UPGRADE GUIDE | PUBLIC
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Common Upgrade Guide for SAP Customer Activity Repository applications bundle 4.0 FPS02

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Content

1 How to Use this Common Upgrade Guide

This guide describes how to upgrade and set up the applications delivered with SAP Customer Activity Repository applications bundle 4.0 FPS02.

> ⚠ Caution
>
> If you do not have an existing installation of any of these applications, you must perform a **new installation** rather than an upgrade. In this case, see the *Common Installation Guide* at https://help.sap.com/viewer/p/CARAB under *<Version>* > *Installation and Upgrade*.

Applications in this Release

SAP Customer Activity Repository applications bundle 4.0 FPS02 includes the following applications:

- SAP Customer Activity Repository 4.0 FPS02
- SAP Allocation Management 4.0 FPS02
- SAP Assortment Planning 4.0 FPS02
- SAP Merchandise Planning 4.0 FPS02
- SAP Promotion Management 4.0 FPS02

> ℹ Note
>
> You can find the **product documentation** for all of these applications on SAP Help Portal for SAP Customer Activity Repository applications bundle at https://help.sap.com/viewer/p/CARAB.
>
> If you wish to connect your system to consume documentation directly from the SAP Help Portal, see section Configure Access to Documentation Provided on SAP Help Portal (Optional for All Applications) [page 260] for more information.

What to Upgrade

Technically, SAP Customer Activity Repository applications bundle 4.0 FPS02 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	Description
SAP CARAB 4.0 FPS02	**Back-end product version** Contains several software components that provide the ABAP back-end functionality and the business content (such as SAP HANA views and SQLScript procedures, local BI Content, application function libraries, and workbooks, where applicable).
SAP FIORI FOR SAP CARAB 4.0 FPS02	**Front-end product version** Contains all the SAP Fiori apps included in SAP Customer Activity Repository applications bundle. It is also referred to as the *product-specific SAP Fiori UI component*.

→ Tip

If you need more information about a product version, log on to the SAP ONE Support Launchpad at https://launchpad.support.sap.com/#/productsearch and search for SAP CARAB or SAP FIORI FOR SAP CARAB. You will find download information, SAP Knowledge Base articles, guided answers, and more.

Upgrade at a Glance

1. First you **prepare** the upgrade. For example, 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 sections Upgrade the Prerequisites [page 15] and Prepare the Upgrade [page 24].
2. Then you **upgrade** the back-end product version and the front-end product version. These steps are described in section Upgrade the Software [page 47]. You must do these steps regardless of the application that you want to set up later on.
3. Once you have upgraded the product versions, you **set up** the desired applications. These steps are described in section Set Up the Applications [page 68]. First you do the general setup steps in section Core (Mandatory for All Applications) [page 68]. You must do the core steps regardless of the application that you want to set up. After the core setup, 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

This guide references several SAP Notes that are regularly updated with new information. If you want to be informed of such updates because a particular note is relevant for your scenario, you can easily set up email notifications for it. For information on how to do this, see SAP Note 2478289 (*How to get notifications for SAP Notes or KBAs*).

1.1 Naming Conventions

Learn about important terms and variables used throughout this guide.

Terminology

Term	Definition
Common Installation Guide *Common Upgrade Guide*	Common guides for the applications included in *SAP Customer Activity Repository applications bundle*. You can find the guides on SAP Help Portal at https://help.sap.com/viewer/p/CARAB under *<Version>* > *Installation and Upgrade*.
consuming application	An application designed to consume and utilize data obtained from the SAP Customer Activity Repository platform. **Example** • SAP Allocation Management • SAP Assortment Planning • SAP Merchandise Planning • SAP Promotion Management
back-end server / system	The SAP NetWeaver-based ABAP back-end server on which the back-end product version of SAP Customer Activity Repository applications bundle (that is, SAP Customer Activity Repository and its consuming applications) is installed.
front-end server / system	The SAP NetWeaver-based ABAP front-end server on which the SAP Gateway, central SAP Fiori UI component with the SAP Fiori launchpad, and the product-specific SAP Fiori component (front-end product version including the SAP Fiori apps for SAP Customer Activity Repository applications bundle) are installed.
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 13].
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.

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 Assortment Planning / SAP Merchandise Planning	SAP Promotion Management	SAP Allocation Management	SAP Retail or SAP S/4HANA
article	product	product	product	product	article material
article variant	product variant	product variant	product variant	product variant or product/color/size	article variant
store	location (used as an umbrella term for stores, distribution centers, etc.)	location	location	store	store site

Variables

The variables are used as placeholders in the guides for objects that are user defined. When this variable is used in an instruction, you are expected to substitute your customer defined name for the object. For example, on the back-end application server where you have installed CARAB database objects, you have named your schema *ABC01*. An instruction states to verify the list of packages in your `SAP<SID>`. You would look for packages in the *ABC01* schema.

To find the name of your `SAP<SID>`, sign on to your target system using SAP Logon. Use the file menu *System* > *Status*. In the lower right section titled *Database Data* the name of your *Schema* is shown. This same schema is also listed as an object in your HANA catalog.

Variables Used Across All Guides

Variable	Description
SAP<SID>	Physical schema name **Note** In this guide your physical schema is referred to as SAP<SID> and is your database system ID. This name is customer-defined. To find the name of your SAP<SID>, log on to your target system using SAP Logon. Choose *System* > *Status*. In the lower right-hand section titled *Database data*, the name of your *Schema* is shown. This same schema is also listed as an object in your SAP HANA studio, under *Catalog*. Substitute this schema name whenever the SAP<SID> variable is used in this guide.
<sapsid>	SAP system ID in lowercase letters
<SAPSID>	SAP system ID in uppercase letters
<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

1.2 Information Available on SAP Help Portal

Information on prerequisite platforms, applications, and other components as well as quick links to SAP sites

Information on Prerequisite Platforms, Applications, Other Components

Information On	Path	Title
Installing SAP HANA	http://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	http://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	http://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	http://help.sap.com/viewer/p/SAP_HANA_REAL_TIME_REPLICATION ▶ *<Version>* ▶ *Installation and Upgrade*	*Installation Guide - Trigger-Based Data Replication Using SAP Landscape Transformation Replication Server*
Managing major operational aspects of the SAP LT Replication Server	http://help.sap.com/viewer/p/SAP_HANA_REAL_TIME_REPLICATION ▶ *<Version>* ▶ *Operations*	*Application Operations Guide - SAP Landscape Transformation Replication Server*
Using SAP HANA	http://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Administration* ▶ *SAP HANA Administration Guide*	*SAP HANA Administration Guide*
Using the SAP HANA development tools to create comprehensive analytical models and to build applications with SAP HANA interfaces and integrated development (for developers)	http://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)	http://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Development* ▶ *SAP HANA Modeling Guide (For SAP HANA Studio)*	*SAP HANA Modeling Guide*
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*	*SAP NetWeaver Master Guide*

Information On	Path	Title
Installing SAP ERP 6.0	http://help.sap.com/viewer/p/SAP_ERP ▶ *<Version>* ▶ *Installation and Upgrade* ▶ *Installation Guide* ▶	*Installation Guide*
Installing SAP S/4HANA	http://help.sap.com/viewer/p/SAP_S4HANA_ON-PREMISE ▶ *<Version>* ▶ *Product Documentation* ▶ *Installation Guide* ▶	*Installation Guide for SAP S/4HANA*
Installing SAP Enhancement Package 2 for SAP CRM 7.0 or SAP Enhancement Package 2 for SAP CRM 7.0, Version for SAP HANA or higher	http://help.sap.com/viewer/p/SAP_CUSTOMER_RELATIONSHIP_MANAGEMENT ▶ *Version 7.0 EHP2* ▶ *Installation and Upgrade* ▶ *Installation Guide* ▶ http://help.sap.com/crm_hana ▶ *Installation and Upgrade* ▶ *Administrator's Guide* ▶ *Administrator's Guide SAP CRM 7.0 EHP2, Version for SAP HANA* ▶	*Installation Guide, SAP Customer Relationship Management 7.0 Including Enhancement Package 2 Java and ABAP* *Administrator's Guide, SAP Enhancement Package 2 for SAP CRM 7.0, Version for SAP HANA*

General Quick Links

SAP Site	Path
SAP Help Portal	http://help.sap.com
Knowledge Base Articles and SAP Notes	https://support.sap.com/en/index.html
Product Availability Matrix (PAM)	http://support.sap.com/pam
Maintenance and release strategy	https://support.sap.com/en/release-upgrade-maintenance.html
SAP Software Download Center	http://support.sap.com/swdc
SAP Solution Manager	http://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	https://www.sap.com/about/cloud-trust-center/data-ownership-privacy.html 2590321 *Upgrade recommendations to support GDPR compliance*

SAP Site	Path
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	http://support.sap.com/patches
System sizing	http://www.sap.com/sizing

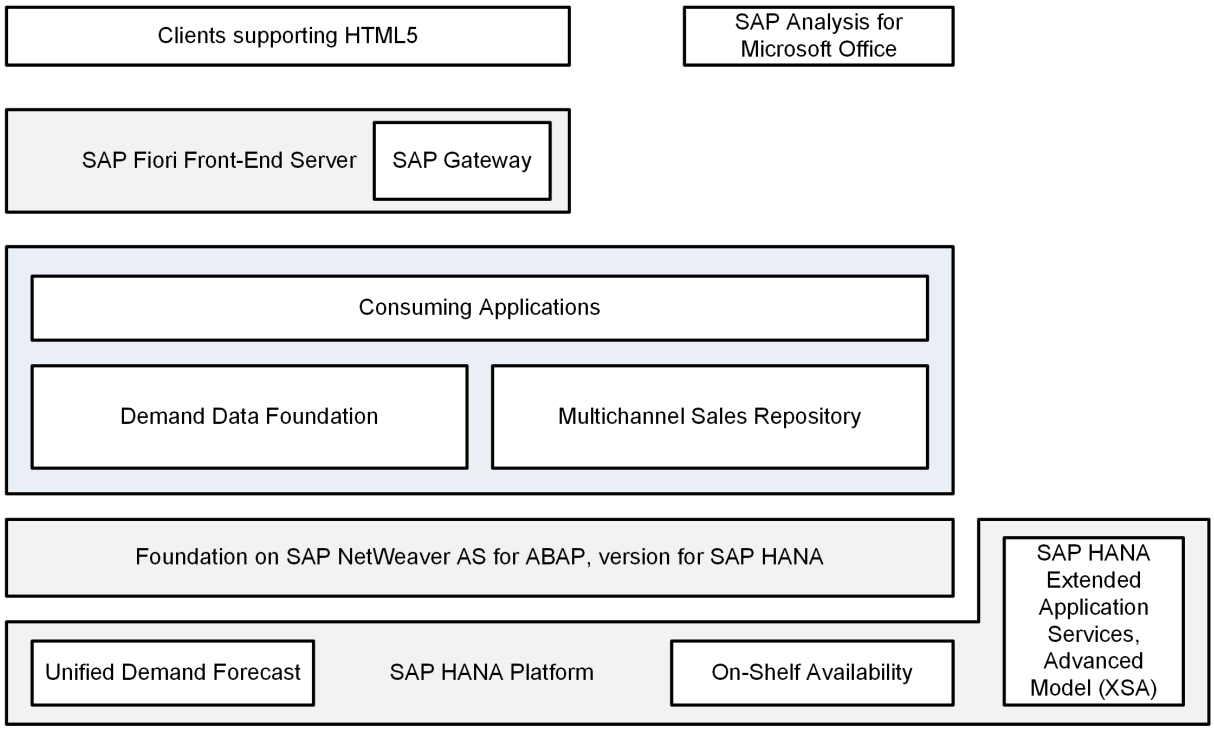
2 Plan your System

2.1 System Landscape

System landscape diagram for SAP Customer Activity Repository applications bundle

System Landscape

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



System Landscape Example

For information about the components not specific to SAP Customer Activity Repository applications bundle, see https://help.sap.com/viewer/p/FIORI_IMPLEMENTATION ▶ *<Version>* ▶ *Installation and Upgrade* ▶ *SAP Fiori: Setup and Configuration* ▶ *Setup of SAP Fiori System Landscape* ▶.

System Landscape Prerequisites

- For information on the versions required for this release, see Upgrade the Prerequisites [page 15].
- For information on the supported interoperability scenarios between the back-end product version and the front-end product version, see SAP Note 2815026 (*Back-end and front-end interoperability in SAP Customer Activity Repository applications bundle 4.0*).

2.2 Integration with Source Master Data Systems

Overview of the source master data systems for deployment scenarios of SAP Customer Activity Repository applications bundle

Overview

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

Source Master Data System	Flavor	More Information
SAP ERP (including the SAP ERP Central Component, SAP ECC)	SAP Retail (add-on to SAP ERP)	https://help.sap.com/viewer/p/SAP_ERP ▶ *<Version>* ▶ *Application Help* ▶ *SAP Library* ▶ *Industries in SAP ERP* ▶ *SAP Retail* ▶
	SAP Fashion Management (add-on to SAP Retail)	https://help.sap.com/viewer/p/SAP_ERP ▶ *<Version>* ▶ *Application Help* ▶ *SAP Library* ▶ *Industries in SAP ERP* ▶ *Fashion Management* ▶
SAP S/4HANA Retail	SAP S/4HANA Retail for merchandise management	https://help.sap.com/s4hana ▶ *<Version>* ▶ *Product Assistance* ▶ *<Language>* ▶ *Industries in SAP S/4HANA* ▶ *Consumer Industries* ▶ *Retail* ▶

> **i Note**
>
> Unless otherwise specified, the following terms are used in this guide:
>
> - References to the *source master data system* are comprehensive; that is, they apply to SAP ERP (including SAP ECC) and SAP S/4HANA Retail.
> - References to *SAP ERP* are comprehensive; that is, they apply to SAP Retail and SAP Fashion Management.

Prerequisites

For information on what versions of the source master data systems are required for this release, see Upgrade the Prerequisites [page 15].

More Information

If a **migration to SAP S/4HANA** is in scope for your business, see the following information for guidance:

- SAP Transformation Navigator at https://go.support.sap.com/transformationnavigator/#/welcome
- SAP Readiness Check at https://help.sap.com/viewer/p/SAP_READINESS_CHECK

For **cross-scenario planning information**, see the following whitelists:

- SAP Note 1661202 - *Support multiple applications one SAP HANA database / tenant DB*: Support and special considerations for multiple applications on a single SAP HANA database or, in the case of MDC, on a single tenant DB
- SAP Note 1826100 - *Multiple applications SAP Business Suite powered by SAP HANA*: Support and special considerations for multiple applications on a single SAP HANA database within SAP Business Suite powered by SAP HANA

3 Upgrade the Prerequisites

This section lists all the prerequisite platforms, applications, and components that must be installed and configured to prepare the system landscape for **an upgrade from a previous release**.

> **i Note**
>
> If you are performing a **new installation of this release**, you must not follow this *Common Upgrade Guide* and rather proceed with the *Common Installation Guide*, available at https://help.sap.com/viewer/p/CARAB under *Installation and Upgrade*.

For your convenience, the prerequisites are presented to you 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.

> **i Note**
>
> Should there be important updates to the prerequisites after the publication of this guide, we will communicate this information in the *Important Notice* document, which you can find on SAP Help Portal. Navigate to https://help.sap.com/viewer/p/CARAB and see under *Installation and Upgrade*.

> **→ Tip**
>
> This chapter references several SAP Notes that are regularly updated with new information. If you want to be informed of such updates because a particular note is relevant for your scenario, you can easily set up email notifications for it. For information on how to do this, see SAP Note 2478289 (*How to get notifications for SAP Notes or KBAs*).

Common Prerequisites

1. **Foundation on SAP NetWeaver AS for ABAP, version for SAP HANA**

   > **⚠ Caution**
   >
   > You must upgrade the foundation **prior** to upgrading other back-end components.

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

Foundation	Minimum Requirement	Installation Information
1709	`ABAP FND 1709 ON HANA SPS 02 (05/2018)` (*foundation 1709 on SAP NetWeaver AS for ABAP 7.52, version for SAP HANA*)	○ SAP Note 2534199 (*ABAP FND 1709 ON HANA: Release Information Note*) ○ *Master Guide* for SAP NetWeaver under https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 *<Version>* *Installation and Upgrade*

> ⚠ Caution
>
> Before installing or upgrading the foundation in your system landscape, always check for the latest support information at https://help.sap.com/viewer/p/CARAB. Select your version at the top and see under *Installation and Upgrade* *Important Notice*.
>
> This is also where you will find support information on higher releases of the foundation.

2. **SAP HANA Platform 2.0**
   - **SAP HANA database** component:
     The minimum requirement for this release is follows, regardless of the business scenario you are planning to implement:
     - either **SAP HANA database 2.0 SPS03 revision 37.00**
     - or **SAP HANA database 2.0 SPS04 revision 44.00**
     - Before installing a revision, always check for the latest support information. See SAP Note 2818378 (*Which releases of SAP HANA Platform are supported for which releases of SAP Customer Activity Repository applications bundle (SAP CARAB)?*).

> ⚠ 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*.
>
> Use this same strategy also, should the minimum revision no longer be 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 if you decide to upgrade your SAP HANA Platform to a higher revision or even support package stack later on

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 productive 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 HANA 2.0 Revision Strategy (what are revisions, what are support package stacks, what is the SAP HANA product availability and maintenance strategy)
- Depending on your selected database revision:
  SAP Note 2551355 (*SAP HANA Platform 2.0 SPS 03 Release Note*)
  SAP Note 2656575 (*SAP HANA Platform 2.0 SPS 04 Release Note*)
- *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* ▶
- Overview and download of SAP HANA Platform 2.0: http://support.sap.com ▶ *Download Software* ▶ *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*)
- If you are planning to upgrade from SAP HANA Platform 1.0 to SAP HANA Platform 2.0, additionally see the following:
  - SAP Note 1948334 (*SAP HANA Database Update Paths for SAP HANA Maintenance Revisions*)
  - SAP Note 2372809 (*Mandatory Preparation Steps for Upgrading a SAP HANA 1 System to SAP HANA 2*)
  - SAP Note 2422421 (*Guideline for upgrading a SAP HANA system with extended application services, advanced model*)

> → Tip
>
> (Optional) To get the latest technical recommendations related to your SAP HANA landscape, you can activate the SAP EarlyWatch Alert (EWA) in your SAP HANA environment. For more information, see SAP Note 1958910.

3. **SAP RTL AFL FOR SAP HANA**

> ⚠ Caution
>
> `SAP RTL AFL FOR SAP HANA` is a back-end software component of SAP Customer Activity Repository applications bundle. However, you must always upgrade it together with the SAP HANA Platform. You must do this **before** upgrading the `SAP CARAB` back-end product version. This guide leads you through the correct steps.

The minimum requirement for this release is the **SAP RTL AFL FOR SAP HANA revision that is compatible with the selected SAP HANA database revision**, regardless of the business scenario you are

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

> **i Note**
>
> What is `SAP RTL AFL FOR SAP HANA`:
>
> The component 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 **set up and configure** UDF and/or OSA if you wish to use the functionality in your scenario.

4. **SAP Landscape Transformation Replication Server**
   The minimum requirement for this release is **SAP Landscape Transformation Replication Server 2.0 for SAP HANA**, regardless of the business scenario you are planning to implement.

   > **i Note**
   >
   > If your source master data system is SAP S/4HANA 1909, be aware that as of that release, the SAP LT Replication Server is no longer available as a standalone component. Instead, SAP S/4HANA 1909 includes an embedded SAP LT Replication Server by default.
   >
   > To set up the data replication from an SAP S/4HANA 1909 system, you need to do some preparatory steps. This guide leads you through the correct procedure in the data replication section (Create/ Replicate Source Master Data System Tables [page 75]). The preparatory steps have the added advantage that they give you the option to still use a standalone SAP LT Replication Server.

   For installation information and possible dependencies to other components, see the following:
   - *Installation Guide (Replicating Data to SAP HANA)* under https://help.sap.com/viewer/p/SAP_LANDSCAPE_TRANSFORMATION_REPLICATION_SERVER ▶ *<Version>* ▶ *Installation and Upgrade* ▶
   - SAP Fiori Deployment Options and System Landscape Recommendations.
     If your source master data system is SAP S/4HANA, see especially the minimum requirements in section *SAP S/4HANA with standalone SAP Fiori Front-End Server*.
   - 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)*)

5. **SAP Fiori**
   SAP Fiori front-end server is an add-on product version for SAP NetWeaver AS ABAP and defines the front-end software components required to run SAP Fiori apps.
   The minimum requirement for this release is **SAP FIORI FRONT-END SERVER 4.0 - SAP FRONTEND SERVER 7.52**, regardless of the business scenario you are planning to implement. The minimum SAPUI5 version is **1.52.4**.
   For installation and implementation information, see the following:
   - SAP Fiori Implementation Information
   - Overview of SAP Fiori front-end server components and versions

- For planning information and a helpful version overview (front-end server, application server ABAP, SAP Gateway, SAPUI5), see SAP Note 2217489 (*Maintenance and Update Strategy for SAP Fiori Front-End Server*).
- 2484979 (*SAP-Fiori-Frontend-Server 4.0 - General Information*)
- 2524632 (*General Information: FIORI UI Infrastructure Components for products on SAP Frontend Server 4.0 (S4H)*)

For information on possible dependencies to other components or if you are planning to use a higher version, see the following:

- SAP Note 2590653 (*SAP Fiori front-end server deployment for SAP S/4HANA*)
- SAP Note 2618605 (*SAP-Fiori-Frontend-Server 5.0 - General Information*)
- SAP Note 2775163 (*SAP-Fiori-Frontend-Server 6.0 - General Information*)

6. **Source master data system**
   - 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. For more information, see Naming Conventions [page 6].

   - 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	https://help.sap.com/viewer/p/SAP_ERP > *<Version>* > *Installation and Upgrade* > *Installation Guide*

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 **i Note** If your source master data system is SAP S/4HANA 1909, be aware that as of that release, the SAP LT Replication Server is no longer available as a standalone component. Instead, SAP S/4HANA 1909 includes an embedded SAP LT Replication Server by default. To set up the data replication from an SAP S/4HANA 1909 system, you need to do some preparatory steps. This guide leads you through the correct procedure in the data replication section (Create/Replicate Source Master Data System Tables [page 75]). The preparatory steps have the added advantage that they give you the option to still use a standalone SAP LT Replication Server.	○ https://help.sap.com/viewer/p/SAP_S4HANA_ON-PREMISE ▶ *<Version>* ▶ *Implement* ▶ *Product Documentation* ▶ *Installation Guide* ▶ ○ SAP Note 2655761 (*SAP S/4HANA - restrictions and recommendations regarding specific revisions of SAP HANA database for use in SAP S/4HANA*) ○ 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*)

→ 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 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.	https://help.sap.com/viewer/p/SAP_CUSTOMER_RELATIONSHIP_MANAGEMENT *<your version>* > *Installation and Upgrade* > *Installation Guide*
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.	SAP Note 2018360
SAP Marketing (formerly, SAP Hybris Marketing)	SAP Marketing 1.10 or higher	Optional, depending on whether or not you choose to implement customer determination with SAP Marketing.	https://help.sap.com/viewer/product/SAP_HYBRIS_MARKETING/1702%20YMKT/en-US *<your version>* > *Installation and Upgrade* > *Installation and Configuration Guide*
SAP Commerce (formerly, SAP Hybris 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 (formerly, SAP Hybris 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
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/p/SAP_IQ ▶ *<your version>* ▶ *Installation and Upgrade* ▶ *<various SAP IQ Installation and Configuration Guides>* ▶
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.	https://help.sap.com/viewer/p/SAP_HANA_DYNAMIC_TIERING ▶ *<your version>* ▶ *Installation and Upgrade* ▶ *SAP HANA Dynamic Tiering: Installation and Update Guide* ▶

Prerequisite	Minimum Requirement	Mandatory/Optional	Installation Information
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.	https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<your version>* ▶ *Installation and Upgrade* ▶ *SAP HANA Server Installation and Upgrade* ▶ *Installing an SAP HANA System* ▶ *Installing XS Advanced Runtime*

SAP Allocation Management

SAP Allocation Management requires only the common prerequisites.

SAP Assortment Planning

Prerequisites for SAP Assortment Planning

Prerequisite	Minimum Requirement	Mandatory/Optional	Installation Information
SAP Analysis	SAP Analysis for Microsoft Office 2.6 SP03	Mandatory	https://help.sap.com/viewer/p/SAP_BUSINESSOBJECTS_ANALYSIS_OFFICE ▶ *<your version>* ▶ *Installation, Configuration, Security, and Administration* ▶ *Administrator Guide*

SAP Promotion Management

SAP Promotion Management requires only the common prerequisites.

SAP Merchandise Planning

Prerequisites for SAP Merchandise Planning

Prerequisite	Minimum Requirement	Mandatory/Optional	Installation Information
SAP Analysis	SAP Analysis for Microsoft Office 2.6 SP03	Mandatory	https://help.sap.com/viewer/p/SAP_BUSINESSOBJECTS_ANALYSIS_OFFICE ▶ *<your version>* ▶ *Installation, Configuration, Security, and Administration* ▶ *Administrator Guide*

4 Prepare the Upgrade

Before you start with the actual upgrade of SAP Customer Activity Repository applications bundle 4.0 FPS02, you must first perform several preparatory tasks.

1. Implement SAP Notes for the Upgrade [page 24]
   This section lists SAP Notes (corrections) that you must read and — when appropriate — implement **at different points in the upgrade process**. The section also points you to the release-specific back-end RIN and front-end RIN, where you can find the very latest corrections.
2. Verify Correct Schema Mapping [page 37]
   In SAP HANA studio, verify that all "authoring schemas" of SAP Customer Activity Repository applications bundle are mapped to the correct "physical schema" of your customer back-end system. If necessary, create any mappings that are missing. This procedure is mandatory for all the applications.
3. Verify SAP HANA Users and Privileges [page 40]
   SAP Customer Activity Repository applications bundle is installed in a multi-level system landscape (SAP HANA database, ABAP back-end server, ABAP front-end server with SAP Gateway and SAP Fiori apps). Each level requires specific users and privileges. In this procedure, you set up the users and privileges for the SAP HANA database (level 1 below).
4. Configure AFL Usage [page 44]
   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 Upgrade

This section lists SAP Notes (corrections) that you must read and — when appropriate — implement **at different points in the upgrade process**. The section also points you to the release-specific back-end RIN and front-end RIN, where you can find the very latest corrections.

> **i Note**
>
> 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) with Latest Corrections for all Applications

After the publication of this guide, additional corrections might have become available. You can find these additional corrections in the RINs for this release:

- For the latest back-end corrections, see SAP Note 2788603.
- For the latest front-end corrections, see SAP Note 2788586.

> ⚠ Caution
>
> Always consult the table 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 upgrade	Back-end	2548843 *DD: data element changes from DEC to CURR, error for dependent views*	**Mandatory correction for all the applications of SAP Customer Activity Repository applications bundle.**
During the upgrade	Back-end	2298340 *SAP HANA DB: CDS views with external views as base objects cannot be created in the DB*	Troubleshooting information for error messages during the “move nametabs” phase.
During the upgrade	Back-end	2340418 *SAP HANA DB: RUTDDLSCREATE returns errors for CDS views with external views as base object*	Troubleshooting information for error messages during the `RUTDDLSCREATE` phase.

Implement	Area	SAP Note	Description
During the upgrade	Back-end	2377525 *External view in view hierarchy*	Troubleshooting information for error messages during the `CREATE VIEW` phase.
During the upgrade	Back-end	2330184 *Appearance of Non-Existence/Activation Errors of Views/DDL Sources within installation of CARAB 1.0 FP03 and CARAB 2.0*	Troubleshooting information for error messages during various `RSDB02CK`-related phases (SUM only). For example, *2EETG002 View "/AMR/C_P_A_L_C" does not exist in the database* or *2EETG002 View "/AMR/V_APITSLOC" does not exist in the database*.
After the upgrade	Back-end	2845868 *Dump during Import of Time Series*	**Mandatory correction for the Demand Data Foundation (DDF) module. Relevant for all the applications of SAP Customer Activity Repository applications bundle.**
After the upgrade	Front-end	2183947 *Smart Business for SoH (Suite on Hana) delivery*	Information on how to install add-on object `UISAFND1 100` when installing the SAP Smart Business Modeler Apps Framework with User Interface Add-On 2.0 for SAP NetWeaver.
After the upgrade	Back-end	1778607 *SAP HANA Live for SAP Business Suite*	Optional (only relevant if you choose to implement SAP HANA Live for SAP Business Suite). Release information and implementation considerations.
After the upgrade	Back-end	2623953 *SADL GW: Exposure for Annotations on Entity Container with namespace*	Mandatory if you are using omnichannel article availability and sourcing (OAA) and using the functionality in sales channel mode. Not required for functions other than OAA. Not required if you are using OAA in OAA profile mode.

Implement	Area	SAP Note	Description
After the upgrade	Back-end	2625428 *SADL GW: Exposure for Annotations on Entity Container with namespace*	Mandatory if you are using omnichannel article availability and sourcing (OAA) and using the functionality in sales channel mode. Not required for functions other than OAA. Not required if you are using OAA in OAA profile mode.
After the upgrade	Front-end	2547022 *Service cannot be consumed in SDK IOS due to invalid character '.' in EntityContainer namespace*	Only required if your front-end server is version SAP NetWeaver 7.50 or lower: Mandatory if you are using omnichannel article availability and sourcing (OAA) and using the functionality in sales channel mode. Not required for functions other than OAA. Not required if you are using OAA in OAA profile mode.
After the upgrade	Back-end	2853038 *"Context" field used for DC stock separation is not hidden in ERP scenario*	Mandatory if you are using omnichannel article availability and sourcing (OAA) and using the functionality in sales channel mode, with an **SAP Retail** source system (ERP scenario). Not required for functions other than OAA. Not required if you are using OAA in OAA profile mode. Not required if you are using OAA in sales channel mode with an **SAP S/4HANA** source system.
After the upgrade	Back-end	2849052 *CARAB 4.0 FPS02 HANA Content Activation Issue for OAA*	Mandatory if you are using omnichannel article availability and sourcing (OAA) and using the functionality in sales channel mode, with an **SAP S/4HANA 1709 or 1809** source system. **i Note** Implement this SAP Note before activating the SAP HANA content. Not required for functions other than OAA. Not required if you are using OAA in OAA profile mode. Not required if you are using OAA in sales channel mode with an **SAP S/4HANA 1909** source system.

Implement	Area	SAP Note	Description
After the upgrade	SAP S/4HANA 1909 back-end	2835297 *Missing OAA ATP Change Indicator entries for S/4HANA 1909*	Only required if your ERP version 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 ERP versions other than SAP S/4HANA 1909.
After the upgrade	Back-end	2576497 *SQL Error Code 274: inserted value too large for column*	Note for errors produced when the material number is longer that 18 characters.
After the upgrade	Back-end	2777415 *SAP Allocation Management: Activating /AMR/* views ends in Error*	**Mandatory correction for all the applications of SAP Customer Activity Repository applications bundle.** Implement this note regardless of the scenario that you wish to set up.
After the upgrade	Front-end	2845197 *Corrections for the Analyze Forecast, Adjust Forecast and Manage Demand Influencing Factors apps in SAP Customer Activity Repository 4.0 FPS02*	Note listing all the corrections for *Analyze Forecast*, *Adjust Forecast*, and *Manage Demand Influencing Factors* that you need for this release.
After the upgrade	Front-end and Back-end	2859379 *Demand Planning CARAB 4.0 FPS02 - Collective Note after ECC*	This note is a collection of corrections for all layers of Demand Planning for CARAB 4.0 FPS02

Implement	Area	SAP Note	Description
After the upgrade	Front-end	2842109 *Offer has more than one term with transaction discount*	Mandatory if you are using omnichannel promotion pricing.
After the upgrade	Back-end	2857334 *Unsupported data type DECFLOAT34 / D34N when replicating from an SAP S/4HANA 1909 on premise system*	Mandatory if your source master data system is SAP S/4HANA 1909. In that case, the note is required for all the scenarios.

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 upgrade	Back-end	1919631 *Activating the BPC imbedded is necessary*	Embedded BW-IP features explicitly needs the NW BPC10.1 license along with the PAK.
After the upgrade	Back-end	2600370 *The input help for time characteristics used as navigation attributes does not return any data*	The time-independent navigation attribute table of the characteristic (X table) is fully or partially empty.

Implement	Area	SAP Note	Description
After the upgrade	Back-end	2667189 RSRT: Error when filter on UDH Axis	*In the BW Query monitor (transaction* RSRT *or* RSRT2*) a dynamic filter is set on a structure, which is part of a hierarchical axis.*
After the upgrade	Back-end	2724048 BW-IP: column store error: fail to create scenario (0REQTSN 0REQTSN_KEY)	*A* BW-IP *planning scenario runs in PAK and fails with an error message "column store error: fail to create scenario." The error message mentions* 0REQTSN *or* 0REQTSN_KEY*.*
After the upgrade	Back-end	2726582 BW-IP: GETWA_NOT_ASSIGNED in CL_RSDRC_TREX_QUERY_LAYER IS_LAYER_POSSIBLE_FOR_CHANM	*A planning scenario running in PAK dumps with an error* GETWA_NOT_ASSIGNED *class* CL_RSDRC_TREX_QUERY_LAYER*, method* IS_LAYER_POSSIBLE_FOR_CHANM*.*
After the upgrade	Back-end	2673356 ABAP BICS: missing values when planning single values and Universal Display Hierarchy	*You are executing a planning enabled query using a client that makes use of the ABAP* BICS *API as BW provider like* RSRT BICS *(transaction* RSRT/RSRT2 *in mode ABAP* BICS*).*
After the upgrade	Back-end	2671629 ABAP BICS: Dump on planning single values and Universal Display Hierarchy	*You are executing a planning enabled query using a client that makes use of the ABAP* BICS *API as BW provider like* RSRT BICS *(transaction* RSRT/RSRT2 *in mode ABAP* BICS*).*

Implement	Area	SAP Note	Description
After the upgrade	Back-end	2750861 Termination ASSERTION_FAILED in extended program check and CVA	*The extended program check and* CVA *terminate with the short dump* ASSERTION_FAILED *in the class* CL_SLIN_FLOW_IR_COMPILER.
After the upgrade	Back-end	2716617 Error EXTRACT_RGC_INDEXES-01 - in CL_RSR_RRK0_NORM_CONTEXT	*A query aborts with error* EXTRACT_RGC_INDEXES-01- *in class* CL_RSR_RRK0_NORM_CONTEXT.
After the upgrade	Back-end	2860688 Invalid version returned in 1.3 Top Down	When executing the top down planning function in the 1.3 workbook, the user may receive an error "/RAP/VERSN:M5R is not included in the selection".

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
Prior to the upgrade	SAP Retail system	2196351 *Pre-requisite for SAP Note #2196323*	Corrections to SAP Retail data elements.

Implement	Area	SAP Note	Description
Prior to the upgrade	SAP Retail system	2196323 *DRFOUT: Only valid current node assignments and article assignments are transferred during Article Hierarchy Replication*	Article Hierarchy Transfer replication will transfer all node and article assignments irrespective of the validity.
Prior to the upgrade	SAP Retail system	2209621 *Assortment Listing API: List by DC fix*	Functionality on the SAP Retail side to enable PIR integration with SAP Assortment Planning.
Prior to the upgrade	SAP Retail system	2286994 *New Listing API for Retail Assortment Planning*	Supports: • Different listing periods for different products within an assortment • Changes in the listing after a product has been listed • In-season listing changes • Multiple validity time periods for the same location
Prior to the upgrade	Back-end	1656983 *Result Set Size Limit Exceeded Message*	Information on changing the default `ResultSetSizeLimit` setting.
After the upgrade	Back-end	2706022 *When Current Member is activated on 0FISCYEAR, the calculation was not possible*	This note is relevant if you use the Retail SAP BW Structure. This note contains instructions for solving a BW issue in the *Plan Products by Week* worksheet of the *Plan Assortment* workbook.

Implement	Area	SAP Note	Description
After the upgrade	Back-end	2706848 *Assortment Planning - Plan Options: Add Reference Number of Options by Module*	This note is relevant if you use the Retail SAP BW Structure. This note contains instructions to update the display of the reference option count in the *Plan Options by Module* query to keep this query compatible with the standard delivery of the virtual InfoCube *Plan Options: Historical Sales* (`/RAP/VC20`).
After the upgrade	Back-end	2856695 *CARAB 4.0 Assortment List - Market hierarchy node issues*	This mandatory note for the *My Assortment Lists* app includes corrections regarding market hierarchy nodes issues.
After the upgrade	Front-end	2772899 *Assortment List 4.0 - Stable ids for UI elements*	This mandatory note for the *My Assortment Lists* app includes the following: • Stable ids to be able to assign hotspots for Web Assistant • Bug fixes for the *Manage Products* screen
After the upgrade	Front-end	2767553 *APR 4.0 FP01 - Manage Option Plans UI OPTION PLANNING - UI Fixes*	This mandatory note for the *Manage Option Plans* app includes several bug fixes.
After	Both	2857864	Mandatory. Location Hierarchy Nodes aren't showing up in the Option Plan Application display mode even though they are assigned to the Option Plan

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.

SAP Notes for SAP Promotion Management

Implement	Area	SAP Note	Description
After the upgrade	Front-End	2756450 *Promotional Offers CARAB 4.0*	Mandatory. Fiori - Latest version of Manage Promotional Offers
After	Both	2858360	Mandatory. Event Preview Template Box CDS

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.

SAP Notes for SAP Allocation Management

Implement	Area	SAP Note	Description
After the upgrade	Back-end	2841488 *SAP Allocation Management 4.0 FPS02 - Back End Corrections until RTC*	This note comprises all back-end corrections of SAP Allocation Management up to the RTC date of 4.0 FPS02.
After the upgrade	Front-end	2842371 *SAP Allocation Management 4.0 FPS02 - Front End Corrections until RTC*	This note comprises all front-end corrections of SAP Allocation Management up to the RTC date of 4.0 FPS02.
After the upgrade	Follow-On System	2618509 *Blacklisted RFC for Creation of Allocation Table in S4H System*	Implement the correction to facilitate the creation of allocation tables from SAP Allocation Management in the SAP S/4HANA follow-on system.

Implement	Area	SAP Note	Description
After the upgrade	Back-end	2631613 *SAP Allocation Management - Customizing - Define Business Scenarios*	Follow the instructions to create a valid business scenario ID.
After the upgrade	Back-end	2632881 *SHDB: Low and High Values are clipped during conversion of SelectionTables into WHERE clauses*	This note contains corrections regarding the SAP HANA database.
After the upgrade	Back-end	2502917 *Unable to register the service* `/AMR/OD_WORKLOAD_SRV` *with namespace*	This note is only relevant if the back-end component `SAP_GWFND 752` is below SP 2.
After the upgrade	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.
After the upgrade	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

Implement	Area	SAP Note	Description
After the upgrade	Back-end	2641286 *Internal server error LCX_MISSING_PARAMETER in CL_SADL_ABQI*	This note is relevant for SADL implementation services based on CDS views for back-end software component `SAP_GWFND 752` This note is mandatory.
After the upgrade	Back-end	2636746 *OData Navigation not working*	This note is mandatory for OData services based on CDS views with parameters relevant for `GW_FND` version ABAP 7.52 and above.
After the upgrade	Back-end	2441184 *Static ABAP generation error of classes /AMR/CL... when installing CARAB 1.0 FP03, CARAB 2.0, and CARAB 4.0*	The manual instructions in the note must be implemented for the successful activation of SAP Allocation Management applications. This note is mandatory.
After the upgrade	Back-end	2777415 *SAP Allocation Management : Activating /AMR/* views ends in Error*	Mandatory correction
After the upgrade	Follow-on system	2416853 *RFC function module to create allocation table for SAP Allocation Management*	Enhanced functionality for the transfer of allocation data to an ECC system.

Implement	Area	SAP Note	Description
After the upgrade	Follow-on system	2524857 *RFC function module to create allocation table for SAP Allocation Management in S4H system*	Creation of an allocation table from SAP Allocation Management in **SAP S/4HANA** system for the transfer of allocation plans.
After the upgrade	Back-end	2850366 *HANA Content helper report*	This note is mandatory if your source system is SAP S/4HANA 1909; otherwise, it is optional. It is highly recommended that it be installed to ensure the correctness of SAP Allocation Management code.
After the upgrade	Back-end	2850296 *Support for S/4H 1909 source system in report /DMF/CREATE_SLT_TABLES*	This note is mandatory for distribution curve functionality.

Parent topic: Prepare the Upgrade [page 24]

Next: Verify Correct Schema Mapping [page 37]

4.2 Verify Correct Schema Mapping

In SAP HANA studio, verify that all “authoring schemas” of SAP Customer Activity Repository applications bundle are mapped to the correct “physical schema” of your customer back-end system. If necessary, create any mappings that are missing. This procedure is mandatory for all the applications.

Context

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).

You must map multiple *authoring schemas* to the same *physical schema*:

- The *authoring schema* is the logical database schema with which the SAP HANA objects were originally created in the SAP source system. The authoring schema is listed in each object's properties in SAP HANA studio. Different objects can have different authoring schemas.
- The logical database schema of your customer back-end system is the *physical schema*. When you replicate tables from the source master data system later on, this back-end system with its physical schema is the target system. This is why all authoring schemas must be mapped to this one physical schema of your customer system (n:1 relationship).

What is Your `SAP<SID>` Name (Schema Name, User Name)

In this guide, your physical schema is referred to as `SAP<SID>`. This is your customer-defined database system ID.

Substitute this schema name whenever the `SAP<SID>` variable is used in this guide.

If you don't know the `SAP<SID>` name for your system, there are two easy ways to find it:

- Log on to your ABAP back-end system using SAP Logon. Choose *System* > *Status*. In the lower right-hand section titled *Database data*, see the name for *Schema*.
- In SAP HANA studio, the schema name is listed as an object under *Catalog*.

Why Schema Mapping

Schema mapping is essential when the source system and the target system have different physical schemas (`SAP<SID>` names).

- Schema mapping allows you to transport SAP HANA objects from the source system to the target system. For example, from the SAP delivery system to your test system, and from your test system to your production system. After schema mapping, you can access and deploy the transported objects.
- Schema mapping is a prerequisite for activating the SAP HANA content.
- Schema mapping is also a prerequisite for replicating the required SLT tables from the source master data system to your SAP Customer Activity Repository back-end system.

Authoring Schemas

Two sets of authoring schemas are relevant for this release:

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

`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 (such as SAP Assortment Planning or SAP Merchandise Planning)

SAP_RTLRAP_AMR	SAP HANA objects for SAP Allocation Management

Table 2: Authoring Schemas for Source Master Data Systems

SAP_CRM	SAP Customer Relationship Management
SAP_CUAN	SAP Marketing
SAP_ECC	SAP ERP (SAP Retail)
SAP_S4H	SAP S/4HANA Retail

Prerequisites

You have set up the authorizations as described in Verify SAP HANA Users and Privileges [page 40].

Procedure

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 schema and physical schema that need to be mapped.
   - Map **all authoring schemas from table 1** to the **same physical schema (**`SAP<SID>`**)** in your customer system. If necessary, add new mappings.
   - Map **each authoring schema from table 2** to the **physical schema for the respective source master data system** in your customer system. If necessary, add new mappings.
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.
>
> Use the `SYS_BI.M_DATABASE_SCHEMA_MAPPING` table to maintain schema mapping definitions.
>
> For more information, see https://help.sap.com/viewer/p/SAP_HANA_PLATFORM *Development* > *SAP HANA Modeling Guide (SAP HANA Studio)*. Consult the https://help.sap.com/viewer/fc5ace7a367c434190a8047881f92ed8/2.0.03/en-US/4cba3069bc39448581e7f83d52218bc5.html*Map Authoring Schema to Physical Schema* section, including its subsections.

Parent topic: Prepare the Upgrade [page 24]

Previous: Implement SAP Notes for the Upgrade [page 24]

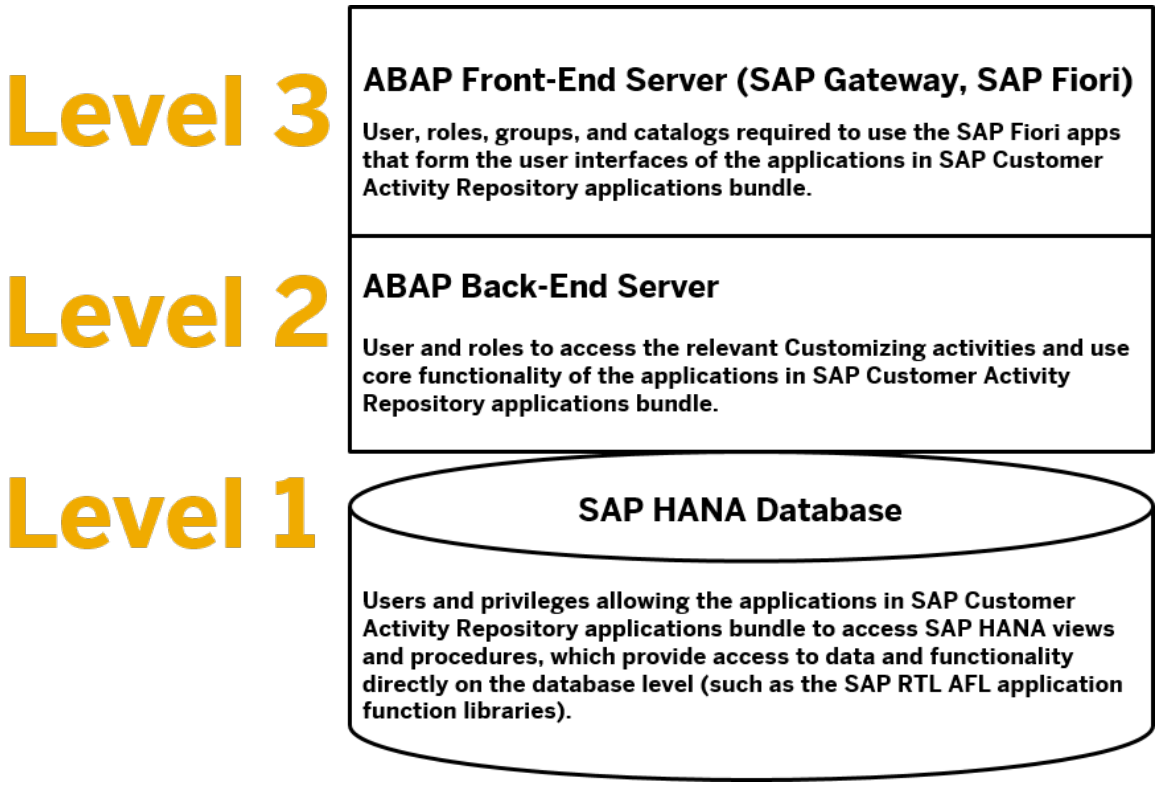
Next: Verify SAP HANA Users and Privileges [page 40]

4.3 Verify SAP HANA Users and Privileges

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

Overview

The following figure shows the three levels of the system landscape and explains the authorizations that must be set up in each level:



Authorization Levels in SAP Customer Activity Repository applications bundle

> ⚠ Caution
>
> **Level 1:** You must set up the users and privileges for the SAP HANA database **before** upgrading 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 upgrade.
>
> - Level 2: Generally, the back-end users and roles only need to be set up in a new installation scenario. In an upgrade scenario, they should already be available. The setup is described in section *Verify Back-End Users and Roles* in the *Common Installation Guide*.
> - Level 3: The required front-end authorizations depend on the application and SAP Fiori apps that you wish to set up. For example, you can find setup instructions in the following sections in the *Common Installation Guide*:
> *Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad* (SAP Assortment Planning), *Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad* (SAP Allocation Management), or Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 110]

Procedure

To set up the authorizations for level 1 (SAP HANA database), follow these steps:

1. Log on to your back-end system in SAP HANA studio.
2. Ensure that the SAP HANA database users listed below exist and that they have the required roles/ privileges.

   > ⚠ Caution
   >
   > **Users marked * must be identical on all three levels:** that is, on the SAP HANA database level, on the back-end server, and on the front-end server.

Users	Privileges / Roles
`SAP<SID>` This is the generic database user specified for the connection from the SAP NetWeaver 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 `SELECT` on schema `SAP_ECC` (required if your source master data system is SAP Retail) ○ Privilege `SELECT` on schema `SAP_S4H` (required if your source master data system is SAP S/4HANA) ○ Role `CONTENT_ADMIN` ○ Role `AFLPM_CREATOR_ERASER_EXECUTE` This role must be assigned to execute functions of the PAL library (required by SAP Assortment Planning, for example). For more information, see Enable Usage of PAL Functions [page 44] and SAP Note 2046767. ○ Role `AFL__SYS_AFL_OFL_AREA_EXECUTE` ○ Grant the following additional privileges, with option *Grantable to others*, on these schemas: On schema `_SYS_BIC`: ○ Privilege `CREATE ANY` ○ Privilege `ALTER` On schema `<SAP Retail or SAP S/4HANA 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, this is referred to as SAP<SID> in this guide ○ Physical database schema that contains the SAP Retail or SAP S/4HANA tables ○ Physical database schema that contains the SAP CRM tables ○ Physical database schema that contains the SAP Marketing tables ○ Authoring schema SAP_ECC (required if your source master data system is SAP Retail) ○ Authoring schema SAP_S4H (required if your source master data system is SAP S/4HANA) 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 via this role, see the *Common Installation Guide*, section *Set Up Authorizations for Unified Demand Forecast (UDF)*. ○ For SAP Allocation Management, you need the following additional privileges: ○ Privilege CREATE ANY ○ Privilege CREATE SCHEMA
<Your User Name> *	○ Privilege SELECT on schema _SYS_BI ○ Privilege SELECT on schema SAP<SID> ○ Privilege EXECUTE on procedure REPOSITORY_REST ○ Privilege SELECT on schema SAP_ECC (required if your source master data system is SAP Retail) ○ Privilege SELECT on schema SAP_S4H (required if your source master data system is SAP S/4HANA) ○ The *Session Client* of this database user must be set to the appropriate back-end system client. This step is necessary to use the SAP Assortment Planning planning framework, where SAP Analysis for Microsoft Office workbooks obtain data from SAP HANA views. For more information, see the *Assign Default Client* section in the *SAP HANA Modeling Guide*. 1. Log on to SAP HANA studio. 2. Open the *Modeler* perspective and use the *Navigator* to access your back-end system. 3. Under *Security*, select a user. 4. Set the *Session Client* to the client number created in the *Set Up SAP Client* procedure in the *Common Installation Guide*.

Parent topic: Prepare the Upgrade [page 24]

Previous: Verify Correct Schema Mapping [page 37]

Next: Configure AFL Usage [page 44]

4.4 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.

1. Enable Usage of PAL Functions (SAP Assortment Planning) [page 44]
   To enable the usage of the PAL algorithm for SAP Assortment Planning, perform the required setup steps.
2. Check the OFL Installation [page 45]
   Confirm that the OFL algorithm was installed successfully as prerequisite for SAP Assortment Planning and SAP Allocation Management.

Parent topic: Prepare the Upgrade [page 24]

Previous: Verify SAP HANA Users and Privileges [page 40]

4.4.1 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

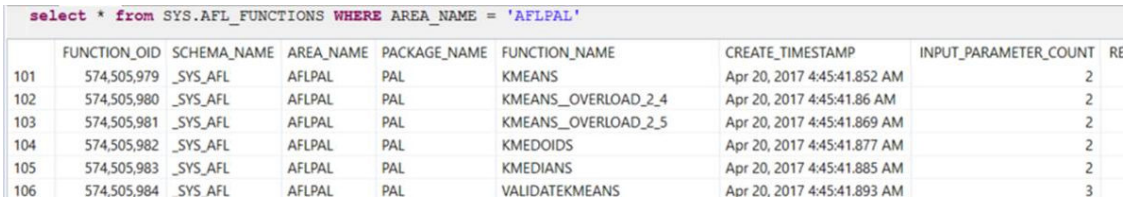
The installation of SAP HANA Platform includes the installation of the PAL algorithm, a prerequisite for SAP Assortment Planning.

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 Upgrade the Prerequisites [page 15] ▶ *Common Prerequisites* ▶ *SAP HANA Platform*
- http://help.sap.com/hana_platform ▶ *<Version>* ▶ *Reference* ▶ *SAP HANA Predictive Analysis Library (PAL)*

Parent topic: Configure AFL Usage [page 44]

Next: Check the OFL Installation [page 45]

4.4.2 Check the OFL Installation

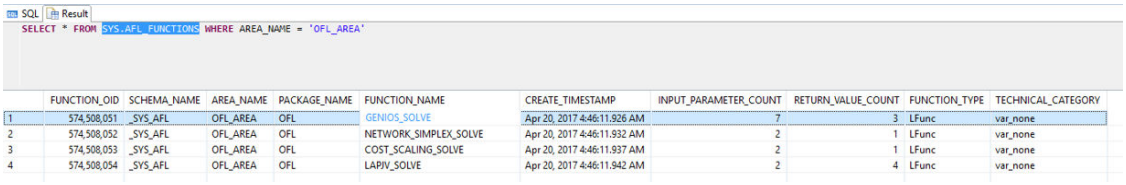
Confirm that the OFL algorithm was installed successfully as prerequisite for SAP Assortment Planning and SAP Allocation Management.

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

Parent topic: Configure AFL Usage [page 44]

Previous: Enable Usage of PAL Functions (SAP Assortment Planning) [page 44]

5 Upgrade the Software

For a correct **upgrade**, you must first verify that the required prerequisites and pre-upgrade SAP Notes are implemented. Then you upgrade the back-end components and the front-end components. Lastly, you check for SAP Notes that must be implemented after the upgrade.

1. Verify Prerequisites and SAP Notes [page 48]
   Before upgrading to the current release of SAP Customer Activity Repository applications bundle 4.0 FPS02, you must ensure that your system landscape is fully prepared. In this procedure, you verify that all the prerequisites for your scenario are installed and that all the preparatory SAP Notes have been implemented.
2. Download and Install the Application Function Library (SAP RTL AFL FOR SAP HANA) [page 48]
   Install compatible revisions of the SAP RTL AFL FOR SAP HANA component, the SAP HANA AFL component, and the SAP HANA database. You must do this **before** you upgrade the back-end product version of SAP Customer Activity Repository applications bundle.
3. Upgrade SAP Customer Activity Repository applications bundle (Back-End Product Version) [page 52]
   Upgrade your back-end system to the `SAP CARAB 4.0 FPS02` back-end product version of SAP Customer Activity Repository applications bundle 4.0 FPS02. First create a stack XML file with Maintenance Planner. Then install this file with Software Update Manager (transaction SUM).
4. Upgrade Product-Specific SAP Fiori UI Component (Front-End Product Version) [page 54]
   Upgrade your front-end system to the SAP FIORI FOR SAP CARAB 4.0 FPS02 front-end product version. This product version contains the SAP Fiori apps for SAP Customer Activity Repository applications bundle. First create a stack XML file with Maintenance Planner. Then install this file with Software Update Manager (transaction SUM).
5. Check SAP Notes and RINs [page 57]
   There are notes that can only be implemented **after** you have upgraded 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 do the next steps.
6. Install Alternate Storage (Optional) [page 57]
   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.

5.1 Verify Prerequisites and SAP Notes

Before upgrading to the current release of SAP Customer Activity Repository applications bundle 4.0 FPS02, you must ensure that your system landscape is fully prepared. In this procedure, you verify that all the prerequisites for your scenario are installed and that all the preparatory SAP Notes have been implemented.

Procedure

1. Ensure that you have installed and configured the **common prerequisites** and the **prerequisites specific to your application**, as described under Upgrade the Prerequisites [page 15].
2. Ensure that you have implemented all SAP Notes listed in Implement SAP Notes for the Upgrade [page 24] that are required for your application and that must be implemented **before** the upgrade.

> → Tip
>
> Always consult the table for SAP Customer Activity Repository in that section. Notes listed there are often common corrections, applicable to all the applications.

Parent topic: Upgrade the Software [page 47]

Next: Download and Install the Application Function Library (SAP RTL AFL FOR SAP HANA) [page 48]

5.2 Download and Install the Application Function Library (SAP RTL AFL FOR SAP HANA)

Install compatible revisions of the SAP RTL AFL FOR SAP HANA component, the SAP HANA AFL component, and the SAP HANA database. You must do this **before** you upgrade the back-end product version of SAP Customer Activity Repository applications bundle.

Overview

There is one software component in SAP Customer Activity Repository applications bundle that you must always upgrade first: `SAP RTL AFL FOR SAP HANA`.

You must download **compatible revisions** of `SAP RTL AFL FOR SAP HANA`, `SAP HANA AFL`, and `SAP HANA DATABASE`, and install them together. For this, you need to be aware of the following dependencies.

Dependencies Between the AFLs and the SAP HANA Database

Even though `SAP RTL AFL FOR SAP HANA` is part of SAP Customer Activity Repository applications bundle, the component is released independently.

The reason is that AFL components (such as `SAP RTL AFL FOR SAP HANA` and `SAP HANA AFL`) follow the release cycle of 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 is released. As a result, there are always multiple 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 if you decide to upgrade your SAP HANA Platform to a higher revision or even support package stack later on.
>
> **Patches**
>
> Within the same revision, however, you can still upgrade an AFL component to a newer patch. Example:
>
> - Your current revision of `SAP RTL AFL FOR SAP HANA` is:
>   *Revision 37.200 for SAP HANA Platform 2.0 SPS03 Revision 37.02*
> - A new patch of `SAP RTL AFL FOR SAP HANA` might be:
>   *Revision 37.201 for SAP HANA Platform 2.0 SPS03 Revision 37.02*

Download and Install `SAP RTL AFL FOR SAP HANA`

> i Note
>
> When you download an AFL 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 wish to install.
   To select the best revision for your scenario, see the *Common Prerequisites* in section Upgrade the Prerequisites [page 15]. 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.
   - Note what you need 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 *Download Software*:

   > → 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`:
     This component is included in the `SAP CARAB` back-end product version. You can find the available revisions under *By Alphabetical Index (A-Z)* > *C* > *CAR RETAIL APPLICATIONS BUNDLE* > *SAP CARAB 4.0* > *Support Packages and Patches* > *DOWNLOADS* > *COMPRISED SOFTWARE COMPONENT VERSIONS* > *SAP RTL AFL FOR SAP HANA 200*.

     > i Note
     >
     > When downloading `SAP RTL AFL FOR SAP HANA`, you might also see another AFL component called `SAP XRP AFL`. You can ignore this component and don't need to download nor install it.

   - `SAP HANA AFL` **and** `SAP HANA DATABASE`:
     These components are included in SAP HANA Platform. You can find the available revisions under *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*.
   - If applicable, other AFLs provided with the SAP HANA Platform that might be relevant for your scenario. For an overview, see the *Managing SAP HANA System Components* section of the *SAP HANA Server Installation and Update Guide* at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM under *<Version>* > *Installation and Upgrade*.

3. Upgrade your back-end system to the selected revisions of `SAP RTL AFL FOR SAP HANA`, `SAP HANA AFL`, and `SAP HANA DATABASE`.

Overview of Upgrade Scenarios

You wish to upgrade from a release of...	What you do is...
SAP Customer Activity Repository applications bundle 1.0	You replace the AFL revisions `UDFAFL_INST 100` and `POSAFL_INST 100` of the lower release with the `SAP RTL AFL FOR SAP HANA` revision that you have selected for the current release. As described above, you also upgrade the `SAP HANA AFL` and `SAP HANA DATABASE` components to the compatible revisions.

You wish to upgrade from a release of...	What you do is...
SAP Customer Activity Repository applications bundle 2.0	You replace the existing revision of `SAP RTL AFL FOR SAP HANA` with the revision that you have selected for the current release. As described above, you also upgrade the `SAP HANA AFL` and `SAP HANA DATABASE` components to the compatible revisions.
SAP Customer Activity Repository applications bundle 4.0	You replace the existing revision of `SAP RTL AFL FOR SAP HANA` with the revision that you have selected for the current release. As described above, you also upgrade the `SAP HANA AFL` and `SAP HANA DATABASE` components to the compatible revisions.

See SAP Note 2377894 and carefully follow the steps for the upgrade scenario.

> → Tip
>
> If you encounter issues during the upgrade, see the Troubleshooting [page 167] section for possible solutions.

Result

You have successfully upgraded 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 later 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 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 all AFL components to the compatible revision.

Parent topic: Upgrade the Software [page 47]

Previous: Verify Prerequisites and SAP Notes [page 48]

Next: Upgrade SAP Customer Activity Repository applications bundle (Back-End Product Version) [page 52]

5.3 Upgrade SAP Customer Activity Repository applications bundle (Back-End Product Version)

Upgrade your back-end system to the `SAP CARAB 4.0 FPS02` back-end product version of SAP Customer Activity Repository applications bundle 4.0 FPS02. First create a stack XML file with Maintenance Planner. Then install this file with Software Update Manager (transaction SUM).

Prerequisites

- A valid start release (add-on product version) is already installed. It serves as the basis for the upgrade.
- You know how to use SAP Solution Manager to perform uploads into Maintenance Planner on the SAP Support Portal. If you need more information, see section *Uploading Landscape Data Into SAP Support Portal* under https://support.sap.com *Maintenance* > *Maintenance Planner* > *Maintenance Planner Product Information* > *Maintenance Planner User Guide*.
- You have completed all of the procedures listed in the previous sections of this guide. In particular, see section Prepare the Upgrade [page 24].
- You have installed compatible revisions of the SAP HANA database, the SAP HANA AFL component, and the `SAP RTL AFL FOR SAP HANA` component. If you need information on the required revisions, see Upgrade the Prerequisites [page 15].
- (Optional) For information on the supported interoperability scenarios between the back-end product version and the front-end product version, see SAP Note 2815026 (*Back-end and front-end interoperability in SAP Customer Activity Repository applications bundle 4.0*).

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	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.

> **i 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`), but these alternative procedures are not

described in this guide. For information on whether they are possible for your implementation scenario and on how to proceed, see SAP Note 1803986.

Create the Stack XML File Using Maintenance Planner

> **i Note**
>
> If you encounter issues with Maintenance Planner, see the following SAP Notes for possible solutions:
>
> - 2596901: *NetWeaver 7.51 and 7.52 targets are not available when selecting the option "Update SAP NetWeaver" in Maintenance Planner*
> - 2535751: *Can not select the higher release for Netweaver in Maintenance Planner*
> - 2314463: *Required file K-XXXxxxxxxxx.SAR is not visible for your user Sxxxxxxx*

1. Navigate to the SAP Support Portal at https://support.sap.com.
2. Upload the current system state of your installed ABAP back-end server (with a valid add-on product version installed for the upgrade) into Maintenance Planner.
3. Choose *Access Maintenance Planner*.
4. Choose *Plan*.
5. Determine whether you need to update your SAP NetWeaver version for the current release of SAP Customer Activity Repository applications bundle. This can vary, depending on the release that you wish to upgrade **from**, on the SAP NetWeaver version currently installed in your system, and on the minimum SAP NetWeaver version required for the current release.
   Depending on your decision, select either *Update SAP NetWeaver* or *Maintain SAP NetWeaver*.
6. Select **one** of the following product versions and support package stacks:
   - `ABAP FND 1709 ON HANA` and `SPS02 (05/2018)` (or a higher support package stack)
   - `ABAP FND 1809 ON HANA` and `Initial Shipment Stack` (or a higher support package stack)
7. Select a valid instance (for example, `SAP Foundation`).
8. Choose *Confirm Selection*.
9. Choose *Install or Maintain an Add-On*.

   > **i Note**
   >
   > If you are upgrading from a release of SAP Customer Activity Repository applications bundle 2.0:
   >
   > Maintenance Planner automatically detects that the installed add-on product needs to be replaced by `SAP CARAB 4.0-CAR Retail Applications Bundle` and inserts this in the *Target Software Details* section.

10. Select the `SAP CARAB 4.0 FPS02` back-end product version and the `Q4/2019` instance.
11. Choose *Confirm Selection*.
12. Choose *Next*.
13. Select the operating system and database for your scenario.
14. Choose *Confirm Selection*.
15. Review the details of your stack dependent and independent files, then choose *Next*.
16. Choose *Download Stack XML*.
    You have created the stack XML file.

Install the Stack XML File Using Software Update Manager (SUM)

1. Download and install the SUM tool:
   1. Navigate to 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 upgraded the back-end product version.

> **i** Note
>
> With this upgrade, the SAP HANA content for Unified Demand Forecast (UDF) has already been activated automatically. This saves you a manual activation step later on.

Continue with the next section.

Parent topic: Upgrade the Software [page 47]

Previous: Download and Install the Application Function Library (SAP RTL AFL FOR SAP HANA) [page 48]

Next: Upgrade Product-Specific SAP Fiori UI Component (Front-End Product Version) [page 54]

5.4 Upgrade Product-Specific SAP Fiori UI Component (Front-End Product Version)

Upgrade your front-end system to the SAP FIORI FOR SAP CARAB 4.0 FPS02 front-end product version. This product version contains the SAP Fiori apps for SAP Customer Activity Repository applications bundle. First create a stack XML file with Maintenance Planner. Then install this file with Software Update Manager (transaction SUM).

Prerequisites

- You have completed the previous procedures in this guide.
- (Optional) For information on the supported interoperability scenarios between the back-end product version and the front-end product version, see SAP Note 2815026 (*Back-end and front-end interoperability in SAP Customer Activity Repository applications bundle 4.0*).

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`), but these alternative procedures are not described in this guide. For information on whether they are possible for your implementation scenario and on how to proceed, see SAP Note 1803986.

Prerequisites

- A valid start release (add-on product version) must already be installed in your system landscape. It serves as the basis for the upgrade.
- You know how to use SAP Solution Manager to perform uploads into Maintenance Planner on the SAP Support Portal. If you need more information, see section *Uploading Landscape Data Into SAP Support Portal* under https://support.sap.com *Maintenance* > *Maintenance Planner* > *Maintenance Planner Product Information* > *Maintenance Planner User Guide*.

Create the Stack XML Using Maintenance Planner

> **Note**
>
> If you encounter issues with Maintenance Planner, see the following SAP Notes for possible solutions:
>
> - 2596901: *NetWeaver 7.51 and 7.52 targets are not available when selecting the option "Update SAP NetWeaver" in Maintenance Planner*
> - 2535751: *Can not select the higher release for Netweaver in Maintenance Planner*
> - 2314463: *Required file K-XXXxxxxxxxx.SAR is not visible for your user Sxxxxxxx*

1. Navigate to the SAP Support Portal at https://support.sap.com.

2. Upload the current system state of your installed front-end server (with a valid add-on product version installed for the upgrade) into Maintenance Planner.
3. Choose *Access Maintenance Planner*.
4. Choose *Plan*.
5. Determine whether you need to update your SAP NetWeaver version for the current release of SAP Customer Activity Repository applications bundle. This can vary, depending on the release that you wish to upgrade **from**, on the SAP NetWeaver version currently installed in your system, and on the minimum SAP NetWeaver version required for the current release.
   Depending on your decision, select either *Update SAP NetWeaver* or *Maintain SAP NetWeaver*.
6. Select a valid product version and a valid support package stack.
7. Select a valid instance.
8. Choose *Confirm Selection*.
9. Choose *Install or Maintain an Add-On*.
10. Select the `SAP FIORI FOR SAP CARAB 4.0 FPS02` front-end product version.
11. Select a valid front-end server instance.
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, then choose *Next*.
17. Choose *Download Stack XML*.
    You have created the stack XML file.

Install the Stack XML File Using Software Update Manager (SUM)

1. Download and install the SUM tool:
   1. Navigate to 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, use the stack XML file that you have created in the first procedure to install your add-on product.

Result

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

Continue with the next section.

Parent topic: Upgrade the Software [page 47]

Previous: Upgrade SAP Customer Activity Repository applications bundle (Back-End Product Version) [page 52]

Next task: Check SAP Notes and RINs [page 57]

5.5 Check SAP Notes and RINs

There are notes that can only be implemented **after** you have upgraded 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 do the next steps.

Prerequisites

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

The release information notes (RINs) in particular are continuously updated, as new corrections for the current release of SAP Customer Activity Repository applications bundle become available.

Procedure

See the Implement SAP Notes for the Upgrade [page 24] section. Check whether there are SAP Notes that can only be implemented*after the upgrade*. Make sure to implement all the required notes.

a. Always see the table for SAP Customer Activity Repository. Notes listed there are often common corrections, applicable to all consuming applications.
b. Then see the table for your application.
c. For the latest back-end corrections, see the back-end RIN.
d. For the latest front-end corrections, see the front-end RIN.

Task overview: Upgrade the Software [page 47]

Task overview: Core (Mandatory for All Applications) [page 68]

Previous: Upgrade Product-Specific SAP Fiori UI Component (Front-End Product Version) [page 54]

Next: Install Alternate Storage (Optional) [page 57]

Next: Verify Authorizations for On-Shelf Availability (OSA) [page 70]

5.6 Install Alternate Storage (Optional)

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>* ▶ *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.

Parent topic: Upgrade the Software [page 47]

Previous task: Check SAP Notes and RINs [page 57]

5.6.1 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>* ▶ *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 ▶ *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 ▶ *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 ▶ *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 ▶ *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`

> **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*.

5.6.2 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>* ▶ *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`

5.6.3 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>* ▶ *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 ▶ *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 ▶ *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*

5.6.4 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*.

5.6.5 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*.

5.6.6 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 Set Up the Applications

You have upgraded 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 [page 249]. Then do the setup steps under *SAP Customer Activity Repository* > *Core (Mandatory for All Applications)*.

6.1 SAP Customer Activity Repository

Set up SAP Customer Activity Repository after the upgrade. The *Core* steps are always mandatory. You must do them for any application or scenario of SAP Customer Activity Repository applications bundle.

Core (Mandatory for All Applications) [page 68]
: 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 92]
: Perform optional steps to set up specific functionality in SAP Customer Activity Repository.

Troubleshooting [page 167]
: 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. Check SAP Notes and RINs [page 57]

There are notes that can only be implemented **after** you have upgraded 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 do the next steps.

2. Verify Authorizations for On-Shelf Availability (OSA) [page 70]
   In SAP HANA studio, verify that the `AFL__SYS_AFL_POSDM_AREA_EXECUTE` role has been granted to the `SAP<SID>` user in your back-end system. If it hasn´t, grant the role as described below. 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. Verify Authorizations for Unified Demand Forecast (UDF) [page 72]
   In an upgrade scenario, the authorizations should already be available in your back-end system. Perform this check in SAP HANA studio to verify that the roles for UDF exist, that they have the required privileges and are assigned to the required users. If any authorizations are missing, set them up as described. This check is **mandatory for all the applications** because the authorizations are needed for the successful activation of the SAP HANA content later on. 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 75]
   Create the tables in SAP Customer Activity Repository that are required for replicating data from your source master data system. Then do the actual replication of the tables. 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 79]
   Activate the SAP HANA content for your scenario by running the `/CAR/ACTIVATE_HTA` report in the back-end system. You can run this report as many times as required. For example, if you choose to extend your scenario at a later point in time, you run the report again to activate the SAP HANA content for the added options.
6. Activate SAP HANA Content for Distribution Curves [page 81]
   If your scenario includes the calculation of distribution curves, do the additional steps described here to activate the required SAP HANA content.
7. Verify that SAP HANA Script Server Is Active [page 83]
   Verify that the script server for the SAP HANA database is still active. If necessary, restart it manually. This step is mandatory for all the applications.
8. Verify that OData Services are Active [page 84]
   First verify that all the common OData services for SAP Fiori are active. Then verify that the OData services for your specific application and SAP Fiori apps are active as well.
9. Calculate SAPUI5 Application Index for SAP Fiori Apps [page 88]
   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.
10. Invalidate Caches for SAP Fiori Apps [page 90]
    Run several reports in your front-end system to invalidate different caches. This ensures that the SAP Fiori launchpad and SAP Fiori apps run correctly after an upgrade and load quickly.

6.1.1.1 Check SAP Notes and RINs

There are notes that can only be implemented **after** you have upgraded 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 do the next steps.

Prerequisites

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

The release information notes (RINs) in particular are continuously updated, as new corrections for the current release of SAP Customer Activity Repository applications bundle become available.

Procedure

See the Implement SAP Notes for the Upgrade [page 24] section. Check whether there are SAP Notes that can only be implemented*after the upgrade*. Make sure to implement all the required notes.

a. Always see the table for SAP Customer Activity Repository. Notes listed there are often common corrections, applicable to all consuming applications.
b. Then see the table for your application.
c. For the latest back-end corrections, see the back-end RIN.
d. For the latest front-end corrections, see the front-end RIN.

Task overview: Upgrade the Software [page 47]

Task overview: Core (Mandatory for All Applications) [page 68]

Previous: Upgrade Product-Specific SAP Fiori UI Component (Front-End Product Version) [page 54]

Next: Install Alternate Storage (Optional) [page 57]

Next: Verify Authorizations for On-Shelf Availability (OSA) [page 70]

6.1.1.2 Verify Authorizations for On-Shelf Availability (OSA)

In SAP HANA studio, verify that the `AFL__SYS_AFL_POSDM_AREA_EXECUTE` role has been granted to the `SAP<SID>` user in your back-end system. If it hasn´t, grant the role as described below. 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 `SAP<SID>` 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 installed the `SAP RTL AFL FOR SAP HANA` component as described in Download and Install the Application Function Library (SAP RTL AFL FOR SAP HANA) [page 48].
- You have an `SAP<SID>` user and an `SAP<SID>` physical schema in your SAP HANA database. **The names must be identical.** If you need more information on database users and schema mapping, see Verify SAP HANA Users and Privileges [page 40] and Verify Correct Schema Mapping [page 37].
- You know what the name of the `SAP<SID>` user is in your system landscape. For information on how to find this name, see Verify Correct Schema Mapping [page 37].
- 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 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 `SAP<SID>` 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.
   SQL example: `grant AFL__SYS_AFL_POSDM_AREA_EXECUTE to SAP<SID>;`
5. Save your changes by choosing the *Deploy (F8)* icon at the top right.

Result

You have successfully set up the authorizations for OSA.

Parent topic: Core (Mandatory for All Applications) [page 68]

Previous task: Check SAP Notes and RINs [page 57]

Next: Verify Authorizations for Unified Demand Forecast (UDF) [page 72]

6.1.1.3 Verify Authorizations for Unified Demand Forecast (UDF)

In an upgrade scenario, the authorizations should already be available in your back-end system. Perform this check in SAP HANA studio to verify that the roles for UDF exist, that they have the required privileges and are assigned to the required users. If any authorizations are missing, set them up as described. This check is **mandatory for all the applications** because the authorizations are needed for the successful activation of the SAP HANA content later on. 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 `SAP<SID>` user to call the UDF application function library (AFL) in the SAP HANA database.
`UDF_DEPLOY`	Required to activate the SAP HANA content for UDF. Enables the `SAP<SID>` 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.

Prerequisites

- You have installed the `SAP RTL AFL FOR SAP HANA` component as described in Download and Install the Application Function Library (SAP RTL AFL FOR SAP HANA) [page 48]. This component contains the application function library for UDF.

- You have mapped authoring schemas to physical schemas as described in Verify SAP HANA Users and Privileges [page 40].
- You know what the name of the `SAP<SID>` schema/user is in your system landscape. For information on how to find this name, see Verify Correct Schema Mapping [page 37].
- You have database administrator rights so that you can create roles, grant privileges, and assign 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*. You can find this guide at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM, select your version at the top right, and see under *Administration*.
> - We have also 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, specify **`UDF_EXECUTE`**.
   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.
     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) `SAP<SID>`: privileges *SELECT*, *INSERT*, *UPDATE*, *DELETE*
       SQL example: `grant SELECT, INSERT, UPDATE, DELETE on schema SAP<SID> to UDF_EXECUTE;`
     - Catalog object (schema name) `_SYS_BIC`: privileges *SELECT*, *EXECUTE*
       SQL example: `grant SELECT, EXECUTE on schema _SYS_BIC to UDF_EXECUTE;`
   - On the *Analytic Privileges* tab: Add the `_SYS_BI_CP_ALL` privilege.
     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 `SAP<SID>` 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.
   SQL example: `grant UDF_EXECUTE to SAP<SID>`
9. Save your changes by choosing the *Deploy (F8)* icon at the top right.

> i Note
>
> You have created the first role with the required privileges and granted the role to the `SAP<SID>` 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, specify **UDF_DEPLOY**.
    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.
      SQL example: `grant CONTENT_ADMIN to UDF_DEPLOY;`
    - On the *System Privileges* tab: Add the `CATALOG READ` privilege.
      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 `SAP<SID>` 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.
    SQL example: `grant UDF_DEPLOY to SAP<SID>;`
17. Save your changes by choosing the *Deploy (F8)* icon at the top right.

> **i Note**
>
> You have created the second role and granted the role to the `SAP<SID>` 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, specify **UDF_DEPLOY_SYS_REPO**.
    SQL example: `create role UDF_DEPLOY_SYS_REPO;`
20. On the *Object Privileges* tab, make these settings:
    Add catalog object (schema name) `SAP<SID>` and grant the privileges *SELECT*, *INSERT*, *UPDATE*, and *DELETE*.
    SQL example: `grant SELECT, INSERT, UPDATE, DELETE on schema SAP<SID> 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.
    SQL example: `grant UDF_DEPLOY_SYS_REPO to _SYS_REPO;`
25. Save your changes by choosing the *Deploy (F8)* icon at the top right.

> **i 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 68]

Previous: Verify Authorizations for On-Shelf Availability (OSA) [page 70]

Next task: Create/Replicate Source Master Data System Tables [page 75]

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 do the actual replication of the tables. 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 the *Common Prerequisites* in section Upgrade the Prerequisites [page 15].

> **i Note**
>
> If your source master data system is SAP S/4HANA 1909, be aware that as of that release, the SAP LT Replication Server is no longer available as a standalone component. Instead, SAP S/4HANA 1909 includes an embedded SAP LT Replication Server by default.
>
> To be able to replicate the data from an SAP S/4HANA 1909 system, you first need to prepare the replication. This preparation has the added advantage that it gives you the option to still use a standalone SAP LT Replication Server. Follow the steps in SAP S/4HANA 1909 Only - Prepare Data Replication with SAP Landscape Transformation Replication Server [page 78]. Then return to this procedure here.

Context

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. Download the archive *SLT Tables for SAP Customer Activity Repository applications bundle 4.0 (all versions)* from under *Installation and Upgrade*.
   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.

   > **i Note**
   >
   > To be able to activate the SAP HANA content for **SAP Allocation Management**, you must replicate both the SAP Retail tables and the SAP Fashion Management tables. The replication of the SAP Fashion Management tables is mandatory, even if you do not use SAP Fashion Management.

   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 section *Technical Prerequisites and Authorization Aspects* and section *Accessing the Configuration and Monitoring Dashboard* under https://help.sap.com/viewer/p/SAP_LANDSCAPE_TRANSFORMATION_REPLICATION_SERVER ▶ *<Version>* ▶ *Operations* ▶ *Application Operations Guide (Replicating Data to SAP HANA)* ▶.
   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.
   See https://help.sap.com/viewer/p/SAP_LANDSCAPE_TRANSFORMATION_REPLICATION_SERVER ▶ *<Version>* ▶ *Operations* ▶ *Application Operations Guide (Replicating Data to SAP HANA)* ▶ and search for *Creating a Configuration*.
4. Choose `Execute (F8)`. A screen opens that shows the details of this replication configuration.
5. Select the *table overview* tab. On top, the *data provisioning* function will get visible.
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 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* ▶ and open the *SAP HANA Modeler* perspective.
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 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*.

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

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 68]

Previous: Verify Authorizations for Unified Demand Forecast (UDF) [page 72]

Next task: Activate SAP HANA Content [page 79]

6.1.1.4.1 SAP S/4HANA 1909 Only - Prepare Data Replication with SAP Landscape Transformation Replication Server

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

Context

If your source master data system is SAP S/4HANA 1909, be aware that the SAP LT Replication Server is no longer available as a standalone component. Instead, SAP S/4HANA 1909 includes an embedded SAP LT Replication Server by default.

To be able to replicate data from SAP S/4HANA 1909 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 still use a standalone SAP LT Replication Server.

Procedure

Prepare data replication from SAP S/4HANA 1909 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 as described in the corresponding product documentation. For more information, see SAP Help Portal for SAP S/4HANA 1909.
3. Implement SAP Note 2857334 (*Unsupported data type DECFLOAT34 / D34N when replicating from a S/4 HANA OP1909 system*) in your SAP S/4HANA 1909 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 75] 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. You can run this report as many times as required. For example, if you choose to extend your scenario at a later point in time, you 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.

> → Tip
>
> If you encounter issues during the activation, see the Troubleshooting [page 167] 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:

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

You want to activate the SAP HANA content for...	Select at least these options...
SAP Allocation Management	Follow the instructions in Activate SAP Allocation Management SAP HANA Content [page 255].

You want to activate the SAP HANA content for...	Select at least these options...
Distribution Curves (without SAP Allocation Management)	Follow the instructions in Activate SAP HANA Content for Distribution Curves [page 81].
SAP Assortment Planning	○ *ECC Mode*: Select your source master data system. If you use *Fashion Management*, select it. ○ *Business Scenarios Activation*: Select *Assortment Planning*.
Unified Demand Forecast (UDF) and demand planning SAP Fiori apps (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*)	No action required. The SAP HANA content was activated automatically during the upgrade 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	Follow the instructions in Activate SAP HANA Content for SAP Merchandise Planning [page 184].
SAP Promotion Management	No action required.

4. Check 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 167] section for possible solutions.
5. Activate the SAP HANA content for real:
   a. Deselect *Perform Prerequisite Check*.
   b. Choose *Execute* (F8) 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: Execute transaction `SCTS_HTA`. Specify a SAP HANA content package (for example, `sap.is.retail`), select *Include subpackages*, and choose *Execute* (F8). You can see all the packages and objects including their status.
   c. Or: Navigate to the same 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.

Task overview: Core (Mandatory for All Applications) [page 68]

Previous task: Create/Replicate Source Master Data System Tables [page 75]

Next: Activate SAP HANA Content for Distribution Curves [page 81]

6.1.1.6 Activate SAP HANA Content for Distribution Curves

If your scenario includes the calculation of distribution curves, do the additional steps described here to activate the required SAP HANA content.

Run the Report for Creating the Dummy Schema and Dummy Tables

The report checks for a missing physical schema and creates this physical schema and the corresponding dummy tables in the schema if necessary. The successful completion of this step is a prerequisite for activating the SAP HANA content for distribution curves.

Prerequisites

- To be able to run the report, you need an SAP HANA database user in the ABAP back-end system with the authorization to create the dummy schema. See section Verify SAP HANA Users and Privileges [page 40] and search for **`create`**.
- Ensure that you have implemented SAP Note 2850296 (*Support for S/4H 1909 source system in report /DMF/CREATE_SLT_TABLES*).

Procedure

1. In your ABAP back-end system, start transaction `SE38`. Enter **`/DMF/CREATE_SLT_TABLES`** (*Create SLT Tables*) as the program and choose *Execute*.
2. Select your source master data system. For *S/4HANA*, select also the version.
3. Enter the name of the physical source and the name of the dummy schema. For the *Physical Source Schema*, enter the physical schema name into which your SLT tables should be replicated. 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.
4. Select the simulation mode for a test run. After the simulation run, check for errors in the application log.

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 SAP S/4HANA schema
- `SAP_ECC`, for your SAP Retail (ECC or FMS) schema

If you have chosen names for your physical schema that are **different from the names above**, you must do the following:

1. Maintain a schema mapping in your SAP HANA database where your customer-specific names are used as authoring schemas for the physical schema. For instructions, see Verify Correct Schema Mapping [page 37].

Set `PREWORK_DONE` Indicator for DDF Packages

A precondition for activating SAP HANA Transport for ABAP (HTA) objects is that the `PREWORK_DONE` indicator is set for all packages with activation mode `P – prework needed`.

> **i** Note
>
> You can check this setting in table `CTS_HOT_PACKAGE` in field `HOT_ACTIVATION_MODE`.

You must set this indicator for all Demand Data Foundation (DDF) packages that are relevant for calculating distribution curves:

- `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`

Follow these steps:

1. Call transaction `SE16` (*Data Browser*) and display the contents of table `CTS_HOT_PREWORK` (*HANA Transport for ABAP: Prework for SAP HANA Deployment*).
2. Enter the `ABAP_HANA_PACKAGE_ID` for all DDF packages listed above.
   You can obtain the `ABAP_HANA_PACKAGE_ID` for the `HANA_PACKAGE_ID` from table `CTS_HOT_PACKAGE`.
3. Check if the indicator `PREWORK_DONE` is set to **X** for **all** the DDF packages listed above. If not, set the indicator to **X**.

Check and Activate DDF SAP HANA Content

Based on your scenario, there can be inactive packages in DDF, even though you have already activated the content via the report `/CAR/ACTIVATE_HTA` (*Activate SAP HANA Content for SAP CARAB*), as described in section Activate SAP HANA Content [page 79].

Make sure that all the DDF packages are activated:

1. Call transaction `SCTS_HTA_DEPLOY` (*SAP HANA Transport for ABAP - Deployment*) to check and, if necessary, deploy each of the following packages:

   > ⚠ Caution
   >
   > Do this **in exactly the same order** in which the packages are listed here.
   >
   > **Do not select** the *Include subpackages* option.

   - `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.

Parent topic: Core (Mandatory for All Applications) [page 68]

Previous task: Activate SAP HANA Content [page 79]

Next task: Verify that SAP HANA Script Server Is Active [page 83]

6.1.1.7 Verify that SAP HANA Script Server Is Active

Verify that the script server for the SAP HANA database is still active. If necessary, restart it manually. 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).

> ℹ Note
>
> The operating system process is `hdbscriptserver`.
>
> The service name is `scriptserver`.

The operating system process can be started while the SAP HANA database is already running.

Procedure

1. In SAP HANA studio, verify if 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 68]

Previous: Activate SAP HANA Content for Distribution Curves [page 81]

Next: Verify that OData Services are Active [page 84]

6.1.1.8 Verify that OData Services are Active

First verify that all the common OData services for SAP Fiori are active. Then verify that the OData services for your specific application and SAP Fiori apps are active 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.

Procedures

Mandatory: Verify that Common OData Services for SAP Fiori are Active

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. Verify that all the common OData services for SAP Fiori are active:

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

4. If a service is not active, activate it as follows:
   1. Choose *Add Service*.
      The *Add Selected Services* screen is displayed.
   1. 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 97].
      For example, `LOCAL`.
   2. In *Technical Service Name*, specify **`/UI2*`**.
   3. Choose *Get Services* (or press ENTER).
   4. Choose *Add Selected Services* and follow the instructions.

Result

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

Verify that Application-Specific OData Services for SAP Customer Activity Repository applications bundle are Active

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.
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 verify that the services for your application are active:

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

SAP Customer Activity Repository	○ For POS Data Transfer and Audit: none
	○ For Multichannel Transaction Data Management: none
	○ For Unified Demand Forecast and the demand planning apps (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*):
	○ `/DMF/ANALYZEFORECAST_SRV`
	○ `/DMF/DEMAND_PLAN_UTILITIES_SRV`
	○ `/DMF/OD_FC_TIME_SERIES_VIZ_SRV`
	○ `/DPL/OD_ADJUST_FORECAST_SRV`
	○ For Demand Data Foundation (optional, alternative to 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 a non-SAP source master data system)
	○ 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` (new with SAP Customer Activity Repository)
	`/OAA/F2586_MSS_SRV`
	`/OAA/F2659_MSC_SRV`
	`/OAA/F3392_MS_SRV` (new with SAP Customer Activity Repository)
	○ 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 this Application...	Activate These OData Services...
	○ 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
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
SAP Merchandise Planning	Not applicable (this application has no SAP Fiori apps)
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)

4. If a required service is not active, select it and choose *Add Selected Services*. 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 services that you have selected are now active in your SAP Gateway system.

Parent topic: Core (Mandatory for All Applications) [page 68]

Previous task: Verify that SAP HANA Script Server Is Active [page 83]

Next: Calculate SAPUI5 Application Index for SAP Fiori Apps [page 88]

6.1.1.9 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.

Context

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.

Configuration Options

To configure how the index should be calculated, you can choose from several options in the 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.

> **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*
- *SAPUI5 Distribution Layer Only*

Use

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

You can run the report manually, but we recommend the following best practices:

- Schedule the report as a job with periodic execution for all follow-up systems where the changes are transported to. This ensures that the application index is updated based on the transports imported by the system.
- Always run the report in the following situations:
  - after any changes to the content of the SAPUI5 ABAP repository (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

Prerequisites

You are familiar with the prerequisites, configuration options, and requirements of the 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. Consult the documentation for the SAP NetWeaver version on your front-end server.
  For example, for SAP Gateway for SAP NetWeaver 7.52 see https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 ▶ *<your SP>* ▶ *Application Help* ▶ *UI Technologies in SAP NetWeaver* ▶ *SAPUI5: UI Development Toolkit for HTML5* ▶ *Developing Apps* ▶ *The SAPUI5 ABAP Repository and the ABAP Back-End Infrastructure* ▶ *SAPUI5 Application Index* ▶, including the subsections.

Procedure

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.

Parent topic: Core (Mandatory for All Applications) [page 68]

Previous: Verify that OData Services are Active [page 84]

Next: Invalidate Caches for SAP Fiori Apps [page 90]

6.1.1.10 Invalidate Caches for SAP Fiori Apps

Run several reports in your front-end system to invalidate different caches. This ensures that the SAP Fiori launchpad and SAP Fiori apps run correctly after an upgrade and load quickly.

Context

Web browsers store static resources, like JavaScript files, stylesheets, and images in the browser cache. When these resources are changed in a software upgrade, you want the browser to load the new resources from the server rather than from the cache, without having to manually clear the browser cache.

Procedure

1. Log on to your front-end server.

2. In transaction `SE38`, execute the following reports one after the other to invalidate the corresponding caches:

Reports for Invalidating Caches on Front-End Server

Report	What It Does	Read this Information Before Executing the Report
`/UI2/INVALIDATE_GLOBAL_CACHES` (*Global Cache Invalidation*)	Invalidates all UI2 caches (caches of `/UI2/*` services).	See the report documentation in transaction `SE38`.
`/UI2/INVALIDATE_CLIENT_CACHES` (*Client Cache Invalidation*)	Invalidates the client caches for selected resources / users. **Note** You only need to run this report in exceptional cases, that is, if you are using the SAPUI5 cache busting mechanism for your SAP Fiori launchpad.	See SAP Help Portal for SAP Fiori launchpad at https://help.sap.com/viewer/product/DRAFT/SAP_FIORI_LAUNCHPAD/EXTERNAL/en-US. Choose *SAP Fiori Launchpad in SAP NetWeaver with SAP_UI Component* > *<your SAP NetWeaver version on the front-end server>* > *Administration Guide* > *Operations* > *Performance* > *Client-Side Cache* > *Cache Buster for SAP Fiori Launchpad and SAP Fiori Apps* and the subsection *Invalidating Client Caches*.
`/UI2/DELETE_CACHE_AFTER_IMP` (*Delete UI2 Cache after import of a Support Package*)	Clears the UI2 cache on the front-end server after upgrading to a new support package stack.	See the report documentation in transaction `SE38`. After executing the report, you can see how many entries have been deleted, for how many users, and for how many clients.
`/UI5/UPD_ODATA_METADATA_CACHE` (*Update Caching of OData Metadata*)	Updates cache tokens for OData services of connected back-end systems.	See the report documentation in transaction `SE38`. Run this report only after custom development changes and upgrades of your SAP Gateway and/or SAP Fiori system. Do not run the report more often. This will reduce the performance, as each time, metadata needs to be loaded from the back-end system to the front-end system.

Parent topic: Core (Mandatory for All Applications) [page 68]

Previous: Calculate SAPUI5 Application Index for SAP Fiori Apps [page 88]

6.1.2 Advanced (Optional)

Perform optional steps to set up specific functionality in SAP Customer Activity Repository.

6.1.2.1 Replicate Optional Tables

6.1.2.1.1 Replicate SAP CRM Tables (Optional)

Use

In this optional procedure, you 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 Tables (Optional)

Use

In this optional procedure, you set up the replication of tables from your SAP Marketing source system. You only need to perform this procedure if you have a SAP Marketing 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 co-deployed with SAP Customer Activity Repository, the SAP Marketing 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 side-by-side with SAP Customer Activity Repository, do the following:
   1. Define client transformation rules for all the SAP Marketing tables that you plan to replicate.
      In most cases, you need to apply transformation rules to map the client of the source SAP Marketing 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 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 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 tables that you plan to replicate.
   In most cases, you need to apply transformation rules to map the client of the source SAP Marketing 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 SAP Smart Business for Multichannel Sales Analytics

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

6.1.2.2.1 Configure SAP Web Dispatcher for the SAP Smart Business Modeler 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 the SAP Smart Business Modeler 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 SAP NetWeaver Gateway

6.1.2.3.1 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.

Procedure

1. Determine the SAP NetWeaver version on your front-end server.
2. Set up the OData Channel as described in the product documentation for your SAP NetWeaver version. For SAP Gateway for SAP NetWeaver 7.52, see https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 ▶ *<Version>* ▶ *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. They include:
    - 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

6.1.2.3.2 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.

Procedure

1. Determine the SAP NetWeaver version on your front-end server.
2. Carry out the instructions specific to your SAP NetWeaver version:
   For SAP Gateway for SAP NetWeaver 7.52, see https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 ▶ *<Version>* ▶ *Application Help* ▶ *SAP Gateway Foundation (SAP_GWFND)* ▶ *SAP Gateway Foundation Configuration Guide* ▶ *SAP Gateway Configuration* ▶ *Activating SAP Gateway* ▶.

6.1.2.3.3 Verify that OData Services are Active

First verify that all the common OData services for SAP Fiori are active. Then verify that the OData services for your specific application and SAP Fiori apps are active 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.

Procedures

Mandatory: Verify that Common OData Services for SAP Fiori are Active

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. Verify that all the common OData services for SAP Fiori are active:

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

4. If a service is not active, activate it as follows:
   1. Choose *Add Service*.
      The *Add Selected Services* screen is displayed.

1. 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 97].
   For example, `LOCAL`.
2. In *Technical Service Name*, specify **`/UI2*`**.
3. Choose *Get Services* (or press ENTER).
4. Choose *Add Selected Services* and follow the instructions.

Result

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

Verify that Application-Specific OData Services for SAP Customer Activity Repository applications bundle are Active

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.
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 verify that the services for your application are active:

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

SAP Customer Activity Repository	○ For POS Data Transfer and Audit: none
	○ For Multichannel Transaction Data Management: none
	○ For Unified Demand Forecast and the demand planning apps (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*):
	○ `/DMF/ANALYZEFORECAST_SRV`
	○ `/DMF/DEMAND_PLAN_UTILITIES_SRV`
	○ `/DMF/OD_FC_TIME_SERIES_VIZ_SRV`
	○ `/DPL/OD_ADJUST_FORECAST_SRV`
	○ For Demand Data Foundation (optional, alternative to 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 a non-SAP source master data system)
	○ 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` (new with SAP Customer Activity Repository)
	`/OAA/F2586_MSS_SRV`
	`/OAA/F2659_MSC_SRV`
	`/OAA/F3392_MS_SRV` (new with SAP Customer Activity Repository)
	○ 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 this Application...	Activate These OData Services...
	○ 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
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
SAP Merchandise Planning	Not applicable (this application has no SAP Fiori apps)
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)

4. If a required service is not active, select it and choose *Add Selected Services*. 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 services that you have selected are now active in your SAP Gateway system.

Parent topic: Core (Mandatory for All Applications) [page 68]

Previous task: Verify that SAP HANA Script Server Is Active [page 83]

Next: Calculate SAPUI5 Application Index for SAP Fiori Apps [page 88]

6.1.2.4 Adjust Totals When Excluding Post-Voided Transactions

This activity is relevant for the POS Data Transfer & Audit component.

If you have existing transactional data prior to this upgrade, you must run transaction `/POSDW/REFI` against all relevant stores and posting dates in order to adjust displayed totals when post-voided transactions are filtered out of search results.

> **⚠ Caution**
>
> This process is time- and performance-intensive. SAP recommends that the moment of execution be chosen wisely.

6.1.2.5 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 information about this feature, see https://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Application Help* ▶ *SAP Customer Activity Repository* ▶ *Unified Demand Forecast* ▶ *General Services* ▶ *Generate Intraday Forecasts* ▶.

> **i Note**
>
> If you encounter any issues when upgrading OSA, see Troubleshooting [page 167] for a possible solution.

6.1.2.5.1 Generate Run IDs for OSA Processing Steps

Use

Each scheduled run of a processing step of On-Shelf Availability (OSA) has a generated run ID. This is the unique identification for 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.

6.1.2.5.2 Check Field Contents in SAP HANA Content for On-Shelf Availability

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. It is therefore recommended to back up the modified views.

Procedure

To change the mapping or the formula of a field, do 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* ◪.

Definitions for a View (Using the `AN_TRANSACTION` View as an Example)

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.
    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.

6.1.2.6 Complete UDF Setup

Set up the Unified Demand Forecast (UDF) module in SAP Customer Activity Repository to enable demand modeling and forecasting for any scenario. To be able to use UDF, you must at least do the mandatory steps. We also point to helpful performance information for UDF.

Use

UDF supports the following scenarios:

Scenario	Set Up and Configure UDF
Demand planning apps in SAP Customer Activity Repository (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*)	Mandatory
SAP Promotion Management	Mandatory (for what-if forecasts) Optional (without what-if forecasts)
SAP Allocation Management SAP Assortment Planning SAP Merchandise Planning	Mandatory (if forecasting is associated with your scenario)

Prerequisites

- You have set up the users, roles, and privileges for UDF as described in Verify Authorizations for Unified Demand Forecast (UDF) [page 72].

Procedure

> **i Note**
>
> If you encounter issues during the setup, see the Troubleshooting [page 167] section for possible solutions.

Perform Mandatory Setup Steps

1. Log on to your ABAP back-end system.
2. Only relevant if you are upgrading **from a release prior to** SAP Customer Activity Repository 3.0 FP1 (released as part of SAP Customer Activity Repository applications bundle 2.0 SPS2):
   Read SAP Note 2449880 to decide whether you need to implement the redesigned Customizing for modeling and forecasting.
3. Implement the following corrections for UDF in SAP Customer Activity Repository 4.0 FPS02:

SAP Note	Guidance
2847721: *Cannibalization Effect During Non-promotional Dates*	Correction to the new promotion cannibalization feature in this release.
2845543 *Modeling and forecasting services run significantly slower with cannibalization pairs configured*	Correction to the new promotion cannibalization feature in this release.
2847712: *Parameters in model and forecast reports are not respected*	Relevant for both demand modeling and demand forecasting.
2847134: *Unused fields in model and forecast by hierarchy reports*	Relevant for the *Model by Hierarchy* and *Forecast by Hierarchy* services in transaction `NWBC`.
2844046: *UDF forecast fails with SAP HANA Platform 2.0 SPS04*	Only relevant if you are using SAP HANA Platform 2.0 SPS04. The note prevents UDF runtime issues that might occur on this SAP HANA support package stack.

4. In transaction **SPRO**, do the Customizing for UDF that you need for your scenario:

   > **i Note**
   >
   > For more information about the following Customizing activities, see the accompanying system documentation.

What to do...	Your scenario is...	Customizing
Define the time series source with historical demand data that you wish to import to DDF.	All scenarios	*Cross-Application Components* > *Demand Data Foundation* > *Imported Data* > *Time Series* > *Define Time Series for Key Figure Configuration*
	You want to generate what-if forecasts in SAP Promotion Management.	Additionally, configure the following activity for this scenario: *Cross-Application Components* > *Demand Data Foundation* > *Data Maintenance* > *Define Time Series Source*
Define general settings for modeling and forecasting.	All scenarios	Activities under *Cross-Application Components* > *Demand Data Foundation* > *Modeling and Forecasting*

5. Check and, if necessary, change the default 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*.
   2. Execute the Customizing activity and choose *New Entries*.
   3. Configure the `MOD_COV_REDUCED` parameter to generate either the “full” or the “reduced” covariance matrix:

Your scenario is...	What to do...
○ You want to calculate hierarchical priors (HPRs). ○ You want to use SAP Promotion Management, but without generating the forecast confidence index (FCI). ○ You do not want to use SAP Promotion Management.	The **reduced covariance matrix** is sufficient for those scenarios and also saves runtime. Enable the `MOD_COV_REDUCED` parameter: Enter the parameter name under *Configuration Type Code* and set the *Value* to **X** to override the default. Make the other settings as required and save your changes.

Your scenario is...	What to do...
You want to generate the FCI in SAP Promotion Management.	The **full covariance matrix** is mandatory for the FCI. No additional configuration is required (the `MOD_COV_REDUCED` parameter is disabled by default, which is correct for this scenario). Be aware that the generation of the full covariance matrix is performance-intensive.

> **i Note**
>
> To calculate either the full or the reduced covariance matrix, the `MOD_OUTPUT_COV` parameter must be enabled. As it is enabled by default, no additional configuration is required unless you have previously disabled the parameter for a different scenario.

6. Configure the modeling and forecasting features that you wish to use in your scenario.
   See section *Configure Unified Demand Forecast (UDF)* of the *SAP Customer Activity Repository Administration Guide*.
7. Optimize the performance of modeling and forecasting. Again in the *SAP Customer Activity Repository Administration Guide*, see section *Optimize UDF Performance*.

> **→ Tip**
>
> We highly recommend that you read this information and implement any performance tips that are relevant for your scenario. For example, using SAP HANA workload management and optimizing the performance of SAP HANA Platform are beneficial for any scenario.

Perform Optional Setup Steps

You have the following additional options:

1. (Highly recommended) Set up table partitioning for your scenario.
   See the *Partition Tables for UDF and DDF* section of the *SAP Customer Activity Repository Administration Guide*.
2. Implement the following SAP Note(s) if relevant for your scenario:
   - 2161484: Information about an ABAP validation report that you can use to check the input data for modeling and forecasting and solve potential issues
   - 2560853: This note is relevant if you are upgrading from a release prior to SAP Customer Activity Repository applications bundle 2.0 SPS03 (SAP Customer Activity Repository 3.0 FP2) and have existing data in the modeling and forecast tables. The note explains how to update the time granularity entries in UDF output tables to prevent modeling and forecasting issues.
3. Set up the demand planning apps (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*).
   See Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 110].
4. Set up data integration and replication between your source master data system and your SAP Customer Activity Repository system.
   For more information, see the following sections of the *SAP Customer Activity Repository Administration Guide*:
   - Integration information for UDF and DDF: *Introduction to SAP Customer Activity Repository* and *Configure DDF Integration Scenarios*

- Using the data replication framework (DRF, transaction `DRFOUT`) for replicating master and transactional data: *Configure Data Replication from SAP ERP to DDF*.

6.1.2.7 Set Up SAP Fiori Apps for SAP Customer Activity Repository

Verify that the prerequisites are fulfilled and prepare the system landscape for the apps included in SAP Customer Activity Repository.

Context

For a list of the apps included in SAP Customer Activity Repository, see SAP Help Portal at SAP Fiori for SAP Customer Activity Repository.

> **i** Note
>
> Depending on your scenario, some prerequisites might already be available in your system landscape.

General Prerequisites

- **Front-end server:** You have installed the required version of `SAP FIORI FRONT-END SERVER`. For version information, see Upgrade the Prerequisites [page 15] and choose *Common Prerequisites* > *SAP Fiori*.
- **SAP Fiori launchpad:** You have set up the launchpad as described in the *Common Installation Guide*, in section *Configure SAP Fiori Launchpad*.
- **SAP Fiori launchpad designer:** You have set up the designer as described for the SAP NetWeaver version on your front-end server. See https://help.sap.com/viewer/p/SAP_NETWEAVER and choose *SAP NetWeaver Platform* > *<Version>* > *Application Help* > *UI Technologies in SAP NetWeaver* > *SAP Fiori Launchpad* > *Setting up the Launchpad* and *Using the Launchpad Designer*.
  For some apps, app-specific settings will be required in the designer.
- **SAP Gateway:** You have done the general SAP Gateway configuration and you have activated the common OData services and Internet Communication Framework (ICF) services. See the following:
  - *Common Installation Guide*, section *Configure SAP Gateway*, including all 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 `SAP RTL AFL FOR SAP HANA` revision for the current release. See Download and Install the Application Function Library (SAP RTL AFL FOR SAP HANA) [page 48].
2. You have upgraded the back-end product version. This step ensures that all app features of the current release are supported by the back-end. See Upgrade SAP Customer Activity Repository applications bundle (Back-End Product Version) [page 52].
3. You have upgraded the front-end product version. This step ensures that you get the newest app UI on the front-end. See Upgrade Product-Specific SAP Fiori UI Component (Front-End Product Version) [page 54].
4. You have implemented all the mandatory SAP Notes for the apps that you wish to set up. See Implement SAP Notes for the Upgrade [page 24] and consult the release information notes (RINs) mentioned there as well as 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 or calculating the SAPUI5 application index. For a complete list of the steps, see Core (Mandatory for All Applications) [page 68].
6. You have set up the system connections:
   - You have set up dedicated RFC connections between your front-end system and your back-end system, and between your front-end system and your source master data system.
   - You have defined a system alias for your back-end system.

   > ⚠ Caution
   >
   > You must set the back-end system client to the same value for the SAP Gateway OData services (via the system alias and the RFC connection) and the SAP HANA services (via the `bk-client` parameter in the SAP Fiori launchpad designer). Otherwise, the apps will not work correctly.
7. For the apps *Analyze Forecast*, *Adjust Forecast*, and *Manage Demand Influencing Factors*: You have set up the Unified Demand Forecast (UDF) module as the forecasting engine in the back-end. You must at least do the mandatory setup steps for UDF. See Complete UDF Setup [page 106].
8. To set up the apps included in OAA, see section *Configure Omnichannel Article Availability and Sourcing for Use with SAP Customer Activity Repository*.

Result

After you have prepared the system landscape in this way, you can now set up the apps that you wish to use.

Set Up the Analyze Forecast App (Upgrade Scenarios) [page 112]
Upgrade the *Analyze Forecast* app to the current release. Depending on the release that you wish to **upgrade from**, different steps are required on the back-end server and the front-end server.

Set Up the Adjust Forecast App (Upgrade Scenarios) [page 117]
Perform several tasks on the front-end server and the back-end server to set up the *Adjust Forecast* app.

Set Up the Manage Demand Influencing Factors App (Upgrade Scenarios) [page 123]
Perform several tasks on the front-end server and the back-end server to set up the *Manage Demand Influencing Factors* app.

DDF Apps: Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad [page 128]
Perform this procedure to set up the SAP Fiori apps provided by Demand Data Foundation (*Configure Distribution Curves*, *Manage Location Clusters*, *Manage Product Attributes*, *Manage Product Groups*, *Manage Promotional Offers*). All of these apps are available to you as part of SAP Customer Activity Repository. They support different scenarios and consuming applications.

Set Up the Manage Product Attributes App [page 129]
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.

6.1.2.7.1 Set Up the Analyze Forecast App (Upgrade Scenarios)

Upgrade the *Analyze Forecast* app to the current release. Depending on the release that you wish to **upgrade from**, different steps are required on the back-end server and the front-end server.

Prerequisites

- You are aware that the app setup has been simplified as of SAP Customer Activity Repository 4.0 FPS02:
  - You no longer need SAP Web Dispatcher to be able to run the app.

    > → Tip
    >
    > (Optional) If you already have SAP Web Dispatcher installed from a previous release and only needed it for the app, you can now remove it from your system landscape.

  - You no longer need SAP HANA XS Classic (SAP HANA Extended Application Services, classic model). The app-specific XS OData service (`sap.hba.t.rtl.udf.afc.odata::AnalyzeForecast.xsodata`) has been deprecated.

    > i Note
    >
    > This XS OData service is only valid anymore in interoperability scenarios. Here you would use the current front-end product version (`SAP FIORI FOR SAP CARAB 4.0`, current support package stack) in combination with an older back-end product version (`SAP CARAB 4.0`, older support package stack).
    >
    > If you have such a scenario, please set up the app as described in the *Common Upgrade Guide* for the back-end product version. For example, if your back-end product version is `SAP CARAB 4.0 FPS01`, use the *Common Upgrade Guide* for *SAP Customer Activity Repository applications bundle 4.0 FPS01*.
    >
    > For more information on the supported interoperability scenarios, see SAP Note 2815026 (*Back-end and front-end interoperability in SAP Customer Activity Repository applications bundle 4.0*).

- You have verified the prerequisites and prepared the system landscape as described in Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 110].
- You know where to find additional information on the 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.
  - For information on the app features and supported time series, see https://help.sap.com/viewer/p/CARAB ▶ *Application Help* ▶ *SAP Customer Activity Repository* ▶ and search for section *Analyze Forecast (Version 2)*.

Upgrade Scenarios

Scenarios 1, 2, and 3 require a new setup of the app:

Scenario 1: Upgrade from `SAP FIORI FOR SAP CARAB 1.0 SP04` (delivery date 12/2015)

In this scenario, your existing version of the app was delivered via the following:

- Front-end product version: `SAP FIORI FOR SAP CARAB 1.0 SP04`
- Software component: `UISCAR01 100`
- Technical name / SAPUI5 application: `UDF_ANALYZFCST`

Scenario 2: Upgrade from `SAP FIORI FOR SAP CARAB 2.0` (any version; delivery date of initial shipment stack 06/2016)

In this scenario, your existing version of the app was delivered via the following:

- Front-end product version: `SAP FIORI FOR SAP CARAB 2.0 SPxx`
- Software component: `UICAR001 100`
- Technical name / SAPUI5 application: `ANALYZFCST_V2`

Scenario 3: Upgrade from `SAP FIORI FOR SAP CARAB 3.0` (any version; delivery date of initial shipment stack 11/2016)

In this scenario, your existing version of the app was delivered via the following:

- Front-end product version: `SAP FIORI FOR SAP CARAB 3.0 SPxx`
- Software component: `UICAR001 200`
- Technical name / SAPUI5 application: `ANALYZFCST_V2`

Scenario 4 requires only specific upgrade steps:

Scenario 4: Upgrade from a lower release of `SAP FIORI FOR SAP CARAB 4.0` (any delivery date prior to 11/2019)

In this scenario, your existing version of the app was delivered via the following:

- Front-end product version:
  - `SAP FIORI FOR SAP CARAB 4.0 Initial Shipment Stack`
    or
  - `SAP FIORI FOR SAP CARAB 4.0 FPS01`

- Software component: `UICAR001 400`
- Technical name / SAPUI5 application: `ANALYZFCST_V2`

Scenarios 1, 2, 3: Upgrade Steps

These scenarios require a new setup of the app. See the *Common Installation Guide* under https://help.sap.com/viewer/p/CARAB ▶ *Installation and Upgrade* ▶:

1. Verify the prerequisites and prepare the system landscape. See the Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 110]*Set Up Standalone Apps for SAP Customer Activity Repository* section of the *Common Installation Guide*.

   > **i** Note
   >
   > Depending on your upgrade scenario, some of the required components might already be installed and configured in your system landscape (such as the SAP Fiori front-end server and the SAP Fiori launchpad).

2. Set up the app. See the *Set Up the Analyze Forecast App* section of the *Common Installation Guide*.

Scenario 4: Upgrade Steps

> **i** Note
>
> Depending on your scenario, you may already have performed some of the following steps. If so, continue with the next step.

> **→** Tip
>
> If you encounter issues during the upgrade, see the Troubleshooting [page 167] section for possible solutions.
>
> As an alternative solution, do a new setup of the app. See the *Set Up the Analyze Forecast App* section of the *Common Installation Guide*.

1. **Verify that the general and the specific prerequisites are fulfilled and that the system landscape is prepared.**
   See Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 110].
2. **Verify that the OData services for Unified Demand Forecast and the demand planning apps are active. If a service is not active, activate it.**
   See Verify that OData Services are Active [page 84].
3. **Complete the setup on the front-end server.**
   1. Log on to the front-end server and execute transaction **`LPD_CUST`** (*Overview of Launchpads*).
   2. Execute transaction **`LPD_CUST`** (*Launchpad Customizing*) and display the role *UICAR001* in instance *TRANSACTIONAL*.

3. From the list of applications, select the entry with *AnalyzeForecast* in the *Params* column and verify that the following Internet Communication Framework (ICF) services are active:
   - `/sap/bc/bsp/sap/analyzfcst_v2`
   - `/sap/bc/lrep`
   - `/sap/bc/ui5_ui5/sap/analyzfcst_v2`
   - `/sap/bc/bsp/sap/udfreuse`
   - `/sap/bc/ui5_ui5/sap/udfreuse`

   If a service is not active, activate it as follows:
   1. Execute transaction **`SICF`** (*Define Services*).
   2. As *Service Path*, specify the **`<service path/service name>`** and execute the search.
   3. As *Virtual Hosts / Services*, select the `analyzfcst_v2` entry and choose *Service/Host* > *Activate*.

4. **Complete the setup on the back-end server.**
   1. Log on to the back-end server and execute transaction `PFCG` (*Role Maintenance*).
   2. Check if the obsolete role `/DPL/FCC` is still installed. Search for the role, and if you find it, delete it.
   3. Now create your custom copy of the `/DMF/DPL` standard role on the back-end server.

      > ⚠ 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
      >
      > `/DMF/DPL` is the back-end server authorization role. It is also required for the cross-navigation between the demand planning apps (*Analyze Forecast*, *Adjust Forecast*, *Manage Demand Influencing Factors*).

      Display the standard role. Then 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.

      > i Note
      >
      > If you need more information on copying standard roles and adjusting custom roles, see the Changing Standard Roles section in the *User and Role Administration of Application Server ABAP*.

   5. Assign the required launchpad catalogs and groups.

      Follow the steps in *Implementation Tasks on Front-End Server* > *Create PFCG Role on Front-End and Assign Launchpad Catalogs and Groups*.
   6. Save your changes.

> → Tip
>
> If you already have an SAP Fiori launchpad open, clear your browser cache to apply all the changes.

Optional Setup Steps

If relevant for your scenario, implement any of the following options:

- **Single Sign-On (SSO):** If you haven't already done so, set up SSO between the front-end server and the back-end server.
  The available SSO mechanisms can differ depending on the system landscape. For more information, see the following:
  - https://help.sap.com/viewer/p/FIORI_IMPLEMENTATION ▶ *Security* > *SAP Fiori: Security* > *User Authentication and Single Sign-On (SSO)* ◀
  - https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *Security* > *SAP HANA Security Guide for SAP HANA Platform* > *SAP HANA Authentication and Single Sign-On* > *Single Sign-On Integration* ◀
- **Area of Responsibility (AOR):** Assign an AOR to each user of the app (recommended).
  This step is required if you wish to use the *Product Hierarchy* filter or the *Market Hierarchy* filter in the app. If so, each front-end user of the app must have a user in the ABAP back-end system. You assign an AOR to the ABAP back-end user. The front-end user can then see the assigned hierarchies or nodes in the app.
  To assign an AOR, use the *Maintain Area of Responsibility* service in transaction `NWBC`. For instructions, see https://help.sap.com/viewer/p/CARAB ▶ *Application Help* > *SAP Customer Activity Repository* ◀ and search for section *Maintain Area of Responsibility*.
- **App Extensibility:** Extend the app with custom content.
  For information on the available extension points and controller hooks, see the SAP Fiori apps reference library at https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html?appId=F1773A. Choose *IMPLEMENTATION INFORMATION*, select the delivery, and consult the information under *Extensibility*.
- **Set up the other demand planning apps:** To best support your forecast-related processes, also set up *Adjust Forecast* and *Manage Demand Influencing Factors*.
  For more information, see Set Up the Adjust Forecast App and Set Up the Manage Demand Influencing Factors App.

Result

You have successfully set up the *Analyze Forecast* app for your upgrade scenario.

6.1.2.7.2 Set Up the Adjust Forecast App (Upgrade Scenarios)

Perform several tasks on the front-end server and the back-end server to set up the *Adjust Forecast* app.

Prerequisites

You have checked that the prerequisites described in Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 110] are fulfilled.

You are aware of the implementation information for the app in the SAP Fiori apps reference library: For the latest delivery (wave), see: https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html?appId=F3479

You have set up the SAP Fiori app *Analyze Forecast*, as described in Set Up the Analyze Forecast App (Upgrade Scenarios) [page 112].

Upgrade from 4.0 FPS01 to 4.0 FPS02

You can now filter products and locations by their logical system (new *Logical System* option in the filter bar). To **migrate all existing forecast corrections**, run report *Migration of Forecast Correction Data: Integrate Logical System ID* (`/DPL/FCC_LOGSYS_MIGRATION`).

Upgrade from 4.0 FPS00 to 4.0 FPS01

A **new** *Demand Plan OData Service for Reuse* (`/DMF/DEMAND_PLAN_UTILITIES_SRV`) is included. Make sure that it is active as described in step 4 b) of the procedure.

The back-end server role `/DPL/FCC` is **replaced by the new role** *Demand Planner (Retail)* (`/DMF/DPL`). `/DMF/DPL` is the back-end server authorization role for the *Adjust Forecast* and the *Manage Demand Influencing Factors* apps. Make sure to implement a copy of the new role in the *Role Maintenance* (`PFCG`) of the back-end server in step 5 of the procedure.

Upgrade from 4.0 FPS01 to 4.0 FPS02

Migrate existing forecast corrections with master data from multiple logical systems using report *Migration of Forecast Correction Data: Integrate Logical System ID* (`/DPL/FCC_LOGSYS_MIGRATION`). With this migration report, you update the content of the forecast correction main table `/DMF/FCC_MAIN` by adding the new field *Logical System ID* (`LOG_SYS_ID`). The logical system is determined based on the relevant master data (depending on the user DIF assignment level), such as

- Products or product hierarchy
- Locations or location hierarchy
- Sales organization and distribution channel

You can either call up transaction *Migrate FCC Data (Logical System)* (`/DPL/FCC_LOGSYS_MIGR`) for the migration or schedule a background job for the report.

The back-end server role `/DPL/FCC` is **replaced by the new role** *Demand Planner (Retail)* (`/DMF/DPL`). `/DMF/DPL` is the back-end server authorization role for the *Adjust Forecast* and the *Manage Demand Influencing Factors* apps. Make sure to implement a copy of the new role in the *Role Maintenance* (`PFCG`) of the back-end server in step 5 of the procedure.

Procedure

To set up *Adjust Forecast*, follow these steps:

1. To prepare the setup, read the app-specific information on SAP Help Portal at https://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Application Help* ▶ *SAP Customer Activity Repository* ▶ *SAP Fiori for SAP Customer Activity Repository* ▶ *Standalone SAP Fiori Apps for SAP Customer Activity Repository* ▶ *Adjust Forecast* ▶.
2. Customize the navigation target for the app in the SAP Fiori launchpad on the front-end server.
   In *Launchpad Customizing* (transaction **`LPD_CUST`**), choose `UIDPL001 TRANSACTIONAL` *Demand Planning Apps* and make the app-specific settings for all of the apps:
   Application Settings for *Adjust Forecast*
   - *Link Text*: `AdjustForecast`
   - *Application Type*: `URL`
   - *URL*: `/sap/bc/ui5_ui5/sap/adjustforecast`
   - *Application Alias*: `AdjustForecast`
   - *Additional Information*: `SAPUI5.Component=retail.dpl.adjustforecast`
   - *Portal Parameters*: Leave the default settings.
   - *Switch Support*: Leave the default settings.

   Application Settings for *Forecast Correction Overlapping Rules*
   - *Link Text*: `Forecast Correction Overlapping Rules`
   - *Application Type*: `TRA Transaction`
   - *Transaction Code*: `/DMF/FCC_MAINT_RULES`
   - *System Alias*: Enter the HTTP connection to the back-end client in the format `SYSID_CLNT_HTTPS`
   - *Application Alias*: `ForecastCorrOverlapRules`
   - *GUI Type*: `WEB_GUI_SAP GUI for HTML`
   - *Entries Once Started*: `S Initial Screen`
   - *Portal Parameters*: Leave the default settings.
   - *Switch Support*: Leave the default settings.

   Application Settings for *Forecast Correction Classification*
   - *Link Text*: `Forecast Correction Classification`
   - *Application Type*: `TRA Transaction`
   - *Transaction Code*: `/DMF/FCC_MAINT_CLSCF`

- *System Alias*: Enter the HTTP connection to the back-end client in the format `SYSID_CLNT_HTTPS`
- *Application Alias*: `ForecastCorrClassification`
- *GUI Type*: `WEB_GUI_SAP GUI for HTML`
- *Entries Once Started*: `S` *Initial Screen*
- *Portal Parameters*: Leave the default settings.
- *Switch Support*: Leave the default settings.

If you need more information about navigation targets, see SAP Help Portal at https://help.sap.com/viewer/p/SAP_NETWEAVER and choose your SAP NetWeaver Platform. Select your support package stack at the top right and search for *"Customizing Navigation Targets in LPD_CUST"*.

3. Configure the SAP Fiori launchpad designer for *CAR Demand Planning Apps*.
   1. Launch the SAP Fiori launchpad designer either in the `CUST` or in the `CONF` mode:
      - `CUST` mode:
        Use this mode for client-specific configurations, specifying the respective client. For the `CUST` mode, use this URL:
        `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`
      - `CONF` mode:
        Use this mode for global configurations across all clients. Note that in this URL, you additionally specify the **`scope`** parameter.
        For the `CONF` mode, use this 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`
        Use this mode for global configurations across all clients. Note that in this URL, you additionally specify the **`scope`** parameter.
   2. Configure the app tiles in the SAP Fiori launchpad designer.

      > **i Note**
      >
      > By default, the tiles for *Adjust Forecast*, *Analyze Forecast*, *Forecast Correction Classification*, and *Forecast Correction Overlapping Rules* are in the *SAP: CAR – Demand Planning Apps* catalog (`SAP_DPL_TC_T`) which is shipped with launchpad configuration.

      If the app tiles have not yet been created, create them as static tiles using the following settings:
      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.

      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.

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.

If you need more information about configuring tiles, see SAP Help Portal at https://help.sap.com/viewer/p/SAP_NETWEAVER and choose your SAP NetWeaver Platform. Select your support package stack at the top right and search for *"Static App Launcher Tiles"*.

3. Configure the target mapping in the SAP Fiori launchpad designer.
   If the target mapping has not yet been created, choose *Target Mappings* and create entries with the following settings:

   Adjust Forecast

   - *Semantic Object*: **`ForecastDemand`**
   - *Action*: **`editUDFAdjustForecast`**
   - *Application Type*: **`SAP Fiori App using LPD_CUST`**
   - *Launchpad Role*: **`UIDPL001`**
   - *Launchpad Instance*: **`TRANSACTIONAL`**
   - *Application Alias*: **`AdjustForecast`**
   - *Device Types*: Select *Desktop* and *Tablet*.
   - *Allow additional parameters*: Select this option.

   Forecast Correction Classification

   - *Semantic Object*: **`DemandPlanConfiguration`**
   - *Action*: **`create`**
   - *Application Type*: **`SAP Fiori App using LPD_CUST`**
   - *Launchpad Role*: **`UIDPL001`**
   - *Launchpad Instance*: **`TRANSACTIONAL`**
   - *Application Alias*: **`ForecastCorrClassification`**
   - *Information*: **`/DMF/FCC_MAINT_CLSCF`**
   - *Device Types*: Select *Desktop* and *Tablet*.
   - *Allow additional parameters*: Select this option.

   Forecast Correction Overlapping Rules

   - *Semantic Object*: **`DemandPlanConfiguration`**
   - *Action*: **`manage`**
   - *Application Type*: **`SAP Fiori App using LPD_CUST`**
   - *Launchpad Role*: **`UIDPL001`**
   - *Launchpad Instance*: **`TRANSACTIONAL`**
   - *Application Alias*: **`ForecastCorrOverlapRules`**
   - *Information*: **`/DMF/FCC_MAINT_RULES`**
   - *Device Types*: Select *Desktop* and *Tablet*.
   - *Allow additional parameters*: Select this option.

If you need more information about configuring target mappings, see SAP Help Portal at https://help.sap.com/viewer/p/SAP_NETWEAVER and choose your SAP NetWeaver Platform. Select your support package stack at the top right and search for *"Configuring Target Mappings"*.

4. Complete the implementation on the front-end server.

> **i Note**
>
> You can find the general SAP Fiori Help section for this step at https://help.sap.com/viewer/p/FIORI_IMPLEMENTATION ▶ *Version: SAP NW 7.40* ▶ *Implementation* ▶ *App Implementation* ▶ *App Implementation for Analytical Apps* ▶ *Implementation Tasks on Front-End Server* ▶.
>
> Use this section as your starting point. However, to configure *Adjust Forecast*, you only need to perform a subset of the steps described there. Proceed as follows:

1. Check that the app-specific Internet Communication Framework (ICF) service *AdjustForecast* `/sap/bc/ui5_ui5/sap/adjustforecast` is active. If the service is not active, activate it as follows:
   1. Execute transaction **`SICF`**.
   2. As *Service Path*, specify the **`<service path/service name>`** and execute the search.
   3. As *Virtual Hosts / Services*, select the `ADJUSTFORECAST` entry and choose ▶ *Service/Host* ▶ *Activate* ▶.

   For more information on how to activate ICF services and OData services, see ▶ *Implementation Tasks on Front-End Server* ▶ *Front-End Server: Activate ICF Services of SAPUI5 Application* ▶.
2. **Activate and Maintain OData Services**
   Call up transaction *Activate and Maintain Services* (`/IWFND/MAINT_SERVICE`) and check if the following services are already existing in your 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/

     If the service is not available, choose *Add Service*, enter back-end system alias, and choose *Get Services*. Search for `/DPL/OD_ADJUST_FORECAST_SRV`, select the entry and choose *Add Selected Services*. Take over the provided data and enter the local package assignment.
   - 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/

     If the service is not available, choose *Add Service*, enter back-end system alias, and choose *Get Services*. Search for `/DMF/OD_FC_TIME_SERIES_VIZ_SRV`, select the entry and choose *Add Selected Services*. Take over the provided data and enter the local package assignment.
   - 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 the service is not available, choose *Add Service*, enter back-end system alias, and choose *Get Services*. Search for `/DMF/DEMAND_PLAN_UTILITIES_SRV`, select the entry and choose *Add Selected Services*. Take over the provided data and enter the local package assignment.

3. Copy the `SAP_DPL_TCR_T` PFCG role on the front-end server and enter a name from the customer namespace. Assign the required launchpad catalogs and groups. `SAP_DPL_TCR_T` is the front-end server authorization role delivered for all demand planning apps in SAP Customer Activity Repository.

> → Tip
>
> If you already have an SAP Fiori launchpad open, clear your browser cache to apply the modifications to your user roles. Otherwise, you cannot see the changes on the user interface.

Follow the steps in *Implementation Tasks on Front-End Server* > *Create PFCG Role on Front-End and Assign Launchpad Catalogs and Groups*.

4. Set up the catalogs, groups, and roles in the SAP Fiori launchpad.
Follow the steps in *Implementation Tasks on Front-End Server* > *Setup of Catalogs, Groups, and Roles in the SAP Fiori Launchpad*.
5. Take the front-end PFCG role that you created before and assign it to the users of the app. The role contains the catalogs, groups, and start authorizations for the OData service that the users need.
Follow the steps in *Implementation Tasks on Front-End Server* > *Front-End Server: Assign Roles to Users*.

5. **Complete the implementation on the back-end server.**
Copy the role `/DMF/DPL` in the *Role Maintenance* (`PFCG`) of the back-end server and enter a name from the customer namespace. `/DMF/DPL` is the back-end server authorization role. It is also required for accessing the *Adjust Forecast* app via forward navigation from the *Analyze Forecast* app in SAP Customer Activity Repository.
6. **(Optional) Assign area of responsibility.**
This step is only required if you wish to use the *Product Hierarchy* filter in the app. In this case, each user of the app must have an area of responsibility (AOR) assigned to their ABAP back-end user. This assignment enables the display of product hierarchies in the app. You assign AORs using the *Maintain Area of Responsibility* Web Dynpro service in DDF.
Follow the steps in the *Maintain Area of Responsibility* section under https://help.sap.com/viewer/p/CARAB > *<Version>* > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *General Services* > *Maintenance Services*.
7. **(Optional) Set up Single Sign-On (SSO) between the front-end server and the back-end server.**
For information on available SSO mechanisms depending on your system landscape, see the following:
   - https://help.sap.com/viewer/p/FIORI_IMPLEMENTATION > *<Version>* > *SAP Fiori: Security* > *User Authentication and Single Sign-On (SSO)*
   - https://help.sap.com/viewer/p/SAP_HANA_PLATFORM > *<Version>* > *Security* > *SAP HANA Security Guide* > *SAP HANA Authentication and Single Sign-On* > *Single Sign-On Integration*

→ Tip

If you encounter issues during the setup, see the Troubleshooting [page 167] section for possible solutions.

Result

You have successfully set up the *Adjust Forecast* app.

i Note

In a next step, you define the overlapping rules for percentage, additive, and absolute corrections.

For more information, see section *Settings for Forecast Corrections* in the application help for SAP Customer Activity Repository on SAP Help Portal at https://help.sap.com/viewer/p/CARAB.

Related Information

Verify that OData Services are Active [page 84]

6.1.2.7.3 Set Up the Manage Demand Influencing Factors App (Upgrade Scenarios)

Perform several tasks on the front-end server and the back-end server to set up the *Manage Demand Influencing Factors* app.

Prerequisites

You have checked that the prerequisites described in Set Up SAP Fiori Apps for SAP Customer Activity Repository [page 110] are fulfilled.

You are aware of the implementation information for the app in the SAP Fiori apps reference library: For the latest delivery (wave), see: https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/index.html?appId=F3885

Upgrade from 4.0 FPS01 to 4.0 FPS02

You can now simulate and visualize simulation effects of demand influencing factors. Before you can start the simulation based on DIF assignments, you have to configure a **diagnostic ID for simulation purposes**. In

Customizing (transaction SPRO), navigate to *Cross-Application Components* > *Demand Data Foundation* > *Modeling and Forecasting* > *Define Diagnostic IDs*. Create the diagnostic ID (DIAG ID) for simulation. You can add configuration parameters to display the simulation results for modeling and forecasting in a decomposition chart. Go to the control settings for modeling and forecasting and enter the required parameters for the DIAG ID for simulation.

For more information, see the section about forecasting parameter configuration in the *SAP Customer Activity Repository Administration Guide* (Configure Parameters for Forecasting).

Procedure

To set up *Manage Demand Influencing Factors*, follow these steps:

1. To prepare the setup, read the app-specific information on SAP Help Portal at https://help.sap.com/viewer/p/CARAB > *<Version>* > *Application Help* > *SAP Customer Activity Repository* > *SAP Fiori for SAP Customer Activity Repository* > *Standalone SAP Fiori Apps for SAP Customer Activity Repository* > *Manage Demand Influencing Factors*.
2. Customize the navigation target for the app in the SAP Fiori launchpad on the front-end server.
   In *Launchpad Customizing* (transaction **LPD_CUST**), choose UIDPL001 TRANSACTIONAL *Demand Planning Apps* and make the app-specific settings for all of the apps:
   Application Settings for *Manage Demand Influencing Factors*
   - *Link Text*: Manage Demand Influencing Factors
   - *Application Type*: URL
   - *URL*: /sap/bc/ui5_ui5/sap/managedifs
   - *Application Alias*: DIFManagement
   - *Additional Information*: SAPUI5.Component=retail.dpl.managedif
   - *Portal Parameters*
   - *Switch Support*: Leave the default settings.

   Application Settings for *Demand Influencing Factors Library*
   - *Link Text*: Demand Influencing Factors Library
   - *Application Type*: TRA Transaction
   - *Transaction Code*: /DMF/DIF_LIBRARY
   - *System Alias*: Enter the HTTP connection to the back-end client in the format SYSID_CLNT_HTTPS
   - *Application Alias*: DIFLibrary
   - *GUI Type*: WEB_GUI_SAP GUI for HTML
   - *Entries Once Started*: S Initial Screen
   - *Portal Parameters*: Leave the default settings.
   - *Switch Support*: Leave the default settings.

   If you need more information about navigation targets, see SAP Help Portal at https://help.sap.com/viewer/p/SAP_NETWEAVER and choose your SAP NetWeaver Platform. Select your support package stack at the top right and search for *"Customizing Navigation Targets in LPD_CUST"*.
3. Configure the SAP Fiori launchpad designer for *CAR Demand Planning Apps*.

1. Launch the SAP Fiori launchpad designer either in the `CUST` or in the `CONF` mode:
   - `CUST` mode:
     Use this mode for **client-specific configurations**, specifying the respective client. For the `CUST` mode, use this URL:
     `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`
   - `CONF` mode:
     Use this mode for global configurations across all clients. Note that in this URL, you additionally specify the **`scope`** parameter.
     For the `CONF` mode, use this 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`
     Use this mode for global configurations **across all clients**. Note that in this URL, you additionally specify the **`scope`** parameter.
2. Configure the app tiles in the SAP Fiori launchpad designer.

   > → Tip
   >
   > By default, the tiles for *Manage Demand Influencing Factors* and *Demand Influencing Factors Library* are in the *SAP: CAR – Demand Planning Apps* catalog (which is shipped with launchpad configuration).

   If the app tile for *Manage Demand Influencing Factors* has not yet been created, create it as static tile using the following settings:
   Manage Demand Influencing Factors
   - *Title*: **`Manage Demand Influencing Factors`**
   - *Icon*: **`sap-icon://create-entry-time`**
   - *Use semantic object navigation*: Select this option.
   - *Semantic Object*: **`ForecastDemand`**
   - *Action*: **`manage`**
   - Leave the other options empty.

   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.

   If you need more information about configuring tiles, see SAP Help Portal at https://help.sap.com/viewer/p/SAP_NETWEAVER and choose your SAP NetWeaver Platform. Select your support package stack at the top right and search for *"Static App Launcher Tiles"*.
3. Configure the target mapping in the SAP Fiori launchpad designer.
   If the target mapping has not yet been created, choose *Target Mappings* and create entries with the following settings:
   Manage Demand Influencing Factors
   - *Semantic Object*: **`ForecastDemand`**

- *Action*: **manage**
- *Application Type*: **SAP Fiori App using LPD_CUST**
- *Launchpad Role*: **UIDPL001**
- *Launchpad Instance*: **TRANSACTIONAL**
- *Application Alias*: **DIFManagement**
- *Device Types*: Select *Desktop* and *Tablet*.
- *Allow additional parameters*: Select this option.

Demand Influencing Factors Library

- *Semantic Object*: **ForecastDemand**
- *Action*: **change**
- *Application Type*: **SAP Fiori App using LPD_CUST**
- *Launchpad Role*: **UIDPL001**
- *Launchpad Instance*: **TRANSACTIONAL**
- *Application Alias*: **DIFLibrary**
- *Device Types*: Select *Desktop*
- *Allow additional parameters*: Select this option.

If you need more information about configuring target mappings, see SAP Help Portal at https://help.sap.com/viewer/p/SAP_NETWEAVER and choose your SAP NetWeaver Platform. Select your support package stack at the top right and search for *"Configuring Target Mappings"*.

4. Complete the implementation on the front-end server.

> **i Note**
>
> You can find the general SAP Fiori Help section for this step at https://help.sap.com/viewer/p/FIORI_IMPLEMENTATION ▶ *Version: SAP NW 7.40* > *Implementation* > *App Implementation* > *App Implementation for Analytical Apps* > *Implementation Tasks on Front-End Server* ▶.
>
> Use this section as your starting point. However, to configure *Manage Demand Influencing Factors*, you only need to perform a subset of the steps described there. Proceed as follows:

1. Check that the app-specific Internet Communication Framework (ICF) service *Manage Demand Influencing Factors* `/sap/bc/ui5_ui5/sap/managedifs` is active. If the service is not active, activate it as follows:
   1. Execute transaction **SICF**.
   2. As *Service Path*, specify the **<service path/service name>** and execute the search.
   3. As *Virtual Hosts / Services*, select the `MANAGEDIFS` entry and choose ▶ *Service/Host* > *Activate* ▶.

   For more information on how to activate ICF services and OData services, see ▶ *Implementation Tasks on Front-End Server* > *Front-End Server: Activate ICF Services of SAPUI5 Application* ▶.
2. **Activate and Maintain OData Services**
   Call up transaction *Activate and Maintain Services* (`/IWFND/MAINT_SERVICE`) and check if the following services are already existing in your service catalog:
   - Demand Plan OData Service
     - *Type*: `BEP`
     - *Technical Service Name*: `ZOD_DEMAND_PLAN_SRV`
     - *Service Description*: Demand Plan OData Service

- *External Service Name*: `OD_DEMAND_PLAN_SRV`
- *Namespace*: /DMF/

If the service is not available, choose *Add Service*, enter back-end system alias, and choose *Get Services*. Search for `/DMF/OD_DEMAND_PLAN_SRV` , select the entry and choose *Add Selected Services*. Take over the provided data and enter the local package assignment.

- 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 the service is not available, choose *Add Service*, enter back-end system alias, and choose *Get Services*. Search for `/DMF/DEMAND_PLAN_UTILITIES_SRV`, select the entry and choose *Add Selected Services*. Take over the provided data and enter the local package assignment.

3. Copy the `SAP_DPL_TCR_T` PFCG role on the front-end server and enter a name from the customer namespace. Assign the required launchpad catalogs and groups. `SAP_DPL_TCR_T` is the front-end server authorization role delivered for all demand planning apps in SAP Customer Activity Repository.

   > → Tip
   >
   > If you already have an SAP Fiori launchpad open, clear your browser cache to apply the modifications to your user roles. Otherwise, you cannot see the changes on the user interface.

   Follow the steps in *Implementation Tasks on Front-End Server* > *Create PFCG Role on Front-End and Assign Launchpad Catalogs and Groups*.
4. Set up the catalogs, groups, and roles in the SAP Fiori launchpad.
   Follow the steps in *Implementation Tasks on Front-End Server* > *Setup of Catalogs, Groups, and Roles in the SAP Fiori Launchpad*.
5. Take the front-end PFCG role that you created before and assign it to the users of the app. The role contains the catalogs, groups, and start authorizations for the OData service that the users need.
   Follow the steps in *Implementation Tasks on Front-End Server* > *Front-End Server: Assign Roles to Users*.

5. **Complete the implementation on the back-end server.**
   Copy the *Demand Planner (Retail)* role (`/DMF/DPL`) in the *Role Maintenance* (`PFCG`) of the back-end server and enter a name from the customer namespace. Assign the users. This role `/DMF/DPL` is the back-end server authorization role delivered for accessing the *Manage Demand Influencing Factors* app.
6. **(Optional) Assign area of responsibility.**
   This step is only required if you wish to use the *Product Hierarchy* filter in the app. In this case, each user of the app must have an area of responsibility (AOR) assigned to their ABAP back-end user. This assignment enables the display of product hierarchies in the app. You assign AORs using the *Maintain Area of Responsibility* Web Dynpro service in DDF.
   Follow the steps in the *Maintain Area of Responsibility* section under https://help.sap.com/viewer/p/CARAB *<Version>* > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *General Services* > *Maintenance Services*.
7. **(Optional) Set up Single Sign-On (SSO) between the front-end server and the back-end server.**

For information on available SSO mechanisms depending on your system landscape, see the following:

- https://help.sap.com/viewer/p/FIORI_IMPLEMENTATION ▶ *<Version>* ▶ *SAP Fiori: Security* ▶ *User Authentication and Single Sign-On (SSO)* ▶
- https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *<Version>* ▶ *Security* ▶ *SAP HANA Security Guide* ▶ *SAP HANA Authentication and Single Sign-On* ▶ *Single Sign-On Integration* ▶

> → Tip
>
> If you encounter issues during the setup, see the Troubleshooting [page 167] section for possible solutions.

Result

You have successfully set up the *Manage Demand Influencing Factors* app.

Related Information

Verify that OData Services are Active [page 84]

6.1.2.7.4 DDF Apps: Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad

Perform this procedure to set up the SAP Fiori apps provided by Demand Data Foundation (*Configure Distribution Curves*, *Manage Location Clusters*, *Manage Product Attributes*, *Manage Product Groups*, *Manage Promotional Offers*). All of these apps are available to you as part of SAP Customer Activity Repository. They support different scenarios and consuming applications.

Context

For an up-to-date overview of the DDF apps, see SAP Help Portal at https://help.sap.com/viewer/p/CARAB and choose ▶ *Additional Information* ▶ *SAP Fiori Apps for SAP CARAB* ▶.

Different Scenarios for the DDF Apps

- You can use the apps standalone, that is, to support generic scenarios. In this case, perform the procedure below.
- Or you can integrate the apps with consuming applications installed on top of SAP Customer Activity Repository. In this case, perform the procedure in Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad.

Procedure

To be able to access the DDF apps 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 then access certain business catalogs and business catalog groups for the apps.

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 to see the changes.

6.1.2.7.5 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.

Context

The *Manage Product Attributes* app supports different scenarios and consuming applications (such as SAP Allocation Management, SAP Assortment Planning, the similar products search, or the calculation of distribution curves). The app enables planning administrators to create, configure, assign, and maintain product attributes for a selected product hierarchy.

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 Upgrade [page 24]. Implement any corrections relevant for the app.
- You have done the general setup for the DDF apps. See DDF Apps: Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad [page 128].

> **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.

Verify that ICF Services are Active

Context

After an upgrade, you must ensure that the Internet Communication Framework (ICF) services required for the app are still active.

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.

Verify that OData Services are Active

1. See section Verify that OData Services are Active [page 84] 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 AOR to your 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*.
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 section *Maintain Area of Responsibility* and follow the instructions.

6.1.2.8 Configure Omnichannel Article Availability and Sourcing for Use with SAP Customer Activity Repository

You need to integrate SAP S/4HANA or SAP Retail, SAP Customer Activity Repository, SAP Commerce, and SAP Commerce, integration package for SAP for Retail, as well as set up asynchronous order management and the data replication between SAP S/4HANA or SAP Retail, SAP Commerce, and SAP Customer Activity Repository.

6.1.2.8.1 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*.

6.1.2.8.2 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.

6.1.2.8.3 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*.

6.1.2.8.4 Check Version of SAP Customer Activity Repository in SAP Commerce

SAP Commerce can be connected against different versions of SAP Customer Activity Repository. As there were incompatible changes in the OAA REST service APIs, a Spring profile property in SAP Commerce controls the mapping to the different API versions.

Context

Check the `spring.profiles.active` property in the `local.properties` file of your SAP Commerce installation, for example from `<hybris_installation_path>/hybris/config/local.properties`.

The following profiles are supported:

Version of SAP Customer Activity Repository	Profile Value
CAR 3.0 (CARAB 2.0) or higher	`sapoaa_carApiVersionLatest`
CAR 2.0 FP3 (CARAB 1.0 FP3)	`sapoaa_carApiVersion1`

As of SAP Commerce, integration package for SAP for Retail 2.4 / SAP Commerce 6.4, the property is set automatically to `sapoaa_carApiVersionLatest`.

6.1.2.8.5 Adapt Customizing for Eligible Sources in OAA Profile

Context

If you have used OAA in version 2.0 FP3 of SAP Customer Activity Repository already and are upgrading to version 3.0 or higher, and if you want to continue using OAA profile mode, you need to adapt your Customizing for the eligible sources assigned to the OAA profile (Customizing path: *SAP Customer Activity Repository* > *Omnichannel Article Availability and Sourcing (OAA)* > *OAA Profile Mode* > *Define OAA Profiles*) at the start of your project using report `/OAA/SPLIT_SOURCES`. This report enables you to continue using your 2.0 FP3 Customizing settings for eligible sources. In version 2.0 FP3, there was one single Customizing view that covered DCs and stores alike, while in version 3.0, this view was replaced with three new views, one each for DCs, stores, and external vendors. The report moves your entries to the new views.

Procedure

1. In transaction **SE38**, execute report `/OAA/SPLIT_SOURCES`.

   The report checks your entries for eligible sources in the old view and transfers those for DCs to the new view for DCs and those for stores to the new view for stores.
2. Check the error log.

   For all entries that do not fall into either category, the system issues an error message.
3. Process the entries in the error log manually.

6.1.2.8.6 Adapt Customizing for RFC Destination (SAP S/4HANA Only)

As of SAP S/4HANA 1709 FPS2, setting the RFC destination that is used for the replication of the ATP snapshot from SAP S/4HANA to SAP Customer Activity Repository was moved to the new Customizing activity *Define System Connections*.

Context

If you have used OAA in combination with a version of **SAP S/4HANA 1709 prior to FPS2** and want to upgrade to **SAP S/4HANA 1709 FPS2** or higher, you need to manually adapt your Customizing for the RFC destination.

In **Customizing for SAP S/4HANA**, proceed as follows:

Procedure

1. Go to ▶ *Sales and Distribution* ▶ *Basic Functions* ▶ *Availability Check and Transfer of Requirements* ▶ *Availability Check* ▶ *Availability Check with ATP Logic or Against Planning* ▶ *Retail: Omnichannel Article Availability and Sourcing (OAA)* ▶ *Define System Connections* ▶.
2. Create a system connection ID for the RFC destination that is used for the replication of the ATP snapshot from SAP S/4HANA to SAP Customer Activity Repository.
3. Go to ▶ *Sales and Distribution* ▶ *Basic Functions* ▶ *Availability Check and Transfer of Requirements* ▶ *Availability Check* ▶ *Availability Check with ATP Logic or Against Planning* ▶ *Retail: Omnichannel Article Availability and Sourcing (OAA)* ▶ *Define ATP Parallelization Profiles for DC Articles* ▶.
4. Enter the system connection ID into your ATP parallelization profile.

6.1.2.8.7 Activate BAdI Implementation for Using OAA with Vendor Articles

If you use vendors from SAP S/4HANA or SAP Retail as sources in OAA and want to benefit from the automatic creation of purchase requisitions, BAdI implementation `VENDOR_OAA_SALES_PUR_REQ` of BadI `BADI_SD_SALES_ME_REQ` must be set to active.

Context

The implementation serves to enter the fixed vendor, the net price of the article, and the purchasing organization into the purchase requisition that is automatically created for the vendor articles, from the sales order. As a default, this BAdI implementation is delivered in an inactive state.

As of the following versions of your back-end application you can activate this BAdI implementation via a Customizing activity, from the following path: *Sales and Distribution* > *Basic Functions* > *Availability Check and Transfer of Requirements* > *Availability Check* > *Availability Check with ATP Logic or Against Planning* > *Retail: Omnichannel Article Availability and Sourcing (OAA)* > *Implementation: Data Required for Purchase Requisitions for Vendor Articles*:

- SAP S/4HANA 1709 SPS3
- SAP Retail 6.0 EHP7 SP17
- SAP Retail 6.0 EHP8 SP11

If you currently use a lower version of SAP S/4HANA or SAP Retail and want to upgrade to an SP that is still lower than the SPs mentioned above, you need to manually activate this BadI implementation. Proceed as follows:

Procedure

1. Go to transaction `SE19`.
2. Enter `VENDOR_OAA_SALES_PUR_REQ` as enhancement implementation and choose *Edit*.
3. Select *Implementation is active* and save your changes.

Results

You need to activate this BAdI implementation again using transaction `SE19` each time you implement a new support package of SAP S/4HANA or SAP Retail.

Only when you reach the support package that holds the new Customizing activity (see above) do you activate the BAdI implementation directly in Customizing. This setting will then last with all future upgrades.

6.1.2.8.8 Check the REST Services of Your Implementation

Context

As of SAP Customer Activity Repository 3.0, the REST services for omnichannel article availability and sourcing were modified. For more information, see SAP Note 2434053.

6.1.2.8.9 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 Verify that OData Services are Active [page 84]. Depending on your back end, different services are required.

6.1.2.8.10 Upgrade Data Structures of Sources

Sales channel mode only: With SAP Customer Activity Repository 4.0, the OAA data structures for sources, for the SAP Fiori app *Manage Sources*, were changed. You need to run two reports to upgrade the data structures.

Prerequisites

You have not used the SAP Fiori app *Manage Sources* with SAP Customer Activity Repository 4.0 or higher productively yet.

Context

Execution of the reports is mandatory for all upgrade scenarios where you upgrade from a version prior to 4.0 to version 4.0 or higher. You need to execute the reports once only.

Procedure

1. In SAP Customer Activity Repository, in transaction `SE38`, execute report `/OAA/CREATE_TRIGGERS`.

   In addition to the trigger that updates temporary reservations, this report now also creates a trigger that creates and exposes data structures for the source properties you maintain in the SAP Fiori app *Manage Sources*. Each time a new source becomes available in SAP Customer Activity Repository, the trigger is set off.
2. In SAP Customer Activity Repository, in transaction `SE38`, execute report `/OAA/SOURCE_UPGRADE`.
   - If you have not used the app in an earlier version of SAP Customer Activity Repository yet, report `/OAA/SOURCE_UPGRADE` creates and exposes the new data structures for the sources that are already available in the system, thus enabling use of the enhanced app.
   - If you have already used the app in an earlier version of SAP Customer Activity Repository, the report moves the source properties, such as status, general capacity, capacity exceptions for weekdays and individual dates, from the old data structures to the new data structures. This enables you to seamlessly continue using the app and the data already available in the app.

6.1.2.8.11 Use New Apps (SAP S/4HANA Only)

With SAP Customer Activity Repository 4.0, the *Manage Sources* and *Manage Sourcing Networks* apps were renamed and duplicated, in order to split apps between back ends.

Context

The functional scope of each pair of apps is identical. The apps are called as follows:

Old App	Split Into
Manage Sources (Fiori ID F3003)	*Manage Sources -SAP S/4HANA* (Fiori ID F3392) *Manage Sources - SAP Retail* (Fiori ID F3003)
Manage Sourcing Networks (Fiori ID F2530)	*Manage Sourcing Networks -SAP S/4HANA* (Fiori ID F3391) *Manage Sourcing Networks - SAP Retail* (Fiori ID F2530)

Procedure

If your back end is SAP S/4HANA, use the new apps. Your existing data was migrated to the new apps automatically.

> **i Note**
>
> Make sure that the corresponding OData services have been activated before. For more information, see Verify that OData Services are Active [page 84].

If your back end is SAP Retail, you may continue using the former apps.

6.1.2.8.12 Use New Tracing Tables for Analytics

With SAP Customer Activity Repository 4.0 FPS01, the programming tables introduced in version 4.0 and used to store tracing information were rendered obsolete and were replaced with new tables that are better suited for analytics.

Context

The tables were replaced as follows:

Trace Table in SAP Customer Activity Repository 4.0	Replaced with Trace Table in SAP Customer Activity Repository 4.0 FPS01
`/OAA/TRC_DS_ES` Trace table for building block *Read Sources*	`/OAA/TRC_SRC_ES` New trace table for sources
`/OAA/TRC_BO_1DEL` Trace table for business objective *Apply Rule: One Consignment Today*	`/OAA/TRC_REASON` Failure reason trace table
`/OAA/TRC_BO_AFC` Trace table for business objective *Apply Rule: As Few Consignments as Fast as Possible*	`/OAA/TRC_REASON` + `/OAA/TRC_BO_CONS` Failure reason and consignments trace tables
`/OAA/TRC_BO_AFCA` Trace table for business objective *Apply Rule: As Few Consignments as Fast as Possible (Advanced)*	`/OAA/TRC_REASON` + `/OAA/TRC_BO_CONS` Failure reason and consignments trace tables

The old trace tables are not filled any longer. Instead, the new tables are used.

Procedure

1. If you have used tracing for custom analytics in version 4.0 of SAP Customer Activity Repository and want to continue using this functionality when upgrading to version 4.0 FPS01 or higher, adapt your custom coding for analytics so that the new tables are referenced instead of the old ones.

2. If you want to continue using your historic tracing data, adapt your custom coding for analytics so that historic trace data and new trace data can be analyzed together.

6.1.2.8.13 Use New Tables for ATP Snapshot and Reservations and Delete Obsolete Entries

With SAP Customer Activity Repository 4.0 FPS02, the programming tables used to store ATP snapshot data and temporary reservations were rendered obsolete and were replaced with new tables, to allow integration of the *Context* field and to improve performance.

Context

> **i Note**
>
> If you have not used OAA in a version of SAP Customer Activity Repository earlier than 4.0 FPS02, you may skip this step.

The tables were replaced as follows:

Table in SAP Customer Activity Repository 4.0 FPS01 and Earlier	Replaced with Table in SAP Customer Activity Repository 4.0 FPS02
`/OAA/ATP_SNP_HDR` and `/OAA/ATP_SNP_ITM`	`/OAA/ATP_SNPSHOT`
Header table and item table for ATP snapshot data	Both old tables were merged into this new one.
`/OAA/ATP_RESV_H` and `/OAA/ATP_RESV_I`	`/OAA/ATP_RESV`
Header table and item table for temporary reservations	Both old tables were merged into this new one.

The old tables are not filled any longer. Instead, the new tables are used. Existing data is copied automatically to the new tables during the upgrade, without being deleted from the old tables. If you have enhanced the tables with custom fields, this makes sure that entries in these fields are preserved.

Procedure

- If you have not enhanced the ATP snapshot tables or the temporary reservation tables with custom fields, run report `/OAA/MIGRATED_DATA_DELETION` to delete all obsolete table entries.
- If you have enhanced the ATP snapshot tables or the temporary reservation tables with custom fields, migrate this data to the new tables, if required. Then run report `/OAA/MIGRATED_DATA_DELETION` to delete all obsolete table entries.

6.1.2.8.14 Schedule Report for Deletion of Temporary Reservations

With SAP Customer Activity Repository 4.0 FPS02, the deletion logic for temporary reservations was changed.

Context

Outdated temporary reservations are no longer deleted while the ATP snapshot is generated but are deleted through a dedicated report.

Schedule report `/OAA/ATP_OUTDATED_RESV_CLEANUP` (*Deletion of Outdated Temporary Reservations*).

> **i** Note
>
> Scheduling this report is a mandatory prerequisite for running omnichannel article availability and sourcing (OAA).

6.1.2.8.15 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*).

6.1.2.9 Configure Omnichannel Promotion Pricing for Use with SAP Customer Activity Repository

To use omnichannel promotion pricing, you have to activate the functionality in Customizing and configure it according to your specific needs.

> **→** Tip
>
> For more information about the configuration of 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/viewer/p/IPR ▶ *<Version>* ▶ *Administration* ▶ *Omnichannel Promotion Pricing* ▶ *Configuration* ▶.

Related Information

Activate Omnichannel Promotion Pricing (OPP) [page 142]
Activate the Data Replication Framework (DRF) [page 144]
Configure the Transformation of Offers into OPP Promotions [page 142]
Configure the Local Deployment of the Promotion Pricing Service [page 143]
Configure the Central Deployment of the Promotion Pricing Service [page 157]
Update the PPS SAP HANA XSA Application [page 166]

6.1.2.9.1 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* ▶.

6.1.2.9.2 Configure the Transformation of Offers into OPP Promotions

Related Information

Enforce the Compatibility to Transform Offers into OPP Promotions [page 143]
Enable Offers with Enhanced Product Groups [page 143]
Enable Offers with Zero Discount [page 143]

6.1.2.9.2.1 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*.

6.1.2.9.2.2 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/viewer/p/CARAB *<Version>* > *Development* > *Development and Extension Guide for Omnichannel Promotion Pricing* under > *Promotion Pricing Service* > *PPS Module calcengine-gk* > *Default Settings and Properties*.

6.1.2.9.2.3 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*.

6.1.2.9.3 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 142].
2. Activate DRF functionality, as described in Activate the Data Replication Framework (DRF) [page 144].
3. Define numer ranges, as described in Define Number Ranges [page 144].
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 145]
   - Configure Application Link Enabling for the location-specific outbound processing of OPP promotions [page 152]
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 148]
   - Configure the data replication for OPP promotions (location-specific outbound processing) [page 155]

6.1.2.9.3.1 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`.

6.1.2.9.3.2 Define Number Ranges

To send OPP promotions to an external system via IDocs, you can define numer 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*.

6.1.2.9.3.3 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>**
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*

Field Name	Value

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 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.

6.1.2.9.3.4 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>**
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	

Field Name	Value
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
/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.

6.1.2.9.4 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 refered 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 refered 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 `XSACOPPPPS00_<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 acess 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.

> **i 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 159]

2. Create the Extension Descriptor File [page 161]
3. Configure Authentication and Authorization Settings [page 163]
4. Advanced Configuration Settings (Optional) [page 165]

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/viewer/product/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/viewer/product/SAP_HANA_PLATFORM/2.0.04/en-US ▶ *<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/viewer/product/SAP_HANA_PLATFORM/2.0.04/en-US ▶ *<Version>* ▶ *Administration* ▶ *SAP HANA Administration Guide for SAP HANA Platform* ▶ *Application Run-Time Services* ▶ *Maintaining the SAP HANA XS Advanced Model Run Time* ▶.

6.1.2.9.4.1 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:

Source Code

```
xs create-user-provided-service ppeHana -p "{\"user\":\"<DB_USER>\",
\"password\":\"<DB_USER_PASSWORD>\",\"url\":\"jdbc:sap://<HOSTNAME>:<PORT>
\",\"driver\":\"com.sap.db.jdbc.Driver\",\"port\":\"<PORT>\",\"host\":
\"<HOSTNAME>\"}"
```

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. **i 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 and add `encrypt=true` to the database URL to use an encrypted database connection:

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>\",\"driver
\":\"com.sap.db.jdbc.Driver\",\"port\":\"<PORT>\",\"host\":\"<HOSTNAME>\"}"
```

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.

6.1.2.9.4.2 Create the Extension Descriptor File

To store the PPS-specific configuration settings, you must create an extension descriptior 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:

i Note

This content includes the minimum settings that are necessary to create the extension descriptior 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
modules:
  - name: ppservice-approuter
    parameters:
      memory: 128M
  - name: ppservice-webapp-central
    parameters:
      memory: 1024M
    properties:
      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: -Dsap.dataaccess-
common.db.client="<DB_CLIENT>" -Dsap.dataaccess-common.logSys=<LOGSYS>'
    provides:
      - name: java
```

> **i 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
<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, SAP recommends to set this flag to true.
<DB_SCHEMA>	Replace this entry with the standard database schema of your SAP Customer Activity Repository system.
<DB_CLIENT>	Replace this entry with the client of your SAP Customer Activity Repository system.
<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).

> **→ 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.

6.1.2.9.4.3 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>** **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/"/>**

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.

6.1.2.9.4.4 Advanced Configuration Settings (Optional)

The following settings are not mandatory in a default setup but help you to adapt the PPS to your specific needs.

Configuration of Caches

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,expireAfterAccess=10m,expireAfterWrite
=20m
# Spring cache for regular prices
sap.dataaccess-
common.basepricecachespec=maximumSize=10000,expireAfterAccess=10m,expireAfterW
rite=20m
```

To apply these settings, they have to be part of the extension descriptor in the `JBP_CONFIG_JAVA_OPTS` property.

```
...
 JBP_CONFIG_JAVA_OPTS: 'java_opts: -Dsap.dataaccess-
common.db.client="<DB_CLIENT>" -Dsap.dataaccess-common.logSys=<LOGSYS>' -
Dsap.dataaccess-common.cachenamedqueries=true -Dsap.dataaccess-
common.promocachespec=maximumSize=10000,expireAfterAccess=10m,expireAfterWrite=20
m -Dsap.dataaccess-
common.basepricecachespec=maximumSize=10000,expireAfterAccess=10m,expireAfterWrit
e=20m
```

```
...
```

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/viewer/p/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/viewer/p/CARAB *<Version>* *Development* under *Promotion Pricing Service* *PPS Module dataaccess-common*.

6.1.2.9.4.5 Update the PPS SAP HANA XSA Application

The promotion pricing service is an SAP HANA XS advanced (XSA) application. Therefore, you have to download the latest XSA component to update or patch the service. The minimum required XSA version is 1.0.88.

Procedure

The following steps describe how to update the XSA component from version 1.2.12 to 2.0.0:

1. Check the current version of your XSA component with the following command:

   Source Code

   ```
   xs list-components
   ```

   The following output is displayed:

   Source Code

   ```
   Getting software components in org "<ORG>" / space "<SPACE>" as <USER>...
   Found software components:
   software component
   version
   ------------------------------
   XSAC_OPP_PPS (sap.com)   1.2.12
   ```

2. Download the new SCV file `XSACOPPPPS00_<patch level>-80004642.ZIP` from the SAP Support Portal at https://support.sap.com.
3. 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 new or patched application:

Source Code

```
xs install <pathToScvFile>/XSACOPPPPS00_<patch level>-80004642.ZIP -e
config-op.mtaext
```

4. Execute the command used in step 1 and the following output is displayed:

Source Code

```
Getting software components in org "<ORG>" / space "<SPACE>" as <USER>...
Found software components:
software component
version
------------------------------
XSAC_OPP_PPS (sap.com)   2.0.0
```

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 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 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 the Application Function Library (SAP RTL AFL FOR SAP HANA) [page 48].

Area	Symptom	Cause	Possible Solutions
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 the Application Function Library (SAP RTL AFL FOR SAP HANA) [page 48]. • 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 verify if your revision of SAP HANA Platform is compatible with your version of SAP HANA studio.	For example, you might be experiencing compatibility issues following an upgrade.	SAP Note 2375176
Installation / Upgrade	You have upgraded to 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 upgrade.	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*

Area	Symptom	Cause	Possible Solutions
Installation / Upgrade	You get an import error when installing the `RTLAPPS` software component of the SAP CARAB back-end product version.	A program error must be fixed.	SAP Note 2377525
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
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 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 (transaction `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 transaction `SUM` and repeat the installation or upgrade step.

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 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.
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

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 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* of the *Common Installation Guide*.
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*)

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: • *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 Upgrade the Prerequisites [page 15]. See also section Download and Install the Application Function Library (SAP RTL AFL FOR SAP HANA) [page 48]. • Have you done the schema mapping as described in this guide? See Verify Correct Schema Mapping [page 37].
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.

Area	Symptom	Cause	Possible Solutions
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 79].
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 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 backend 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 the Application Function Library (SAP RTL AFL FOR SAP HANA) [page 48].
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 encountering 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 ▶ *<Version>* ▶ *Administration*
SAP HANA Platform	You are not sure if the installed SAP HANA revision is compatible with the installed SAP HANA studio version.	Consult the list of compatible revisions and versions.	SAP Note 2375176

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.	• See section *Configure Automatic Flattening of Hierarchies* of the *Common Installation Guide*.
			• See the following sections of the *SAP Customer Activity Repository Administration Guide* under https://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Administration*:
			  ○ *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

Area	Symptom	Cause	Possible Solutions
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
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

Area	Symptom	Cause	Possible Solutions
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* ▶.
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

Area	Symptom	Cause	Possible Solutions
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
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* in the *Common Installation Guide* 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.
Upgrade On-Shelf Availability Dispatcher (transaction **/OSA/DISPATCH**)	The following error occurs when executing the On-Shelf Availability (OSA) Dispatcher: "SQL Error Code 274 : inserted value too large for column'	Local temporary tables (`LOCAL_EXCL_PRODUCT`, `LOCAL_LISTED_PRODUCT`, and `LOCAL_PS_CONF`) created and used by OSA for internal dispatcher processing are not dropped automatically during runtime therefore new tables, such as any containing CHAR40 fields, cannot get created. This causes an SQL error when a CHAR40 material is supplied. Subsequent structural change to the definition of these tables requires manual intervention in cases where the tables may already exist.	SAP Note 2576497

Troubleshoot Operation Issues

You also may encounter issues during the day-to-day running of your application. For troubleshooting information, see the application-specific *Administration Guides* under https://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Administration* ◀:

- *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 encounter an issue with your system, we recommend that you first search the SAP Knowledge Base and SAP Notes for existing solutions. For more information, see http://support.sap.com/ *My Support* *Knowledge Base*.
- To view or report an incident, see http://support.sap.com/ *My Support* *Incidents*.
- 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

This upgrade guide describes upgrading from *SAP Merchandise Planning 4.0 FP00* to *SAP Merchandise Planning 4.0 FPS02*. You must have completed the upgrade activities in this guide under *SAP Customer Activity Repository* *Core (Mandatory)*.

6.2.1 Activate SAP HANA Content for SAP Merchandise Planning

Activate 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 75].

You must also have mapped all the necessary schemas, as described in Verify Correct Schema Mapping [page 37].

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 have to be activated before activating the BI Content objects as described in Activate Application BI Content Upgrade [page 185] .

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.

6.2.2 Activate Application BI Content Upgrade

> ⚠ Caution
>
> Proper authorization is required to complete these steps.

These instructions are to activate content under the *Merchandise Planning Omni Channel* (`/RAP/MPOC`) InfoArea for the following objects types:

- Advanced DataStore Objects
- Workbooks (will automatically activate):
  - Composite Providers

- Aggregation Levels
- Queries
- Planning Sequences
- Reactivate Advance Datastore Objects (aDSOs)

Planning Sequences

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

Activation Steps

The object types must be activated in the order above. Each object type and the detail objects are listed in the tables below and should be compared to the activated objects in your environment. To activate, use transaction `RSOR` to launch the BW workbench.

1. Verify transport connections.
    1. Select *Transport Connection* in the left-hand frame.
    2. Select *Object Types*.
    3. Locate and expand *Source System*.
    4. Double click *Select Objects* to ensure that the back-end system is selected as the source system in the pop up window.
    5. Choose *Transfer Selections* in the same window.
    6. In the title bar of he right-hand frame, above the list of *Collected Objects*, choose *Grouping* and select *Only Necessary Objects* in the context menu.
    7. At the top of the right-hand frame, choose *Collection Mode* and select *Collect Automatically*.
2. If you have modified standard `/RAP/*` *BI Content* objects in your local environment, you must enable the *Match (X) or copy* option. Otherwise go to step 3.
    1. 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.
3. Activate the InfoObject catalog. 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 Activation Warnings [page 211].

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 Transport Connection.
- 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

Workbook 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
/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.

Verify Installed Objects

In addition to the *advanced DataStore Objects* in the above steps, see the tables below to verify all expected objects are installed.

Composite Providers

Composite Provider Description	Composite Provider
Merchandise Financial Plan Omni Channe	/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

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

Merchandise Planning 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 Sseason Reconciliation	/RAP/MP_OTB_OTS_PHN5_WB_02

6.2.3 Verify Time Data

Ensure that the previously generated calendar time data is still for running your SAP Merchandise Planning process.

Procedure

Ensure that the time data for the Fiscal Calendar has been generated far enough into the past and future.

For more information, see the following:

- *Maintain Fiscal Year Variants* sections of the *Common Installation Guide*

6.3 SAP Assortment Planning

This section lists the steps for the different SAP Assortment Planning upgrade scenarios.

6.3.1 4.0/4.0 FPS01 to 4.0 FPS02

Upgrade information.

This section is intended for existing SAP Assortment Planning for Retail customers who have installed and configured SAP Assortment Planning for Retail 4.0 or 4.0 FPS01 and would like to upgrade to SAP Assortment Planning 4.0 FPS02.

6.3.1.1 Quick Guide

Upgrade to SAP Assortment Planning 4.0 FPS02.

Checklist

Prerequisites

Ensure that you have carried out all the steps listed in the previous sections of this guide.

Mandatory Steps

☐ Perform all the mandatory core steps for SAP Customer Activity Repository. See Core (Mandatory for All Applications) [page 68].

- ☐ Verify SAP HANA and back-end system roles. See *Verify Users, Privileges, and Roles*.
- ☐ Adjust Customizing settings.
- ☐ Reactivate SAP Assortment Planning planning framework content.
- ☐ Verify that data replication is running following the upgrade.
- ☐ Run the validation report.
- ☐ Verify that all SAP Assortment Planning OData services are active following the upgrade. For detailed information, see Verify that OData Services are Active [page 84].
- ☐ Verify that all the ICF services relevant to SAP Assortment Planning are active following the upgrade.
- ☐ Verify the definition of system aliases for back-end transactions.
- ☐ Troubleshoot front-end server upgrade.

6.3.1.2 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 68].

6.3.1.3 Adjust Customizing Settings

Customizing to maintain following an upgrade to SAP Assortment Planning 4.0 FPS02.

Context

Following the upgrade, you need to make settings in Customizing to be able to use SAP Assortment Planning 4.0 FPS02.

Procedure

1. Log on to your back-end system.
2. If you use the Retail SAP BW Structure and you don't want to use planning configuration, do the following:

a. Disable *Use Planning Configuration* and *Prompt in Manage Location Clusters* (using transaction SPRO) under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Basic Settings* > *Define Default Values*.

   You must disable this Customizing setting to continue using the Retail SAP BW Structure. For more information, see section *Reactivate Planning Framework Content (SAP Assortment Planning)*.

b. Disable 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*.

   You must disable the implementation of this BAdI to continue using the Retail SAP BW Structure. For more information, see section *Reactivate Planning Framework Content (SAP Assortment Planning)*.

If you use the Omnichannel SAP BW structure, make sure that *Use Planning Configuration* is enabled.

3. Maintain the monthly fiscal year variant (using transaction SPRO) under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Basic Settings* > *Define Default Values* > *Monthly FY Variant*. This is necessary to use the view *Sales & Inventory Analysis* in the *My Assortment Lists* app.

   For more information, see Fiscal Year Variant.

4. Define the business week (using transaction SPRO) under *Cross-Application Components* > *Demand Data Foundation* > *Basic Settings* > *Define Business Week*.
5. Maintain number ranges for planning configurations under *Cross-Application Components* > *Assortment Planning* > *Number Ranges* > *Maintain Number Range for Planning Configuration*.
6. Maintain number ranges for parameter configurations under *Cross-Application Components* > *Assortment Planning* > *Number Ranges* > *Maintain Number Range for Parameter Configuration*.
7. Make sure that the settings in Customizing activity *Assortment List Settings* fit to your planning process.

   The *Assortment List Settings* activity is available in Customizing under *Cross-Application Components* > *Assortment Planning* > *Assortment Lists*.

8. If you want to allow users access to the *Analyze Forecast* app via links from the *My Assortment Lists* app, enable the *Create* option to generate a location hierarchy out of every location cluster set **activated** in SAP Assortment Planning. This option is available in the *Location Clustering Settings* Customizing activity under *Cross-Application Components* > *Assortment Planning for Retail* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Location Clustering Settings*.

   If the *Create* option is not visible, choose *New Entries*.

9. 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)*.
10. Verify default implementation of *BAdI: Determine Product Season Classification* and, if necessary, provide a custom implementation.

    The BAdI, *BAdI: Determine Product Season Classification* is available under *Cross-Application Components* > *Assortment Planning* > *Enhancements Using Business Add-Ins*.

6.3.1.4 Verify Fiscal Calendar

Time data to verify following an upgrade to SAP Assortment Planning 4.0 FPS02.

Context

> **i** Note
>
> Generate time data (fiscal calendar) since this is required for using the *Sales & Inventory Analysis* view in the *My Assortment Lists* app. The fiscal calendar is also required to initialize the SAP Assortment Planning BW structure, as it allows for planning on fiscal periods.

Procedure

If required and not already done, ensure that the time data has been generated far enough into the past and future for SAP Assortment Planning 4.0 FPS02.

For more information, see the following:

- *Generate Time Data - Fiscal Calendar* section of the *Common Installation Guide*
- *Management* section of the *SAP Assortment Planning Administration Guide*

6.3.1.5 Reactivate Planning Framework Content (SAP Assortment Planning)

There are two distinct BW structures supported in SAP Assortment Planning:

Omnichannel SAP BW Structure

> **⚠** Caution
>
> New functionality will be only available for the Omnichannel SAP BW structure. Therefore, we recommend to use the Omnichannel SAP BW structure which provides an extensive feature set.
>
> - If you already use the Omnichannel SAP BW structure, reactivate it.
> - If you were using the previously existing Retail SAP BW structure, we recommend that you reactivate it during the upgrade. If later you would like to switch to the new Omnichannel SAP BW structure, please contact SAP for assistance with your upgrade project.

Make sure that you have enabled the optimized in-memory planning capabilities of the integrated planning engine in SAP Business Warehouse. For more information, see the *Common Installation Guide*, section *Enable Optimized In-Memory Planning Capabilities of SAP BW Integrated Planning*.

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.
- 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.

Retail SAP BW Structure

> ⚠ Caution
>
> If you were using the Retail SAP BW Structure in a previous release, we recommend that you reactivate this structure during the upgrade. The Retail SAP BW Structure will be supported with maintenance, however no new functionality will be developed for this structure. If later you would like to switch to the new Omnichannel SAP BW structure, please contact SAP for assistance with your upgrade project.

Prerequisite

To use the Retail SAP BW structure, the following prerequisites must be met:

- Disable the usage of planning configurations under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Basic Settings* > *Define Default Values*. You cannot use the Retail SAP BW structure with planning configurations.
- Disable 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*.

6.3.1.6 Upgrade from Omnichannel SAP BW Structure

If you already use the Omnichannel SAP BW structure, activate the local BI Content objects as described in subsection *Activate Application BI Content (Omnichannel SAP BW Structure)*.

6.3.1.6.1 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

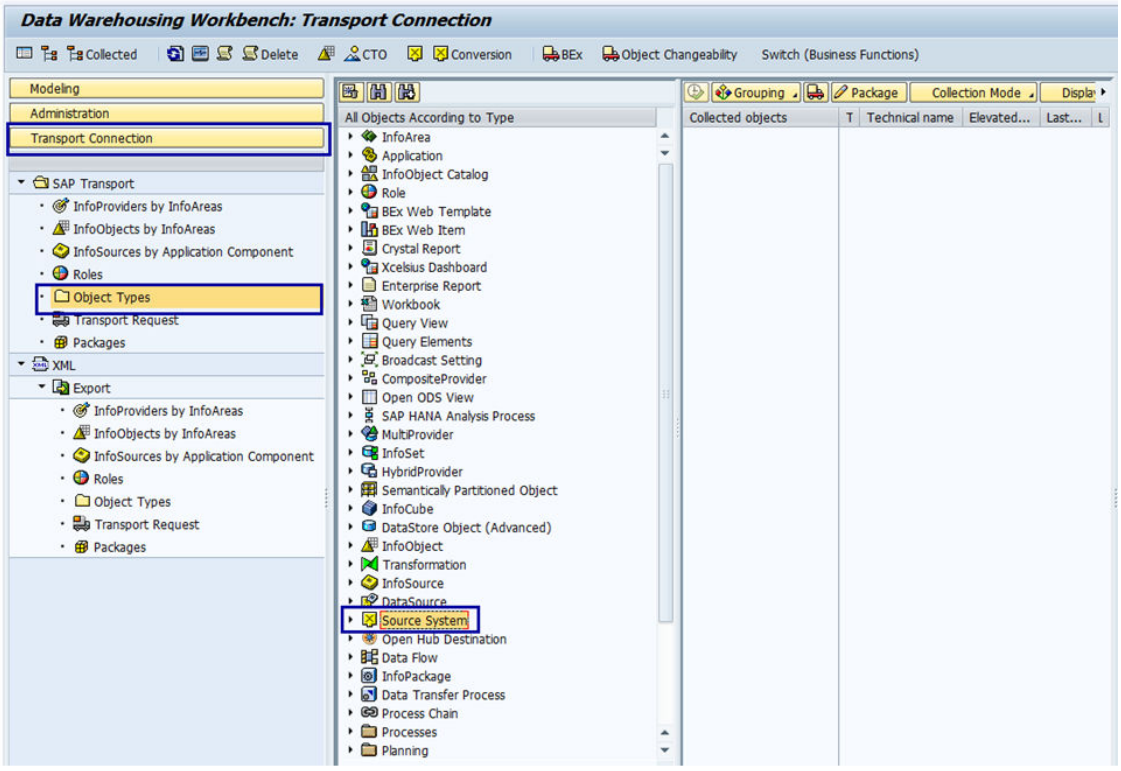
> **i** Note
>
> To ensure correct activation of the BI Content objects, carry out the activation sequentially, as specified in the following procedures. Resolve any activation warnings, except for the ones listed under Result [page 203], which can be ignored.
>
> Also, do not disable the default BI 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* .

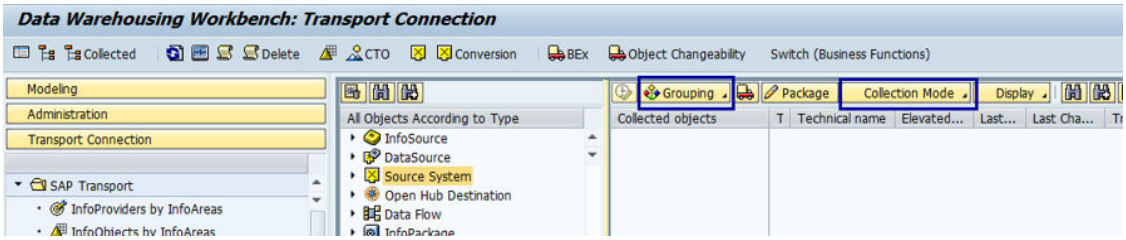
Procedure

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

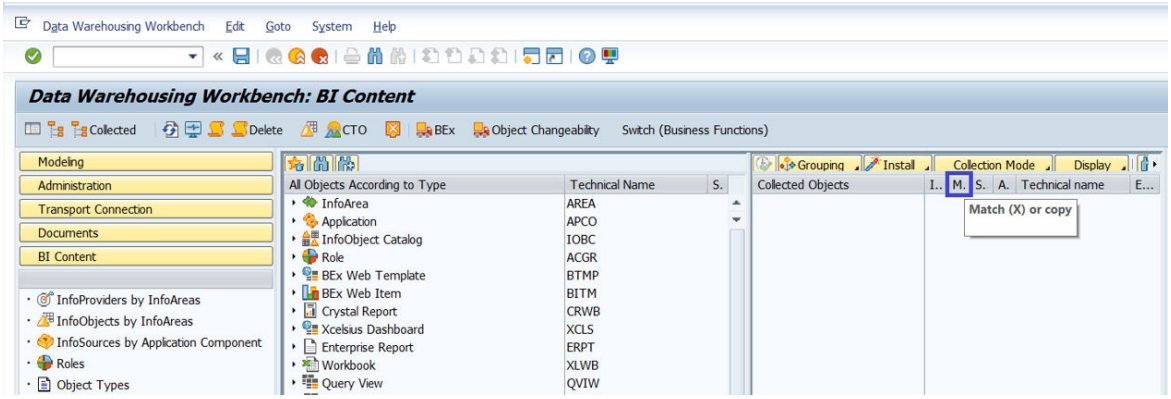
3. Determine if you need to enable to *Match (X) or copy* option for the BI Content, which you will activate in the subsequent steps.

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.



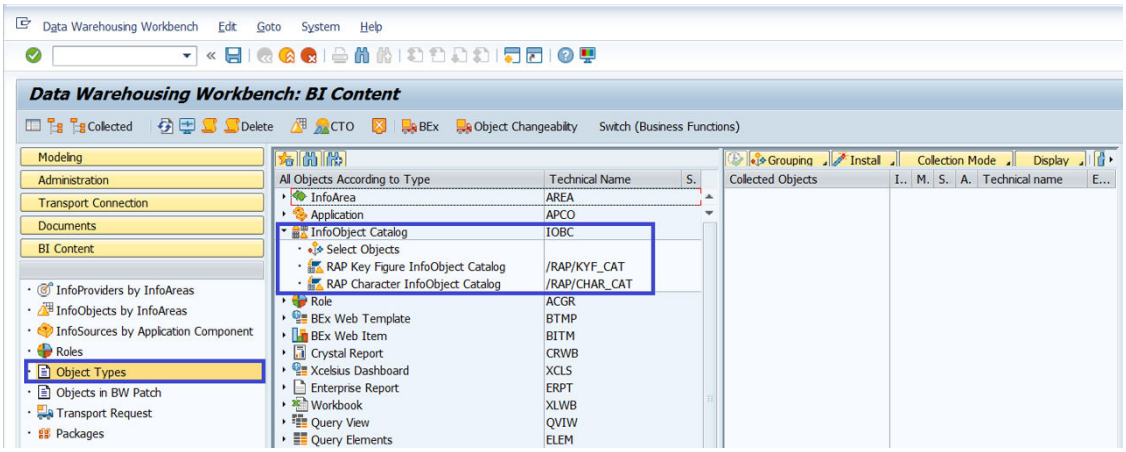
4. Activate InfoObject catalogs.

   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 203].

   1. Select *BI Content* in the left-hand frame.
   2. Select *Object Types* and expand *InfoObject Catalog*.

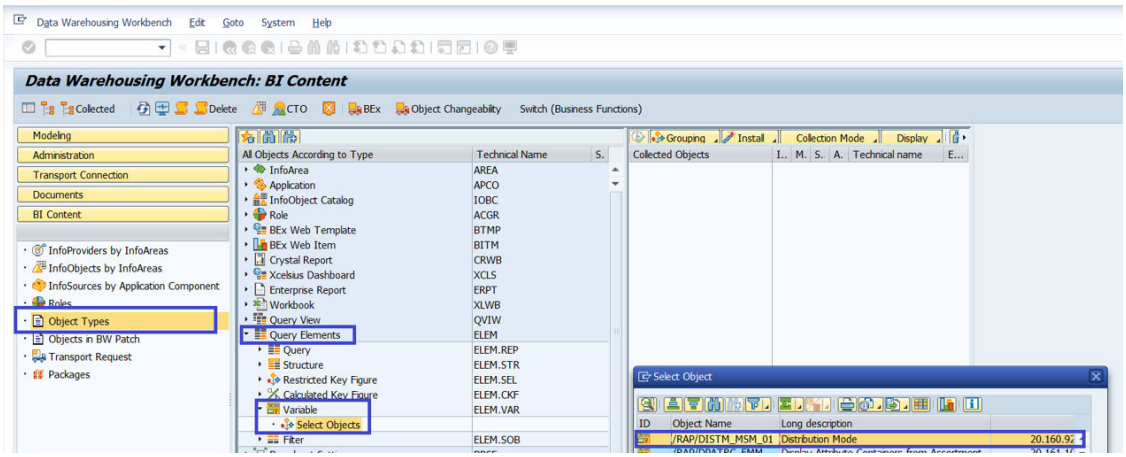


3. Use *Select Objects* to select the `/RAP/CHAR_CAT` and the `/RAP/KYF_CAT` catalogs.
4. Choose *Transfer Selections*.
5. In the right-hand frame, in the list of *Collected objects,* verify that both InfoObject catalogs are listed.
6. Right-click on each of the InfoObject catalogs, and choose *Install 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 203].

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 203].

   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.
   9. Remodel the following Advanced DataStore Objects if a corresponding message appears: `/RAP/DS40`, `/RAP/DS42`, `/RAP/DS54`, and `/RAP/DS55`.

> **i Note**
>
> Set all affected Advanced DataStore Objects to *Load Mode* before starting the remodeling process. After the remodeling process, make sure that all new Advanced DataStore Objects are set to *Planning Mode*.

> **→ Tip**
>
> To set an Advanced DataStore Object to Load Mode:
>
> 1. Select *Modeling* in the left-hand frame.
> 2. Select *InfoProvider* in the left-hand frame.
> 3. Right-click the Advanced DataStore Object that you want to set to *Load Mode*.
> 4. Choose *Planning-Specific Properties* > *Change Real-Time Load Behavior*.
> 5. Choose *Real-Time Data Target Can Be Loaded With Data; Planning Not Allowed* and confirm.

> **→ Tip**
>
> To remodel an Advanced DataStore Object:
>
> 1. Select *Modeling* in the left-hand frame.
> 2. Select *InfoProvider* in the left-hand frame.
> 3. Right-click the Advanced DataStore Object that you want to remodel.
> 4. Choose *Additional Functions* > *Remodeling Monitor*.
> 5. Select a remodeling rule.
> 6. Choose *Start Request*. The *Start Time* window opens.
> 7. In the *Start Time* window, select a start time for the remodeling request and confirm.

8. Activate CompositeProviders.

> **→ Remember**
>
> You can ignore activation warnings listed under Result [page 203].

   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 203].

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 203].

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

Planning Sequences
/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 203].

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>

6.3.1.7 Upgrade from Retail SAP BW Structure

If you were using the previously existing Retail SAP BW structure, activate the local BI Content objects and ensure that the previously generated time data (Gregorian calendar) is sufficient. For detailed information see the subsections *Activate Application BI Content (Retail SAP BW Structure)* and *Verify Gregorian Calendar*.

6.3.1.7.1 Activate Application BI Content (Retail SAP BW Structure)

Context

In this procedure, you perform a sequential, step-by-step activation of the local BI Content objects delivered in the **Retail 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.

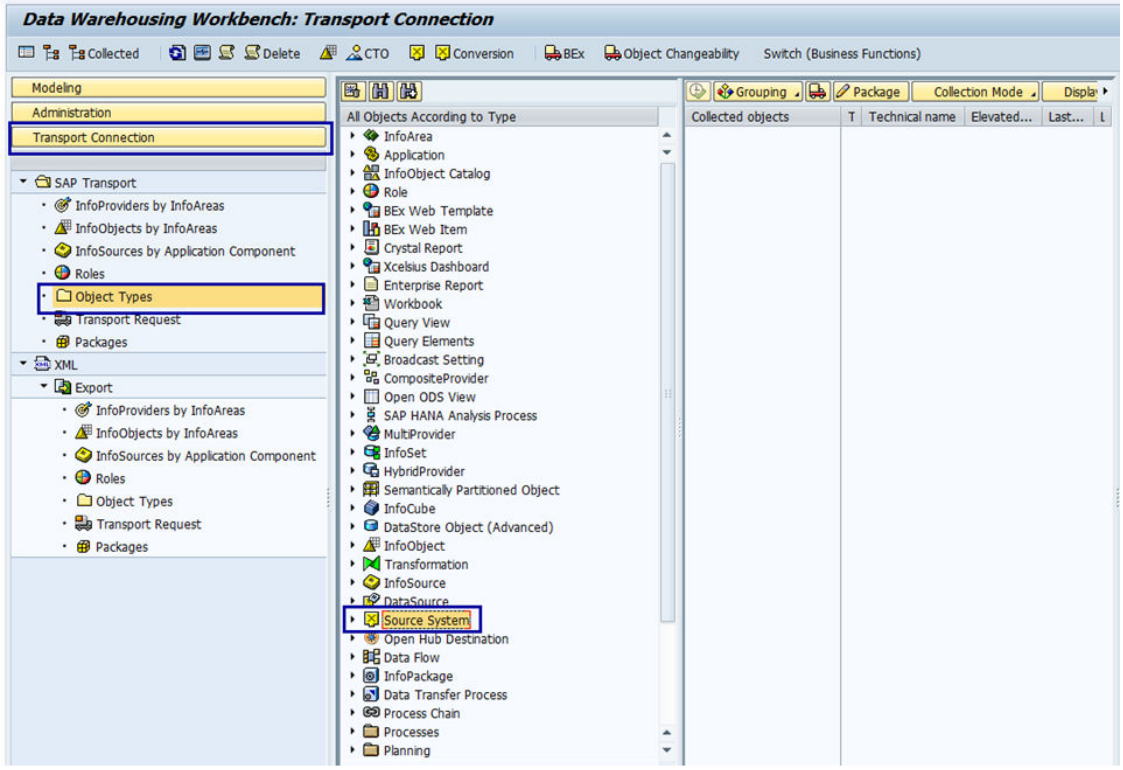
> ⚠ Caution
>
> As of SAP Assortment Planning 2.0 FP2, a new (Omnichannel) SAP BW Structure has been introduced. Please contact SAP for assistance with your upgrade project.

> ℹ Note
>
> To ensure correct activation of the local BI Content objects, carry out the activation sequentially, as specified in the following procedures. Resolve any activation warnings, except for the ones listed under Activation Warnings [page 211], which can be ignored.
>
> Also, the default BI setting to collect and activate all dependencies must not be disabled by the user. The instructions below activate a minimum subset of objects, and it assumed that all their dependencies will be 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 173241 and Customizing activity *Maintain permitted extra characters* under *SAP NetWeaver* > *Business Warehouse* > *General Settings*.

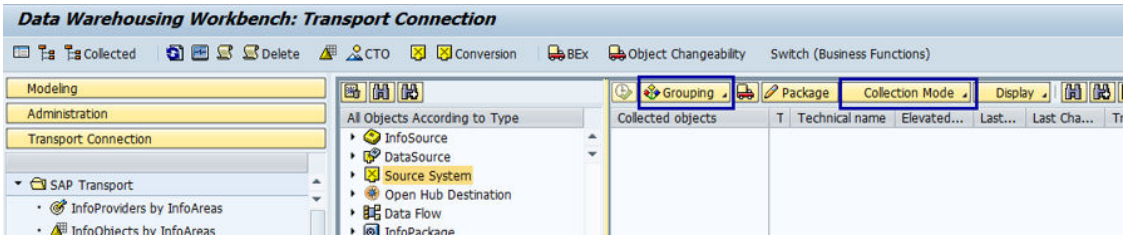
Procedure

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*.



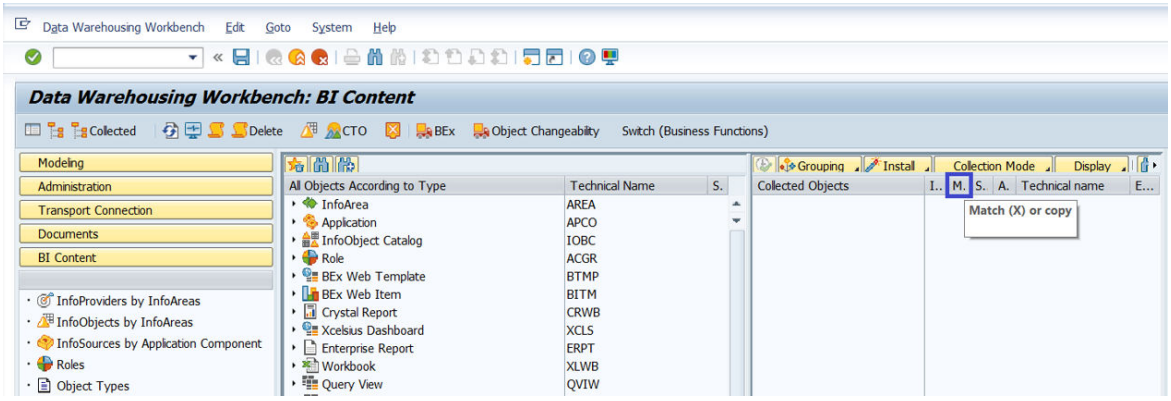
Grouping and Collection Settings

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.	
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.

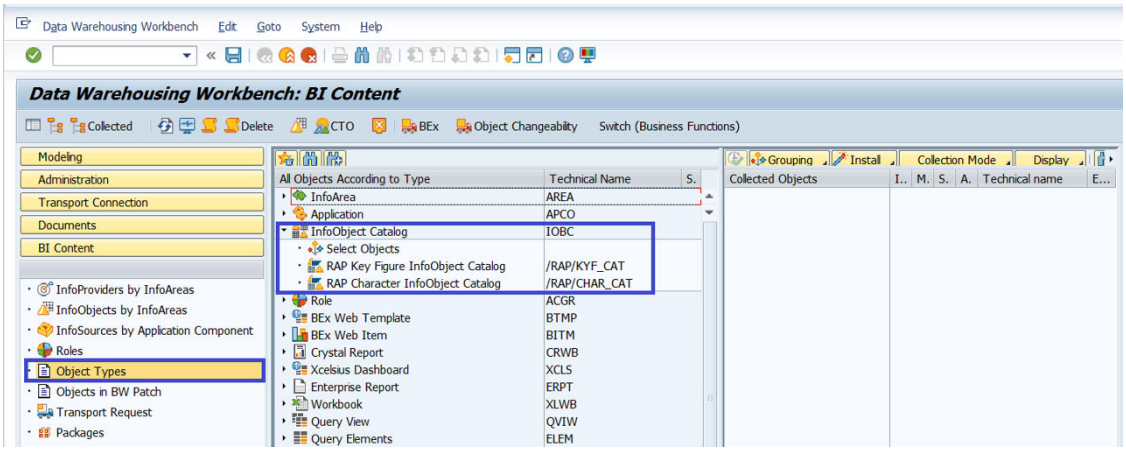


4. Activate InfoObject catalogs.
   If at any point during the installation of BI Content objects you are presented with a dialog asking you to add objects to a personal list, we recommend that you select **No**.

> **→ Remember**
>
> You can ignore activation warnings listed under Activation Warnings [page 211].

1. Select *BI Content* in the left-hand frame.

2. Select *Object Types* and expand *InfoObject Catalog*.

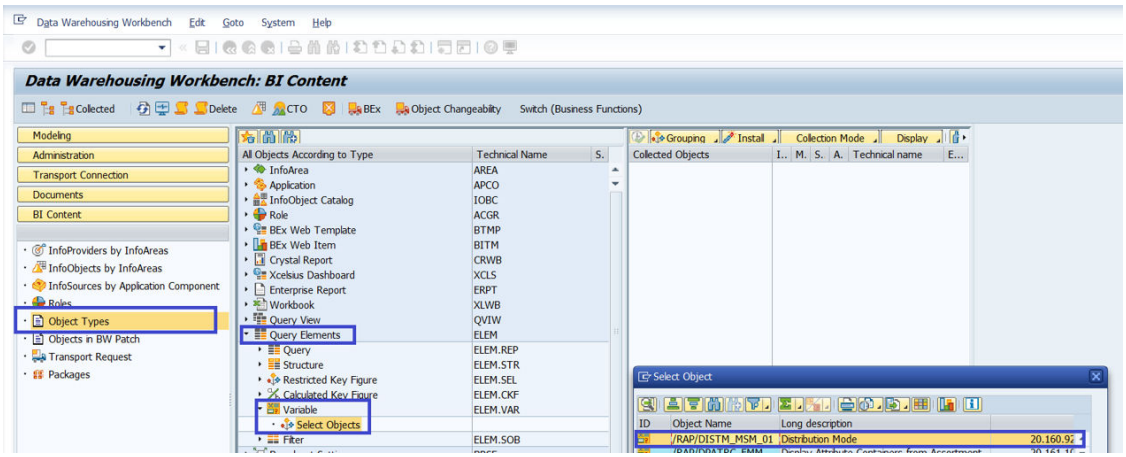


3. Use *Select Objects* to select the `/RAP/CHAR_CAT` and the `/RAP/KYF_CAT` catalogs.
4. Choose *Transfer Selections*.
5. In the right-hand frame, in the list of *Collected objects,* verify that both InfoObject catalogs are listed.
6. Right-click on each of the InfoObject catalogs, and choose *Install all Below*.
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 *Variable* `/RAP/DISTM_MSM_01`.

> **→ Remember**
>
> You can ignore activation warnings listed under Activation Warnings [page 211].

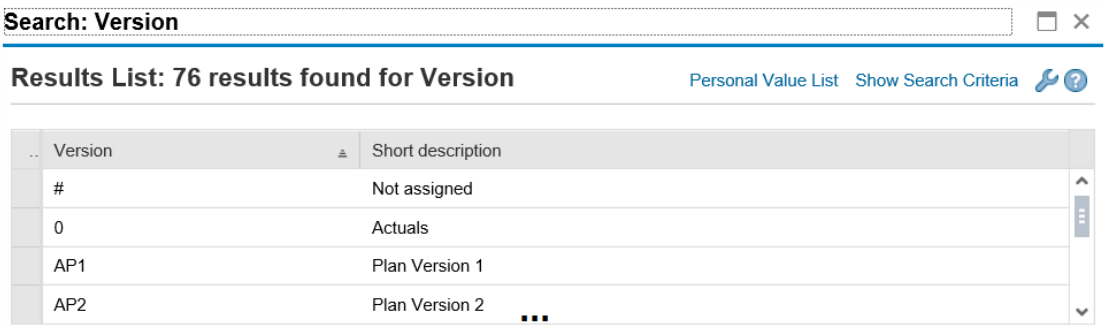
1. Select *BI Content* in the left-hand frame.
2. Select *Object Types* and expand *Query Elements*.
3. Use *Select Objects* to select the `/RAP/DISTM_MSM_01` Variable.



4. Choose *Transfer Selections*.
5. In the right-hand frame, in the list of *Collected objects,* verify that the `/RAP/DISTM_MSM_01` Variable is 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. Select *Modeling* in the left-hand frame.
    2. Expand *InfoObjects*.
    3. Search for InfoObject `/RAP/VERSN`, located under *Assortment Planning* > *RAP Character InfoObject Catalog*.
    4. 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
- An empty version value that you must maintain
000
AP1
AP2
APF
AW1
AW2
OP1
OP2
PRJ
REF



The supported planning versions are described in detail in the *Maintain Customizing Table /RAP/RS_VARCUST* section of the *Common Installation Guide*.

> **i Note**
>
> Save your changes and activate them.

7. Activate DataStore Objects.

> → Remember
>
> You can ignore activation warnings listed under Activation Warnings [page 211].

1. Select *BI Content* in the left-hand frame.
2. Select *Object Types* and expand *DataStore Object (Classic)*.
3. Use *Select Objects* to select all DataStore Objects starting with `/RAP/*`.
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.
   If during the installation, you are presented with a dialog asking you to add objects to a personal list, select **No**.

8. Activate InfoCubes.

> → Remember
>
> You can ignore activation warnings listed under Activation Warnings [page 211].

1. Select *BI Content* in the left-hand frame.
2. Select *Object Types* and expand *InfoCube*.
3. Use *Select Objects* to select all InfoCubes starting with `/RAP/RC*`.
4. Similarly, select InfoCubes `/RAP/VC20` and `/RAP/VC21`.
5. Choose *Transfer Selections*.
6. In the list of *Collected objects*, verify that the option in the *Install* column is enabled for each of the objects.
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.

9. Activate CompositeProviders.

> → Remember
>
> You can ignore activation warnings listed under Activation Warnings [page 211].

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/CP20` to `/RAP/CP37` (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 *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 Aggregation Levels.

> → Remember
>
> You can ignore activation warnings listed under Activation Warnings [page 211].

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 Levels:
   These should be active from the previous installation, if not, select them to be installed again:

   Aggregation Levels

Aggregation Level
/RAP/D20A01
/RAP/R20A02
/RAP/R20A06
/RAP/R20A08
/RAP/R20A11
/RAP/R20A12
/RAP/R20A15
/RAP/R20A17
/RAP/R23A01

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. Reactivate Planning Sequence Objects.

> → Remember
>
> You can ignore activation warnings listed under Activation Warnings [page 211].

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:
   These should be active from the previous installation, if not, select them to be installed again:

   Planning Sequences

Planning Sequence
/RAP/C21A01_PS01
/RAP/C25A03_PS01
/RAP/D23A01_PS01

Planning Sequence
/RAP/D24A01_PS01
/RAP/R20A08_PS01

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. Reactivate Workbooks.

> → Remember
>
> You can ignore activation warnings listed under Activation Warnings [page 211].

1. Select *BI Content* in the left-hand frame.
2. Select *Object Types* and expand *More Types* > *Analysis Office Excel Workbook*.
3. Use *Select Objects* to select the following workbooks:
   These should be active from the previous installation, if not, select them to be installed again:

   Workbooks

Workbook
/RAP/PLANASSORTMENT
/RAP/PLANOPTIONS

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.

13. Choose *Exit* to leave the transaction.

Activation Warnings

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>

6.3.1.7.2 Verify Gregorian Calendar

Ensure that the previously generated time data (Gregorian calendar) is sufficient for the current release of SAP Assortment Planning.

Context

Execute this procedure to generate time data (**Gregorian calendar**).

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 *Gregorian* as the *Calendar Type*.

   For example, SAP HANA views included in SAP HANA content for SAP Customer Activity Repository require the presence of time data in `_SYS_BI.TIME_DIMENSION*` SAP HANA database tables.
4. Enter a range of years that includes all the years of data that you plan to store in SAP Customer Activity Repository.

   Example: If you plan to start using SAP Assortment Planning on January 1, 2014, enter 2014 as your starting year. But if you plan to access sales documents created in SAP ERP that date from January 2013, you should specify 2013 as your starting year.
5. Define the granularity as *Day*, which is the minimum granularity required by SAP Customer Activity Repository. You can choose a finer level of granularity, for example *Hour*, if necessary.
6. Choose the day that is the first day of the week in your company.
7. Choose *Finish*.

   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 ▶ *<Version>* ▶ *Development* ▶ *SAP HANA Modeling Guide (for SAP HANA studio)* ▶ *Creating Information Views and Previewing its Output* ▶ *Generate Time Data* ▶

6.3.1.8 Verify that Data Replication is Running Following the Upgrade

Following the upgrade, ensure that all of the data replication described in the *Configure Data Replication* section of the *Common Installation Guide* is still running.

> ⚠ Caution
>
> The data you replicate in this step is consumed by the SAP Assortment Planning application through local BI Content. Only a subset of ASCII characters is considered valid by SAP BW. As a result, object identifiers, which are mapped to external IDs in DDF (for example, `EXT_LOC_ID` or `EXT_PROD_ID`), should only consist of valid characters.
>
> We recommend that you avoid the usage of invalid characters in the source master data system. This is controlled by the system administrator or the implementation team who define the value ranges and formatting for object identifiers (for example, product or location IDs).
>
> If the recommended approach is not possible, then in your SAP Assortment Planning back-end system, you need to allow for additional special characters in Customizing activity *Maintain permitted extra characters* under ▶ *SAP NetWeaver* ▶ *Business Warehouse* ▶ *General Settings* ▶. For more information, see 173241.

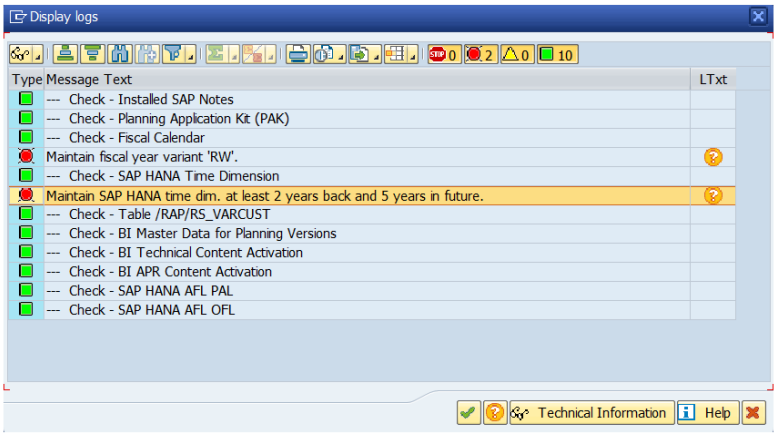
In particular, following the upgrade, you need to pay attention to the following:

- SAP Assortment Planning supports the use of time-dependent article hierarchies. This is enabled by implementing SAP Note 2196323 in the **connected SAP Retail or SAP S/4HANA system**. Following the implementation of these notes in SAP Retail or SAP S/4HANA, if your hierarchy is already a time-dependent hierarchy, you need to re-import the product hierarchies into SAP Assortment Planning using the `DRFOUT` framework.
  - SAP Retail Description: Article Hierarchy
  - DRFOUT Outbound Implementation: `PAHY`
  - DDF Inbound Interface: `/DMF/MDIF_PROD_HIER_INBOUND`
- All the tables listed in the spreadsheet of the *CARAB 2.0 - SLT Tables* archive for your version of SAP Customer Activity Repository applications bundle (SAP Assortment Planning) are being replicated. For more information, see the *Create/Replicate Source Master Data System Tables* section in the *Common Installation Guide*.
- Ensure that periodic tasks to load product attributes into SAP Assortment Planning are still running following the upgrade. (reports `/DMF/ATR_IMPORT` and `/DMF/PROD_ATR_IMPORT`)
- Ensure that season classification data is being loaded from the appropriate source. For more information, see the *Load Season Classification Data* section in the *SAP Assortment Planning Administration Guide*. You also need to set up the *Execute inbound SLT replication for season data* report (`/DMF/EXECUTE_SEASON_INBOUND` in transaction `SE38`) to run as a background job to regularly import any updates from SAP Fashion Management and SAP Retail to DDF.
- Ensure that wholesale data is being loaded. Set up the *Mapping report to convert sales orders into /DMF/TS_WS table* report (`/DMF/WHOLESALE_SO_SHP_TO_TS_WS` in transaction `SE38`) to run as a background

job to regularly import replicated sales order and shipment data into DDF. For more information, see the *Load Wholesale Data* section in the *SAP Assortment Planning Administration Guide*.

6.3.1.9 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 reactivate during the upgrade in a previous step, see section *Reactivate SAP Assortment Planning Planning Framework Content*.
   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.

6.3.1.10 Activate SAP Assortment Planning ICF Services

Use

Following an upgrade, you must ensure that all ICF services required for the SAP Assortment Planning SAP Fiori apps are activated.

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`

6.3.1.11 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.

Following an upgrade, you must ensure that all required RFC connections and system alias definitions remain set.

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 *Launchpad Customizing* (transaction `LPD_CUST`).
8. Select the SAP Assortment Planning role (`UIRAP001`), and choose *Display*.
   The two catalogs, *Assortment Planner* and *Planning Administrator*, are displayed.
9. In each of the catalogs, selecting one app at a time, make the following settings:

Catalog	App	System Alias	Description
Assortment Planner	*View Log*	`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.
	View ExtAssort Listing Conditions	`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.
	View External Assortments	`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.

Catalog	App	System Alias	Description
Planning Administrator	*Manage Category responsibilities*	SAP_ISR_CARAB	This setting allows the *Manage Category Responsibilities* app to launch the corresponding DDF WebDynpro application.
	Manage Market responsibilities	SAP_ISR_CARAB	This setting allows the *Manage Market Responsibilities* app to launch the corresponding DDF WebDynpro application.
	Manage Products	SAP_ISR_CARAB	This setting allows the *Manage Products* app to launch the corresponding DDF WebDynpro application.
	Manage Locations	SAP_ISR_CARAB	This setting allows the *Manage Locations* app to launch the corresponding DDF WebDynpro application.

6.3.1.12 Troubleshoot Front-End Server Upgrade

Use

Following the upgrade of the product version on the front-end server, you may not be able to see some of the SAP Assortment Planning SAP Fiori tiles in your launchpad. This section outlines how to troubleshoot these issues, should you experience them.

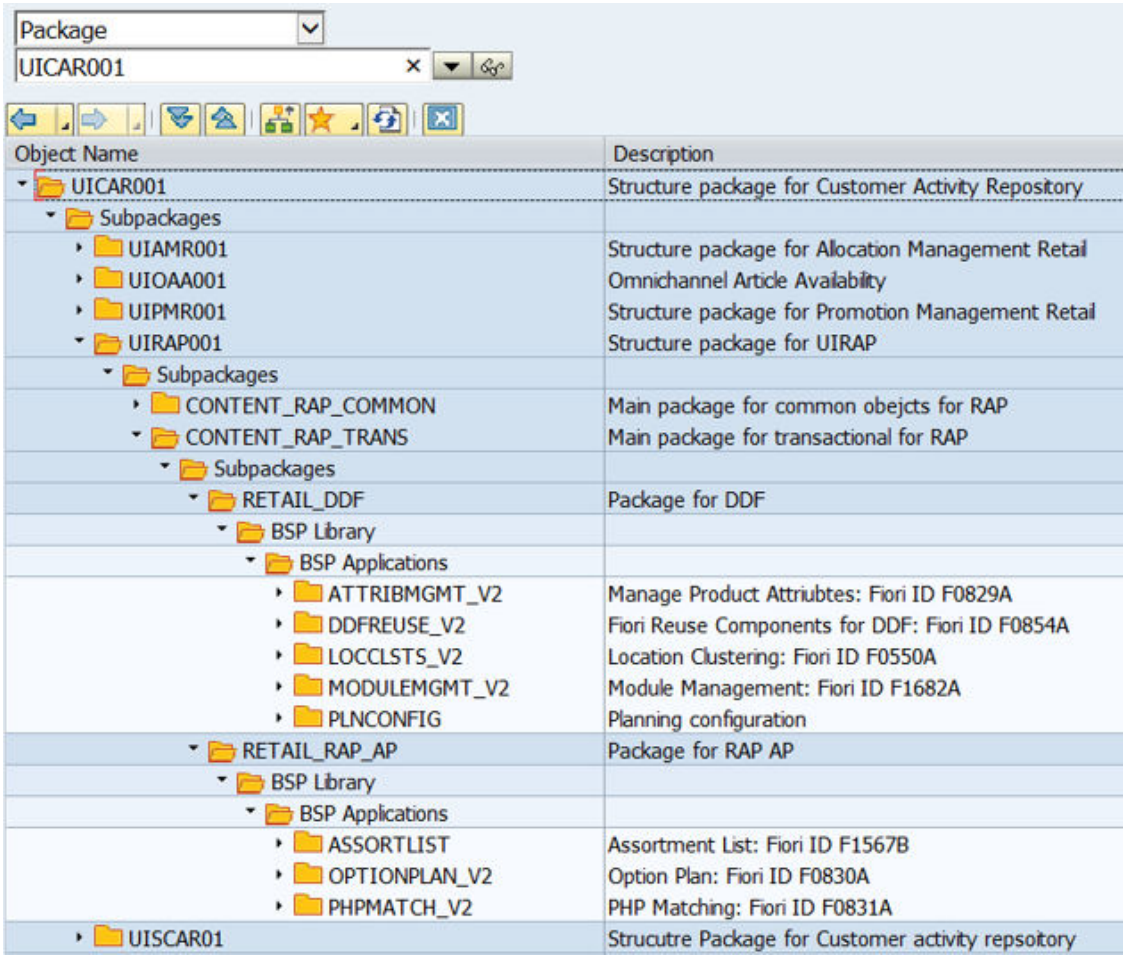
These steps are also listed in the *Troubleshooting* section of the *SAP Assortment Planning Administrator's Guide* available on the SAP Help Portal at http://help.sap.com/viewer/p/CARAB > *<Your Version>* > *Administration* > *SAP Assortment Planning Administration Guide* >.

Process

Do the following:

1. Check that all of the required BSP applications are listed in the UIRAP001 package.
    1. Log on to your front-end system (your SAP Gateway system).
    2. Launch the *Object Navigator* (transaction SE80).
    3. In the *Repository Browser*, open package UIRAP001.
    4. Expand all of the embedded packages of embedded package CONTENT_RAP_TRANS.

5. Verify that the following *BSP Applications* are listed:



BSP Applications

6. If you do not see one or more of the BSP applications listed above, right-click on each of the `RETAIL_DDF` and `RETAIL_RAP_AP` packages, and select *Other Functions* > *Rebuild Object List*.

> ⚠ Caution
>
> Do not rebuild objects on a higher package level.

2. Clean the cache.
   1. Log on to your front-end system (your SAP Gateway system).
   2. In Customizing (transaction `SPRO`), navigate to *SAP NetWeaver* > *UI Technologies* > *SAP Fiori* > *Data Administration* > *Invalidate Caches*.
      This activity launches the `/UI2/INVALIDATE_GLOBAL_CACHES` report. This report invalidates all server-side caches in SAP NetWeaver user interface services, which can become out-of-date following an upgrade.
   3. If necessary, implement instructions listed in SAP Note 2147669.
3. Remove any previously customized versions of the `UIRAP001` launchpad.
   1. Log on to your front-end system (your SAP Gateway system).
   2. Launch the *Overview for Launchpads* (transaction `LPD_CUST`).

3. Search for *Role* `UIRAP001`, and see whether any instances exist where the *User Name* is not *SAP*. If so, this means that customized versions of the `UIRAP001` launchpad exist, and these take precedence over the standard launchpad instance delivered by SAP.
4. Delete all but the launchpad instance delivered by SAP.

4. Recalculate SAPUI5 application index, following any changes to the content of the SAPUI5 ABAP repository (for example, installation of a new version of the SAPUI5 distribution layer or implementation of an SAP Note containing changes to an SAPUI5 app).
   For more information, see the *Configure Index Calculation* section in the *Common Installation Guide* and SAP Note 2227577.

6.3.2 2.0 SP6/SP7/SP8 to 4.0 FPS02

This section is intended for existing SAP Assortment Planning for Retail customers who have installed and configured SAP Assortment Planning for Retail 2.0 SP6, 2.0 SP7, or 2.0 SP8 and would like to upgrade to SAP Assortment Planning 4.0 FPS02.

6.3.2.1 Quick Guide

Upgrade to SAP Assortment Planning 4.0 FPS02.

Checklist

Prerequisites

Ensure that you have carried out all the steps listed in the previous sections of this guide.

Follow-Up Activities

Mandatory Steps

- ☐ Perform mandatory core steps for SAP Customer Activity Repository. See Core (Mandatory for All Applications) [page 68].
- ☐ Verify SAP HANA and back-end system roles. See *Verify Users, Privileges, and Roles*.
- ☐ Adjust Customizing settings.
- ☐ Reactivate SAP Assortment Planning planning framework content.
- ☐ Verify that data replication is running following the upgrade.
- ☐ Run the validation report.
- ☐ Run the SAP Assortment Planning 4.0 update report.
- ☐ If you want to purge assortment lists using the `/DMF/PURGE_AGENT` report, you must execute the `/DMF/WUF_MIGRATE_ASRTLIST` report **once** using transaction `SE38`.
  For detailed information, read the system documentation associated with the report.

- ☐ Verify that all SAP Assortment Planning OData services are active following the upgrade. For detailed information, see Verify that OData Services are Active [page 84].
- ☐ Verify that all the ICF services relevant to SAP Assortment Planning are active following the upgrade.
- ☐ Verify the definition of system aliases for back-end transactions.
- ☐ Troubleshoot front-end server upgrade.

6.3.2.2 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 68].

6.3.2.3 Adjust Customizing Settings

Customizing to maintain following an upgrade to SAP Assortment Planning 4.0 FPS02.

Context

Following the upgrade, you need to make settings in Customizing to be able to use SAP Assortment Planning 4.0 FPS02.

Procedure

1. Log on to your back-end system.
2. If you use the Retail SAP BW Structure and you don't want to use planning configuration, do the following:
   a. Disable *Use Planning Configuration* and *Prompt in Manage Location Clusters* (using transaction `SPRO`) under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Basic Settings* > *Define Default Values*.

      You must disable this Customizing setting to continue using the Retail SAP BW Structure. For more information, see section *Reactivate Planning Framework Content (SAP Assortment Planning)*.

b. Disable 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*.

   You must disable the implementation of this BAdI to continue using the Retail SAP BW Structure. For more information, see section *Reactivate Planning Framework Content (SAP Assortment Planning)*.

If you use the Omnichannel SAP BW structure, make sure that *Use Planning Configuration* is enabled.

3. Maintain the monthly fiscal year variant (using transaction `SPRO`) under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Basic Settings* > *Define Default Values* > *Monthly FY Variant*. This is necessary to use the view *Sales & Inventory Analysis* in the *My Assortment Lists* app.

   For more information, see Fiscal Year Variant.

4. Define the business week (using transaction `SPRO`) under *Cross-Application Components* > *Demand Data Foundation* > *Basic Settings* > *Define Business Week*.
5. Maintain number ranges for planning configurations under *Cross-Application Components* > *Assortment Planning* > *Number Ranges* > *Maintain Number Range for Planning Configuration*.
6. Maintain number ranges for parameter configurations under *Cross-Application Components* > *Assortment Planning* > *Number Ranges* > *Maintain Number Range for Parameter Configuration*.
7. Make sure that the settings in Customizing activity *Assortment List Settings* fit to your planning process.

   The *Assortment List Settings* activity is available in Customizing under *Cross-Application Components* > *Assortment Planning* > *Assortment Lists*.
8. If you want to allow users access to the *Analyze Forecast* app via links from the *My Assortment Lists* app, enable the *Create* option to generate a location hierarchy out of every location cluster set **activated** in SAP Assortment Planning. This option is available in the *Location Clustering Settings* Customizing activity under *Cross-Application Components* > *Assortment Planning for Retail* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Location Clustering Settings*.

   If the *Create* option is not visible, choose *New Entries*.
9. 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)*.
10. Verify default implementation of *BAdI: Determine Product Season Classification* and, if necessary, provide a custom implementation.

    The BAdI, *BAdI: Determine Product Season Classification* is available under *Cross-Application Components* > *Assortment Planning* > *Enhancements Using Business Add-Ins*.

6.3.2.4 Verify Fiscal Calendar

Time data to verify following an upgrade to SAP Assortment Planning 4.0 FPS02.

Context

> **i** Note
>
> Generate time data (fiscal calendar) since this is required for using the *Sales & Inventory Analysis* view in the *My Assortment Lists* app. The fiscal calendar is also required to initialize the SAP Assortment Planning BW structure, as it allows for planning on fiscal periods.

Procedure

If required and not already done, ensure that the time data has been generated far enough into the past and future for SAP Assortment Planning 4.0 FPS02.

For more information, see the following:

- *Generate Time Data - Fiscal Calendar* section of the *Common Installation Guide*
- *Management* section of the *SAP Assortment Planning Administration Guide*

6.3.2.5 Reactivate Planning Framework Content (SAP Assortment Planning)

There are two distinct BW structures supported in SAP Assortment Planning:

Omnichannel SAP BW Structure

> **⚠** Caution
>
> New functionality will be only available for the Omnichannel SAP BW structure. Therefore, we recommend to use the Omnichannel SAP BW structure which provides an extensive feature set.
>
> - If you already use the Omnichannel SAP BW structure, reactivate it.
> - If you were using the previously existing Retail SAP BW structure, we recommend that you reactivate it during the upgrade. If later you would like to switch to the new Omnichannel SAP BW structure, please contact SAP for assistance with your upgrade project.

Make sure that you have enabled the optimized in-memory planning capabilities of the integrated planning engine in SAP Business Warehouse. For more information, see the *Common Installation Guide*, section *Enable Optimized In-Memory Planning Capabilities of SAP BW Integrated Planning*.

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.
- 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.

Retail SAP BW Structure

> ⚠ Caution
>
> If you were using the Retail SAP BW Structure in a previous release, we recommend that you reactivate this structure during the upgrade. The Retail SAP BW Structure will be supported with maintenance, however no new functionality will be developed for this structure. If later you would like to switch to the new Omnichannel SAP BW structure, please contact SAP for assistance with your upgrade project.

Prerequisite

To use the Retail SAP BW structure, the following prerequisites must be met:

- Disable the usage of planning configurations under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Basic Settings* > *Define Default Values*. You cannot use the Retail SAP BW structure with planning configurations.
- Disable 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*.

6.3.2.6 Upgrade from Omnichannel SAP BW Structure

If you already use the Omnichannel SAP BW structure, activate the local BI Content objects as described in subsection *Activate Application BI Content (Omnichannel SAP BW Structure)*.

6.3.2.6.1 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

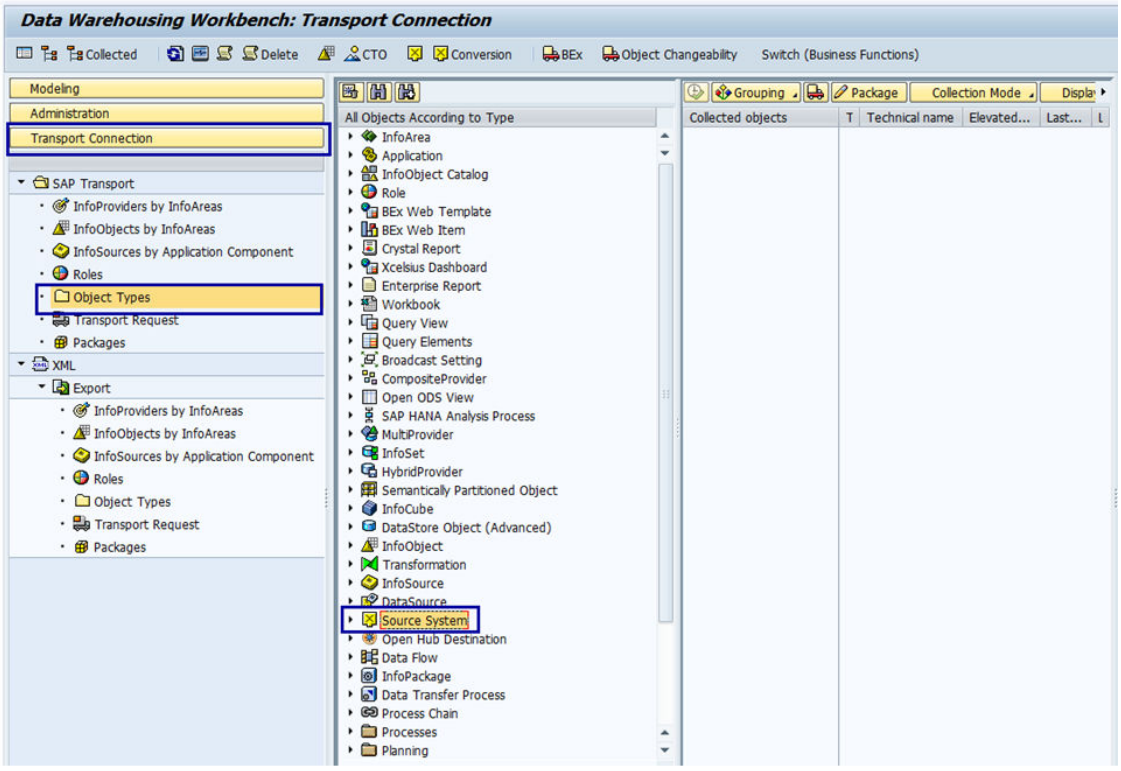
> **i** Note
>
> To ensure correct activation of the BI Content objects, carry out the activation sequentially, as specified in the following procedures. Resolve any activation warnings, except for the ones listed under Result [page 231], which can be ignored.
>
> Also, do not disable the default BI 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* .

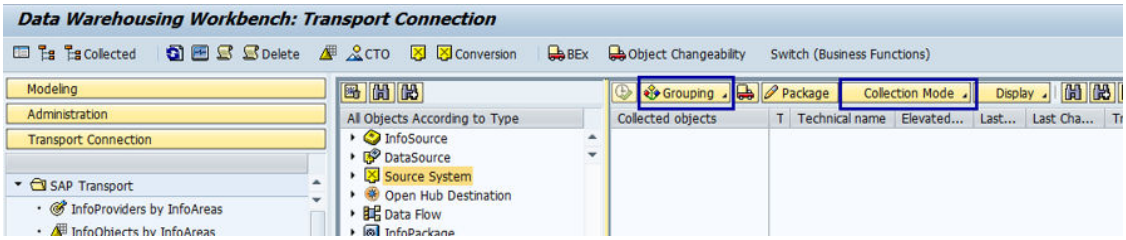
Procedure

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

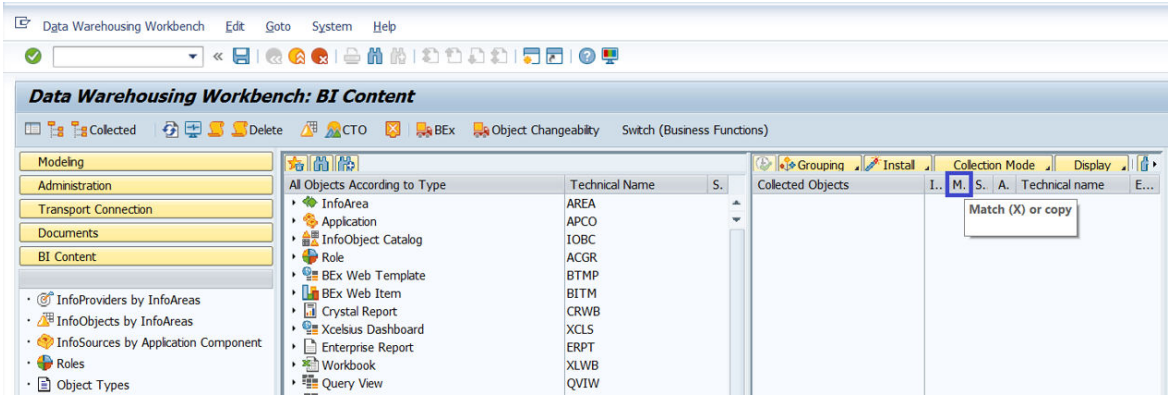
3. Determine if you need to enable to *Match (X) or copy* option for the BI Content, which you will activate in the subsequent steps.

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.



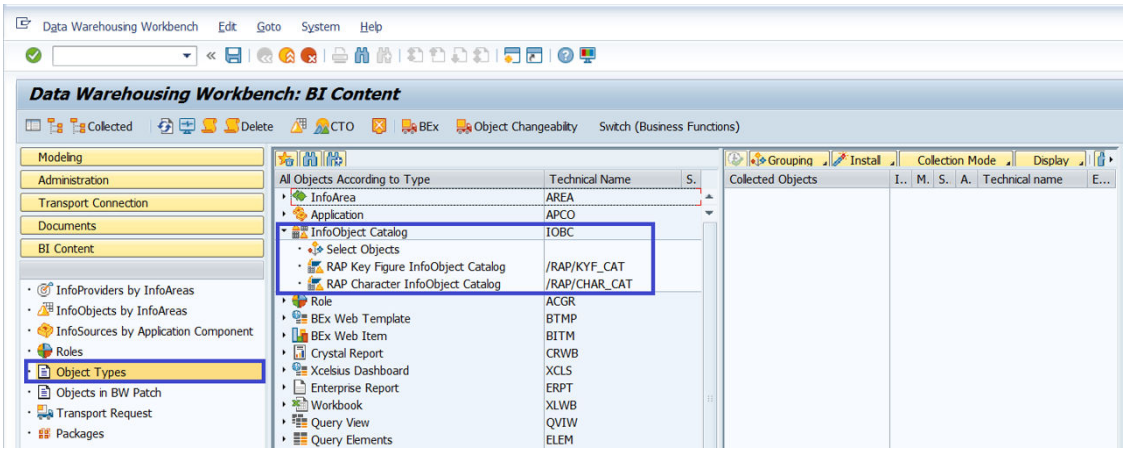
4. Activate InfoObject catalogs.

   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 231].

   1. Select *BI Content* in the left-hand frame.
   2. Select *Object Types* and expand *InfoObject Catalog*.

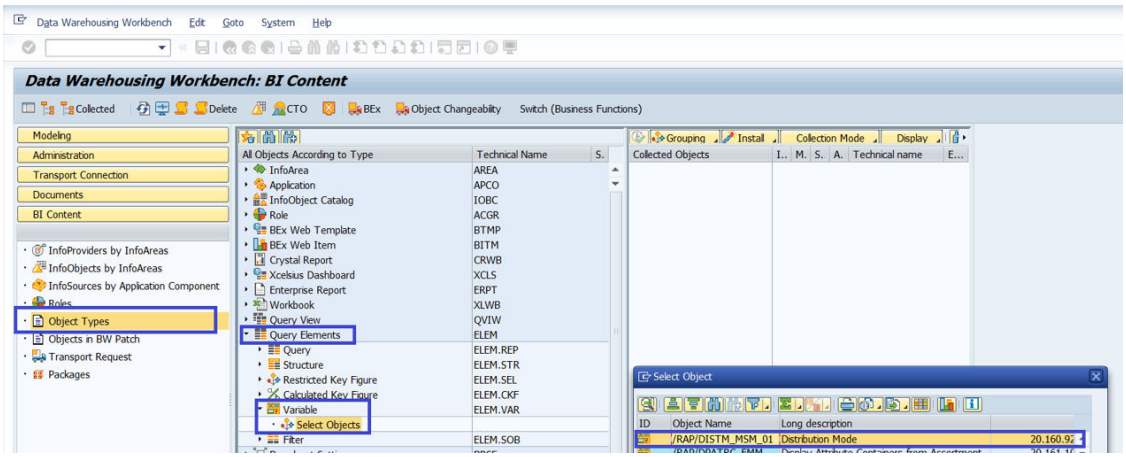


3. Use *Select Objects* to select the `/RAP/CHAR_CAT` and the `/RAP/KYF_CAT` catalogs.
4. Choose *Transfer Selections*.
5. In the right-hand frame, in the list of *Collected objects,* verify that both InfoObject catalogs are listed.
6. Right-click on each of the InfoObject catalogs, and choose *Install 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 231].

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 231].

   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.
   9. Remodel the following Advanced DataStore Objects if a corresponding message appears: `/RAP/DS40`, `/RAP/DS42`, `/RAP/DS54`, and `/RAP/DS55`.

> **i Note**
>
> Set all affected Advanced DataStore Objects to *Load Mode* before starting the remodeling process. After the remodeling process, make sure that all new Advanced DataStore Objects are set to *Planning Mode*.

> **→ Tip**
>
> To set an Advanced DataStore Object to Load Mode:
>
> 1. Select *Modeling* in the left-hand frame.
> 2. Select *InfoProvider* in the left-hand frame.
> 3. Right-click the Advanced DataStore Object that you want to set to *Load Mode*.
> 4. Choose *Planning-Specific Properties* > *Change Real-Time Load Behavior*.
> 5. Choose *Real-Time Data Target Can Be Loaded With Data; Planning Not Allowed* and confirm.

> **→ Tip**
>
> To remodel an Advanced DataStore Object:
>
> 1. Select *Modeling* in the left-hand frame.
> 2. Select *InfoProvider* in the left-hand frame.
> 3. Right-click the Advanced DataStore Object that you want to remodel.
> 4. Choose *Additional Functions* > *Remodeling Monitor*.
> 5. Select a remodeling rule.
> 6. Choose *Start Request*. The *Start Time* window opens.
> 7. In the *Start Time* window, select a start time for the remodeling request and confirm.

8. Activate CompositeProviders.

   > **→ Remember**
   >
   > You can ignore activation warnings listed under Result [page 231].

   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 231].

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 231].

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

Planning Sequences
/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 231].

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>

6.3.2.7 Upgrade from Retail SAP BW Structure

If you were using the previously existing Retail SAP BW structure, activate the local BI Content objects and ensure that the previously generated time data (Gregorian calendar) is sufficient. For detailed information see the subsections *Activate Application BI Content (Retail SAP BW Structure)* and *Verify Gregorian Calendar*.

6.3.2.7.1 Activate Application BI Content (Retail SAP BW Structure)

Context

In this procedure, you perform a sequential, step-by-step activation of the local BI Content objects delivered in the **Retail 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.

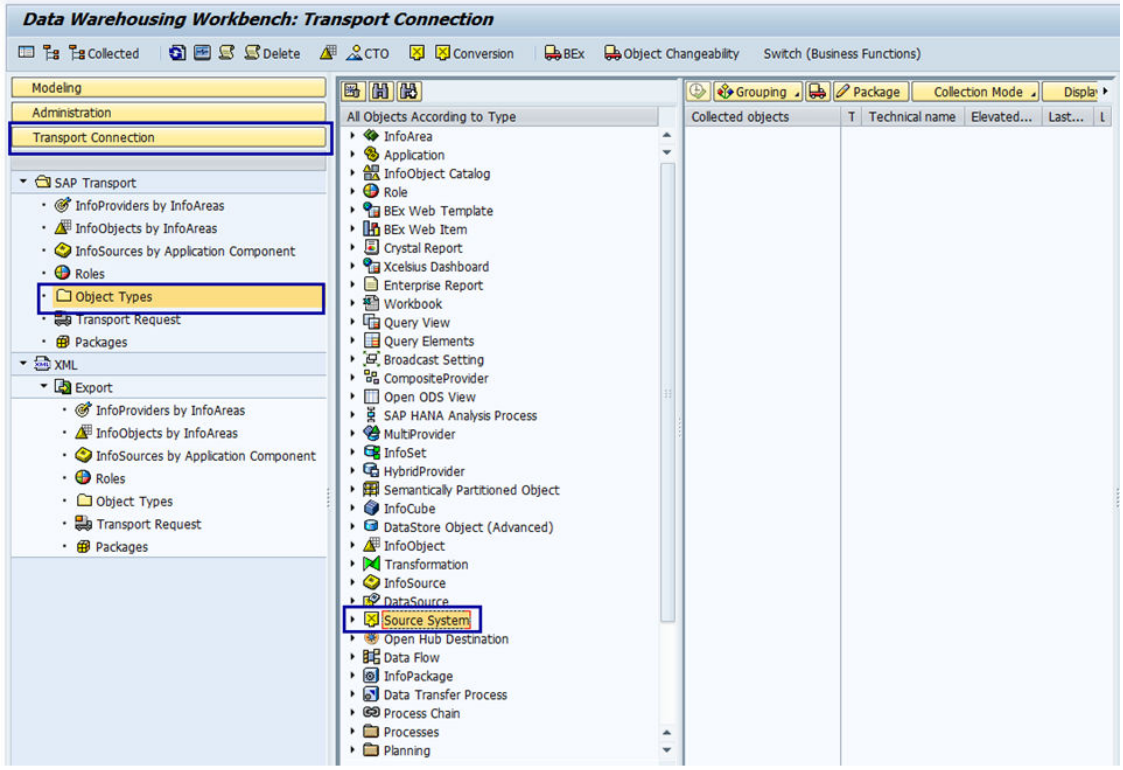
> ⚠ Caution
>
> As of SAP Assortment Planning 2.0 FP2, a new (Omnichannel) SAP BW Structure has been introduced. Please contact SAP for assistance with your upgrade project.

> ℹ Note
>
> To ensure correct activation of the local BI Content objects, carry out the activation sequentially, as specified in the following procedures. Resolve any activation warnings, except for the ones listed under Activation Warnings [page 239], which can be ignored.
>
> Also, the default BI setting to collect and activate all dependencies must not be disabled by the user. The instructions below activate a minimum subset of objects, and it assumed that all their dependencies will be 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 173241 and Customizing activity *Maintain permitted extra characters* under *SAP NetWeaver* > *Business Warehouse* > *General Settings*.

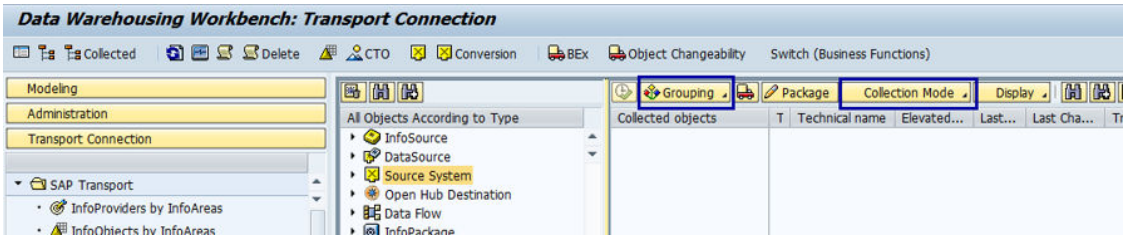
Procedure

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*.



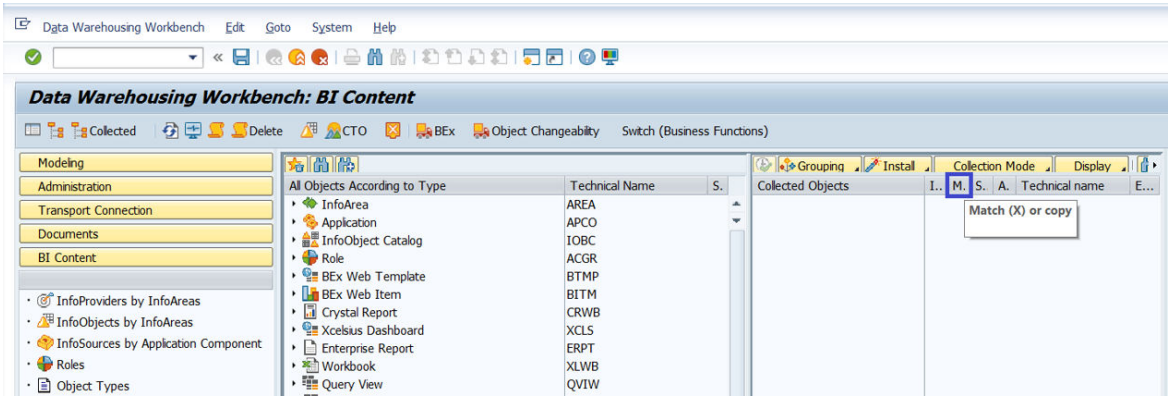
Grouping and Collection Settings

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.	
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.



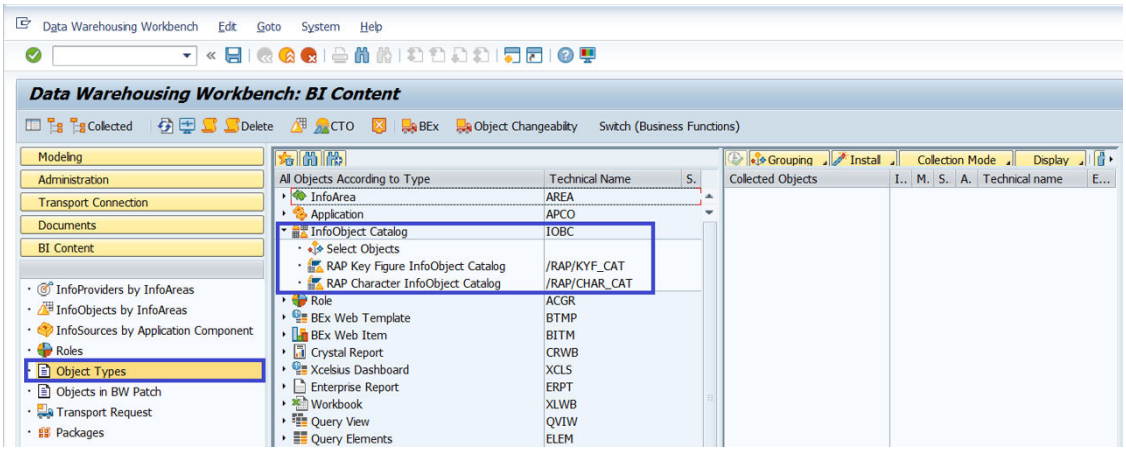
4. Activate InfoObject catalogs.
If at any point during the installation of BI Content objects you are presented with a dialog asking you to add objects to a personal list, we recommend that you select **No**.

→ Remember

You can ignore activation warnings listed under Activation Warnings [page 239].

1. Select *BI Content* in the left-hand frame.

2. Select *Object Types* and expand *InfoObject Catalog*.

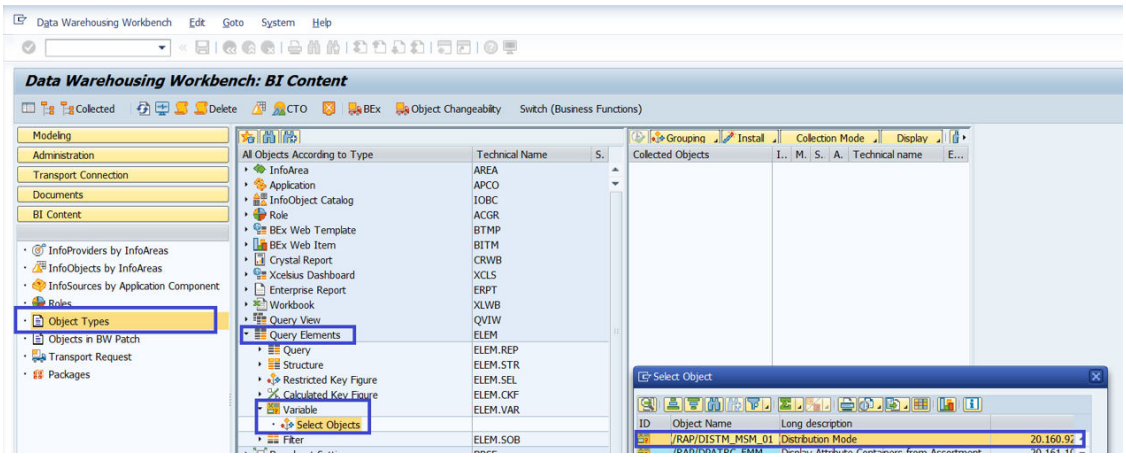


3. Use *Select Objects* to select the `/RAP/CHAR_CAT` and the `/RAP/KYF_CAT` catalogs.
4. Choose *Transfer Selections*.
5. In the right-hand frame, in the list of *Collected objects,* verify that both InfoObject catalogs are listed.
6. Right-click on each of the InfoObject catalogs, and choose *Install all Below*.
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 *Variable* `/RAP/DISTM_MSM_01`.

> **→ Remember**
>
> You can ignore activation warnings listed under Activation Warnings [page 239].

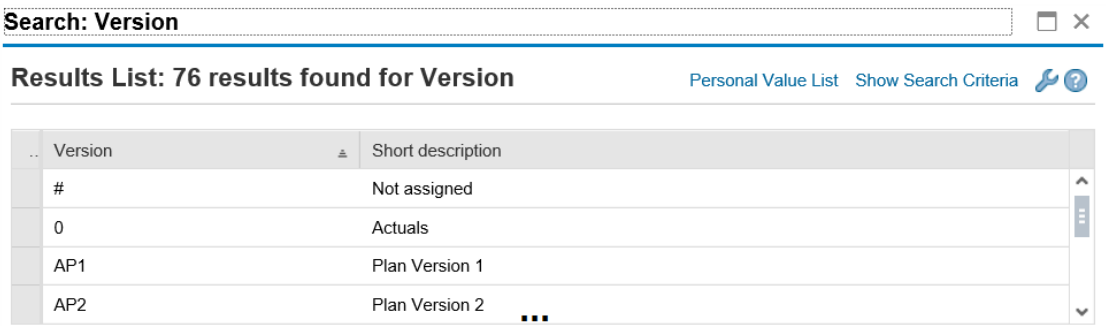
1. Select *BI Content* in the left-hand frame.
2. Select *Object Types* and expand *Query Elements*.
3. Use *Select Objects* to select the `/RAP/DISTM_MSM_01` Variable.



4. Choose *Transfer Selections*.
5. In the right-hand frame, in the list of *Collected objects,* verify that the `/RAP/DISTM_MSM_01` Variable is 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. Select *Modeling* in the left-hand frame.
    2. Expand *InfoObjects*.
    3. Search for InfoObject `/RAP/VERSN`, located under *Assortment Planning* > *RAP Character InfoObject Catalog*.
    4. 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
- An empty version value that you must maintain
000
AP1
AP2
APF
AW1
AW2
OP1
OP2
PRJ
REF



The supported planning versions are described in detail in the *Maintain Customizing Table /RAP/RS_VARCUST* section of the *Common Installation Guide*.

> **i Note**
>
> Save your changes and activate them.

7. Activate DataStore Objects.

> → Remember
>
> You can ignore activation warnings listed under Activation Warnings [page 239].

1. Select *BI Content* in the left-hand frame.
2. Select *Object Types* and expand *DataStore Object (Classic)*.
3. Use *Select Objects* to select all DataStore Objects starting with `/RAP/*`.
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.
   If during the installation, you are presented with a dialog asking you to add objects to a personal list, select **No**.

8. Activate InfoCubes.

> → Remember
>
> You can ignore activation warnings listed under Activation Warnings [page 239].

1. Select *BI Content* in the left-hand frame.
2. Select *Object Types* and expand *InfoCube*.
3. Use *Select Objects* to select all InfoCubes starting with `/RAP/RC*`.
4. Similarly, select InfoCubes `/RAP/VC20` and `/RAP/VC21`.
5. Choose *Transfer Selections*.
6. In the list of *Collected objects*, verify that the option in the *Install* column is enabled for each of the objects.
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.

9. Activate CompositeProviders.

> → Remember
>
> You can ignore activation warnings listed under Activation Warnings [page 239].

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/CP20` to `/RAP/CP37` (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 *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 Aggregation Levels.

> → Remember
>
> You can ignore activation warnings listed under Activation Warnings [page 239].

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 Levels:
   These should be active from the previous installation, if not, select them to be installed again:

   Aggregation Levels

Aggregation Level
/RAP/D20A01
/RAP/R20A02
/RAP/R20A06
/RAP/R20A08
/RAP/R20A11
/RAP/R20A12
/RAP/R20A15
/RAP/R20A17
/RAP/R23A01

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. Reactivate Planning Sequence Objects.

> → Remember
>
> You can ignore activation warnings listed under Activation Warnings [page 239].

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:
   These should be active from the previous installation, if not, select them to be installed again:

   Planning Sequences

Planning Sequence
/RAP/C21A01_PS01
/RAP/C25A03_PS01
/RAP/D23A01_PS01

Planning Sequence
/RAP/D24A01_PS01
/RAP/R20A08_PS01

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. Reactivate Workbooks.

> → Remember
>
> You can ignore activation warnings listed under Activation Warnings [page 239].

1. Select *BI Content* in the left-hand frame.
2. Select *Object Types* and expand *More Types* > *Analysis Office Excel Workbook*.
3. Use *Select Objects* to select the following workbooks:
   These should be active from the previous installation, if not, select them to be installed again:

   Workbooks

Workbook
/RAP/PLANASSORTMENT
/RAP/PLANOPTIONS

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.

13. Choose *Exit* to leave the transaction.

Activation Warnings

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>

6.3.2.7.2 Verify Gregorian Calendar

Ensure that the previously generated time data (Gregorian calendar) is sufficient for the current release of SAP Assortment Planning.

Context

Execute this procedure to generate time data (**Gregorian calendar**).

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 *Gregorian* as the *Calendar Type*.

   For example, SAP HANA views included in SAP HANA content for SAP Customer Activity Repository require the presence of time data in `_SYS_BI.TIME_DIMENSION*` SAP HANA database tables.
4. Enter a range of years that includes all the years of data that you plan to store in SAP Customer Activity Repository.

   Example: If you plan to start using SAP Assortment Planning on January 1, 2014, enter 2014 as your starting year. But if you plan to access sales documents created in SAP ERP that date from January 2013, you should specify 2013 as your starting year.
5. Define the granularity as *Day*, which is the minimum granularity required by SAP Customer Activity Repository. You can choose a finer level of granularity, for example *Hour*, if necessary.
6. Choose the day that is the first day of the week in your company.
7. Choose *Finish*.

   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 ▶ *<Version>* ▶ *Development* ▶ *SAP HANA Modeling Guide (for SAP HANA studio)* ▶ *Creating Information Views and Previewing its Output* ▶ *Generate Time Data* ▶

6.3.2.8 Verify that Data Replication is Running Following the Upgrade

Following the upgrade, ensure that all of the data replication described in the *Configure Data Replication* section of the *Common Installation Guide* is still running.

> ⚠ Caution
>
> The data you replicate in this step is consumed by the SAP Assortment Planning application through local BI Content. Only a subset of ASCII characters is considered valid by SAP BW. As a result, object identifiers, which are mapped to external IDs in DDF (for example, `EXT_LOC_ID` or `EXT_PROD_ID`), should only consist of valid characters.
>
> We recommend that you avoid the usage of invalid characters in the source master data system. This is controlled by the system administrator or the implementation team who define the value ranges and formatting for object identifiers (for example, product or location IDs).
>
> If the recommended approach is not possible, then in your SAP Assortment Planning back-end system, you need to allow for additional special characters in Customizing activity *Maintain permitted extra characters* under ▶ *SAP NetWeaver* ▶ *Business Warehouse* ▶ *General Settings* ▶. For more information, see 173241.

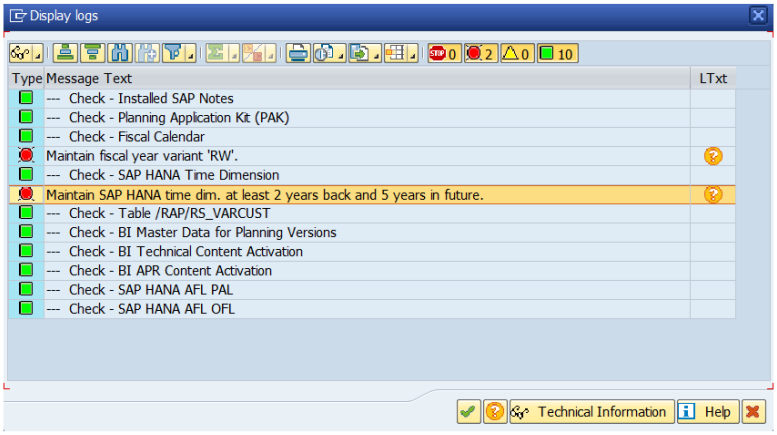
In particular, following the upgrade, you need to pay attention to the following:

- SAP Assortment Planning supports the use of time-dependent article hierarchies. This is enabled by implementing SAP Note 2196323 in the **connected SAP Retail or SAP S/4HANA system**. Following the implementation of these notes in SAP Retail or SAP S/4HANA, if your hierarchy is already a time-dependent hierarchy, you need to re-import the product hierarchies into SAP Assortment Planning using the `DRFOUT` framework.
  - SAP Retail Description: Article Hierarchy
  - DRFOUT Outbound Implementation: `PAHY`
  - DDF Inbound Interface: `/DMF/MDIF_PROD_HIER_INBOUND`
- All the tables listed in the spreadsheet of the *CARAB 2.0 - SLT Tables* archive for your version of SAP Customer Activity Repository applications bundle (SAP Assortment Planning) are being replicated. For more information, see the *Create/Replicate Source Master Data System Tables* section in the *Common Installation Guide*.
- Ensure that periodic tasks to load product attributes into SAP Assortment Planning are still running following the upgrade. (reports `/DMF/ATR_IMPORT` and `/DMF/PROD_ATR_IMPORT`)
- Ensure that season classification data is being loaded from the appropriate source. For more information, see the *Load Season Classification Data* section in the *SAP Assortment Planning Administration Guide*. You also need to set up the *Execute inbound SLT replication for season data* report (`/DMF/EXECUTE_SEASON_INBOUND` in transaction `SE38`) to run as a background job to regularly import any updates from SAP Fashion Management and SAP Retail to DDF.
- Ensure that wholesale data is being loaded. Set up the *Mapping report to convert sales orders into /DMF/TS_WS table* report (`/DMF/WHOLESALE_SO_SHP_TO_TS_WS` in transaction `SE38`) to run as a background

job to regularly import replicated sales order and shipment data into DDF. For more information, see the *Load Wholesale Data* section in the *SAP Assortment Planning Administration Guide*.

6.3.2.9 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 reactivate during the upgrade in a previous step, see section *Reactivate SAP Assortment Planning Planning Framework Content*.
   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.

6.3.2.10 Run the SAP Assortment Planning for Retail 4.0 Update Report

Context

Run this report to carry out back-end server changes required by the SAP Assortment Planning 4.0 FPS02 release.

Procedure

1. Run transaction `SE38`.
2. Execute the `/RAP/40_UPGRADE_APR` report.

   Read the documentation associated with the report for important information on updates performed by the report.

6.3.2.11 Activate SAP Assortment Planning ICF Services

Use

Following an upgrade, you must ensure that all ICF services required for the SAP Assortment Planning SAP Fiori apps are activated.

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

6.3.2.12 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.

Following an upgrade, you must ensure that all required RFC connections and system alias definitions remain set.

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 *Launchpad Customizing* (transaction `LPD_CUST`).
8. Select the SAP Assortment Planning role (`UIRAP001`), and choose *Display*.
   The two catalogs, *Assortment Planner* and *Planning Administrator*, are displayed.

9. In each of the catalogs, selecting one app at a time, make the following settings:

Catalog	App	System Alias	Description
Assortment Planner	*View Log*	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.
	View ExtAssort Listing Conditions	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.
	View External Assortments	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.
Planning Administrator	*Manage Category responsibilities*	SAP_ISR_CARAB	This setting allows the *Manage Category Responsibilities* app to launch the corresponding DDF WebDynpro application.
	Manage Market responsibilities	SAP_ISR_CARAB	This setting allows the *Manage Market Responsibilities* app to launch the corresponding DDF WebDynpro application.
	Manage Products	SAP_ISR_CARAB	This setting allows the *Manage Products* app to launch the corresponding DDF WebDynpro application.

Catalog	App	System Alias	Description
	Manage Locations	SAP_ISR_CARAB	This setting allows the *Manage Locations* app to launch the corresponding DDF WebDynpro application.

6.3.2.13 Troubleshoot Front-End Server Upgrade

Use

Following the upgrade of the product version on the front-end server, you may not be able to see some of the SAP Assortment Planning SAP Fiori tiles in your launchpad. This section outlines how to troubleshoot these issues, should you experience them.

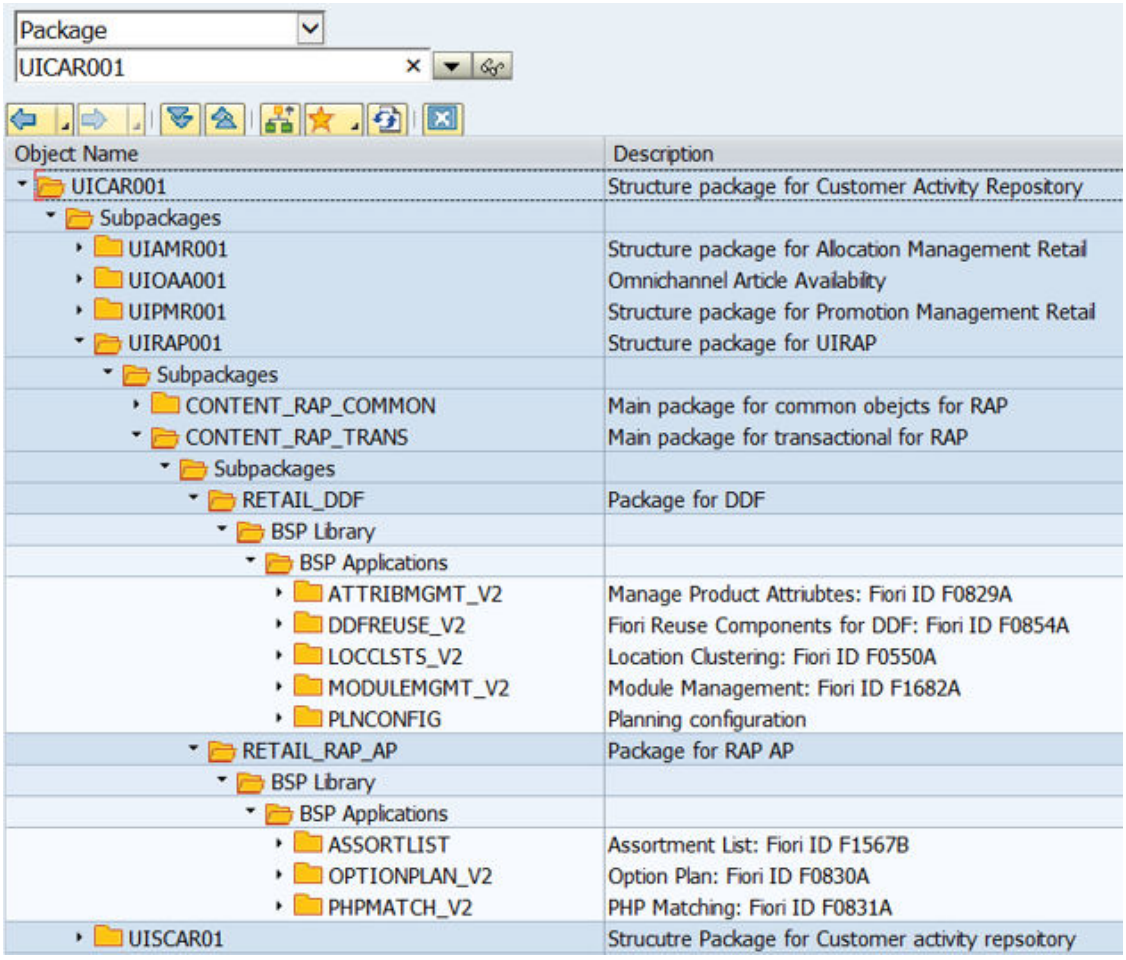
These steps are also listed in the *Troubleshooting* section of the *SAP Assortment Planning Administrator's Guide* available on the SAP Help Portal at http://help.sap.com/viewer/p/CARAB *<Your Version>* *Administration* *SAP Assortment Planning Administration Guide*.

Process

Do the following:

1. Check that all of the required BSP applications are listed in the UIRAP001 package.
    1. Log on to your front-end system (your SAP Gateway system).
    2. Launch the *Object Navigator* (transaction SE80).
    3. In the *Repository Browser*, open package UIRAP001.
    4. Expand all of the embedded packages of embedded package CONTENT_RAP_TRANS.

5. Verify that the following *BSP Applications* are listed:



BSP Applications

6. If you do not see one or more of the BSP applications listed above, right-click on each of the `RETAIL_DDF` and `RETAIL_RAP_AP` packages, and select *Other Functions* > *Rebuild Object List*.

> ⚠ Caution
>
> Do not rebuild objects on a higher package level.

2. Clean the cache.
   1. Log on to your front-end system (your SAP Gateway system).
   2. In Customizing (transaction `SPRO`), navigate to *SAP NetWeaver* > *UI Technologies* > *SAP Fiori* > *Data Administration* > *Invalidate Caches*.
      This activity launches the `/UI2/INVALIDATE_GLOBAL_CACHES` report. This report invalidates all server-side caches in SAP NetWeaver user interface services, which can become out-of-date following an upgrade.
   3. If necessary, implement instructions listed in SAP Note 2147669.
3. Remove any previously customized versions of the `UIRAP001` launchpad.
   1. Log on to your front-end system (your SAP Gateway system).
   2. Launch the *Overview for Launchpads* (transaction `LPD_CUST`).

3. Search for *Role* `UIRAP001`, and see whether any instances exist where the *User Name* is not *SAP*. If so, this means that customized versions of the `UIRAP001` launchpad exist, and these take precedence over the standard launchpad instance delivered by SAP.
4. Delete all but the launchpad instance delivered by SAP.

4. Recalculate SAPUI5 application index, following any changes to the content of the SAPUI5 ABAP repository (for example, installation of a new version of the SAPUI5 distribution layer or implementation of an SAP Note containing changes to an SAPUI5 app).
   For more information, see the *Configure Index Calculation* section in the *Common Installation Guide* and SAP Note 2227577.

6.4 SAP Promotion Management

SAP Promotion Management 4.0 FP00 to SAP Promotion Management 4.0 FP01

There are no post-installation upgrades required for this release.

SAP Promotion Management 8.2 FP3 to SAP Promotion Management 4.0

There are no post-installation updates required for this release.

SAP Promotion Management 8.2 FP1 to SAP Promotion Management 8.2 FP3

Prerequisites

- Ensure that you have carried out all the steps listed in the previous sections of this guide.
- Please follow the instructions for `RTLAPPS` in SAP Note 2592695.

Follow-Up Activities

1. Perform all the mandatory core steps for SAP Customer Activity Repository under Core (Mandatory for All Applications) [page 68].
2. Activate the following OData services:
   - `/DMFOFFER_MANAGMENT_V2_SRV`
   - `/DMF/LOCATION_SUBGROUP_SRV`
3. Update to the latest version of the UI by installing 2606408

SAP Promotion Management 8.2 FP 2.0 to SAP Promotion Management 8.2 FP3

Prerequisites

- Ensure that you have carried out all the steps listed in the previous sections of this guide.
- Please follow the instructions for `RTLAPPS` in the following259265

Follow-Up Activities

1. Perform all the mandatory core steps for SAP Customer Activity Repository under Core (Mandatory for All Applications) [page 68].
2. Activate the following OData services:
   - `/DMFOFFER_MANAGMENT_V2_SRV`
   - `/DMF/LOCATION_SUBGROUP_SRV`
3. Update to the latest versions of the UI by installing 2606408

SAP Promotion Management 8.2 SP4 to SAP Promotion Management 8.2 FP3

Prerequisites

- Ensure that you have carried out all the steps listed in the previous sections of this guide.
- Please follow the instructions for the `STLAPPS` in the following 2606408

Follow-Up Activities

1. Perform all the mandatory core steps for SAP Customer Activity Repository under Core (Mandatory for All Applications) [page 68].
2. Activate the following OData services:
   - `/DMFOFFER_MANAGMENT_V2_SRV`
   - `/DMF/LOCATION_SUBGROUP_SRV`
3. Update to the latest version of the UI by installing 2606408

6.5 SAP Allocation Management

Post-upgrade setup for SAP Allocation Management

2.0 FP2 and FP3 to 4.0 or 4.0 FPS02 [page 253]
: Summary of follow-up activities to upgrade your SAP Allocation Management installation from release 2.0 FP2 and 2.0 FP3 to release 4.0 or 4.0 FPS02.

Activate SAP Allocation Management SAP HANA Content [page 255]
: Once all previous steps are successfully completed, you can activate SAP Allocation Management SAP HANA content.

Check Procedure Associated with Function GENIOS_SOLVE Is Active [page 259]
: For SAP Allocation Management, confirm that the procedure associated with function `GENIOS_SOLVE` is active in the `_SYS_AFL` catalog.

Preselect Product Data [page 259]
: To make product data available in SAP Allocation Management applications, this data must be preselected.

Troubleshooting for SAP Allocation Management [page 260]
: During the upgrade, several issues might arise in the context of CDS activation, SAP HANA content activation, external view activation, and usage, static ABAP generation, and so on. Then you can perform the troubleshooting activities. Please also refer to the notes listed in section **SAP Notes for the Upgrade**.

6.5.1 1.5 (CARAB 2.0 SPS0) to 4.0 or 4.0 FPS02

Summary of follow-up activities to upgrade your SAP Allocation Management installation from release 1.5 to release 4.0 or 4.0 FPS02.

> **i** Note
>
> SAP Allocation Management release 1.5 was included in the SAP Customer Activity Repository applications bundle 2.0 SPS0 release.

The following steps are required to upgrade your SAP Allocation Management system:

- Perform all mandatory core steps for SAP Customer Activity Repository
- Run SAP Allocation Management reports
- Prepare follow-on system

Perform Mandatory Core Steps for SAP Customer Activity Repository

First do the mandatory core steps for SAP Customer Activity Repository. The **core** steps are also mandatory for SAP Allocation Management.

> **i** Note
>
> To upgrade SAP Allocation Management from release 1.5 to 4.0, consider the following **major changes**:
>
> - No matter which source master data system you are using (ECC or S4H), you must run the SLT table creation programs that create dummy tables in the schema you are not using. Tables for both schemas, ECC and S4H, need to be available **before you can activate the SAP HANA content**.

- The transport handling of HANA content has been migrated from HTC (HANA Transport Container) to HTA (HANA Transport for ABAP). Report `/AMR/ACTIVATE_HANA_CONTENT` has been deprecated. Instead, you must use report `/CAR/ACTIVATE_HTA` *Activate SAP HANA Content for SAP CARAB*.

Perform all steps listed under Core (Mandatory for All Applications) [page 68].

Verify that all SAP Allocation Management OData services are active following the upgrade. Especially check the following new OData services:

- `/AMR/OD_PRODUCT_FLOW_SRV` Product Flow OData Service
- `/AMR/OD_KPI_CONFIG_SRV` KPI Configuration
- `/AMR/OD_ALLOCATIONRESULT_SRV` Fiori App Allocation Results
- `/AMR/OD_BASKET_SRV` Allocation Basket
- `/AMR/OD_ALLOCATIONPLAN_SEARCH_SRV` Fiori App Allocation Plan Search
- `/AMR/OD_CAPACITYMANAGEMENT_SRV` Store Areas and Capacities

Run Migration and Update Reports

- There are two reports for the migration of market units:
  1. Run report `/AMR/MIGRATE_MARKET_UNITS_V20` to default the source type for given market units.
  2. If you are upgrading to 4.0 FPS02, you must also run report `/AMR/MIGRATE_MARKET_UNITS_V42`.

  > ⚠ Caution
  >
  > These reports must be run **before any new market unit** is created in SAP Allocation Management 2.0 and must be executed exactly once in the system.
  >
  > No market unit should be accessed in parallel while running these reports.
- For the integration to SAP Assortment Planning, run the following two reports. The structure of the location cluster sets has changed from release to release. Check the report long texts for further instructions.
  1. To update location cluster set data created in SAP Assortment Planning 2.0 SPS1 to a format consumable by SAP Assortment Planning 2.0 FP1, run report *Update Location Clusters for SAP Assortment Planning for Retail 2.0 FP01* `/DMF/CLSTS_UPDATE_2_0_FP1`.
  2. To update location cluster set data created in SAP Assortment Planning 2.0 FP1 to a format consumable by SAP Assortment Planning 2.0 FP2, run report *Update Location Clusters for SAP Assortment Planning for Retail 2.0 FP2* `/DMF/CLSTS_UPDATE_2_0_FP02`.

Prepare Follow-On System

In the follow-on system, use the **new and enhanced** RFC function module for the creation of allocation tables in an **ECC** system. Follow the instructions in SAP Note 2416853 *RFC function module to create allocation table for SAP Allocation Management*.

You can also transfer data to an **SAP S/4HANA** follow-on system. Follow the instructions in SAP Note 2524857 *RFC function module to create allocation table for SAP Allocation Management in S4H system*.

Related Information

Core (Mandatory for All Applications) [page 68]
Advanced (Optional) [page 92]

6.5.2 2.0 FP1 to 4.0 or 4.0 FPS02

Summary of follow-up activities to upgrade your SAP Allocation Management installation from release 2.0 FP1 to release 4.0 or 4.0 FPS02.

The following steps are required to upgrade your SAP Allocation Management system:

- Perform all mandatory core steps for SAP Customer Activity Repository
- Prepare follow-on system

Perform Mandatory Core Steps for SAP Customer Activity Repository

First do the mandatory core steps for SAP Customer Activity Repository. The **core** steps are also mandatory for SAP Allocation Management.

> **i** Note
>
> For upgrade of SAP Allocation Management from version 2.0 FP1 to 4.0, please consider the following **major change**:
>
> No matter which source master data system you are using (ECC or S4H), you must run the SLT table creation programs that create dummy tables in the schema you are not using. Tables for both schemas, ECC and S4H, need to be available **before you can activate the SAP HANA content**.

Perform all steps listed under Core (Mandatory for All Applications) [page 68].

Verify that all SAP Allocation Management OData services are active following the upgrade. Especially check the following new OData services:

- `/AMR/OD_PRODUCT_FLOW_SRV` Product Flow OData Service
- `/AMR/OD_KPI_CONFIG_SRV` KPI Configuration
- `/AMR/OD_ALLOCATIONRESULT_SRV` Fiori App Allocation Results
- `/AMR/OD_BASKET_SRV` Allocation Basket
- `/AMR/OD_ALLOCATIONPLAN_SEARCH_SRV` Fiori App Allocation Plan Search
- `/AMR/OD_CAPACITYMANAGEMENT_SRV` Store Areas and Capacities

Run Migration and Update Reports

- If you are upgrading to 4.0 FPS02, you must run report `/AMR/MIGRATE_MARKET_UNITS_V42`.
- The structure of the location cluster sets has changed from the previous release. To update location cluster set data created in SAP Assortment Planning 2.0 FP1 to a format consumable by SAP Assortment Planning 2.0 FP2, run report *Update Location Clusters for SAP Assortment Planning for Retail 2.0 FP2* `/DMF/CLSTS_UPDATE_2_0_FP02`.

Prepare Follow-On System

In the follow-on system, use the **new and enhanced** RFC function module for the creation of allocation tables in an **ECC** system. Follow the instructions in SAP Note 2416853 *RFC function module to create allocation table for SAP Allocation Management*.

You can also transfer data to an **SAP S/4HANA** follow-on system. Follow the instructions in SAP Note 2524857 *RFC function module to create allocation table for SAP Allocation Management in S4H system*.

Related Information

Core (Mandatory for All Applications) [page 68]
Advanced (Optional) [page 92]

6.5.3 2.0 FP2 and FP3 to 4.0 or 4.0 FPS02

Summary of follow-up activities to upgrade your SAP Allocation Management installation from release 2.0 FP2 and 2.0 FP3 to release 4.0 or 4.0 FPS02.

The following steps are required to upgrade your SAP Allocation Management system:

- Refer to the information and procedure description for SAP HANA content activation for SAP Allocation Management in section Activate SAP Allocation Management SAP HANA Content [page 255].

  > **i** Note
  >
  > No matter which source master data system you are using (ECC or S4H), you must run the SLT table creation programs that create dummy tables in the schema you are not using. Tables for both schemas, ECC and S4H, need to be available **before** you can activate the SAP HANA content.

- Perform all mandatory core steps for SAP Customer Activity Repository
- Prepare the follow-on system.

Perform Mandatory Core Steps for SAP Customer Activity Repository

First do the mandatory core steps for SAP Customer Activity Repository. The **core** steps are also mandatory for SAP Allocation Management.

Perform all steps listed under Core (Mandatory for All Applications) [page 68].

Verify that all SAP Allocation Management OData services and Core Data Services (CDS) views are active following the upgrade:

- For a list of required OData services, refer to the SAP Allocation Management *Administration Guide*.
- For CDS views, see Troubleshooting: Missing Views in Database [page 258].

Run Migration Report

If you are upgrading to 4.0 FPS02, you must run report `/AMR/MIGRATE_MARKET_UNITS_V42`.

Prepare Follow-On System

In the follow-on system, use the **new and enhanced** RFC function module for the creation of allocation tables in an **ECC** system. Follow the instructions in SAP Note 2416853 *RFC function module to create allocation table for SAP Allocation Management*.

You can also transfer data to an **SAP S/4HANA** follow-on system. Follow the instructions in SAP Note 2524857 *RFC function module to create allocation table for SAP Allocation Management in S4H system*.

Related Information

Core (Mandatory for All Applications) [page 68]
Advanced (Optional) [page 92]

6.5.4 Activate SAP Allocation Management SAP HANA Content

Once all previous steps are successfully completed, you can activate SAP Allocation Management SAP HANA content.

Prerequisites

Before you can start to activate the SAP Allocation Management SAP HANA content, perform these activities:

- 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 a `SAP_ECC` schema or a `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 for SAP HANA content activation is available on SAP Help Portal at https://help.sap.com/viewer/p/CARAB. Select the desired version at the top right and download the *SLT Tables for SAP Customer Activity Repository applications bundle* archive from under *Installation and Upgrade* and extract the spreadsheet.
  Ensure that you have successfully set up the SLT tables in the schemas.
- Ensure that you have implemented the following SAP Notes: 2850296 (*Support for S/4H 1909 source system in report /DMF/CREATE_SLT_TABLES* and 2850366 (*HANA Content helper report (Dummy tables)*).

SAP HANA Content Activation Steps

1. 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`.
2. 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 Customer Activity Repository and DDF SAP HANA content.
   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.

Execute 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* within this activation run for a simultaneous activation of SAP Allocation Management SAP HANA content as simultaneous activation leads to activation problems.

3. 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** 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.
   - `/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. 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. 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*.

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. 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`.
4. 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.

5. 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.

6. 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 you have chosen names for your physical schema, which 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.
7. Activate relevant inactive SAP HANA content for DDF.
   Based on your scenario, there can 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, in **strictly 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`

> **Note**
>
> The package names are case-sensitive.
>
> If your SAP ERP 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 continue with further activation steps nevertheless.

8. 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*.

> **Note**
>
> With this step, the SAP Allocation Management SAP HANA content is finally deployed. It 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 258].

Related Information

Create/Replicate Source Master Data System Tables [page 75]
Activate SAP HANA Content [page 79]

6.5.4.1 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.

6.5.5 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 45].

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_DOLVE_PROC`
4. Confirm that this procedure `OFL_AREA_GENIOS_SOLVE_PROC` is available.

6.5.6 Preselect Product Data

To make product data available in SAP Allocation Management applications, this data must be preselected.

To do this, you must run the report `/AMR/PRECALCULATE_PRODUCT` (*Precalculation of Products*) as part of system set-up. The report requires no additional data selection and can be executed either directly or as a scheduled job in the background, depending on the volume of product master data in the system.

> **i Note**
>
> You must run this report only once. Any other changes in the data are handled by the general preselection report (`/AMR/PRECALCULATION` - *Execute Preselection*).

6.5.7 Troubleshooting for SAP Allocation Management

During the upgrade, several issues might arise in the context of CDS activation, SAP HANA content activation, external view activation, and usage, static ABAP generation, and so on. Then you can perform the troubleshooting activities. Please also refer to the notes listed in section **SAP Notes for the Upgrade**.

After the SAP HANA content activation, some Core Data Services (CDS) views may not be active. In this case, you can run program `RADMASG0` in transaction **`SE38`** for the collective activation of CDS views and external views. Select *Direct Objects* and enter **`/AMR/V*`** in the *View Name* selection field. Then execute the report.

Related Information

Implement SAP Notes for the Upgrade [page 24]

6.6 Configure Access to Documentation Provided on SAP Help Portal (Optional for All Applications)

In transaction `SR13`, you can configure your back-end system to point to documentation for your application that is provided on SAP Help Portal for SAP Customer Activity Repository applications bundle.

Context

You can configure your back-end system to access documentation that is provided on SAP Help Portal for SAP Customer Activity Repository applications bundle at https://help.sap.com/viewer/p/CARAB. For example, if your application is SAP Customer Activity Repository, you can configure access to the application help for SAP Customer Activity Repository.

Prerequisites

- The documentation you want to access must be available on SAP Help Portal.
- The users who access the documentation must have access to the Internet.
- You can configure an ABAP system to connect to only one **combination of product and version**. These are the values that you will specify under *Path* in the procedure below.

> **i** Note
>
> The **product** `CARAB` is valid for all the applications delivered with SAP Customer Activity Repository applications bundle.
>
> The **version** depends on the release. For example, version **CARAB/4.0.2** is valid for all the application versions delivered with **SAP Customer Activity Repository applications bundle 4.0 FPS02**.

If you cannot fulfill one or more of these prerequisites, you must install the documentation in your local system landscape using the download packages or DVDs/CDs provided.

> **i Note**
>
> For more information about installing the documentation in your local system landscape, see the SAP Library Installation and Update Guide for SAP NetWeaver-Based Systems.

Procedure

1. Open transaction `SR13`.
2. Select the tab *PlainHtmlHttp*.
3. Choose *New Entries*.

   > **⚠ Caution**
   >
   > You have to create entries for both documentation and XML documentation areas for each platform you are using and each language in which you want to provide documentation.
   >
   > You must use the exact combination of uppercase and lowercase characters specified in the product and version.

4. To create entries for the documentation area, enter the following values:

Name	Value to be entered
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	https://help.sap.com/http.svc/ahp2
Path (`<Product/Version>`)	CARAB/4.0.2
Language	Select the language you need from the list.

5. To create entries for the XML documentation area, enter the following values:

Name	Value to be entered
Variant	Enter a name for the variant (any name).
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	https://help.sap.com/http.svc/ahp2
Path (`<Product/Version>`)	CARAB/4.0.2
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 documentation that is provided on SAP Help Portal.

Related Information

SAP Note 2149786 Customizing help settings in transaction SR13

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

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