The *Manage Alerts* app supports different scenarios and consuming applications. For example, it enables demand planners to review and manage *High Forecast* alerts.

Prerequisites

- You have installed the UDF reuse component (SAP UI5 Application `UDFREUSE` and OData service `/DMF/DEMAND_PLAN_UTILITIES`). For information see Set Up the UDF and DDF Reuse Component [page 364].
- You have verified the prerequisites and prepared the system landscape as described in Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 154].

- You know where to find additional information on *Manage Alerts* if necessary:
  - Technical details for each delivery of the app are available in the SAP Fiori apps reference library. For the latest delivery (latest wave), see https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html#?appId=F5163.
  - If you need information on the app features see https://help.sap.com/viewer/p/CARAB. Choose your version at the top, open the application help for SAP Customer Activity Repository, and search for section *Manage Alerts*.

Generate and Maintain Alerts

- You can run the *Generate Alerts* report to generate alerts. All the alerts are created with the status *New*. You can access the *Generate Alerts* report either in the system on the SAP Easy Access Menu screen (transaction `/DMF/ALERTS_GEN`) or from the SAP Fiori Launchpad (*Generate Alerts* tile).
- You can use the *Purging of Alerts* report to delete obsolete alerts from the database. You can access the *Purging of Alerts* report either in the system on the SAP Easy Access Menu screen (transaction `/DMF/ALERTS_PURGE`) or from the SAP Fiori Launchpad (*Purge Alerts* tile).

Configuration

You can add, maintain, and delete alert statuses using the Customizing activity *Define Alert Statuses* in Customizing for *Cross-Application Components* under ▶ *Demand Data Foundation* ▶ *Basic Settings* ▶ *Alert and Exception Management* ◀. Several standard statuses are available by default. You can also add custom statuses based on your scenario.

You can add, maintain, and delete alert types using the Customizing activity *Define Alert Types and Key Figure Assignments* in Customizing for *Cross-Application Components* under ▶ *Demand Data Foundation* ▶ *Basic Settings* ▶ *Alert and Exception Management* ◀. Several standard alert types are available by default. You can also add custom alert types and maintain key figures for each alert type based on your scenario. You cannot delete the standard alert type but the custom ones if the alert type is not used either in alert profile or have generated alerts.

You can add, maintain, and delete key figures using the Customizing activity *Maintain Alert Key Figures* in Customizing for *Cross-Application Components* under ▶ *Demand Data Foundation* ▶ *Basic Settings* ▶ *Alert and Exception Management* ◀. Several standard key figures are available by default. You can also add custom key figures based on your scenario. You cannot delete the standard key figures but the custom ones.

Extensibility

You can create the alerts and alert scoring based on your business needs in Customizing for *Cross-Application Components* under ▶ *Demand Data Foundation* ▶ *Basic Settings* ▶ *Alert and Exception Management* ▶ *Enhancements Using Business Add-Ins* ◀ by using the following Business Add-Ins (BAdIs):

- Adaptation of alerts
  You can implement your own logic to generate alerts for the new custom alerts using *BAdI: Adaptation of Alerts*.

- Adaptation of alert scoring
  You can implement your own scoring logic for the alert types using *BAdI: Adaptation of Alert Scoring*.

Activate ICF Services

Context

For security reasons, the Internet Communication Framework (ICF) services are delivered in an inactive state. You must activate the services that are required for the app.

Procedure

1. Log on to your front-end server.
2. Execute transaction `SICF`.
3. In the *Define Services* screen, make the following selections:
   - *Hierarchy Type*: **`SERVICE`**
   - *Virtual Host*: **`DEFAULT_HOST`**
   - *Service Path*: **`/sap/bc/ui5_ui5/sap/rtlplngalrtman`**
4. Choose *Execute* (F8).
5. Under *Virtual Hosts / Services*, double-click the `rtlplngalrtman` service to open the *Create/Change a Service* screen.
6. To activate a service, choose *Service/Host* > *Activate*.

   > **i Note**
   >
   > You can check the activation status by selecting the service and opening the context menu. If the *Activate Service* option is grayed out, this means the service is already active.

7. Repeat steps 3 to 6, this time using **`/sap/bc/ui5_ui5/sap/udfreuse/`** as the service path.
8. Repeat steps 3 to 6, this time using **`/sap/bc/ui5_ui5/sap/ddfreuse_v2/`** as the service path.
9. Repeat steps 3 to 6, this time using **`/sap/bc/ui5_ui5/sap/nw_aps_chd_lib/`** as the service path.

Activate OData Services

1. See section Activate OData Services [page 114] and consult the table for SAP Customer Activity Repository.
2. Make sure that all mandatory OData services for the app are active.

Front-End Server

Component	Technical Name
OData Service (Version Number)	`/DMF/MANAGE_RTLPLNG_ALERTS_SRV` (1)

Re-Use Component	Technical Name
OData Service (Version Number)	APS_CHANGE_DOCUMENTS_SRV (1)

Enable the App for SAP Fiori Launchpad

Context

To be able to access the app from the SAP Fiori launchpad, your front-end system user must have the necessary role(s) assigned. This allows you to access the business catalogs and technical catalogs required for to access the app.

The app requires the following business role SAP_XRP_TCR_T and technical catalog.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	SAP_XRP_TC_REPL

> **i** Note
>
> You can select the *Manage Alerts* tile manually from the technical catalog to add it to the SAP Fiori launchpad.

Procedure

1. Log on to your front-end system.
2. Execute transaction SU01 to open the *User Maintenance* screen.
3. Enter your front-end user name in the *User* field and choose *Change*.
4. On the *Roles* tab, assign the (SAP_XRP_TCR_T) role to your user.
5. Save your changes.

> **→** Tip
>
> If you already have an SAP Fiori launchpad open, clear your browser cache or you won't be able to see the changes.

Back-End Server: Set Up Authorizations

Context

For the *Manage Alerts* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/MNGAT	Authorization to display and change alert status by using the *Manage Alerts* app.	ACTVT	Display Maintain	Activity

6.1.2.10.2.2.1 App Extensibility: Manage Alerts

You can extend the *Manage Alerts* app regarding different aspects according to your business needs. With the extensibility, you can create custom fields, data source extensions, and implementation descriptions for specific business contexts to enhance pre-delivered applications that are extensible to adapt them to your business needs.

To achieve the extensibility for this app, you need to go through the following process steps.

Creation of New Alert Types and Alert Key Figures

You can add a new alert key figure using the Customizing activity *Maintain Key Figures* in Customizing for *Cross-Application Components* under *Demand Data Foundation* > *Basic Settings* > *Alert and Exception Management*.

Perform the following steps to create an alert key figure:

- Navigate to the relevant Customizing activity and choose *New Entries*.
- Enter the values for the fields *Alert Key Figure*, *Alert Key Figure Description*.
- Choose *Save*.

You can add a new alert type using the Customizing activity *Define Alert Types and Key Figure Assignments* in Customizing for *Cross-Application Components* under *Demand Data Foundation* > *Basic Settings* > *Alert and Exception Management*.

Perfrom the following steps to create an alert type:

- Navigate to the relevant Customizing activity and choose *New Entries*.
- Enter the values for the fields *Alert Type*, *Alert Type Description*, *Alert Priority* (optional), and *Average Unit Sales Threshold* (optional).

> **i Note**
>
> Note that the *Alert Assignment* checkbox must be selected if you want this alert type to be displayed in the dropdown list for alert assignment in the *Manage Configuration Assignments* app and the search help (F4) of the *Alert Type* filter in the *Manage Alerts* app and the dropdown list for the alert type in the *Manage Alert Profiles* app.

- Choose *Save*.
- Select the alert type that you have created before and navigate to the view *Key Figure Assignments and Weighting*.
- Choose *New Entries*.
- Enter the values for the fields *Alert Key Figure* and, *Weighting Factor*. Choose *Save*.

BAdI Extension

This process enables you to create and maintain implementations of custom logic that can be used to enhance applications and change application behavior without impacting the delivered source code. You can apply further upgrades to the original business function without losing your specific enhancements. BAdI calls can be integrated into customer applications which in turn can then be enhanced by other customer applications.

In the process of the alerts creation with new custom alert types, you can use the SAP delivered alert generation report (`/DMF/GENERATE_ALERTS`). You can do this by adding your own logic into the BAdI without changing the report core logic to generate new alerts along with the user-defined alert types. For more information on the report, see the accompanying system documentation.

You can adapt the alerts and alert scoring based on your business needs in Customizing for *Cross-Application Components* under *Replenishment Planning* > *Alert and Exception Management* > *Enhancements Using Business Add-Ins*.

The following BAdIs are available for extensibility purposes:

- BAdI:Adaptation of Alerts (`/DMF/MANAGE_ALERT_TYPES`)
- BAdI: Adaptation of Alert Scoring (`/DMF/MANAGE_ALERT_SCORING`)

Perform the following steps to implement BAdIs from the Customizing activity:

- Select the *IMG - Activity* button. The *Create Enhancement Implementation* window opens.
- Add the enhancement implementation and a short text. Click on *creation of enhancement* button.

As a result, the enhancement implementation is created. Add the BAdI implementation, description, and implementing class information.

You can find the detailed steps about BAdI implementation in the document *Enhancement Framework* on SAP Help Portal for SAP Customer Activity Repository applications bundle at https://help.sap.com/viewer/p/CARAB and search for section *How to Implement a BAdI* and look for the latest version.

For more information on BAdIs see, *Enhancement Framework* on SAP Help Portal for SAP Customer Activity Repository applications bundle at https://help.sap.com/viewer/p/CARAB and search for section *Business Add-Ins (BAdIs)* and look for the latest version.

CDS View Extension

A CDS view extension is a transportable extension that can be used to add fields from the entities used by the view without making modifications. A CDS view can be used to add new elements or CDS annotations from its underlying data source or to define new associations for the CDS view.

Extension of CDS Views for Custom Alerts

The standard CDS view `/DMF/C_RtlPlngAlertDetails` can be extended if you have custom alerts and you want to view the information of custom alerts in the *Manage Alerts* Fiori application.

To display additional information in the detail screen of the Fiori application for the custom alerts, you need to create your own custom CDS views.

Follow the below steps:

- Create your own custom CDS views for the custom alerts.
- Create an extension view for `/DMF/C_RtlPlngAlertDetails`. Add the custom CDS view in extension view through associations and expose all the fields that you want to display in the *Manage Alerts* Fiori application's detail view.
- The extension view will extend the existing standard CDS consumption view `/DMF/C_RtlPlngAlertDetails`.
- Add basic UI annotations to show those fields on the user interface.

  > **i Note**
  >
  > You must expose all the fields from all the custom CDS views through association if you want to show the fields on the user interface (UI).

- After completing the above steps, the new custom fields of custom alerts will be displayed automatically in the *Manage Alerts* app.

> **i Note**
>
> All the custom fields that are exposed in the CDS extension view will be displayed in the *Manage Alerts* app. You need to follow the adaptation project to manipulate the visibility of alert type-specific fields in the table and hide the fields that are not relevant for the specific alert type.

Extension of CDS Views for Standard Alerts

If you have the custom fields to add and display in the *Manage Alerts* app for standard alert types, the following CDS views need to be extended:

- `/DMF/C_RtlPlngAlertDetailsFcst` for *High Forecast*
- `/DMF/C_RtlPlngAlertDetOrdPrpsl` for *High Order Plan Quantity*

Extend the above views with the custom fields. As you add them, the new custom fields will be displayed automatically in the *Manage Alerts* app.

For more information on extending the CDS views see the following sources,

- *About ABAP Programming Model for SAP Fiori* on SAP Help Portal for SAP Customer Activity Repository applications bundle at https://help.sap.com/viewer/p/CARAB and search for section *Extending Apps with Custom Fields* and look for the latest version.

- https://help.sap.com/doc/abapdocu_750_index_htm/7.50/en-US/abencds_f1_extend_view.htm.

Extending Manage Alerts Fiori Application with Adaptation Project

The SAPUI5 adaptation project allows you create an app variant for an existing SAP Fiori elements-based application or freestyle application. You can create an app variant that includes the changes you make to the source application and to the variant itself. Extensions are made via SAPUI5 flexibility possibilities and will not modify the source. This modification-free approach allows you to reference the source application and its artifacts instead of modifying the source artifacts themselves.

An adaptation project behaves as follows:

- Start as a preview
- Adapt using SAPUI5 adaptation project
- Deploy from SAP business application studio

The artifacts in an adaptation project represent only the changes that you make but not the entire application that you reuse. The app variant refers to the original application but contains a separate set of changes created in the adaptation project. Also, an application ID is defined for the variant and needs separate registration in Fiori Launchpad. The option to create app variants based on existing apps allows you to keep both instances running and keeps the original application untouched. You can configure both application instances as different tiles on the SAP Fiori Launchpad. You can work with both applications and assign the app variant to a different set of users.

In the alerting extension process, you can create an adaptation project to display custom alert type-specific fields.

Creation of Adaptation Project

Perform the following steps to create an adaptation project:

- Right-click on the workspace, select *New* > *Adaptation Project*. Enter values for *Project Name* and *Application Title* under the *Basic Information* tab.
- Under the *Configuration* tab, select a system where *Manage Alerts* app is deployed. Select the application `retail.ddf.retailplanningalerts.manage`.

For information about adaptation extensions see, SAPUI5: UI Development Toolkit for HTML5 and search for section *Extending Delivered Apps Using Adaptation Extensions* and look for the latest version.

Pre-Configuration of Adaptation Project

A pre-configuration of the adaptation project may be required to run *SAPUI5 Visual Editor* and to run the application locally. Use the following pre-configurations to test the sample adaptation project locally.

- To add a reference to the app library, right-click on the app and select *Project* > *Add Reference to Library*.
- Select both libraries `sap.nw.core.changedocs.lib.reuse` and `retail.udf.reuse` either from workspace or from ABAP repository.
- To run the configuration setting, right-click on the app and select *Run* > *Run Configurations*.
- Select + and select *Run as Web Application*.

- In the configuration *General* tab, select file name as *Adaptation_index.html*.
- In the *Advanced Settings* tab, choose the correct SAPUI5 version and select the corresponding target destination. Select the checkbox *Use my workspace first* and click on *Get Resource Versions* and wait for the resources to show up.
- Right-click the app and select *Project* > *Project Settings*. Select *SAPUI5 Visual Editor* under the *General* section, choose the corresponding *Run Configuration* and choose *Save*.
- You can now run the app locally and test your logic to display alert type-specific fields on the detail page.

> **i** Note
>
> Consult SAP Note 2274090 (*Steps to be followed to extend SAP Fiori Apps for SAP CARAB*). Here you can find an example of how to extend apps in SAP Customer Activity Repository applications bundle.

6.1.2.10.2.3 Set Up the Manage Alert Profiles App

Perform several tasks on the front-end server and the back-end server to set up the transactional app *Manage Alert Profiles*. This is a generic Demand Data Foundation (DDF) app available to different scenarios.

Context

The *Manage Alert Profiles* app supports different scenarios and consuming applications. For example, it enables demand planners to manage alert profiles.

Prerequisites

- You have verified the prerequisites and prepared the system landscape as described in Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 154].
- You know where to find additional information on *Manage Alert Profiles* if necessary:
  - Technical details for each delivery of the app are available in the SAP Fiori apps reference library. For the latest delivery (latest wave), see https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html#?appId=F5559.
  - If you need information on the app features see https://help.sap.com/viewer/p/CARAB. Choose your version at the top, open the application help for SAP Customer Activity Repository, and search for section *Manage Alert Profiles*.

Activate ICF Services

Context

For security reasons, the Internet Communication Framework (ICF) services are delivered in an inactive state. You must activate the services that are required for the app.

Procedure

1. Log on to your front-end server.
2. Execute transaction `SICF`.
3. In the *Define Services* screen, make the following selections:
   - *Hierarchy Type*: **`SERVICE`**
   - *Virtual Host*: **`DEFAULT_HOST`**
   - *Service Path*: **`/sap/bc/ui5_ui5/sap/prflalertsman`**
4. Choose *Execute* (F8).
5. Under *Virtual Hosts / Services*, double-click the `prflalertsman` service to open the *Create/Change a Service* screen.
6. To activate a service, choose *Service/Host* > *Activate*.

> **i** Note
>
> You can check the activation status by selecting the service and opening the context menu. If the *Activate Service* option is grayed out, this means the service is already active.

Activate OData Services

1. See section Activate OData Services [page 114] and consult the table for SAP Customer Activity Repository.
2. Make sure that all mandatory OData services for the app are active.

Front-End Server

Component	Technical Name
OData Service (Version Number)	`/DMF/MANAGE_RTLPLNG_ALERT_PRFL_SRV` (1)

Enable the App for SAP Fiori Launchpad

Context

To be able to access the app from the SAP Fiori launchpad, your front-end system user must have the necessary role(s) assigned. This allows you to access the business catalogs and technical catalogs required for to access the app.

The app requires the following business role `SAP_XRP_TCR_T` and technical catalog.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	SAP_XRP_TC_REPL

> **i** Note
>
> You can select the *Manage Alerts* tile manually from the technical catalog to add it to the SAP Fiori launchpad.

Procedure

1. Log on to your front-end system.
2. Execute transaction `SU01` to open the *User Maintenance* screen.
3. Enter your front-end user name in the *User* field and choose *Change*.
4. On the *Roles* tab, assign the (`SAP_XRP_TCR_T`) role to your user.
5. Save your changes.

> **→** Tip
>
> If you already have an SAP Fiori launchpad open, clear your browser cache or you won't be able to see the changes.

Back-End Server: Set Up Authorizations

Context

For the *Manage Alert Profiles* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
`/DMF/PRFLM`	Authorization to display and change alert profiles by using the *Manage Alert Profiles* app.	ACTVT	Display Maintain	Activity

6.1.2.10.2.4 Set Up the Manage Configuration Assignments App

Perform several tasks on the front-end server and the back-end server to set up the transactional app *Manage Configuration Assignments*. This is a generic Demand Data Foundation (DDF) app available to different scenarios.

Context

The *Manage Configuration Assignments* app supports different scenarios and consuming applications. For example, it enables demand planners to manage alert assignments.

Prerequisites

- You have installed the UDF reuse component (SAP UI5 Application `UDFREUSE` and OData service `/DMF/DEMAND_PLAN_UTILITIES`). For information see Set Up the UDF and DDF Reuse Component [page 364].
- You have verified the prerequisites and prepared the system landscape as described in Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 154].
- You know where to find additional information on *Manage Configuration Assignments* if necessary:
  - Technical details for each delivery of the app are available in the SAP Fiori apps reference library. For the latest delivery (latest wave), see https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html#?appId=F4644.
  - If you need information on the app features see https://help.sap.com/viewer/p/CARAB. Choose your version at the top, open the application help for SAP Customer Activity Repository, and search for section *Manage Configuration Assignments*.

Activate ICF Services

Context

For security reasons, the Internet Communication Framework (ICF) services are delivered in an inactive state. You must activate the services that are required for the app.

Procedure

1. Log on to your front-end server.
2. Execute transaction `SICF`.
3. In the *Define Services* screen, make the following selections:
   - *Hierarchy Type*: **`SERVICE`**
   - *Virtual Host*: **`DEFAULT_HOST`**

- *Service Path*: **/sap/bc/ui5_ui5/sap/CONFIGASSIGNMAN**

4. Choose *Execute* (F8).
5. Under *Virtual Hosts / Services*, double-click the CONFIGASSIGNMAN service to open the *Create/Change a Service* screen.
6. To activate a service, choose *Service/Host* > *Activate*.

> **i Note**
>
> You can check the activation status by selecting the service and opening the context menu. If the *Activate Service* option is grayed out, this means the service is already active.

Activate OData Services

1. See section Activate OData Services [page 114] and consult the table for SAP Customer Activity Repository.
2. Make sure that all mandatory OData services for the app are active.

Front-End Server

Component	Technical Name
OData Service (Version Number)	/DMF/PARAMETER_ASSIGNMENT_SRV (1)

Enable the App for SAP Fiori Launchpad

Context

To be able to access the app from the SAP Fiori launchpad, your front-end system user must have the necessary role(s) assigned. This allows you to access the business catalogs and technical catalogs required for to access the app.

The app requires the following business role SAP_XRP_TCR_T and technical catalog.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	SAP_XRP_TC_REPL

> **i Note**
>
> You can select the *Manage Configuration Assignments* tile manually from the technical catalog to add it to the SAP Fiori launchpad.

Procedure

1. Log on to your front-end system.

2. Execute transaction `SU01` to open the *User Maintenance* screen.
3. Enter your front-end user name in the *User* field and choose *Change*.
4. On the *Roles* tab, assign the (`SAP_XRP_TCR_T`) role to your user.
5. Save your changes.

> → Tip
>
> If you already have an SAP Fiori launchpad open, clear your browser cache or you won't be able to see the changes.

Back-End Server: Set Up Authorizations

Context

For the *Manage Configuration Assignments* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
`/DMF/DPL`	Authorization to use the product and product hierarchy filters and the location and location hierarchy filters in the *Manage Configuration Assignments* app.	ACTVT	Execute	Activity
`/DMF/MCASG`	Authorization to display and change configuration assignments by using the *Manage Configuration Assignments* app.	ACTVT	Display Change	Activity

6.1.2.10.2.5 Set Up the Manage Workloads App

Manage Workloads. This is a generic Demand Data Foundation (DDF) app available to different scenarios. transactional app

Context

The *Manage Workloads* app makes use of the Process Packaging and Parallelization framework, which supports different scenarios and consuming applications. For example, the framework enables replenishment planners to use this app to manage the workloads used in replenisment claculation.

Prerequisites

- Perform several tasks on the front-end server and the back-end server to set up theYou have verified the prerequisites and prepared the system landscape as described in Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 154].
- You know where to find additional information on *Manage Workloads* if necessary:
  - Technical details for each delivery of the app are available in the SAP Fiori apps reference library. For the latest delivery (latest wave), see https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html#?appId=F5640.
  - If you need information on the app features see https://help.sap.com/viewer/p/CARAB. Choose your version at the top, open the application help for SAP Customer Activity Repository, and search for section *Manage Workloads*.

> **i Note**
>
> To create new workloads, this app makes use of a job template in the *Application Job* app. For the *Create* button to be available in the *Manage Workloads* app, implement the SAP Note 2436567, *UI for Basis Applications - General Information*.

Activate ICF Services

Context

For security reasons, the Internet Communication Framework (ICF) services are delivered in an inactive state. You must activate the services that are required for the app.

Procedure

1. Log on to your front-end server.
2. Execute transaction `SICF`.

3. In the *Define Services* screen, make the following selections:
   - *Hierarchy Type*: **SERVICE**
   - *Virtual Host*: **DEFAULT_HOST**
   - *Service Path*: **/sap/bc/ui5_ui5/sap/PCPWRKLDMNG**
4. Choose *Execute* (F8).
5. Under *Virtual Hosts / Services*, double-click the PCPWRKLDMNG service to open the *Create/Change a Service* screen.
6. To activate a service, choose *Service/Host* > *Activate*.

> **i Note**
>
> You can check the activation status by selecting the service and opening the context menu. If the *Activate Service* option is grayed out, this means the service is already active.

Activate OData Services

1. See section Activate OData Services [page 114] and consult the table for SAP Customer Activity Repository.
2. Make sure that all mandatory OData services for the app are active.

Front-End Server

Component	Technical Name
OData Service (Version Number)	/DMF/PCPMNGWRKLD_SB (1)
OData Service (Version Number)	APJ_JOB_MANAGEMENT_SRV (1)
OData Service (Version Number)	APL_LOG_MANAGEMENT_SRV (1)

Enable the App for SAP Fiori Launchpad

Context

To be able to access the app from the SAP Fiori launchpad, your front-end system user must have the necessary role(s) assigned. This allows you to access the business catalogs and technical catalogs required for to access the app.

The app requires the following business role SAP_BR_DDF_PCP and technical catalog.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	SAP_DDF_TC_T

> **i Note**
>
> As of SAP Customer Activity Repository 5.0 FPS02, the business role and technical catalog were respectively changed from `SAP_XRP_TCR_T` and `SAP_XRP_TC_REPL` to `SAP_BR_DDF_PCP`and `SAP_DDF_TC_T`.

> **i Note**
>
> You can select the *Manage Workloads* tile manually from the technical catalog to add it to the SAP Fiori launchpad.

Procedure

1. Log on to your front-end system.
2. Execute transaction `SU01` to open the *User Maintenance* screen.
3. Enter your front-end user name in the *User* field and choose *Change*.
4. On the *Roles* tab, assign the (`SAP_BR_DDF_PCP`) role to your user.
5. Save your changes.

   > **→ Tip**
   >
   > If you already have an SAP Fiori launchpad open, clear your browser cache or you won't be able to see the changes.

Back-End Server: Set Up Authorizations

Context

For the *Manage Workloads* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
`/DMF/PCPWL`	Authorization to execute parallel processing and to display and change workloads in the *Manage Workloads* app.	ACTVT	Execute Display Change Delete	Activity

6.1.2.11 Configure On-Shelf Availability

Configure the On-Shelf Availability (OSA) module in SAP Customer Activity Repository. All steps are **optional** and depend on your implementation scenario.

> **i** Note
>
> The configuration of OSA is **mandatory** if you want to generate intraday forecasts. For this feature, you need the combined functionality of OSA and Unified Demand Forecast (UDF). For more information, see https://help.sap.com/viewer/p/CARAB and open the application help for SAP Customer Activity Repository. Search for the *Generate Intraday Forecasts* section.

> **→** Tip
>
> If you encounter any issues, see the Troubleshooting [page 241] section for possible solutions.

Generate Run IDs for OSA Processing Steps [page 200]
Define the range of run IDs for the four processing steps of On-Shelf Availability (OSA): Intraweek Pattern, Estimation, Monitoring, and Analysis.

Check Field Contents in SAP HANA Content for On-Shelf Availability [page 201]
Check the fields of the customizable SAP HANA views for OSA.

6.1.2.11.1 Generate Run IDs for OSA Processing Steps

Define the range of run IDs for the four processing steps of On-Shelf Availability (OSA): Intraweek Pattern, Estimation, Monitoring, and Analysis.

Use

Each scheduled run of a processing step of On-Shelf Availability (OSA) has a generated run ID. This is the unique identifier of a job.

The run ID is used to distinguish several runs within one period. Each processing step has its own ID generator:

Processing Step	Transaction for the ID Generator
Intraweek Pattern	**/OSA/NR_IWP**
Estimation	**/OSA/NR_EST**
Monitoring	**/OSA/NR_MON**
Analysis	**/OSA/NR_ANA**

For each of the four ID generator transactions, you must define the range of run IDs.

Procedure

Do the following steps for each transaction:

1. Log on to your back-end system.
2. Execute the transaction by specifying either **/n<transaction>** or **/o<transaction>**.

   > **Example**
   >
   > For the first transaction: **/n/OSA/NR_IWP**

3. Choose *Intervals* in change mode.
4. In the first row of the table, enter the following values for the following fields:
   - Field *No*: **01**
   - Field *From No.*: **0000000000000001**
   - Field *To Number*: **9999999999999999**
5. Save your changes.

6.1.2.11.2 Check Field Contents in SAP HANA Content for On-Shelf Availability

Check the fields of the customizable SAP HANA views for OSA.

Use

There are two OSA-specific SAP HANA views that can be customized:

- `AN_TRANSACTION`
- `PROMOTION_TRANS`

You must check if the fields in these views contain the mappings or formulas you need.

> **Caution**
>
> If you need to modify a view, be aware that a new installation will rewrite the modifications. We therefore recommend that you perform a back-up of the modified views.

Procedure

To change the mapping or the formula of a field, follow these steps:

1. Define the data foundation that is the source for the view, that is, the table `/POSDW/TLOGF`.
2. Define filters for the view.

3. Map the fields from source to target.
4. Create measures and calculation fields.

For more information, see the documentation under https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Development* ◀.

> ✤ Example

Example: Definitions for the `AN_TRANSACTION` View

The following definitions are set by default for the `AN_TRANSACTION` view:

- The source of the view is the table `/POSDW/TLOGF`.
- Examples of filters for the views:
  - `RECORDQUALIFIER = '5'`: Only sales records are used.
  - `DATASTATUS in ('2' , '3')`: Only those records are used that passed the SAP Customer Activity Repository validation.
  - `RETAILQUANTITY > 0.0`: Negative quantities are not used by On-Shelf Availability.
  - `VOIDEDLINE = ''`: Canceled transactions are not used by On-Shelf Availability.
- Examples of fields mappings:
  - `MANDT`: Client ID. This field is mapped to the `MANDT` column of the `/POSDW/TLOGF` table.
  - `STORE_ID`: Store ID. This field is mapped to the `RETAILSTOREID` column of the `/POSDW/TLOGF` table.
  - `BUSINESSDAYDATE`: Business day. This field is mapped to the `BUSINESSDAYDATE` column of the `/POSDW/TLOGF` table.
- Examples of measures:
  - `RETAILQUANTITY`: Amount of units sold. Refers to the `SALESUOM` (Sales Unit of Measure) field that is also defined in the `/POSDW/TLOGF` table. Contains the value of the `RETAILQUANTITY` field.
  - `PRICE`: Price specified in the store currency. Contains the value of the `ACTUALUNITPRICE` field.
- Examples of calculated fields:
  - `TRANS_TIME_DBL`: Value of the `TRANS_TIME` output field of type `DOUBLE`. The format of the transaction time that is stored in `BEGINTIMESTAMP` and `ENDTIMESTAMP` is `<YYYYMMDDhhmmss>`.
  - `DISCOUNT`: Total relative discount applied on the item (product).
    Calculated as `(ITEMDISC + DISTDISC) / (RETAILQUANTITY * ACTUALUNITPRICE)`. If the price is not a positive number, 0 is returned.
    Definitions:
    - `DISTDISC`: global discount on the whole purchase; currently not used.
    - `ITEMDISC`: item-specific discount; currently used.

6.1.2.12 Configure Omnichannel Article Availability and Sourcing for Use with SAP Customer Activity Repository

To set up the OAA module, you need to integrate the source master data system (SAP S/4HANA or SAP Retail), SAP Customer Activity Repository, SAP Commerce, and SAP Commerce, integration package for SAP

for Retail. You also need to set up asynchronous order management and the data replication between SAP S/4HANA or SAP Retail, SAP Commerce, and SAP Customer Activity Repository.

6.1.2.12.1 Set up Data Replication Between SAP S/4HANA or SAP Retail, and SAP Commerce

In SAP S/4HANA or SAP Retail, and SAP Commerce, set up the **asynchronous order management scenario** as follows:

1. Set up **asynchronous replication of articles** via the Data Hub from SAP S/4HANA or SAP Retail to SAP Commerce.
   For more information, see the documentation for SAP Commerce at https://help.sap.com/viewer/50c996852b32456c96d3161a95544cdb/latest/en-US/8bc6b884866910148532f2e1e500f95f.html *Getting Started with SAP S/4HANA or SAP ERP Integration*. Follow the steps for the asynchronous order management scenario.
2. Set up **asynchronous replication of orders** via the Data Hub from SAP Commerce to SAP S/4HANA or SAP Retail (see link above).
3. Configure asynchronous order management.
   For more information, see the documentation for SAP Commerce at https://help.sap.com/viewer/50c996852b32456c96d3161a95544cdb/latest/en-US/e2be57a501da41cc9ebdf7cf7d3aa229.html *Configuring Order Management for SAP Commerce with One or More SAP Back Ends*.

6.1.2.12.2 Set Up Data Replication Between SAP Commerce and SAP Customer Activity Repository

1. In SAP Commerce, in the Backoffice application under *SAP Integration* > *HTTP Destination*, create the HTTP destination of SAP Customer Activity Repository that is used for availability calculation and sourcing.
2. In SAP Commerce, in the Backoffice application under *SAP Integration* > *SAP Global Configuration* > *Backend Connectivity*, enter the HTTP destination of SAP Customer Activity Repository created before.

> **i Note**
>
> In the standard Solr configuration for products in SAP Commerce, `ProductStoreStockValueProvider` is used to replicate the store availability situation from the SAP Commerce database into the Solr index.
>
> If you use OAA, availability information is provided through synchronous calls into SAP Customer Activity Repository for every article/store combination instead. If your product catalog is rather large, this is why indexing the complete product catalog can take very long. In this case, we recommend to either deactivate the value provider or to create a custom one. If you deactivate the value provider, faceted search according to store availability is not possible in the product catalog. OAA functionality is not affected.

6.1.2.12.3 Set Up Live Connection Between SAP Customer Activity Repository and SAP Analytics Cloud

This step is optional. You only need to execute it if you want to use the set of OAA analyses that has been predefined in SAP Analytics Cloud and that is part of the standard delivery of SAP Analytics Cloud. If you are using a different analytics tool, or if you do not run analytics at all, you may skip this step.

Context

Procedure

1. Configure SAP Customer Activity Repository to support cross-origin resource sharing (CORS), for cross-domain communication from the browser.

   For more information, see Live Data Connection to SAP BW Using a Direct Connection and Password Authentication, steps 1 and 2 of the procedure.
2. In SAP Analytics Cloud, navigate to *Home* > *Connection* and select live connection SAPRTOAA (*SAP Retail Omnichannel Article Availability and Sourcing*). This connection is part of the standard delivery.
3. Click *Edit Connection* and enter your custom details for *Host*, *HTTPS Port*, and *Client*.

6.1.2.12.4 Activate OData Services for Omnichannel Article Availability and Sourcing

A number of OData services are required to run the SAP Fiori apps for omnichannel article availability and sourcing (OAA).

Context

Make sure that you have activated the OData services required for OAA, as described and listed in Activate OData Services [page 114]. Depending on your back end, different services are required.

6.1.2.12.5 Trigger Initial Full Run of ATP Snapshot Replication (SAP S/4HANA 1909 Only, Sales Channel Mode Only)

Sales channel mode only; SAP S/4HANA 1909 only: With SAP Customer Activity Repository 4.0 FPS02, the delta mode of the ATP snapshot replication was changed.

Context

The delta mode of the ATP snapshot replication works correctly only after an initial full run of the replication.

Trigger a full run of report `/OAA/ATP_SNP_CALC` (*Generation and Replication of ATP Snapshot*).

6.1.2.13 Configure Omnichannel Promotion Pricing for Use with SAP Customer Activity Repository

To use the OPP module, you need to activate the functionality in Customizing and configure it for your specific scenario.

> → Tip
>
> For information on how to configure the promotion pricing service in SAP Commerce, see the *Administrator Guide* of SAP Commerce, integration package for SAP for Retail on SAP Help Portal under https://help.sap.com/docs/IPR ▶ *<Version>* ▶ *Administration* ▶ *Omnichannel Promotion Pricing* ▶ *Configuration* ▶.

Related Information

Activate Omnichannel Promotion Pricing (OPP) [page 206]
Activate the Data Replication Framework (DRF) [page 208]
Configure the Transformation of Offers into OPP Promotions [page 206]
Configure the Local Deployment of the Promotion Pricing Service [page 207]
Configure the Central Deployment of the Promotion Pricing Service [page 221]
Update the PPS SAP HANA XSA Application
Use the Extended Sales Pricing Model (DDF) [page 238]

6.1.2.13.1 Activate Omnichannel Promotion Pricing (OPP)

To use omnichannel promotion pricing for the calculation of the effective sales price, you have to activate the functionality.

In Customizing for SAP Customer Activity Repository, choose *Omnichannel Promotion Pricing* > *Configure Omnichannel Promotion Pricing* > *Activate OPP*.

6.1.2.13.2 Configure the Transformation of Offers into OPP Promotions

Related Information

Enforce the Compatibility to Transform Offers into OPP Promotions [page 206]
Enable Offers with Enhanced Product Groups [page 206]
Enable Offers with Zero Discount [page 207]

6.1.2.13.2.1 Enforce the Compatibility to Transform Offers into OPP Promotions

To transform offers into OPP promotions, it is recommended to enforce the compatibility to make sure that an offer can only be set to an operative status, for example *Approved*, if the transformation into an OPP promotion was successful.

In Customizing for SAP Customer Activity Repository under *Omnichannel Promotion Pricing (OPP)* > *Configure Omnichannel Promotion Pricing* > *Enforce Compatibility*.

6.1.2.13.2.2 Enable Offers with Enhanced Product Groups

If you want to include or exclude product groups from your offers or use them in mix-and-match offers, you have to enable enhanced product groups.

In Customizing for SAP Customer Activity Repository under *Omnichannel Promotion Pricing (OPP)* > *Configure Omnichannel Promotion Pricing* > *Enable Product Groups*.

Additionally, you have to enable product groups for the promotion pricing service. For more information about the configuration of product groups, see the *Development and Extension Guide for OPP* on SAP Help Portal

at https://help.sap.com/docs/CARAB ▸ *<Version>* ▸ *Development* ▸ *Development and Extension Guide for Omnichannel Promotion Pricing* ▸ under ▸ ▸ *Promotion Pricing Service* ▸ *PPS Module calcengine-gk* ▸ *Default Settings and Properties* ▸.

6.1.2.13.2.3 Enable Offers with Zero Discount

By default offers with discount type *Everyday Low Price (EDLP)* are transformed into OPP promotions like offers with discount type *Regular Price*. If a monetary discount of zero should be applied to the previous price, you can enable the discount type *Zero Discount*. In this case, a retail price modifier is returned in the calculation response, but the previous price does not change.

You can enable this discount type in Customizing for SAP Customer Activity Repository under ▸ *Omnichannel Promotion Pricing (OPP)* ▸ *Configure Omnichannel Promotion Pricing* ▸ *Enable Zero Discount* ▸.

6.1.2.13.3 Configure the Local Deployment of the Promotion Pricing Service

For a local deployment scenario, you have to replicate regular prices and OPP promotions from the central price and promotion repository (SAP Customer Activity Repository) to an external system to create a local storage for prices and promotions. This replication can be done via IDocs. For that, you have to configure application link enabling (ALE) and Data Replication Framework (DRF). For OPP promotions, there are two options to configure this replication: the promotion-centric outbound processing and the location-specific outbound processing.

Prerequisites

- You have defined receiving systems and clients in the system landscape directory (SLD).

Procedure

1. Activate OPP functionality as described in Activate Omnichannel Promotion Pricing (OPP) [page 206].
2. Activate DRF functionality as described in Activate the Data Replication Framework (DRF) [page 208].
3. Define number ranges as described in Define Number Ranges [page 208].
4. Configure the Application Link Enabling for the outbound processing of regular prices and OPP promotions (promotion-centric or location-specific outbound processing):
   - Configure Application Link Enabling for the outbound processing of regular prices and promotion-centric OPP promotions. [page 208]
   - Configure Application Link Enabling for the location-specific outbound processing of OPP promotions [page 216]

5. Configure the Data Replication Framework for the outbound processing of regular prices and OPP promotions (promotions-centric or location-specific outbound processing):
   - Configure the data replication for the outbound processing of regular prices and OPP promotions (promotion-centric outbound processing) [page 211]
   - Configure the data replication for OPP promotions (location-specific outbound processing) [page 219]

6.1.2.13.3.1 Activate the Data Replication Framework (DRF)

To send regular prices and OPP promotion to an external system via IDocs, you have to activate the Data Replication Framework (DRF) functionality.

In transaction **SFW5**, activate business function DRF_FOUNDATION.

6.1.2.13.3.2 Define Number Ranges

To send OPP promotions to an external system via IDocs, you can define number ranges to generate unique identifiers for all promotion-related entities.

In Customizing for SAP Customer Activity Repository, choose *Omnichannel Promotion Pricing (OPP)* > *Define Number Ranges*.

6.1.2.13.3.3 Configure the Outbound Processing for Regular Prices and OPP Promotions

Configuration of the outbound processing of regular prices and promotion-centric OPP promotions.

Application Link Enabling

In Customizing for *SAP NetWeaver*, under *Application Server* > *IDoc Interface / Application Link Enabling (ALE)*, see the system documentation to check the settings for distributing data between application systems based on Application Link Enabling and IDoc interface technology. With omnichannel promotion pricing, this functionality is used to distribute OPP promotions and regular prices from SAP Customer Activity Repository to an external system, for example an SAP Commerce system. You need to perform the following steps:

Transaction BD54: Defining a Logical System

With ALE IDoc distribution, you can exchange data between logical systems. You use the logical system name to identify a system uniquely within the network. If you already use ALE IDoc distribution, the logical system

for the sending system has already been defined. In this case, you only need to define a logical system for the receiving system. In SAP Customer Activity Repository, do the following:

In *Display View "Logical System": Overview*, create a new logical system. Enter the following values:

Field Name	Value
Log. System	**<receiving system>**
Name	**<receiving system>**

Transaction SM59: Defining an RFC Destination

1. Create the RFC destination in the *HTTP Connections to External Server* folder and enter the following values:

Field Name	Value
RFC Destination	**<name of the RFC destination>**
Connection Type	Enter connection type *G HTTP Connection to External Server*.
Description	Enter at least *Description 1* in the description section.

2. In *Technical Settings*, enter the following values for *Target System Settings*:

Field Name	Value
Target Host	**<name of the target host>**
Path Prefix	**/sapppspricing/idocinbound**
Port	**<service number for https or http connection>** **i Note** With OPP, an https connection is recommended.

3. In *Logon and Security*, select *Basic Authentication* for *Logon with User*, and enter the following values:

Field Name	Value
User	**<user name that you have created in** SAP Commerce **Backoffice>**

Field Name	Value
Password	**<password that you have created in** SAP Commerce **Backoffice>**

In *Security Options* select *SSLActive* to send your data via https connection and enter an appropriate certificate.

> **i** Note
>
> We strongly recommend to use Secure protocols (SSL, SCN) whenever possible.
>
> For more information, see *Transport Layer Security and Web Services Security* in the *SAP NetWeaver Security Guide*.

Transaction WE21: Defining a Port

1. Create this ALE port in the *XML HTTP* folder and enter the following values:

Field Name	Value
Port	**<name of port>**
Description	**<description of port>**
RFC destination	**<name of the RFC destination created in the previous step>**

2. Select *Text/XML* for Content Type.

Transaction WE20: Defining a Partner Profile

A partner profile contains parameters that define the electronic interchange of data between systems using the IDoc interface. There is only one partner profile required for the receiving system and it needs to contain all the parameters that your scenario requires for sending OPP promotions and regular prices to that receiving system.

Basic Partner Profile Information

To set up the basic partner profile information, do the following:

1. In *Partner Profiles*, create a logical system partner. Enter the following values:

Field Name	Value
Partner No.	**<partner number>**, which must be the same as the receiving system that you defined in section *Defining a Logical System*
Partner Type	**LS** for regular prices and OPP promotions sent via promotion-centric outbound processing

2. In the *Post processing: permitted agent* tab, enter the following values:

Field Name	Value
Ty.	**US** (for User)
Agent	**<users to be notified>** should be an agent who can process IDocs with errors
Lang.	**<notification language>**

Outbound Parameters

Field Name	Value
Message Type	• `/ROP/BASE_PRICE` for regular prices • `/ROP/PROMOTION` for OPP promotions
Outbound Options tab	
Receiver port	**<receiver port>** as defined in section *Defining a Port*

Output Mode	• *Pass IDoc Immediately*
	  • Select this option to transfer IDocs directly after creation for a better integration to the DRF transfer log.
	  • Select this option to make sure that IDocs are sent in the same order in which they have been created.
	• *Collect IDocs*
	  • Select this option to collect IDocs and transfer them sequentially with transaction **WE14**.

IDoc Type	• `/ROP/BASE_PRICE01` for regular prices • Depending on the receiving system `/ROP/PROMOTION01` or `/ROP/PROMOTION02` for OPP promotions
Cancel Processing After Syntax Error	Ensure that this field is selected to avoid sending erroneous IDocs.

Data Replication Framework

In Customizing for *Cross-Application Components* under *Processes and Tools for Enterprise Applications* > *Master Data Governance, Central Governance* > *General Settings* > *Data Replication* > *Overall Information*, see the system documentation to check how data is sent to one or more target systems. With OPP, the Data

Replication Framework functionality is used to send regular prices and OPP promotions from an SAP Customer Activity Repository system to external systems. You need to perform the following steps:

Transaction `DRFIMG`: Defining Custom Settings for Data Replication

In Customizing, you have to perform the following configuration steps under *Data Replication* > *Define Custom Settings for Data Replication*:

1. In Customizing activity *Define Technical Settings for Business Systems*, define a business system and a logical system for the receiving systems. The following business object types are available to send OPP promotions and regular prices, and can be assigned to the business system:

Business Object Type	Description	Communication Channel
`ROP_PROMO`	OPP promotion	Replication via IDoc
`ROP_PRICE`	Regular price	Replication via IDoc

2. In Customizing activity *Define Replication Models*, specify the content of the replication model (regular prices or OPP promotions), the outbound implementation that is to be used, and the business system to which this object is to be sent. You can specify a different destination system for each outbound implementation that contains business object, filter object, and business logic. You can also add an expiration time for the log. The following predefined outbound implementations exist:

Outbound Implementation	Description	Supported Replication Model	Filter Object
`ROP_PRICE`	Outbound implementation for regular prices	Initialization, Change, and Manual	`ROP_PRICE` **i Note** For this outbound implementation, the filter application time needs to be set to *Filter Before Change Analysis*.
`ROP_PROMO`	Outbound implementation for OPP promotions sent via promotion-centric outbound processing	Initialization, Change, and Manual	`ROP_PROMO`

Outbound Implementation	Description	Supported Replication Model	Filter Object
ROP_PRC_MG	Outbound implementation for multi-level generated regular prices Use this additional outbound implementation for regular prices instead of ROP_PRICE to support the extended sales pricing model for Demand Data Foundation (DDF). For more information, see Use the Extended Sales Pricing Model (DDF) [page 238].	Initialization, Change, and Manual	ROP_PRICE **i Note** For this outbound implementation, the filter application time needs to be set to *Filter Before Change Analysis*.

Outbound Parameters

The following outbound parameters must be assigned to each replication model:

Outbound Parameter for Regular Prices	Description	Typical Value*
/ROP/PACK_SIZE_BULK	This parameter sets the maximum number of regular prices that are processed per IDoc. This is an approximate value because regular prices are assigned to different IDocs for each group of business unit with items and prices. **i Note** If this parameter is set to 0, restricting regular prices is not possible and it is only the number of products that determines the IDoc size.	20,000-100,000
PACK_SIZE_BULK	This parameter controls the number of products for which regular prices can be stored in a compressed format at the same time, and sets the maximum number of products that are processed per IDoc. **i Note** If this parameter is not set, the default is 1. If you increase this value, performance at runtime is improved since fewer IDocs need to be processed.	200-1,000

Outbound Parameter for Regular Prices	Description	Typical Value*
TASK_SIZE_PROCMSG	This parameter is only relevant if you execute the data replication using parallel processing . This parameter sets the maximum number of products that are processed per parallel package. It must be greater or equal to the PACK_SIZE_BULK parameter. **i Note** This parameter value does not define the number of regular prices per package. If this parameter is set to 0, all products are processed in one package. This means that parallel processing is not possible.	400-2,000
/ROP/SEQ_READ_SIZE	This parameter sets the maximum number of products for which the regular prices are read in one select statement. In this way you can limit memory consumption for products with a large number of regular prices. **i Note** If this parameter is set to 0, all products of the corresponding package are read within one call.	100-200
/ROP/DAY_OFFSET_PAST	This parameter is only used, if the selection of prices in the past is restricted with the validity end date as a filter criteria and if the validity end date is not too far in the past. During a delta replication, this parameter defines a time range in days that lies before the date of the last replication run. The system subtracts this value from the last replication date and uses the resulting date to construct the select-option for the validity end date. During an initial replication the system calculates a date (current date minus the time range in days defined in this parameter). If the date that you entered for the validity end is earlier than the calculated date, the calculated date is used automatically. In this way you ensure that also regular prices with a validity end date in the specified past time range are transferred. **i Note** If this parameter is not set, relevant regular prices might not be transferred. See SAP Note 2338714. In this case the default is set to 30 days.	30

Outbound Parameter for OPP Promotions	Description	Typical Value*
PACK_SIZE_BULK	This parameter sets the maximum number of OPP promotions that are processed per IDoc. It must be smaller than the TASK_SIZE_PROCMSG parameter and is relevant for both, the sequential and the parallel execution of DRF outbound. **i Note** If this parameter is not set, the default is 1. If you increase this value, performance at runtime is improved since fewer IDocs need to be processed.	100-1,000
TASK_SIZE_PROCMSG	This parameter is only relevant with parallel processing . It sets the maximum number of OPP promotions that are processed per parallel package. It must be greater or equal to the PACK_SIZE_BULK parameter. **i Note** This parameter value does not define the number of OPP promotions per package. If this parameter is set to 0, independently of the value that you enter in transaction **DRFOUT**, parallel processing is not possible.	100-5,000
/ROP/Generic_ENH_MAP	This parameter activates the automatic mapping of customer-specific fields that are stored in the CI-Inlcudes of promotional entities to the corresponding extension segments in the OPP promotion IDocs. **i Note** Internal tables, structures, and so on, are not supported.	x

*This value gives you an idea of usable values for the replication of regular prices and OPP promotions, it is not a recommendation.

3. Optional: In Customizing activity *Define Business Object Settings*, specify the application link enabling (ALE) message type that is to be used for each business object. In this way, you can determine the retention period for change pointers that are related to the business object. For the outbound processing of regular prices, no change pointers are used and the retention period is not relevant. The following message types are relevant for the outbound processing of regular prices and OPP promotions from the central price and promotion repository:

Business Object Type	Message Type
ROP_PRICE	/ROP/BASE_PRICE

Business Object Type	Message Type
ROP_PROMO	/ROP/PROMOTION

For more information, see Customizing for *Cross Application Components* under *Processes and Tools for Enterprise Applications* > *Master Data Governance, Central Governance* > *General Settings* > *Data Replication* > *Overall Information*.

Transaction DRFF: Defining Filter Criteria

In *Define Filter Criteria*, specify your data selection for each replication model and business object. The filter criteria are valid for *Initial* replication and *Change* replication.

Parallel Processing for Regular Prices and OPP Promotions

DRF enables outbound implementations to be executed by using parallel tasks. This feature is supported for both, the outbound implementation for regular prices and the outbound implementation for OPP promotions. You can transfer the different tasks to different servers by defining and choosing server groups. Before replicating the data, you can define the maximum number of work processes that can run in parallel. These parameters combined with the outbound parameters mentioned above provide a flexible configuration.

6.1.2.13.3.4 Configure the Location-Specific Outbound Processing of OPP Promotions

The location-specific outbound processing of OPP promotions enables you to distribute a location-specific view of OPP promotions. With this outbound option OPP promotions are sent from the central price and promotion repository to its assigned locations. You can use this option if you, for example, want to send OPP promotions to POS systems in your physical stores. This section describes how to configure the Application Link Enabling (ALE) layer and Data Replication Framework (DRF) for the sending of IDocs.

Application Link Enabling

In Customizing for *SAP NetWeaver*, under *Application Server* > *IDoc Interface / Application Link Enabling (ALE)*, see the system documentation to check the settings for distributing data between application systems based on Application Link Enabling and IDoc interface technology. With omnichannel promotion pricing, this functionality is used to distribute OPP promotions and regular prices from SAP Customer Activity Repository to an external system, for example an SAP Commerce system. You need to perform the following steps:

Transaction SM59: Defining an RFC Destination

For each receiving system that initially receives the created IDocs, you have to create an RFC destination. If you use a middleware, this RFC destination refers to the host in which the middleware is running, If you use a 1:1 connection, all receiving systems require a separate RFC destination. The attributes of the RFC destination are determined by the receiving system. In the following we assume that we want to setup a location-specific

outbound processing to a local promotion pricing service in a SAP Commerce system that is directly connected to the SAP Customer Activity Repository.

1. In *Technical Settings*, enter the following values for *Target System Settings*:

Field Name	Value
Target Host	**<name of the target host>**
Path Prefix	**/sapppspricing/idocinbound**
Port	**<service number for https or http connection>** **i Note** With OPP, an https connection is recommended.

2. In *Logon and Security*, select *Basic Authentication* for *Logon with User*, and enter the following values:

Field Name	Value
User	**<user name that you have created in** SAP Commerce **Backoffice>**
Password	**<password that you have created in** SAP Commerce **Backoffice>**

In *Security Options* select *SSLActive* to send your data via https connection and enter an appropriate certificate.

i Note

We strongly recommend to use Secure protocols (SSL, SCN) whenever possible.

For more information, see *Transport Layer Security and Web Services Security* in the *SAP NetWeaver Security Guide*.

Transaction WE21: Defining a Port

1. Create this ALE port in the *XML HTTP* folder and enter the following values:

Field Name	Value
Port	**<name of port>**
Description	**<description of port>**

Field Name	Value
RFC destination	

2. *Text/XML*.

Transaction WE20: Defining a Partner Profile

A partner profile contains parameters that define the electronic interchange of data between systems using the IDoc interface. There is only one partner profile required for the receiving system and it needs to contain all the parameters that your scenario requires for sending OPP promotions and regular prices to that receiving system.<name of the RFC destination created in the previous step>

Basic Partner Profile Information

To set up the basic partner profile information, do the following:

1. In *Partner Profiles*<, create a logical system partner. Enter the following values:

Field Name	Value
Partner No.	External ID of the receiving DDF location
Partner Type	**LO** for OPP promotions replicated via location-specific outbound processing

> **i Note**
>
> For this partner type, only the first 10 characters of the DDF location ID are taken into account, the location type and logical system are ignored. If you want to use a different logic, use transaction **WE44** to define a different partner type or to change the validation logic.
>
> Select a content type supported with the receiving system. If you configure a localIf you need a different implementation of BAdI `/ROP/PROMO_STORE_OUTBOUND`, see Customizing for SAP Customer Activity Repository and choose *Omnichannel Promotion Pricing (OPP)* > *Business Add-Ins (BAdIs)* > *Outbound Processing of OPP Promotions* > *BAdI: Location-Specific Outbound Processing*.

2. In the *Post processing: permitted agent* tab, enter the following values:

Field Name	Value
Ty.	**US** (for User)
Agent	**<users to be notified>**, which should be an agent who can process IDocs with errors.
Lang.	**<notification language>**

Outbound Parameters

Field Name	Value
Message Type	`/ROP/PROMOTION` for OPP promotions
Outbound Options tab	
Receiver port	**`<receiver port>`** as defined in section *Defining a Port*

Output Mode	• *Pass IDoc Immediately*
	  • Select this option to transfer IDocs directly after creation for a better integration to the DRF transfer log.
	  • Select this option to make sure that IDocs are sent in the same order in which they have been created.
	• *Collect IDocs*
	  • Select this option to collect IDocs and transfer them sequentially with transaction **`WE14`**.

IDoc Type	Depending on the receiving system `/ROP/PROMOTION01` or `/ROP/PROMOTION02` for OPP promotions
Cancel Processing After Syntax Error	Ensure that this field is selected to avoid sending erroneous IDocs.

Data Replication Framework

In Customizing for *Cross-Application Components* under *Processes and Tools for Enterprise Applications* > *Master Data Governance, Central Governance* > *General Settings* > *Data Replication* > *Overall Information*, see the system documentation to check how data is replicated to one or more target systems. With OPP, the Data Replication Framework functionality is used to send regular prices and OPP promotions from an SAP Customer Activity Repository system to external systems. You need to perform the following steps:

Transaction `DRFIMG`: Defining Custom Settings for Data Replication

In Customizing, you have to perform the following configuration steps under *Data Replication* > *Define Custom Settings for Data Replication*:

1. In Customizing activity *Define Technical Settings for Business Systems*, define a business system and a logical system for the receiving systems. The following business object types are available to replicate OPP promotions and regular prices, and can be assigned to the business system:

Business Object Type	Description	Communication Channel
`ROP_PRO_ST`	Location-specific outbound processing of OPP promotions	Replication via IDoc

2. In Customizing activity *Define Replication Models*, specify the content of the replication model (regular prices or OPP promotions), the outbound implementation that is to be used, and the business system

to which this object is to be sent. You can specify a different destination system for each outbound implementation that contains business object, filter object, and business logic. You can also add an expiration time for the log. The following predefined outbound implementations exist:

Outbound Implementation	Description	Supported Replication Model	Filter Object
ROP_PRO_ST	Outbound implementation for OPP promotions sent via location-specific outbound processing	Initialization, Change, and Manual	ROP_PRO_ST

Outbound Parameters

The following outbound parameters must be assigned to each replication model:

Outbound Parameter for OPP Promotions	Description	Typical Value*
PACK_SIZE_BULK	This parameter sets the maximum number of OPP promotions that are processed per IDoc. It must be smaller than the TASK_SIZE_PROCMSG parameter and is relevant for both, the sequential and the parallel execution of DRF outbound. **i Note** If this parameter is not set, the default is 1. If you increase this value, performance at runtime is improved since fewer IDocs need to be processed.	100-1,000
TASK_SIZE_PROCMSG	This parameter is only relevant with parallel processing . It sets the maximum number of OPP promotions that are processed per parallel package. It must be greater or equal to the PACK_SIZE_BULK parameter. **i Note** This parameter value does not define the number of OPP promotions per package. If this parameter is set to 0, independently of the value that you enter in transaction **DRFOUT**, parallel processing is not possible.	100-5,000

Outbound Parameter for OPP Promotions	Description	Typical Value*
/ROP/Generic_ENH_MAP	This parameter activates the automatic mapping of customer-specific fields that are stored in the CI-Inlcudes of promotional entities to the corresponding extension segments in the OPP promotion IDocs. **i Note** Internal tables, structures, and so on, are not supported.	x

*This value gives you an idea of usable values for the replication of regular prices and OPP promotions, it is not a recommendation.

3. Optional: In Customizing activity *Define Business Object Settings*, specify the application link enabling (ALE) message type that is to be used for each business object. In this way, you can determine the retention period for change pointers that are related to the business object. For the outbound processing of regular prices, no change pointers are used and the retention period is not relevant. The following message types are relevant for the outbound processing of regular prices and OPP promotions from the central price and promotion repository:

Business Object Type	Message Type
ROP_PRICE	/ROP/BASE_PRICE
ROP_PROMO	/ROP/PROMOTION

For more information, see Customizing for *Cross Application Components* under *Processes and Tools for Enterprise Applications* > *Master Data Governance, Central Governance* > *General Settings* > *Data Replication* > *Overall Information*.

Transaction DRFF: Defining Filter Criteria

In *Define Filter Criteria*, specify your data selection for each replication model and business object. The filter criteria are valid for *Initial* replication and *Change* replication.

6.1.2.13.4 Configure the Central Deployment of the Promotion Pricing Service

The promotion pricing service (PPS) is an SAP HANA XS advanced (XSA) application. Therefore the configuration of, for example, database services and back-end connection information, is done before or during the deploy time. The needed configuration settings are provided via command line interface, or in an extension descriptor file. Authentication configuration and authorization configuration is done after deploy time.

Prerequisites

- You have installed SAP HANA XSA version 1.0.88 or higher.
- You have access to the XSA command-line tool version 1.0.82 or higher.
- You have an XSA user with the following role collections:
  - `XS_CONTROLLER_ADMIN`
  - `XS_USER_ADMIN`
  - `XS_USER_PUBLIC`
  - `XS_AUTHORIZATION_ADMIN`

  > **i** Note
  >
  > In the following documentation this user will be referred to as **XSA PPS admin user**.
- You have an XSA user with the business role `XS_USER_PUBLIC`.

  > **i** Note
  >
  > In the following documentation this user will be referred to as **XSA PPS business user**.
- You have a database user that can access the standard schema of your SAP Customer Activity Repository system via the SQL port, in which the database tables of the PPS are located.
- You have created and configured the organization and the space in which you want to install the promotion pricing service application.
- You have downloaded the SCV file `XSACOPPPPS04_<patch level>-80004642.ZIP` (for example patch level `0` for the initial delivery) for the PPS from the SAP Support Portal at https://support.sap.com.

Used XSA Services

The PPS application uses the following XSA services:

Service Instance	Service	Plan	Resource Type	Description
ppeHANA	User-defined	n/a	org.cloudfoundry.existing-service	Service to access the database.
ppServiceUaa	xsuaa	space	com.sap.xs.uaa-space	Service for for authentication and authorization services. Plan space allows the installation of the PPS app in different XSA spaces.
ppServiceAuditLog	auditlog	free	com.sap.xs.auditlog	Audit log broker on the XSA platform.

> **Note**
>
> The services `ppServiceUaa` and `ppServiceAuditLog` are created and bound automatically during the installation of the PPS application.

Procedure

1. Create the ppeHana Database Service [page 223]
2. Create the Extension Descriptor File [page 226]
3. Configure Authentication and Authorization Settings [page 228]
4. Advanced Configuration Settings [page 230]

Related Information

- For more technical information about SAP HANA XS advanced, see the *SAP HANA Developer Guide for SAP HANA XS Advanced Model* on SAP Help Portal at https://help.sap.com/docs/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Development* ▶ *SAP HANA Developer Guide* ▶.
- For more information about the installation of SAP HANA XS advanced, see the *SAP HANA Server Installation and Update Guide* on SAP Help Portal at https://help.sap.com/docs/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Installation and Upgrade* ▶ *SAP HANA Server Installation and Upgrade Guide* ▶ *Installing an SAP HANA System* ▶ *Installing XS Advanced Runtime* ▶.
- For more administration information about SAP HANA XS advanced, see the *SAP HANA Administration Guide for SAP HANA Platform* on SAP Help Portal at https://help.sap.com/docs/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Administration* ▶ *SAP HANA Administration Guide for SAP HANA Platform* ▶ *Application Run-Time Services* ▶ *Maintaining the SAP HANA XS Advanced Model Run Time* ▶.

6.1.2.13.4.1 Create the ppeHana Database Service

To make the PPS run, you have to create the database service *ppeHana*. How to create this service depends on your SSL (Secure Socket Layer) configuration settings in your SAP HANA database.

SSL Not Activated in SAP HANA

If SSL is not activated in SAP HANA, proceed as follows:

1. Execute the following xs command to create the database service depending on your local environment

For Windows Command Line use:

Source Code

```
xs create-user-provided-service ppeHana -p
"{\"user\":\"<DB_USER>\",\"password\":\"<DB_USER_PASSWORD>\",\"url\":\"jdbc
:sap://<HOSTNAME>:<PORT>/?
sessionVariable:APPLICATION=SAP_OPP_PPS_HRA\",\"driver\":\"com.sap.db.jdbc.
Driver\"}"
```

For Linux Shell use:

Source Code

```
xs create-user-provided-service ppeHana -p
'{"user":"<DB_USER>","password":"<DB_USER_PASSWORD>","url":"jdbc:sap://
<HOSTNAME>:<PORT>/?
sessionVariable:APPLICATION=SAP_OPP_PPS_HRA","driver":"com.sap.db.jdbc.Driv
er"}'
```

2. Adjust the following entries in angle brackets (<...>) in the command line:

Entry	Comment
<DB_USER>	Replace this entry with a valid database user of your SAP Customer Activity Repository system. With this user, you must be able to access the standard schema of your SAP Customer Activity Repository system via the SQL port, in which the database tables of the PPS are located.
<DB_USER_PASSWORD>	Replace this entry with the password of your database user (in clear text) in your SAP Customer Activity Repository system. **Note** If your password policy forces a password change after the first login, it must be changed before you create ppeHana.
<HOSTNAME>	Replace this entry with the database host name of your SAP Customer Activity Repository system.
<PORT>	Replace this entry with the database SQL port of your SAP Customer Activity Repository system.

Tip

When you have created the database service, clear the command history to prevent unauthorized disclosure of the password.

SSL Activated in SAP HANA

If SSL is activated in SAP HANA proceed as follows:

1. Execute the following xs command to create the database service depending on your local environment For Windows Command Line use:

   Source Code

   ```
   xs create-user-provided-service ppeHana -p
   "{\"user\":\"<DB_USER>\",\"password\":\"<DB_USER_PASSWORD>\",\"url\":\"jdbc
   :sap://<HOSTNAME>:<PORT>/?
   encrypt=true"&"validateCertificate=<VALUE>\"&"sessionVariable:APPLICATION=S
   AP_OPP_PPS_HRA\",\"driver\":\"com.sap.db.jdbc.Driver\",\"certificate\":\"
   -----BEGIN CERTIFICATE-----\nMIIFpzCww[…]----END CERTIFICATE-----\n\"}""}"
   ```

   For Linux Shell use:

   Source Code

   ```
   xs create-user-provided-service ppeHana -p
   '{"user":"<DB_USER>","password":"<DB_USER_PASSWORD>","url":"jdbc:sap://
   <HOSTNAME>:<PORT>/?
   encrypt=true&validateCertificate=true&sessionVariable:APPLICATION=SAP_OPP_P
   PS_HRA","driver":"com.sap.db.jdbc.Driver","certificate":" -----BEGIN
   CERTIFICATE-----\nMIIFpzCww[…]----END CERTIFICATE-----\n"}'
   ```

2. If you want to validate the server certificate, set *<VALUE>* of *validateCertificate* to **`true`**. In this case, you either have to ensure that your Java VM trusts the server certificate, or you must set the parameter certificate as shown in the following example of a ppeHana service instance:

   Sample Code

   ```
   {
     "name" : "ppeHana",
     "credentials" : {
       "password" : "<DB_USER_PASSWORD>",
       "driver" : "com.sap.db.jdbc.Driver",
       "port" : "<PORT>",
       "host" : "<HOSTNAME>",
       "user" : "<DB_USER>",
       "url" : "jdbc:sap://<HOSTNAME>:<PORT>/?
   encrypt=true&validateCertificate=true",
       "certificate" : "-----BEGIN CERTIFICATE-----\nMIIFpzCww[…]----END
   CERTIFICATE-----\n"
     }
   }
   ```

→ Tip

When you have created the database service, clear the command history to prevent unauthorized disclosure of the password.

6.1.2.13.4.2 Create the Extension Descriptor File

To store the PPS-specific configuration settings, you must create an extension descriptor file.

1. Create a text file with suffix `.mtaext`, for example `config-op.mtaext`.
2. To create the extension descriptor file, copy the following content to the new file that you have created in step 1:

> **Note**
>
> This content includes the minimum settings that are necessary to create the extension descriptor file. Further configuration settings, for example settings for caching, can be added to this file as required.

> **Source Code**

```
_schema-version: "2.0.0"
ID: com.sap.retail.ppservice.XSAC_OPP_PPS
extends: com.sap.retail.ppservice.XSAC_OPP_PPS_2
modules:
  - name: ppservice-approuter
    parameters:
      memory: 128M
  - name: ppservice-webapp-central
    parameters:
      memory: 1024M
    properties:
      sap.dataaccess-common.db.client: "<DB_CLIENT>"
      sap.dataaccess-common.logSys: "<LOGSYS>"
      DISABLE_SUCCESSFUL_LOGIN_AUDIT_LOG: "<AUDIT_LOG_FLAG>"
      JBP_CONFIG_RESOURCE_CONFIGURATION: "['tomcat/
webapps/ROOT/WEB-INF/classes/ppe-schema-orm.xml': {'sap.dataaccess-
common.schema':'<DB_SCHEMA>'},'tomcat/webapps/ROOT/META-INF/context.xml':
{'ppeHana-service-name':'ppeHana'}]"
      JBP_CONFIG_JAVA_OPTS: 'java_opts: -D'
    provides:
      - name: java
```

> **Note**
>
> This configuration is written in YAML format. Make sure that you copy the format of the code block correctly.

3. Adjust the following entries in angle brackets (<...>) in the file:

Entry	Comment	Example
<DB_CLIENT>	Replace this entry with the client of your SAP Customer Activity Repository system.	*400*

Entry	Comment	Example
<LOGSYS>	Replace this entry with the logical system ID of your master data system that is connected to your SAP Customer Activity Repository client. If you want to support multiple master data systems in your SAP Customer Activity Repository client, you need one promotion pricing service for each system (in different spaces).	*XYZCLNT400*
<AUDIT_LOG_FLAG>	If you set this flag to true, the system creates audit log messages only for failed login attempts. If you set this flag to false, every login is recorded. This is of limited use for an A2A communication. To achieve optimal performance, it is recommended to set this flag to true.	*true*
<DB_SCHEMA>	Replace this entry with the standard database schema of your SAP Customer Activity Repository system.	*SAPHANADB*

→ Tip

If you need higher values for default memory settings, especially for `ppservice-webapp-central`, you can choose larger cache sizes.

4. Assuming that your extension descriptor file is called `config-op.mtaext` and that the command is called from the directory in which your extension descriptor file is stored, execute the following command to install the application:

‹≡› Source Code

```
xs install <pathToScvFile>/XSACOPPPPS<software_component_version>.ZIP -e
config-op.mtaext
```

5. Save the extension descriptor file for later update or patch activities.

i Note

If you want to reinstall the same software component version, add the following parameter to the install command: `-o ALLOW_SC_SAME_VERSION`

For more information about possible additional parameters, see the documentation of this install command.

6.1.2.13.4.3 Configure Authentication and Authorization Settings

To use the central promotion pricing service, you must have the necessary roles created and assigned.

Creating and Assigning a PPS Role Collection

Execute the following steps with your XSA PPS admin user.

1. Create a role collection for the PPS with the following xs command:

   Source Code

   ```
   xs create-role-collection <NAME> [<DESCRIPTION>]
   e.g., xs create-role-collection PPE_ROLE_COLLECTION "PPE ROLE COLLECTION"
   ```

2. Navigate to the organisation and space in which the PPS has been installed.

   → Tip

   You can change organisations and spaces with the xs command `xs target -o <ORG_NAME> -s <SPACE_NAME>`.

3. Check if the role template `ppservice-webapp-central` is listed in the space.

   i Note

   If the installation has been successful, this role template must be listed in this space. You can verify this by listing all role templates with xs command `xs role-templates`.

4. Create a role with the PPS role template:

   Source Code

   ```
   xs create-role <APP> <ROLE_TEMPLATE> <ROLE_NAME> <DESCRIPTION>
   e.g., xs create-role ppservice-webapp-central PPE_ROLE_TEMPLATE
   PPE_ROLE_XYZ "PPE role for xyz"
   ```

5. Add the new role to the new role collection:

   Source Code

   ```
   xs update-role-collection <ROLE_COLLECTION> --add-role <ROLE>
   e.g., xs update-role-collection PPE_ROLE_COLLECTION --add-role PPE_ROLE_XYZ
   ```

6. Assign the new role collection to the XSA PPS business user:

   Source Code

   ```
   xs assign-role-collection <ROLE_COLLECTION> <USER>
   e.g., xs assign-role-collection PPE_ROLE_COLLECTION PPSUSER
   ```

> → Tip
>
> You can call `xs help -a` to get an overview of other xs commands regarding role management.

7. Verify that the PPS user that you have created in the prior step is working. For this, you have to enter the following request details in your REST Client (like Postman for Chrome) to send a calculation request:

Request Details	Value
HTTP Request Method	*POST*
Authorization	*Type* = Basic Authentication
	User name = **<name of the XSA PPS business user>**
	Password = **<password of the XSA PPS business user>** **i Note** If your password policy prompts users to change their password when they log on to the system for the first time, this needs to be done before a request is sent via Rest Client.
Headers	*Accept* = **application/xml**
	Content-Type = **application/xml**
URL	1. Call the command **xs apps** and check for the URL of the `ppservice-approuter` app. 2. Append **/restapi/** to the URL and enter this information in your REST Client.
Body	**<PriceCalculate xmlns="http://www.sap.com/IXRetail/namespace/"/>**

> **i Note**
>
> If you send this request, you get HTTP response code *400 (Bad Request)* because you send an empty request body.
>
> If you receive HTTP response code *401 (Unauthorized)* or *403 (Forbidden)*, there is something wrong with your service user, or application. Double-check all steps that you have performed in this chapter.

6.1.2.13.4.4 Advanced Configuration Settings

The following settings are not mandatory in a default setup but help you to adapt the PPS to your specific needs. Some settings become mandatory if you use the Demand Data Foundation (DDF) extended sales pricing model.

Recommended Settings

By default, all database accesses to OPP promotion and regular price entities are cached. You can use the following two types of caches:

- Object cache based on JPA
  In this case, OPP promotions and their child entities (price derivation rules, texts, and so on) are stored in the L2 object cache of the JPA provider.
- Query result cache based on Spring Framework
  In this case, regular prices and the results of search queries for IDs of price derivation rule eligibilities are stored in a cache. This cache is used via Spring cache abstraction. The cache provider determines the settings for the query result cache (regular prices, eligibility IDs). Google Guava is the default cache provider and allows the configuration of the cache via a cache specification string per cache region.

Query Result Caches for OPP Promotions and Regular Prices

The following example shows the setting of the query caches for OPP promotions and regular prices:

Source Code

```
# Use Spring caching for promotions and regular prices - true is the default
setting
sap.dataaccess-common.cachenamedqueries=true
# Spring cache for promotions
sap.dataaccess-common.promocachespec=maximumSize=10000,expireAfterWrite=20m
# Spring cache for regular prices
sap.dataaccess-
common.basepricecachespec=maximumSize=10000,expireAfterWrite=20m
```

To apply these settings, they must be part of the extension descriptor (MTAEXT file) in the `properties` section. Even if you do not want to use caching, it is **not** recommended to set `sap.dataaccess-common.cachenamedqueries` to false. Instead, set the `expireAfterWrite` to a short timeframe (such as 10 s), which leads to a more optimized processing internally.

Further recommended settings are:

- Enabling dynamic weaving leads to optimized database accesses. This is done by activating the spring profile `sapweaving`.
- Enabling merchandise sets. For reasons of backward compatibility, this is disabled by default. It is a PCE configuration property that must be set differently than non-PCE configuration properties.

In the following example, merchandise sets are supported and dynamic weaving is activated. It also shows how multiline strings can be set in the MTAEXT file, which follows the YAML syntax:

```
properties:
```

```
      sap.dataaccess-common.db.client: "<DB_CLIENT>"
      sap.dataaccess-common.logSys: <LOGSYS>
      sap.dataaccess-common.cachenamedqueries: "true"
  sap.dataaccess-common.promocachespec: "maximumSize=10000,expireAfterWrite=20m"
  sap.dataaccess-common.basepricecachespec: "maximumSize=10000,expireAfterWrite=20m"
      SPRING_PROFILES_ACTIVE: sapweaving
      JBP_CONFIG_JAVA_OPTS: >
        java_opts: -DmerchandiseSetsEnabled=true
```

> **Note**
>
> - It is also possible to set the PPS configuration properties via `-D` in the `java_opts` element of `JBP_CONFIG_JAVA_OPTS`. In this case, changing the environment variables, for example via `xs set-env` followed by a restart of the application, has no effect. In this case, you would need to restage the application. It is recommended to add them to the `properties` section of the MTAEXT file as shown in the previous code sample.
> - The PCE-related configurations, such as enabling the support of merchandise sets, must be set in the `java_opts` element of `JBP_CONFIG_JAVA_OPTS` as shown in the previous code sample. They are not recognized in the `properties` section of the MTAEXT file. The list of configuration properties is part of the *Functional Guide for the Promotion Calculation Engine* on SAP Help Portal at https://help.sap.com/docs/CARAB ▶ *<Version>* ▶ *Development* ▶ *Functional Guide for the Promotion Calculation Engine* ▶.

Extended Sales Pricing Model

If you want to use the Demand Data Foundation (DDF) extended sales pricing model for OPP, you have to activate the spring profile `sapmultilevelprc`, which supports multilevel generated regular prices. This can be done in addition to other spring profiles such as `sapweaving`.

```
properties:
      sap.dataaccess-common.db.client: "<DB_CLIENT>"
      sap.dataaccess-common.logSys: <LOGSYS>
      sap.dataaccess-common.cachenamedqueries: "true"
      sap.dataaccess-common.promocachespec:
"maximumSize=10000,expireAfterWrite=20m"
      sap.dataaccess-common.basepricecachespec:
"maximumSize=10000,expireAfterWrite=20m"
      SPRING_PROFILES_ACTIVE: sapmultilevelprc,sapweaving
      JBP_CONFIG_JAVA_OPTS: >
        java_opts: -DmerchandiseSetsEnabled=true
```

For more information on the DDF extended sales pricing model, see Use the Extended Sales Pricing Model (DDF) [page 238].

Enhanced Unit of Measure Evaluation

If you want to enable the enhanced evaluation of unit of measure codes during the promotion calculation, set the PCE configuration property `enhancedUomEvaluationEnabled` to true. By default, this is turned off.

```
properties:
      sap.dataaccess-common.db.client: "<DB_CLIENT>"
      sap.dataaccess-common.logSys: <LOGSYS>
      sap.dataaccess-common.cachenamedqueries: "true"
      sap.dataaccess-common.promocachespec:
"maximumSize=10000,expireAfterWrite=20m"
      sap.dataaccess-common.basepricecachespec:
"maximumSize=10000,expireAfterWrite=20m"
      SPRING_PROFILES_ACTIVE: sapmultilevelprc,sapweaving
      JBP_CONFIG_JAVA_OPTS: >
```

```
        java_opts: -DmerchandiseSetsEnabled=true
                   -DenhancedUomEvaluationEnabled=true
```

> **i** Note
>
> Enabling this property can lead to a different behavior during the evaluation of existing promotions in which a unit of measure is set on merchandise hierarchy node level or merchandise set level. A promotional rule may be applied in fewer cases. In former releases, the unit of measure on merchandise hierarchy node level or merchandise set level was ignored.

Related Information

- For more information about optional properties that can be set via the extension descriptor, see the module descriptions and the corresponding property files in the *Development and Extension Guide for Omnichannel Promotion Pricing* on SAP Help Portal at https://help.sap.com/docs/CARAB ▶ *<Version>* ▶ *Development* ▶ *Development and Extension Guide* ▶.
- For more information about caching options, see the *Development and Extension Guide for Omnichannel Promotion Pricing* on SAP Help Portal at https://help.sap.com/docs/CARAB ▶ *<Version>* ▶ *Development* ▶ under ▶ *Promotion Pricing Service* ▶ *PPS Module dataaccess-common* ▶.
- *Functional Guide for the Promotion Calculation Engine* on SAP Help Portal at https://help.sap.com/docs/CARAB ▶ *<Version>* ▶ *Development* ▶ *Functional Guide for the Promotion Calculation Engine* ▶.

6.1.2.13.4.5 Configure Generic Attributes

To use generic attributes on line item level or transaction level as triggers for promotions, you must define an attribute configuration.

Overview

You can use line item-related generic attributes to maintain product groups (merchandise sets), which are used, for example, to define eligibilities for a promotion. They are used as eligibilities or as items that receive a reward in mix-and-match promotions. You can create custom attributes, for example `BRAND` or `SCREEN_SIZE` and use them in product groups.

You can use transaction-related generic attributes to define eligibilities for a promotion on transaction header level. These generic attributes are defined as part of the transaction. If the transaction (that means the calculation request) contains the defined generic attribute and the attribute value matches the value defined in the promotion data, the corresponding eligibility is activated. Instead of defining a value that requires an exact match (`EQ (equals)`), you can also define a logical expression for the generic attribute value (`JE (logical expression)`) in the promotion. If the transaction (that means the calculation request) contains the defined generic attribute and the attribute value fulfills the expression defined in the eligibility, the corresponding eligibility is activated.

You can use transaction-related generic attributes if you, for example, want to offer a certain reward only on Mondays. In this case, customers get a reward if their transaction includes the generic attribute `WEEKDAY` with the exact value `Monday` (expression type `EQ`). Or, you want to offer a certain reward whenever the temperature is below 5 degrees. In this case, customers get a reward if the transaction includes the generic attribute `TEMPERATURE` and the value fulfills the expression `x < 5` (expression type `JE`). The variable `x` represents the value of the generic attribute. Whenever a generic attribute value that is part of the calculation request fulfills the condition of the expression (`true`), the reward is granted.

Generic Attribute Metadata

If you create promotions that contain generic attributes, you must define an attribute configuration. The attribute configuration is required by the price calculation. If you use a local deployment of the promotion pricing service, the attribute configuration is also required by the promotion inbound processing (IDoc upload of promotions). For each used generic attribute, the configuration contains metadata, such as the data type, maximum length and so on. The following table indicates, which metadata information can be specified.

Field	Description	Relevance for Data Types	Default Value
name	Unique identifier for the attribute. Must match with the regular expression pattern: **`^[A-Z][A-Z0-9_]*$`** (only uppercase characters, digits, and underscore. Must start with an uppercase character.)	all	-
description	Language-independent description of the attribute.	all	(empty string)
location	Location in the calculation request. Allowed values: • **`0`** (line item) • **`1`** (transaction)	all	**`0`**
expressionType	Defines how matching attribute values are specified in the promotion definition. Allowed values: • **`EQ`** (equals) • **`JE`** (logical expression)	**`EQ`**: all **`JE`**: long Only relevant for transaction-related attributes (location = **`1`**).	**`EQ`**

Field	Description	Relevance for Data Types	Default Value
type	The data type used for the generic attribute value. Allowed values: • **0** (string) • **1** (long/64-bit integer) • **2** (boolean) • **3** (decimal) • **4** (fixed value)	n/a	**0**
maxLength	Maximum length	string	**60**
pattern	Regular expression pattern. Defines which values are allowed.	string	(empty string)
minLongValue	Minimum value	long Not relevant for transaction-related attributes with expression type **JE** (logical expression) and data type long.	**-2^63**
maxLongValue	Maximum value	long Not relevant for transaction-related attributes with expression type **JE** (logical expression) and data type long.	**2^63 - 1**
negativeValuesAllowed	Defines if negative values are allowed	decimal	**false**
precision	Maximum number of relevant digits	decimal	**15**
decimals	Maximum number of decimals	decimal	**2**
fixedValues	List of predefined fixed values	fixed values	(empty)

> **i** Note
>
> Attribute names starting with **SAP_** are reserved for SAP-internal use. Do not add such attributes in your attribute configuration.

Attribute Configuration Options

You can define the attribute configuration with a JSON string. There are two options:

1. **Setting the Location of the Configuration File**
   You can set the location of the file that stores the attribute configuration as a JSON string via the configuration property `sap.dataaccess-common.attributeconfiglocation`. This requires a standard Spring resource syntax. With this approach, you can define a single attribute configuration that is used by several deployments of the PPS. However, the location of the JSON file must be accessible for all deployments. Alternatively, you can store the JSON file in a custom extension.
   Example: `sap.dataaccess-common.attributeconfiglocation=classpath:/myOwnAttributeConfig.json`.
2. **Setting the JSON String as Configuration Property**
   You can set the JSON string for the attribute configuration directly via the configuration property `sap.dataaccess-common.attributeconfiguration`. With this approach, you can change the attribute configuration without redeploying the calculation and without affecting other deployments. If set, this configuration property has priority over the property `sap.dataaccess-common.attributeconfiglocation`.
   For an example, see section *Example* at the end.

Both configuration properties can be set just like other configuration properties. This means, it is set within your Multitarget Application (MTA) extension descriptor (.mtaext file) via the xs command-line interface.

Procedure

The following code snippet shows how you can set the attribute configuration within the MTA extension descriptor file. Note that typically only one of the possible configuration properties for the attribute configuration can be contained in the MTA extension descriptor file. This example only demonstrates the syntax.

```
_schema-version: "2.0.0"
ID: com.sap.retail.ppservice.XSAC_OPP_PPS
extends: com.sap.retail.ppservice.XSAC_OPP_PPS
modules:
  - name: ppservice-approuter
    parameters:
      memory: 128M
      port: 54978
  - name: ppservice-webapp-central
    parameters:
      memory: 1024M
    properties:
      sap.dataaccess-common.db.client: "006"
      sap.dataaccess-common.logSys: "XYZCLNT800"
      sap.dataaccess-common.attributeconfiglocation: "classpath:/myConfig.json"
      sap.dataaccess-common.attributeconfiguration: |
        [
          <Valid JSON respecting the YAML indentation.
          The square brackets are already part of the attribute definition
          See below for example JSON payloads>
        ]
      someOtherProperty: …
            …
```

You set the configuration properties in the XS command-line interface as follows:

```
xs set-env ppservice-webapp-central sap.dataaccess-common.attributeconfiguration
“<valid JSON string>”
```

> **Note**
>
> The proper escaping of special characters (such as quotes) within the configuration property depends on your operating system and shell. To avoid escaping issues, you should store the attribute configuration in a local file on your computer and set the attribute configuration as follows:
>
> ```
> xs set-env ppservice-webapp-central sap.dataaccess-
> common.attributeconfiguration --from-file <file name>
> ```

The changes become effective after restarting the application:

```
xs restart ppservice-webapp-central
```

Example

The following JSON example demonstrates the configuration of different line item-related generic attribute types:

> **Sample Code**

```
[
  {
      "_comment": "String attribute with a pattern",
      "name": "BRAND",
      "description": "Brand Name",
      "pattern": "^[a-zA-Z0-9]+$",
      "maxLength": "20",
      "location": "0"
  },
  {
      "_comment": "Long attribute with min value",
      "name": "REFRESH_RATE",
      "description": "Screen refresh rate in Hz",
      "location": "0",
      "type": "1",
      "minLongValue": "60",
      "maxLongValue": "600",
      "expressionType": "EQ"
  },
  {
      "_comment": "Boolean attribute",
      "name": "WALL_MOUNT",
      "description": "Indicator: Wall mount possible",
      "type": "2"
  },
  {
      "_comment": "Decimal attribute with precision and decimals set",
      "name": "SCREEN_SIZE",
      "description": "Screen size [in]",
        "type": "3",
      "precision": "4",
      "decimals": "1",
      "negativeValuesAllowed": "false"
  },
  {
      "_comment": "Fixed values",
      "name": "HDMI_STANDARD",
      "description:": "Supported HDMI Standard",
```

```
            "type": "4",
            "fixedValues": [
                "1.4",
                    "1.4a",
                "2.0",
                "2.1"
            ]
        }
    ]
```

Example

The following JSON example demonstrates the configuration of transaction-related generic attribute types with expression type EQ (equals) and JE (logical expression):

Sample Code

```
    [
      {
          "_comment": "Transaction attribute with fixed values",
          "name": "TX_ATR5",
          "type": "4",
          "location": "1",
          "fixedValues": [
              "TxFixedValue1",
              "TxFixedValue2",
              ""
          ]
      },
      {
          "_comment": "Transaction attribute of type JE",
          "name": "TX_ATTR_JE",
          "location": "1",
          "type": "1",
          "expressionType": "JE"
      }
    ]
```

Related Information

- For more information about the standard Spring resource syntax, see the official Spring documentation at Built-In Resource Implementations .

6.1.2.13.5 Use the Extended Sales Pricing Model (DDF)

To use the Demand Data Foundation (DDF) extended sales pricing model for omnichannel promotion pricing, you have to perform several steps for the central and local deployment scenario.

Overview

As of CARAB 5.0, omnichannel promotion pricing (OPP) supports the DDF extended sales pricing model. Pricing data available in the DDF module of SAP Customer Activity Repository (CAR) has been extended to include additional levels of sales prices created in the master data system. The former model stores prices on product location level only. For more information on the extended sales pricing model, see the DDF documentation: Enable Extended Sales Pricing Data.

Omnichannel promotion pricing supports the following retention levels:

- location (`01`)
- price list (`02`)
- distribution chain (`03`)

You must activate the extended sales pricing model and using it is highly recommended. To facilitate a smooth migration for you, the old model is still available. If you want to use the old model during your migration phase, prices are replicated for both the extended and old pricing model and stored twice in SAP Customer Activity Repository. The OPP pricing model itself remains the same as in previous releases because the DDF pricing model is mapped to the OPP pricing model. Both central and local deployment scenarios for OPP are compatible with the extended sales pricing model.

> **i Note**
>
> If you are setting up OPP for the first time, you don't migrate as such but you still have to perform the following steps.

As of CARAB 5.0 FPS2, if you specify the business unit and distribution chain in the calculation request (client API), OPP reads the regular price for this specific distribution chain (and no longer the default distribution chain) to determine the regular price. For more information, see Distribution Chain for Prices and Promotions.

Prerequisites

- You have migrated to the DDF extended sales pricing model for the replication of sales prices from SAP ERP or S/4HANA to SAP Customer Activity Repository as described in Enable Extended Sales Pricing Data. This part is not OPP-specific and concerns your configuration of SAP Customer Activity Repository.
- If you want to use the old pricing model for the local or central deployment of the promotion pricing service (PPS), the regular prices must be replicated on product location level from SAP ERP or S/4HANA .

Procedure

To migrate from the old to the extended sales pricing model, you have to differentiate between the local and central deployment scenario.

Migration in the Local Deployment Scenario

In a local deployment scenario, the price data replication from the central price and promotion repository (SAP Customer Activity Repository) to an external system, for example SAP Commerce system, takes place. This data replication is done via iDocs and the Data Replication Framework (DRF) using replication models and outbound implementations.

To migrate to the extended sales pricing model, you have to use the Data Replication Framework (DRF) with the outbound implementation for regular prices `ROP_PRC_MG` (outbound implementation for multi-level generated regular prices) instead of `ROP_PRICE` (outbound implementation for regular prices). For a migration in one go, you have to use the DRF replication model `Initialization` for all locations (stores). Afterwards, you can apply the replication model `Changes` as usual. This one-step migration must be handled just as if you would start with the data replication from the beginning.

For instructions, see Configure the Outbound Processing for Regular Prices and OPP Promotions → Data Replication Framework [page 211].

Alternatively, you can do the migration in stages. This is recommended if you have a high data volume. A common approach is to start with a small amount of data and then gradually increase the data volumes in an iterative manner until all necessary data has been included. Here, you migrate only groups of locations stage by stage. For this, you also have to use the DRF replication model `Initialization` for each location of the group you want to migrate.

Migration in the Central Deployment Scenario

In a central deployment scenario, the SAP HANA XS advanced (XSA) application for the promotion pricing service (PPS) is concerned. To use the extended sales pricing model for the central deployment, you have to deploy the PPS to XSA again and apply a specific configuration for caches. With the spring profile `sapmultilevelprc`, you can migrate to the extended sales pricing model. This setting is part of the extension descriptor in the `properties` section. For instructions, see Advanced Configuration Settings [page 230].

You can deploy the XSA application for the PPS twice to use either the extended or old pricing model per deployment according to your price requests. The migration is managed by DDF based on the SAP ERP or S/4HANA replication scenario.

For more information on the central deployment process, see Configure the Central Deployment of the Promotion Pricing Service [page 221].

> **i Note**
>
> During your migration phase, you can decide which pricing model you want to use for the respective deployment scenarios. For example, you can migrate to the extended sales pricing model for the local scenario and keep using the old model for applying XSA (central deployment).

For more information, see the *Development and Extension Guide* at https://help.sap.com/docs/CARAB *<Version>* > *Develop* > *Development and Extension Guide for Omnichannel Promotion Pricing*.

6.1.2.13.6 Create Merchandise Set Header Entries

If you create a new offer, the merchandise set header database table is created automatically during the mapping of the offer into an OPP promotion. However, existing OPP promotions must be enhanced manually via a migration report.

Overview

The database table represents the header of a merchandise set. A merchandise set represents a product group in an OPP promotion. During the mapping of an offer into an OPP promotion the merchandise set header is created automatically, whereas existing OPP promotions must be enhanced manually by this information.

Initially, the merchandise set header does not contain any business relevant information. Therefore, it is not necessary to resend the enhanced OPP promotions to local promotion pricing service installations, for example, in SAP Commerce. An adjustment of these promotions is done locally.

The addition of the merchandise set header is only a data model adjustment. Therefore, the date of the latest change of the OPP promotion is not updated.

Prerequisites

- You have activated **enhanced product groups**, as described in Enable Offers with Enhanced Product Groups [page 206].
- You use the central promotion pricing service and have configured it as described in Configure the Central Deployment of the Promotion Pricing Service [page 221].

Procedure

Run transaction **SA38** and execute the migration report `/ROP/R_MIGRATE_TO_50_FP03` for all clients relevant for OPP promotions.

> **i Note**
>
> - You can execute the migration report several times for the same OPP promotion. If no migration is required, the corresponding promotion is not considered by the report.
> - Existing database entries are not changed and custom data are not overwritten.
> - No change pointers are written. This means that this program has no impact on the data volume of a DRFOUT change run.

For more information, see the system documentation of the report.

6.1.3 Troubleshooting

Diagnose and resolve issues that may arise when you install, upgrade, and set up your scenario. If you need to report a customer incident, see the information at the end of this section.

> → Tip
>
> For quick access to support information, log in to the SAP ONE Support Launchpad at https://launchpad.support.sap.com/#/productsearch. Search for SAP CARAB (back-end product version) or SAP FIORI FOR SAP CARAB (front-end product version). Find related SAP Knowledge Base articles, documentation, guided answers, questions & blogs, and download information — all on one page.

Troubleshoot Installation, Upgrade, and Implementation Issues

Installation, Upgrade, and Implementation Issues

Area	Symptom	Cause	Possible Solutions
Installation / Upgrade	You want to upgrade the on-shelf availability dispatcher (transaction `/OSA/DISPATCH`). However, you get the error *SQL Error Code 274 : inserted value too large for column*.	Local temporary tables (`LOCAL_EXCL_PRODUCT`, `LOCAL_LISTED_PRODUCT`, and `LOCAL_PS_CONF`), which are created and used by OSA for internal dispatcher processing, are not dropped automatically during runtime. As a result, new tables (such as any containing CHAR40 fields) cannot be created. This causes an SQL error when a CHAR40 material is supplied. If the tables already exist, subsequent structural changes to their definition require a manual intervention.	SAP Note 2576497
Installation / Upgrade	When upgrading to SAP Customer Activity Repository 5.0 using the zero downtime option, you get the following error in the log file: *Error when deploying HDI objects; see SAPC-* INRTLCAR and SAP Note 2602571.*	Not relevant, as the error doesn't impact functionality and can be ignored.	The error doesn't impact functionality and can be ignored.

Area	Symptom	Cause	Possible Solutions
Installation / Upgrade	You want to download a revision of software component `SAP RTL AFL FOR SAP HANA`.	You need the exact download path on the SAP Support Portal at http://support.sap.com.	See section Download and Install SAP RTL AFL FOR SAP HANA [page 66].
Installation / Upgrade	You want to know which revision of the `SAP RTL AFL FOR SAP HANA` component is currently installed.	You are looking for an easy way to look up the revision information.	1. Execute transaction `db02` to open the *Diagnostics: Missing Tables and Indexes* screen. 2. Choose *Current Status* > *Overview* > *Installed Plug-Ins* and click on *RTL*.
Installation / Upgrade	You get an error indicating that software component `SAP RTL AFL FOR SAP HANA` is not compatible.	You must install compatible releases ("revisions") of the following: • `SAP RTL AFL FOR SAP HANA` • `SAP HANA DATABASE` • `SAP HANA AFL`	• Section Download and Install SAP RTL AFL FOR SAP HANA [page 66]. • SAP Note 2818378 (*Which releases of SAP HANA Platform are supported for which releases of SAP Customer Activity Repository applications bundle (SAP CARAB)?*)
Installation / Upgrade	You want to know what AFLs (application function libraries) are installed and active in your SAP HANA database.	For example, you want to check if an AFL was installed or upgraded correctly.	SAP Note 2188129
Installation / Upgrade	You want to uninstall add-on software components from your scenario. For example, when upgrading to a new major release, you might need to uninstall older software components.	You need information on uninstalling ABAP add-ons.	SAP Note 2011192 (*Uninstallation of ABAP add-ons*)

Area	Symptom	Cause	Possible Solutions
Installation / Upgrade	You have installed compatible revisions of the following components but are still experiencing issues: `SAP RTL AFL FOR SAP HANA`, `SAP HANA AFL`, `SAP HANA DATABASE`	Something went wrong during the installation.	Revisit SAP Note 2377894 and make sure that you have carefully followed all the steps for your scenario.
Installation / Upgrade	You want to install or upgrade an application function library (such as `SAP RTL AFL FOR SAP HANA`) and are experiencing issues with the SAP HANA Lifecycle Management tool (`hdblcm`, `hdblcmgui`).	You need information on possible causes and solutions.	• SAP Note 2078425 • SAP Note 2082466 • *SAP HANA Server Installation and Update Guide* for your SAP HANA Platform version under https://help.sap.com/viewer/p/SAP_HANA_PLATFORM > *<Version>* > *Installation and Upgrade*
Installation / Upgrade	You have upgraded from a lower release and replicated the point-of-sale data from the source master data system into Demand Data Foundation (DDF). You suddenly have double entries for the same sales values in the `/DMF/TS_PS` table (for the `TS_PS` time series source).	As of SAP Customer Activity Repository applications bundle 5.0, the table contains a new location key field.	A migration report (`/DMF/TS_PS_UPDATE_SALES_LOC_ID`) is available that populates the new key field to prevent double entries in upgrade scenarios. For more information, see the Set Up Dummy Store in DDF section in the *SAP Customer Activity Repository Administration Guide*.
Installation / Upgrade	You get the error *CAR RETAIL APPLSAP DBTech JDBC: [258]: insufficient privilege: Not authorized*.	You are using the `SAP HANA AFL` software component and have performed an upgrade of your SAP HANA Platform. Previously assigned privileges might have been lost during the upgrade.	SAP Note 2022080

Area	Symptom	Cause	Possible Solutions
Installation / Upgrade	In an upgrade, you get the following error when running program `RUTDDLSCREATE`: *3 ETW678Xstart export of R3TRDDLS<CDS view name> ...* *3WETW000 DDLS <CDS view name> is not activated.* *2EETW190 "DDLS" <CDS view name> has no active version.* *4 ETW679 end export of R3TRDDLS<CDS view name>.*	An issue with CDS views must be fixed.	SAP Note 2340418
Installation / Upgrade	You need information about the Software Provisioning Manager.	For example, you have a question regarding the installation, copy, transformation, or deletion of a system based on SAP NetWeaver ABAP on SAP HANA.	SAP Note 2568783 (*Release Note for Software Provisioning Manager 2.0 (recommended: SWPM 2.0 SP05)*)
Installation / Upgrade	You have implemented an SAP Note with a correction for the SAPUI5 application or for the calculation of the application index. The SAPUI5 application index is not recalculated automatically.	You need to start the recalculation manually.	SAP Note 2227577

Area	Symptom	Cause	Possible Solutions
Installation / Upgrade	You want to install or upgrade to a release of SAP Customer Activity Repository applications bundle using the Software Update Manager (SUM). During the SAP HANA deployment phase, you get errors such as the following: • *Datatype string(1333) of JOIN$A""TTRIBUTE_VALUE$IMAGE_ID does no""t match to datatype raw(16) of"" attribute IMAGE_ID in node CLTT*	As of SAP HANA Platform 2.0 SPS04, a message that was considered a “warning” in older releases is now considered an “error”. This error prevents the SUM process from completing.	• Workaround: SAP Note 2789289 (*Activation of Calculation View Fails With Error "column store error: [34011] Inconsistent calculation model"*) • Alternative: Convert the SAP HANA error message back into a warning, then rerun SUM: 1. Execute the following SQL statement: `ALTER SYSTEM ALTER CONFIGURATION ('indexserver.ini', 'SYSTEM' ) SET ('calcengine', 'enable_deprecated_component_flags') = '8192' WITH RECONFIGURE;` 2. Restart SUM and repeat the installation or upgrade step.
Installation / Upgrade	You want to install or upgrade to a release of SAP Customer Activity Repository applications bundle using the Software Update Manager (SUM). You get the following error: • *Could not create catalog object: invalid name of function or procedure; no procedure with name UDFCORE_AREA_FORECAST_15_PROC*.	The software component `SAP RTL AFL FOR SAP HANA` that is currently installed in your back-end system is not up to date.	You must install a higher revision of `SAP RTL AFL FOR SAP HANA`. For the minimum revision required for this release, see the *Common Prerequisites* in Install the Prerequisites [page 19]. Consult the requirements for *SAP HANA Platform 2.0* and for *SAP RTL AFL FOR SAP HANA*.

Area	Symptom	Cause	Possible Solutions
SAP HANA Platform	You are experiencing performance issues after installing or upgrading to a new SAP HANA revision.	You need performance recommendations to investigate the issue and improve the SAP HANA performance in your customer scenario.	See the Performance — Optimize Processes in SAP HANA section of the *SAP Customer Activity Repository Administration Guide*.
SAP HANA Platform	You want to optimize the SAP HANA startup times for your scenario.	You need troubleshooting and performance tips.	SAP Note 2222217 (*How-To: Troubleshooting SAP HANA Startup Times*) The note also points you to a detailed blog and other helpful references.
SAP HANA content	You have run the `/CAR/ACTIVATE_HTA` activation report but the selected SAP HANA content is not activated.	You want to know which objects have not been activated correctly and what errors have occurred.	• Execute transaction `SLG1` to display the report log: Towards the bottom of the log you will generally find a section that lists the objects with activation errors. Keep in mind, though, that those objects might not have any issues themselves but that the root cause can also be in dependent objects. • In transaction `SCTS_HTA_DEPLOY`, try to reproduce the errors by manually redeploying the objects.

Area	Symptom	Cause	Possible Solutions
SAP HANA content	You want to perform schema mapping in SAP HANA studio. That is, you want to map the authoring schemas of this release to the physical schemas of your customer system landscape. However, you are encountering issues and the mapping doesn't work.	Different causes are possible that can lead to mapping issues in SAP HANA studio.	• Check that you have entered the correct schema names. • In particular, make sure that there are no leading or trailing spaces before or after the schema names. Space characters cause issues during schema mapping. • For step-by-step instructions, see Verify Correct Schema Mapping [page 55].
SAP HANA content	You have run the `/CAR/ACTIVATE_HTA` activation report but get the error *Insufficient privilege: Not authorized*.	The SAP HANA user needs additional authorizations (privileges).	SAP Note 2586850
SAP HANA content	You have run the `/CAR/ACTIVATE_HTA` activation report but the selected SAP HANA content is not activated.	You might have an authorization issue.	• Check if SAP HANA database user `_SYS_REPO` has been assigned privilege `SELECT` with option *Grantable to others*. If not, you can grant the missing privilege using the following example SQL statement: `GRANT SELECT ON SCHEMA <your schema name> TO _SYS_REPO WITH GRANT OPTION;` • Check that other required authorizations have been set up correctly. For more information, see section Verify Back-End Users and Roles [page 87].

Area	Symptom	Cause	Possible Solutions
SAP HANA content	You have run the `/CAR/ACTIVATE_HTA` activation report but the selected SAP HANA content is not activated.	You might have a circular dependency issue. In particular, you get an error that a SQLScript procedure (such as `SP_SR_GET_PROD_HR_XR_BY_DATE`) cannot be activated.	SAP Note 2404872
SAP HANA content	You have run the `/CAR/ACTIVATE_HTA` activation report but the selected SAP HANA content is not activated.	You might have a deployment error in SAP HANA Transport for ABAP (HTA).	• SAP Note 2109690 (*Error in SAP HANA repository deployment import step*) • SAP Note 2321486 (*Troubleshooting for SAP HANA Transport for ABAP (HTA) deployment*)
SAP HANA content	You want to activate SAP HANA content for scenarios of SAP Customer Activity Repository applications bundle using the `/CAR/ACTIVATE_HTA` report in transaction `SE38`. However, you are getting errors.	Several causes are possible. Open the error log file and search for **`udf.cor`**. For example, the following errors can occur: • *Could not create catalog object* • *Invalid name of function or procedure* • *No procedure with name UDFCORE_AREA_MODEL_POS_XX_PRO*	Check that you have done the following tasks as described in this guide: • Have you installed **compatible revisions** of the SAP HANA database and the AFL components (`SAP HANA AFL`, `SAP RTL AFL FOR SAP HANA`)? See the *Common Prerequisites* in section Install the Prerequisites [page 19]. See also section Download and Install SAP RTL AFL FOR SAP HANA [page 66]. • Have you done the schema mapping as described in this guide? See Verify Correct Schema Mapping [page 55].

Area	Symptom	Cause	Possible Solutions
SAP HANA content	You want to activate SAP HANA content for scenarios of SAP Customer Activity Repository applications bundle using the `/CAR/ACTIVATE_HTA` report in transaction `SE38`. However, you are getting errors.	Several causes are possible. Open the error log file and search for **`udf.cor`**. For example, the following errors can occur: • *There is neither a default value nor a data input mapping for ..."* • *A2EESCTS_HOT 532*	• Workaround and list of affected SAP HANA database revisions: SAP Note 2525644 (*Input Variables are set to an Empty String When not Mapped in Top-Level Calculation Scenario*) • If possible for your scenario, consider upgrading to an SAP HANA database revision not affected by the issue.
SAP HANA content	After running the `/CAR/ACTIVATE_HTA` activation report, you get two conflicting messages: • *The following scenario was deployed successfully...* • *But returned error/warning/information message(s)...*	You want to know whether the activation was successful and whether any additional action is required.	SAP Note 2467113
SAP HANA content	You want to generate pre-season sales projections in SAP Assortment Planning but get an error.	You might not have activated all the required SAP HANA content.	When you run the `/CAR/ACTIVATE_HTA` activation report, make sure to select the required options. See Activate SAP HANA Content [page 98].
SAP HANA content	You want to check the dependencies of a specific view.	You might need this information to solve a dependency or activation issue for SAP HANA views.	• In SAP HANA studio: Select the view and choose *Auto Documentation* from the context menu. This generates a file with detailed information on the view. Consult the *Cross References* section. • If you are using the SAP HANA Live View Browser app: Select the view and choose *Cross References*.

Area	Symptom	Cause	Possible Solutions
SAP HANA content	You have a question regarding users or schemas in SAP HANA.	For example, you want to know what the names of the standard SAP HANA users and schemas are.	• In this guide, search for *schema mapping*. • SAP Note 2535951 (*FAQ: SAP HANA Users and Schemas*)
SAP HANA content	You get an error indicating that you are attempting to access inactive or invalid SAP HANA content.	You have not installed software component `SAP RTL AFL FOR SAP HANA`. The component contains back-end functionality for the Unified Demand Forecast module and the On-Shelf Availability module in SAP Customer Activity Repository. If you don't intend to use those modules, you don't need to configure them. However, you must always install the software component.	See section Download and Install SAP RTL AFL FOR SAP HANA [page 66].
SAP HANA content	You get the error *Table ABAP:/DMF_ORG_ASSIGN not found*.	A program error must be fixed.	• SAP Note 2218875 • SAP Note 2224582
SAP HANA content	You get the error *Object DDF_ORG_ASSIGN (Calculation View), package sap.is.ddf.udf.data_validation, was processed with errors*.	A program error must be fixed.	SAP Note 2224582
SAP HANA content	You get the error *SQLScript: Could not derive table type for variable "UDF_FC_HORIZON"*.	A program error must be fixed.	SAP Note 2125672
SAP HANA content	SAP HANA views in the `sap.is.ddf.fms` package do not activate properly.	A program error must be fixed.	SAP Note 2203930

Area	Symptom	Cause	Possible Solutions
SAP HANA content	You need to manually deploy SAP HANA objects and packages.	The automatic deployment to the SAP HANA repository of the target system has failed.	• Search for the following sections in the product documentation of your SAP NetWeaver platform at https://help.sap.com/viewer/p/SAP_NETWEAVER: *SAP HANA Transport for ABAP* and *Manually Deploying SAP HANA Objects and Packages*. Follow the instructions. • Execute transaction **SCTS_HTA_DEPLOY** for the manual deployment of SAP HANA content and consult the accompanying system documentation.
SAP HANA content	You get any of the following errors: • *View "/AMR/..." does not exist in data base* • *"DDL Source" "/AMR/...." could not be activated* • *"DDL Source" "/DMF/DIST_..." could not be activated*	The root cause is the usage of CDS (Core Data Services) on top of external views.	You can ignore the error messages and continue with the installation or upgrade process. For explanations, see SAP Note 2330184.
SAP HANA content	You get the error *SQL Script message: invalid table name: Could not find table/view /AMR/V*.	The root cause is the usage of CDS (Core Data Services) on top of external views.	You can ignore the error messages and continue with the installation or upgrade process. For explanations, see SAP Note 2441184.

Area	Symptom	Cause	Possible Solutions
SAP HANA content	You get the error *View with par. <CDS view name>: data element <data element> par. & does not exist or not active*.	A data element that is new or has been redefined is used in the new definition in a Core Data Services (CDS) view with parameters for the definition of a parameter. The system does not consider the dependency between data elements and the type definition of the parameters for views with parameters.	SAP Note 2289913
SAP HANA content	When doing ATC (ABAP Test Cockpit) checks of database objects or runtime objects, you get errors related to reference tables and reference fields: • Priority 1 error: *View <view_name> is not consistent* • Priority 1 error: *<view_name-field> is not consistent* • Inconsistencies in fields related to reference tables and reference fields	The system does not consider base information of the AMDP table function entity.	SAP Note 2374190
SAP HANA Platform	You cannot install the SAP HANA XS advanced (XSA) runtime. For example, you need XSA to use the Omnichannel Promotion Pricing (OPP) module in SAP Customer Activity Repository.	You cannot install XSA as long as SAP HANA dynamic tiering is active on the same host.	SAP Note 2388443

Area	Symptom	Cause	Possible Solutions
SAP HANA Platform	You are experiencing performance issues in the SAP HANA Platform.	Several causes are possible.	• SAP Note 2600030 (*Parameter Recommendations in SAP HANA Environments*) • SAP Note 2100040 (*FAQ: SAP HANA CPU*) • *SAP HANA Troubleshooting and Performance Analysis Guide* for your SAP HANA Platform version under https://help.sap.com/viewer/p/SAP_HANA_PLATFORM
SAP HANA Platform	You want to perform an SAP HANA database analysis to investigate a complex issue. The information that you want to retrieve is not or is only partially available in standard tools (such as SAP HANA studio).	You need information on special SQL statements for such an analysis.	SAP Note 1969700 (*SQL Statement Collection for SAP HANA*) **i Note** For additional troubleshooting and performance tips, see the *FAQ: ...* notes under *References*.
SAP HANA Platform	You are not sure if the installed SAP HANA revision is compatible with the installed SAP HANA studio version.	You need a list of the compatible revisions.	SAP Note 2375176 (*SAP HANA Revisions and Compatible SAP HANA Studio Versions*)
SAP HANA Platform	You are experiencing network or performance issues in your SAP HANA environment.	You need information on network settings and analyses in SAP HANA environments.	SAP Note 2222200 (*FAQ: SAP HANA Network*)

Area	Symptom	Cause	Possible Solutions

Hierarchies	You get errors when creating or updating location hierarchies and/or product hierarchies.	The system does not generate the flat structures for the hierarchies. You need to do some configuration steps so that the hierarchies get flattened automatically.	• Follow the steps in Configure Automatic Flattening of Hierarchies [page 108].
			• See the following sections of the *SAP Customer Activity Repository Administration Guide* at https://help.sap.com/viewer/p/CARAB:
			  • *Configure Demand Data Foundation (DDF)*
			  • *Configure Data Replication from SAP ERP to DDF*

Hierarchies	You get errors when importing article hierarchies (product hierarchies) from your master data system.	A program error must be fixed.	• SAP Note 2244521 • SAP Note 2245134
Hierarchies	You want to know which locations are included in each version of an offer.	You can implement an easy enhancement for table `/DMF/OFR_LG_LOC`.	SAP Note 2208619
Hierarchies	An error occurs for a DDL SQL view when you execute the `CREATE VIEW` statement.	A program error must be fixed.	SAP Note 2377525
DRF data replication framework (transaction **DRFOUT**)	You have deleted a vendor from the `/DMF/D_VENDOR` table but this deletion is not replicated to the master data system.	A program error must be fixed.	SAP Note 1872136

Area	Symptom	Cause	Possible Solutions
DRF data replication framework (transaction **DRFOUT**)	You get an error when using the DRF with the `PMPL` SAP ERP outbound implementation.	A program error must be fixed.	• SAP Note 1904782 • SAP Note 2167629 • See the application help for SAP Customer Activity Repository at https://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Application Help* ▶ *SAP Customer Activity Repository* ▶ *Demand Data Foundation* ▶ *Integration Information* ▶ *Master Data Replication from SAP ERP to Demand Data Foundation*
DRF data replication framework (transaction **DRFOUT**)	You get the error *Product &1, location &2: The Valid From time for &3 must be 00:00:00* (message 364 in message class `/DMF/MSG_HL`).	A program error must be fixed.	SAP Note 2163602
DRF data replication framework (transaction **DRFOUT**)	You have changed the listing information in your source master data system and replicated the changes to your SAP Customer Activity Repository system. However, the listing information there is not updated correctly.	A program error must be fixed.	SAP Note 1932525
Performance	You are experiencing performance issues in your SAP HANA database.	You need information on how to troubleshoot and resolve those issues and how to enhance performance in general.	See the *SAP HANA Troubleshooting and Performance Analysis Guide* under https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Administration*.

Area	Symptom	Cause	Possible Solutions
Performance	You get a runtime error or exit message and need information about possible causes and solutions.	Different causes are possible.	Use the ABAP dump analysis (transaction **ST22**) to search for short dumps and call up detailed error information.
Performance	You are using the *Update Sales Projection* function in SAP Assortment Planning (workbooks *Product Planning* and *Size Planning*). You are experiencing performance issues when using the function with large data volumes.	You can enhance the performance by implementing an SAP Note.	SAP Note 2080423
OData	During the execution of an OData service based on SADL with CDS, an assertion fails in class `CL_SADL_SQL_STATEMENT`, method `EXECUTE_PREPARED_STATEMENT`. The OData request uses the system query option `$count`.	The Core Data Services (CDS) view uses a table function that is not active in the database. The trigger that is supposed to activate it fails because of missing parameters if only `$count` is queried.	SAP Note 238998
Support	You have a customer incident and need to set up a service connection to SAP.	You need information on how to set up the service connection.	• SAP Note 35010 (overview) • SAP Note 1634848 (service connection for SAP HANA database) • SAP Note 1592925 (service connection for SAP HANA studio)
Source Master Data Systems	You get the error *SYSTEM_ABAP_ACCESS_DENIED*.	The error is caused by the "Blacklist Monitor" in SAP S/4HANA.	SAP Note 2249880
SAP Fiori	• You want to start an SAP Fiori app for a key user and get the error *Application is not configured. Find details in SAP Note 2283716*. • You want to activate extensibility for key users.	You must set up the adaptation transport organizer (ATO) to be able to transport key user extensions.	SAP Note 2283716

Area	Symptom	Cause	Possible Solutions
SAP Fiori	You want to check the SAPUI5 version installed in your system.	There are several methods how you can check the version.	SAP Note 2282103

Area	Symptom	Cause	Possible Solutions
SAP Fiori	You cannot open the *Analyze Forecast* app.	Several reasons are possible. See the checklist at the right and verify that the app is set up correctly.	Use section Set Up the Analyze Forecast App [page 158] for reference and check the following: 1. In transaction `SE80`, navigate to package `UICAR001`, subpackage `UISCAR01`. Check that the BSP Applications for the app (`ANALYZFCST_V2`) and the reuse library (`UDFREUSE`) are deployed. 2. In *Launchpad Customizing* (transaction `LPD_CUST`), check that the Internet Communication Framework (ICF) services for `ANALYZFCST_V2` and for `UDFREUSE` are active. 3. Clear the cache on the server side by running the following reports in transaction `SE38`: • `/UI5/APP_INDEX_CALCULATE`: Select *Single SAPUI5 Repository Only* and run the report once for `ANALYZFCST_V2` and once for `UDFREUSE`. • `/UI2/INVALIDATE_GLOBAL_CACHES`: Run this report in execution mode. • `/UI2/INVALIDATE_CLIENT_CACHES`: Run

Area	Symptom	Cause	Possible Solutions
			this report for all users. 4. Clear the browser cache. 5. Check if you can now access the app.
Support	You have an issue that involves modeling and forecasting with the Unified Demand Forecast (UDF) module in SAP Customer Activity Repository. You cannot debug the issue yourself. You need assistance from SAP via a remote support session.	Various causes are possible. For example, the issue might be in the ABAP layer, the foundation component (such as SAP S/4HANA foundation), or in the SAP HANA database.	For a successful remote support session, make sure that the required authorizations and debugging privileges for UDF are all set up. Otherwise, the support team cannot access your UDF system environment. See SAP Note 2920776.
Help Portal	You cannot access the content on the SAP Help Portal. For example, you might get one of the following errors: • *We're sorry, but this content is not accessible* • *HTTP 403 forbidden*	Customers and partners need to log on with their S-user IDs (NOT their email address) to see content authorized specifically for customers/partners.	See SAP Note 2499831 (*SAP Help Portal S-User Management*).

Troubleshoot Operation Issues

You also may experience issues during the day-to-day running of your application. For troubleshooting information, see the application-specific *Administration Guides* at https://help.sap.com/viewer/p/CARAB:

- *SAP Customer Activity Repository Administration Guide*: section *Troubleshooting for SAP Customer Activity Repository Modules*
- *SAP Allocation Management Administration Guide*: section *Troubleshooting*
- *SAP Assortment Planning Administration Guide*: section *Troubleshooting*
- *SAP Merchandise Planning Administration Guide*: section *Troubleshooting*
- *SAP Promotion Management Administration Guide*: section *Management of SAP Promotion Management*

Report a Customer Incident

- If you experience an issue with your back-end or front-end system, we recommend that you first search for existing solutions in the SAP Support Portal at http://support.sap.com/. There you can find SAP Notes (corrections), SAP Knowledge Base articles, and a wealth of information in the SAP Community.

- To view or report an incident, see again http://support.sap.com/ and choose *My Support* > *Product Support* > *Report an Incident*.
- For more information on reporting incidents for SAP Customer Activity Repository, see the *Support Desk Management* section of the *SAP Customer Activity Repository Administration Guide*.

6.2 SAP Merchandise Planning

Post-installation setup for SAP Merchandise Planning

> **i** Note
>
> Some of the activities in this section may have already been performed in the corresponding section under SAP Customer Activity Repository. Such activities do not need to be repeated during the setup and installation of the consuming application.

6.2.1 Perform Core Steps for SAP Customer Activity Repository

To set up this application, you must first perform the **Core (Mandatory)** steps for SAP Customer Activity Repository. The core steps are mandatory for all the consuming applications.

Procedure

Perform all steps listed under Core (Mandatory for All Applications) [page 86].

6.2.2 Configure SAP Merchandise Planning

Use

SAP Merchandise Planning is a consuming application of SAP Customer Activity Repository, which contains data that is imported from SAP ERP or SAP S/4HANA into the following:

- SAP HANA for SAP ERP using SAP LT Replication Server (SLT), which is saved in the `SAP_ECC` authoring schema.
  Or
  SAP S/4HANA using SLT, which is saved in the `SAP_S4H` authoring schema.
- Demand Data Foundation (DDF)

Customizing Activities

There are key Customizing activities required to use the SAP Merchandise Planning application. These steps are performed using transaction SPRO and navigating to the required Customizing activity.

Demand Data Foundation Customizing Node

This node is accessible under *Cross-Application Components*.

1. Perform the necessary configuration steps in DDF.
   The mandatory activities are marked in the configuration document *Configure Demand Data Foundation (DDF)*.
2. Configure data replication from SAP ERP to DDF.
   SAP Merchandise Planning uses master data (such as product, location, and product hierarchy) as well as organizational data (such as sales organization and distribution channel) that is replicated from SAP ERP to DDF using DRFOUT.

   This step was performed during installation as described in section *SAP Customer Activity Repository Core (Mandatory for All Applications)*. See http://help.sap.com/viewer/p/CARAB *<Version>* *Common Installation Guide for SAP Customer Activity Repository applications bundle* *Set Up the Applications*.
   For more information on setting up this data replication, see the following document *Configuring Data Replication from SAP ERP to DDF*.
3. Verify you have entered the *Merchandise Planning* and *Planning Configuration* relevant sections in Customizing activity *Cross-Application Components* *Demand Data Foundation* *Basic Settings* *Define Default Values*. For more information see the documentation attached to each activity or the field level help (F1).

> **i Note**
>
> Geo Hierarchy ID is only for Merchandise Planning for Retail version 1.1 or prior.

Merchandise Planning Customizing Node

As of SAP Merchandise Planning 2.0 FP2, there is a *Cross Application Components* *Merchandise Planning* node containing **mandatory** steps for your implementation. Review the table below for applicable activities for your environment. Each Customizing activity has attached documentation to further explain the activity.

Technical Name	Customizing Path	Description
/RAP/MPOC_CALC_SALES_KPI	*Cross-Application Components* *Merchandise Planning* *Enhancements Using Business Add-Ins* *BAdI: Calculate Sales KPIs for Retail and E-Comm Channel*	You use this BAdI to overwrite the logic and calculate the sales-related KPIs in case the default implementation is not suitable for the intended planning scenario.

Technical Name	Customizing Path	Description
/RAP/MPOC_SALES_ORDER_KPIS	*Cross-Application Components* > *Merchandise Planning* > *Enhancements Using Business Add-Ins* > *BAdI: Calculation Sales Order and Shipment Related KPIs*	You use this BAdI to overwrite the logic to calculate the sales order and shipment related KPIs like sales-type revenue, cost, and unit. The KPIs that are related to the rejected and returned sales orders are calculated in case default implementation is not suitable for the intended planning scenario.
/RAP/MPOC_PLANNABLE_LOCAT	*Cross-Application Components* > *Merchandise Planning* > *Enhancements Using Business Add-Ins* > *BAdI: Calculate Inventory KPIs like BOP Units / Cost*	You use this BAdI to overwrite logic to calculate the Beginning of Period inventory KPIs in case default implementation is not suitable for the intended planning scenario.
/RAP/MPR_CALCULATE_ECC_KPI	*Cross-Application Components* > *Merchandise Planning* > *Enhancements Using Business Add-Ins* > *BAdI: ECC Calculate Open Qty, Goods Receipt and Returns KPI*	You use this BAdI to overwrite logic in case default implementation is not suitable for the intended planning scenario.
/RAP/MPR_CALCULATE_FMS_KPI	*Cross-Application Components* > *Merchandise Planning* > *Enhancements Using Business Add-Ins* > *BAdI: FMS Calculate Open Qty, Goods Receipt and Returns KPI*	You use this BAdI to overwrite logic in case default implementation is not suitable for the intended planning scenario.
/RAP/MPR_CALCULATE_S4H_KPI	*Cross-Application Components* > *Merchandise Planning* > *Enhancements Using Business Add-Ins* > *BAdI: S4H Calculate Open Qty, Goods Receipt and Returns KPI*	You use this BAdI to overwrite logic in case default implementation is not suitable for the intended planning scenario.
/RAP/MPR_COST_PRC_DETERM	*Cross-Application Components* > *Merchandise Planning* > *Enhancements Using Business Add-Ins* > *BAdI: Cost*	You use this BAdI to determine the purchase price for goods receipts, open purchase order and returns to vendor KPIs. The default implementation assumes moving average price is always available in the unit of measure.

Technical Name	Customizing Path	Description
	Determination for Receipt, Open Qty and Returns	
/RAP/MPOC_CALC_PO_RECEIPTS_KPI	*Cross-Application Components* > *Merchandise Planning* > *Enhancements Using Business Add-Ins* > *BAdI: Calculate Goods Receipt KPIs by Segmentation & Channel*	You use this BAdI to determine the calculation for goods receipt, open purchase order quantity and returns to vendor KPIs are based on segmentation and channel.
/RAP/MPOC_CALC_INVENTORY_KPI	*Cross-Application Components* > *Merchandise Planning* > *Enhancements Using Business Add-Ins* > *BAdI: Calculate Inventory KPIs Based on Segmentation & Channel*	You use this BAdI to Calculate Inventory KPIs like Beginning of Period Cost and Unit Values for Distribution Centre, Store and Excess Inventory Stock based on segmentation and channel.
/RAP/MPOC_STORE_COMP_DATA	*Cross-Application Components* > *Merchandise Planning* > *Enhancements Using Business Add-Ins* > *BAdI: Extension to Store Comparability by Fiscal Period*	You use this BAdI to calculate Location (Store Only) comparability by fiscal periods.
/RAP/MPOC_PLANNING_YSCT	*Cross-Application Components* > *Merchandise Planning* > *Enhancements Using Business Add-Ins* > *BAdI: Select Season Year, Season, Collection and Theme*	You use this BAdI: to select the season year, season, collection and theme relevant data for Merchandise Planning.

Implementation Tasks

Use of Workbook Versions

The version concept allows you to plan and view different working versions, and to create special versions for released and finalized plans. Each workbook can display up to two different versions in parallel, with the capability to copy or provide a working plan version from any other available version to begin the planning process

The version and planning levels are decided during installation. These concepts will affect your planning configuration set and integration with SAP Assortment Planning. The recommended standard is planning at

the 5th node level of the product hierarchy (1-7 levels available). The installation will prompt you to create levels 5 and 7. The workbook versions are named by concatenating the level with the version. For example the merchandise financial plan for level 5 versions are:

- Working Version - M51
- Simulated Version - M52
- Released Version - M5R
- Final Version - M5F
- In Season Version - M5P

Planning Configuration Sets

A Planning Configuration Set (PCS) is a prerequisite to creating a merchandise plan. A planning configuration defines entry and exit levels for merchandise and option plans based on a market hierarchy (representing an organizational view on top of retail stores and wholesale customers) and a product hierarchy. The PCS must be specifically defined in order for the data to render properly in the workbook.

> **i** Note
>
> You must have an area of responsibility assigned for the product hierarchy and market hierarchy you will be using. From your *SAP Easy Access* menu, use transaction code `NWBC` and navigate to menu ▶ *Services* ▶ *Maintain Area of Responsibility* ▶.

For more information about *Planning Configurations* see https://help.sap.com/viewer/p/CARAB and navigate to ▶ *<your version>* ▶ *SAP Assortment Planning* ▶ *Assortment Planning* ▶ *Manage Planning Configuration Sets* ▶.

Integration with SAP Assortment Planning.

SAP Assortment Planning is not aware of the finalized version maintained in SAP Merchandise Planning. This means if you want to send your merchandise plans to an assortment plan, there are setup tasks. The standard integration is implemented in an `AMDP` BAdI named `/DMF/MPR_READ_KPI_DATA` which resides in fallback class `/DMF/CL_MPR_READ_DATA_DEFAULT`. The BAdI works as follows:

- While calling the API to fetch finalized version, the assortment plan interface selects product hierarchy node(s) of the same level as the plan. For example, based on the product hierarchy node of level 3 (or 4, 5, 6, 7), the system will automatically look for version M3F (or M4F, M5F, etc.) in case the version is not being passed as part of the API call.
- If standard integration is used, it is recommended that final released versions should be named as *M<level of product hierarchy node>F*.
- A specific custom extension is possible by implementing `AMDP BAdI /DMF/MPR_READ_KPI_DATA` if your planning version used for the merchanise plan does not follow the recommended naming convention.
  - The BAdI is available using transaction code `SPRO` and navigating to Customizing node ▶ *SAP Customizing Implementation Guide* ▶ *SAP Customer Activity Repository* ▶ *Demand Data Foundations* ▶ *Data Maintenance* ▶ *Planning Configuration* ▶ *Enhancements Using Business Add-Ins* ▶ *BAdI: Read Merchandise Planning KPI Data* ▶.

6.2.3 Verify the Connection Between the SAP Merchandise Planning System and SAP Analysis for Microsoft Office

The SAP Merchandise Planning application includes several SAP Analysis for Microsoft Office workbooks. These workbooks, which are installed on your back-end system as part of the local BI Content, can only be opened using SAP Analysis for Microsoft Office.

In this step, you verify that you can open the SAP Merchandise Planning workbooks from SAP Analysis for Microsoft Office.

1. Open SAP Analysis for Microsoft Office from *Start* > *All Programs* > *SAP Business Intelligence* > *SAP BusinessObjects Analysis* > *Analysis for Microsoft Excel*.
2. From the *File* menu, select *Analysis* > *Open Workbook (Open Workbook from SAP NetWeaver)*.
3. Select your back-end system.
   Tip: The list of systems corresponds to the systems available in your SAP Logon.
4. If single sign-on is not configured provide your user information.
5. Search for `/RAP/MP*` on the *Search* tab.
6. Open any of the workbooks from the list of SAP Merchandise Planning workbooks.
   The opening of the workbook indicates that there are no issues with the connection between your back-end system and SAP Analysis for Microsoft Office.

6.2.4 Activate SAP Merchandise Planning Omnichannel BI Planning Framework Content

The planning framework used by SAP Merchandise Planning consists of the following elements:

- **Business Intelligence Content (BI Content) Objects:** A collection of local BI Content objects is used as the basis for the SAP Analysis for Microsoft Office workbooks.
  SAP Analysis for Microsoft Office workbooks are designed to consume data from BI Content objects. The local BI Content objects that are provided with the SAP Merchandise Planning application use the integrated planning engine in SAP Business Warehouse (SAP BW). These local BI Content objects are used as an interface between the SAP HANA views and the SAP Analysis for Microsoft Office workbooks.

  > **i Note**
  >
  > The local BI Content provided with the SAP Merchandise Planning application is entirely independent of the SAP Business Warehouse BI Content and BI Content Extensions add-on.

- **SAP Analysis for Microsoft Office Workbooks:** Microsoft Excel-based spreadsheets that you use to plan assortments for the different locations in your retail business.

This section of the guide provides information on the SAP HANA content activation, BI Content activation and configuration, and data upload activities required to set up the SAP Merchandise Planning planning framework.

6.2.4.1 Verify SAP HANA Content for SAP Merchandise Planning

Verify all SAP HANA Transport for ABAP (HTA) objects that are required for SAP Merchandise Planning application.

Prerequisites

As a mandatory prerequisite for a successful activation of SAP HANA content for SAP Merchandise Planning, you must have successfully completed all of the procedures listed in the previous sections of this guide as pertains to *SAP Customer Activity Repository* > *Core (Mandatory for All Applications)*. In particular, you must have created all the necessary tables, as described in Create/Replicate Source Master Data System Tables [page 94].

You must also have mapped all the necessary schemas, as described in Verify Correct Schema Mapping [page 55].

Context

In this procedure you perform the final activation of SAP HANA content (views and stored procedures) required by the SAP Merchandise Planning application. This final activation results in a **full** activation of the SAP HANA content for SAP Merchandise Planning. Several SAP HANA views depend on local BI Content objects. The SAP HANA views must be in active state before activating the BI Content objects as described in Activate Application BI Content [page 268] .

For more information, see https://help.sap.com/viewer/p/SAP_HANA_PLATFORM, choose the *SAP HANA Developer Guide* and search for section *Activating Objects*.

Procedure

1. Log on to SAP HANA studio.
2. Open the *Modeler* and use the *Navigator* to access your back-end system.
3. Expand the *Content* folder located under your system name in the *Navigator*.
4. Expand the listed packages to verify the underlying folders listed below are active.

   Based on the selected *ECC Mode* in the above report the following packages should exist:

   - *SAP ERP*:
     - `sap.is.ddf.ecc`
   - *Fashion Management*:
     - `sap.is.ddf.ecc`
     - `sap.is.ddf.fms`

- *S/4HANA*:
  - `sap.is.ddf.fms_s4h`

5. The following packages should exist resulting from the standard installation:
   - `sap.is.ddf.ddf`
   - `sap.is.retail.rap.ap`
   - `sap.is.retail.rap.common_bw`
   - `sap.is.retail.rap.mpr`
   - `sap.is.retail.rap.mpr_oc`

   If any of these packages are missing, you must activate those relative to the order above due to dependencies. Use transaction `SCTS_HTA_DEPLOY` to activate each missing package, don't include sub-packages in case you decide to activate the above mentioned packages using this transaction .

6.2.4.2 Activate SAP Merchandise Planning Technical BI Content

Procedure

1. On your back-end system, open the Data Warehousing Workbench (transaction `RSA1`).
2. In the *Replicate Metadata* dialog box, choose *Only Activate*.
3. If a message appears that you are only authorized to work in client. (Brain 009), then refer to SAP Note 316923 (do not import the support package, but use the description under section *Workaround*).
4. Select *Do not show this question Again* in the dialog that appears.
5. Choose *Yes*.
   Make sure that the current job has finished before you proceed with the next step. Check the status of the background job using transaction `SM37`or `SLG1`. If there are problems, you must first solve them.
   You can use transaction `RSTCO_ADMIN` to restart the activation of the technical content and to verify the status of the activation.

   > **i Note**
   >
   > In the case that you get the short-dump "RAISE_EXCEPTION" when installing InfoObjects from the BI content, see SAP Note 1637935 for a possible solution.
   >
   > Also, see SAP Note 2090845 for important information on technical content activation.

   Following activation, you can locate the technical content in the Data Warehousing Workbench as follows:
   1. Selecting *Modeling* in the left-hand frame.
   2. Expand *InfoObjects*.
   3. In the right-hand frame, locate *Technical Content*.

6.2.4.3 Activate Application BI Content

Use

> ⚠ Caution
>
> Proper authorization is required to complete these steps.

These instructions are to activate content for the InfoArea *Merchandise Planning Omni Channel* (`/RAP/MPOC`). This will activate the following object types:

- InfoObjects
- Advanced DataStore Objects (aDSO)
- Composite Providers
- Aggregation Levels
- Planning Sequences
- Queries
- Workbooks

After completing the activate sections, see the last section of this topic, *Verify Installed Objects* to insure all objects have been installed and activated.

Roles/Authorization

1. The application user running the activation/deployment should have the following roles:
   - `SAP_ISR_DDF_MASTER`
   - `SAP_ISR_AP_MASTER`
   - `/RAP/BW_AP_WORKBOOKS`
   - `/RAP/BW_MPR_WORKBOOKS`
2. The database user should have the following privileges/roles:
   - Privilege `ROLE ADMIN`
   - Privilege `STRUCTUREDPRIVILEGE ADMIN`
   - Privilege `EXECUTE` on procedure `TRUNCATE_PROCEDURE_OBJECTS`
   - Privilege `EXECUTE` on procedure `GET_PROCEDURE_OBJECTS`
   - Role `CONTENT_ADMIN`
   - Role `USER`
   - Privilege `EXECUTE` on procedure `TRUNCATE_PROCEDURE_OBJECTS`
   - Privilege `EXECUTE` on procedure `GET_PROCEDURE_OBJECTS`
3. Ensure that each `SAP BW/HANA` application user have at least the following set of privileges to activate BI contents:
   - Privilege `SELECT` on `schema _SYS_BI`
   - Privilege `SELECT` on schema `SAP<SID>`
   - Privilege `EXECUTE` on procedure `REPOSITORY_REST`

- Privilege `REPO.READ` on package `bw2hana/SAP<SID>_/RAP/<Infocube>_REPORTING`
- The corresponding privileges are created automatically when activating BI content

See Perform Core Steps for SAP Customer Activity Repository [page 260] to ensure all core mandatory steps are performed.

Activate InfoObjects

> **i Note**
>
> A window being referenced, may be hidden. Use the *Data Warehousing Workbench* menu in the main window title bar to hide/unhide the following windows: *Navigation*, *All Objects*, and *Collected Objects*.

- Use transaction `RSOR` to launch the BW workbench `BI Content`.
- In the navigation window, locate and select *Object Types*. In the window *All Objects According to Types*, expand node *InfoObjects* and double click *Select Objects*. In the popup window, select the following objects and select button *Transfer Selections*.

  InfoObject

InfoObject Description	InfoObject
Month Of Supply	/RAP/MOSUP
Month Of Supply at DC	/RAP/MOSUPD
Weeks of Supply	/RAP/WKOSUP
Week of Supply DC	/RAP/WKSUPD

- Select *Yes* to the system prompt *Do you want to add the objects to the personal list*.
- When prompted for *Source System*, do not choose any and select *OK*.
- For each `InfoObject`, right click on the object and select option *Install All Below*.
- *Install* and *Activate* each InfoObject.

Activate Advanced DataStore Objects

> **i Note**
>
> A window being referenced, may be hidden. Use the *Data Warehousing Workbench* menu in the main window title bar to hide/unhide the following windows: *Navigation*, *All Objects*, and *Collected Objects*.

- Use transaction `RSOR` to launch the BW workbench `BI Content`.
- In the navigation window, locate and select *Object Types*. In the window *All Objects According to Types*, expand node *DataStore Objects (advanced)* and double click *Select Objects*. In the popup window, select the following objects and select button *Transfer Selections*.

DataStore Object (advanced)

aDSO Description	aDSO
Market Hierarchy CR based on Planning Configuration Set	/RAP/MHDS1
Market Hierarchy CR aDSO for LY and LLY	/RAP/MHDS2
aDSO for actuals of LY and LLY KPIs	/RAP/MPDS0
MP - Regional Month Sales Target for Omni Channel	/RAP/MPDS1
MP - Local Month Sales Inventory Targets for Retail and E-Co	/RAP/MPDS2
MP - Local Month Sales and Inventroy Targets for Whol-sale	/RAP/MPDS3
Product Hierarchy CR based on Planning Configuration Set	/RAP/PHDS1
Product Hierarchy CR aDSO for LY and LLY	/RAP/PHDS2
Merchandise Plan YSCT Characteristic Relationship	/RAP/SCTDS

- Select *Yes* to the system prompt *Do you want to add the objects to the personal list*.
- When prompted for *Source System*, do not choose any and select *OK*.
- For each aDSO, right click on the object and select option *Install All Below*.
- *Install* and *Activate* each aDSO.

Activate Analysis Office Excel Workbooks 2.0

In this section you will continue from the above step and activate the workbooks. :

- From the left navigation panel for *BI Content* locate and expand folder *More Types*. Expand *Analysis Office Excel Workbook* and double click *Select Objects*. Use the filter in the popup window to define a filter on column *Object Name* having values of `/RAP/MP_*`.
  In the pop up window, select the following objects and select button *Transfer Selections*.

  Workbooks

Object Name
/RAP/MP_ECOM_PHN5_WB_01
/RAP/MP_OTB_OTS_PHN5_WB_01
/RAP/MP_OTB_OTS_PHN5_WB_02
/RAP/MP_RTL_PHN5_WB_01

Object Name
/RAP/MP_RT_PHN5_M_WB_01
/RAP/MP_RT_PHN7_WB_01
/RAP/MP_RT_SSN_PHN5
/RAP/MP_WHS_PHN5_M_WB_01

- Select *Yes* to the system prompt *Do you want to add the objects to the personal list*.
- For each workbook, right click and select option *Install All Below*.
- *Install* and *Activate* each workbook.

Activate Planning Sequence

In this section you will activate the Planning Sequence, Planning Function used for loading last year actual data, From the left navigation panel for *BI Content* locate and select *Object Types*. In the *All Objects According to Type* window, perform the following:

- Locate and expand *Planning, Planning Sequence*.
  1. Planning Sequences that begin with the value `/RAP/C15A` belong to the Merchandise Planning 4.0 application and should be activated.
  2. Double click *Select Objects* and use the filter in the popup window to define a filter on column *Object Name* having values of `/RAP/MPDS*` **or** `/RAP/MHDS*`. In the results, use the *Transfer Selections* button to transfer the planning sequences listed in the table below to the *Collected Objects*, then Install.

Planning Sequence

Planning Sequence
/RAP/MHDS2_A3_PS01
/RAP/MHDS2_A3_PS02
/RAP/MPDS0_A0_PS01
/RAP/MPDS0_A0_PS02
/RAP/MPDS0_A0_PS03
/RAP/MPDS0_A2_PS01
/RAP/MPDS1_A1_PS01
/RAP/MPDS1_A1_PS02

Verify Installed Objects

Verify the installed objects exist using the associated tables below.

DataStore Object (advanced)

aDSO Description	aDSO
Market Hierarchy CR based on Planning Configuration Set	/RAP/MHDS1
Market Hierarchy CR aDSO for LY and LLY	/RAP/MHDS2
aDSO for actuals of LY and LLY KPIs	/RAP/MPDS0
MP - Regional Month Sales Target for Omni Channel	/RAP/MPDS1
MP - Local Month Sales Inventory Targets for Retail and E-Co	/RAP/MPDS2
MP - Local Month Sales and Inventroy Targets for Wholsale	/RAP/MPDS3
Product Hierarchy CR based on Planning Configuration Set	/RAP/PHDS1
Product Hierarchy CR aDSO for LY and LLY	/RAP/PHDS2
Merchandise Plan YSCT Characteristic Relationship	/RAP/SCTDS

InfoObject Catalog (RAP)

Catalog Description	Catalog Name
RAP Character InfoObject Catalog	/RAP/CHAR_CAT
RAP Key Figure InfoObject Catalog	/RAP/KYF_CAT

InfoObjects Characteristics

InfoObject Description	InfoObject Name
Logical System ID	/RAP/LOGSYS
Planning Configuration Node	/RAP/PLCND
Planning Configuration Set	/RAP/PLCSET
Market Hierarchy Node on Level 1	/RAP/PLNHN1
Market Hierarchy Node on Level 2	/RAP/PLNHN2
Market Hierarchy Node on Level 3	/RAP/PLNHN3
Market Hierarchy Node on Level 4	/RAP/PLNHN4
Market Hierarchy Node on Level 5	/RAP/PLNHN5
Market Hierarchy Node on Level 6	/RAP/PLNHN6
Market Hierarchy Node on Level 7	/RAP/PLNHN7
Market Hierarchy Node on Level 8	/RAP/PLNHN8
Market Hierarchy Node on Level 9	/RAP/PLNHN9
Market Hierarchy	/RAP/PLNHR
Planning Process Level	/RAP/PLPLVL

InfoObject Description	InfoObject Name
Markdown Sales Revenue	/RAP/MRKDRV
Markdown Sales Units	/RAP/MRKDSU
Product Hierarchy Node on Level 1	/RAP/PRDHN1
Product Hierarchy Node on Level 2	/RAP/PRDHN2
Product Hierarchy Node on Level 3	/RAP/PRDHN3
Product Hierarchy Node on Level 4	/RAP/PRDHN4
Product Hierarchy Node on Level 5	/RAP/PRDHN5
Product Hierarchy Node on Level 6	/RAP/PRDHN6
Product Hierarchy Node on Level 7	/RAP/PRDHN7
Product Hierarchy Node on Level 8	/RAP/PRDHN8
Product Hierarchy Node on Level 9	/RAP/PRDHN9
Product Hierarchy	/RAP/PRDHR
Promotion Sales Revenue	/RAP/PROMRV
Promotion Sales Units	/RAP/PROMSU
Returns Revenue Loss	/RAP/RETRRV
Regular Sales Revenue	/RAP/RSLSRV
Regular Sales Units	/RAP/RSLSUN
Collection	/RAP/SCOLL
Sales Cost	/RAP/SLSCV
Sales Revenue	/RAP/SLSRV
Sales Units	/RAP/SLSUN
Season	/RAP/SSEAS
Season Year	/RAP/SSYR
Theme	/RAP/STHEME
Version	/RAP/VERSN

InfoObjects Key Figures

InfoObject Description	InfoObject Name
BOP DC Excess Stock at Cost	/RAP/BDEXCV
BOP DC Stock at Cost	/RAP/BDCCV
BOP Store Stock at Cost	/RAP/BSTCV
Channel Count	/RAP/CHCNT
End of Period Stock DC Cost Value	/RAP/EDCCV

InfoObject Description	InfoObject Name
EOP DC Excess Stock at Cost	/RAP/EDEXCV
EOP Store Stock at Cost	/RAP/ESTCV
Inventory Adjustment at Cost	/RAP/IADCV
Markdown Budget	/RAP/MRKBUD
Markdown Sales Revenue	/RAP/MRKDRV
Markdown Sales Units	/RAP/MRKDSU
Month Of Supply Store	/RAP/MOSUP
Month Of Supply at DC	/RAP/MOSUPD
On Order Cost DC	/RAP/DCOCV
On Order Units DC	/RAP/DCOUN
On Order Units Store	/RAP/ONOUN
On Order Cost Store	/RAP/ONOCV
Open Sales Order Cost	/RAP/SOOCV
Open Sales Order Units	/RAP/SOOUN
Open to Sale at Cost	/RAP/OTSC
OTB at Cost	/RAP/OTBC
Promotion Budget	/RAP/PROBUD
Promotion Sales Revenue	/RAP/PROMRV
Promotion Sales Units	/RAP/PROMSU
Receipt DC at Cost	/RAP/RDCCV
Receipt Store at Cost	/RAP/RDTCV
Receipt Units DC	/RAP/RCPUND
Receipt Units Store	/RAP/RCPUNS
Regular Sales Revenue	/RAP/RSLSRV
Regular Sales Units	/RAP/RSLSUN
Return Units DC	/RAP/DCREUN

InfoObject Description	InfoObject Name
Return Units Store	/RAP/RETRUN
Returns at Cost DC	/RAP/DCRECV
Returns at Cost Store	/RAP/RETRCV
Returns Revenue Loss	/RAP/RETRRV
Sales at Cost	/RAP/SLSCV
Sales Order Intake Revenue	/RAP/SOIRV
Sales Order Rejection Cost	/RAP/SORCV
Sales Order Rejection Units	/RAP/SORUN
Sales Revenue	/RAP/SLSRV
Sales Store Fulfilled at Cost	/RAP/STSCV
Sales Units	/RAP/SLSUN
Shipment Fulfilled at Cost	/RAP/SHPCV
Weeks of Supply	/RAP/WKOSUP
Week of Supply DC	/RAP/WKSUPD
Write Off Adjustment at Cos	/RAP/WOFFAD

Composite Providers

Composite Provider Description	Composite Provider
Merchandise Financial Plan Omni Channel	/RAP/CP15

Aggregation Levels

Aggregation Description	Aggregation Name
MP Regional Targets Sales Mix - PHN 5	/RAP/C15A01
MP Regional Targets SSN Sales Mix - PHN 5	/RAP/C15A02
MP Regional Targets SSN Sales Mix - PHN 7	/RAP/C15A03
MP Local Targets - ECommerce - Sales Mix - PHN 5	/RAP/C15A11
MP Local Targets - ECommerce - Sales Mix - PHN 5 - PF	RAP/C15A12
MP Local Targets - Retail - Sales Mix - PHN 5	/RAP/C15A21

Aggregation Description	Aggregation Name
MP Local Targets - Retail - Sales Mix - PHN 5 - PF	/RAP/C15A22
MP Local Targets - WHS - Sales Mix - PHN 5	/RAP/C15A31
MP Local Targets - WHS - Sales Mix - PHN 5 - PF	/RAP/C15A32
MP - OTB - Retail - ECom - WHS	/RAP/C15A41
AL for Market Hier CR for LY and LLY	/RAP/MHDSA2
Product Hierarchy CR based on Planning Configuration Set	/RAP/PHDSA1
SCT CR based on Planning Configuration Set	/RAP/SCTDA1
AL for Product Hier CR for LY and LLY	/RAP/PHDSA2
Market Hierarchy Aggregation Level	/RAP/MHDSA1
AL for Actuals of LY and LLY KPIs	/RAP/MPDSA0

Planning Sequence

Workbook	Function	Planning Sequence
1.1 Regional Monthly Plan	Planning sequence for Ribbon in AO	/RAP/C15A01_PS00
1.1 Regional Monthly Plan	Delete	/RAP/C15A01_PS01
1.1 Regional Monthly Plan	Release	/RAP/C15A01_PS02
1.1 Regional Monthly Plan	Copy	/RAP/C15A01_PS03
1.1 Regional Monthly Plan	Bottom Up	/RAP/C15A01_PS04
1.2 Regional Seasonal Plan	Planning sequence for Ribbon in AO	/RAP/C15A02_PS00
1.2 Regional Seasonal Plan	Delete	/RAP/C15A02_PS01
1.2 Regional Seasonal Plan	Release	/RAP/C15A02_PS02
1.2 Regional Seasonal Plan	Top Down	/RAP/C15A02_PS03
1.2 Regional Seasonal Plan	Copy	/RAP/C15A02_PS04
1.2 Regional Seasonal Plan	Bottom Up	/RAP/C15A02_PS05
1.3 Regional Seasonal Plan	Planning sequence for Ribbon in AO	/RAP/C15A03_PS00
1.3 Regional Seasonal Plan	Delete	/RAP/C15A03_PS01
1.3 Regional Seasonal Plan	Release	/RAP/C15A03_PS02

Workbook	Function	Planning Sequence
1.3 Regional Seasonal Plan	Top Down	/RAP/C15A03_PS03
1.3 Regional Seasonal Plan	Copy	/RAP/C15A03_PS04
4.1 Ecommerce Monthly Plan	Planning sequence for Ribbon in AO	/RAP/C15A12_PS00
4.1 Ecommerce Monthly Plan	Delete	/RAP/C15A12_PS01
4.1 Ecommerce Monthly Plan	Release	/RAP/C15A12_PS02
4.1 Ecommerce Monthly Plan	Copy	/RAP/C15A12_PS03
4.1 Ecommerce Monthly Plan	Top Down	/RAP/C15A12_PS04
4.1 Ecommerce Monthly Plan	Initialize BOP - M	/RAP/C15A12_PS05
4.1 Ecommerce Monthly Plan	Re-calculate BOP	/RAP/C15A12_PS06
4.1 Ecommerce Monthly Plan	Initialize BOP - T	/RAP/C15A12_PS07
4.1 Ecommerce Monthly Plan	Initialize BOP - P	/RAP/C15A12_PS08
2.1 Retail Monthly Plan	Planning sequence for Ribbon in AO	/RAP/C15A22_PS00
2.1 Retail Monthly Plan	Delete	/RAP/C15A22_PS01
2.1 Retail Monthly Plan	Release	/RAP/C15A22_PS02
2.1 Retail Monthly Plan	Copy	/RAP/C15A22_PS03
2.1 Retail Monthly Plan	Initialize BOP - M	/RAP/C15A22_PS04
2.1 Retail Monthly Plan	Top Down	/RAP/C15A22_PS05
2.1 Retail Monthly Plan	Initialize BOP - T	/RAP/C15A22_PS06
2.1 Retail Monthly Plan	Initialize BOP - P	/RAP/C15A22_PS07
2.1 Retail Monthly Plan	Re-calculate BOP	/RAP/C15A08_PS08
3.1 Wholesale Monthly Plan	Planning sequence for Ribbon in AO	/RAP/C15A32_PS00
3.1 Wholesale Monthly Plan	Delete	/RAP/C15A32_PS01
3.1 Wholesale Monthly Plan	Release	/RAP/C15A32_PS02
3.1 Wholesale Monthly Plan	Copy	/RAP/C15A32_PS03
3.1 Wholesale Monthly Plan	Top Down	/RAP/C15A32_PS04
3.1 Wholesale Monthly Plan	Initialize BOP - M	/RAP/C15A32_PS05

Workbook	Function	Planning Sequence
3.1 Wholesale Monthly Plan	Initialize BOP - T	/RAP/C15A32_PS06
3.1 Wholesale Monthly Plan	Initialize BOP - P	/RAP/C15A32_PS07
3.1 Wholesale Monthly Plan	Re-calculate BOP	/RAP/C15A32_PS08
5.1 OTB & OTS Reconciliation	Planning sequence for Ribbon in AO	/RAP/C15A41_PS00
5.1 OTB & OTS Reconciliation	MP - OTB - Reconciliation	/RAP/C15A41_PS01
5.1 OTB & OTS Reconciliation	MP - OTB - Reconciliation - Finalize	/RAP/C15A41_PS02
5.2 OTB & OTS Reconciliation - Season	Planning sequence for Ribbon in AO	/RAP/C15A42_PS00
5.2 OTB & OTS Reconciliation - Season	MP - OTB - Reconciliation	/RAP/C15A42_PS01
5.2 OTB & OTS Reconciliation - Season Final	MP - OTB - Reconciliation - Finalize	/RAP/C15A42_PS02

Queries

Query Name	Technical Name
MP - Regional Targets - Prompt Query - PHN5	/RAP/CP15A01_Q01
MP - Regional Targets - Sales Mix - PHN5	/RAP/CP15A01_IRQ01
MP - Regional Targets - Season Prompt Query - PHN5	/RAP/CP15A02_Q01
MP - Regional Targets - Season Flow - PHN5	/RAP/CP15A02_IRQ00
MP - Regional Targets - Season Sales Mix - PHN5	/RAP/CP15A02_IRQ01
MP - Regional Targets - Season Flow Chart - PHN5	/RAP/CP15A02_Q00
MP - Regional Targets - Season Flow - PHN7	/RAP/C15A03_IRQ00
MP - Regional Targets - Season Sales Mix - PHN7	/RAP/CP15A03_IRQ01
MP - Regional Targets - Season Flow Chart - PHN7	/RAP/CP15A03_Q00
MP - Regional Targets - Prompt Query - PHN7	/RAP/CP15A03_Q01
MP - Local Targets - ECom - Sales Mix - PHN5	/RAP/CP15A11_IRQ01
MP - Local Targets - ECom - Inventory Mix - PHN5	/RAP/CP15A11_IRQ02
MP - Local Targets - ECom - Prompt Query - PHN5	/RAP/CP15A11_Q01
MP - Local Targets - Rtl - Sales Mix - PHN5	/RAP/CP15A21_IRQ01

Query Name	Technical Name
MP - Local Targets - Rtl - Inventory Mix - PHN5	/RAP/CP15A21_IRQ02
MP - Local Targets - Rtl - Prompt Query - PHN5	/RAP/CP15A21_Q01
MP - Local Targets- WHS - Sales Mix - PHN5	/RAP/CP15A31_IRQ01
MP - Local Targets - WHS - Inventory Mix - PHN5	/RAP/CP15A31_IRQ02
MP - Local Targets - WHS - Prompt Query - PHN5	/RAP/CP15A31_Q01
MP - OTB Reconciliation Report - Prompt Query	/RAP/CP15_Q001
MP - OTB Reconciliation Report	/RAP/CP15_Q01
MP - OTB Reconciliation Season Prompt Query	/RAP/CP15_Q002
MP - OTB Reconciliation Report - Season	/RAP/CP15_Q02

Workbooks

Workbook Description	Workbook Technical Name
1.1 Regional Monthly Plan	/RAP/MP_RT_PHN5_M_WB_01
1.2 Regional Seasonal Plan	/RAP/MP_RT_SSN_PHN5
1.3 Regional Seasonal Plan	/RAP/MP_RT_PHN7_WB_01
2.1 Retail Monthly Plan	/RAP/MP_RTL_PHN5_WB_01
3.1 Wholesale Monthly Plan	/RAP/MP_WHL_PHN5_M_WB_01
4.1 Ecommerce Monthly Plan	/RAP/MP_ECOM_PHN5_WB_01
5.1 OTB & OTS Reconciliation	/RAP/MP_OTB_OTS_PHN5_WB_01
5.2 OTB & OTS Seasonal Reconciliation	/RAP/MP_OTB_OTS_PHN5_WB_02

Change aDSO Behavior

You must change the loading behavior for each aDSO. Select the InfoProvider node under Modeling. Locate the central InfoProvider column and expand the *Merchandise Planning Omni Channel* change the loading behavior for each aDSO. To change the loading the behavior, locate each object in the DataStore (advanced) table above and then right click to select *Planning-Specific Properties* *Change Real-Time Load Behavior.* Select radio button *Real-Time Target Can Be Planned; Data Loading Not Allowed*.

→ Remember

BI Content developed on top of aggregation levels /RAP/T15A23, /RAP/T15A24, /RAP/T15A25, /RAP/T15A27, /RAP/T15A34 and /RAP/T15A35 are for internal testing and do not need to be activated.

6.2.4.4 Configure SAP Merchandise Planning Local BI Content

6.2.4.4.1 Enable the Planning Application Kit (PAK)

Use

To be able to use the SAP Analysis for Microsoft Office workbooks provided as part of the SAP Assortment Planning planning framework content, you must enable the Planning Application Kit.

Procedure

1. Read SAP Note 1637199.
2. In your back-end system, launch table/view maintenance (transaction `SM30`).
3. Enter `RSPLS_HDB_ACT` in the *Table/View* field and choose *Maintain*.
4. Choose *New Entries*.
5. In the *HANA Integration Active* column select **`Deep HANA Integration Active`** and in the *Function Active* column, enable the checkbox.

6.2.4.4.2 Maintain RSADMIN Parameter for Input Cells

In this procedure, you maintain the `RSADMIN` parameter for Input Cells in the SAP BW application to suppress zero values for actual data versions.

1. Log on to your back-end system.
2. Open the *ABAP Editor* (transaction `SE38`).
3. Run program **`SAP_RSADMIN_MAINTAIN`**
4. In `RSAD` Table Maintenance, insert `ZERO_SUPPRESSION_ON_INPUTCELLS` in `OBJECT` and Execute.

ℹ Posting Instructions

Refer to 1126478

for further information.

6.2.4.4.3 Generate Missing Data Reports

Use

There are two reports required to populate supporting tables for *SAP Merchandise Planning for Omnichannel 2.0* and above.

Procedure

The first report will generate entries for `/RAP/RS_VARCUSTS` table.

- Use transaction code. `SE38` and enter `/RAP/SEED_BW_CUSTOMIZING_DATA` in the *Program* field. Use the Execute button to run the report.

6.2.4.4.4 Maintain Fiscal Year Variants

Use

In this section you maintain the required fiscal year variant values for the Retail Month `(RM)` and the Retail Week `(RW)`. These instructions are for SAP Merchandise Planning 1.0 FP2 or later. In addition, the years used in the examples are to depict the relationship between the years. You will need to create the range of years applicable for your implementation.

> ⚠ Caution
>
> SAP Merchandise Planning uses activated time objects `0FISCPER` (fiscal year period) and `0FISCVARNT` (fiscal year variant), provided as part of the technical `BI Content` If you are supporting both Retail Week and Month Variants, begin with the RW procedure and then RM thereafter.

> ℹ Note
>
> SAP Merchandise Planning 1.0 Workbooks supports time hierarchy YR/MON. For more information please see Maintain Time Hierarchy [page 290].

Related Information

Retail Weekly [page 282]
Retail Monthly [page 283]

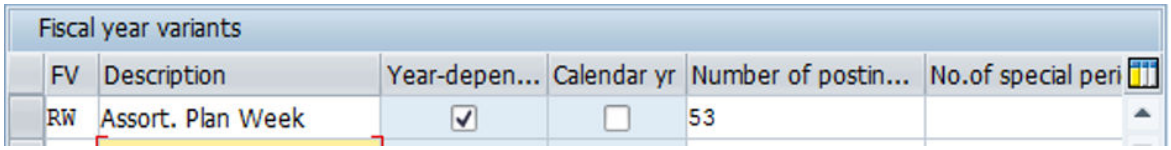
6.2.4.4.4.1 Retail Weekly

In this procedure you maintain the required fiscal year variant (`0FISCVARNT 'RW'`).

The steps provided in this procedure allow you to maintain `0FISCVARNT 'RW'` using the standard 4-5-4 calendar entries. If you are using alternative fiscal periods in your retail business, for example, each week starting on a Sunday instead of Saturday, you can provide your own entries instead of the ones suggested in this guide.

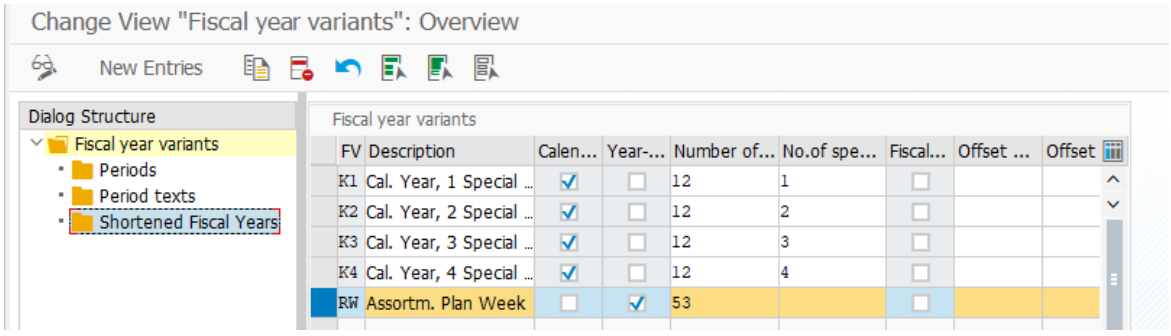
Procedure

1. Log on to your back-end system.
2. Launch fiscal year variant maintenance (transaction `GVAR`).
3. Choose *New Entries*.
4. On the *New Entries: Overview of Added Entries* screen make the following sets of entries:



Create New Fiscal Year Variant

5. Choose *Enter*.
   An information message is displayed about creating more than 16 periods, choose *Continue*.
6. Choose *Back*.
   You can see the newly created entry.
7. Mark the entry *RW* and select *Shortened Fiscal Years* from the *Dialog Structure*.



Shortened Fiscal Years in Dialog Structure

8. In the *Fiscal year* dialog, enter the year (for example, **`2015`**) in the *Fiscal year* field and choose *Continue*.
9. On the *Change View "Shortened Fiscal Years": Overview* screen, choose *New Entries*.
10. In the *Shortened Fiscal Years* table, enter **`52`** in the *No. of posting periods* field.
11. Choose *Back* twice.
12. On the *Change View "Fiscal Year variants": Overview* screen, mark the entry *RW* and select *Periods* from the *Dialog Structure*.
13. In the *Calendar yr* dialog, enter the year (for example, **`2015`**) in the *Calendar yr* field and choose *Continue*.
    Data for the previous year must be maintained.
14. On the *Change View "Periods": Overview* screen, choose *New Entries*.

15. In the *Periods* table, enter the data (month, day, period, year shift) for each period according to your fiscal calendar. For an example, see the following table. For more examples, see SAP Note 2112634. If you want to copy data from this note, locate the required year and enter the data by copy-and-paste.

    2015 Weekly Calendar

Month	Day	Period	Year Shift
1	3	48	-1
1	10	49	-1
1	17	50	-1
1	24	51	-1
1	31	52	-1
2	7	1	0
2	14	2	0
...	..	...	...

16. Repeat steps 7-15 to maintain the weekly fiscal year variant for all of the required years, entering each year as shortened fiscal year. The corresponding tables are available in SAP Note 2112634.
17. Choose *Save*.
18. Launch transaction `RSRHIERARCHYVIRT` and ensure that the dates specified in the *From* and *To* fields under *Time Interval* cover the years maintained for the fiscal year variant in the previous steps.

6.2.4.4.4.2 Retail Monthly

In this section, you maintain the required fiscal year variant values for the fiscal month, 'RM'.

Procedure

Fiscal Variant Retail Month

You must maintain `0FISCVARNT 'RM'` using the standard 12 month calendar entries. If you are using alternative fiscal periods in your business, you can provide your own entries instead of the ones suggested in this guide.

1. Log on to your back-end system.
2. Launch the fiscal year variant maintenance (transaction `GVAR`). Choose *New Entries*.
3. In the *Fiscal Year Variants* view, choose *New Entries*.

4. On the *New Entries: Overview of Added Entries* screen make the following sets of entries:

Field Name	User Entry
FV	**RM**
Description	Planning month
Calendar yr	Do not select
Year-dependent	Select
Number of period postings	12
No.of special periods	

5. Choose *Enter*.
6. Choose *Back*.
   You can see the newly created entry.
7. Mark the entry *RM* and select *Periods* from the *Dialog Structure* and double click to open the *Calendar year* dialog.
8. Enter the year, for example **2014**, in the *Calendar yr* field and choose *Continue*.
9. Choose *New Entries*. For the year selected to enter the information that will define each period.
10. Enter the last valid calendar date of the period being added in the *Month and Day* fields.
11. Enter the relevant *Period* number.
12. In the *Year Shift* field, enter +1 if the fiscal year is later than the calendar year enter. Enter -1 if the fiscal year is before the calendar year.
13. Press *Enter* to accept the first row.
14. Continue adding each period to complete the fiscal year. Choose *Save* after you have finished the entries for a year.
15. Continue adding the fiscal year variants for each year required by your scenario by repeating steps 2-13.
16. For more information about setting up the calendar for additional years, see SAP Note 2112634. Note that this SAP Note is applicable for both SAP Merchandise Planning and SAP Assortment Planning.
17. Choose *Save* after you have finished the maintenance for the last year.

Example: If the current year is 2020, you can maintain fiscal year variant values for the previous three years and future three years.

Past Fiscal Year Variant Values for Retail Month

2017

Month	Day	Period	Year Shift
12	31	11	-1
1	4	12	-1
2	4	1	0
4	8	2	0
5	6	3	0
6	3	4	0
7	8	5	0
8	5	6	0
9	2	7	0
10	7	8	0
11	4	9	0
12	31	10	0
12	31	11	-1

2018

Month	Day	Period	Year Shift
1	6	11	-1
1	3	12	-1
3	3	1	0
4	7	2	0
5	5	3	0
6	2	4	0
7	7	5	0
8	4	6	0
9	1	7	0
10	6	8	0
11	3	9	0
12	1	10	0
12	31	11	0

2019

Month	Day	Period	Year Shift
1	5	11	-1
2	2	12	-1
2	2	1	0
4	6	2	0
5	4	3	0
6	1	4	0
7	6	5	0
8	3	6	0
8	31	7	0
10	5	8	0
11	2	9	0
11	30	10	0

Future Fiscal Year Variant Values for Retail Month

2021

Month	Day	Period	Year Shift
1	2	11	-1
1	30	12	-1
2	27	1	0
4	3	2	0
5	1	3	0
5	29	4	0
7	3	5	0
7	31	6	0
8	28	7	0
10	2	8	0
10	30	9	0
11	27	10	0
12	31	11	0

2022

Month	Day	Period	Year Shift
1	1	11	-1
1	29	12	-1
2	26	1	0
4	2	2	0
4	30	3	0
5	28	4	0
7	2	5	0
7	30	6	0
8	27	7	0
10	1	8	0
10	29	9	0
11	26	10	0
12	31	11	0

2023

Month	Day	Period	Year Shift
1	1	11	-1
1	29	12	-1
2	26	1	0
3	26	2	0
4	30	3	0
5	28	4	0
6	25	5	0
7	30	6	0
8	27	7	0
9	24	8	0
10	29	9	0
11	26	10	0
12	31	11	0

6.2.4.4.5 Generate Time Relations Data for Planning based on the Fiscal Calendar

Use

Execution of the `RSR_TIME_RELATION_HDB` report is required to populate supporting tables for the time relations data for planning based on the fiscal calendar.

Prerequisite

This report requires that fiscal calendars are currently maintained for the fiscal variants that are expected to be used for planning.

Procedure

The report will generate entries for the `RSR_REL_TIME_FIS` table and the `RSR_TIME_REL_FIS` table.

Use transaction code **SE38** and enter `RSR_TIME_RELATION_HDB` in the program field. Use the *Execute* button to run the report.

6.2.4.4.6 Maintain Versions

In this step, you maintain the master data for the InfoObject `/RAP/VERSN` to support versions in workbooks.

1. Launch HANA Studio, and open perspective BW Modeler. Open your BW Project and expand *BW Repository*. Navigate to *⏵ /RAP/MPOC ⏵ Aggregation Level ⏵*. Expand any object built on `/RAP/C15A*` and navigate to a query. Open the query and navigate to the *InfoProvider* tab.
2. Expand *⏵ InfoProvider Fields ⏵ General ⏵*. Open field `/RAP/VERSN`. In the *Properties* tab select the *Master Data* link.
3. You are on the *Change Master Data of InfoObject* `/RAP/VERSN` maintenance screen.
4. Select the section below matching the scenario of workbooks you will be using to enter the correct information.
   Be sure to save your entries and close the window.

Merchandise Planning 2.0 and Above

The default workbooks are planned at product hierarchy node levels 5 and 7. Entries for those are listed in the table below. For more information about versions see https://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Administration* ▶ *SAP Merchandise Planning Administration Guide* ▶ *Configuration Information* ▶ *Configure SAP Merchandise Planning* ▶ *Implementation Tasks* ▶.

Merchandise Planning Versions 2.0

Version	Text
M51	Working Version
M52	Simulation Version
M5F	Finalized Version
M5R	Reporting Version
M71	Working Version
M72	Simulation Version
M7F	Finalized Version
M7R	Reporting Version
0	Actuals

6.2.4.4.7 Activate Internet Communication Framework (ICF) Services

For security reasons, all Internet Communication Framework (ICF) services relevant to your SAP Merchandise Planning application are made available in an inactive state.

In this procedure, you activate the ICF service.

1. Log on to your back-end system.
2. Open the *HTTP Service Hierarchy Maintenance* screen (transaction `SICF`).
3. Enter the following data:

Field name	User action and values
Hierarchy Type	`SERVICE`

4. Choose *Execute*.
5. On the *Maintain Service* screen, expand the hierarchy of `Default_host`.
6. Expand SAP.

7. Select the **BW** entry.
8. From the context menu choose *Activate* service.
9. In the confirmation dialog box, choose *Yes* to activate all sub-nodes below the **BW** node in the hierarchy.
10. Choose Back.

6.2.4.4.8 Connect File System in SAP BW (Optional)

In this procedure, you perform the settings that are necessary for the connectivity for an external system - PC files on the Workstation (for example Excel files) or files on the application server in SAP BW.

1. Log on to your back-end system.
2. Open the *Data Warehouse Workbench: Modeling* screen (transaction `RSA1`).
3. Choose *Modeling*.
4. Choose *Source Systems*.
5. In the right-hand frame, mark the entry *File*.
6. Right-click the folder of *File*.
7. Choose *Create*.
8. Enter the following data:

Field name	User action and values
Logical system name	**FILE**
Source system name	**FILE**

9. Choose Continue.
10. Right-click the **FILE** Source System.
11. Follow the context menu path *Activate*.

6.2.4.4.9 SAP Merchandise Planning for Retail 1.0 Workbooks

These steps are for users who are choosing to continue using the SAP Merchandise Planning for Retail 1.0 workbooks.

6.2.4.4.9.1 Retail Version 1.0 Workbooks

You may choose to use the original retail workbooks contained in this configuration.

The following topics are not used in SAP Merchandise Planning 2.0 FP2. If you are configuring for the 1.0 workbooks you must complete these next topics.

Create Geographical Location Hierarchies [page 289]

Maintain Article and Geographical Hierarchy [page 296]

Reporting Currency for Geo Hierarchy Level 2 [page 296]

6.2.4.4.9.1.1 Maintain BEX Variables

In this step, you maintain the variables `/RAP/HIEID_MSM_01`and `/RAP/UNIT_MSM_01`. To do this launch the *Query Designer* and follow the steps below.

1. Log in to the system desired and select the *Open query* icon. In the prompt, search the *InfoAreas* for *Merchandise, Financial Planning for Retail* and select.
2. Open query *Channel Mix - query/PF* (`/RAP/CP11A02_IRQ01`).
3. In the *Filter* panel, *Characteristic Restrictions* and select *Hierarchy ID* and expand. Choose the variable *Hierarchy ID* beneath to focus the value in the *Properties* panel.
4. Select the *Default Values* tab and enter the same hierarchy id used in the Customizing activity.
5. Return to the *Filter* panel, *Characteristic Restrictions* and select *Unit of Measure* and expand. Choose the variable *Unit of Measure* beneath to focus the value in the *Properties* panel.
6. Select the *Default Values* tab and enter the value 'PC' to represent the default unit of measure value for pieces.
7. Save the Query and exit.

6.2.4.4.9.1.2 Create Geographical Location Hierarchies

> **i Note**
>
> This step is relevant to *SAP Merchandise Planning for Retail* versions prior to SAP Merchandise Planning 2.0 FP2.
>
> *SAP Merchandise Planning for Retail* supports up to 2 levels of geographical location hierarchies. For example, you create the first level for the world regions, the second level for countries, and then the location hierarchy. The location hierarchy node assigned to a geographical location hierarchy must be a distribution chain hierarchy (DC), which is a type 04 or a promotion location hiearchy which is a type 05.

Do the following steps to create a geographical location hierarchy:

1. Log in to the application server using `SAP GUI` and execute transaction code `NWBC`.
2. Select the *Services* menu.
3. In the left navigation menu select *Location Services* > *Location Hierarchy*.
   In the POWL menu on the right, select the *Create* button, then *Market Hierarchy* in the dropdown.
4. Enter the location hierarchy name, description and the master data system for your new geographical location hierarchy.
5. Select the *Editor* tab.

> **Note**
>
> - The *Location* and *Import* tabs are disabled.

Enter or search for the distribution chain location hierarchy or promotion location hierarchy that you want to add to your geographical location hierarchy.

6. Add the desired DC location hierarchy or promotion location hierarchy to your geographical location hierarchy. You may have either or both types of hierarchies added to the same geographical location hierarchy node.
7. Save your entries.

In the example below you have two level 2 hierarchies. The level 3 hierarchies are the actual distribution chain location hierarchies and/or promotion location hierarchies that were selected (created in a previous activity).

- GLOBAL (GEOLEVEL1)
  - NORTH_AMERICA (GEOLEVEL2)
    - DC Hierarchy for Sales Org/Dist. Channel XYZ (GEOLEVEL3)
      This will assign all locations for the sales org / distribution channel XYZ to North America's node.
    - Promotion location hierarchy PL123 (GEOLEVEL3)
      This will assign all locations for the promotion location hierarchy PL123 to North America's node.
  - SOUTH_AMERICA (GEOLEVEL2)
    - DC Hierarchy for Sales Org/Dist. Channel ABC (GEOLEVEL3)
      This will assign all locations for the sales org / distribution channel ABC to South America's node.

6.2.4.4.9.1.3 Maintain Time Hierarchy

The time hierarchy is used to summarize the fiscal periods for planning. In this step, you create 2 time hierarchies: `YR/MON` and `YR/SEASON/MON/WK`. Use transaction `RSH1` to create the hierarchies for the InfoObject `0FISCPER`. The instructions are an example of the required steps that will be repeated for each year and time period

InfoObject	Time hierarchy example
0FISCPER	• Create the **0RP_FISCHIER02** hierarchy name with the entry **YR/SEASON** in the *Short Description* field. • Create the **Year** hierarchy node with **Year** in the *Short Description*. • Choose the **Year** hierarchy node, and create the **Spring** hierarchy node with the **Spring** in the *Short Description* field under the **Year** hierarchy node. Click continue • Choose the **Spring** hierarchy node, use the *Characteristic Nodes Button* to insert the **Fiscal Year/Period** value for each period for that season. • Continue the process for each year, season and period. Save and activate the hierarchy when completed. • Create the **0RP_FISCHIER01** hierarchy name with the entry **YR/SEASON/MON/WK** in the *Short Description* field. • Create the **Year** hierarchy node with **Year** value in the *Short Description* field. • Choose the **Year** hierarchy node, and create the **Spring** hierarchy node with **Spring** in the *Short Description* field under the **Year** hierarchy node. • Choose the **Spring** hierarchy node, and create the **February** hierarchy node with **February** in the *Short Description* field under the **Spring** hierarchy node. • Choose the **February** hierarchy node, use the *Characteristic Nodes Button* to insert the **Fiscal Year/Period** value for each period for that month. • Continue the process for each year, season and period as desired. Save and activate the hierarchy when completed.

Merchandise Planning for Retail 1x

Merchandise Planning for Retail

Version	Text
MO1	MO Working Version
MO2	MO Simulation Version
MOR	MO Reporting Version
MOP	MO In Season Version
MD1	MD Working Version
MD2	MD Simulation Version
MDR	MD Reporting Version
MDP	MD In Season Version

Version	Text
MP1	MP Working Version
MP2	MP Simulation Version
MPR	MP Reporting Version
MPP	MP In Season Version
MM1	MM Working Version
MM2	MM Simulation Version
MMR	MM Reporting Version
MMP	MM In Season Version
MMF	MM Final Version
FO1	FO Working Version
FO2	FO Simulation Version
FOR	FO Reporting Version
FOP	FO In Season Version
FD1	FD Working Version
FD2	FD Simulation Version
FDR	FD Reporting Version
FDP	FD In Season Version
FM1	FM Working Version
FM2	FM Simulation Versio
FMR	FM Reporting Version
FMP	FM In Season Version
FL1	FL Working Version
FL2	FL Simulation Versio
FLR	FL Reporting Version
FLP	FL In Season Version
SAP	Store Area Plan

6.2.4.4.9.1.4 Maintain Fiscal Year Variants

Use

In this section you maintain the required fiscal year variant values for week and month; `0FISCVARNT 'RW'` and `'RM'`.

> ⚠ Caution
>
> SAP Merchandise Planning for Retail uses activated time objects `0FISCPER` (fiscal year period) and `0FISCVARNT` (fiscal year variant), provided as part of the technical `BI Content`.
>
> If you are also using the SAP Assortment Planning application, you use the same fiscal year variant that was created for this application.

Procedure

Fiscal Variant RW

The steps provided in this procedure allow you to maintain `0FISCVARNT 'RW'` using the standard 4-5-4 calendar entries. If you are using alternative fiscal periods in your retail business, for example, each week starting on a Sunday instead of Saturday, you can provide your own entries instead of the ones suggested in this guide.

1. Log on to your back-end system.
2. Launch fiscal year variant maintenance (transaction `GVAR`).
3. Choose *New Entries*.
4. On the *New Entries: Overview of Added Entries* screen make the following sets of entries:

Field Name	User Entry
FV	**RW**
Description	Planning week
Year-dependent	Select
Calendar yr	Do not select
Number of period postings	53

Field Name	User Entry
No.of special periods	

5. Choose *Enter*.
   An information message is displayed about creating more than 16 periods, choose *Continue*.
6. Choose *Back*.
   You can see the newly created entry.
7. Mark the entry *RW* and select *Periods* from the *Dialog Structure*.
8. Enter **2012** in the *Calendar yr* field and choose *Continue*.
   Data for the previous year must be maintained.
9. Choose *New Entries*.
10. Open SAP Note 2112634, locate the entries for year 2012, and enter the data by copy-and-paste. Note that this SAP Note is applicable for both SAP Merchandise Planning and SAP Assortment Planning.
11. Choose *Enter* to finish your input.
    While making the fiscal year entries, an information message might be displayed stating that there are *Gaps in financial year variant periods RW*. This is an information message only, and the entered fiscal year data is saved.
12. Maintain the weekly fiscal year variant in the same way for the year 2017. The entries for year 2017 are also available in SAP Note 2112634.
13. Select *Shortened Fiscal Years* from the *Dialog Structure*.
14. Enter **2013** in the *Fiscal year* field and choose *Continue*.
15. Choose *New Entries*.
16. Enter **52** in the *No. of posting periods* field.
17. Choose *Back* twice.
18. Maintain the weekly fiscal year variant in the same way for the shortened fiscal years, that is, years 2013, 2014, 2015, 2016, and 2017. The corresponding tables are available in SAP Note 2112634.
19. Choose *Save* after you have finished the maintenance for year 2018.

Fiscal Variant RM

The next steps allow you to maintain `0FISCVARNT 'RM'` using the standard 12 month calendar entries. If you are using alternative fiscal periods in your retail business, you can provide your own entries instead of the ones suggested in this guide. These month entries must align with the week values used in the prior step.

1. In the *Fiscal Year Variants* view, choose *New Entries*.
2. On the *New Entries: Overview of Added Entries* screen make the following sets of entries:

Field Name	User Entry
FV	**RM**
Description	Planning month
Year-dependent	Select

Field Name	User Entry
Calendar yr	Do not select
Number of period postings	12
No.of special periods	

3. Choose *Enter*.
4. Choose *Back*.
   You can see the newly created entry.
   To get the information to enter in the next step, open SAP Note 2112634. Note that this SAP Note is applicable for both SAP Merchandise Planning and SAP Assortment Planning. If you have used these dates for your weekly calendar, then align the month end dates to match. An example is contained in the table below using the 2015 calendar entries from the SAP Note.
5. Mark the entry *RM* and select *Periods* from the *Dialog Structure* and double click to open the *Calendar year* dialog.
6. Enter **2012** in the *Calendar yr* field and choose *Continue*.
7. Choose *New Entries*. For the year selected to enter the information that will define each period.
8. Enter the last valid calendar date of the period being added in the *Month and Day* fields.
9. Enter the relevant *Period* number.
10. In the *Year Shift* field, enter +1 if the fiscal year is later than the calendar year enter. Enter -1 if the fiscal year is before the calendar year.
11. Press *Enter* to accept the first row.
12. Continue adding each period to complete the fiscal year.
    Maintain the monthly fiscal year variant in the same way for the remaining years.
13. Choose *Save* after you have finished the maintenance for year 2018.

Choose *Save* after you have finished the maintenance for the last year.

2015 Monthly Calendar (sample)

Month	Day	Period	Year Shift
1	31	12	-1
2	28	1	0
3	28	2	0
5	2	3	0
5	30	4	0
6	27	5	0

Month	Day	Period	Year Shift
8	1	6	0
8	29	7	0
9	26	8	0
10	31	9	0
11	28	10	0
12	26	11	0
12	31	12	0

6.2.4.4.9.1.5 Maintain Article and Geographical Hierarchy

Use

This information is relevant to versions prior to SAP Merchandise Planning 2.0 FP2. There are two types of hierarchies used in **SAP Merchandise Planning for Retail**, the geographical and the article hierarchy.

Procedure

There is a Customizing activity to define the required hierarchies. Use transaction code `SPRO` and in the Dialog Structure navigate to *Cross-Application Components* > *Demand Data Foundation* > *Basic Settings* and choose *Define Default Values*.

- In the *Hierarchy ID* field use the prompt to select the applicable article hierarchy id.
- In the *Geo Hierarchy ID* field, use the prompt to select the applicable geo hierarchy ID.

6.2.4.4.9.1.5.1 Reporting Currency for Geo Hierarchy Level 2

This information is relevant to versions prior to SAP Merchandise Planning 2.0 FP2. The geographical hierarchy level 2 requires a reporting currency. Do the following steps to create a geographical location hierarchy currency:

1. In your back-end system, launch table/view maintenance transaction code `SM30`.
2. In the *Maintain Table Views: Initial Screen* enter `/RAP/GEOLVL_CUST` in the *Table/view field* and select the *Maintain* button
3. Choose *New Entries* .

4. Use the *F4* help to select the *Geographical Level 02* desired.
5. Use the *F4* help to select the *Reporting Currency* associated with the *Geographical Level 02* selected.
6. Repeat for each *Geographical Level 02* required.
7. Save your entries.

6.2.4.4.9.1.5.1.1 Maintain Process Chain Related

Maintain BW process chain variants relevant for SAP Merchandise Planning for Retail.

Context

In this optional procedure, you activate the following infoobjects and maintain the BW process chain variants .

Planning: Characteristic Relationships

InfoObject Description	InfoObject Name
Characteristic Rels. for Financial Merchandise Planning	Plan `/RAP/MPRC01`
Characteristic Rels. for Channel Planning	Plan `/RAP/MPRC02`

Planning: Data Slices

InfoObject Description	InfoObject Name
Data Slices for Financial Merchandise Planning, Plan	`/RAP/MPRC01`
Data Slices for Channel Planning, Plan	`/RAP/MPRC02`

Process Chain Doc Process Chain

InfoObject Name
`/RAP/MPPC01_01`

Process Chain Starter

InfoObject Name
`/RAP/MPPC01_01`

Procedure

In this process you will create variants and activate the BW process chains.

1. Planning Sequence Data Slice Activation
    1. Go to transaction `RSPLAN`
    2. Select the *Planning Sequence* button.

3. In the planning sequence field, enter `/RAP/C11A02_PS08` and choose *Edit* button.
4. Select the *Variables* button.
5. Select the *Geographical Level 1 Input* help and select a value.
6. Select the *Save As* Button.
7. In the Variables prompt, choose *F9* to turn Cross User-variant on.
8. Enter a variant name. For description enter **`Data Slice Activation`** and select the Cross-User Variant check box.
9. Select the *Continue* button.
10. Select the *Continue* button in the variables screen.
11. Go to transaction `RSA1`.
12. In the navigation panel, select the *Modeling* button, then *Process Chain*.
13. In the process chain panel, right click on **Merchandise Planning - Actualization** and choose *Edit*.
14. In the right tree, right click on **Execute Planning Sequence Data Slice Activation (/RAP/MPPC01_10)** and choose *Maintain Variant*.
15. Load the variant created in step h (if not already loaded).
16. Select the *Transfer* button and save.

2. Planning Sequence Deactivation of Data Slice
    1. Go to transaction `RSPLAN`
    2. Select the *Planning Sequence* button.
    3. In the planning sequence field, enter `/RAP/C11A02_PS09` and choose *Edit* button.
    4. Select the *Variables* button.
    5. Select the *Geographical Level 1 Input* help and select a value.
    6. Select the *Save As* Button.
    7. In the Variables prompt, choose *F9* to turn Cross User-variant on.
    8. Enter a variant name. For description enter **`Data Slice Deactivation`** and select the Cross-User Variant check box.
    9. Select the *Continue* button.
    10. Select the *Continue* button in the variables screen.
    11. Go to transaction `RSA1`.
    12. In the navigation panel, select the *Modeling* button, then Process Chain.
    13. In the process chain panel, right click on **Merchandise Planning - Actualization** and choose *Edit*.
    14. In the right tree, right click on **Execute Planning Sequence Data Slice Deactivation (/RAP/MPPC01_11)** and choose *Maintain Variant*.
    15. Load the variant created in step h (if not already loaded).
    16. Select the *Transfer* button and save.
3. Planning Sequence Channel Mix - Actualization
    1. Go to transaction `RSPLAN`
    2. Select the *Planning Sequence* button.
    3. In the planning sequence field, enter `/RAP/C11A02_PS07` and choose *Edit* button.
    4. Select the *Variables* button.
    5. Select the *Geographical Level 1 Input* help and select a value.
    6. Select the *Save As* Button.
    7. In the Variables prompt, choose *F9* to turn Cross User-variant on.
    8. Enter a variant name. For description enter **`Channel Mix - Actualization`** and select the Cross-User Variant check box.

9. Select the *Continue* button.
10. Select the *Continue* button in the variables screen.
11. Go to transaction `RSA1`.
12. In the navigation panel, select the *Modeling* button, then Process Chain.
13. In the process chain panel, right click on Merchandise Planning - Actualization and choose edit.
14. In the right tree, right click on **Execute Planning Sequence Channel Mix - Actualization (/RAP/MPPC01_02)** and choose *Maintain Variant*.
15. Load the variant created in step h (if not already loaded).
16. Select the *Transfer* button and save.

4. Planning Sequence Financial Merchandise Plan - Division - Actualization
    1. Go to transaction `RSPLAN`
    2. Select the *Planning Sequence* button.
    3. In the planning sequence field, enter `/RAP/C11A07_PS11` and choose *Edit* button.
    4. Select the *Variables* button.
    5. Select the *Geographical Level 1 Input* help and select a value.
    6. Select the *Save As* Button.
    7. In the Variables prompt, choose *F9* to turn Cross User-variant on.
    8. Enter a variant name. For description enter **`MP - Division - Actualization`** and select the Cross-User Variant check box.
    9. Select the *Continue* button.
    10. Select the *Continue* button in the variables screen.
    11. Go to transaction `RSA1`.
    12. In the navigation panel, select the *Modeling* button, then Process Chain.
    13. In the process chain panel, right click on Merchandise Planning - Actualization and choose edit.
    14. In the right tree, right click on **Execute Planning Sequence Financial Merchandise Plan - Division - Actualization(/RAP/MPPC01_03)** and choose *Maintain Variant*.
    15. Load the variant created in step h (if not already loaded).
    16. Select the *Transfer* button and save.
5. Planning Sequence Financial Merchandise Plan - Department - Actualization
    1. Go to transaction `RSPLAN`
    2. Select the *Planning Sequence* button.
    3. In the planning sequence field, enter `/RAP/C11A03_PS10` and choose *Edit* button.
    4. Select the *Variables* button.
    5. Select the *Geographical Level 1 Input* help and select a value.
    6. Select the *Save As* Button.
    7. In the Variables prompt, choose *F9* to turn Cross User-variant on.
    8. Enter a variant name. For description enter **`MP - Department - Actualization`** and select the Cross-User Variant check box.
    9. Select the *Continue* button.
    10. Select the *Continue* button in the variables screen.
    11. Go to transaction `RSA1`.
    12. In the navigation panel, select the *Modeling* button, then Process Chain.
    13. In the process chain panel, right click on Merchandise Planning - Actualization and choose edit.
    14. In the right tree, right click on **Execute Planning Sequence Financial Merchandise Plan - Department - Actualization(/RAP/MPPC01_04)** and choose *Maintain Variant*.

15. Load the variant created in step h (if not already loaded).
16. Select the *Transfer* button and save.

6. Planning Sequence Financial Merchandise Plan - Class - Actualization
    1. Go to transaction `RSPLAN`
    2. Select the *Planning Sequence* button.
    3. In the planning sequence field, enter `/RAP/C11A08_PS10` and choose *Edit* button.
    4. Select the *Variables* button.
    5. Select the *Geographical Level 1 Input* help and select a value.
    6. Select the *Save As* Button.
    7. In the Variables prompt, choose *F9* to turn Cross User-variant on.
    8. Enter a variant name. For description enter **`MP - Class - Actualization`** and select the Cross-User Variant check box.
    9. Select the *Continue* button.
    10. Select the *Continue* button in the variables screen.
    11. Go to transaction `RSA1`.
    12. In the navigation panel, select the *Modeling* button, then Process Chain.
    13. In the process chain panel, right click on Merchandise Planning - Actualization and choose edit.
    14. In the right tree, right click on **Execute Planning Sequence Financial Merchandise Plan - Class - Actualization(/RAP/MPPC01_05)** and choose *Maintain Variant*.
    15. Load the variant created in step h (if not already loaded).
    16. Select the *Transfer* button and save.
7. Planning Sequence Financial Merchandise Plan - Subclass - Actualization
    1. Go to transaction `RSPLAN`
    2. Select the *Planning Sequence* button.
    3. In the planning sequence field, enter `/RAP/C11A09_PS13` and choose *Edit* button.
    4. Select the *Variables* button.
    5. Select the *Geographical Level 1 Input* help and select a value.
    6. Select the *Save As* Button.
    7. In the Variables prompt, choose *F9* to turn Cross User-variant on.
    8. Enter a variant name. For description enter **`MP - Subclass - Actualization`** and select the Cross-User Variant check box.
    9. Select the *Continue* button.
    10. Select the *Continue* button in the variables screen.
    11. Go to transaction `RSA1`.
    12. In the navigation panel, select the *Modeling* button, then Process Chain.
    13. In the process chain panel, right click on Merchandise Planning - Actualization and choose edit.
    14. In the right tree, right click on **Execute Planning Sequence Financial Merchandise Plan - Subclass - Actualization(/RAP/MPPC01_06)** and choose *Maintain Variant*.
    15. Load the variant created in step h (if not already loaded).
    16. Select the *Transfer* button and save.
8. Planning Sequence Channel Plan - Store Comp - Actualization
    1. Go to transaction `RSPLAN`
    2. Select the *Planning Sequence* button.
    3. In the planning sequence field, enter `/RAP/C11A19_PS04` and choose *Edit* button.
    4. Select the *Variables* button.

5. Select the *Geographical Level 1 Input* help and select a value.
6. Select the *Save As* Button.
7. In the Variables prompt, choose *F9* to turn Cross User-variant on.
8. Enter a variant name. For description enter **`CP - Store Comp - Actualization`** and select the Cross-User Variant check box.
9. Select the *Continue* button.
10. Select the *Continue* button in the variables screen.
11. Go to transaction `RSA1`.
12. In the navigation panel, select the *Modeling* button, then Process Chain.
13. In the process chain panel, right click on Merchandise Planning - Actualization and choose edit.
14. In the right tree, right click on **Execute Planning Sequence Channel Plan - Store Comp - Actualization(/RAP/MPPC01_07)** and choose *Maintain Variant*.
15. Load the variant created in step h (if not already loaded).
16. Select the *Transfer* button and save.

9. Planning Sequence Channel Plan - Multi Store - Actualization
    1. Go to transaction `RSPLAN`
    2. Select the *Planning Sequence* button.
    3. In the planning sequence field, enter `/RAP/C11A18_PS05` and choose *Edit* button.
    4. Select the *Variables* button.
    5. Select the *Geographical Level 1 Input* help and select a value.
    6. Select the *Save As* Button.
    7. In the Variables prompt, choose *F9* to turn Cross User-variant on.
    8. Enter a variant name. For description enter **`CP - Multi Store - Actualization`** and select the Cross-User Variant check box.
    9. Select the *Continue* button.
    10. Select the *Continue* button in the variables screen.
    11. Go to transaction `RSA1`.
    12. In the navigation panel, select the *Modeling* button, then Process Chain.
    13. In the process chain panel, right click on Merchandise Planning - Actualization and choose edit.
    14. In the right tree, right click on **Execute Planning Sequence Channel Plan - Multi Store - Actualization(/RAP/MPPC01_08)** and choose *Maintain Variant*.
    15. Load the variant created in step h (if not already loaded).
    16. Select the *Transfer* button and save.
10. Planning Sequence Channel Plan - Single Store - Actualization
    1. Go to transaction `RSPLAN`
    2. Select the *Planning Sequence* button.
    3. In the planning sequence field, enter `/RAP/C11A16_PS08` and choose *Edit* button.
    4. Select the *Variables* button.
    5. Select the *Geographical Level 1 Input* help and select a value.
    6. Select the *Save As* Button.
    7. In the Variables prompt, choose *F9* to turn Cross User-variant on.
    8. Enter a variant name. For description enter **`CP - Single Store - Actualization`** and select the Cross-User Variant check box.
    9. Select the *Continue* button.
    10. Select the *Continue* button in the variables screen.

11. Go to transaction `RSA1`.
12. In the navigation panel, select the *Modeling* button, then Process Chain.
13. In the process chain panel, right click on Merchandise Planning - Actualization and choose edit.
14. In the right tree, right click on **Execute Planning Sequence Channel Plan - Single Store - Actualization(/RAP/MPPC01_09)** and choose *Maintain Variant*.
15. Load the variant created in step h (if not already loaded).
16. Select the *Transfer* button and save.

6.2.5 Configure Data Replication Steps

6.2.5.1 Initial Load of Data to DDF Using DRFOUT

Use

SAP Merchandise Planning uses master data, such as product, location, and product hierarchy, that is replicated from SAP ERP to the DDF module in SAP Customer Activity Repository using the `DRFOUT` data replication framework.

> **i** Note
>
> Not all of the master data is replicated into DDF using `DRFOUT`. Some data must be replicated separately using SLT replication.
>
> Additionally, `DRFOut` integration and DDF do not support leading zeros in the product IDs.

SAP Merchandise Planning requires that the following master data is replicated from a connected SAP ERP system using DRFOUT:

Sequence	Master Data	Technical Details	For more information, see:
1	Product Hierarchy	• **SAP ERP Description:** Material Group Hierarchy • **DRFOUT Outbound Implementation:** PMCH • **DDF Inbound Interface:** /DMF/MDIF_PROD_HIER_INBOUND	http://help.sap.com/car ▸ *<your release>* ▸ *Application Help* ▸ *<>* ▸ *Demand Data Foundation* ▸ *Integration Information* ▸ *Inbound Interfaces For Remote Function Call (RFC) Communication* ▸ *Product Hierarchy Master Data* ▸ **i Note** SAP Merchandise Planning does not support product hierarchies of type *Merchandise Category Hierarchy*.
2	Product	• **SAP ERP Description:** Material • **DRFOUT Outbound Implementation:** PMAT • **DDF Inbound Interface:** /DMF/MDIF_PRODUCT_INBOUND	http://help.sap.com/car ▸ *<your release>* ▸ *Application Help* ▸ *Demand Data Foundation* ▸ *Integration Information* ▸ *Inbound Interfaces For Remote Function Call (RFC) Communication* ▸ *Product Master Data* ▸
3	Location	• **SAP ERP Description:** Plant • **DRFOUT Outbound Implementation:** PPLT • **DDF Inbound Interface:** /DMF/MDIF_LOCATION_INBOUND	http://help.sap.com/car ▸ *<your release>* ▸ *Application Help* ▸ *Demand Data Foundation* ▸ *Integration Information* ▸ *Inbound Interfaces For Remote Function Call (RFC) Communication* ▸ *Product Location Master Data* ▸
4	Product Location	• **SAP ERP Description:** Material/Plant • **DRFOUT Outbound Implementation:** PMPL • **DDF Inbound Interface:** /DMF/MDIF_PROD_LOC_INBOUND	http://help.sap.com/car ▸ *<your release>* ▸ *Application Help* ▸ *Demand Data Foundation* ▸ *Integration Information* ▸ *Inbound Interfaces For Remote Function Call (RFC) Communication* ▸ *Product Location Master Data* ▸

Sequence	Master Data	Technical Details	For more information, see:
5	Product Location	• **SAP ERP Description:** Sales Price • **DRFOUT Outbound Implementation:** `PSPR` • **DDF Inbound Interface:** `/DMF/MDIF_PROD_LOC_INBOUND`	http://help.sap.com/car <*your release*> > *Application Help* > *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Product Location Master Data*
6	Inventory	• **SAP ERP Description:** Inventory • **DRFOUT Outbound Implementation:** `PINV` • **DDF Inbound Interface:** `/DMF/OPIF_INVENTORY_INBOUND`	http://help.sap.com/car <*your release*> > *Application Help* > *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Inventory Master Data*
7	Product Location	• **SAP ERP Description:** Moving Average Price • **DRFOUT Outbound Implementation:** `PMAP` • **DDF Inbound Interface:** `/DMF/MDIF_PROD_LOC_INBOUND`	http://help.sap.com/car <*your release*> > *Application Help* > *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Product Location Master Data*
9	Location	• **SAP ERP Description:** Vendor • **DRFOUT Outbound Implementation:** `PVEN` • **DDF Inbound Interface:** `/DMF/MDIF_LOCATION_INBOUND`	http://help.sap.com/car <*your release*> > *Application Help* > *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Location Master Data*
10	Product Hierarchy	• **SAP ERP Description:** Article Hierarchy • **DRFOUT Outbound Implementation:** `PAHY` • **DDF Inbound Interface:** `/DMF/MDIF_PROD_HIER_INBOUND`	http://help.sap.com/car <*your release*> > *Application Help* > *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Product Hierarchy Master Data*

Sequence	Master Data	Technical Details	For more information, see:
11	Sales Order and Shipment	• **SAP ERP Description:** Sales Orders • **DRFOUT Outbound Implementation:** `SALES_ORDR` • **DDF Inbound Interface:** `/DMF/OPIF_DOCUMENT_INBOUND` **i Note** This data is only required if Wholesale or E-Commerce planning scenarios are used productively.	http://help.sap.com/car <your release> > *Application Help* > *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Sales Order and Shipment Master Data*

Prerequisites

Before replicating data from SAP ERP to DDF using **DRFOUT**, the following prerequisites must be fulfilled:

- The following business functions are activated in SAP ERP:
  - `ISR_APPL_OUTBOUND_DMF`
  - `ISR_RETAIL_OUTBOUND_DMF`
- You have noted the different terms for the following objects:

SAP ERP	SAP Retail	DDF / SAP Merchandise Planning for Retail
Material	Article	Product
Plant	Site	Location

6.2.5.2 Initial Load of Sales Data from BW

Use

If you have accumulated large amounts of historical sales data using SAP POS Data Management or SAP Customer Activity Repository, it is possible that you are storing these large data sets in a connected SAP BW system. In such a case, you can perform the initial load of the sales time series (historical POS data) data into DDF using the *BI Interface for Time Series* report.

> **Note**
>
> These instructions extract historical sales data from an Infocube in BW. If you are using BW/4HANA, additional project work will be required to re-implement the BAdI `/DMF/BI_IF_READ_BI`. For technical details, see 2764634.

Procedure

1. Log on to your back-end system.
2. Execute transaction `SE38`.
3. Specify **`/DMF/BI_IF_TS`** in the *Program* field and choose *Execute*.
4. Read the documentation associated with the report, carry out the described customizing, and run the report accordingly.

More Information

http://help.sap.com/car ▶ *Application Help* > *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Sales Time Series* .

6.2.5.3 Initial Load of Goods Movement KPIs

Load goods movement Key Performance Indicators (KPI) for returns, receipts, and open quantity.

Context

The goods movement data is stored in the SLT replicated tables `EKPO`, `EKET`, and `EKBE` in the Customer Activity Repository. You perform the initial load of this data into Demand Data Foundation (DDF) using the report */RAP/MPR_ECC_KPI_CALC*. When run in initial mode, this report will load 2 years of data from the current date. Further information is available in the documentation attached to the report.

Master Data	SAP ERP Table
Purchasing Document Header	EKKO
Purchasing Document Item	EKPO
History per Purchasing Document	EKBE

Master Data	SAP ERP Table
Scheduling Agreement Schedule Lines	EKET

In addition there are some prequisite steps to follow.

- You have maintained fiscal year variants using SPRO. Navigate to *SAP Customizing Implementation Guide* > *Cross-Application Components* > *Demand Data Foundation* > *Basic Settings* > *Define Default Values* .

Procedure

1. Log on to your back-end system.
2. Verify your user has the role `/RAP/BW_MPR_WORKBOOKS` assigned.
3. You have maintained fiscal year variants using SPRO. Navigate to *SAP Customizing Implementation Guide* > *Cross-Application Components* > *Demand Data Foundation* > *Basic Settings* > *Define Default Values* .
4. Execute transaction SE38.
5. Specify **`/RAP/MPR_ECC_KPI_CALC`** in the *Program* field, select radio button *Initial* and select *Execute*.
6. Refer Documentation for report */RAP/MPR_ECC_KPI_CALC* and */RAP/MPR_BOP_KPI* table for details, uses, and descriptions.

Next Steps

It is recommended you run this report weekly to update the aggregated KPIs with the ongoing ERP activity

.

6.2.5.4 Delta Load of Data to DDF Using DRFOUT

We recommend that you schedule a weekly periodic task to replicate inventory data (outbound implementation PINV) from the SAP ERP system to the system for SAP Merchandise Planning. This replication builds up the inventory history data that is needed by SAP Merchandise Planning.

6.2.5.5 Delta Load of Sales Data in SAP Customer Activity Repository

Use

Once the initial load of historical sales data is completed or, if you are working on a brand new system implementation and do not have to perform an initial sales data load, you need to configure the periodic delta load of sales data in SAP Customer Activity Repository.

Procedure

1. Ensure that you have properly configured the POS Sales Transfer and Audit functionality in SAP Customer Activity Repository to receive transaction data from your connected POS systems.
   For more information, see https://help.sap.com/viewer/p/CARAB <Version> > *Application Help* > *SAP Customer Activity Repository* > *POS Data Transfer and Audit* .
2. Ensure that you have configured the *Supply - DMF-Based Applications* outbound tasks to load sales data from POS Sales Transfer and Audit to DDF.
   For more information, see https://help.sap.com/viewer/p/CARAB <Version> > *Application Help* > *SAP Customer Activity Repository* > *POS Data Transfer and Audit* > *Task Processing* > *Tasks for Sending Data to Follow-On Applications* .

   → Recommendation

   If you are not storing aggregated sales data in an SAP BW system, and have historical sales data that you would like to load into DDF from POS Sales Transfer and Audit, you can configure the *Supply - DMF-Based Applications* outbound tasks to perform this initial load.
3. Monitor the transfer of sales time series data as described in https://help.sap.com/viewer/p/CARAB <Version> > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Integration Information* > *Inbound Processing* .

More Information

https://help.sap.com/viewer/p/CARAB <Version> > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Sales Time Series* .

6.2.5.6 Delta Load of Goods Movement KPIs

Once the initial load of historical goods movement KPIs data is completed you should continue to update your data on a recurring basis. As data is replicated from SAP ERP activity, the values for goods movement KPIs can

only be added to the Demand Data Foundation when you execute the report **/RAP/MPR_ECC_KPI_CALC** . The delta load sets the timeframe to start one month (30 days) prior to the current date and one year in the future from the current date.

To execute the report, log on to your back-end system and execute transaction SE38. Specify **/RAP/MPR_ECC_KPI_CALC** in the *Program* field and use the *Execute* button. Select radio button *Delta* and select *Execute*. For further information see the documentation attached to the report by selecting *Documentation*, *Display* on the *ABAP Editor: Initial Screen*.

6.2.5.7 Replicate SAP ERP Tables for SAP Merchandise Planning

Use

Verify that all SAP ERP or SAP S/4HANA tables that are relevant for SAP Merchandise Planning KPIs have not only been created but have also been filled with data.

> **i** Note
>
> You have already replicated all of the relevant tables in a prior step, Create/Replicate Source Master Data System Tables [page 94].

In particular, SAP Merchandise Planning requires that the following master data table are replicated in order to calculate KPIs:

Master Data	SAP ERP Table
Purchasing Document Header	EKKO
Purchasing Document Item	EKPO
History per Purchasing Document	EKBE
Scheduling Agreement Schedule Lines	EKET

6.2.6 Create Market Hierarchy

SAP Merchandise Planning supports market hierarchies, a logical structuring of selling locations (stores, wholesale customers, digital customers) that align with your goals for planning.

The market hierarchy allows you to group locations by markets or across multiple sales organizations. In addition, your Area of Responsibility (AOR) must be aligned with your market hierarchy before using the planning applications. Do the following steps to create a market hierarchy:

1. Log in to the application server using SAP GUI and execute transaction code NWBC.

2. Select the *Services* menu.
3. In the left navigation menu select *Location Services* > *Location Hierarchy*.
   In the POWL menu on the right, select the *Create* button, then *Market Hierarchy* in the dropdown.
4. Enter the location hierarchy name, description and the master data system for your new hierarchy.
5. Select the *Editor* tab. Enter or search for the locations that you want to add to your market hierarchy.
6. Add the locations to your market hierarchy by selecting the row or rows and selecting the move arrow.

   > **i Note**
   >
   > The same location ID cannot be used more than once in a market hierarchy. For example location ID ABC can exist as multiple location types. It can exist as a distribution chain (DC) type, a store type, and a customer type. You may not have the type of DC and store in the same hierarchy

7. Save your entries.

More Information

For more information regarding location and market hierarchies, see *Maintain Location Hierarchies* located at https://help.sap.com/viewer/p/CARAB > *<version>* > *Application Help* > *SAP Customer Activity Repository applications bundle* > *Demand Data Foundation* > *General Services* > *Maintenance Services*

For more information about AOR see *Maintain Area of Responsibility* located at https://help.sap.com/viewer/p/CARAB > *<version>* > *Application Help* > *SAP Customer Activity Repository applications bundle* > *Demand Data Foundation* > *General Services*.

.

6.2.7 Specify Analysis Workbook Settings

6.2.7.1 Enable Macros

Use

In this procedure, you enable your SAP Analysis for Microsoft Office workbooks to use macros.

Procedure

1. Open the SAP Analysis for Microsoft Office from *Start* > *All Programs* > *SAP Business Intelligence* > *Analysis for Microsoft Excel*.

2. Choose *File* > *Options* > *Customize Ribbon*.
3. Under *Customize the Ribbon*, select *Main Tabs*.
4. Enable the entry *Developer* and confirm by choosing *OK*.
5. Now you will see the new *Developer* tab in your SAP Analysis for Microsoft Office.
6. Select the *Developer Tab* and choose *Macro Security*.
7. Choose *Enable all macros*.

6.2.7.2 General Workbook Settings

Use

You use SAP Analysis for Microsoft Office to launch the planning workbooks.

Procedure

If you are unable to see the *Analysis* , *MP Selection*, and *MP Info* options on the menu of *Analysis for Microsoft Excel*, perform the following steps in the *Options, Add-Ins* of the Excel options:

1. Enter **`COM`** in the *Manage* field and choose *Go*.
2. In the **`COM Add-Ins`** box, select the *Analysis* and *Planning* options and choose *Go*. If you do not find them in the list, Enter **`Disabled`** in the *Manage* field and choose *Go*.

Now you are able to view the *Analysis* , *MP Selection* and *MP Info* options.

6.3 SAP Assortment Planning

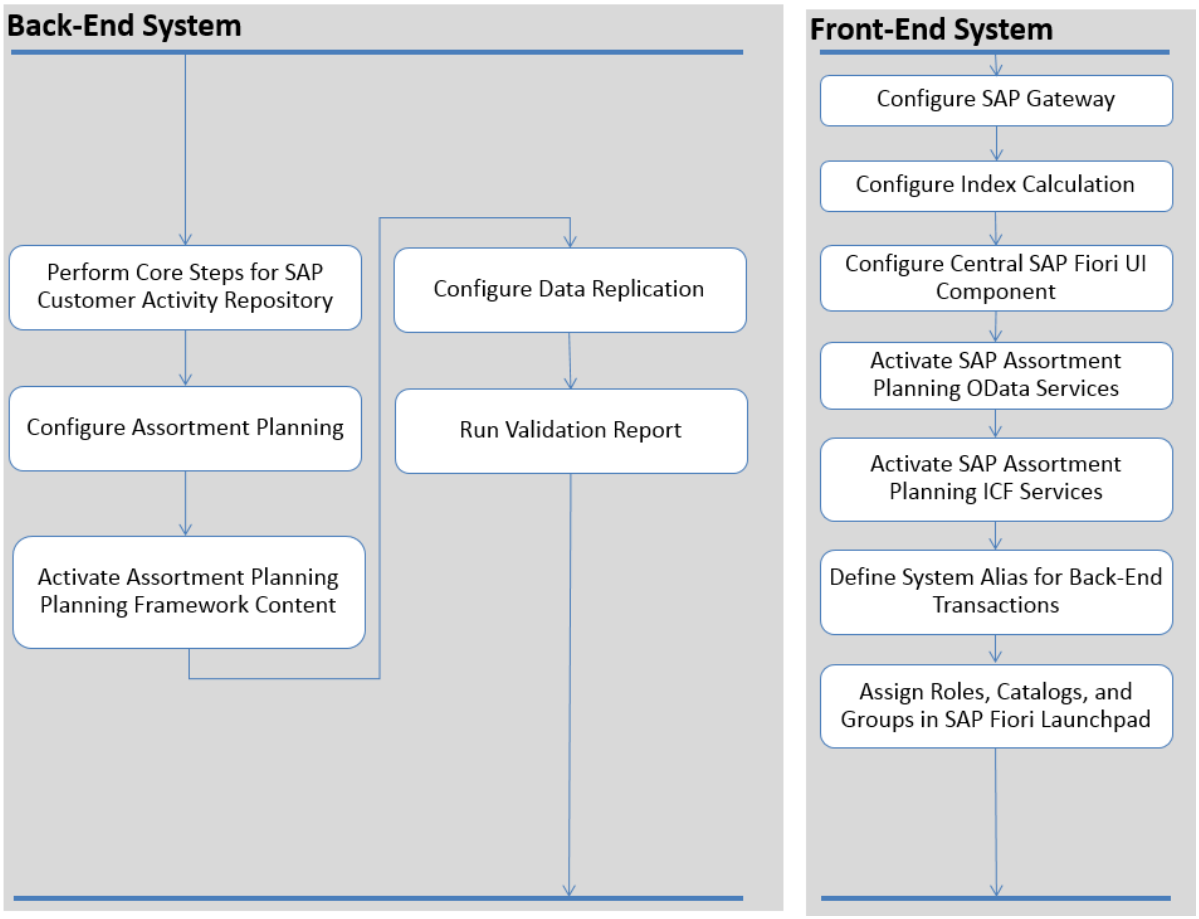
Post-installation setup for SAP Assortment Planning

> **i** Note
>
> Some of the activities in this section may have already been performed in the corresponding section under SAP Customer Activity Repository. Such activities do not need to be repeated during the setup and installation of consuming applications.

The following diagram depicts the main steps of the post-installation process for SAP Assortment Planning and contains links to the descriptions of these steps. The following are additional steps in the back-end system after the step Configure Assortment Planning [page 313]:

- Maintain Fiscal Year Variant for Retail Week [page 314]
- Generate Time Data - Fiscal Calendar [page 318]
- Initialize KPI Periods

> **i Note**
>
> This step is needed only if you are installing or upgrading to SAP Assortment Planning 5.0 FPS03 (or higher) from a lower release.



- Perform Core Steps for SAP Customer Activity Repository [page 260]
- Configure Assortment Planning [page 313]
- Activate Planning Framework Content (SAP Assortment Planning) [page 319]
- Configure Data Replication [page 328]
- Run the Validation Report [page 328]
- Perform General SAP Gateway Configuration [page 111]
- Configure SAP Fiori Launchpad [page 120]
- Activate OData Services [page 114]
- Activate SAP Assortment Planning ICF Services [page 330]
- Define System Alias for Back-End Transactions [page 331]
- Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad [page 334]
- Configure Index Calculation [page 330]

6.3.1 Perform Core Steps for SAP Customer Activity Repository

To set up this application, you must first perform the **Core (Mandatory)** steps for SAP Customer Activity Repository. The core steps are mandatory for all the consuming applications.

Procedure

Perform all steps listed under Core (Mandatory for All Applications) [page 86].

6.3.2 Configure Assortment Planning

Use

To use SAP Assortment Planning, you must define several application-specific settings in Customizing.

Procedure

1. Specify assortment list settings.
   In the *Assortment List Settings* Customizing activity, found under *Cross-Application Components* > *Assortment Planning* > *Assortment Lists*, you can specify general settings for assortment lists. For example, you can define whether you can assign an assortment list product to more than one module.
2. Verify settings under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings*
   Although you might have specified most of these settings when configuring DDF, the activities under *Imported Demand Data Foundation Settings* are particularly important for the SAP Assortment Planning application.
3. Define the required number ranges.
   You must set all of the number ranges under *SAP Customizing Implementation Guide* > *Cross-Application Components* > *Assortment Planning* > *Number Range*
4. Define the business week (using transaction SPRO) under *Cross-Application Components* > *Demand Data Foundation* > *Basic Settings* > *Define Business Week*
5. Verify the default implementations of BAdIs under *SAP Customizing Implementation Guide* > *Cross-Application Components* > *Assortment Planning* > *Enhancements Using Business Add-Ins* and if necessary, provide custom implementations.

> **Note**
>
> We recommend that you activate BAdI implementations that enable the use of the Omnichannel SAP BW Structure. For more information, see Activate Planning Framework Content (SAP Assortment Planning) [page 319].

6. To use forecasted values in the *Sales & Inventory Analysis* view within the *My Assortment Lists* app, configure Unified Demand Forecast (UDF). For more information, see the *SAP Customer Activity Repository Administration Guide*, section *Configure Unified Demand Forecast (UDF)*.

Related Information

Configuration Information

6.3.3 Maintain Fiscal Year Variant for Retail Week

Use

In this procedure you maintain the required fiscal year variant (`0FISCVARNT 'RW'`). SAP Assortment Planning uses time objects `0FISCPER` (fiscal year period) and `0FISCVARNT` (fiscal year variant), provided as part of the technical BI Content, and activated in the Activate Technical Content [page 319] procedure.

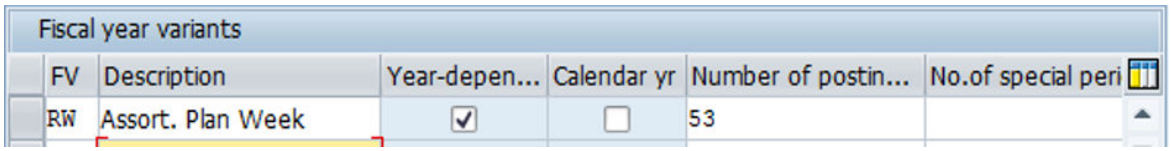
> **Caution**
>
> You must maintain fiscal year variants for a period far enough into the past and into the future to cover the full range required for your planning activities. For example, two years into the past and five years into the future.

The steps provided in this procedure allow you to maintain `0FISCVARNT 'RW'` using the standard 4-5-4 calendar entries. If you are using alternative fiscal periods in your retail business, for example, each week starting on a Sunday instead of Saturday, you can provide your own entries instead of the ones suggested in this guide.

Procedure

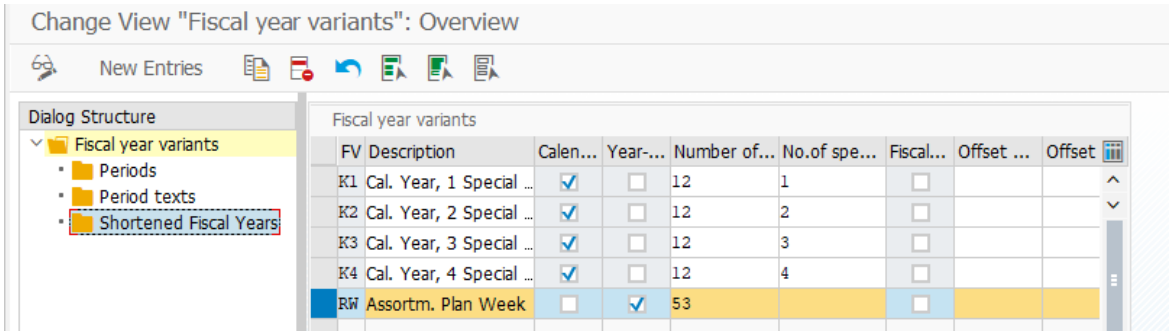
1. Log on to your back-end system.
2. Launch fiscal year variant maintenance (transaction `GVAR`).
3. Choose *New Entries*.

4. On the *New Entries: Overview of Added Entries* screen make the following sets of entries:



Create New Fiscal Year Variant

5. Choose *Enter*.
   An information message is displayed about creating more than 16 periods, choose *Continue*.
6. Choose *Back*.
   You can see the newly created entry.
7. Mark the entry *RW* and select *Shortened Fiscal Years* from the *Dialog Structure*.



Shortened Fiscal Years in Dialog Structure

8. In the *Fiscal year* dialog, enter the year (for example, **2015**) in the *Fiscal year* field and choose *Continue*.
9. On the *Change View "Shortened Fiscal Years": Overview* screen, choose *New Entries*.
10. In the *Shortened Fiscal Years* table, enter **52** in the *No. of posting periods* field.
11. Choose *Back* twice.
12. On the *Change View "Fiscal Year variants": Overview* screen, mark the entry *RW* and select *Periods* from the *Dialog Structure*.
13. In the *Calendar yr* dialog, enter the year (for example, **2015**) in the *Calendar yr* field and choose *Continue*.
    Data for the previous year must be maintained.
14. On the *Change View "Periods": Overview* screen, choose *New Entries*.
15. In the *Periods* table, enter the data (month, day, period, year shift) for each period according to your fiscal calendar. For an example, see the following table. For more examples, see SAP Note 2112634. If you want to copy data from this note, locate the required year and enter the data by copy-and-paste.

2015 Weekly Calendar

Month	Day	Period	Year Shift
1	3	48	-1
1	10	49	-1
1	17	50	-1
1	24	51	-1
1	31	52	-1

Month	Day	Period	Year Shift
2	7	1	0
2	14	2	0
...	..	...	...

16. Repeat steps 7-15 to maintain the weekly fiscal year variant for all of the required years, entering each year as shortened fiscal year. The corresponding tables are available in SAP Note 2112634.
17. Choose *Save*.
18. Launch transaction `RSRHIERARCHYVIRT` and ensure that the dates specified in the *From* and *To* fields under *Time Interval* cover the years maintained for the fiscal year variant in the previous steps.

6.3.4 Maintain Fiscal Year Variant for Month

Context

In this section, you maintain the required fiscal year variant values for the fiscal month, `'RM'`. This is especially required for using the *Sales & Inventory Analysis* view in the *My Assortment Lists* app.

> ⚠ Caution
>
> You must maintain fiscal year variants for a period far enough into the past and into the future to cover the full range required for your planning activities. For example, two years into the past and five years into the future.

If you are using alternative fiscal periods in your retail business, you can provide your own entries instead of the ones suggested in this guide.

Procedure

1. Log on to your back-end system.
2. Launch fiscal year variant maintenance (transaction `GVAR`).
3. Choose *New Entries*.
4. On the *New Entries: Overview of Added Entries* screen make the following sets of entries:

Field Name	User Entry
FV	RM

Field Name	User Entry
Description	Planning month
Calendar year	Do not select
Year-dependent	Select
Number of posting periods	12
No. of special periods	

5. Choose *Enter*.
6. Choose *Back*.

   You can see the newly created entry.

   To get the information to enter in the next step, open SAP Note 2112634.
7. Mark the entry *RM* and select *Periods* from the *Dialog Structure* and double click to open the *Calendar year* dialog.
8. Enter the year (for example, **2015**) in the *Calendar yr* field and choose *Continue*.
9. On the *Change View "Periods": Overview* screen, choose *New Entries*.
10. In the *Periods* table, enter the data (month, day, period, year shift) for each period according to your fiscal calendar. For an example, see the following table.

    2015 Monthly Calendar (sample)

Month	Day	Period	Year Shift
1	31	12	-1
2	28	1	0
3	28	2	0
5	2	3	0
5	30	4	0
6	27	5	0
8	1	6	0
8	29	7	0
9	26	8	0
10	31	9	0
11	28	10	0
12	26	11	0

Month	Day	Period	Year Shift
12	31	12	0

11. Enter the last valid calendar date of the period being added in the *Month and Day* fields.
12. Enter the relevant *Period* number.
13. In the *Year Shift* field, enter +1 if the fiscal year is later than the calendar year enter. Enter -1 if the fiscal year is before the calendar year.
14. Press *Enter* to accept the first row.
15. Continue adding each period to complete the fiscal year. Choose *Save* after you have finished the entries for a year.
16. Continue adding the fiscal year variants for each year required by your scenario by repeating steps 3 to 15.
17. Choose *Save* after you have finished the maintenance for the last year.

6.3.5 Generate Time Data - Fiscal Calendar

In this procedure, you generate time data (Fiscal calendar) required for SAP Assortment Planning.

Use

Execute this procedure to generate time data (**Fiscal calendar**). This is especially required for using the *Sales & Inventory Analysis* view in the *My Assortment Lists* app.

Procedure

1. Log on to SAP HANA studio.
2. In the *Modeler* perspective, on the *Quick Launch* tab, select your SAP Customer Activity Repository applications bundle system and choose *Generate Time Data*.
3. Select *Fiscal* as the *Calendar Type*.
4. Enter the same range of years as defined in the previous procedure, Maintain Fiscal Year Variant for Retail Week [page 314].
5. In the *Variant Schema* field, enter the name of the database schema that contains the tables holding the fiscal year variant data.
   For SAP Assortment Planning, these are tables `T009` and `T009B`, which you filled with data in the previous procedure, Maintain Fiscal Year Variant for Retail Week [page 314].
6. Select the **`RW`** fiscal year variant, defined in the previous procedure, Maintain Fiscal Year Variant for Retail Week [page 314].
7. Choose *Generate*.

For more information, see:

- https://help.sap.com/viewer/p/SAP_HANA_LIVE ▶ *Installation and Upgrade* ▶ *Administrator's Guide* ▶ *Configuration Steps* ▶ *Generate Time Data* ▶
- https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *Development* ▶ *SAP HANA Modeling Guide (for SAP HANA studio)* ▶ *Creating Information Views and Previewing its Output* ▶ *Generate Time Data* ▶

6.3.6 Activate Planning Framework Content (SAP Assortment Planning)

In a new installation, only the **Omnichannel SAP BW structure** is supported in SAP Assortment Planning. The **Retail SAP BW Structure** is supported in an existing installation with maintenance, however no new functionality will be developed for this structure.

Prerequisite

To use the Omnichannel SAP BW structure, the following prerequisites must be met:

- Enable the usage of planning configurations under ▶ *Cross-Application Components* ▶ *Assortment Planning* ▶ *Imported Demand Data Foundation Settings* ▶ *Basic Settings* ▶ *Define Default Values* ▶. The Omnichannel SAP BW structure only works when planning configurations are used.
- If you are integrating with SAP Merchandise Planning, enable the implementation of *BAdI: Read Merchandise Planning KPI Data* under ▶ *Cross-Application Components* ▶ *Demand Data Foundation* ▶ *Data Maintenance* ▶ *Planning Configuration* ▶ *Enhancements Using Business Add-Ins* ▶.

The Omnichannel SAP BW structure consists of local BI Content only. To create workbooks on top of the Omnichannel SAP BW structure, contact SAP Digital Business Services for a custom implementation project.

The following subsections describe the activation steps.

6.3.6.1 Activate Technical BI Content

Use

The first time you enter the Data Warehousing Workbench, the system runs a background job to activate **technical content**. Technical content consists of technical information that is generated by the system, for example, data required for the general operation of BI Content, or time data.

Procedure

1. On your back-end system, open the Data Warehousing Workbench (transaction RSA1).
2. If prompted, in the *Replicate Metadata* dialog box, choose *Only Activate*.

3. If a message appears that you are only authorized to work in client ... (Brain 009), then refer to SAP Note 316923 (do not import the support package, but use the description under section *Workaround*).
4. Select *Do not show this question Again* in the dialog that appears.
5. Choose *Yes*.
   Make sure that the current job has finished before you proceed with the next step. Check the status of the background job using transaction `SM37`or `SLG1`. If there are problems, you must first solve them.

   > **i Note**
   >
   > If you get the short dump "RAISE_EXCEPTION" when installing InfoObjects from the BI content, see SAP Note 1637935 for a possible solution.
   >
   > Also, see SAP Notes 2090845 and 2056106 for important information on technical content activation.

   Following activation, you can locate the technical content in the Data Warehousing Workbench as follows:
   1. Selecting *Modeling* in the left-hand frame.
   2. Expand *InfoObjects*.
   3. In the right-hand frame, locate *Technical Content*.
6. You can use transaction `RSTCO_ADMIN` to restart the activation of the technical content and to verify the status of the activation.

6.3.6.2 Enable Optimized In-Memory Planning Capabilities of SAP BW Integrated Planning

Use

To be able to use the SAP Analysis for Microsoft Office workbooks built on top of the SAP Assortment Planning planning framework content, you must enable the optimized in-memory planning capabilities of the integrated planning engine in SAP Business Warehouse (SAP BW Integrated Planning). This includes the enabling of the Planning Application Kit (PAK).

Procedure

1. Read SAP Note 1919631.
2. In your back-end system, launch table/view maintenance (transaction `SM30`).
3. Enter `RSPLS_HDB_ACT` in the *Table/View* field and choose *Maintain*.
4. Choose *New Entries*.
5. In the *HANA Integratn. Active* column select **`Deep HANA Integration Active`** and in the *Functn. Active* column, enable the checkbox.
6. In the *HANA Integratn. Active* column select **`BPC Embedded Model Active`** and in the *Functn. Active* column, enable the checkbox.

6.3.6.3 Activate Application BI Content (Omnichannel SAP BW Structure)

Context

In this procedure, you perform a sequential, step-by-step activation of the local BI Content objects delivered in the **Omnichannel SAP BW structure** of the SAP Assortment Planning application. SAP Assortment Planning uses this application BI Content to consume data stored in the back-end system

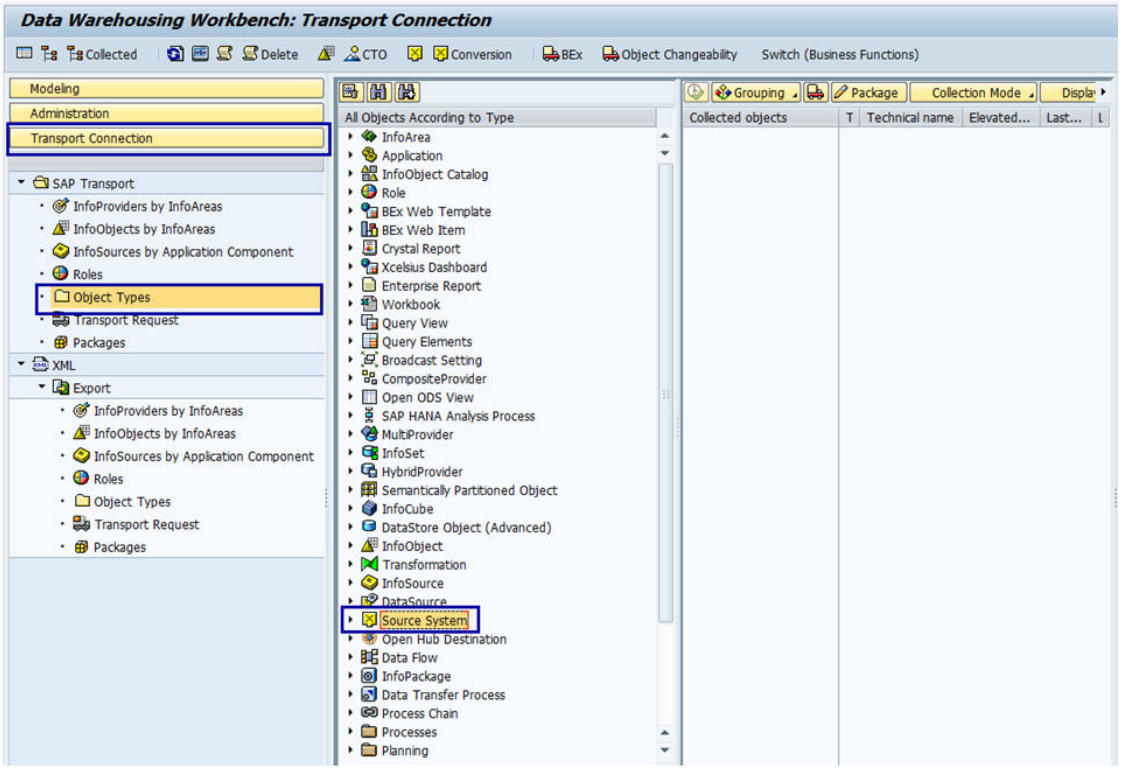
> **i** Note
>
> To ensure correct activation of the BI Content objects, carry out the activation sequentially, as specified in the following procedures. Resolve any activation warnings, except for the ones listed under Result [page 328], which can be ignored.
>
> Also, do not disable the default BI setting to collect and activate all dependencies. The instructions below activate a minimum subset of objects, and it assumed that all their dependencies are collected and activated.

The consumed data from the back-end system can be created by the SAP Assortment Planning application, or be replicated from a source master data system. In both cases, beware of limitations with regard to the characters allowed by SAP BW. For more information, see:

- *SAP Assortment Planning Administration Guide* under *Initial Load of Data to DDF Using DRFOUT*
- 173241
- Customizing activity *Maintain permitted extra characters* under *SAP NetWeaver* > *Business Warehouse* > *General Settings*.

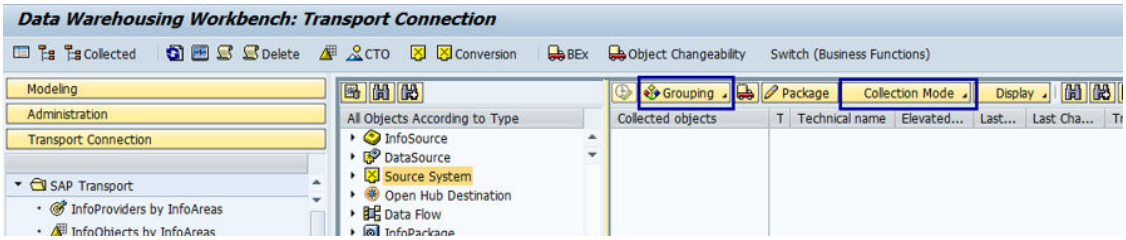
Procedure

1. On your back-end SAP Assortment Planning system, open the Data Warehousing Workbench (transaction `RSA1`).
2. Verify transport connections.
   1. Select *Transport Connection* in the left-hand frame.
   2. Select *Object Types*.
   3. Expand *Source System*.



Selecting Source Systems

4. Use *Select Objects* to ensure that the back-end system is selected as the source system.
5. Choose *Transfer Selections*.
6. At the top of the right-hand frame, above the list of *Collected objects*, choose *Grouping* and select *Only Necessary Objects*.
7. At the top of the right-hand frame, choose *Collection Mode* and select *Collect Automatically*.



Grouping and Collection Settings

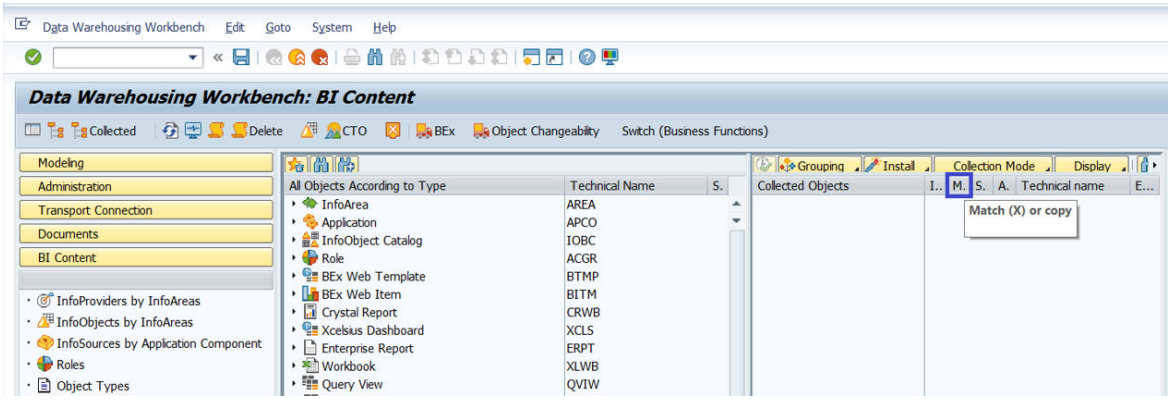
3. Determine if you need to enable to *Match (X) or copy* option for the BI Content, which you will activate in the subsequent steps.

Match(X) or copy Selection

Installation Type	Selection
New Installation	Do not enable the *Match (X) or copy* option for any of the BI Content objects.

Installation Type	Selection	
Upgrade (Previously installed/activated any of the /RAP/* BI Content)	**Standard /RAP/* BI Content objects have not been modified in your local environment**[1]	**Standard /RAP/* BI Content objects have been modified in your local environment**[1]
	Do not enable the *Match (X) or copy* option for any of the BI Content objects.	Enable the *Match (X) or copy* option. During the activation of each BI Content object type, you will be asked to carry out an additional *Transfer selections* step. In this step, select to install the *Active Version* (that is, your modified version) or the *Content Version* (that is, the SAP delivered, and possibly updated version of the object). The project implementation team should advise you on which option is required for each object. **⚠ Caution** When you choose to install the *Content Version*, the SAP delivered objects included in the current release will be installed regardless of any modifications made to the currently existing BI Content objects.

[1] As a system administrator, you may need to contact the SAP Assortment Planning project implementation team to learn if standard, SAP-delivered, BI Content objects have been modified in your local environment.



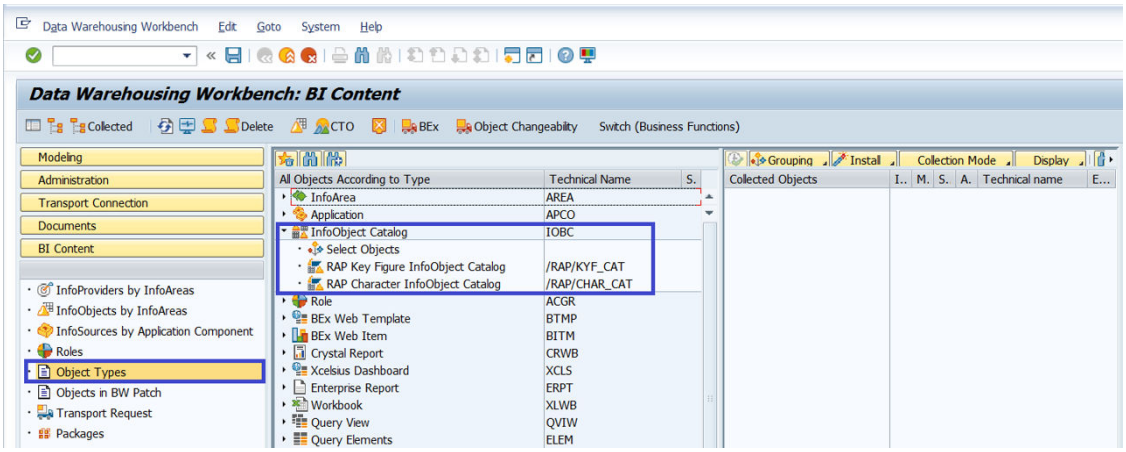
4. Activate InfoObject catalogs.

   If at any point during the installation of BI Content objects you are presented with a dialog asking you to add objects to a personal list, we recommend that you select **No**.

   → Remember

   You can ignore activation warnings listed under Result [page 328].

   1. Select *BI Content* in the left-hand frame.
   2. Select *Object Types* and expand *InfoObject Catalog*.

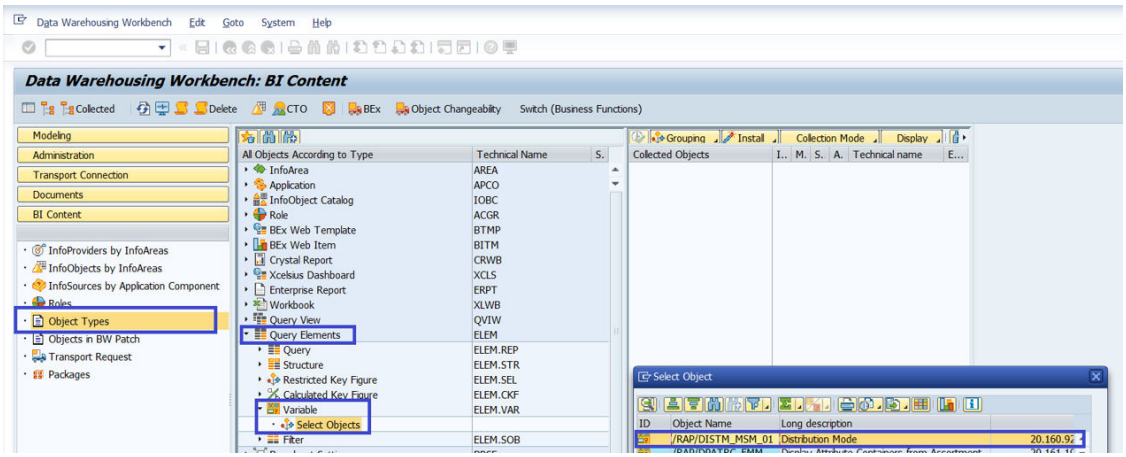


3. Use *Select Objects* to select the `/RAP/CHAR_CAT` and the `/RAP/KYF_CAT` catalogs.
4. Choose *Transfer Selections*.
5. In the right-hand frame, in the list of *Collected objects,* verify that both InfoObject catalogs are listed.
6. Right-click on each of the InfoObject catalogs, and choose *Install all Bellow*.
7. Choose *Install*.
   If an information dialog box appears, choose *Continue*. Choose *Local Object* or enter a package if you need to transport the objects.

5. Activate *Variables.*

> **→ Remember**
>
> You can ignore activation warnings listed under Result [page 328].

1. Select *BI Content* in the left-hand frame.
2. Select *Object Types* and expand *Query Elements* followed by *Variable*.
3. Use *Select Objects* to select the following variables:
   - `/RAP/PLCND_ESM_02`
   - `/RAP/PLCSET_ESM_02`
   - `/RAP/PCYCLE_EMM_01`
   - `/RAP/PLNHR_MSO_01`
   - `/RAP/PLNHN1_MSO_01` to `/RAP/PLNHN9_MSO_01` (inclusive)
   - `/RAP/PRDHN1_MMO_01` to `/RAP/PRDHN9_MMO_01` (inclusive)



4. Choose *Transfer Selections*.
5. In the right-hand frame, in the list of *Collected objects,* verify that all of the selected variables are listed and that the option in the *Install* column is enabled .
6. Choose *Install*.
   If an information dialog box appears, choose *Continue*. Choose *Local Object* or enter a package if you need to transport the objects.

6. Maintain version master data.
   1. In the left-hand frame, select *Modeling* > *InfoObjects*.
   2. In the right-hand frame under *Assortment Planning for Retail* > *RAP Character InfoObject Catalog*, search in the object list for the InfoObject `/RAP/VERSN`.
   3. Right-click the InfoObject `/RAP/VERSN`, choose *Maintain Master Data* from the context menu, and maintain the following entries on the *Time Independent* tab:

Version	Short description
#	An empty version value that you must maintain
ALV	Assortment List Vsn
APF	Vsn of final plan

> **i Note**
>
> Save your changes and activate them.

7. Activate Advanced DataStore Objects.

   If during the installation, you are presented with a message stating that your source system is not active, navigate to the *Modeling* tab, locate your source system under *Source Systems*, and activate it by right-clicking and selecting *Activate*. If prompted, choose *Only Activate* .

> **→ Remember**
>
> You can ignore activation warnings listed under Result [page 328].

   1. Select *BI Content* in the left-hand frame.
   2. Select *Object Types* and expand *DataStore Object (advanced)*.
   3. Use *Select Objects* to select all DataStore Objects starting with `/RAP/DS*`.
   4. Choose *Transfer Selections*.
   5. In the list of *Collected objects*, verify that the option in the *Install* column is enabled for each of the objects.
   6. Choose *Display* > *List*.
   7. Right-click the tree node *DataStore Object (advanced)* and choose *Install all Below*.
   8. Choose *Install*. If an information dialog box appears, choose *Continue*. Choose *Local Object* or enter a package if you need to transport the objects.

8. Activate CompositeProviders.

> **→ Remember**
>
> You can ignore activation warnings listed under Result [page 328].

1. Select *BI Content* in the left-hand frame.
2. Select *Object Types* and expand *CompositeProvider*.
3. Use *Select Objects* to select all CompositeProviders from `/RAP/CP40` to `/RAP/CP46` (inclusive).
4. Choose *Transfer Selections*.
5. In the list of *Collected objects*, verify that the option in the *Install* column is enabled for each of the objects.
6. Choose *Display* > *List*.
7. Right-click the tree node *DataStore Object (advanced)* and choose *Install all Below*.
8. Choose *Install*. If an information dialog box appears, choose *Continue*. Choose *Local Object* or enter a package if you need to transport the objects.

9. Activate Aggregation Levels.

> **→ Remember**
>
> You can ignore activation warnings listed under Result [page 328].

1. Select *BI Content* in the left-hand frame.
2. Select *Object Types* and expand *Planning* > *Aggregation Level*.
3. Use *Select Objects* to select the following Aggregation Level:

   Aggregation Levels

Aggregation Levels
`/RAP/C44A01`
`/RAP/C44A02`
`/RAP/C44A03`
`/RAP/C44A04`
`/RAP/C46A02`

4. Choose *Transfer Selections*.
5. In the list of *Collected objects*, verify that the option in the *Install* column is enabled for each of the objects.
6. Choose *Install*. If an information dialog box appears, choose *Continue*. Choose *Local Object* or enter a package if you need to transport the objects.

10. Activate Planning Sequence Objects.

> **→ Remember**
>
> You can ignore activation warnings listed under Result [page 328].

1. Select *BI Content* in the left-hand frame.

2. Select *Object Types* and expand *Planning* > *Planning Sequence* .
3. Use *Select Objects* to select the following Planning Sequences:

   Planning Sequences

Planning Sequences
/RAP/D50A01_PS01
/RAP/D57A01_PS01
/RAP/C40A01_PS01
/RAP/C40A05_PS01
/RAP/C46A01_PS01
/RAP/C46A03_PS01
/RAP/C46A04_PS01
/RAP/C46A04_PS02

4. Choose *Transfer Selections*.
5. In the list of *Collected objects*, verify that the option in the *Install* column is enabled for each of the objects.
6. Choose *Install*. If an information dialog box appears, choose *Continue*. Choose *Local Object* or enter a package if you need to transport the objects.

11. Activate Planning Function Type Objects.

> → Remember
>
> You can ignore activation warnings listed under Result [page 328].

1. Select *BI Content* in the left-hand frame.
2. Select *Object Types* and expand *Planning* > *Function Type for Planning* .
3. Use *Select Objects* to select the following Planning Function:

   Planning Functions

Planning Functions
/RAP/OP_BUFFER_DATA

4. Choose *Transfer Selections*.
5. In the list of *Collected objects*, verify that the option in the *Install* column is enabled for each of the objects.
6. Choose *Install*. If an information dialog box appears, choose *Continue*. Choose *Local Object* or enter a package if you need to transport the objects.

12. Choose *Exit* to leave the transaction.

Results

If activation warnings similar to the ones displayed below appear, you can ignore them.

- CMP problem occurred in characteristic <CHAR> for InfoProvider <INFO_PROV>
- Rounding inaccuracies occur with data type FLOAT for AMOUNT and QUANTITY
- Characteristic <CHAR>: Lower case makes selection of char. values difficult
- Data type of char. <CHAR> (<TYPE1>) is not equal to data type of attribute <ATTR> (<TYPE2>)
- Length of characteristic <TEXT CHAR> (<LENGTH1>) and assigned attribute <ATTR> (<LENGTH2>) not same
- The short text of DataSource <SOURCE> is not maintained in language <LANG>
- Skip key figure <KYF>: aggregation type NO2 not supported
- Attribute <ATTR>: Conversion routine <CONV> ignored
- Attribute <ATTR>: Compounding ignored
- Datatype FLTP for datafield <FIELD> of the DSO is not allowed
- Conversion problems possible for source field <FIELD1> / target field <FIELD2>

6.3.7 Configure Data Replication

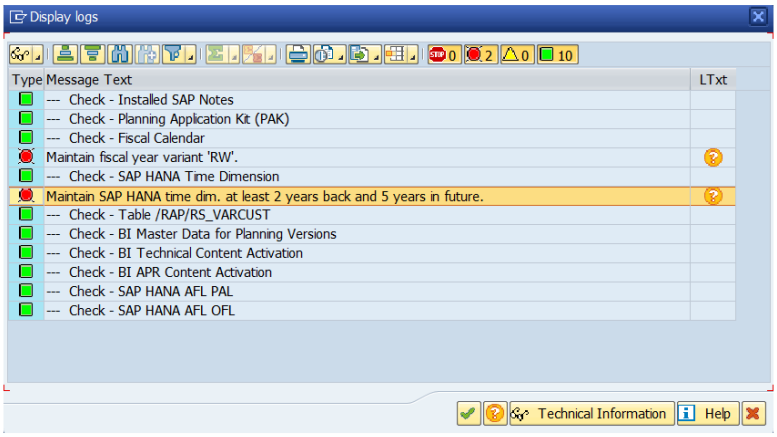
SAP Assortment Planning uses master data, sales history data, inventory data, and merchandise planning data originating from connected systems, such as SAP Retail (SAP ERP) or SAP BW.

For more information, see *SAP Assortment Planning Administration Guide* under *Configure Data Replication*.

6.3.8 Run the Validation Report

1. Run transaction `/DMF/VAL_CAR_INSTALL`.
   Alternatively, run transaction `SE38` and execute the `/DMF/VALIDATE_CAR_INSTALLATION` report.
2. Select the *Assortment Planning* scenario and select *Execute*.
   In the dialog that appears, select whether to validate the Retail SAP BW structure, the Omnichannel SAP BW structure, or both. The SAP BW structure to validate depends on the structure that you have selected to activate during the previous step Activate Planning Framework Content (SAP Assortment Planning) [page 319] .

Running this report allows you to verify the success of the installation, providing a log of potential issues. For example, you may be presented with the following results:



Validation Report Results

View the long text associated with each message to see the link to the documentation describing the procedure you have to troubleshoot.

Related Information

Activate Planning Framework Content (SAP Assortment Planning) [page 319]

6.3.9 Configure Front-End

6.3.9.1 Configure SAP Gateway

For information about the configuration and activation of SAP Gateway as well as the activation of all the common OData services for SAP Fiori, see Configure SAP Gateway [page 110].

6.3.9.2 Configure Index Calculation

We recommend that you schedule the *Calculation of SAPUI5 Application Index for SAPUI5 Repositories* report (`/UI5/APP_INDEX_CALCULATE`) to run as a background job on your front-end server.

This is one of the mandatory tasks under *SAP Customer Activity Repository* > *Core (Mandatory for All Applications)* that you have most likely performed already. If not, see Calculate SAPUI5 Application Index for SAP Fiori Apps [page 122].

6.3.9.3 Activate SAP Assortment Planning ICF Services

Use

For security reasons, all Internet Communication Framework (ICF) services relevant to your SAP Assortment Planning application are made available in an inactive state.

You have activated the central ICF services as described in Perform General SAP Gateway Configuration [page 111] and Configure SAP Fiori Launchpad [page 120]. This procedure provides the instructions to activate ICF services required for the SAP Assortment Planning SAP Fiori apps.

Procedure

1. Log on to your front-end server.
2. Open service maintenance (transaction `SICF`).
3. In the *Define Services* screen, select the Location Clustering service by specifying the following:
   - Hierarchy Type: **`SERVICE`**
   - Virtual Host: **`DEFAULT_HOST`**
   - Service Path: **`/sap/bc/ui5_ui5/sap/locclsts_v2/`**
4. Choose *Execute*.
5. To activate the service, choose *Service/host Activate*.
6. Repeat steps 3 to 5 to ensure that **all** of the following services are activated:
   - `/sap/bc/ui5_ui5/sap/attribmgmt_v2/`
   - `/sap/bc/ui5_ui5/sap/assortlist/`
   - `/sap/bc/ui5_ui5/sap/ddfreuse_v2/`
   - `/sap/bc/ui5_ui5/sap/locclsts_v2/`
   - `/sap/bc/ui5_ui5/sap/modulemgmt_v2/`
   - `/sap/bc/ui5_ui5/sap/optionplan_v2/`
   - `/sap/bc/ui5_ui5/sap/phpmatch_v2/`
   - `/sap/bc/ui5_ui5/sap/plnconfig/`
   - `/sap/bc/ui5_ui5/sap/optionplanning`
   - `/sap/bc/ui5_ui5/sap/styleplan`

- `/sap/bc/ui5_ui5/sap/rankingkey`
- `/sap/bc/ui5_ui5/sap/businessrule`
- `/sap/bc/ui5_ui5/sap/manageproddtl`
- `/sap/bc/ui5_ui5/sap/plancalendar`

6.3.9.4 Define System Alias for Back-End Transactions

Use

A number of SAP Fiori apps, installed on your front-end system, launch transactions directly on the back-end system. For example, the *Manage Products* tile actually launches the Demand Data Foundation (DDF) `POWL_EASY` WebDynpro application.

To enable this behavior, you need to create a dedicated RFC connection between the front-end system and the back-end system.

Procedure

1. Log on to your front-end system, that is, the system where you have installed the user interface (UI) components of your application.
2. Launch *Configuration of RFC Connections* (transaction `SM59`).
3. Create an RFC connection with the following settings:
   - *RFC Destination*: `SAP_ISR_CARAB`
     Connection Type: `H` (HTTP connection)

   Ensure to maintain all of the settings required to connect to your back-end system, in particular, the *Target Host* entry on the *Technical Settings* tab.
4. Save your changes.
5. Create another RFC connection with the following settings:
   - *RFC Destination*: `SAP_ERP_ISR_CARAB`
     Connection Type: `H` (HTTP connection)

   Ensure to maintain all of the settings required to connect your front-end system to the source master data system, in particular, the *Target Host* entry on the *Technical Settings* tab.
6. Save your changes.
7. Open *SAP Fiori Launchpad Designer* using transaction `/N/UI2/FLPD_CONF`.

8. Search for the catalog SAP_RAP_TC_T, choose *Target Mappings*, and map the semantic objects and actions to the system aliases as indicated in the following table:

Catalog	App	Semantic Object	Action	System Alias	Description
SAP_RAP_TC_T	*My Assortment Lists*	*MasterAssortment*	*displayLog*	SAP_ISR_CARAB	This setting allows the *My Assortment Lists* app to launch transaction SLG1 on the back-end system. **i Note** This application is only used to configure a link to the back-end system, you do not need to add this app to your SAP Fiori launchpad.
	My Assortment Lists	*MasterAssortment*	*displayListingCondition*	SAP_ERP_ISR_CARAB	This setting allows the *My Assortment Lists* app to launch transaction WSL10 on the connected SAP Retail or SAP S/4HANA system. **i Note** This application is only used to configure a link to the SAP Retail or SAP S/4HANA system, you do not need to add this app to your SAP Fiori launchpad. In order for the link to work, you must maintain the *HTTP Destination* for the *Assortment Planning* application in the customizing activity *SAP Customizing Implementation Guide* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Basic Settings* > *Integration* > *Sending System and Master Data System Coupling*.

Catalog	App	Semantic Object	Action	System Alias	Description
	My Assortment Lists	*MasterAssortment*	*displayExtAssortment*	SAP_ERP_ISR_CARAB	This setting allows the *My Assortment Lists* app to launch: Transaction WRF_WS0A3 on the connected SAP Retail system Transaction WS0A3 on the connected SAP S4HANA system. **i Note** This application is only used to configure a link to the SAP Retail or SAP S/4HANA system, you do not need to add this app to your SAP Fiori launchpad. In order for the link to work, you must maintain the *HTTP Destination* for the *Assortment Planning* application in the customizing activity *SAP Customizing Implementation Guide* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Basic Settings* > *Integration* > *Sending System and Master Data System Coupling*.
	Manage Category Responsibilities	*AreaOfResponsibility*	*maintain*	SAP_ISR_CARAB	This setting allows the *Manage Category Responsibilities* app to launch the corresponding DDF WebDynpro application.
	Manage Market Responsibilities	*AreaOfResponsibility*	*maintain_mh*	SAP_ISR_CARAB	This setting allows the *Manage Market Responsibilities* app to launch the corresponding DDF WebDynpro application.
	Manage Products	*Product*	*maintain*	SAP_ISR_CARAB	This setting allows the *Manage Products* app to launch the corresponding DDF WebDynpro application.

Catalog	App	Semantic Object	Action	System Alias	Description
	Manage Locations	*Location*	*maintain*	SAP_ISR_CARAB	This setting allows the *Manage Locations* app to launch the corresponding DDF WebDynpro application.

6.3.9.5 Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad

Use

To be able to access SAP Fiori apps that constitute the SAP Assortment Planning user interface from the SAP Fiori launchpad, your front-end system user must have the necessary roles assigned. Based on the role(s) assigned to your user, you can access certain business catalogs and business catalog groups.

Your SAP Assortment Planning application is delivered with two predefined roles, catalogs, and groups. These include technical content as well as business content:

Front-End Server Business Content			Front-End Technical Content	
Business Role	**Business Catalog**	**Business Catalog Group**	**Technical Role**	**Technical Catalog**
SAP_RAP_BCR_AP_PLANNER	SAP_RAP_BC_AP_PLANNER	SAP_RAP_BCG_AP_PLANNER	SAP_RAP_TCR_T	SAP_RAP_TC_T
SAP_RAP_BCR_PLANNING_ADMIN	SAP_RAP_BC_PLANNING_ADMIN	SAP_RAP_BCG_PLANNING_ADMIN		

To test the installation of SAP Assortment Planning from the SAP Fiori launchpad, you need to assign the roles above to your user on the front-end system.

Procedure

1. Log on to your front-end system.
2. Launch *User Maintenance* (transaction SU01).
3. Enter your user name in the *User* field and choose *Change*.
4. On the *Roles* tab, assign the roles SAP_RAP_BCR_AP_PLANNER and SAP_RAP_BCR_PLANNING_ADMIN to your user.

> ⚠ Caution
>
> If you already have an SAP Fiori launchpad open, you must clear your browser cache to apply any modifications made to your user roles. Otherwise, your changes will not be reflected in the SAP Fiori user interface.

More Information

Security Information section of the *SAP Assortment Planning Administrator's Guide*.

6.3.10 Extend an SAP Fiori App for SAP Assortment Planning

To extend an SAP Fiori app for SAP Assortment Planning:

1. Navigate to the SAP Fiori App Reference Library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html.
2. Search for the app.
3. On the app details screen, choose *IMPLEMENTATION INFORMATION* and select a delivery.
4. Consult the information under *Extensibility*. For example, here you can find a list of the available extension points and controller hooks.
5. Consult SAP Note 2274090 (*Steps to be followed to extend SAP Fiori Apps for SAP CARAB*). Here you can find an example of how to extend apps in SAP Customer Activity Repository applications bundle.
6. For general extensibility information for SAP Fiori, see the SAP Fiori Overview and consult the information under *Extend and Develop SAP Fiori Apps*.

6.3.11 Additional Information for Retail SAP BW Structure

6.3.11.1 Specify Analysis Workbooks Settings

The Retail SAP BW Structure of SAP Assortment Planning is delivered with some SAP Analysis for Microsoft Office workbooks. These are template workbooks that you can adapt to use in your retail business. However, you should not use the Retail SAP BW Structure in a new installation but the Omnichannel SAP BW Structure.

For an example of how to create customized versions of the workbooks, see Workbook Design Example [page 339].

6.3.11.1.1 Enable Macros

Use

In this procedure, you enable your SAP Analysis for Microsoft Office workbooks to use macros.

Procedure

1. Open SAP Analysis for Microsoft Office from *Start* > *All Programs* > *SAP Business Intelligence* > *SAP BusinessObjects Analysis* > *Analysis for Microsoft Excel*.
2. Choose *File* > *Options* > *Customize Ribbon*.
3. Under *Customize the Ribbon*, select *Main Tabs*.
4. Enable the entry *Developer* and confirm by choosing *OK*.
5. Now you will see the new *Developer* tab in your SAP Analysis for Microsoft Office.
6. Select the *Developer Tab* and choose *Macro Security*.
7. Choose *Enable all macros*.

6.3.11.1.2 Set Language for Ribbons and Buttons in Workbooks

Use

In this procedure, you can set the desired language of the following user interface objects that are specific to the workbooks of SAP Assortment Planning:

- Ribbons *Planning Functions*, *Refinement Functions*, and *Extended Features*
- Tooltips for planning functions
- Message texts
- Buttons.

The content of the workbooks consists of multiple parts:

- The language of the standard menus and standard ribbons depends on the language set for Microsoft Excel.
- The language of the contents in the cells (mainly KPIs) depends on the user-selected system language of the back-end system.
- The language of the user interface objects that are specific to the workbooks of SAP Assortment Planning, is not set by the selected system language of the back-end system, but you can change it for each workbook according to the following procedure. The default language is English.

Procedure

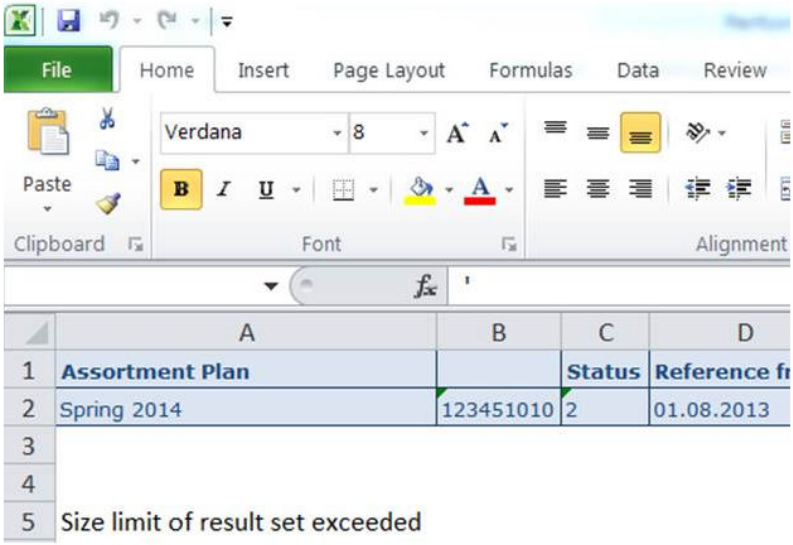
1. Unhide the worksheet *SAP_TEXT_CUSTOMIZING* using standard functionality of Microsoft Excel.
2. On the worksheet *SAP_TEXT_CUSTOMIZING*, copy the column of the desired language to column *B - Custom Text*.
3. Hide the worksheet *SAP_TEXT_CUSTOMIZING*.
4. Save your changes in the worksheet on the SAP NetWeaver Server by choosing *File* > *Analysis* > *Save Workbook to SAP NetWeaver*.

> **i Note**
>
> To allow for correct interpretation of the texts by screen readers, make sure that the language for all parts of the workbooks is set to the same desired one. Set the language as described in this section.

6.3.11.1.3 Set ResultSetSizeLimit Registry Setting

Use

By default, SAP Analysis for Microsoft Office workbooks are set to display 500,000 cells. This setting might not be sufficient for the productive use of SAP Assortment Planning. For example, if you have more than 300 products in your assortment plan, you might encounter the following error message:



Size Limit Error

To resolve this issue, you need to increase the default setting of the `ResultSetSizeLimit` registry setting.

Procedure

Read and implement SAP Note 1662968.

> **i Note**
>
> As the administrator overseeing the installation of SAP Assortment Planning, you need to carry out the steps listed in this procedure on the workstation of each SAP Assortment Planning user.

6.3.11.2 Workbook Design Example

Use

In this procedure, you walk through an example of creating an SAP Analysis for Microsoft Office workbook. You can use steps of this procedure to create customized versions of the SAP-delivered assortment planning workbooks.

Prerequisites

The necessary BI queries must exist in the back-end system.

Procedure

1. Open SAP Analysis for Microsoft Office from *Start* > *All Programs* > *SAP Business Intelligence* > *SAP BusinessObjects Analysis* > *Analysis for Microsoft Excel*.
2. Select the cell in the worksheet where the crosstab with the data from the selected data source should be inserted.
3. From the menu, choose *Analysis* > *Insert* > *Select Data Source*.
4. Choose *Skip* on the popup window *Logon to SAP BusinessObjects BI Platform*.
5. In the *Select Data Source* dialog box, select the source system, then choose *Next*.
6. In the *Logon to system <Your System Name>* dialog box, enter your logon data, then choose *OK*.
7. In the *Select Data Source* dialog box, choose tab *Search*.
8. In the *Search* tab, you can search for the description or technical name of a data source, that is, the name of the BI query that will provide the data for your workbook.
   For example, search for `/RAP/M01A01_IRQ02` or `/RAP/M01A01_IRQ01`. In general, you can search for `/RAP*` to find any SAP Assortment Planning query.
9. Select the required data source, and then choose *OK*.
10. On the *Prompts* screen, make the relevant entries base on the selected query in the *Specify Value for Prompts* area.
11. Choose *OK*, and then you will see the table is inserted in the sheet. You can now analyze the data and change the displayed data set according to your needs. You can also add other components to your analysis, for example charts.
12. Choose menu *Analysis* > *Display* to open the design panel.
13. Choose the *Components* tab in the bottom right corner, and right-click *Book1* and choose *Use Planning Sequence*.
14. In the *Search For* field of the *Open Planning Sequence* dialog box enter your planning sequence and choose *Search*.
15. Select the required planning sequence, and then choose *OK*. The planning sequence will be displayed under *Book1* > *Planning Objects* in the design panel.

16. Select the cell in the worksheet where a button should be inserted.
17. From the menu, choose *Developer* > *Insert* > *Button (Form Control)*, and insert the button using drag and drop.
18. In the *Assign Macro* dialog box, choose *New*.
19. In the VB edit, maintain the relevant code in the *Sub ButtonX_Click* area.
20. Choose *Close*.
21. Right-click the button, and choose *Edit Text*. Replace the button name with a meaningful name.
22. Position your cursor where the condition will be defined, and make the relevant entries.
23. Select the sheet and position the cursor where the variable list will be inserted, for example cell H1 in sheet1.
24. Choose menu *Analysis* > *Info* > *Field* > *Variables*, and the variables will be inserted into the relevant sheet.
25. Maintain the relevant entries in the sheet.
26. Choose your *Planning Sequence* in the design panel.
27. In the section of *Variables of Planning Sequence*, make the relevant entries.
28. Choose *Save Button*.
29. Provide a file name and save the workbook as type *Excel Macro-Enabled Workbook* (*.xlsm).
30. Choose *Save*.

Result

The customized workbook is created.

6.4 SAP Promotion Management

Using SAP Promotion Management functions

For full use of the SAP Promotion Management application, you must have a license for use of SAP Promotion Management.

> **i** Note
>
> Limited functionality is available to users without an SAP Promotion Management license.

To use the FIORI-based user interface, implement the BAdI from *Customizing* > *Cross-Application Components* > *Demand Data Foundation* > *Data Maintenance* > *Offer* > *Enhancements Using Business Add-Ins* > *Implementation: Fiori PMR Offers Switch*.

6.4.1 Perform Core Steps for SAP Customer Activity Repository

To set up this application, you must first perform the **Core (Mandatory)** steps for SAP Customer Activity Repository. The core steps are mandatory for all the consuming applications.

Procedure

Perform all steps listed under Core (Mandatory for All Applications) [page 86].

6.4.2 Activate Internet Communication Framework (ICF) Services

For security reasons, all Internet Communication Framework (ICF) services relevant to your SAP Promotion Management application are made available in an inactive state. In this procedure, you activate an ICF service required for the SAP Manage Promotional Offers Fiori app.

1. Log on to your front-end system.
2. Open service maintenance (transaction `SICF`).
3. In the *Maintain Service* screen, select the service by specifying the following:
   - Hierarchy Type: `SERVICE`
   - Virtual Host: `DEFAULT_HOST`
   - Service Path: `/sap/bc/bsp/sap/`
4. Choose *Execute*
5. To activate the service, choose *Service/host Activate*
6. Repeat steps 3 to 5 to ensure that all of the following services are activated:
   - `pmroffers`
   - `pmrcontent`
   - `prodgrps`
   - `locsubgrp`
   - `eventprv`

6.5 SAP Allocation Management

Post-installation setup for SAP Allocation Management

1. Perform Core Steps for SAP Customer Activity Repository [page 260]
2. Activate SAP HANA Content for SAP Allocation Management [page 342]
3. Check Procedure Associated with Function GENIOS_SOLVE Is Active [page 346]

4. Configure SAP Allocation Management [page 347]
5. Configure Data Replication [page 348]
6. Configure Front End [page 351]
7. Implement BAdI for Real-Time Inventory [page 354]

6.5.1 Perform Core Steps for SAP Customer Activity Repository

To set up this application, you must first perform the **Core (Mandatory)** steps for SAP Customer Activity Repository. The core steps are mandatory for all the consuming applications.

Procedure

Perform all steps listed under Core (Mandatory for All Applications) [page 86].

6.5.2 Activate SAP HANA Content for SAP Allocation Management

Once all previous steps are successfully completed, you can activate SAP HANA content for SAP Allocation Management.

Prerequisites

Before starting with the activation of the SAP HANA content for SAP Allocation Management, you must do the following:

- Ensure that you have at least one of the `SAP_ECC` or `SAP_S4H` schemas in the SAP HANA database. Based on your source system for all SAP ERP data, you have either an `SAP_ECC` schema or an `SAP_S4H` schema (either physical schemas with these names, or at least authoring schemas). If you have both these systems, you must have two schemas.
- Ensure that all tables listed for SLT replication are available in the relevant schemas. The spreadsheet with tables that are relevant for replication and SAP HANA content activation is available on SAP Help Portal at https://help.sap.com/viewer/p/CARAB. Select the relevant version of SAP Customer Activity Repository at the top and choose *Implement*. Download the *SLT Tables for SAP Customer Activity Repository applications bundle 5.0* archive and extract the spreadsheet.
  Also ensure that you have implemented SAP Note 2916915 (*Error when Activating HANA Content for Distribution Curves after Executing Report /DMF/CREATE_SLT_TABLES*) and SAP Note 3003750 (*SAP Allocation Management - Corrections for using S4H 2020 as Source System*).
  Ensure that you have successfully set up the SLT tables in the schemas.

SAP HANA Content Activation Steps

1. Run the report `/AMR/INSERT_SLT_TABLES_TO_DB` (*Insert SLT Table Entries to Database*) in insert mode (by deselecting the simulation setting).
2. Deploy SAP Allocation Management delivered procedures, functions, and views.
   SAP Allocation Management delivers several native HANA objects as a part of the application. These objects are delivered via HANA transport for ABAP (HTA) and must be explicitly deployed into the SAP HANA database. Without this deployment, you do not see these objects in the SAP HANA database. Once deployed, you can find the content via the path `sap.is.retail.rap.amr.db`.
3. Activate SAP Customer Activity Repository and Demand Data Foundation (DDF) SAP HANA content.

   > **i Note**
   >
   > If the SAP Customer Activity Repository and DDF SAP HANA content is already active, you can skip this step.

   SAP Allocation Management depends on active SAP HANA content for SAP Customer Activity Repository and DDF. Therefore, it is recommended that you first activate the SAP HANA content for SAP Customer Activity Repository and DDF.
   Run the program *Activate SAP HANA Content for SAP CARAB* (`/CAR/ACTIVATE_HTA`) and select the *ECC Mode* relevant to your installation. Under *Business Scenario Activation*, select the *Customer Activity Repository* and *Demand Data Foundation* options.
   Run the activation report. As a result, you have successfully activated and deployed the SAP HANA content for SAP Customer Activity Repository and DDF.

   > **⚠ Caution**
   >
   > **Do not** select *Allocation Management* in this activation run for a simultaneous activation of SAP Allocation Management SAP HANA content. Simultaneous activation leads to activation problems.

4. Check and maintain schema mapping.
   Check the names you use for your physical schema. If you are using the default names below, no further action is required:
   - `SAP_S4H`, for your S/4HANA schema
   - `SAP_ECC`, for your ECC or FMS schema

   If the names you have chosen for your physical schema are **different from the names above**, you must do the following:

   Maintain a schema mapping in your SAP HANA database, where your customer-specific names are used as authoring schemas for the physical schema.
5. Run the dummy schema and dummy table creation reports.
   The reports check for a missing physical schema and create this physical schema and the corresponding dummy tables in the schema if necessary. The successful completion of this step is a prerequisite for a successful SAP HANA content activation for SAP Allocation Management.

   > **i Note**
   >
   > The running of the report requires a database user in the ABAP system with the authorization to create the dummy schema. Check the application log for the report if there were errors.

In your back-end system, start transaction SE38 and execute the following two reports, in the **sequence** in which they are listed:

- /DMF/CREATE_SLT_TABLES (*Create SLT Tables*)

1. Select your source system. For *S/4HANA*, enter the release.
2. Enter the physical source and dummy schema names. For the *Physical Source Schema*, enter the physical schema name into which your SLT tables are replicating. For the *Physical Dummy Schema*, enter the name for the schema to be created. If the physical source schema already exists in the SAP HANA database, then only the dummy tables in this schema are created when you execute the report.
3. Select the simulation mode for a test run. After the simulation run, you can check for errors in the application log.
4. Run the report again, this time without simulation mode.
5. If you have chosen a dummy schema name that is neither SAP_ECC nor SAP_S4H, maintain schema mapping for the dummy schema. Follow the guidelines mentioned in Step 4.

- /AMR/CREATE_DYNAMIC_SLT_TABLES (*Create SLT Tables Dynamically*)

1. Select your source system. For *S/4HANA*, enter the release.
2. Enter the physical source and dummy schema names. For the *Physical Source Schema*, enter the physical schema name into which your SLT tables are replicating. For the *Physical Dummy Schema*, enter the name for the schema to be created. If the physical source schema already exists in the SAP HANA database, then only the dummy tables in this schema are created when you execute the report.
3. Select the simulation mode for a test run. After the simulation run, you can check for errors in the application log.
4. Run the report again, this time without simulation mode.
5. If you have chosen a dummy schema name that is neither SAP_ECC nor SAP_S4H, maintain schema mapping for the dummy schema. Follow the guidelines mentioned in Step 4.

6. Activate relevant inactive SAP HANA content for DDF.
   Based on your scenario, there may be inactive packages in DDF, even though you have activated the content earlier via the report /CAR/ACTIVATE_HTA (*Activate SAP HANA Content for SAP CARAB*).
   For the following packages in DDF, perform these actions:

   - In the table CTS_HOT_PREWORK, set the PREWORK_DONE indicator to **X** for these packages.
   - Call up transaction SCTS_HTA_DEPLOY (*SAP HANA Transport for ABAP - Deployment*) to check and to deploy (if not already deployed) these packages, **strictly in the sequence** they are listed. Do **not** select the option to *Include subpackages*:
   - sap.is.ddf.ecc
   - sap.is.ddf.fms
   - sap.is.ddf.fms_s4h
   - sap.is.ddf.cross.ecc
   - sap.is.ddf.cross.fms
   - sap.is.ddf.cross.fms_s4h
   - sap.is.ddf.cross

> **i Note**
>
> The package names are case-sensitive.
>
> If your SAP Retail release has tables that do not contain any FMS fields, some views might not be activated successfully in the fms and fms_s4h packages. You can nevertheless continue with further activation steps.

7. Grant authorization.
   The two SLT table creation reports use the database user maintained in the ABAP system to create the dummy schemas. The `_SYS_REPO` user needs the exact same authorizations on the newly created dummy schema that this user already has on the physical source schema. In addition, to display the schema in the navigator, a `SELECT` authorization on the schema (with `GRANT` option) must be provided to the database user for the content activation.

   > **i Note**
   >
   > This step must be performed by the SAP HANA database administrator who has the authorization for these activities.

8. Set *Prework Done* for SAP Allocation Management packages.
   A precondition for SAP HANA Transport for ABAP (HTA) activation is that the `PREWORK_DONE` indicator is set for all packages with activation mode `P - prework needed`. You can check this setting in the table `CTS_HOT_PACKAGE` in field `HOT_ACTIVATION_MODE`.
   You can set the `PREWORK_DONE` indicator for all packages relevant for SAP Allocation Management manually or by implementing an SAP Note. To make the setting manually, follow the additional steps listed in this step. Alternatively, implement SAP Note 2861929 (*Setting the PREWORK_DONE flag in table CTS_HOT_PREWORK for AMR HANA Content packages*) instead of setting the indicator manually.
   The manual steps are as follows:
   1. Set the `PREWORK_DONE` indicator to **`X`** for all packages in the `CTS_HOT_PREWORK` table. The indicator shows that the SAP HANA content in all packages relevant for SAP Allocation Management is ready for deployment.
   2. Call transaction `SE16` (*Data Browser*) and display the content of table `CTS_HOT_PACKAGE`.
      Search for package names `sap.is.retail.rap.amr*` in the field `HANA_PACKAGE_ID`. Please note that the package names are case-sensitive.
      You should find 163 entries that match the search criterion. Copy the package names from the result list of your search.
   3. Run the program *Activate SAP HANA Content for SAP CARAB* (`/CAR/ACTIVATE_HTA`) with the following settings:
      - Select the relevant setting under *ECC Mode*.
      - Under *Business Scenario Activation*, select the *Allocation Management* option.
      - Under *Processing Control*, select *Perform Prerequisite Check*.
   4. Display the selection screen of table `CTS_HOT_PREWORK`. Enter the `HANA_PACKAGE_ID` for all packages from the result list of your search in table `CTS_HOT_PACKAGE`.
   5. Ensure that all 163 entries have been successfully updated with `PREWORK_DONE` indicator to **`X`** in the `CTS_HOT_PREWORK` table.
9. Once you have successfully deployed all content as described in the previous steps, call up transaction *SAP HANA Transport for ABAP - Deployment* (`SCTS_HTA_DEPLOY`). To deploy the SAP Allocation Management packages, enter package name **`sap.is.retail.rap.amr*`** and choose *Execute*.

   > **i Note**
   >
   > With this step, the SAP HANA content for SAP Allocation Management is finally deployed. This is the last and most critical activation step.

Checking for Missing Views

If content activation errors occur, check for missing views in the database. For more information, see Troubleshooting: Missing Views in Database [page 346].

Related Information

Create/Replicate Source Master Data System Tables [page 94]
Activate SAP HANA Content [page 98]

6.5.2.1 Troubleshooting: Missing Views in Database

After the SAP HANA content activation, you can check for missing views in transaction `DB02`.

Check if SAP Allocation Management views are highlighted as objects missing in the database. There could be some missing objects, despite having received success messages from the previous step of activating SAP Allocation Management SAP HANA content.

1. Call up transaction *Diagnostics: Missing Tables and Indexes* (`DB02`)
2. Select *Diagnostics* > *Tables/Views* and enter the technical name.
3. Check if any SAP Allocation Management views are displayed as missing in the database.
4. If there are views missing in the database, raise a support ticket.

6.5.3 Check Procedure Associated with Function GENIOS_SOLVE Is Active

For SAP Allocation Management, confirm that the procedure associated with function `GENIOS_SOLVE` is active in the `_SYS_AFL` catalog.

Prerequisites

You have configured the AFL usage and confirmed that the OFL algorithm was installed successfully as described in section Check the OFL Installation [page 62].

Context

Procedure

1. Go to `SAP HANA Systems` view in the `SAP HANA Development Perspective`.
2. In your system, filter for catalog `_SYS_AFL`.
3. In the `_SYS_AFL` catalog, filter on procedures to search for `OFL_AREA_GENIOS_SOLVE_PROC`
4. Confirm that this procedure `OFL_AREA_GENIOS_SOLVE_PROC` is available.

6.5.4 Configure SAP Allocation Management

To use SAP Allocation Management, you must define several application-specific settings in Customizing.

General Settings

Define the settings under *SAP Implementation Guide* > *Cross-Application Components* > *Allocation Management*.

SAP Allocation Management provides optional integration scenarios with:

- UDF (Unified Demand Forecast)
- SAP Assortment Planning

Both scenarios require additional installation steps, which are described in sections SAP Assortment Planning [page 311] and Complete UDF Setup [page 146] of this guide.

Allocation information from allocation plans can be transferred to follow-on systems to create the corresponding **allocation tables**. You set up the transfer of allocation plans with the implementation of SAP Notes in the follow-on systems. For more information, see Implement SAP Notes for the Installation [page 34].

Activation of Notifications

As part of the promotional business scenarios, you can enable the creation of push notifications for users. These notifications inform responsible users about important changes that affect existing allocation plans, for example, the deletion of an offer or product or a change in the offer validity period.

To activate these notifications in your SAP Customer Activity Repository system, proceed as follows:

1. Under *SAP Implementation Guide* > *SAP NetWeaver* > *Notification Channel* > *Notification Channel Provider Enablement* > *Administration* > *Notification Provider Settings*, access the *Register Notification Providers* Customizing activity.
2. In this activity, make sure that the following information is available:
   - Provider ID: `/AMR/NOTIF_PROMO_PUSH`
   - Provider class: `/AMR/CL_NOTIF_PROVIDER`

3. Then activate this provider in the *Manage Notification Providers* activity in the *Notification Provider Settings* group that you accessed in Step 1.

6.5.5 Configure Data Replication

SAP Allocation Management uses master data such as product, store, and product hierarchy that is imported to the Demand Data Foundation (DDF) and Unified Demand Forecast (UDF) modules using the data replication framework (DRF, transaction `DRFOUT`).

> **i Note**
>
> Not all of the master data is replicated using the data replication framework. Some data must be replicated separately using SAP Landscape Transformation Replication Server (SLT).
>
> For detailed information about the SLT replication procedure, see Create/Replicate Source Master Data System Tables [page 94].

6.5.5.1 Initial Load of Data to DDF Using DRFOUT

SAP Allocation Management uses master data, such as product, location, and product hierarchy, that is replicated from SAP Retail or SAP S/4HANA to DDF using DRFOUT.

Procedure

SAP Allocation Management specifically requires that the following data is replicated sequentially from a connected SAP ERP system using `DRFOUT`:

Sequence	Master Data	Technical Details	For more information, see:
1	Product Hierarchy	• **SAP ERP Description:** Material Group Hierarchy • **DRFOUT Outbound Implementation:** `PMCH` • **DDF Inbound Interface:** `/DMF/MDIF_PROD_HIER_INBOUND`	https://help.sap.com/car <your release> and then the *Use* tab, application help for SAP Customer Activity Repository: *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Product Hierarchy Master Data*

Sequence	Master Data	Technical Details	For more information, see:
2	Product	• **SAP ERP Description:** Material • **DRFOUT Outbound Implementation:** `PMAT` • **DDF Inbound Interface:** `/DMF/MDIF_PRODUCT_INBOUND`	https://help.sap.com/car <your release> and then the *Use* tab, application help for SAP Customer Activity Repository: *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Product Master Data*
3	Location	• **SAP ERP Description:** Plant • **DRFOUT Outbound Implementation:** `PPLT` • **DDF Inbound Interface:** `/DMF/MDIF_LOCATION_INBOUND`	https://help.sap.com/car <your release> and then the *Use* tab, application help for SAP Customer Activity Repository: *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Product Location Master Data*
4	Product Location	• **SAP ERP Description:** Material/Plant • **DRFOUT Outbound Implementation:** `PMPL` • **DDF Inbound Interface:** `/DMF/MDIF_PROD_LOC_INBOUND`	https://help.sap.com/car <your release> and then the *Use* tab, application help for SAP Customer Activity Repository: *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Product Location Master Data*
5	Product Location	• **SAP ERP Description:** Sales Price • **DRFOUT Outbound Implementation:** `PMAT` • **DDF Inbound Interface:** `/DMF/MDIF_PROD_LOC_INBOUND`	https://help.sap.com/car <your release> and then the *Use* tab, application help for SAP Customer Activity Repository: *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Product Location Master Data*

Sequence	Master Data	Technical Details	For more information, see:
6	Inventory	• **SAP ERP Description:** Inventory • **DRFOUT Outbound Implementation:** `PINV` • **DDF Inbound Interface:** `/DMF/OPIF_INVENTORY_INBOUND`	https://help.sap.com/car <your release> and then the *Use* tab, application help for SAP Customer Activity Repository: *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Inventory Master Data*
7	Transportation Lane	• **SAP ERP Description:** Source of Supply • **DRFOUT Outbound Implementation:** `PSOS` • **DDF Inbound Interface:** `/DMF/MDIF_LANE_INBOUND` **i Note** Before transferring the planned delivery time to DDF, implement a BAdI to update the planned delivery time values as described in SAP Note 2357255).	https://help.sap.com/car <your release> and then the *Use* tab, application help for SAP Customer Activity Repository: *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Transportation Lane Master Data*
8	Location	• **SAP ERP Description:** Vendor • **DRFOUT Outbound Implementation:** `PVEN` • **DDF Inbound Interface:** `/DMF/MDIF_LOCATION_INBOUND`	https://help.sap.com/car <your release> and then the *Use* tab, application help for SAP Customer Activity Repository: *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Location Master Data*
9	Product Hierarchy	• **SAP ERP Description:** Article Hierarchy • **DRFOUT Outbound Implementation:** `PAHY` • **DDF Inbound Interface:** `/DMF/MDIF_PROD_HIER_INBOUND`	https://help.sap.com/car <your release> and then the *Use* tab, application help for SAP Customer Activity Repository: *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Product Hierarchy Master Data*

You can import the data into staging tables, and then transfer this data to production tables using report `/DMF/PROCESS_STAGING_TABLES`. Alternatively, you can skip the staging tables and import the data directly into the production tables. For more information, see:

- https://help.sap.com/car <your release> and then the *Use* tab, application help for SAP Customer Activity Repository: *Demand Data Foundation* > *Integration Information* > *Inbound Processing*
- https://help.sap.com/car <your release> and then the *Use* tab, application help for SAP Customer Activity Repository: *Demand Data Foundation* > *General Services* > *Monitor Imports* > *Process Inbound Staging Tables*

More Information

For more information on monitoring the replication, see:

- https://help.sap.com/car <your release> and then the *Use* tab, application help for SAP Customer Activity Repository: *Demand Data Foundation* > *General Services* > *Monitor Imports*
- The *Periodic Tasks* section of the *Administration Guide* for SAP Allocation Management.

Related Information

Periodic Tasks

6.5.5.2 Delta Load of Data to DDF Using DRFOUT

When performing a delta load of data from the source master data system using the *DRFOUT* framework, you must ensure that the product location data required to enhance the sales records with historical sales cost is loaded prior to the sales data.

Furthermore, we recommend that you schedule a daily periodic task to replicate data from the source system to the SAP Allocation Management system.

6.5.6 Configure Front End

Check if you have performed the SAP Gateway configuration and that you have activated the OData Services for distribution curve and SAP Allocation Management.

Activate SAP Allocation Management ICF Services [page 352]
Perform these steps to activate Internet Communication Framework (ICF) services for SAP Allocation Management.

Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad [page 353]

To be able to access SAP Fiori apps that constitute the SAP Allocation Management user interface from the SAP Fiori launchpad, your front-end system user must have the necessary roles assigned. Based on the roles assigned to your user, you can access certain business catalogs and business catalog groups.

Change Default Sorting Order in My Allocation Plans (Optional) [page 354]

The *My Allocation Plans* app is delivered with a default sorting order. For the promotional push and promotional buy scenarios, default sorting is by offer name. For all other business scenarios, default sorting is by product name.

Related Information

Configure SAP Gateway [page 110]

Activate OData Services [page 114]

6.5.6.1 Activate SAP Allocation Management ICF Services

Perform these steps to activate Internet Communication Framework (ICF) services for SAP Allocation Management.

For security reasons, all Internet Communication Framework (ICF) services relevant to your SAP Allocation Management application are made available in an inactive state.

You have activated the central ICF services while configuring the SAP Gateway. This procedure provides the instructions to activate ICF services required for the SAP Allocation Management SAP Fiori apps.

Procedure

1. Log on to your front-end server.
2. Open service maintenance (transaction `SICF`).
3. In the *Maintain Service* screen, select the Location Clustering service by specifying the following:
   - Hierarchy Type: **`SERVICE`**
   - Virtual Host: **`DEFAULT_HOST`**
   - Service Path: **`/sap/bc/ui5_ui5/sap/amr_alloplan/`**
4. Choose *Execute*.
5. To activate the service, choose *Service/host Activate*.
6. Repeat steps 3–5 to ensure that **all** of the following services are activated:
   - `/sap/bc/ui5_ui5/sap/amr_alloplan`
   - `/sap/bc/ui5_ui5/sap/amr_allo_params`
   - `/sap/bc/ui5_ui5/sap/amr_dist_config`
   - `/sap/bc/ui5_ui5/sap/amr_lib_reuse`
   - `/sap/bc/ui5_ui5/sap/amr_marketunit`
   - `/sap/bc/ui5_ui5/sap/amr_workload`

- `/sap/bc/ui5_ui5/sap/amr_kpiconfig`
- `/sap/bc/ui5_ui5/sap/amr_result`
- `/sap/bc/ui5_ui5/sap/amr_capacity`

6.5.6.2 Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad

To be able to access SAP Fiori apps that constitute the SAP Allocation Management user interface from the SAP Fiori launchpad, your front-end system user must have the necessary roles assigned. Based on the roles assigned to your user, you can access certain business catalogs and business catalog groups.

Your SAP Allocation Management application is delivered with a predefined role, catalog, and group. These include technical content as well as business content:

Front-End Server Business Content			Front-End Technical Content	
Business Role	**Business Catalog**	**Business Catalog Group**	**Technical Role**	**Technical Catalog**
`SAP_AMR_BCR_ALLOCATOR_T`	`SAP_AMR_BC_ALLOCATOR_T`	`SAP_AMR_BCG_ALLOCATOR_T`	`SAP_AMR_TCR_T`	`SAP_AMR_TC_T`

To test the installation of SAP Allocation Management from the SAP Fiori launchpad, you need to assign the roles to your user on the front-end system.

Procedure

1. Log on to your front-end system.
2. Launch *User Maintenance* (transaction `SU01`).
3. Enter your user name in the *User* field and choose *Change*.
4. On the *Roles* tab, assign the roles `SAP_AMR_BCR_ALLOCATOR_T` and `SAP_AMR_TCR_T` to your user.

> ⚠ Caution
>
> If you already have an SAP Fiori launchpad open, you must clear your browser cache to apply any modifications made to your user roles. Otherwise, your changes are not reflected in the SAP Fiori user interface.

More Information

See the *Security Information* section of the *Administration Guide* for SAP Allocation Management.

6.5.6.3 Change Default Sorting Order in My Allocation Plans (Optional)

The *My Allocation Plans* app is delivered with a default sorting order. For the promotional push and promotional buy scenarios, default sorting is by offer name. For all other business scenarios, default sorting is by product name.

You can change the default sorting order to meet your business needs. Note that this change takes effect for the app at system and client level.

> **i Note**
>
> To use the SAP Fiori launchpad designer, your user must have the administrator role for SAP Fiori launchpad. For more information, see the product documentation for SAP Fiori Launchpad on SAP Help Portal.

To replace the default sorting order, proceed as follows:

1. Open the SAP Fiori launchpad designer using transaction **`/n/UI2/FLPD_CUST`**.
2. Select *Catalogs* in the search filter bar and search for **`allocator`**.
   This displays the catalog to which all SAP Allocation Management apps are assigned.
3. Click the `SAP_AMR_BC_ALLOCATOR_T` catalog to open the tiles for the SAP Allocation Management apps.
4. Click the tile for the *My Allocation Plans* app.
5. In the *Parameters* field, enter the field that you want to use for sorting allocation plans.
   For example, to sort by the product ID, you must enter **`Sort=Product_ExternalId`** here.
   `Product_ExternalId` is the technical name (case-sensitive) of a back-end property mapped to *Product ID*.

The applied sorting criterion is shown in the URL for the *My Allocation Plans* app.

> **i Note**
>
> If you have changed the default sorting order, the new sorting criterion takes effect when opening the *My Allocation Plans* app directly. If you open an allocation plan after creating it in one of the *My Workload* apps, the predefined sorting order as delivered takes effect.

6.5.7 Implement BAdI for Real-Time Inventory

You must implement a BAdI to use real-time inventory in SAP Allocation Management.

As of SAP Customer Activity Repository applications bundle 5.0, a BAdI implementation is required to obtain real-time data inventory data for SAP Allocation Management.

You can implement a BAdI using standard logic or implement your own logic. For more information and detailed steps, please see SAP Note 2982741 - *SAP Allocation Management - BAdI Implementation for Real-Time Inventory View*.

6.6 SAP Replenishment Planning

Post-installation setup for SAP Replenishment Planning

1. Ensure that the `SAP XRP AFL` component is installed. For more information, see Download and Install SAP XRP AFL (Only for SAP Replenishment Planning) [page 69].
2. Perform Core Steps for SAP Customer Activity Repository [page 260]
3. Complete UDF Setup [page 146]
4. Implement SAP Notes for the Integration of SAP Replenishment Planning with SAP ERP or SAP S/4HANA [page 356]
5. Specify RFC Destinations for Source Master Data Systems [page 357]
6. Enable the Use of Scheduling Groups [page 358]
7. Adjust the Use of Shelf Life Information [page 358]
8. Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359]
9. Make Fiori Launchpad Tiles for SAP GUI Transactions Accessible With Hub Deployment [page 389]
10. Set Up Database Roles and Authorizations [page 391]
11. Set Up Back-End Roles and Authorizations [page 392]
12. Set Up Authorizations for Transfer of Order Plan Items to Source Master Data System [page 398]
13. Perform Configuration Steps in SAP Customer Activity Repository [page 399]
14. Ensure a Suitable Configuration of the Enqueue Server [page 400]
15. Configure SAP Replenishment Planning [page 401]
16. Define the Parameterization Profiles and the Assignment [page 406]
17. Configure Exception Management [page 407]
18. Configure Process Packaging and Parallelization [page 409]
19. Set Up Real-Time Inventory Integration [page 410]
20. Check Performance-Related Configuration Options (Optional) [page 412]

6.6.1 Perform Core Steps for SAP Customer Activity Repository

To set up this application, you must first perform the **Core (Mandatory)** steps for SAP Customer Activity Repository. The core steps are mandatory for all the consuming applications.

Procedure

Perform all steps listed under Core (Mandatory for All Applications) [page 86].

6.6.2 Implement SAP Notes for the Integration of SAP Replenishment Planning with SAP ERP or SAP S/4HANA

There are notes that provide the functionality for receiving order plan items from SAP Customer Activity Repository and notes that provide the functionality for the replication of additional information relevant for SAP Replenishment Planning from SAP ERP or SAP S/4HANA.

To decide whether you have to install these notes on your SAP ERP or SAP S/4HANA system or not, please check if the following notes are already included in the support packages that you have installed (by checking the **Support Packages & Patches** section of these notes).

SAP Notes for Receiving Order Plan Items from SAP Customer Activity Repository

SAP Note	Description
2679390 *Integration Proxy for CAR-based Replenishment (Order Plan to Purchase Order)*	This note provides the proxy functionality in SAP ERP and SAP S/4 HANA for the transfer of order plan items.
2800988 *Grouping of Order List Items: External Reference persisted (EXTERNALREFERENCEID)*	This note provides the enhancement for persisting the information about the origin of the purchase order item and the corresponding reference number.
2806257 *Enhancement of table EKPO by the field EXTERNALREFERENCEID*	This note provides the reference field EXTERNALREFERENCEID in table EKPO for receiving the order plan item ID.
2834608 *Automatic implementation of manual changes for note 2679390 (SAP S/4)*	This note contains instructions for creating DDIC objects that are required for implementing SAP note 2679390.
2900882 *Grouping of Order List Items: 'Obsolete' Order List Items*	This note contains correction instructions for the consideration of obsolete order list items whose ordering time is exceeded in the *Grouping of Order List Items into Purchase Orders* function.
2917595 *Grouping of Order List Items: 'Obsolete' Order List Items - DDIC + Documentation*	This note contains instructions for creating DDIC objects and documentation enhancements that are required for implementing SAP note 2900882.
3004161 *Grouping of Order List Items: SAP Replenishment Planning - Support of additional date/time fields*	This note contains instructions for the integration of additional date and time fields in the *Grouping of Order List Items into Purchase Orders* function.

SAP Note	Description
3037795 *Grouping of Order List Items: SAP Replenishment Planning - Add. Order List Items as Add. PO Item: package check*	This note provides an option to store order list items as additional purchase order items instead of updating already existing items.
3048955 *Inbound of order plan items: Material number conversion fails*	This note contains correction instructions for the conversion from the material number.
3052569 *Order Plan - Staging Date/Time*	This note contains correction instructions for the use of the *Material Staging Date/Time* field for the update or creation of purchase order documents and for the consideration of existing order list items as additional items instead of an update of the already existing items.

SAP Notes for Replicating Additional Information Relevant for SAP Replenishment Planning from SAP ERP or SAP S/4HANA

SAP Note	Description
2774819 *DRFOUT Implementations by scenario for Customer Activity Repository Application Bundle*	This note lists the DRF outbound implementations that are available to replicate master and transaction data from a source master data system (SAP ERP or SAP S/4HANA) to the applications of SAP Customer Activity Repository.
2918510 *How to find notes to get integration up to date for DRFOUT to DDF*	This note describes how to determine which notes are required for the data integration from a source master data system (SAP ERP or SAP S/4HANA) to the Demand Data Foundation module of SAP Customer Activity Repository.

6.6.3 Specify RFC Destinations for Source Master Data Systems

To transfer order plan items to a source master data system (SAP ERP or SAP S/4HANA), you must specify an RFC destination for each master data system to which you want to transfer order plan items for purchase order creation.

You specify an RFC destination as follows in the Customizing for Demand Data Foundation:

1. In transaction SPRO, navigate to *Cross-Application Components* > *Replenishment Planning* > *Basic Settings* > *Maintain RFC Mapping* and execute this Customizing activity.
2. For each master data system to which you want to transfer order plan items for purchase order creation, create a mapping entry with the following values:
   - *Application*: *Order Plan Export to Purchasing*
   - *Sender System*: Name of the master data system to which order plan items are to be sent
   - *RFC Destination*: Name of the RFC destination assigned to the master data system

6.6.4 Enable the Use of Scheduling Groups

The scheduling group is a master data attribute of product and product location in the Demand Data Foundation (DDF) that can be used as selection criterion for the workload selection of the replenishment calculation or as condition for configuration assignments. There is no standard replication of the scheduling group from SAP ERP or SAP S/4HANA Retail to DDF.

To use scheduling groups for SAP Replenishment Planning, implement one or both of the following Business Add-Ins (BAdI) of enhancement spot `ES_DMF_BADI` in the source master data system. These BAdIs serve to replicate information from SAP ERP or SAP S/4HANA to the DDF scheduling group at product or product location level:

- `DMF_BADI_PRODUCT_SCHED_GRP` for mapping of information to product scheduling group
- `DMF_BADI_PRODLOC_SCHED_GRP` for mapping of information to product location scheduling group

Use one or both BAdIs depending on the level where you store or where you use the data. Both BAdIs provide an example implementation (class) for mapping the loading group from the source master data system to the scheduling group in DDF, either at article (product) level (`MAW1-WLADG`) to product scheduling group, or at article/site (product/location) level (`MARC-LADGR`) to product location scheduling group.

Once a BAdI is implemented, you must implement the change pointer for the field you are mapping the scheduling group to. For detailed information, see the documentation of the Business Add-Ins that you plan to implement in the source master data system.

6.6.5 Adjust the Use of Shelf Life Information

During the replenishment calculation, SAP Replenishment Planning considers information on the minimum remaining shelf life of your products to determine the expected spoilage of the order plan items . This information is replicated from the article master data in the ERP system into Demand Data Foundation (DDF).

Use

The shelf life information is composed of:

- Minimum remaining shelf life: Specifies the minimum amount of time for which a product must keep upon goods receipt before the assumed shelf life of the goods receipt quantity ends. This information is considered for the expected spoilage, which can be used as a cost component.
- Minimum remaining shelf life percentage for store: Specifies the percentage of the minimum remaining shelf life a product must have when it arrives at the store.

Extensibility

If the minimum remaining shelf life percentage for store is not maintained in the ERP system, the percentage has a default value of zero. Having a value of zero means that 0% of the minimum remaining shelf life is

assumed for the store, and 100% for the distribution center. To change the percentage for store to any other value of your choice that is not maintained in the ERP system, you can implement an Business Add-In (BAdI) in the ERP outbound.

To do so, you can access the relevant BAdI *BAdI: Material Interface RFC* `(DMF_BADI_PRODUCT_RFC)` in the ERP system in transaction `spro` under *Logistics General* > *Merchandise Lifecycle Optimization* > *Outbound* > *Business Add-Ins* > *Material*.

For more information on the use of minimum remaining shelf life and minimum remaining shelf life percentage for store, see Master Data and Transaction Data in the *SAP Replenishment Planning Application Help*.

6.6.6 Set Up SAP Fiori Apps for SAP Replenishment Planning

After you have set up and configured your system landscape, you implement the SAP Fiori apps for SAP Replenishment Planning by performing different tasks on the front-end server and on the back-end server.

Context

The SAP Fiori launchpad is the single entry point for the SAP Fiori apps delivered with SAP Replenishment Planning. In addition to these setup instructions, technical implementation information is available for each app.

- App Implementation: Manage Configuration Assignments [page 366]
- App Implementation: Manage Constraint Profiles [page 368]
- App Implementation: Manage Cost Profiles [page 370]
- App Implementation: Manage Procurement Schedules [page 371]
- App Implementation: Manage Shelf Cost Profiles [page 373]
- App Implementation: Review Order Plan Items [page 375]
- App Implementation: Simulate Replenishment [page 377]
- App Implementation: Manage Alerts [page 379]
- App Implementation: Manage Alert Profiles [page 385]
- App Implementation: Manage Exception Profiles [page 387]

Prerequisites

- You have configured SAP Gateway.

  > **i** Note
  >
  > The **common OData services** are delivered as part of the SAP Fiori front-end server and are located in the SAP Gateway system. They are required for the SAP Fiori launchpad and you must always activate them.

> For information, see Activate OData Services [page 114].

- You have installed the UDF reuse component (SAP UI5 Application `UDFREUSE` and OData service `/DMF/DEMAND_PLAN_UTILITIES`). For information, see Set Up the UDF and DDF Reuse Component [page 364].
- (Optional, recommended) To be able to display on-screen help directly in the app and easily call up a detailed app description, you must have enabled the in-app help with the underlying framework. See section Enable In-App Help [page 416].

Process Steps

To set up the SAP Fiori apps for SAP Replenishment Planning, perform the following steps.

Activate ICF Services

For security reasons, the Internet Communication Framework (ICF) services are delivered in an inactive state. You must activate the services that are required for the apps.

> **i Note**
>
> After an upgrade, you must ensure that the Internet Communication Framework (ICF) services required for the apps are still active.

To activate the ICF services required for the apps:

1. Log on to your front-end server.
2. Execute transaction `SICF`.
3. In the *Define Services* screen, make the following selections:
   - *Hierarchy Type*: **`SERVICE`**
   - *Virtual Host*: **`DEFAULT_HOST`**
   - *Service Path*:

App	Service Path
Manage Configuration Assignments	`/sap/bc/ui5_ui5/sap/configassignman`
Manage Constraint Profiles	`/sap/bc/ui5_ui5/sap/prflconstrntman`
Manage Cost Profiles	`/sap/bc/ui5_ui5/sap/prflcostsman`
Manage Procurement Schedules	`/sap/bc/ui5_ui5/sap/procschedeman`
Manage Shelf Cost Profiles	`/sap/bc/ui5_ui5/sap/prflshlfcapman`
Review Order Plan Items	`/sap/bc/ui5_ui5/sap/review_opi`
Simulate Replenishment	`/sap/bc/ui5_ui5/sap/repl_simulation`
Manage Alerts	`/sap/bc/ui5_ui5/sap/rtlplngalrtman`
Manage Alert Profiles	`/sap/bc/ui5_ui5/sap/prflalertsman`
Manage Exception Profiles	`/sap/bc/ui5_ui5/sap/prflexcptnman`

4. Choose *Execute* (F8).
5. Under *Virtual Hosts / Services*, double-click a service to open the *Create/Change a Service* screen.

App	ICF Service
Manage Configuration Assignments	`configassignman`
Manage Constraint Profiles	`Prflconstrntman`
Manage Cost Profiles	`prflcostsman`
Manage Procurement Schedules	`procschedeman`
Manage Shelf Cost Profiles	`prflshlfcapman`
Review Order Plan Items	`review_opi`
Simulate Replenishment	`repl_simulation`
Manage Alerts	`Rtlplngalrtman`
Manage Alert Profiles	`prflalertsman`
Manage Exception Profiles	`prflexcptnman`

6. To activate a service, choose *Service/Host* > *Activate*.

> **i Note**
>
> You can check the activation status by selecting the service and opening the context menu. If the *Activate Service* option is grayed out, this means the service is already active.

7. Repeat steps 3 to 6, this time using **`/sap/bc/ui5_ui5/sap/udfreuse/`** as the service path.
8. Repeat steps 3 to 6, this time using **`/sap/bc/ui5_ui5/sap/ddfreuse_v2/`** as the service path.

Activate Application-Specific OData Services for SAP Replenishment Planning

To activate the application-specific OData services required for SAP Replenishment Planning:

1. Log on to your front-end server (your SAP Gateway system).
2. In transaction **SPRO**, navigate to *SAP Reference IMG* > *SAP NetWeaver* > *SAP Gateway* > *OData Channel* > *Administration* > *General Settings* > *Activate and Maintain Services* and execute the Customizing activity.

> **→ Tip**
>
> As a quick shortcut to the same screen, use transaction `/n/IWFND/MAINT_SERVICE`.

   The *Service Catalog* shows you all the services that are currently active in your SAP Gateway system.
3. Activate the services that are required for the SAP Replenishment Planning application:
   1. Choose *Add Service*.
      The *Add Selected Services* screen is displayed.
   2. In *System Alias*, select the alias of your back-end system.
   3. Choose *Get Services* (or press ENTER).
      The available services are displayed.

4. Use the following table for reference and select the services:

App	OData Service
Manage Configuration Assignments	`/DMF/PARAMETER_ASSIGNMENT_SRV`
Manage Constraint Profiles	`/DMF/PROFILE_CONSTRAINT_PARAM_SRV`
Manage Cost Profiles	`/DMF/PROFILE_COST_PARAM_SRV`
Manage Procurement Schedules	`/DMF/PROCUREMENT_SCHEDULE_SRV`
Manage Shelf Cost Profiles	`/DMF/PRFL_SHLFCAP_VIOLTN_PARAM_SRV`
Review Order Plan Items	`/XRP/REVIEW_ORDER_PLAN_ITEMS_SRV` `/IWBEP/MESSAGE_TEXT`
Simulate Replenishment	`/XRP/OD_REPLNMT_COST_SIMLN_SRV`
Manage Alerts	`/DMF/MANAGE_RTLPLNG_ALERTS_SRV`
Manage Alert Profiles	`/DMF/MANAGE_RTLPLNG_ALERT_PRFL_SRV`
Manage Exception Profiles	`/DMF/PROFILE_EXCPTN_PARAM_SRV`

4. Choose *Add Selected Services* and follow the instructions.

> **i Note**
>
> User roles are only needed if you want to have connections to multiple back-end systems or multiple clients on the same back-end. The user roles are system-specific and are not delivered by default. If required, you must create them manually. If you define multiple user roles for different connections, make sure you have only one role assigned to your user at any time. If you need to change roles, first remove the old role from your user, then assign the new role.

Enable the Apps for SAP Fiori Launchpad

To be able to access the apps from the SAP Fiori launchpad, your front-end system user must have the necessary role(s) assigned. This allows you to access the business catalogs and business groups required for the apps.

You can use the following role as a template for your own roles: *Replenishment Planner* (`SAP_XRP_TCR_T`). The following catalogs and business groups are assigned to this role:

Component	Technical Name
Technical Catalog	`SAP_XRP_TC_REPL` (*Replenishment Planning*)
Business Catalog	`SAP_XRP_BC_REPL` (*Replenishment Planning*)
Business Group	`SAP_XRP_BCG_REPL_CONFIG` (*Replenishment Configuration*)
Business Group	`SAP_XRP_BCG_REPL_PLANNING` (*Replenishment Planning*)

Component	Technical Name
Business Group	SAP_XRP_BCG_SIMULATION (*Replenishment Simulation*)
Business Group	SAP_XRP_BCG_ALERT_MANAGEMENT (*Alert Management*)

To enable the apps for SAP Fiori launchpad:

1. Log on to your front-end system.
2. Execute transaction SU01 to open the *User Maintenance* screen.
3. Enter your front-end user name in the *User* field and choose *Change*.
4. On the *Roles* tab, assign the *Replenishment Planner* (SAP_XRP_TCR_T) role to your user or assign a custom role that was created by using the *Replenishment Planner* (SAP_XRP_TCR_T) role as a template.
5. Save your changes.

> → Tip
>
> If you already have an SAP Fiori launchpad open, clear your web browser cache to see the changes.

> i Note
>
> To access the *Analyze Forecast* app either from the SAP Fiori launchpad or in the *Review Order Plan Items* app and to run the UDF reuse component, the *Demand Planner (Retail)* (SAP_DPL_TCR_T) business role is required.

Assign Area of Responsibility (AOR) to ABAP Back-End User

You can only display and select product and location hierarchies that have been assigned as an AOR to your ABAP back-end user.

To assign an area of responsibility (AOR) to an ABAP back-end user:

1. Log on to your ABAP back-end system.
2. Execute transaction NWBC to open the SAP NetWeaver Business Client.
3. Choose *Services* > *Maintain Area of Responsibility* > *Product Hierarchy* and *Location Hierarchy*.
4. Select your ABAP back-end user, choose *Continue*, and define the AOR.
   For instructions, see the application help for SAP Customer Activity Repository at https://help.sap.com/viewer/p/CARAB. Search for *Maintain Area of Responsibility* and follow the instructions.

6.6.6.1 Set Up the UDF and DDF Reuse Component

Before implementing an app for SAP Replenishment Planning, you must install the reuse component for UDF. For the *Manage Alerts* app, you must install the reuse components for UDF and DDF.

Context

The UDF reuse component consists of two parts:

- Front-end server: SAP UI5 Application `UDFREUSE`
- Back-end server: OData service `/DMF/DEMAND_PLAN_UTILITIES`

The DDF reuse component consists of:

- Front-end server: SAP UI5 Application `DDFREUSE_V2`

Process Steps

To set up the reuse components for UDF and DDF, perform the following steps:

Activate ICF Services

For security reasons, the Internet Communication Framework (ICF) services are delivered in an inactive state. You must activate the services that are required for the UDF and DDF reuse component.

> **i** Note
>
> After an upgrade, you must ensure that the Internet Communication Framework (ICF) services required for the UDF and DDF reuse components are still active.

To activate the ICF services required for the UDF and DDF reuse components, perform the following steps:

1. Log on to your front-end server.
2. Execute transaction `SICF`.
3. In the *Define Services* screen, make the following selections:
   - *Hierarchy Type*: **`SERVICE`**
   - *Virtual Host*: **`DEFAULT_HOST`**
   - *Service Path*:

Component	Service Path
UDF reuse component	`/sap/bc/ui5_ui5/sap/udfreuse`
DDF reuse component	`/sap/bc/ui5_ui5/sap/ddfreuse_v2`

4. Choose *Execute* (F8).

5. Under *Virtual Hosts / Services*, double-click a service to open the *Create/Change a Service* screen.

Component	ICF Service
UDF reuse component	`udfreuse`
DDF reuse component	`ddfreuse_v2`

6. To activate a service, choose *Service/Host* > *Activate*.

> **i Note**
>
> You can check the activation status by selecting the service and opening the context menu. If the *Activate Service* option is grayed out, this means the service is already active.

Create your custom copy of the `/DMF/DPL` role on the back-end server

1. Log on to the back-end server.
2. Execute transaction `PFCG` to open the *Role Maintenance* screen.
3. Search for the `/DMF/DPL` role.

> **i Note**
>
> `/DMF/DPL` (*Demand Planner (Retail)*) is the back-end server authorization role required for the apps for demand forecasting (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*), demand data foundation (*Manage Configuration Assignments*, *Manage Alerts*, *Manage Alert Profiles*) and SAP Replenishment Planning (*Review Order Plan Items*, *Simulate Replenishment*).

> **⚠ Caution**
>
> `/DMF/DPL` is one of the standard roles delivered by SAP.
>
> Standard roles are delivered as templates (most begin with the prefix `SAP_*`). Never change the standard roles, but only your custom copies of these roles (`Z_*`). Otherwise, any standard roles that you have changed will be overwritten by newly delivered standard roles during a later upgrade or release change.

4. Create your custom copy of `/DMF/DPL` on the back-end server:
   Choose *Role* > *Copy* and enter a name from the customer namespace for your copied role.
5. Save your changes.

The authorization object `/DMF/DPL` is assigned to the role `/DMF/DPL`. This authorization object implements the following components:

- Product and product hierarchy filters
- Location and location hierarchy filters
- Chart component consisting of time series chart, decomposition chart and table view

Among others, these components are used by the *Review Order Plan Items* and *Simulate Replenishment* apps.

6.6.6.2 App Implementation: Manage Configuration Assignments

→ Tip

You can also find the data required to implement the *Manage Configuration Assignments* app in the SAP Fiori apps reference library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html#?appId=F4644.

Prerequisites

Before implementing the app, you must ensure the following:

- You have installed the UDF reuse component (SAP UI5 Application `UDFREUSE` and OData service `/DMF/DEMAND_PLAN_UTILITIES`). For information see Set Up the UDF and DDF Reuse Component [page 364].

Implementation Tasks

The following section lists tasks that have to be performed to implement this app. The tables contain the app-specific data required for these tasks.

Front-End Server: Activate OData Services

Component	Technical Name
OData Service (Version Number)	`/DMF/PARAMETER_ASSIGNMENT_SRV` (1)

For more information about activating OData services, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate Application-Specific OData Services for SAP Replenishment Planning*.

Front-End Server: Activate SAPUI5 Application

Component	Technical Name
SAP UI5 Application	`CONFIGASSIGNMAN`

For more information about how to activate the ICF service, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate ICF Services*.

Front-End Server: Enable App for Access in SAP Fiori Launchpad

The SAP Fiori launchpad is the entry point to apps. In the launchpad, the user can see and access those apps that have been assigned by an administrator to the catalog designed for this user's role. For more information, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Enable the Apps for SAP Fiori Launchpad*.

SAP delivers technical catalogs for groups of SAP Fiori apps as repositories to create your own catalogs in the launchpad designer. Along with these catalogs, more technical content is delivered for each SAP Fiori app.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	`SAP_XRP_TC_REPL`
Business Catalog	`SAP_XRP_BC_REPL`
Business Group	`SAP_XRP_BCG_REPL_CONFIG`

Back-End Server: Set Up Authorizations

On the **back-end server**, set up the authorizations for SAP Replenishment Planning as described in Set Up Back-End Roles and Authorizations [page 392]. For the *Manage Configuration Assignments* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
`/DMF/DPL`	Authorization to use the product and product hierarchy filters and the location and location hierarchy filters in the *Manage Configuration Assignments* app.	ACTVT	Execute	Activity

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/MCASG	Authorization to display and change configuration assignments by using the *Manage Configuration Assignments* app.	ACTVT	Display Change	Activity

6.6.6.3 App Implementation: Manage Constraint Profiles

> → Tip
>
> You can also find the data required to implement the *Manage Constraint Profiles* app in the SAP Fiori apps reference library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html#?appId=F4477 .

Implementation Tasks

The following section lists tasks that have to be performed to implement this app. The tables contain the app-specific data required for these tasks.

Front-End Server: Activate OData Services

Component	Technical Name
OData Service (Version Number)	/DMF/PROFILE_CONSTRAINT_PARAM_SRV (1)

For more information about activating OData services, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate Application-Specific OData Services for SAP Replenishment Planning*.

Front-End Server: Activate SAPUI5 Application

Component	Technical Name
SAP UI5 Application	PRFLCONSTRNTMAN

For more information about how to activate the ICF service, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate ICF Services*.

Front-End Server: Enable App for Access in SAP Fiori Launchpad

The SAP Fiori launchpad is the entry point to apps. In the launchpad, the user can see and access those apps that have been assigned by an administrator to the catalog designed for this user's role. For more information, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Enable the Apps for SAP Fiori Launchpad*.

SAP delivers technical catalogs for groups of SAP Fiori apps as repositories to create your own catalogs in the launchpad designer. Along with these catalogs, more technical content is delivered for each SAP Fiori app.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	SAP_XRP_TC_REPL
Business Catalog	SAP_XRP_BC_REPL
Business Group	SAP_XRP_BCG_REPL_CONFIG

Back-End Server: Set Up Authorizations

On the **back-end server**, set up the authorizations for SAP Replenishment Planning as described in Set Up Back-End Roles and Authorizations [page 392]. For the *Manage Constraint Profiles* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/PRFLM	Authorization to display and change constraint profiles by using the *Manage Constraint Profiles* app.	ACTVT	Display Maintain	Activity

6.6.6.4 App Implementation: Manage Cost Profiles

> → Tip
>
> You can also find the data required to implement the *Manage Cost Profiles* app in the SAP Fiori apps reference library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html#?appId=F4478.

Implementation Tasks

The following section lists tasks that have to be performed to implement this app. The tables contain the app-specific data required for these tasks.

Front-End Server: Activate OData Services

Component	Technical Name
OData Service (Version Number)	`/DMF/PROFILE_COST_PARAM_SRV` (1)

For more information about activating OData services, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate Application-Specific OData Services for SAP Replenishment Planning*.

Front-End Server: Activate SAPUI5 Application

Component	Technical Name
SAP UI5 Application	`PRFLCOSTSMAN`

For more information about how to activate the ICF service, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate ICF Services*.

Front-End Server: Enable App for Access in SAP Fiori Launchpad

The SAP Fiori launchpad is the entry point to apps. In the launchpad, the user can see and access those apps that have been assigned by an administrator to the catalog designed for this user's role. For more information, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Enable the Apps for SAP Fiori Launchpad*.

SAP delivers technical catalogs for groups of SAP Fiori apps as repositories to create your own catalogs in the launchpad designer. Along with these catalogs, more technical content is delivered for each SAP Fiori app.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	SAP_XRP_TC_REPL
Business Catalog	SAP_XRP_BC_REPL
Business Group	SAP_XRP_BCG_REPL_CONFIG

Back-End Server: Set Up Authorizations

On the **back-end server**, set up the authorizations for SAP Replenishment Planning as described in Set Up Back-End Roles and Authorizations [page 392]. For the *Manage Cost Profiles* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/PRFLM	Authorization to display and change cost profiles by using the *Manage Cost Profiles* app.	ACTVT	Display Maintain	Activity

6.6.6.5 App Implementation: Manage Procurement Schedules

> → Tip
>
> You can also find the data required to implement the *Manage Procurement Schedules* app in the SAP Fiori apps reference library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html#?appId=F4475.

Implementation Tasks

The following section lists tasks that have to be performed to implement this app. The tables contain the app-specific data required for these tasks.

Front-End Server: Activate OData Services

Component	Technical Name
OData Service (Version Number)	`/DMF/PROCUREMENT_SCHEDULE_SRV` (1)

For more information about activating OData services, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate Application-Specific OData Services for SAP Replenishment Planning*.

Front-End Server: Activate SAPUI5 Application

Component	Technical Name
SAP UI5 Application	`PROCSCHEDEMAN`

For more information about how to activate the ICF service, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate ICF Services*.

Front-End Server: Enable App for Access in SAP Fiori Launchpad

The SAP Fiori launchpad is the entry point to apps. In the launchpad, the user can see and access those apps that have been assigned by an administrator to the catalog designed for this user's role. For more information, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Enable the Apps for SAP Fiori Launchpad*.

SAP delivers technical catalogs for groups of SAP Fiori apps as repositories to create your own catalogs in the launchpad designer. Along with these catalogs, more technical content is delivered for each SAP Fiori app.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	`SAP_XRP_TC_REPL`
Business Catalog	`SAP_XRP_BC_REPL`
Business Group	`SAP_XRP_BCG_REPL_CONFIG`

Back-End Server: Set Up Authorizations

On the **back-end server**, set up the authorizations for SAP Replenishment Planning as described in Set Up Back-End Roles and Authorizations [page 392]. For the *Manage Procurement Schedules* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/MPSCH	Authorization to display and change procurement schedules by using the *Manage Procurement Schedules* app.		Display Change	Activity

6.6.6.6 App Implementation: Manage Shelf Cost Profiles

> → Tip
>
> You can also find the data required to implement the *Manage Shelf Cost Profiles* app in the SAP Fiori apps reference library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html#?appId=F4476.

Implementation Tasks

The following section lists tasks that have to be performed to implement this app. The tables contain the app-specific data required for these tasks.

Front-End Server: Activate OData Services

Component	Technical Name
OData Service (Version Number)	/DMF/PRFL_SHLFCAP_VIOLTN_PARAM_SRV (1)

For more information about activating OData services, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *SAP Replenishment Planning*.

Front-End Server: Activate SAPUI5 Application

Component	Technical Name
SAP UI5 Application	PRFLSHLFCAPMAN

For more information about how to activate the ICF service, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359].

Front-End Server: Enable App for Access in SAP Fiori Launchpad

The SAP Fiori launchpad is the entry point to apps. In the launchpad, the user can see and access those apps that have been assigned by an administrator to the catalog designed for this user's role. For more information, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Enable the Apps for SAP Fiori Launchpad*.

SAP delivers technical catalogs for groups of SAP Fiori apps as repositories to create your own catalogs in the launchpad designer. Along with these catalogs, more technical content is delivered for each SAP Fiori app.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	SAP_XRP_TC_REPL
Business Catalog	SAP_XRP_BC_REPL
Business Group	SAP_XRP_BCG_REPL_CONFIG

Back-End Server: Set Up Authorizations

On the **back-end server**, set up the authorizations for SAP Replenishment Planning as described in Set Up Back-End Roles and Authorizations [page 392]. For the *Manage Shelf Cost Profiles* under app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/PRFLM	Authorization to display and change shelf cost profiles by using the *Manage Shelf Cost Profiles* app.	ACTVT	Display Maintain	Activity

6.6.6.7 App Implementation: Review Order Plan Items

> → Tip
>
> You can also find the data required to implement the *Review Order Plan Items* app in the SAP Fiori apps reference library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html?appId=F4235.

Prerequisites

Before implementing the app, you must ensure the following:

- You have installed the UDF reuse component (SAP UI5 Application `UDFREUSE` and OData service `/DMF/DEMAND_PLAN_UTILITIES`). For information, see Set Up the UDF and DDF Reuse Component [page 364].

To be able to navigate to other apps from the *Review Order Plan Items* app, follow the corresponding implementation instructions:

- For the *Analyze Forecast* app as the target for the navigation from the *Review Order Plan Items* app, see Set Up the Analyze Forecast App [page 158] and follow the instructions.
- For the *Manage Constraint Profiles* app as the target for the navigation from the *Calculation Basis* section of the *Review Order Plan Items* app, see App Implementation: Manage Constraint Profiles [page 368] and follow the instructions.
- For the *Manage Cost Profiles* app as the target for the navigation from the *Calculation Basis* section of the *Review Order Plan Items* app, see App Implementation: Manage Cost Profiles [page 370] and follow the instructions.
- For the *Manage Shelf Cost Profiles* app as the target for the navigation from the *Calculation Basis* section of the *Review Order Plan Items* app, see App Implementation: Manage Shelf Cost Profiles [page 373] and follow the instructions.
- For the *Manage Exception Profiles* app as the target for the navigation from the *Calculation Basis* section of the *Review Order Plan Items* app, see App Implementation: Manage Exception Profiles [page 387] and follow the instructions.

Implementation Tasks

The following sections list tasks that have to be performed to implement this app. The tables contain the app-specific data required for these tasks.

Front-End Server: Activate OData Services

Component	Technical Name
OData Service (Version Number)	`/XRP/REVIEW_ORDER_PLAN_ITEMS` (1)

For more information about activating OData services, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate Application-Specific OData Services for SAP Replenishment Planning*.

Front-End Server: Activate SAPUI5 Application

Component	Technical Name
SAPUI5 Application	`REVIEW_OPI`

For more information about how to activate the ICF service, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate ICF Services*.

Front-End Server: Enable App for Access in SAP Fiori Launchpad

The SAP Fiori launchpad is the entry point to apps. In the launchpad, the user can see and access those apps that have been assigned by an administrator to the catalog designed for this user's role. For more information, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Enable the Apps for SAP Fiori Launchpad*.

SAP delivers technical catalogs for groups of SAP Fiori apps as repositories to create your own catalogs in the launchpad designer. Along with these catalogs, more technical content is delivered for each SAP Fiori app.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	`SAP_XRP_TC_REPL` (*Replenishment Planning*)
Business Catalog	`SAP_XRP_BC_REPL` (*Replenishment Planning*)
Business Group	`SAP_XRP_BCG_REPL_PLANNING` (*Replenishment Planning*)

Back-End Server: Set Up Authorizations

On the **back-end server**, set up the authorizations for SAP Replenishment Planning as described in Set Up Back-End Roles and Authorizations [page 392]. For the *Review Order Plan Items* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/DPL	Authorization to: • Use the product and product hierarchy filters and the location and location hierarchy filters in the *Review Order Plan Items* app. • Create forecast corrections in the *Adjust Forecast* app. • Create demand influencing factors assignments in the *Manage Demand Influencing Factors* app.	ACTVT	Execute	Activity
/XRP/ROPI	Authorization to display and change order plan items by using the *Review Order Plan Items* app.	ACTVT	Display Change	Activity

6.6.6.8 App Implementation: Simulate Replenishment

> → Tip
>
> You can also find the data required to implement the *Simulate Replenishment* app in the SAP Fiori apps reference library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html?appId=F4396.

Prerequisites

Before implementing the app, you must ensure the following:

- You have installed the UDF reuse component (SAP UI5 Application `UDFREUSE` and OData service `/DMF/DEMAND_PLAN_UTILITIES`). For information, see Set Up the UDF and DDF Reuse Component [page 364].

Implementation Tasks

The following sections list tasks that have to be performed to implement this app. The tables contain the app-specific data required for these tasks.

Front-End Server: Activate OData Services

Component	Technical Name
OData Service (Version Number)	`/XRP/OD_REPLNMT_COST_SIMLN_SRV` (1)
OData Service (Version Number)	`/DMF/DEMAND_PLAN_UTILITIES_SRV` (1)

For more information about activating OData services, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate Application-Specific OData Services for SAP Replenishment Planning*.

Front-End Server: Activate SAPUI5 Application

Component	Technical Name
SAPUI5 Application	`repl_simulation`

For more information about how to activate the ICF service, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate ICF Services*.

Front-End Server: Enable App for Access in SAP Fiori Launchpad

The SAP Fiori launchpad is the entry point to apps. In the launchpad, the user can see and access those apps that have been assigned by an administrator to the catalog designed for this user's role. For more information, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Enable the Apps for SAP Fiori Launchpad*.

SAP delivers technical catalogs for groups of SAP Fiori apps as repositories to create your own catalogs in the launchpad designer. Along with these catalogs, more technical content is delivered for each SAP Fiori app.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	`SAP_XRP_TC_REPL` (*Replenishment Planning*)
Business Catalog	`SAP_XRP_BC_REPL` (*Replenishment Planning*)
Business Group	`SAP_XRP_BCG_SIMULATION` (*Replenishment Simulation*)

Back-End Server: Set Up Authorizations

On the **back-end server**, set up the authorizations for SAP Replenishment Planning as described in Set Up Back-End Roles and Authorizations [page 392]. For the *Simulate Replenishment* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
`/DMF/DPL`	Authorization to perform several actions in different SAP Fiori apps. For more information, see Set Up Back-End Roles and Authorizations [page 392].	ACTVT	Execute	Activity
`/XRP/SIM`	Authorization to execute the Simulate Replenishment app and the replenishment simulation with report `/XRP/REPLENISHMENT_SIM`.	ACTVT	Execute	Activity

6.6.6.9 App Implementation: Manage Alerts

> → Tip
>
> You can also find the data required to implement the *Manage Alerts* app in the SAP Fiori apps reference library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html#?appId=F5163.

Prerequisites

Before implementing the app, you must ensure the following:

- You have installed the UDF reuse component (SAP UI5 Application `UDFREUSE` and OData service `/DMF/DEMAND_PLAN_UTILITIES`). For information, see Set Up the UDF and DDF Reuse Component [page 364].
- You have installed the DDF reuse component (SAP UI5 Application `ddfreuse_v2`). For information, see Set Up the UDF and DDF Reuse Component [page 364].

To be able to navigate to other apps from the *Manage Alerts* app, follow the corresponding implementation instructions:

- For the *Review Order Plan Items* app as the target for the navigation from the *Manage Alerts* app, see App Implementation: Review Order Plan Items [page 375] and follow the instructions.

Implementation Tasks

The following section lists tasks that have to be performed to implement this app. The tables contain the app-specific data required for these tasks.

Front-End Server: Activate OData Services

Component	Technical Name
OData Service (Version Number)	`/DMF/MANAGE_RTLPLNG_ALERTS_SRV` (1)

Re-Use Component	Technical Name
OData Service (Version Number)	`APS_CHANGE_DOCUMENTS_SRV` (1)

For more information about activating OData services, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate Application-Specific OData Services for SAP Replenishment Planning*.

Front-End Server: Activate SAPUI5 Application

Component	Technical Name
SAP UI5 Application	`Rtlplngalrtman`

For more information about how to activate the ICF service, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate ICF Services*.

Front-End Server: Enable App for Access in SAP Fiori Launchpad

The SAP Fiori launchpad is the entry point to apps. In the launchpad, the user can see and access those apps that have been assigned by an administrator to the catalog designed for this user's role. For more information, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Enable the Apps for SAP Fiori Launchpad*.

SAP delivers technical catalogs for groups of SAP Fiori apps as repositories to create your own catalogs in the launchpad designer. Along with these catalogs, more technical content is delivered for each SAP Fiori app.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	SAP_XRP_TC_REPL
Business Catalog	SAP_XRP_BC_REPL
Business Group	SAP_XRP_BCG_ALERT_MANAGEMENT

Back-End Server: Set Up Authorizations

On the **back-end server**, set up the authorizations for SAP Replenishment Planning as described in Set Up Back-End Roles and Authorizations [page 392]. For the *Manage Alerts* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/MNGAT	Authorization to display and change alert status by using the *Manage Alerts* app.	ACTVT	Display Maintain	Activity

6.6.6.9.1 App Extensibility: Manage Alerts

You can extend the *Manage Alerts* app regarding different aspects according to your business needs. With the extensibility, you can create custom fields, data source extensions, and implementation descriptions for specific business contexts to enhance pre-delivered applications that are extensible to adapt them to your business needs.

To achieve the extensibility of this app, you need to go through the following process steps.

Creation of New Alert Types and Alert Key Figures

You can add a new alert key figure using the Customizing activity *Maintain Key Figures* in Customizing for *Cross-Application Components* under ▶ *Replenishment Planning* ▶ *Alert and Exception Management* ▶.

Perform the following steps to create an alert key figure:

- Navigate to the relevant Customizing activity and choose *New Entries*.
- Enter the values for the fields *Alert Key Figure*, *Alert Key Figure Description*.
- Choose *Save*.

You can add a new alert type using the Customizing activity *Define Alert Types and Key Figure Assignments* in Customizing for *Cross-Application Components* under ▶ *Replenishment Planning* ▶ *Alert and Exception Management* ▶.

Perform the following steps to create an alert type:

- Navigate to the relevant Customizing activity and choose *New Entries*.
- Enter the values for the fields *Alert Type*, *Alert Type Description*, *Alert Priority* (optional), and *Average Unit Sales Threshold* (optional).

  > **i Note**
  >
  > Note that the *Alert Assignment* checkbox must be selected if you want this alert type to be displayed in the dropdown list for alert assignment in the *Manage Configuration Assignments* app and the search help (F4) of the *Alert Type* filter in the *Manage Alerts* app and the dropdown list for the alert type in the *Manage Alert Profiles* app.

- Choose *Save*.
- Select the alert type that you have created before and navigate to the view *Key Figure Assignments and Weighting*.
- Choose *New Entries*.
- Enter the values for the fields *Alert Key Figure* and, *Weighting Factor*. Choose *Save*.

BAdI Extension

This process enables you to create and maintain implementations of custom logic that can be used to enhance applications and change application behavior without impacting the delivered source code. You can apply further upgrades to the original business function without losing your specific enhancements. BAdI calls can be integrated into customer applications which in turn can then be enhanced by other customer applications.

In the creation process for alerts with new custom alert types, you can use the alert generation report (`/DMF/GENERATE_ALERTS`) provided by SAP. You can do this by adding your own logic to the BAdI without changing the report core logic to generate new alerts along with the user-defined alert types. For more information on the report, see the accompanying system documentation.

You can adapt the alerts and alert scoring based on your business needs in Customizing for *Cross-Application Components* under ▶ *Replenishment Planning* ▶ *Alert and Exception Management* ▶ *Enhancements Using Business Add-Ins* ▶.

The following BAdIs are available for extensibility purposes:

- BAdI:Adaptation of Alerts (`/DMF/MANAGE_ALERT_TYPES`)
- BAdI: Adaptation of Alert Scoring (`/DMF/MANAGE_ALERT_SCORING`)

Perform the following steps to implement BAdIs from the Customizing activity:

- Select the *IMG - Activity* button. The *Create Enhancement Implementation* window opens.
- Add the enhancement implementation and a short text. Click on *creation of enhancement* button.

As a result, the enhancement implementation is created. Add the BAdI implementation, description, and implementing class information.

You can find the detailed steps about BAdI implementation in the document *Enhancement Framework* on SAP Help Portal for SAP Customer Activity Repository applications bundle at https://help.sap.com/viewer/p/CARAB and search for section *How to Implement a BAdI* and look for the latest version.

For more information on BAdIs see, *Enhancement Framework* on SAP Help Portal for SAP Customer Activity Repository applications bundle at https://help.sap.com/viewer/p/CARAB and search for section *Business Add-Ins (BAdIs)* and look for the latest version.

CDS View Extension

A CDS view extension is a transportable extension that can be used to add fields from the entities used by the view without making modifications. A CDS view can be used to add new elements or CDS annotations from its underlying data source or to define new associations for the CDS view.

Extension of CDS Views for Custom Alerts

The standard CDS view `/DMF/C_RtlPlngAlertDetails` can be extended if you have custom alerts and you want to view the information of custom alerts in the *Manage Alerts* Fiori application.

To display additional information in the detail screen of the Fiori application for the custom alerts, you need to create your own custom CDS views.

Follow the below steps:

- Create your own custom CDS views for the custom alerts.
- Create an extension view for `/DMF/C_RtlPlngAlertDetails`. Add the custom CDS view in extension view through associations and expose all the fields that you want to display in the *Manage Alerts* Fiori application's detail view.
- The extension view will extend the existing standard CDS consumption view `/DMF/C_RtlPlngAlertDetails`.
- Add basic UI annotations to show those fields on the user interface.

> **i Note**
>
> You must expose all the fields from all the custom CDS views through association if you want to show the fields on the user interface (UI).

- After completing the above steps, the new custom fields of custom alerts will be displayed automatically in the *Manage Alerts* app.

> **i Note**
>
> All the custom fields that are exposed in the CDS extension view will be displayed in the *Manage Alerts* app. You need to follow the adaptation project to manipulate the visibility of alert type-specific fields in the table and hide the fields that are not relevant for the specific alert type.

Extension of CDS Views for Standard Alerts

If you have the custom fields to add and display in the *Manage Alerts* app for standard alert types, the following CDS views need to be extended:

- `/DMF/C_RtlPlngAlertDetailsFcst` for *High Forecast*
- `/DMF/C_RtlPlngAlertDetOrdPrpsl` for *High Order Plan Quantity*

Extend the above views with the custom fields. As you add them, the new custom fields will be displayed automatically in the *Manage Alerts* app.

For more information on extending the CDS views see the following sources,

- *About ABAP Programming Model for SAP Fiori* on SAP Help Portal for SAP Customer Activity Repository applications bundle at https://help.sap.com/viewer/p/CARAB and search for section *Extending Apps with Custom Fields* and look for the latest version.
- https://help.sap.com/doc/abapdocu_750_index_htm/7.50/en-US/abencds_f1_extend_view.htm.

Extending Manage Alerts Fiori Application with Adaptation Project

The SAPUI5 adaptation project allows you create an app variant for an existing SAP Fiori elements-based application or freestyle application. You can create an app variant that includes the changes you make to the source application and to the variant itself. Extensions are made via SAPUI5 flexibility possibilities and will not modify the source. This modification-free approach allows you to reference the source application and its artifacts instead of modifying the source artifacts themselves.

An adaptation project behaves as follows:

- Start as a preview
- Adapt using SAPUI5 adaptation project
- Deploy from SAP business application studio

The artifacts in an adaptation project represent only the changes that you make but not the entire application that you reuse. The app variant refers to the original application but contains a separate set of changes created in the adaptation project. Also, an application ID is defined for the variant and needs separate registration in Fiori Launchpad. The option to create app variants based on existing apps allows you to keep both instances running and keeps the original application untouched. You can configure both application instances as different tiles on the SAP Fiori Launchpad. You can work with both applications and assign the app variant to a different set of users.

In the alerting extension process, you can create an adaptation project to display custom alert type-specific fields.

Creation of Adaptation Project

Perform the following steps to create an adaptation project:

- Right-click on the workspace, select *New* > *Adaptation Project*. Enter values for *Project Name* and *Application Title* under the *Basic Information* tab.
- Under the *Configuration* tab, select a system where *Manage Alerts* app is deployed. Select the application `retail.ddf.retailplanningalerts.manage`.

For information about adaptation extensions see, SAPUI5: UI Development Toolkit for HTML5 and search for section *Extending Delivered Apps Using Adaptation Extensions* and look for the latest version.

Pre-Configuration of Adaptation Project

A pre-configuration of the adaptation project may be required to run *SAPUI5 Visual Editor* and to run the application locally. Use the following pre-configurations to test the sample adaptation project locally.

- To add a reference to the app library, right-click on the app and select *Project* > *Add Reference to Library*.
- Select both libraries `sap.nw.core.changedocs.lib.reuse` and `retail.udf.reuse` either from workspace or from ABAP repository.
- To run the configuration setting, right-click on the app and select *Run* > *Run Configurations*.
- Select + and select *Run as Web Application*.
- In the configuration *General* tab, select file name as *Adaptation_index.html*.
- In the *Advanced Settings* tab, choose the correct SAPUI5 version and select the corresponding target destination. Select the checkbox *Use my workspace first* and click on *Get Resource Versions* and wait for the resources to show up.
- Right-click the app and select *Project* > *Project Settings*. Select *SAPUI5 Visual Editor* under the *General* section, choose the corresponding *Run Configuration* and choose *Save*.
- You can now run the app locally and test your logic to display alert type-specific fields on the detail page.

> **i** Note
>
> Consult SAP Note 2274090 (*Steps to be followed to extend SAP Fiori Apps for SAP CARAB*). Here you can find an example of how to extend apps in SAP Customer Activity Repository applications bundle.

6.6.6.10 App Implementation: Manage Alert Profiles

> **→** Tip
>
> You can also find the data required to implement the *Manage Alert Profiles* app in the SAP Fiori apps reference library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html#?appId=F5559.

Implementation Tasks

The following section lists tasks that have to be performed to implement this app. The tables contain the app-specific data required for these tasks.

Front-End Server: Activate OData Services

Component	Technical Name
OData Service (Version Number)	`/DMF/MANAGE_RTLPLNG_ALERT_PRFL_SRV` (1)

For more information about activating OData services, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate Application-Specific OData Services for SAP Replenishment Planning*.

Front-End Server: Activate SAPUI5 Application

Component	Technical Name
SAP UI5 Application	`prflalertsman`

For more information about how to activate the ICF service, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate ICF Services*.

Front-End Server: Enable App for Access in SAP Fiori Launchpad

The SAP Fiori launchpad is the entry point to apps. In the launchpad, the user can see and access those apps that have been assigned by an administrator to the catalog designed for this user's role. For more information, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Enable the Apps for SAP Fiori Launchpad*.

SAP delivers technical catalogs for groups of SAP Fiori apps as repositories to create your own catalogs in the launchpad designer. Along with these catalogs, more technical content is delivered for each SAP Fiori app.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	`SAP_XRP_TC_REPL`
Business Catalog	`SAP_XRP_BC_REPL`

Component	Technical Name
Business Group	SAP_XRP_BCG_ALERT_MANAGEMENT

Back-End Server: Set Up Authorizations

On the **back-end server**, set up the authorizations for SAP Replenishment Planning as described in Set Up Back-End Roles and Authorizations [page 392]. For the *Manage Alert Profiles* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/PRFLM	Authorization to display and change alert profiles by using the *Manage Alert Profiles* app.	ACTVT	Display Maintain	Activity

6.6.6.11 App Implementation: Manage Exception Profiles

> → Tip
>
> You can also find the data required to implement the *Manage Exception Profiles* app in the SAP Fiori apps reference library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html#?appId=F5598 .

Implementation Tasks

The following section lists tasks that have to be performed to implement this app. The tables contain the app-specific data required for these tasks.

Front-End Server: Activate OData Services

Component	Technical Name
OData Service (Version Number)	`/DMF/PROFILE_EXCPTN_PARAM_SRV` (1)

For more information about activating OData services, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate Application-Specific OData Services for SAP Replenishment Planning*.

Front-End Server: Activate SAPUI5 Application

Component	Technical Name
SAP UI5 Application	`PRFLEXCPTNMAN`

For more information about how to activate the ICF service, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Activate ICF Services*.

Front-End Server: Enable App for Access in SAP Fiori Launchpad

The SAP Fiori launchpad is the entry point to apps. In the launchpad, the user can see and access those apps that have been assigned by an administrator to the catalog designed for this user's role. For more information, see Set Up SAP Fiori Apps for SAP Replenishment Planning [page 359] under *Enable the Apps for SAP Fiori Launchpad*.

SAP delivers technical catalogs for groups of SAP Fiori apps as repositories to create your own catalogs in the launchpad designer. Along with these catalogs, more technical content is delivered for each SAP Fiori app.

Front End Server: Catalog Details

Component	Technical Name
Technical Catalog	`SAP_XRP_TC_REPL`
Business Catalog	`SAP_XRP_BC_REPL`
Business Group	`SAP_XRP_BCG_REPL_CONFIG`

Back-End Server: Set Up Authorizations

On the **back-end server**, set up the authorizations for SAP Replenishment Planning as described in Set Up Back-End Roles and Authorizations [page 392]. For the *Manage Exception Profiles* app, the following authorization objects are relevant:

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/PRFLM	Authorization to display and change exception profiles by using the *Manage Exception Profiles* app.	ACTVT	Display Change	Activity

6.6.7 Make Fiori Launchpad Tiles for SAP GUI Transactions Accessible With Hub Deployment

To make Fiori Launchpad tiles for SAP GUI transactions accessible with central hub deployment, you must update the target mapping configurations of those tiles with the RFC destination name to the ABAP back-end system as the system alias.

Use

Several SAP Fiori apps that are installed in your front-end system launch transactions directly in the back-end system. For example, the *Calculate Replenishment* tile launches the SAP GUI transaction /XRP/RPL_CALC.

If your front-end components for SAP Customer Activity Repository applications bundle are installed in a separate front-end system (central hub deployment), the target mapping configurations of those tiles targeting SAP GUI transactions need to be updated with the RFC destination name (to the ABAP back-end system) as the system alias.

Procedure

Verify/Create RFC Destination

Verify that there is an RFC connection to your SAP Customer Activity Repository applications bundle back-end system using the following steps.

1. Log on to your front-end system, that is, the system where you have installed the user interface (UI) components of your application (for example, SAP Replenishment Planning).
2. Launch *Configuration of RFC Connections* (transaction SM59).

3. If there is no RFC connection, create one with the following settings:
   - *Destination*: `SAP_ISR_CARAB` or any other name
   - *Connection Type*: `H` (HTTP connection)

   Ensure that you maintain all settings required to connect to your back-end system, in particular, the *Target Host* entry on the *Technical Settings* tab.
4. Save your changes.

Configure the Target Mappings

The following steps describe local changes in your current client only.

> **i Note**
>
> If you want to transport your changes, you need to decide for which scope (configuration scope or customizing scope) you would like to make your configuration changes, see Running the Launchpad Designer in the product documentation of SAP Fiori launchpad. Depending on the scope, you need to create a workbench or a customizing request to record your configuration changes, see Creating Transport Requests for User Changes in the product documentation of SAP Fiori launchpad.

1. Launch the SAP Fiori launchpad designer.
2. Search for the technical catalog `SAP_XRP_TC_REPL`.
3. Choose the *Target Mappings* icon.
4. From the list, select an item with the navigation type *Transaction*.
   For example, select the semantic object *OrderPlanItem* in combination with the action *Calculate*, which refers to the back-end transaction `/XRP/RPL_CALC`.
5. Select *Configure* in the footer bar.
6. Enter your RFC destination in the field *System Alias*.
7. Save your changes.
8. Repeat steps 4 to 7 for all target mappings with the navigation type *Transaction*:

Semantic Object	Action	Transaction	Description
OrderPlanItem	Calculate	`/XRP/RPL_CALC`	Replenishment Calculation
	purge	`/DMF/OPI_PURGE`	Purging of Order Plan Items
	transfer	`/XRP/OPI_OUT`	Order Plan Outbound Processing
	purgeCalculationSimulation	`/XRP/SIM_REORG`	Purging of Replenishment Simulations
OrderPlanItemForAggregation	purge	`/DMF/OPI4A_PURGE`	Purging of Order Plan Items for Aggregation
ProfileCost	defineSimulationRanges	`/XRP/RSI_COST_PRFL_R`	Cost Profile Range
ConfigurationAssignment	defineHierarchies	`/DMF/CONFIGHIER_SET`	Configuration Assignment Settings
PerformanceMonitorMeasurement	ConfigurePerformanceMonitoring	`/DMF/PERFMON_CONFIG`	Performance Monitoring Configuration

Semantic Object	Action	Transaction	Description
	purge	/DMF/PERFMON_PURGE	Purging of Performance Monitoring Measurements
RetailPlanningAlert	purge	/DMF/ALERTS_PURGE	Purging of Alerts
	generate	/DMF/ALERTS_GEN	Generate Alerts

6.6.8 Set Up Database Roles and Authorizations

In SAP HANA studio, grant the SELECT privilege on the SAP_ECC or SAP_S4H schema and the AFL__SYS_AFL_XRP_EXECUTE role to the SAPHANADB user. The privilege and the role are mandatory for the successful execution of SAP Replenishment Planning.

> **i Note**
>
> In this guide, SAPHANADB is used as a variable. Replace it with the name of the database user or database schema in your ABAP back-end system. You might also come across documentation or user interfaces that use SAPHANADB. Both variables mean the same.
>
> For more information and an example, see the *Important Variables* in section Naming Conventions [page 7].
>
> For more information about database users and schemas, see SAP Note 2535951 (*FAQ: SAP HANA Users and Schemas*).

Context

The SELECT privilege on the SAP_ECC or SAP_S4H schema enables read access to the SAP_ECC or SAP_S4H schema and is required for the replenishment calculation. The relevant schema depends on your source master data system (SAP_ECC is used for SAP ERP and SAP_S4H for SAP S/4HANA). The SELECT privilege is probably already granted, see Verify SAP HANA Users and Privileges [page 49] for more information. If not, grant this privilege according to the procedure in this chapter.

The AFL__SYS_AFL_XRP_EXECUTE role enables the SAPHANADB user to call the XRP application function library (part of the SAP XRP AFL component) in the SAP HANA database.

Prerequisites for Using the SAP XRP AFL

- You have installed the SAP XRP AFL component as described in section Download and Install SAP XRP AFL (Only for SAP Replenishment Planning) [page 69] in this guide.
- You have database administrator rights so that you can grant roles to users.

Procedure

> → Tip
>
> - If you encounter issues related to authorization or authentication, see the *Security-Related Issues* section of the *SAP HANA Troubleshooting and Performance Analysis Guide*, which you can find under https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Administration* ▶.
> - We have also provided example SQL statements below that you can adapt as needed for your system landscape.

1. In SAP HANA studio, access your back-end system and open the *SAP HANA Administration Console*.
2. Choose ▶ *Security* ▶ *Users* ▶.
3. Select your `SAPHANADB` user and open the user details (or double-click the user).
4. To grant the `SELECT` privilege on the `SAP_ECC` or `SAP_S4H` schema:
   1. On the *Object Privileges* tab, choose the plus icon and select the `SAP_ECC` or `SAP_S4H` catalog object from the list.
   2. In the view *Privileges for SAP_ECC* or *Privileges for SAP_S4H* (on the right), enable the *SELECT* privilege.

   Alternatively, you can use the following SQL example on the SQL console:
   `GRANT SELECT on SCHEMA SAP_ECC TO SAPHANADB;` or
   `GRANT SELECT on SCHEMA SAP_S4H TO SAPHANADB;`
5. To grant the `AFL__SYS_AFL_XRP_EXECUTE` role: On the *Granted Roles* tab, choose the plus icon and select **`AFL__SYS_AFL_XRP_EXECUTE`** as the role name.
   Alternatively, you can use the following SQL example on the SQL console:
   `GRANT AFL__SYS_AFL_XRP_EXECUTE TO SAPHANADB;`
6. Save your changes by choosing the *Deploy (F8)* icon at the top right.

Result

You have successfully set up the authorizations for SAP Replenishment Planning.

6.6.9 Set Up Back-End Roles and Authorizations

To access the relevant Customizing activities and core SAP Replenishment Planning application functionality, you must have a user on the ABAP back-end server.

Create roles with the suitable authorization objects according to your demand and based on the segregation of duties. Then assign the roles to the users depending on their tasks.

Example

Users who are responsible for the parameter maintenance receive a role that contains only the authorization object for the parameter maintenance. Users who are responsible for running the operative replenishment

process receive a role that contains only the authorization objects for executing the replenishment calculation and transferring order plan items.

Standard Authorization Objects

The following table shows the security-relevant authorization objects that are used by SAP Replenishment Planning.

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/ALERT	Authorization for generating alerts with the *Generate Alerts* (/DMF/GENERATE_ALERTS) report.	ACTVT	Add Create	Activity
/DMF/AOP	Authorization to execute a remote function call /DMF/AGGR_ORDER_PLAN_READ for the aggregated order plan.	ACTVT	Execute	Activity

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/DPL	Authorization to do the following: • Create forecast corrections in the *Adjust Forecast* app. • Create demand influencing factors assignments in the *Manage Demand Influencing Factors* app. • Filter for product and product hierarchy in the apps for demand forecasting (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*) and SAP Replenishment Planning (*Review Order Plan Items*, *Simulate Replenishment*). • Filter for location and location hierarchy in the apps for demand forecasting (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*) and SAP Replenishment Planning (*Review Order Plan Items*, *Simulate Replenishment*).	ACTVT	Execute	Activity

Authorization Object	Authorization Object Description	Field	Value	Field Description
	• Use/display the chart component consisting of time series chart, decomposition chart and table view in the apps for demand forecasting (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*).			
/DMF/MPSCH	Authorization to display and maintain procurement schedules by using the *Manage Procurement Schedules* app.	ACTVT	Display Maintain	Activity
/DMF/MCASG	Authorization to display and maintain configuration assignments by using the *Manage Configuration Assignments* app.	ACTVT	Display Maintain	Activity
/DMF/MNGAT	Authorization to display and review alerts by using the *Manage Alerts* app.	ACTVT	Display Maintain	Activity
/DMF/OP4AP	Authorization for purging order plan items for aggregation with the *Purge Order Plan Items for Aggregation* (/DMF/ORDERPLAN_4_AGG_PURGE) report.	ACTVT	Execute	Activity

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/OPPRG	Authorization for purging order plan items with *Purge Order Plan Items* (/DMF/ORDERPLAN_PURGE) report.	ACTVT	Execute	Activity
/DMF/PCPWL	Authorization to execute parallel processing and to display and change workloads in the *Manage Workloads* app.	ACTVT	Execute Display Change Delete	Activity
/DMF/PERFM	Authorization to purge performance monitoring data using the *Purging of Performance Monitoring Measurements* (/DMF/PERFORMANCE_MONITOR_PURGE) report.	ACTVT	Display Delete	Activity
/DMF/PMCNF	Authorization to display or maintain settings for the *Performance Monitoring Configuration*.	ACTVT	Change Display	Activity
/DMF/PRFLM	Authorization to display and maintain parameter profiles by using the *Manage Cost profiles*, *Manage Constraint Profiles*, *Manage Shelf Cost Profiles*, *Manage Exception Profiles*, and *Manage Alert Profiles* apps.	ACTVT	Display Maintain	Activity

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/PRGAT	Authorization for purging alerts with the *Purging of Alerts* (/DMF/PURGE_ALERTS) report.	ACTVT	Delete	Activity
/XRP/EXTRV	Authorization to display and change order plan items externally.	ACTVT	Change Display	Activity
/XRP/OPANA	Authorization to fetch the aggregated schedule line quantities of the purchase order items with the *Store Order Plan Information for Analytics* (/XRP/OPI_PO_DATA_UPD) report.	ACTVT	Execute	Activity
/XRP/OPOUT	Authorization to transfer order plan items into an ERP system with the *Order Plan Outbound Processing* (/XRP/ORDERPLAN_OUTBOUND) report.	ACTVT	Execute	Activity
/XRP/OPUST	Authorization to adapt the status of order plan items with the *Adapt Status of Order Plan Items* (/XRP/ORDERPLAN_ADAPT_STATUS) report.	ACTVT	Execute	Activity
/XRP/REPL	Authorization to execute the replenishment calculation with the *Replenishment Calculation* (/XRP/REPLENISHMENT_CALC) report.	ACTVT	Execute	Activity

Authorization Object	Authorization Object Description	Field	Value	Field Description
/XRP/ROPI	Authorization to display and change order plan items by using the *Review Order Plan Items* app.	ACTVT	Display Change	Activity
/XRP/SIM	Authorization to execute the *Simulate Replenishment* app and the replenishment simulation with the *Replenishment Simulation* (/XRP/REPLENISHMENT_SIM) report.	ACTVT	Execute	Activity

There are further applications and funtionalities in SAP Replenishment Planning that require special authorizations. For more information about this objects and corresponding authorization objects, see Display of Data with Tools Reports.

6.6.10 Set Up Authorizations for Transfer of Order Plan Items to Source Master Data System

To transfer order plan items from SAP Customer Activity Repository to SAP ERP or SAP S/4HANA the user needs a role with authorization objects in the source master data system.

The following authorization objects are required to transfer order plan items to the source master data system:

Authorization Object	Authorization Object Description	Field	Value	Field Description
M_BEST_BSA	Document Type in Order	ACTVT	• Create or generate • Change • Display change documents • Display prices	Activity
		BSART	Type of purchasing document to be created. The type can be NB (Standard purchase order), UB (Stock transport order), or customized.	Purchasing document type

Authorization Object	Authorization Object Description	Field	Value	Field Description
M_BEST_EKG	Purchasing Group in Purchase Order	ACTVT	• Create or generate • Change • Display change documents • Display prices	Activity
		EKGRP	Purchasing group for which purchase orders may be processed	Purchasing group
M_BEST_EKO	Purchasing Organization in Purchase Order	ACTVT	• Create or generate • Change • Display change documents • Display prices	Activity
		EKORG	Purchase organization for which purchase orders may be processed	Purchasing organization
M_BEST_WRK	Plant (location) in Purchase Order	ACTVT	• Create or generate • Change • Display change documents • Display prices	Activity
		WERKS	Plants (locations) for which purchase orders may be processed	Plant (location)

6.6.11 Perform Configuration Steps in SAP Customer Activity Repository

The following configuration steps in SAP Customer Activity Repository that are required for the operation of SAP Replenishment Planning should have been already done during the configuration of SAP Customer Activity Repository.

You find detailed information about these configuration steps in the following sections of the SAP Customer Activity Repository *Administration Guide* as follows:

- *Enabling Demand Data Foundation and Creating Demand Forecast*

You must enable Demand Data Foundation (DDF) to support planning, analysis, and forecasting in consuming applications of SAP Customer Activity Repository and to create a demand forecast with Unified Demand Forecast (UDF).

- *Configure Demand Data Foundation (DDF)*
  Set up and enable the DDF module in SAP Customer Activity Repository for creating demand forecasts with Unified Demand Forecast (UDF) and supporting the consuming applications.
- *Set Up and Configure DDF Services*
  Set up and configure services that the Demand Data Foundation module in SAP Customer Activity Repository provides for different scenarios and consuming applications.
- *Configure Unified Demand Forecast (UDF)*
  Configure the UDF module in SAP Customer Activity Repository to adjust demand modeling and forecasting for your scenario. You can select from multiple UDF features, optimize performance for your scenario, and configure parameters for modeling and for forecasting. Additionally, you can set up the demand planning apps.

6.6.12 Ensure a Suitable Configuration of the Enqueue Server

To ensure the smooth operation of the replenishment calculation or order plan outbound processing, configure the enqueue server in a suitable manner regarding the maximum number of locks.

Order plan items are secured against concurrent updates via locking by means of the enqueue server. The process steps making use of this mechanism include:

- Replenishment calculation: Obtains locks at the level of the processed product locations
- Reviewing of order plan items: Obtains locks at the level of single order plan items being adjusted
- Outbound processing of order plan items: Obtains locks at the level of order plan items that are selected for the transfer to SAP ERP or SAP S/4HANA
- Purging of obsolete order plan items: Obtains locks at the level of order plan items that are selected for purging with a status that allows operative processing

The number of locks managed within an SAP NetWeaver system at any single point of time is subject to an upper limit. Therefore, this upper limit should allow for all processes running concurrently to be able to retrieve the locks they require.

Procedure

1. **Determine the maximum number of locks needed concurrently**
   For each of the process steps mentioned above, determine the number of locks needed at maximum. In a parallel scenario, you can determine this number by multiplying the number of locks needed within one job by the number of jobs being run in parallel. Please note that the number of locks heavily depends on the selections being applied.
   Example:
   If a typical job size for the replenishment calculation is 2000 product location combinations and the calculation is performed in 50 parallel jobs, the maximum total number of locks required for this process at any point in time is roughly 2000 * 50 = 100,000. Check which of the processes might run concurrently

(for example, replenishment calculation and outbound processing of order plan items running at the same time for different selections), and determine an upper limit that covers even peak loads.

> → Tip
>
> If you use the Process Packaging and Parallelization framework, you can derive the number of locks from the configured task size and maximum number of work processes.

2. **Check and adapt the maximum number of locks (if necessary)**
   Configure the parameter `enq/server/schema` in transaction `SMENQ`.
   For more information on managing and configuring the enqueue server, see Administration of Application Server ABAP. Choose *Monitoring and Administration Tools for AS ABAP* > *Managing Lock Entries using SMENQ*.

6.6.13 Configure SAP Replenishment Planning

To customize automated replenishment processes in SAP Replenishment Planning according to your business needs, set up Customizing activities and use BAdIs.

SAP Replenishment Planning is a consuming application of the Demand Data Foundation module. Therefore, to set up SAP Replenishment Planning, in addition to make application-specific settings, you also need to make settings in Customizing in transaction `SPRO` under *Cross-Application Components* > *Demand Data Foundation*. The DDF Customizing activities that are mandatory for SAP Replenishment Planning can be found in Customizing for *Replenishment Planning*. Which additional DDF Customizing activities are relevant for SAP Replenishment Planning can be found in the organizational activities in Customizing for *Replenishment Planning*.

> ℹ Note
>
> Depending on your existing settings and your business requirements, you might not need to make settings for all activities; however, we recommend that you check all relevant DDF settings during the initial setup of SAP Replenishment Planning.

> ℹ Note
>
> For alert statuses, you need to ensure that the data from client 000 is cascaded to other relevant clients.

Use the following Customizing activities and Business Add-Ins in transaction `SPRO` under *Cross-Application Components* > *Replenishment Planning* to set up and customize SAP Replenishment Planning:

> ℹ Note
>
> For details about a Customizing activity, read the respective Customizing activity documentation in the system.

Mandatory Customizing Activities

Basic Settings

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Basic Settings*

- Maintain RFC Mapping
  With this Customizing activity, you specify an RFC destination for each master data system to which you want to transfer order plan items for purchase order creation.
- Define Replenishment Types Relevant for Replenishment Planning
  With this Customizing activity, you define whether a product location is considered in replenishment planning by defining replenishment types relevant for replenishment planning.

Replenishment Calculation

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Replenishment Calculation*

- Maintain Number Range for Replenishment Run ID
  Use this Customizing activity to maintain the number range for the replenishment run ID.

Optional Customizing Activities and Business Add-Ins

Stock Determination

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Stock Determination*

- BAdI: Determination of Customer-Specific Stock
  You can use this BAdI to determine a customer-specific stock quantity for each product location that is considered in the replenishment planning process.
- BAdI: Adaptation of Customer-Specific Stock
  You can use this BAdI to adapt the stock quantity for each product location that is considered in the replenishment planning process.

Source of Supply Determination

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Source of Supply Determination*

> **i Note**
>
> If you want internal sources of supply to be considered in the source of supply determination, you need to include *Supplying Site* transportation lanes in the transfer of transportation lanes from the ERP source system to SAP Customer Activity Repository. You can access the relevant Customizing activity in the ERP system in transaction SPRO under *Logistics General* > *Merchandise Lifecycle Optimization* > *Outbound* > *Handling of Control Parameters* > *Maintain Control Parameters for Source of Supply*.

- Define Client-Specific Settings for Source of Supply Determination
  With this Customizing activity, you can activate an optional listing check for a product at a receiving location. If the listing check is activated, the listing is considered as ranking criterion for the selection of the preferred source of supply.

- BAdI: Determination of Valid Transportation Lanes
  You can use this BAdI to implement your own logic for identifying valid transportation lanes during source of supply determination.
- BAdI: Adaptation of Valid Transportation Lanes
  You can use this BAdI to implement your own logic to add new valid transportation lanes and to change or remove existing transportation lanes during source of supply determination.
- BAdI: Selection of Preferred Transportation Lanes
  You can use this BAdI to implement your own logic for selecting preferred transportation lanes during source of supply determination.

Scheduling

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Scheduling*

- Define Client-Specific Settings for Scheduling
  With this Customizing activity, you can define whether the staging date and time of a product location are to be calculated if they are not provided in a procurement schedule and also define if the replenishment block and its start date defined for a product location are considered in the replenishment calculation.
  You can also enable the use of scheduling information from SAP Order and Delivery Scheduling by SAP Replenishment Planning.
- BAdI: Adaptation of Replenishment Schedule
  You can use this BAdI to adapt the replenishment schedule that was calculated by the system.
- BAdI: Deactivation of Listing Check for Schedule Items
  You can use this BAdI to deactivate the listing check on procurement schedule items that are used as a basis for calculating replenishment schedules.

Open Goods Movements

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Open Goods Movements*

- Define Purchase Order Document Types for Promotion Quantity Reservation
  With this Customizing activity, you can define which purchase order document types are considered for the promotion quantity reservation.
- BAdI: Adaptation of Open Goods Movements Based on Order Plan
  You can use this BAdI to adapt open goods movements that have been derived from order plan items.
- BAdI: Adaptation of Open Goods Movements Based on Purchase Orders
  You can use this BAdI to adapt open goods movements that have been derived from purchase orders.

Replenishment Calculation

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Replenishment Calculation*

- Define Client-Specific Settings for Order Units and Rounding
  With this Customizing activity, you can define client-specific settings that control if multiple order units are to be allowed and how rounding rules are applied for the replenishment calculation.
- Define Client-Specific Settings for Minimum Order Quantity
  With this Customizing activity, you can control whether the minimum order quantity defined for a product location is considered in the replenishment calculation.
- BAdI: Adaptation of Non-Listing Periods for Replenishment Calculation
  You can use this BAdI to adapt the non-listing periods that were determined by the system for use in the replenishment calculation.

- BAdI: Reduce Worklist for Replenishment Calculation
  You can use this BAdI to reduce the worklist of the replenishment calculation by excluding product locations from being processed by removing them from the worklist.
- BAdI: Adaptation of Calculated Order Quantity and Unit
  You can use this BAdI to adapt the order quantity and/or order units of operative and fallback order plan items calculated by the replenishment calculation before they are stored to the database.

Replenishment Configuration

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Replenishment Configuration*

- BAdI: Modification of Control Paramter Values
  You can use this BAdI to change the values of control parameters of configuration objects assigned to product locations that are considered in the replenishment planning process.

Order Plan Processing

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Order Plan Processing*

- Define Change Reasons for Order Plan Items
  With this Customizing activity, you can define reasons for manual changes of order plan items.
- Configure Order Plan Item Change History
  With this Customizing activity, you can enable and configure the order plan item change history.
- BAdI: Order Plan Outbound - Selection of Order Plan Items
  You can use this BAdI to implement your own logic to select order plan items for the order plan outbound processing.
- BAdI: Order Plan Outbound - Adaptation of Order Plan Items
  You can use this BAdI to implement your own logic to add new order plan items and to change or remove existing order plan items for the order plan outbound processing.
- BAdI: Aggregation of Order Plan Items - Definition of Order Horizon Start
  You can use this BAdI to implement your own logic to define which order plan items that have not yet been used for the creation of purchase orders should be excluded from the aggregation process.
- BAdI: Aggregation of Order Plan Items - Definition of Excluded Document Types
  You can use this BAdI to implement your own logic to exclude open stock transport orders from the aggregation process based on their document type.

Performance Monitoring

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Performance Monitoring*

- Define Measured Units for Performance Monitoring
  With this Customizing activity, you can define measured units that you want to be available for performance monitoring.
- Define Reference Key Figure Types for Performance Monitoring
  With this Customizing activity, you can define reference key figure types that you want to use in the performance monitoring.
- Define Characteristic Types for Performance Monitoring
  With this Customizing activity, you can define characteristic types that you want to use in performance monitoring.
- BAdI: Definition of Additional Characteristics for Performance Measurements

You can use this BAdI to add characteristics relevant for later analysis to a performance measurement.

Analytics

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Analytics*

- Define Client-Specific Settings for Analytics
  With this Customizing activity, you can define whether the adapted order quantity of a purchase order item is to be stored in the order plan item based on which the purchase order item was created in addition to the order quantity proposed in the order plan item .
  Furthermore, you can define whether additional order plan item for aggregation data is calculated for analytical evaluations.

Alert and Exception Management

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Alert and Exception Management*

- Maintain Configuration Data for High Level Exceptions
  With this Customizing activity, you can change configuration settings for high level exceptions. For more information, see Configure Exception Management [page 407].
- Maintain Configuration Data for Low Level Exceptions
  With this Customizing activity, you can change configuration settings for low level exceptions. For more information, see Configure Exception Management [page 407]
- Define Alert Statuses
  With this Customizing activity, you can define alert statuses for the *Manage Alerts* app.

  > **i Note**
  >
  > If you want to add several custom statuses based on your scenario, you must define them using this Customizing activity. For more information on how to access this Customizing, see the SAP Replenishment Planning application help and search for Alert Management.

- Maintain Alert Key Figures
  With this Customizing activity, you can manage key figures for alerts.
- Define Alert Types and Key Figure Assignments
  With this Customizing activity, you can manage alert types and assign key figures to them. You can maintain key figures and weighting factors for each of the alert types based on your business scenario.
- BAdI: Adaptation of Alert Scoring
  You can use this BAdI to implement your own scoring logic for the alert types.
- BAdI: Adaptation of Alerts
  You can use this BAdI to implement your own logic to generate alerts for the new custom alerts.

Process Packaging and Parallelization

Customizing path: *Cross-Application Components* > *Replenishment Planning* > *Process Packaging and Parallelization*

- Maintain Basic Settings
  With this Customizing activity, you can maintain basic settings for process packaging and parallelization.
- Define Parameters for Workload Types
  With this Customizing activity, you can maintain parameters related to predefined workload types.

- BAdI: Set Preconditions for Processing
  You can use this BAdI to set preconditions for processing of workloads in process packaging and parallelization.

6.6.14 Define the Parameterization Profiles and the Assignment

This section provides an overview of the configuration steps for creating configuration objects and assignments that are valid for every product location that is supposed to be processed by the replenishment calculation.

The configuration objects comprise single control parameters, groups of parameters (so-called profiles), as well as other structured objects (such as an entire procurement schedule). For a comprehensive list of the configuration objects, see the subsection *Replenishment Configuration* in the *Application Help* for SAP Replenishment Planning at https://help.sap.com/viewer/product/CARAB/latest/en-US?task=use_task.

Prerequisites

1. You have set up the authorizations for SAP Replenishment Planning as described in Set Up Back-End Roles and Authorizations [page 392].
2. You are familiar with the configuration concept, especially with the various configuration objects and the ways to assign them to product locations. For information about the configuration concept, see subsection *Replenishment Configuration* in the *Application Help* for SAP Replenishment Planning.
3. You are familiar with the various use cases. The configuration hints therein will help you to find the right parameterization matching to your specific business requirements. As an entry point, you can use the use case **Use Basic Cost-Optimized Ordering** and refine your configuration with further use cases. For information about the use cases, see subsection *Use Cases* in the *Application Help* for SAP Replenishment Planning.

Create and Assign Configuration Objects

1. Create or import procurement schedules. For more information about the maintenance of the procurement schedules using an app, see the section *Manage Procurement Schedules* in the application help. For more information about importing procurement schedules from another system (inbound processing of procurement schedules), see the documentation of the function module `/DMF/MDIF_PRCSCHD_INBOUND` in the system.
2. Configure the parameters in profiles according to your business requirements. For more information about the configuration of the parameters using apps, see the following sections in the application help:
   - *Manage Cost Profiles*
   - *Manage Shelf Cost Profiles*
   - *Manage Constraint Profiles*

- *Manage Exception Profiles*

3. You can assign configuration objects to the product locations based on product hierarchy nodes and location hierarchy nodes. For uniqueness and unambiguity, these assignments can only use hierarchy nodes from one product hierarchy and one location hierarchy. In turn, these hierarchies must contain all the nodes relevant for assignments. You have to select these hierarchies prior to creating assignments. To select these hierarchies, use the transaction `/DMF/CONFIGHIER_SET` in your ABAP back-end system according to the following steps:
   - You can access the *Define Hierarchies for Configuration Assignments* transaction either in the system on the SAP Easy Access screen (transaction `/DMF/CONFIGHIER_SET`) or from the SAP Fiori Launchpad (*Define Hierarchies Configuration Assignments*) tile.
   - Ensure that one record exists for each connected master data system which hosts product locations that are subject to SAP Replenishment Planning. Within these records, specify the product and location hierarchies that should be used for assignments of configuration objects to product locations originating from the respective master data system.
4. Assign the parameters and profiles to the product locations. We recommend that you assign them on global level initially so that they are valid for all product locations without corresponding parameter or profile assignments on any lower level. Depending on your business requirements, you can create more specific assignments.
   The alert generation process can read (using extension concept) the configuration objects (alert profiles) assigned within the manage configuration assignment application and use them for the alert generation. You must configure the configuration objects for every product that you want to be used in the alert generation process. Hence, it is recommended that you provide alert profiles on the product hierarchy level and provide a more specific alert profile on the product level. Configure the thresholds in alert profiles according to your business requirements. Use *Manage Alert Profiles* app for creating alert profiles. For more information, see section *Manage Configuration Assignments* in the application help.
5. Assign procurement schedules to product locations depending on your business requirements. Common procurement schedules are usually applicable for groups of product locations based on special characteristics. You have to create the assignments accordingly. If, for example, all products in a location which share the same scheduling group should share the same procurement schedule, you would have to create assignments specifying the procurement schedule on the assignment level *Location*, with specific conditions based on the *Scheduling Group* attribute. Unlike for the parameters, it is rather unusual that there is one procurement schedule which can be assigned on global level as a fallback. For more information, see section *Manage Configuration Assignments* in the application help.

6.6.15 Configure Exception Management

Standard settings for exception management are delivered so that nothing is missing from a functional point of view. This includes that all exceptions specific for SAP Replenishment Planning are switched on. If necessary, you can then adjust the settings to meet the needs of your specific business processes.

We recommend that you check especially the settings for high-level exceptions.

Settings for High-Level exceptions

You can change the settings for high-level exceptions using the Customizing activity *Maintain Configuration Data for High Level Exceptions* in Customizing for *Cross-Application Components* under ▶ *Replenishment Planning* ▶ *Alert and Exception Management* ◀.

We recommend that you check especially the following settings:

Assignment to Business Areas

Exceptions that might occur during the replenishment calculation or the order plan transfer are assigned to one or two of the following business areas by default:

- 61 Replenishment Order Plan Transfer
- 62 Replenishment Review Order Plan Items
- 63 Replenishment Calculation
- 64 Replenishment Review Order Plan Items externally

You can change the assignments according to your needs. Further business areas are relevant for SAP Replenishment Planning. For more information, see the subsection *Exception Management* of the Application Help for SAP Replenishment Planning at https://help.sap.com/viewer/product/CARAB/5.latest/en-US?task=use_task.

Validity Period

You can set the validity period (maximum number of days that an exception object is stored) until the exception can be deleted by the *Purging Exceptions from the Database* report. You can access this report in the system on the SAP Easy Access screen (transaction `/DMF/PURGE_EWB_MSG`). For more information about purging exceptions, see subsection *Monitor Exceptions* in the application help for SAP Customer Activity Repository at https://help.sap.com/viewer/product/CARAB/latest/en-US?task=use_task.

Priority

You can adjust the priority for each exception. Exceptions that are not relevant are switched off; that is, they are not generated during runtime.

Settings for Low-Level exceptions

You can change the settings for low-level exceptions using the Customizing activity *Maintain Configuration Data for Low Level Exceptions* in Customizing for *Cross-Application Components* under ▶ *Replenishment Planning* ▶ *Alert and Exception Management* ◀.

We recommend that you check especially the following setting:

Default Priority

You can adjust the default priority for each exception. Exceptions that are not relevant are switched off; that is, they are not generated during runtime.

Relevant DDF settings

We also recommend that you check all relevant DDF settings during the initial setup of SAP Replenishment Planning.

This includes the following optional settings:

- You can replace standard exception texts by user-defined texts using the Customizing activity *Define Customer-Specific Replacement Messages*.
- You can create custom statuses for exception messages using the Customizing activity *Define Customizable Message Status*.

For more information about these settings, see the organizational Customizing activity *Alert and Exception Management (DDF)* in Customizing for *Cross-Application Components* under ▶ *Replenishment Planning* ▶ *Alert and Exception Management* ▶.

6.6.16 Configure Process Packaging and Parallelization

This section provides information necessary to configure Process Packaging and Parallelization and some recommendations for its optimum usage.

Process Packaging and Parallelization (PPP) focuses on creating well-defined work packages and executing them as parallel tasks to optimize the utilization of your computational resources and timely completion of your time-critical processes in SAP Replenishment Planning.

For more information, see the section *Process Packaging and Parallelization* in the application help for SAP Customer Activity Repository at https://help.sap.com/viewer/product/CARAB/latest/en-US?task=use_task.

Process Packaging and Parallelization supports the following replenishment planning processes:

Process	Workload Type
Replenishment calculation	Replenishment Calculation
Replenishment calculation for aggregation	
Order plan transfer	Order Plan Outbound

For more information about monitoring and managing these processes, see Monitoring and Management.

Customizing Settings

Customizing path: ▶ *Cross-Application Components* ▶ *Replenishment Planning* ▶ *Process Packaging and Parallelization* ▶

- Maintain Basic Settings
  With this Customizing activity, you can maintain basic settings for process packaging and parallelization.

> **Note**
>
> To use the Dispatcher Daemon for processing of workloads, you must execute the one-time report *Set up Start Up Configuration* (transaction `/DMF/PCP_DISP_START`) in the system. For information on ABAP Daemons, see https://help.sap.com/docs/ABAP_PLATFORM_NEW/753088fc00704d0a80e7fbd6803c8adb/311af9b769d84fffa7b7384bae27109c.html?version=202009.001.

- Define Parameters for Workload Types

  > **Note**
  >
  > The workload type you wish to configure must be available and the data from client 000 must be cascaded to other relevant clients.

  With this Customizing activity, you maintain the size of each workload task (*Task Size*) and the maximum work processes (*Max WP*) you wish to run in parallel for *Replenishment Calculation* and *Order Plan Outbound*, the predefined workload types for replenishment planning.
- BAdI: Set Preconditions for Processing
  You can use this BAdI to set preconditions for processing of workloads in process packaging and parallelization.

Recommendations for Scheduling

For optimum use of Process Packaging and Parallelization in the supported replenishment planning processes, we have the following recommendations:

- If you plan to create workloads on a periodic basis, use the *Application Job* app.
- If you plan to create workloads as a one-time activity, use the *Manage Workloads* app.
- Select the *Use Parallel Processing* option in the *Replenishment Calculation* (`/XRP/REPLENISHMENT_CALC`) and the *Order Plan Outbound Processing* (`/XRP/ORDERPLAN_OUTBOUND`) reports for the creation of workloads only as an alternative option to the *Manage Workloads* and *Application Job* apps but not as a standard practice.

6.6.17 Set Up Real-Time Inventory Integration

Check the setup regarding data replication framework (DRF), SAP client(s) in your ABAP back-end system, tables for replicating data from your source master data system, SAP HANA content with the required options, and the population of the `/POSDW/TLOGUS` table.

Ensure that the following steps have been done to enable the use of real-time inventory data (RTI stock) in SAP Replenishment Planning.

- The data replication framework (DRF, transaction DRFOUT) for replicating master and transactional data is set up. For more information, see section Complete UDF Setup [page 146] and *Configure Data Replication from SAP ERP and SAP S/4HANA to DDF* in the *SAP Customer Activity Repository Administration Guide*.

> **i Note**
>
> If you activate the real-time inventory determination, make sure that the information about purchase orders, which are replicated via DRF outbound from SAP ERP or SAP S/4HANA to SAP Customer Activity Repository, is up to date as well. Only if this information about purchase orders is up to date, the current state of purchase orders that are considered as open goods movements in the replenishment calculation is in sync with the stock information. If the stock and the open goods movements are not in sync, the stock might be considered as too high.

- One or more SAP clients in your ABAP back-end system have been set up and the mapping for the client of each source master data system to a client in your ABAP back-end system is configured. For more information, see section Set Up SAP Client [page 75]. In this section, you must execute both *Procedure for All Scenarios Using Demand Data Foundation* and *Procedure for Scenarios Not Using Demand Data Foundation*.
- Creation of tables in SAP Customer Activity Repository that are required for replicating data from your source master data system: For more information, see Create/Replicate Source Master Data System Tables [page 94].
- The SAP HANA content for SAP Customer Activity Repository and Demand Data Foundation (DDF) is activated with the options that are listed in section Activate SAP HANA Content [page 98].
- The `/POSDW/TLOGUS` table must be continuously populated with unprocessed POS sales transactions. For more information, see the following sections in the application help for SAP Customer Activity Repository:
  - Procedure for populating the `/POSDW/TLOGUS` table: section *Creating Worklists for POS Transactions*.
  - Background information about the access to the `/POSDW/TLOGUS` table with the *inventory visibility* view (`InventoryVisibilityCurrentStock`): section *Inventory Visibility*.

You can activate the use of real-time inventory with the *Real-Time Inventory Status* parameter in the *Manage Configuration Assignments* app.

6.6.18 Configure SAP Analytics Cloud for Replenishment-Related Analytics (Optional)

If you want to use Replenishment-Related Analytics, set up a live connection between SAP Replenishment Planning and SAP Analytics Cloud. Replenishment-Related Analytics has been predefined in SAP Analytics Cloud and is part of the standard delivery of SAP Analytics Cloud. If you are using a different analytics tool, or if you do not run analytics at all, you may skip this section.

Prerequisites

- You run and connect the **Content Innovation 20** or later release of **SAP Analytics Cloud** with SAP Replenishment Planning to use the predefined set of replenishment-related analyses. For installation information related to SAP Analytics Cloud, see System Requirements and Technical Prerequisites.
- To use historical data related to order plan items in your analyses, you must execute the one-time report *Store Order Quantities of PO Items for Analytics* (transaction `/XRP/OPI_PO_DATA_UPD`) in the system.

- To use historical data related to your stocks in your analyses, you must execute the one-time report *Update Validity End Date of Stocks to Create a Continuous Time Series* (`/DMF/INV_HISTORY_UPDATE_DATA`) using the transaction `SE38` in the system.

Set Up Live Connection Between SAP Replenishment Planning and SAP Analytics Cloud

1. Configure SAP Replenishment Planning to support cross-origin resource sharing (CORS), for cross-domain communication from the browser.
   For more information, see the application help for SAP Analytics Cloud at https://help.sap.com/viewer/product/SAP_ANALYTICS_CLOUD and search for the *Live Data Connection to SAP HANA On-Premise Using a Direct Connection* topic.
2. In SAP Analytics Cloud, navigate to *Home* > *Connection* and select live connection `SAPRTCARAB` (*SAP Replenishment Planning and Unified Demand Forecast*). This connection is part of the standard delivery.
3. Click *Edit Connection* and enter your custom details for *Host*, *HTTPS Port*, and *Client*.

6.6.19 Check Performance-Related Configuration Options (Optional)

Use additional configuration options for SAP Replenishment Planning to optimize performance for different use cases.

Procedure

See the following options and implement those that are relevant for you:

Use Case	Configuration Option
You have a great number of products and locations, so that the resulting tables are very large.	Consider table partitioning. For information, see the *Partition Tables for SAP Replenishment Planning* section of the *SAP Replenishment Planning Administration Guide*.

Use Case	Configuration Option
You want to optimize workload distribution for Replenishment Calculation.	Consider using the **Process Packaging and Parallelization** framework. • For information about this framework, see the application help for SAP Customer Activity Repository at https://help.sap.com/viewer/p/CARAB and search for the *Process Packaging and Parallelization* section. • For information about the configuration for **Process Packaging and Parallelization** with (optional) customizing activities, see Configure SAP Replenishment Planning [page 401]. • For information about job scheduling and monitoring for **Process Packaging and Parallelization**, see the sections *Monitoring* and *Management* in the *SAP Replenishment Planning Administration Guide*.
You calculate the order plan for aggregation for a great number of product locations and/or a long planning horizon, so that the resulting tables are very large.	Consider disabling the creation of detailed information (traceability information) for the calculation of the order plan for aggregation. For more information about enabling or disabling detailed information in the *Replenishment Calculation* report, see the Replenishment Calculation section in the application help for SAP Replenishment Planning.

6.7 Configure Access to Documentation on SAP Help Portal (Optional for All Applications)

In transaction SR13, configure your ABAP back-end system to access documentation on SAP Help Portal.

Context

You can configure your ABAP back-end system to access documentation provided on SAP Help Portal for SAP Customer Activity Repository applications bundle at https://help.sap.com/viewer/p/CARAB.

> ✤ Example
>
> If you are using SAP Customer Activity Repository or SAP Replenishment Planning, you may want to configure access to the respective application help.

Prerequisites

- The documentation that you want to access is available on SAP Help Portal.
- The users who access the documentation have access to the Internet.
- You are aware that you can configure access to **only one combination of product and version**. This is the *Path* that you will enter in the procedure below.

  > **Example**
  >
  > The product/version combination `CARAB/5.0.4` is valid for all the applications in **SAP Customer Activity Repository applications bundle 5.0 FPS04**.

> **Note**
>
> If these prerequisites cannot all be fulfilled, you must install the documentation in your local system landscape using the download packages or DVDs/CDs provided. For more information, see the Installation Guide for SAP Library.

Procedure

1. Open transaction `SR13`.
2. Select the tab *PlainHtmlHttp*.
3. Choose *New Entries*.

   > **Note**
   >
   > In the next two steps, you will create *Area* entries for *Documentation* and *XML Documentation*. Be aware that you must repeat these entries for each platform that you are using and for each language in which you want to provide access to the documentation.

4. To create entries for the *Documentation* area, enter the following values:

Name	Value
Variant	Enter a name for the variant.
Platform	Select the platform relevant for your implementation from the list of available platforms (for example, `WN32`).
Area	Select *Documentation* from the list; this will display as `IWBHELP` in the table.
Server Names	Enter https://help.sap.com/http.svc/ahp2.
Path (`<Product/Version>`)	Enter CARAB/5.0.4. **Note** The value is case-sensitive. Enter it exactly as shown here.
Language	Select the language you need from the list.

5. To create entries for the *XML Documentation* area, enter the following values:

Name	Value
Variant	Enter a name for the variant.
Platform	Select the platform relevant for your implementation from the list of available platforms (for example, `WN32`).
Area	Select *XML Documentation* from the list; this will display as `XML_DOCU` in the table.
Server Names	Enter https://help.sap.com/http.svc/ahp2.
Path (`<Product/Version>`)	Enter CARAB/5.0.4. **i Note** The value is case-sensitive. Enter it exactly as shown here.
Language	Select the language you need from the list.

6. Repeat steps 4 and 5 for each relevant platform and language.
7. Select one entry as the default language for each platform and area.
8. Save your entries.

Results

You have configured your back-end system to point to the desired documentation on SAP Help Portal.

Related Information

SAP Note 2652009 Connecting the help to the SAP Help Portal
SAP Note 2572047 SAP provides user assistance (documentation) as HTML, PDF, or directly via SAP Help Portal
SAP Note 2149786 Customizing help settings in transaction SR13

6.8 Enable In-App Help

In-app help is available for several SAP Fiori apps of SAP Customer Activity Repository applications bundle. To enable the in-app help, you need to make it available in the SAP Fiori launchpad by setting up the underlying framework.

Context

After a successful setup, you can see the Help icon (question mark) in the SAP Fiori launchpad and at the top of each app that supports in-app help. Simply choose this icon to display the in-app help and easily call up a detailed app description.

> **i** Note
>
> For example, the in-app help is available for the following apps:
>
> - Apps for demand forecasting (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*)
> - Apps for Demand Data Foundation (*Manage Alerts*, *Manage Alert Profiles*, *Manage Configuration Assignments*, and *Manage Workloads*)
> - Apps for configuring the replenishment calculation (*Manage Cost Profiles* app and *Manage Exception Profiles* app)
> - Apps for SAP Replenishment Planning (for example, *Review Order Plan Items*)
>
> The in-app help is not available for the SAP Smart Business for Multichannel Sales Analytics apps in SAP Customer Activity Repository.

Procedure

1. Install and Configure SAP Web Dispatcher [page 417]
   Install and configure SAP Web Dispatcher as the reverse proxy in your SAP Fiori system landscape.
2. Set Up the In-App Help Plugin [page 419]
   To make in-app help available in the SAP Fiori Launchpad, set up the in-app help plugin in the relevant front-end systems.

6.8.1 Install and Configure SAP Web Dispatcher

Install and configure SAP Web Dispatcher as the reverse proxy in your SAP Fiori system landscape.

Installation

Install the latest SAP Web Dispatcher version as the reverse proxy. For more information, see SAP Fiori Implementation Information and search for section *Installing SAP Web Dispatcher*.

Configuration

> **i Note**
>
> Instead of configuring the SAP Web Dispatcher, you can maintain the URLs required for the context-sensitive user assistance in transaction `/UI2/FLP_CUS_CONF` as described in SAP Note 3022494. This is possible if you are using a product with at least the front-end component `SAP_UI 7.55 SP02` installed.
>
> If this does not work, please configure the SAP Web Dispatcher as described in the following procedure.

1. Adjust the SAP Web Dispatcher profile file.
   In the `sapwebdisp_pf.txt` file, add the following parameters:
   - For the User Assistance Content Platform:
     `wdisp/system_<number> = SID=<SID1>, EXTSRV=https://cp.hana.ondemand.com:443, SRCURL=/sap/dfa/help/, SRCSRV=*:*, PROXY=<your proxy>:<your proxy port>, STANDARD_COOKIE_FILTER=OFF`
   - For the script server in your production system:
     `wdisp/system_<number> = SID=<SID2>, EXTSRV=https://xray.hana.ondemand.com:443, SRCURL=/resources/sap/dfa/help/, SRCSRV=*:*, PROXY=<your proxy>:<your proxy port>, STANDARD_COOKIE_FILTER=OFF`

   > **i Note**
   >
   > - Make sure that the numbers following `wdisp/system_` are smaller than the numbers that you use for all your application server. The rules for the context-sensitive user assistance need to come before the rules for the application servers.
   > - Make sure that the SIDs are not the same as your system IDs.

2. Activate the usage of the modification handler:
   `icm/HTTP/mod_0 = PREFIX=/, FILE=$(DIR_PROFILE)/redirect.txt`
   For more information about the profile parameter, see SAP Help Portal at ABAP Platform under *Application Server ABAP - Infrastructure* > *Components of Application Server ABAP* > *SAP Web Dispatcher* > *Administration of the SAP Web Dispatcher* > *SAP Web Dispatcher Parameter Reference* > *icm/HTTP/mod_<xx>:*.
3. Adjust the SAP Web Dispatcher redirect file.

In the `redirect.txt` file, add the following parameters:

```
# User Assistance Content Platform - rewrite rule
if %{SID} = <SID1>
begin
SetHeader HOST cp.hana.ondemand.com:443
RegRewriteRawUrl  ^/sap/dfa/help/(.*) /dps/$1
end
# Script Server - rewrite rule
if %{SID} = <SID2>
begin
SetHeader HOST xray.hana.ondemand.com:443
RegRewriteRawUrl  ^/resources/sap/dfa/help/(.*) /xRayControls/
resources/sap/dfa/help/$1
end
```

> **Note**
>
> Make sure that the SIDs in the `redirect.txt` file are the same as in the `sapwebdisp_cf.txt` file.

4. You can check if the content platform is working properly through the proxy connection by accessing: `https://<your server>:<your port>/sap/dfa/help/odata.svc/?$format=json`

> **Example**
>
> If the content platform is connected correctly, you can see the following output on your screen, for example:
>
> ```
> {"d":{"EntitySets":
> ["Transport","DeliverableForReplication","Tile","Project","Deliverable","Tran
> sportHistory","TourIssue","ReplicationTourIssue","Hotspot","Product","Context
> "]}}
> ```

5. You can check if the help script server is working properly through the proxy connection by accessing: `https://<yourserver>:<yourport>/resources/sap/dfa/help/sap/cfg/XrayBootstrapHelpConfig.json`

> **Example**
>
> If the help script server is connected correctly, you can see the following output on your screen, for example:

```
{
    "description":"This configuration registers the Xray bootstrap plug-in",
    "modulePaths":{
        "sap.dfa.help":"/resources/sap/dfa/help/~201509221536~"
    },
    "bootstrapPlugins":{
        "BootstrapXrayPlugin":{

"module":"sap.dfa.help.utils.adapters.fiori.BootstrapXrayHelpPlugin"
        }
    }
}
```

Result

The in-app help is available in the SAP Fiori launchpad.

Parent topic: Enable In-App Help [page 416]

Next: Set Up the In-App Help Plugin [page 419]

6.8.2 Set Up the In-App Help Plugin

To make in-app help available in the SAP Fiori Launchpad, set up the in-app help plugin in the relevant front-end systems.

Procedure

1. Log on to your front-end system.
2. Execute transaction */UI2/FLP_CUS_CONF*.
3. Under *FLP Configuration*, click on *Change* → *Display* and then on *New Entries*.
4. In the field *FLP Property ID*, select or enter `ENABLE_HELP`.
5. Enter the property value `true`.
6. Click on *Save*.
7. Double-click on *FLP Plugins*.
8. Click on *Change* → *Display* and then on *New Entries*.
9. In the field *FLP Plugin ID*, select or enter `WEB_ASSISTANT_HELP_PLUGIN`, and in the field *Activity State*, choose *Active*.
10. Highlight the entry `WEB_ASSISTANT_HELP_PLUGIN` and double-click on *Configuration*.
11. Click on *New Entries*.
12. Enter the following values:

FLP Property ID	Property Value
BUTTON_LOCATION	head
CAROUSEL_ORIENTATION	vertical
DATA_URL_UACP	https://help.sap.com/webassistant
EDITOR	false
LA_COMMUNITY_URL	https://community.sap.com/

FLP Property ID	Property Value
LEARNING_APP_BACKEND_URL	https://education.hana.ondemand.com/education/
LEARNING_APP_WORKSPACE	CARAB
NO_HELP_MODE	Carousel
PRODUCT	CARAB
RO_MODEL	UACP
RW_MODEL	WPB
SERVICE_LAYER_VERSION	UACP
USE_GLOBAL_HELP	true
VERSION	5.0.4

> **i Note**
>
> The table above describes how to set up context-sensitive user assistance to link to the **latest** published user assistance of the release. We recommend that you link to the latest version as this ensures that you receive the most up-to-date documentation.

13. Optionally, you can configure that the In-App Help opens immediately when the SAP Fiori launchpad or an app is opened. To configure this behavior, add the following property:

FLP Property ID	Property Value
PARAMETERS	openImmediately=full

To open the In-App Help in minimized mode, specify the property value `openImmediately=minimized`. Note that this property causes the In-App Help to open for all apps irrespective if the In-App Help content is available or not.

14. Click on *Save*.

After you have made these settings, the question mark icon for the in-app help is available for the SAP Fiori launchpad.

Parent topic: Enable In-App Help [page 416]

Previous: Install and Configure SAP Web Dispatcher [page 417]

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