ADMINISTRATION GUIDE | PUBLIC
Document Version: 1.1 – 2019-04-26

SAP Assortment Planning 4.0 FPS01 Administration Guide

THE BEST RUN SAP

Content

1 SAP Assortment Planning 4.0 FPS01

With SAP Assortment Planning you determine the number of products (breadth) and planned demand quantity (depth) for the upcoming season based on consumer purchasing history across product categories and selling locations. Location clustering, option planning, assortment listing and sales projection capabilities help determine the optimal assortment for the retailer.

2 Getting Started

About this Document

This document is a single source of information for the implementation of SAP Assortment Planning. It contains security and operation information, and is divided into the following main sections:

- Introduction with references to related documents and relevant SAP notes
- Security Information
- Operation Information
- Business Overview
- Configuration Information

Installation and Configuration

For information on planning and installation, see *Common Installation Guide CARAB 4.0*.

For information on upgrades, see *Common Upgrade Guide CARAB 4.0*.

Related Information

For more information about implementation topics not covered in this guide, see the following content:

Content	Location
Sizing (sizing guidelines, Quick Sizer tool, calculation of hardware requirements, such as CPU, disk and memory resource)	https://www.sap.com/about/benchmark/sizing.html
Released platforms and technology-related topics such as maintenance strategies and language support	https://support.sap.com/en/release-upgrade-maintenance.html
Performance	https://www.sap.com/about/benchmark/sizing/performance.html
Information about SAP Support Package Stacks	https://support.sap.com/en/my-support/software-downloads/support-package-stacks.html
Information about Unicode technology	http://www.sdn.sap.com/irj/sdn/i18n

Further Useful Links

The following table lists further useful links:

Content	Location
SAP Notes search	https://support.sap.com/notes
SAP Software Download Center (software download and ordering of software)	https://support.sap.com/swdc
Early Knowledge Transfer	https://support.sap.com/en/offerings-programs/get-involved-early.html

3 Naming Conventions

Throughout this document the following naming conventions apply.

Terms and their Definitions

The following terms are used consistently in this guide:

Term	Definition
back-end server / system	The SAP NetWeaver-based back-end server on which SAP Customer Activity Repository and its consuming applications (such as SAP Assortment Planning or SAP Promotion Management) are installed.
front-end server / system	The SAP NetWeaver-based front-end server on which the SAP Gateway, SAP Fiori launchpad, the central SAP Fiori UI component, and the product-specific SAP Fiori UI component are installed.
Common Installation Guide	Common installation guide valid for all the applications included in SAP Customer Activity Repository applications bundle, providing instructions for new installation scenarios
Common Upgrade Guide	Common upgrade guide valid for all the applications included in SAP Customer Activity Repository applications bundle, providing instructions for upgrade scenarios

Naming Differences

Due to naming differences between the underlying technical objects of the components, the names of the following business objects are used interchangeably in this document:

SAP Customer Activity Repository	Demand Data Foundation (DDF) and Unified Demand Forecast (UDF)	SAP Assortment Planning SAP Allocation Management SAP Merchandise Planning SAP Promotion Management	SAP ERP
article	product location (specific product in a specific location)	product	article material

SAP Customer Activity Repository	Demand Data Foundation (DDF) and Unified Demand Forecast (UDF)	SAP Assortment Planning SAP Allocation Management SAP Merchandise Planning SAP Promotion Management	SAP ERP
article variant	product variant	product variant	article variant
store	location	location	store site

4 Security Information

4.1 Why is Security Important?

Use

With the increasing use of distributed systems and the Internet for managing business data, the demands on security are also on the rise. When using a distributed system, you need to be sure that your data and processes support your business needs without allowing unauthorized access to critical information. User errors, negligence, or attempted manipulation of your system should not result in loss of information or processing time. These demands on security apply likewise to SAP Assortment Planning. To assist you in securing SAP Assortment Planning, we provide this security information.

Fundamental Security Guides

SAP Assortment Planning is an add-on to the SAP Customer Activity Repository. Therefore, the corresponding security information also applies to SAP Assortment Planning. The most relevant sections or specific restrictions are indicated in the table below:

Fundamental Security Guides

Scenario, Application or Component Security Guide	Most Relevant Sections or Specific Restrictions
SAP Customer Activity Repository Administration Guide	https://help.sap.com/viewer/p/CARAB
SAP NetWeaver Application Server ABAP Security Guide	https://help.sap.com/viewer/864321b9b3dd487d94c70f6a007b0397/7.3.15/en-US
SAP HANA Security Guide	http://help.sap.com/hana/ > *SAP HANA Platform* > *Security Information* > *SAP HANA Security Guide*
SAP Fiori for Business Suite	https://help.sap.com/viewer/p/SAP_FIORI
SAP NetWeaver 7.5 Security Guide	https://help.sap.com/viewer/621bb4e3951b4a8ca633ca7ed1c0aba2/7.5.12/en-US
SAP ERP Central Component Security Guide	https://help.sap.com/viewer/bcf98a8f1fec49478b0d1c6ae2588f3b/6.06.22/en-US
Portal Security Guide	https://help.sap.com/viewer/DRAFT/47107db4ca854946ad682cfe1334c35e/7.5.14/en-US
SAP Gateway Security Guide	http://help.sap.com/nwgateway

Scenario, Application or Component Security Guide	Most Relevant Sections or Specific Restrictions
SAP Analysis for Microsoft Office	https://help.sap.com/viewer/p/SAP_BUSINESSOBJECTS_ANALYSIS_OFFICE > *<Your Version>* > *Installation, Configuration, Security and Administration* > *Administrator Guide*

Important SAP Notes

The most important SAP Notes that apply to the security of SAP Assortment Planning are shown in the following table:

Title	SAP Note Number	Comment
SAP HANA 1.0: Security	https://launchpad.support.sap.com/#/notes/159623	Contains information and links to other notes related to the secure operation of SAP HANA
Authorization Check for Function Modules in SAP Customer Activity Repository and SAP POS DM	https://launchpad.support.sap.com/#/notes/1940161	Contains information about authorization objects required to support integration scenarios involving systems connected to SAP Customer Activity Repository using RFC connections.

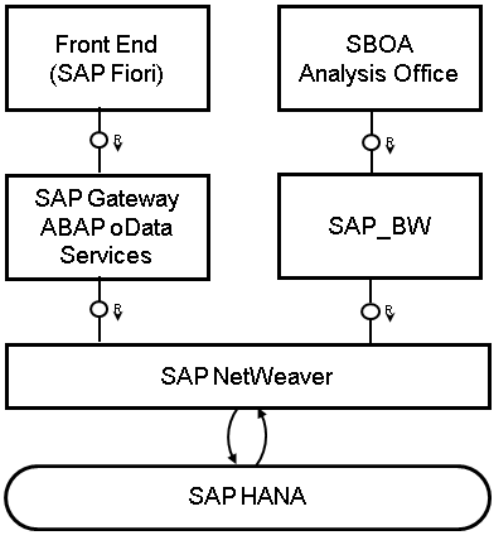
More Information

For more information about specific topics, see the Quick Links as shown in the table below.

Content	Quick Link in SAP Marketplace or SCN
Security	http://scn.sap.com/community/security
Related SAP Notes	https://support.sap.com/en/offerings-programs/enterprise-support/enterprise-support-academy.html
Released platforms	https://support.sap.com/en/release-upgrade-maintenance.html
SAP Solution Manager	https://support.sap.com/en/solution-manager.html
SAP NetWeaver	http://scn.sap.com/community/netweaver

4.2 Security Aspects of Data, Data Flow and Processes

The figure below describes an overview of the data flow for SAP Assortment Planning.



For more information about the technical system landscape, see the *Common Installation Guide*.

The table below shows the security aspect to be considered for the process step and what mechanism applies.

Step	Description	Security Measure

Open Fiori launchpad in browser and connect to SAP front-end server.	The user connects the browser via HTTPS to the SAP Gateway application server. This authenticates the server to ensure the correct certificates are being used. Once the server is authenticated, the information is shared to authenticate the user. This server points to application oData services.	• Transfer token
		• Session cookies
		• Symantic objects
		  ○ SICF Transaction
		  ○ Configuration

Step	Description	Security Measure

2. Connect the front end server to SAP Gateway in the application server.	The SAP Front end server connects via a trusted RFC to the application server containing components to get required information. This is created as part of the installation and system setup.	• User authentication
		• List of Odata service and target system `SM59`
		• transaction `SICF`
		  ○ Authority Object
		  ○ Application Customizing

3. Connect the Application server to the SAP HANA database.	The application server connects to the SAP HANA database via ADBC and gets the required information. This is created as part of the installation and system setup.	• Definition and implementation • Application customizing • RFC setup for trusted GW SSO
4.Connect the SAP Gateway to SAP ERP/SAP S/4 HANA.	SAP Gateway connects to SAP ERP system or SAP S/4 HANA system via trusted RFCs. This is created as part of the installation and system setup.	• Uer autehentication • List of oData service and target system SM59
5.Open workbooks in BO Analysis Office and connect to SAP Gateway.	BO Analysis Office connects to Local BW content in SAP Gateway via BICS to get required information.	

4.3 User Administration and Authentication

User Management

User management for SAP Assortment Planning uses the mechanisms provided with the SAP NetWeaver Application Server ABAP, for examples, user types, and password policies. For an overview of how these mechanisms apply for SAP Assortment Planning, see the sections below.

The SAP HANA Content for SAP Assortment Planning uses the user management and authentication mechanisms provided with the SAP HANA Platform. Therefore, the security recommendations and guidelines for user administration and authentication as described in the *Security* section of the *SAP HANA Live for SAP Business Suite Administrator's Guide* also apply.

Similarly, other components of the technical system landscape for SAP Assortment Planning, such as SAP ERP Central Component (ECC) and/or SAP NetWeaver Process Integration (PI), also use the mechanisms provided with the SAP NetWeaver AS ABAP. For an overview of how these mechanisms apply for SAP Assortment Planning, see the sections below.

User Administration Tools

The table below shows the tools to use for user management and user administration with SAP Assortment Planning.

Tool	Detailed Description	Prerequisites
User and role maintenance with SAP NetWeaver AS ABAP (Transactions SU01, PFCG)	For more information see: • *AS ABAP Authorization Concept* in the *SAP NetWeaver Application Server ABAP Security Guide* • SAP Library for SAP NetWeaver on SAP Help Portal at https://help.sap.com/nw75 Under Application Help, choose *Function-Oriented View* > *Solution Life Cycle Management* > *Security and User Administration*	The SAP NetWeaver Application Server is running.

User Types

It is often necessary to specify different security policies for different types of users. For example, your policy may specify that individual users who perform tasks interactively have to change their passwords on a regular basis, but not those users under which background processing jobs run. The user types that are required for SAP Assortment Planning include:

- Individual Users:
  - Dialog users are used for interactive system access, such as SAP GUI for Windows or RFC connections.
  - Internet users are used for internet connections.
  - Named users are required for all Business Intelligence clients like SAP BusinessObjects BI Suite UIs.
- Technical users:
  - Communication users are used for dialog-free communication through RFC calls.
  - Background users are used for background processing and communication within the system, such as, running scheduled inbound or outbound dispatcher jobs.

For more information about these user types, see *User Types* in the *SAP NetWeaver AS ABAP Security Guide*.

Standard Users

SAP Assortment Planning does not require specialized standard users. The POS Data Management component of SAP Assortment Planning indirectly uses SAP NetWeaver standard users.

For information about SAP NetWeaver standard users, see *Protecting Standard Users* in the *SAP NetWeaver Application Server ABAP Security Guide*.

> → Recommendation
>
> We recommend changing the user IDs and passwords for users that are automatically created during installation.

User Data Synchronization

The application does not deliver additional user data synchronization related features in addition to those available in the SAP NetWeaver platform. It also does not impose any special needs or restrictions, which would limit the usage of related NetWeaver tools.

> **i** Note
>
> For any scenarios where system inter-connectedness at the user level is a requirement, it is mandatory that the same users exist throughout all the pertinent connected systems in the landscape.

Integration into Single Sign-On Environments

SAP Assortment Planning supports the Single Sign-On (SSO) mechanisms provided by SAP NetWeaver AS ABAP. Therefore the security recommendations and guidelines for user administration and authentication as described in the *SAP NetWeaver Security Guide* also apply to SAP Assortment Planning.

For more information about the available authentication mechanisms, see *User Authentication and Single Sign-On* in the *SAP NetWeaver Library*.

4.4 Authorizations

SAP Assortment Planning uses the authorization concept provided by SAP NetWeaver AS ABAP. Therefore, the recommendations and guidelines for authorization as described in the SAP NetWeaver AS Security Guide ABAP also apply to SAP Assortment Planning.

The SAP NetWeaver authorization concept is based on assigning authorizations to users based on roles. For role maintenance, use the profile generator (transaction `PFCG`) on the AS ABAP.

> **i** Note
>
> For more information about how to create roles, see *Role Administration* in the *SAP NetWeaver Library*

Role and Authorization Concept for SAP Assortment Planning

Standard Roles

The SAP Assortment Planning application requires a layered system landscape. As an assortment planner or planning administrator, you must have the necessary users, roles and authorizations in all of the layers of the SAP Assortment Planning application.

- **Front-end server**
  To use the collection of SAP Fiori apps that form the SAP Assortment Planning application user interface, you must have a user on the SAP Gateway, or the front-end, server.

- **Back-end server**
  To access the relevant Customizing activities and use core SAP Assortment Planning application functionality, you must have a user on the ABAP back-end server.
- **SAP HANA Database**
  To allow the SAP Assortment Planning application to access SAP HANA views and procedures, which provide access to data and functionality directly on the database level, you must have a user on the database level.
  SAP HANA has implemented the regular SQL authorization concept based on privileges. For information, see *Security* > *Privileges* in the *SAP HANA Live for SAP Business Suite, Support Package Stack 02 Administrator's Guide*.

Standard Fiori Roles

Role	Description
`SAP_RAP_BCR_AP_PLANNER`	Grants access to the following Fiori apps: • Manage Location Clusters • My Assortment Lists • Match Placeholders • My Option Plans
`SAP_RAP_BCR_PLANNING_ADMIN`	Grants access to the following: • Manage Category Responsibilities • Manage Product Attributes • Manage Modules • Manage Products • Manage Locations
`SAP_RAP_TCR_T`	Grants access to the following Fiori apps: • Manage Location Clusters • My Assortment Lists • Match Placeholders • My Option Plans • Manage Category Responsibilities • Manage Product Attributes • Manage Products • Manage Locations • Manage Modules • Manage Option Plans
`SAP_RAP_ASSORTMENT_LIST_APP`	Grants access to the My Assortment List Fiori App.

Role	Description
SAP_ISR_DDF_MASTER	Grants access to the following: • Check Mass Maintenance • Configure Load Balancing • Maintain Area of Responsibility • Location Groups • Maintain Product Locations • Monitor compressed Data • Monitor Exceptions • Monitor Imports • Placeholder Products • Products • Product Groups • Schedule Model and Forecasts • Remove Time Series • Search for Schedule Jobs • Search Placeholder Products • Transportation Lanes
SAP_ISR_AP_MASTER	Default SAP access to: • Menu for OData Services that are used by SAP Assortment Planning • Authorization objects checked by SAP Assortment Planning apps • Authorization Objects needed to work with SAP Analysis for Microsoft Office workbooks of SAP Assortment Planning
SAP_ISR_AP_MASTER_ADMIN	Default SAP access to: • Menu for OData Services that are used by SAP Assortment Planning • Authorization objects checked by SAP Assortment Planning apps • Authorization Objects needed to work with SAP Analysis for Microsoft Office workbooks of SAP Assortment Planning In addition, a user with this role can undo the deletion of assortment lists.

Role	Description
/RAP/BW_AP_WORKBOOKS	Grants access to the following SAP Assortment Planning workbooks that are based on SAP Analysis for Microsoft Office: • Plan Assortment • Plan Options

SAP Analytics Authorization Assistant

The SAP HANA Content for SAP Assortment Planning relies on a number of views from SAP HANA Live for SAP ERP. As a result we recommend that you use the Analytics Authorization Assistant to manage authorizations.

Analytics Authorization Assistant automatically locates authorizations that a user has in SAP NetWeaver AS ABAP and transforms these authorizations into analytic privileges on the SAP HANA database. The created analytic privileges are used to access applicable views included in SAP HANA Live for SAP ERP and SAP HANA Content for SAP Assortment Planning. The analytical privileges are then assigned to SAP HANA roles and directly to users.

The user-specific authorizations required by SAP Assortment Planning, specifically, the data found in tables USRBF2 and UST12, are maintained in a source SAP ERP system. Depending on the deployment option you have selected during installation of SAP Assortment Planning, Analytics Authorization Assistant accesses authorization tables as follows:

Role	Description
SAP Customer Activity Repository co-deployed with SAP ERP	Directly from the SAP ERP database schema (SAP_ECC) on the SAP HANA database
SAP Customer Activity Repository standalone	From tables replicated to a dedicated SAP Customer Activity Repository schema from the source SAP ERP system

Standard HANA Roles

1. Ensure that the SAP HANA database users listed below exist and that they have the required roles/ privileges.

User	Role/Privilege
SAP<SID> This is the generic database user specified for the connection from the SAP NetWeaver back-end server to the SAP HANA database.	○ System privilege REPO.IMPORT ○ System privilege ROLE ADMIN ○ System privilege STRUCTUREDPRIVILEGE ADMIN ○ Role CONTENT_ADMIN ○ Role AFLPM_CREATOR_ERASER_EXECUTE. For more information, see *Enable Usage of PAL Functions* section in the *Common Installation Guide* and SAP Note 2046767. ○ Role AFL__SYS_AFL_OFL_AREA_EXECUTE

User	Role/Privilege
_SYS_REPO	○ Privilege `SELECT`, with option *"Grantable to others"*, on the following physical DB schemas: ○ Physical database schema of your back-end system, typically this is called `SAP<SID>` ○ Physical database schema that contains the SAP ERP tables ○ Physical database schema that contains the SAP CRM tables You can use the following example SQL statement to grant the required privilege: `GRANT SELECT ON SCHEMA <Your schema name> TO _SYS_REPO WITH GRANT OPTION;` ○ Privileges are described in the SAP Customer Activity Repository Administration Guide here https://help.sap.com/viewer/3c5d3f37cb8d4c8bb62bf2105abc96e7/2.0.latest/en-US and search for *Authorization Requirements for UDF*.
<Your User Name>*	○ Privilege `SELECT` on schema `_SYS_BI` ○ Privilege `SELECT` on schema `SAP<SID>` ○ Privilege `EXECUTE` on procedure `REPOSITORY_REST`
*Your user on SAP HANA database level, back-end system, and on the front-end server (SAP Gateway) **must be identical** on these three levels.	

Verify Users and Roles

Procedure

1. Ensure that the user name of each individual assortment planner or planning administrator on the SAP HANA database level, back-end system and on the front-end server (SAP Gateway) is identical on these three levels.
2. Ensure the required user settings on the SAP HANA database level:
   - Each SAP BW/HANA user at least needs following set of privileges:
     - Privilege `SELECT` on schema `_SYS_BI`
     - Privilege `SELECT` on schema `SAP<SID>`
     - Privilege `EXECUTE` on procedure `REPOSITORY_REST`
     - Privilege `REPO.READ` on package `bw2hana/SAP<SID>_/RAP/<Infocube>_REPORTING`
       The corresponding privileges will be created automatically when activating BI Content. If you use the Omnichannel SAP BW Structure, for every DataStore Object (Advanced, InfoCube-like), for example `/RAP/DS40`, a privilege is created and assigned to the users. If you use the Retail SAP BW Structure, for every InfoCube or DataStore Object (classic), for example `/RAP/RC20`, a privilege is created and assigned to the users.
   - Each SAP user should also have the following set of privileges
     - System privilege `ROLE ADMIN`
     - System privilege
     - `STRUCTUREDPRIVILEGE ADMIN`
     - Role `CONTENT_ADMIN`
     - Role `USER`

- Privilege `EXECUTE` on procedure `TRUNCATE_PROCEDURE_OBJECTS`
- Privilege `EXECUTE` on procedure `GET_PROCEDURE_OBJECTS`
- *Session Client* of each user has to be set to the correct back-end system client.
  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.
     This step is necessary for the SAP Assortment Planning framework as the SAP Analysis for Microsoft Office Workbooks obtains data from SAP HANA views.
- Repeat these steps for all users of the back-end system.

3. Ensure that the assortment planner has all necessary roles and authorization objects assigned to their user on the back-end server:
   1. Log on to the back-end server.
   2. Open *User Management* (transaction `SU01`)
   3. Enter the name of the user and select *Change.*
   4. On the *Roles* tab, verify that the following roles are assigned to the user:
      - `SAP_ISR_DDF_MASTER`
      - `SAP_ISR_AP_MASTER`
      - `/RAP/BW_AP_WORKBOOKS`
   5. Set the SAP HANA User Mapping to C in transaction `RS2HANA_VIEW`.
   6. Enable tracing for the user with transaction `SU3`. On the Parameters tab, set the `RSPLS_HDB_PE_TRACE` parameter to value Y
4. Ensure that all procedures in the front-end server are executed. See the *Assign Roles, Catalogs, and Groups in SAP Fiori* section in this guide.

Assign Roles, Catalogs, and Groups in SAP Fiori Launchpad

To be able to access SAP Fiori apps that constitute the SAP Assortment Planning user interface from the SAP Fiori launchpad, your front-end server user must have the necessary roles assigned. Based on the roles assigned to your user, you can access certain business catalogs and business catalog groups. These include technical content as well as business content.

Front-End Server Business Content			Front-End Technical Content	
Business Role	**Business Catalog**	**Business Catalog Group**	**Technical Role**	**Technical Catalog**
`SAP_RAP_BCR_AP_PLANNER`	`SAP_RAP_BC_AP_PLANNER`	`SAP_RAP_BCG_AP_PLANNER`	`SAP_RAP_TCR_T`	`SAP_RAP_TC_T`
`SAP_RAP_BCR_PLANNING_ADMIN`	`SAP_RAP_BC_PLANNING_ADMIN`	`SAP_RAP_BCG_PLANNING_ADMIN`		

Procedure

1. Log on to your front-end system.
2. Launch *User Maintenance* (transaction `SU01`).
3. Enter your user name in the *User* field and choose *Change*.

4. On the *Roles* tab, assign the roles `SAP_RAP_BCR_AP_PLANNER` and `SAP_RAP_BCR_PLANNING_ADMIN` to your user.
5. If the user needs access to the *Analyze Forecast* app via links from the *My Assortment Lists* app, assign the PFCG role `SAP_CAR_TCR_A`. For information on how to create and assign the app-specific roles for the *Analyze Forecast* app on the back-end server and on the front-end server, see the *Set Up the Analyze Forecast App* section in the *Common Installation Guide* or the *Set Up the Analyze Forecast App (Upgrade Scenarios)* section in the *Common Upgrade Guide*.

Standard Authorization Objects

When you use one of the SAP Assortment Planning apps from your SAP Fiori launchpad, the application communicates with the SAP Customer Activity Repository applications bundle, back-end server through the SAP Gateway. To allow this communication, not only must the user names in the SAP Gateway and the ABAP back-end system match, but the ABAP back-end system user must have all the required roles and authorization objects assigned. In this procedure, you verify that an assortment planner has all the necessary roles and authorization objects assigned to their user on the back-end server

The table below shows the security-relevant authorization objects that are used by SAP Assortment Planning.

Authorization Object	Authorization Object Description	Field	Value	Field Description
`/RAP/MAL`	Authorization object for Assortment List	ACTVT	• Administer • Create • Change • Delete • Copy	Activity
`/DMF/PHP`	Authorization for Placeholder Product	ACTV	• Add or Create • Change • Display • Delete	Activity
`/DMF/CLSTS`	Authorization object for Cluster Set related activities	ACTVT	• Create • Change • Delete • Copy	Activity
`/RAP/OPTAT`	Authorization object for Attribute Assignment Option Plan	ACTVT	• Delete • Maintain	Activity
`/RAP/OPT`	Authorization object for Option Plan	ACTVT	• Create • Change • Delete	Activity
`/RAP/APLAN`	Authorization object for Assortment Plan	ACTVT	• Activate, generate	Activity

Authorization Object	Authorization Object Description	Field	Value	Field Description
/DMF/MD	Authorization Object for Module Management	ACTVT	• Display • Maintain	Activity
/DMF/DISCH	Distribution Chain Authorization	ACTVT	• Add or Create • Change • Display • Delete	Activity
/DMF/PLNCG	Authorization Object for Planning Configuration Usage	ACTVT	• Display • Maintain	Activity

4.5 Session Security Protections

To increase security and prevent access to the SAP logon ticket and security session cookie(s), we recommend activating secure session management. We also highly recommend using SSL to protect the network communications where these security-relevant cookies are transferred.

4.6 Data Protection and Privacy

4.6.1 Introduction

Data protection is associated with numerous legal requirements and privacy concerns. In addition to compliance with general data protection and privacy acts, it is necessary to consider compliance with industry-specific legislation in different countries. SAP provides specific features and functions to support compliance with regard to relevant legal requirements, including data protection. SAP does not give any advice on whether these features and functions are the best method to support company, industry, regional, or country-specific requirements. Furthermore, this information should not be taken as advice or a recommendation regarding additional features that would be required in specific IT environments. Decisions related to data protection

must be made on a case-by-case basis, taking into consideration the given system landscape and the applicable legal requirements.

> **i Note**
>
> SAP does not provide legal advice in any form. SAP software supports data protection compliance by providing security features and specific data protection-relevant functions, such as simplified blocking and deletion of personal data. In many cases, compliance with applicable data protection and privacy laws will not be covered by a product feature. Definitions and other terms used in this document are not taken from a particular legal source.

> **⚠ Caution**
>
> The extent to which data protection is supported by technical means depends on secure system operation. Network security, security note implementation, adequate logging of system changes, and appropriate usage of the system are the basic technical requirements for compliance with data privacy legislation and other legislation.

> **i Note**
>
> Data protection and privacy-related functionality has been implemented in the Demand Data Foundation (DDF) module in SAP Customer Activity Repository. DDF includes a reusable data layer that supports the planning, analysis, and forecasting required by different business processes. DDF acts as a liaison between the consuming application installed on top of SAP Customer Activity Repository and the modules within the repository that provide these business processes.
>
> For more information, see the *Data Protection and Privacy* section of the *SAP Customer Activity Repository Administration Guide* under https://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Administration* ▶. For details about simplified blocking of personal data, see *Deletion of Personal Data*.

Generic Fields

You need to make sure that no personal data enters the system in an uncontrolled or non-purpose related way, for example, in free-text fields, through APIs, or customer extensions. Note that these are not subject to the read access logging (RAL) example configuration.

More Information

For upgrade recommendations to support General Data Protection Regulation (GDPR) compliance, see SAP Note 2590321.

Parent topic: Data Protection and Privacy [page 21]

Related Information

Glossary [page 23]
Information Retrieval [page 25]
Deletion of Personal Data [page 26]

4.6.2 Glossary

The following terms are general to SAP products. Not all terms may be relevant for this SAP product.

Term	Definition
Blocking	A method of restricting access to data for which the primary business purpose has ended.
Business Purpose	The legal, contractual, or in other form justified reason for the processing of personal data to complete an end-to-end business process. The personal data used to complete the process is predefined in a purpose, which is defined by the data controller. The process must be defined before the personal data required to fulfill the purpose can be determined.
Consent	The action of the data subject confirming that the usage of his or her personal data shall be allowed for a given purpose. A consent functionality allows the storage of a consent record in relation to a specific purpose and shows if a data subject has granted, withdrawn, or denied consent.
Data Subject	Any information relating to an identified or identifiable natural person ("data subject"). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier, or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural, or social identity of that natural person.
Deletion	Deletion of **personal data** so that the data is no longer available.
End of business	Defines the end of active business and the start of residence time and retention period.

Term	Definition
End of Purpose (EoP)	The point in time when the processing of a set of personal data is no longer required for the primary business purpose, for example, when a contract is fulfilled. After the EoP has been reached, the data is blocked and can only be accessed by users with special authorizations (for example, tax auditors).
End of Purpose (EoP) check	A method of identifying the point in time for a data set when the processing of **personal data** is no longer required for the primary **business purpose**. After the **EoP** has been reached, the data is **blocked** and can only be accessed by users with special authorization, for example, tax auditors.
Personal Data	Any information relating to an identified or identifiable natural person ("data subject"). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier, or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural, or social identity of that natural person.
Purpose	The information that specifies the reason and the goal for the processing of a specific set of personal data. As a rule, the purpose references the relevant legal basis for the processing of personal data.
Residence Period	The period of time between the end of business and the end of purpose (EoP) for a data set during which the data remains in the database and can be used in case of subsequent processes related to the original purpose. At the end of the longest configured residence period, the data is blocked or deleted. The residence period is part of the overall retention period.
Retention Period	The period of time between the end of the last business activity involving a specific object (for example, a business partner) and the deletion of the corresponding data, subject to applicable laws. The retention period is a combination of the residence period and the blocking period.

Term	Definition
Sensitive Personal Data	A category of personal data that usually includes the following type of information: • Special categories of personal data, such as data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, genetic data, biometric data, data concerning health or sex life or sexual orientation. • Personal data subject to professional secrecy • Personal data relating to criminal or administrative offenses • Personal data concerning insurances and bank or credit card accounts
Technical and Organizational Measures (TOM)	Some basic requirements that support data protection and privacy are often referred to as technical and organizational measures (TOM). The following topics are related to data protection and privacy and require appropriate TOMs, for example: • **Access control** Authentication features • **Authorizations** Authorization concept • **Read access logging** • **Transmission control/communication security** • **Input control/change logging** • **Availability control** • **Separation by purpose** Subject to the organizational model implemented and must be applied as part of the authorization concept.

Parent topic: Data Protection and Privacy [page 21]

Related Information

Introduction [page 21]
Information Retrieval [page 25]
Deletion of Personal Data [page 26]

4.6.3 Information Retrieval

Data subjects have the right to receive information regarding their personal data that is being processed. The information retrieval feature supports you in complying with the relevant legal requirements for data protection

by allowing you to search for and retrieve all personal data for a specified data subject. The search results are displayed in a comprehensive and structured list containing all personal data of the data subject specified, organized according to the purpose for which the data was collected and processed.

To see where personal information is used, you must use the Demand Data Foundation (DDF) feature that provides this information. For information, see *SAP Customer Activity Repository Administration Guide* > *Security Information* > *Data Protection and Privacy* > *Deletion of Personal Data* > *Expected Behavior Within Demand Data Foundation (DDF)*.

Parent topic: Data Protection and Privacy [page 21]

Related Information

Introduction [page 21]
Glossary [page 23]
Deletion of Personal Data [page 26]

4.6.4 Deletion of Personal Data

Simplified Blocking and Deletion

When considering compliance with data protection regulations, it is also necessary to consider compliance with industry-specific legislation in different countries. A typical potential scenario in certain countries is that personal data shall be deleted after the specified, explicit, and legitimate purpose for the processing of personal data has ended, but only as long as no other retention periods are defined in legislation, for example, retention periods for financial documents. Legal requirements in certain scenarios or countries also often require blocking of data in cases where the specified, explicit, and legitimate purposes for the processing of this data have ended, however, the data still has to be retained in the database due to other legally mandated retention periods. In some scenarios, personal data also includes referenced data. Therefore, the challenge for deletion and blocking is first to handle referenced data and finally other data, such as business partner data.

Deletion of Personal Data

The processing of personal data is subject to applicable laws related to the deletion of this data when the specified, explicit, and legitimate purpose for processing this personal data has expired. If there is no longer a legitimate purpose that requires the retention and use of personal data, it must be deleted. When deleting data in a data set, all referenced objects related to that data set must be deleted as well. Industry-specific legislation in different countries also needs to be taken into consideration in addition to general data protection laws. After the expiration of the longest retention period, the data must be deleted.

This SAP product might process data (personal data) that is subject to the data protection laws applicable in specific countries as described in SAP Note 1825544.

For information, see *SAP Customer Activity Repository Administration Guide* > *Security Information* > *Data Protection and Privacy* > *Deletion of Personal Data* > *Expected Behavior Within Demand Data Foundation (DDF)*.

Personal Data Management Specific to SAP Assortment Planning

SAP Assortment Planning displays information about locations, which is replicated to the Demand Data Foundation (DDF) module from a source SAP ERP (SAP Retail and SAP Fashion Management) or SAP S/4HANA Retail system. If data for a location of type customer is blocked in the source master data system, this block is also carried through to DDF during the replication.

For all **new** location cluster sets created, attributes of blocked locations are not displayed. For all **existing** location cluster sets, BAdI implementation `/DMF/CLSTS_BP_OBFUSCATION` is called during the DRFOUT data replication, to delete all location attributes of locations with blocked data.

To anonymize (that is, block or mask) the business partners (after business activities related to them are completed) in the local BI content of SAP Assortment Planning (and in the workbooks based on this BI content), the BAdI implementation `/RAP/BW_BP_OBFUSCATION` is called during the DRFOUT data replication. This implementation automatically covers both the DataStore Objects that are part of the SAP Assortment Planning productSAP Assortment Planning and the DataStore Objects that have been copied and adjusted based on the standard characteristic *Location* (`/RAP/SLOCAT`) representing the location or a business partner.

> **i** Note
>
> You can anonymize (that is, block or mask) the business partners only during a time frame with exclusive access to the underlying DataStore Objects (Advanced). Within this time frame, nobody shall work on these DataStore Objects, regardless of actually using the business partner to be anonymized or not. This also includes not to use the *Prepare Plan Assortment* functionality in the *My Assortment Lists* app within this time frame. If one or more DataStore Objects are locked by a user, the anonymization process aborts with a respective error message and this process is reverted.

Parent topic: Data Protection and Privacy [page 21]

Related Information

Introduction [page 21]
Glossary [page 23]
Information Retrieval [page 25]

4.7 ABAP Server Session Security

For the ABAP front-end server, you must activate HTTP security session management by using the transaction `SICF_SESSIONS`. When you activate HTTP security session management, we recommend you activate the following extra protection for security-related cookies:

- `HttpOnly`
  This attribute instructs the browser to deny access to the cookie through client side script. As a result, even if a cross-site scripting (XSS) flaw exists and a user accidentally accesses a link that exploits this flaw, the browser will not reveal the cookie to a third party.
- `Secure`
  This attribute instructs the browser to send the cookie only if the request is being sent over a secure channel such as HTTPS. This helps protect the cookie from being passed over unencrypted requests.

> → Recommendation
>
> It is recommended that you configure the HTTP session expiration with a reasonable timeout of between 10 minutes to 1 hour. To configure this, you use the profile parameter `http/security_session_timeout`.

4.8 Network and Communication Security

Your network infrastructure is extremely important in protecting your system. Your network needs to support the communication necessary for your business needs without allowing unauthorized access. A well-defined network topology can eliminate many security threats based on software flaws (at both the operating system level and application level) or network attacks such as eavesdropping. If users cannot log on to your application or database servers at the operating system or database layer, then there is no way for intruders to compromise the machines and gain access to the backend system's database or files. Additionally, if users are not able to connect to the server LAN (local area network), they cannot exploit well-known bugs and security holes in network services on the server machines.

The network topology for SAP Assortment Planning is based on the topology used by the SAP NetWeaver platform. Therefore, the security guidelines and recommendations described in the SAP NetWeaver Security Guide also apply to SAP Assortment Planning. Details that specifically apply to SAP Assortment Planning are described in the following topics:

- Communication Channel Security
  This topic describes the communication paths and protocols used by the application.
- Network Security
  This topic describes the recommended network topology for the application. It shows the appropriate network segments for the various client and server components and where to use firewalls for access protection. It also includes a list of the ports needed to operate the application.
- Communication Destinations
  This topic describes the information needed for the various communication paths, for example, which users are used for which communications.

Communication Channel Security

The table below shows the communication paths used by SAP Assortment Planning, the protocol used for the connection, and the type of data transferred.

Communication Path	Protocol Used	Type of Data Transferred	Data Requiring Special Protection
Front-end client using SAP Fiori to SAP Gateway application server	HTTPS	Login Information data	Password
Front-end client using SAP Fiori to application Server	HTTPS	All Application Data	Transactional data
Application Server to application server	RFC	Application data	System information, personal data and transactional data

DIAG and RFC connections can be protected using Secure Network Communications (SNC). HTTP connections are protected using the Secure Sockets Layer (SSL) protocol. SOAP connections are protected with Web services security.

> → Recommendation
>
> We strongly recommend using secure protocols (SSL, SNC) whenever possible.

For more information, see *Transport Layer Security* and *Web Services Security* in the *SAP NetWeaver Security Guide*.

Network Security

The network topology for SAP Assortment Planning is based on the topology used by the SAP NetWeaver platform. Therefore, refer to the following documentation for information on network security:

- SAP NetWeaver 7.50
- SAP Supply Chain Management Security Guide
- SAP Supplier Relationship Management Security Guide
- SAP Customer Activity Repository Security Guide

Ports

SAP Assortment Planning runs on SAP NetWeaver and uses the ports from the AS ABAP. For more information, see the topics for *AS ABAP Ports* in the corresponding *SAP NetWeaver Application Server ABAP Security Guide* . For other components, for example, SAPinst, SAProuter, or the SAP Web Dispatcher, see also the document *TCP/IP Ports Used by SAP Applications*, which is located on SAP Community Network (SCN) at http://scn.sap.com/community/security *Infrastructure Security* *Network and Communication Security*

Communication Destinations

The table below shows an overview of the communication destinations used by SAP Assortment Planning:

Destination	Type	User, Authorizations	Description
SAP ERP Retail	Trusted RFC Connection	Standard RFC user configuration	Connecting SAP ERP System for DRFOUT, SLT and creating Assortments
SAP BW	Trusted RFC Connection	Standard RFC user configuration	Connecting SAP Planning for Retail to retrieve Merchandise Planning information
Fiori Front End Server	Trusted RFC Connection	Standard RFC user configuration	Connecting Fiori Server, so that Assortment Planning OData services could be accessed.

4.9 OData Services

Use

A number of OData services are required to run the SAP Assortment Planning application. For security reasons, all OData services are delivered in an inactive state. You must activate these application-specific OData services to use the SAP Fiori user interface of the SAP Assortment Planning application. The following OData services are available:

Service Name
/DMF/SEARCH_LOCATIONS_SRV
/DMF/SEARCH_PRODUCTS_SRV
/DMF/CURRENCY_LIST_SRV
/DMF/MODULE_MANAGEMENT_SRV
/DMF/LOCATION_CLUSTERSET_SRV
/DMF/OBJ_ATTRIBUTE_SRV
/DMF/SEASONS_SRV
/DMF/MASTER_DATA_SRV

Service Name
/RAP/OPTION_PLAN_SRV
/RAP/PHP_MATCH_SRV
/RAP/OPT_PLN_KPI_SRV
/RAP/V_OP_KPI_Q_CDS_CDS
/RAP/V_OP_OCLST_PRSL_Q_CDS_CDS
/RAP/ASSORTMENT_LIST_SRV

APIs

API Odata Services	Description
API_ATTRIBUTES_SRV	Import attributes, values, product-attribute assignment and product-attribute value assignment.
API_MERCHANDISE_PLAN_KPI	Import external category merchandise financial plans.
API_PHPS	Import placeholder products from an external source.
API_IMAGE	Maintain image data for business objects.

4.10 Internet Communication Framework Security

For security reasons, all Internet Communication Framework (ICF) services relevant to your SAP Assortment Planning application are made available in an inactive state. You should only activate those services that are needed for the applications running in your system. For SAP Assortment Planning the following services are needed:

- /sap/bc/ui5_ui5/sap/locclsts_v2
- /sap/bc/ui5_ui5/sap/phpmatch_v2
- /sap/bc/ui5_ui5/sap/optionplan_v2
- /sap/bc/ui5_ui5/sap/ddfreuse_v2
- /sap/bc/ui5_ui5/sap/attribmgmt_v2
- /sap/bc/ui5_ui5/sap/modulemgmt_v2
- /sap/bc/ui5_ui5/sap/assortlist

Use the transaction SICF to activate these services. If your firewall(s) use URL filtering, also note the URLs used for the services and adjust your firewall settings accordingly.

For more information on activating these services, see the *Activate SAP Assortment Planning ICF Services* section in the *Common Installation Guide*.

For more information, see *Activating and Deactivating ICF Services* in the *SAP NetWeaver Library* documentation.

For more information about ICF security, see the *RFC/ICF Security Guide* within the *Security Guides for Connectivity and Interoperability Technologies* in the *SAP NetWeaver Security Guide*

4.11 Data Storage Security

SAP Assortment Planning saves data in the SAP HANA database of the SAP system. It relies on the underlying security features available in HANA for data protection.

4.12 Enterprise Services Security

The following sections in the SAP NetWeaver Security Guide and documentation are relevant for all enterprise services delivered with SAP Assortment Planning.

- *Web Services Security*
- *Recommended WS Security Scenarios*
- *SAP NetWeaver Process Integration Security Guide*

4.13 Security-Relevant Logging and Tracing

The SAP Assortment Planning does not provide additional security logging and tracing above those available within SAP NetWeaver. For more information on:

- Logging and Tracing for ABAP, see http://help.sap.com *SAP NetWeaver Library* > *Administrator's Guide* > *SAP NetWeaver Security Guide* > *Security Aspects for System Management* > *Auditing and Logging*.
- Logging and Tracing for NetWeaver Business Client, see http://help.sap.com *SAP NetWeaver Library -> Administrator's Guid* > *SAP NetWeaver Security Guide* > *Security Guides for SAP NetWeaver According to Usage Types* > *Security Guides for Usage Types EPC and EP -> Portal Security Guide* > *Logging and Tracing* > *Identity Mangement* > *User Management of the Application Server Java* > *Troubleshooting* > *Logging and Tracing.*
- Logging and Tracing for customizing changes, use the `SCU3` transaction to activate the logging of changes to the table data.

4.14 Services for Security Lifecycle Management

The following services are available from Active Global Support to assist you in maintaining security in your SAP systems on an ongoing basis.

Security Chapter in the EarlyWatch Alert (EWA) Report

This service regularly monitors the Security chapter in the EarlyWatch Alert report of your system. It tells you:

- Whether SAP Security Notes have been identified as missing on your system.
  In this case, analyze and implement the identified SAP Notes if possible. If you cannot implement the SAP Notes, the report should be able to help you decide on how to handle the individual cases.
- Whether an accumulation of critical basis authorizations has been identified.
  In this case, verify whether the accumulation of critical basis authorizations is okay for your system. If not, correct the situation. If you consider the situation okay, you should still check for any significant changes compared to former EWA reports.
- Whether standard users with default passwords have been identified on your system.
  In this case, change the corresponding passwords to non-default values.

Security Optimization Service (SOS)

The Security Optimization Service can be used for a more thorough security analysis of your system, including:

- Critical authorizations in detail
- Security-relevant configuration parameters
- Critical users
- Missing security patches

This service is available as a self-service within SAP Solution Manager, as a remote service, or as an on-site service. We recommend you use it regularly (for example, once a year) and in particular after significant system changes or in preparation for a system audit.

Security Configuration Validation

The Security Configuration Validation can be used to continuously monitor a system landscape for compliance with predefined settings, for example, from your company-specific SAP Security Policy. This primarily covers configuration parameters, but it also covers critical security properties like the existence of a non-trivial Gateway configuration or making sure standard users do not have default passwords.

Security in the RunSAP Methodology / Secure Operations Standard

With the E2E Solution Operations Standard Security service, a best practice recommendation is available on how to operate SAP systems and landscapes in a secure manner. It guides you through the most important security operation areas and links to detailed security information from SAP's knowledge base wherever appropriate.

5 Operation Information

5.1 Monitoring

Monitoring is an essential task in managing SAP Technology. Monitoring allows you to detect any irregularities or deviations from the ideal business process flow. It also allows you to detect error situations concerning core business processes at an early stage. SAP Assortment Planning uses frameworks developed in Demand Data Foundation (DDF) for its monitoring purposes as most of the master data and transaction data comes from DDF.

SAP Assortment Planning does not have any specific monitoring implemented unless specified in this guide. Demand Data Foundation internally uses the **Foundation on SAP NetWeaver AS for ABAP, version for SAP HANA** (SAP NetWeaver) standard functionality for monitoring. For more information about this functionality, see *Search and Operational Analytics* for **SAP NetWeaver Application Server for ABAP 7.52** at https://help.sap.com/viewer/6522d0462aeb4909a79c3462b090ec51/7.52.3/en-US/b257d700e8534f77af91db0195e24047.html and search for *Monitoring*. For more information, see also the *Operation Information* section in the *SAP Customer Activity Repository Administration Guide* at http://help.sap.com/viewer/product/CARAB/en-US *<Version>* *Administration* .

Alert Monitoring

SAP provides you with the infrastructure and recommendations to set up your alert monitor in such a way that critical situations are identified as quickly as possible.

Component-Specific Monitoring

Specific CCMS monitoring for SAP Assortment Planning is not available.

Detailed Monitoring

Application Log

The Application Log function collects messages, exceptions, and errors and displays them in a log. You can call up the log using transaction `SLG1`. The log provides you with the following:

- Basic header information on the events that have occurred
- Event details
- Technical information
- Message short and long texts

The following functionality in SAP Assortment Planning uses the Application Log function:

Functionality	Log Object	Log Sub-Object
Merchandise Plan import	`/DMF/APPL`	`/DMF/MERCH_PLAN`
Interface to export assortments to an ERP system	`/RAP/EXPORT`	-
Import of attributes / attribute values and product assignments	`/DMF/APPL`	`/DMF/ATR`
Soft deletion and purging of assortment lists	`/RAP/AL`	`/RAP/SOFT_DELETE` and `/RAP/PURGE`
All steps for initializing the assortment plan data for SAP BW structures are logged in the log sub-object `/RAP/ASRT_PLAN`. These steps include *Prepare Plan Assortment* in the *My Assortment Lists* app.	`/RAP/AP_BW`	`/RAP/ASRT_PLAN`
All steps for initializing the option plan data for SAP BW structures are logged in the log sub-object `/RAP/OPT_PLN`. These steps include the save operation in the *My Option Plans* app.	`/RAP/AP_BW`	`/RAP/OPT_PLN`
Assortment plan location validity period override	`/RAP/ASRT_PLN`	`LOC_OVERRIDE`

For more information about the Application Log function, see SAP Help Portal for SAP NetWeaver at http://help.sap.com/viewer/product/SAP_NETWEAVER/en-us. Choose a release. Under *Application Help*, choose *SAP NetWeaver Library: Function-Oriented View* > *Application Server* > *Application Server ABAP* > *Other Services* > *> Services for Business Users* > *Application Log - User Guidelines (BC-SRV-BAL)*.

Checkpoint Group

You can activate the following checkpoint group to monitor the PAL (Predicated Analysis Library)-related ADBC (ABAP Database Connectivity) statements from the Location Clustering functionality in SAP Assortment Planning:

Functionality	Log Object
Location Clustering	/DMF/LOC_CLST

SAP Fiori and SAP Gateway Monitoring

SAP Assortment Planning uses standard SAP Gateway Monitoring tools for monitoring the SAP Fiori applications and OData services.

For more information about monitoring SAP Fiori apps, see SAP Library on SAP Help Portal at http://help.sap.com/viewer/p/FIORI_IMPLEMENTATION. Choose *Operations* > *SAP Fiori: Operations* > *Monitoring SAP Fiori Apps*.

For more information about SAP Gateway Monitoring, see the SAP Gateway Technical Operations Guide on SAP Help Portal at http://help.sap.com/viewer/p/SAP_GATEWAY. Choose *Operations* > *Technical Operations Guide*.

SAP HANA Monitoring

SAP Assortment Planning uses standard SAP HANA Monitoring tools for monitoring SAP HANA. For more information, see the *SAP HANA Administration Guide for SAP HANA Platform* at http://help.sap.com/viewer/product/SAP_HANA_PLATFORM and select a version. Choose *Administration* > *SAP HANA Administration Guide for SAP HANA Platform*.

SAP Business Warehouse Monitoring

SAP Assortment Planning has its own, local BI Content. SAP Assortment Planning BI Content uses standard SAP Business Warehouse (SAP BW) Monitoring tools. You can execute the following tasks to monitor SAP BW processes and the status of local BI Content objects for SAP Assortment Planning:

- Monitoring in the SAP BW Administration Cockpit
  - Monitor the performance of SAP BW processes
  - Monitor the status of SAP BW processes and requests
  - Display the SAP BW usage statistics
  - Monitor the database load
- Monitor SAP BW log files
- Display and evaluate SAP BW logs in the application log

- Manage InfoProviders
- Analyze statistical data for SAP BW

For more information about monitoring SAP BW for SAP NetWeaver 7.50, see SAP Library for SAP Business Warehouse on SAP Help Portal at http://help.sap.com/viewer/p/SAP_NETWEAVER_750. Under *Application Help*, choose *SAP NetWeaver Library: Function-Oriented View* > *SAP Business Warehouse* > *Administration of SAP Business Warehouse* > *Administrative Tasks for Enterprise Data Warehouse* > *Tasks Performed Regularly*.

SAP Analysis for Microsoft Office

SAP Assortment Planning uses the standard monitoring functionality of SAP Analysis for Microsoft Office Monitoring. SAP Analysis for Microsoft Office provides log files and traces. For more information, see the *Administrator Guide: SAP Analysis for Microsoft Office* at http://help.sap.com/viewer/product/SAP_BUSINESSOBJECTS_ANALYSIS_OFFICE *<Version>* > *Installation, Configuration, Security, and Administration Information* > *Administrator Guide*.

Data Consistency

SAP Assortment Planning provides no specific functionality to ensure data consistency but uses the infrastructure of SAP Customer Activity Repository.

SAP Assortment Planning relies mainly on DDF for its master data, for example locations and products. The corresponding master data is replicated using DRFOUT (data replication framework). In addition to DRFOUT, SAP Assortment Planning also relies on some master data replicated using the SAP Landscape Transformation component (SAP LT Replication Server). This is required for activating Assortment Planning SAP HANA Content. For more information about activating SAP HANA Content, see the *Common Installation Guide CARAB* at https://help.sap.com/viewer/DRAFT/55c14d85842b4275afda2af381a7ab71/4.0.latest/en-US and search for *Activate SAP HANA Content* in the *Core (Mandatory Mandatory for All Applications)* subsection.

.

5.2 Management

SAP provides you with an infrastructure to help your technical support consultants and system administrators effectively manage all SAP components and complete all tasks related to technical administration and operation.

Starting and Stopping

Start and Stop Sequences and Tools

Action and Component	Sequence	Tool	Detailed Description
Start SAP HANA database	1	`sapstartsrv`	See the information about starting and stopping SAP HANA systems in the *SAP HANA Administration Guide*.
Start SAP Systems and Instances	2	`STARTSAP` (for UNIX)	See the information about starting and stopping SAP Systems based on SAP NetWeaver at https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 *Application Help* > *SAP NetWeaver Library: Function-Oriented View* > *Solution Lifecycle Management* > *Starting and Stopping SAP Systems Based on SAP NetWeaver* >.

Action and Component	Sequence	Tool	Detailed Description
Start SAP LT Replication Server (Optional)	3	SAP HANA studio	Use SAP HANA studio to start replication of tables required by SAP Assortment Planning. For more information on configuring data replication for SAP Assortment Planning, see the *Common Installation Guide CARAB* at https://help.sap.com/viewer/DRAFT/55c14d85842b4275afda2af381a7ab71/4.0.latest/en-US and search for *Configure Data Replication* regarding SAP Assortment Planning. For more information, see SAP Help Portal about *SAP HANA Real-Time Replication* at http://help.sap.com/viewer/product/SAP_HANA_REAL_TIME_REPLICATION.
Stop SAP LT Replication Server (Optional)	4	SAP HANA studio	Use SAP HANA studio to stop replication of tables required by SAP Assortment Planning.
Stop SAP Systems and Instances	5	`STOPSAP` (for UNIX)	See the information about starting and stopping SAP Systems based on SAP NetWeaver at https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 *Application Help* > *SAP NetWeaver Library: Function-oriented View* > *Solution Lifecycle Management* > *Starting and Stopping SAP Systems Based on SAP NetWeaver* >.

Action and Component	Sequence	Tool	Detailed Description
Stop SAP HANA database	6	`sapstartsrv`	See the information about starting and stopping SAP HANA systems in the *SAP HANA Administration Guide*.

Administration Tools

There is no specific administration tool for SAP Assortment Planning.

SAP Assortment Planning uses the standard SAP NetWeaver administration tools. For more information, see SAP Help Portal for SAP NetWeaver at http://help.sap.com/viewer/product/SAP_NETWEAVER. Choose *SAP NetWeaver Platform* > *<Your platform>* > *Operations* > *Technical Operations for SAP NetWeaver* > *Administration of SAP NetWeaver systems and components*.

SAP Assortment Planning also uses the administration tools available with SAP HANA. For more information, see SAP Help Portal for SAP HANA platform at http://help.sap.com/viewer/product/SAP_HANA_PLATFORM. Choose a SAP HANA platform version. Choose *Administration* > *SAP HANA Administration Guide for SAP HANA Platform*.

Backup and Restore

You must back up your system landscape regularly to ensure that you can restore and recover it in case of failure. The backup and restore strategy of your system landscape must not only include your strategy for your SAP system, but it must also be included in your company's overall business requirements and incorporated into your entire process flow.

In addition, the backup and restore strategy must cover disaster recovery processes, such as how to recover from the loss of a data center due to a fire. It is important that your strategy specifies that normal data and backup data are stored in separate physical locations, so that both types of data are not lost in case of a disaster. SAP Assortment Planning is based on SAP NetWeaver technology; therefore, the SAP NetWeaver backup procedures can also be used for SAP Assortment Planning.

Subject	Path
Backup and recovery processes for ABAP, JAVA, Business Intelligence, or Process Integration	See the Technical Operations documentation for SAP NetWeaver at http://help.sap.com/viewer/product/SAP_NETWEAVER. Choose *SAP NetWeaver Platform* > *<Your platform>* > *Operations* > *Technical Operations for SAP NetWeaver*.

Subject	Path
Backing up and recovering the SAP HANA database	See SAP Help Portal for SAP HANA platform at http://help.sap.com/viewer/product/SAP_HANA_PLATFORM. Choose *Administration* > *SAP HANA Administration Guide for SAP HANA Platform*.
Backup and restore for Demand Data Foundation (DDF)	See the *SAP Customer Activity Repository Administration Guide* at https://help.sap.com/viewer/DRAFT/55c14d85842b4275afda2af381a7ab71/4.0.latest/en-US and search for *Backup and Restore*.

Periodic Tasks

This section describes the tasks required to run to keep the application running smoothly over time. It is important that you monitor the successful execution of these tasks on a regular basis.

Periodic Tasks

Program Name/Task	Task scheduling tool	Recommended Frequency and method	Detailed Description
DRFOUT (for master data replication)	-	Frequency: • Initial setup of the system • Whenever master data changes Method: Manual task	Perform this task in the SAP Retail system to replicate the needed master data from SAP Retail system to the system for SAP Assortment Planning. Out of possible 14 outbound implementations, SAP Assortment Planning needs at least the following 10 outbound implementations: • PAHY (Article Hierarchy) • PINV (Inventory) • PMAP (Moving Average Price) • PMAT (Material) • PMCH (Material Group Hierarchy) • PMPL (Material/Plant) • PPLT (Plant) • PSOS (Source of Supply) • PSPR (Sales Price) • PVEN (Vendor) For more information, see the *Configure Demand Data Foundation* section in the SAP Assortment Planning part of the *Common Installation Guide*.
DRFOUT (for building up Inventory History)	Transaction SM36 for scheduling a background job	Frequency: Weekly Method: Scheduled periodic task	We recommend that you schedule a weekly periodic task to replicate inventory data (outbound implementation PINV) from the SAP Retail system to the system for SAP Assortment Planning. This replication builds up the inventory history data that is needed by SAP Assortment Planning.

Program Name/Task	Task scheduling tool	Recommended Frequency and method	Detailed Description
/DMF/BI_IF_MERCH_PLAN (report for receiving the merchandise plan data from SAP Planning for Retail)	Transaction SM36 for scheduling a background job	Frequency: Weekly or quarterly (depends on your business model) Method: Scheduled periodic task	Perform this task in the system for SAP Assortment Planning to pull the relevant KPI information from the SAP Business Warehouse system where SAP Planning for Retail resides.
/DMF/ATR_IMPORT	Transaction SM36 for scheduling a background job or run manually in transaction SE38	Frequency: • Initial setup of system • Based on the frequency of master data change in SAP Retail Method: Scheduled periodic task or manual task	Perform this task to import: • SAP Retail characteristics as attributes into the SAP Customer Activity Repository applications bundle landscape • Corresponding attribute values If you want to import additional attributes or values, implement BAdI /DMF/ATR_IMPORT_DEF. Analyze the application log using transaction SLG1 for object /DMF/APPL and subobject /DMF/ATR. If there are errors, you may need to correct the errors and restart the import process manually or wait until the next import is scheduled.

Program Name/Task	Task scheduling tool	Recommended Frequency and method	Detailed Description
/DMF/PROD_ATR_IMPORT	Transaction SM36 for scheduling a background job or run manually in transaction SE38	Frequency: • Initial setup of system • Based on the frequency of master data change in SAP Retail Method: Scheduled periodic task or manual task	Perform this task to import SAP Retail characteristics assignments to products in the SAP Customer Activity Repository applications bundle landscape. If you want to import additional attributes or values, implement BAdI /DMF/ATR_IMPORT_DEF. Analyze the application log using transaction SLG1 for object /DMF/APPL and subobject /DMF/ATR. If there are errors, you may need to correct the errors and restart the import process manually or wait until the next import is scheduled.
/DMF/EXECUTE_SEASON_INBOUND	Transaction SM36 for scheduling a background job or run manually in transaction SE38	As needed. The frequency is determined by the frequency of changes to the season master data (year, season, collection, theme). These changes are replicated to the SAP Customer Activity Repository. Method: Scheduled periodic task	This report replicates season data from the SAP Fashion Management System (SAP FMS) or SAP S/4HANA or SAP Retail to SAP Customer Activity Repository using SAP Landscape Transformation (SLT). These tables allow SAP Merchandise Planning to include sales, inventory and receipts by season. In addition, it allows SAP Assortment Planning to include sales, order and delivery dates by season.

Program Name/Task	Task scheduling tool	Recommended Frequency and method	Detailed Description
/DMF/WHOLESALE_SO_SHP_TO_TS_WS	Transaction SM36 for scheduling a background job or run manually in transaction SE38	As needed. Method: Scheduled periodic task	This report converts sales orders into the /DMF/TS_WS table. This table is used by the planning applications for ecommerce and wholesale. The report reads replicated tables in SAP Customer Activity Repository and loads sales orders and their shipment documents into the /DMF/TS_WS table.
GVAR (for fiscal year variant maintenance in your back-end system)	-	As needed. Method: Manual task	Perform this task to maintain the required fiscal year variant (0FISCVARNT 'RW') at least for the years for which you are planning. Usually, this means that you have to maintain fiscal year variants a few years in advance on a regular basis. Once the fiscal year variant is maintained, you also have to generate the fiscal year time data in your SAP HANA database. For more information, see the *Maintain Fiscal Year Variant* and *Generate Time Data - Fiscal Calendar* subsections in the *Common Installation Guide CARAB* at https://help.sap.com/viewer/DRAFT/55c14d85842b4275afda2af381a7ab71/4.0.latest/en-US.

Program Name/Task	Task scheduling tool	Recommended Frequency and method	Detailed Description
RSRHIERARCHYVIRT	-	As needed. Method: Manual task	According to the fiscal year variant maintenance (with GVAR), perform this task to maintain the time interval for virtual time hierarchies in SAP BW. Provide a time interval that is broad enough for the current and upcoming planning activities. A good starting point could be at least two years into the past and five years into the future.
SAP HANA studio > *Generate Time Data* > *Fiscal Calendar*	-	During initial system setup and periodically. Method: Manual task or Scheduled periodic task	Perform this task to generate time data for the fiscal calendar used by SAP Assortment Planning. The fiscal year variant for the fiscal calendar is maintained in the *Define SAP BW Application for Merchandise Planning* Customizing activity under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Integration*. Generate time data for all the years that you intend to plan for in SAP Assortment Planning. If fiscal periods have been added to the *Maintain Fiscal Year Variant* Customizing activity, generate the time data for the fiscal calendar in SAP HANA Studio. Follow the steps in the *Common Installation Guide* under *Post-Installation* > *SAP Assortment Planning* and search for *Generate Time Data - Fiscal Calendar*.

Program Name/Task	Task scheduling tool	Recommended Frequency and method	Detailed Description
SAP HANA studio > *Generate Time Data* > *Gregorian Calendar*	-	Periodically. Method: Manual task or Scheduled periodic task	Perform this task to generate time data for the Gregorian calendar. This time data is only required if you use the Retail SAP BW Structure. Follow the steps in the *Common Upgrade Guide* under *Set Up the Applications* > *SAP Assortment Planning* > *<Upgrade Path>* > *Upgrade from Retail SAP BW Structure* > *Verify Gregorian Calendar*. Generate time data for all the years that you intend to plan for in SAP Assortment Planning.

For information about scheduled periodic tasks for SAP NetWeaver Application Server for ABAP 7.52, see https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 *Application Help* > *SAP NetWeaver Library: Function-Oriented View* > *Search and Operational Analytics* > *Managing Search and Operational Analytics* > *Technical Operations Manual* > *Administration* > *Periodic Tasks* > *Scheduled Periodic Tasks*.

5.3 High Availability

SAP Assortment Planning is based on SAP HANA and SAP NetWeaver technology; all high availability considerations that apply to SAP HANA and SAP NetWeaver, such as increasing system availability, improving performance, and eliminating unplanned downtime, also apply to SAP Assortment Planning.

Additional Information on high availability

Topic	Path
General information on high availability strategies for SAP NetWeaver-based systems	See SAP Help Portal for SAP NetWeaver at http://help.sap.com/viewer/product/SAP_NETWEAVER. Choose *SAP NetWeaver Platform* > *<Your platform>*. Under *Application Help*, choose *SAP NetWeaver Library: Function-Oriented View* > *Solution Life Cycle Management* > *SAP Business Continuity*.

Topic	Path
General information on high availability strategies for SAP HANA based systems	See SAP Help Portal for SAP HANA Platform at http://help.sap.com/viewer/product/SAP_HANA_PLATFORM. Choose a SAP HANA platform version. Choose *Administration* > *SAP HANA Administration Guide for SAP HANA Platform*.

5.4 Software Change Management

Software Change Management standardizes and automates software distribution, maintenance, and testing procedures for complex software landscapes and multiple software development platforms. These functions support your project teams, development teams, and application support teams. The goal of Software Change Management is to establish consistent, solution-wide change management that allows for specific maintenance procedures, global rollouts (including localizations), and open integration with third-party products.

Transport and Change Management

SAP Assortment Planning uses the infrastructure of SAP NetWeaver Application Server for ABAP.

For information about change management for SAP NetWeaver Application Server for ABAP 7.52, see https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 *Application Help* > *SAP NetWeaver Library: Function-Oriented View* > *Search and Operational Analytics* > *Managing Search and Operational Analytics* > *Technical Operations Manual* > *Change Management*.

Development Requests and Development Release Management

You use the standard tools and procedures of SAP NetWeaver to transport SAP Assortment Planning code extensions or customizing changes. All such changes are captured by the transport system and are transportable.

For information about procedures for SAP Analysis for Microsoft Office, see the section about lifecycle management with SAP NetWeaver in the *SAP Analysis for Microsoft Office Administrator Guide* at http://help.sap.com/viewer/product/SAP_BUSINESSOBJECTS_ANALYSIS_OFFICE *<Version>* > *Installation, Configuration, Security, and Administration Information* > *Administrator Guide*.

Additional Information on development requests and development release management

Topic	Path
Change and Transport System	See SAP Help Portal for SAP NetWeaver at http://help.sap.com/viewer/product/SAP_NETWEAVER/ALL. Choose a *SAP NetWeaver Platform* (release). Under *Operations*, choose *Technical Operations for SAP NetWeaver* > *Administration of Application Server ABAP*.
Change Management for SAP HANA-based systems	See SAP Help Portal for SAP HANA platform at http://help.sap.com/viewer/product/SAP_HANA_PLATFORM. Under *Administration*, choose *SAP HANA Administration Guide Guide for SAP HANA Platform*.
Manual correction process for ABAP on SAP HANA	See SAP Note 1798895.

Support Packages and Patch Implementation

We recommend that you implement SAP NetWeaver (including SAP BW), SAP HANA,SAP Analysis for Microsoft Office, and SAP Assortment Planning support package stacks. These support package stacks are sets of support packages and patches for the respective product version that must be used in the given combination. The technology for applying support packages and patches will not change.

Before you apply any support packages or patches of the selected SP stack, see the corresponding Release Information Notes (RINs) for up-to-date information on the current release:

Topic	Path
RIN for Back-End Product Version "SAP CARAB 4.0 FPS01" (RIN for the SAP CARAB 4.0 FPS01 back-end product version of SAP Customer Activity Repository applications bundle 4.0 FPS01)	SAP Note 2708055
RIN for Front-End Product Version "SAP FIORI FOR SAP CARAB 4.0 FPS01" (RIN for the SAP FIORI FOR SAP CARAB 4.0 FPS01 front-end product version of SAP Customer Activity Repository applications bundle 4.0 FPS01)	SAP Note 2708040

More Information

For more information about software change management, see the following:

Topic	Path
Maintenance Planner	https://support.sap.com/en/alm/solution-manager/processes-72/maintenance-planner.html

Topic	Path
Support Package Stacks	https://support.sap.com *My Support* *Software Downloads* *Support Package Stacks*

5.5 Support Desk Management

Support Desk Management enables you to set up an efficient internal support desk for your support organization that seamlessly integrates your end users, internal support employees, partners, and SAP Active Global Support specialists with an efficient problem resolution procedure. For support desk management, you need the methodology, management procedures, and tools infrastructure to run your internal support organization efficiently.

Remote Support Setup

If you want to use SAP remote services (for example, SAP EarlyWatch or Remote Consulting), or if you would like to permit an SAP support consultant to work directly in your system to make a more precise problem diagnosis, set up a remote service connection.

Additionally, there exists an ABAP role for read-only access for remote support that is also relevant. This role (`SAP_RCA_SAT_DISP` for ABAP) is available in the STPI plug-in and is generated when a managed system is connected to SAP Solution Manager.

Should any additional application-specific functionality be necessary for use by an SAP support consultant, then an applicable role should be defined providing the appropriate authorization(s) and assigned to the SAP support consultant's user logon.

Problem Message Handover

To report an incident (that is, create an SAP support message) for your installation, you must specify an application component. For SAP Assortment Planning, you can specify one of the following application components:

- CA-RT-AP - to enter support messages for general issues with SAP Assortment Planning that cannot be easily classified into one of the following categories.
  - CA-RT-AP-FIO - to enter support messages for the SAP Fiori (SAP HMTL5) apps of SAP Assortment Planning.
  - CA-RT-AP-PLN - to enter support messages for the planning component of SAP Assortment Planning. This component includes the following applications and functional areas:
    - Plan Assortments
    - Plan Options

    - Planning Application UI based on SAP Analysis for Microsoft Office
  - CA-RT-AP-INT - to enter support messages for the Integration (to ERP and Retail Planning) component of SAP Assortment Planning.
- CA-DDF-RT - to enter support messages for Demand Data Foundation.
  - CA-DDF-RT-MD - to enter support messages for the Master Data component.
  - CA-DDF-RT-IF - to enter support messages for the Interfaces component.
  - CA-DDF-RT-FIO - to enter support messages for the SAP Fiori applications for Demand Data Foundation.

For information about reporting incidents for SAP Customer Activity Repository, see the SAP Customer Activity Repository Administration Guide at https://help.sap.com/viewer/product/CARAB/4.0.latest/en-US *Administration* > *SAP Customer Activity Repository Administration Guide* >.

5.6 Troubleshooting

Authorization Issues with External SAP HANA Views for SAP BW InfoCubes or DataStore Objects (Advanced)

External SAP HANA views can retrieve data from the SAP BW InfoCubes when using the Retail SAP BW Structure or from the DataStore Objects (Advanced, InfoCube-like) when using the Omnichannel SAP BW Structure. If there are issues with authorization for the external SAP HANA views that retrieve data of SAP BW InfoCubes or DataStore Objects (Advanced, InfoCube-like) that are contained in the package `System-local.bw.bw2hana.rap`, perform the following steps to solve the issue:

- Ensure that users have identical user names in SAP BW and in the SAP HANA database.
- Ensure that the *Session Client* in the SAP HANA database is set to SAP BW client.
- Ensure that the *SAP HANA User Mapping* is set to *C* (DBMS user or SAP HANA user with the same name as SAP BW user) using transaction `RS2HANA_VIEW`.
- Check if all necessary authorizations are available for the SAP<SID> user and for any other user. Do this check by executing the transaction `RS2HANA_CHECK`. The report states the missing authorizations. Grant the missing authorizations to the SAP<SID> user.
- You can regenerate BW2HANA authorizations with report `RS2HANA_AUTH_RUN` (executed in transaction `SE38`). This measure helps especially if `RS2HANA_CHECK` reports missing filter values.

For more information about RS2HANA tools, please refer to following documentation:

- SAP Note *Transactions RS2HANA_ADMIN and RS2HANA_CHECK*, see 2031522.
- *Generating SAP HANA Views from the BW System*, see http://help.sap.com/viewer/p/SAP_NETWEAVER_750 *Application Help* > *SAP NetWeaver Library: Function-Oriented View* > *SAP Business Warehouse* > *Using the SAP HANA Database* > *Data Modeling When Using a SAP HANA* > *Mixed Modeling (SAP BW and SAP HANA)* > *Generating SAP HANA Views from the BW System* >.

CDS Views Issues During Activation

If CDS views cannot be activated or many of them are not active, do the following:

- If a CDS view cannot be activated, run the `RUTDDLSACT` report. If this report does not work, run the `RUTDDLSACT1` report having the *Force Activation* option enabled.
  If there are still inactive CDS views after a note implementation, run the `RUTDDLSACT` report. To make this report available in the system, implement SAP Note 2607137.
- If many CDS views are inactive in a transport, execute a mass activation using the `RADMASG0` report.

Manage Location Clusters App Issues When Executing the Smart Clustering Functionality

If there are issues when running smart clustering using the *Manage Location Clusters* app, make sure that the following steps have been executed:

- SAP HANA Script Server is active. If not, activate this server by reading and implementing SAP Note 1650957.
- `SAP <SID>` user has the `EXECUTE` privilege of `system.afl_wrapper_generator` and `system.afl_wrapper_eraser`. If not, grant this privilege. For example, if the user name is `USER1`, run the following commands:

```
GRANT EXECUTE ON system.afl_wrapper_generator to USER1
GRANT EXECUTE ON system.afl_wrapper_eraser to USER1
```

My Assortment Lists App: Error Message After Executing Prepare Plan Assortment

If you choose *Prepare Plan Assortment* in the *My Assortment Lists* app and get the following error message: *Combination check: Characteristic value # for /RAP/VERSN char. does not exist*, ensure the following:

You have maintained the empty (#) version value as listed in the *Activate Application BI Content* section of the *Common Installation Guide*.

Fiori Troubleshooting

For general information about troubleshooting for SAP Fiori, see SAP Library on SAP Help Portal at http://help.sap.com/viewer/p/FIORI_IMPLEMENTATION ▶ *SAP NW <Version>* ▶ *Operations* ▶ *SAP Fiori: Operations* ▶ *Troubleshooting SAP Fiori apps* ▶.

Issues such as a blank screen when opening an SAP Fiori app or missing Fiori Tiles in launchpad are often caused by cache issues. Therefore, consult the section *Cache Buster for SAP Fiori for SAP Fiori Launchpad and SAP Fiori Apps* on SAP Help Portal at https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 ▶ *UI Technologies in SAP NetWeaver* ▶ *SAP Fiori Launchpad* ▶ *Administration Guide* ▶.

If this does not solve these issues, you can do the following:

- Check if you have scheduled the *Calculation of the SAPUI5 Application Index for SAPUI5 Repositories* report (`/UI5/APP_INDEX_CALCULATE`) to run at regular intervals. For more information, see SAP Help Portal at https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 ▶ *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* ▶.
  For more information, see SAP Note 2227577.
- You can manually invalidate the cache for such resources by running the ABAP program `/UI2/INVALIDATE_CLIENT_CACHES`. For more information, see the section *Invalidate Client Caches* in SAP Library on SAP Help Portal at https://help.sap.com/viewer/p/SAP_NETWEAVER_AS_ABAP_752 ▶ *UI Technologies in SAP NetWeaver* ▶ *SAP Fiori Launchpad* ▶ *Administration Guide* ▶.

SAP Analysis for Microsoft Office Troubleshooting

General

SAP Assortment Planning uses the standard troubleshooting functionality of SAP Analysis for Microsoft Office Monitoring. SAP Analysis for Microsoft Office provides utilities for troubleshooting, such as error messages, log files, and traces. For more information, see the SAP Analysis for Microsoft Office documentation at http://help.sap.com/viewer/product/SAP_BUSINESSOBJECTS_ANALYSIS_OFFICE ▶ *<Version>* ▶ *Installation, Configuration, Security, and Administration Information* ▶ *Administrator Guide* ▶.

Message “Size limit of result set exceeded” in Worksheet

If the message *Size limit of result set exceeded* appears in an SAP Assortment Planning worksheet, increase the `ResultSetSizeLimit`. For more information, see SAP note *Result Set Size Limit Exceeded Message* - 1656983. To prevent this message, we recommend increasing the `ResultSetSizeLimit`.

Message “Condition on Product Variant[/RAP/SPRDCT], results row suppression active for Product Variant[/RAP/SPRDCT] (BRAIN-144)” in *Plan Products by Week* worksheet

The *Plan Products by Week* worksheet regularly displays this message. This warning describes consequences that do not apply to the *Plan Products by Week* query and worksheet.

Use the following solution to prevent this message. In transaction `RSRT`, open the *Suppress Messages* item in the menu and suppress message *BRAIN-144* in the *Others (1)* section.

Message “Could not save to memory (BRAIN_DEV-021)” in a SAP Analysis for Microsoft Office workbook

If the message *Could not save to memory (BRAIN_DEV-021)* appears in a SAP Analysis for Microsoft Office workbook, the limit of about 2 billion (2^31) index entries in the underlying SAP HANA database has been reached.

There are several ways to avoid this issue. Please apply one of the following proposals or both:

- Compress SAP BW InfoCubes:
  By compressing the InfoCubes, new space is released. InfoCubes should be compressed regularly. Uncompressed cubes increase the data volume and have a negative effect on performance. Please consult the SAP Business Warehouse documentation for information about compressing InfoCubes.

- Database partitioning:
  Database partitioning is used to split the total data set for an InfoProvider into several, smaller, physically independent chunks that have no redundancies. As a consequence, the indexing limitation is bypassed and this process drastically improves performance when users analyze the data at query runtime. Please consider SAP Business Warehouse documentation for detailed information about database partitioning.

Message "DataStore object `/RAP/DS...` is in load mode; planning is not possible" in a SAP Analysis for Microsoft Office workbook

After installing a DataStore object, it can happen that it is not in planning mode. Execute the following steps to activate the planning mode:

1. Open transaction `RSA1`.
2. Select the corresponding DataStore object in the *InfoProvider* section.
3. Right-click the DataStore object and choose *Planning-Specific Properties* > *Change Real-Time Load Behavior*.
4. Select option *Real-Time Data Target Can Be Planned; Data Loading Not Allowed*.

When Trying to Open the Generated Assortment Plan in the *Plan Assortment* Workbook, Plan Is Not Offered in the Respective F4 Help.

If the assortment plan is not offered in the F4 help after an assortment list has been created and *Prepare Plan Assortment* has been executed, proceed as follows. Depending on the plan size the initialization may take up to several minutes. If the plan does not appear in the F4 help after a few minutes, please check the application log using the respective link in the *My Assortment Lists* app. Alternatively, use transaction `SLG1` and look for log object `/RAP/AP_BW`. If errors occurred during the initialization, respective messages have been created in the log. Analyze these messages and check the proposed solutions.

OData Service Troubleshooting

For troubleshooting information about OData Service, see *Troubleshooting Guide for SAP NetWeaver Gateway* in SAP note 1797736.

6 Business Overview

With SAP Assortment Planning you determine the number of products (breadth) and planned demand quantity (depth) for the upcoming season based on consumer purchasing history across product categories and selling locations. Location clustering, option planning, assortment listing, and sales projection capabilities help determine the optimal assortment for the retailer.

Using location clustering, you group selling locations based on common attributes such as geography, format, selling space, product category, sales, and margin performance. Combined attributes and performance metrics suggest multiple clustering scenarios for use in the assortment plan. Option planning defines the type of merchandise offered to the consumer at any level of the article hierarchy. Option counts are planned by attribute combinations such as brand, price point and fashion grade and matched against open to buy targets. The option plan is then used to determine the final assortment listing for the upcoming season. Optimization techniques are used to analyze sales and profit metrics which determine an optimal mix of products for the assortment.

Finally, the assortment plan uses sales projections from Demand Data Foundation (DDF) to help predict sales demand for each product included in the assortment based on historical demand or similar product performance. The end result of the assortment plan, sales demand by product and selling location, is used to create purchase instructions and the initial allocation of the purchased quantities when the order is first received.

6.1 Business Scenario

You can use this business scenario to plan, create and execute assortment plans.

The goal of assortment planning is to determine an assortment that maximizes sales or gross margin subject to constraints such as a limited budget for purchase of products, limited capacity for storing or displaying products or strategic decisions such as offering at least three different price levels for each type of a product.

The process of assortment planning starts with some preparation steps:

- You can group similar selling locations into a location cluster and thus all locations in the same cluster receive the same assortment. The similarity refers for example to geography, customer group, capacity, or sales behavior.
- You can plan modules for grouping products that are planned to be offered for the same selling locations.
- Regarding the mix of products in a category, SAP Assortment Planning is rather attribute-focused than product-focused. You determine the relevant attributes per category. You plan product options that determine the distribution of the assortment according to these attributes. When you consider the attribute price level, you plan the number of options for example per high, medium and low price.

The process of assortment planning continues at the product level:

- You determine the products of the assortment, assign them to modules and assign the modules to location clusters. You can also assign products directly to locations.

- Once the assortment is determined, estimate how many units of each product or product variant will be sold over a defined period. Then project the product inventory and determine the inventory needs for locations in a set of location clusters.

> **i** Note
>
> Not all processes in SAP Assortment Planning are linear. The steps that are mentioned in the following subsections may be executed in a different order or have to be repeated. This depends on the situation.

6.1.1 System Preparation

6.1.1.1 Performing POS Data Transfer and Audit

You can use this business process to manage point-of-sale (POS) transactions. During this process, cash register sales data from individual stores is transmitted (typically using trickle feed) to SAP Customer Activity Repository. Administrators monitor and troubleshoot the inbound queues.

After the transactional data is received, you can process, cleanse and audit the data. Auditors ensure the consistency of the sales transaction data.

You can also use outbound tasks of SAP Customer Activity Repository to send the processed transactional data to follow-on applications. Alternatively, you can store transactional data in the repository. Any consuming applications can access the stored data in near-real-time through SAP HANA views provided in SAP HANA Content for SAP Customer Activity Repository.

Process

1. Define workbench display parameters.
2. Perform short/over balancing.
3. Check data transfer.
4. Control task processing.
5. Analyze error messages
6. Display follow-on documents.
7. Search for POS transactions.
8. Execute mass change for POS transactions (optional).

Result

Transactional data received from your stores is received, processed and stored in SAP Customer Activity Repository. This data is sent to all required follow-on applications and is made available to any consuming applications through SAP HANA views.

6.1.1.2 Enabling Demand Data Foundation and Creating Demand Forecast

You must enable Demand Data Foundation (DDF) to support consuming applications of SAP Customer Activity Repository and to create a demand forecast with Unified Demand Forecast (UDF). For more information about the DDF and UDF modules in SAP Customer Activity Repository, see SAP Help Portal at https://help.sap.com/viewer/p/CARAB > *<Version>* > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* and *Unified Demand Forecast*.

The UDF demand forecast can serve as the basis for various cross-industry planning and automation use cases. UDF also provides insights into shopper behavior, enabling retailers to perform predictive analytics.

The demand forecast is generated in two steps:

1. **Demand modeling** is the process of finding the values for the parameters of a defined statistical model to explain the historical demand. The parameters of this demand model typically describe the effects of demand influencing factors (DIFs) in the past. The parameter values can then be used to predict the effects of similar DIF occurrences in the future, a process referred to as demand forecasting.
2. **Demand forecasting** predicts the demand for a particular product or group of products, in a particular location, for a given scenario (for example, promotion, sales channel), for a specific time period in the future (forecast horizon). Any aggregation of demand forecasts across products, locations, scenarios, or time is also a demand forecast.

The demand forecast uses the following master data:

- Location
- Location hierarchy
- Product
- Product hierarchy
- Product location combination
- Offer (optional)
- User DIF (optional)

The demand forecast uses the following organizational data:

- Sales organization
- Distribution channel
- Distribution chain
- Order channel

The demand forecast can use the following transaction data (time series):

- Point-of-sale (POS) data from SAP Business Warehouse (SAP BW) or from an external application

- Consumption data from an external application
- Syndicated data obtained from an external provider (sales data commonly aggregated to a weekly level and locations).

> **i Note**
>
> For more information on the different master data objects and time series, see SAP Help Portal at https://help.sap.com/viewer/p/CARAB <Version> > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Data Management* >.

Business Process Steps

This business process runs as follows:

1. Send master data (SAP ERP)
   SAP ERP prepares and sends the master data through a Remote Function Call (RFC) by using the data replication framework (DRF, transaction **DRFOUT**).
   You have the following outbound implementations:

Sequence	Replication Mode	SAP ERP Outbound Implementation	SAP ERP Description	DDF Inbound Interface
1	Initialization	PMCH	Material Group Hierarchy	/DMF/MDIF_PROD_HIER_INBOUND Product Hierarchy
2	Initialization, Change, and Manual	PMAT	Material	/DMF/MDIF_PRODUCT_INBOUND Product
3	Initialization, Change, and Manual	PPLT	Plant	/DMF/MDIF_LOCATION_INBOUND Location
4	Initialization, Change, and Manual	PMPL	Material and Plant	/DMF/MDIF_PROD_LOC_INBOUND Product Location

Sequence	Replication Mode	SAP ERP Outbound Implementation	SAP ERP Description	DDF Inbound Interface
5	Change	PSPR	Sales Price	/DMF/MDIF_PROD_LOC_INBOUND Product Location
6	Initialization, Change, and Manual	PCON	Consumption	/DMF/TS_GENERIC_INBOUND Generic
7	Initialization, Change, and Manual	PCUS	Customer	/DMF/MDIF_LOCATION_INBOUND Customer
8	Initialization, Change, and Manual	PINV	Inventory	/DMF/OPIF_INVENTORY_INBOUND Inventory
9	Change	PMAP	Moving Average Price	/DMF/MDIF_PROD_LOC_INBOUND Product Location
10	Initialization, Change, and Manual	PSOS	Source of Supply	/DMF/MDIF_LANE_INBOUND Transportation Lane
11	Initialization, Change, and Manual	PVEN	Vendor	/DMF/MDIF_LOCATION_INBOUND Location
12	Initialization, Change, and Manual	PBBY	ERP Bonus Buy Transferred as Offer	/DMF/OPIF_OFFER_INBOUND Offer

Sequence	Replication Mode	SAP ERP Outbound Implementation	SAP ERP Description	DDF Inbound Interface
13	Initialization, Change, and Manual	POFF	ERP Promotion Transferred as Offer	/DMF/OPIF_OFFER_INBOUND Offer
14	Initialization	PPHY_CLASS	Plant Hierarchy and Group from Classification System	/DMF/MDIF_LOC_HIER_INBOUND Location Hierarchy
15	Initialization	PAHY	Article Hierarchy	/DMF/MDIF_PROD_HIER_INBOUND Product Hierarchy
16	Initialization	PPHY	Plant Hierarchy	/DMF/MDIF_LOC_HIER_INBOUND Location Hierarchy
17	Initialization, Change, and Manual	PMCS	Material and Plant (Wholesale)	/DMF/MDIF_PROD_LOC_INBOUND Customer Location/Product
18	Initialization, Change, and Manual	PWEB	Documents (Sales Order/Shipment/Billing)	/DMF/OPIF_DOCUMENT_INBOUND

> **i Note**
>
> For more information about the ERP outbound processes, see the *Configuring Data Replication from SAP ERP to DDF* section of the *SAP Customer Activity Repository Administration Guide*.
>
> For more information about the DDF inbound interfaces, see https://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Application Help* ▶ *SAP Customer Activity Repository* ▶ *Demand Data Foundation* ▶ *Integration Information* ▶.

When replicating the data, the system automatically generates data replication logs, which you can then evaluate. You can access this option via *SAP Easy Access SAP Retail* (transaction **W1OT**) under ▶ *Logistics* ▶ *Retailing* ▶ *Distributed Retailing* ▶ *Merchandise Lifecycle Optimization* ▶ *Outbound* ▶ *Analyze Log for Outbound Implementations (DRFLOG)* ▶.

2. Receive master data (DDF)
   DDF can receive master data from the following:
   - Multiple SAP ERP applications
   - Non-SAP applications

   By default, the data is stored in the DDF staging tables. From there, you transfer the data to the production tables by using one of the following options:
   - The *Monitor Imports* function
     You use this function to transfer data from the staging tables to the production tables, review erroneous records, delete erroneous records, and clean up the staging tables. Note that you correct the erroneous records in the source application, and then you send the data again. For more information about this function, see https://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Application Help* ▶ *SAP Customer Activity Repository* ▶ *Demand Data Foundation* ▶ *General Services* ▶ *Monitor Imports*.
   - The *Process Inbound Staging Tables* function
     For more information, see https://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Application Help* ▶ *SAP Customer Activity Repository* ▶ *Demand Data Foundation* ▶ *General Services* ▶ *Monitor Imports* ▶ *Process Inbound Staging Tables*.
   - The `/DMF/PROCESS_STAGING_TABLES` report
     For more information, see the accompanying system documentation (transaction **SE38**).

   > **i Note**
   >
   > You can choose to bypass the staging tables in Customizing under ▶ *Cross-Application Components* ▶ *Demand Data Foundation* ▶ *Basic Settings* ▶ *Integration* ▶ *Define Import Settings*. For more information, see the Customizing activity documentation (transaction **SPRO**).

   DDF inbound process performs validation checks before inserting the data into the production tables. For more information about how the data from external applications is processed, see https://help.sap.com/viewer/p/CARAB ▶ *<Version>* ▶ *Application Help* ▶ *SAP Customer Activity Repository* ▶ *Demand Data Foundation* ▶ *Integration Information* ▶ *Inbound Processing*.
3. Define sales history (DDF)
   For more information on how to define the sales history, see section *Integrating Historical Demand Data* in .
4. Provide SAP Planning for Retail information (SAP BW)
   This step is optional. It is currently used only by SAP Assortment Planning or SAP Merchandise Planning to compare the planned assortment figures to the open-to-buy (OTB).
   For more information about the standard SAP BW InfoProvider, see https://help.sap.com/viewer/p/BI_CONTENT ▶ *<Version>* ▶ *Application Help/SAP Library* ▶ *BI Content* ▶ *Industry Solutions* ▶ *Trading Industries* ▶ *Retail Trade* ▶ *Merchandise and Assortment Planning* ▶ *Retail Planning* ▶ *MultiProvider* ▶ *Merchandise Retail Plan*.
5. Receive SAP Planning for Retail information (DDF)
   This step is optional. It is currently used only by SAP Assortment Planning to compare the planned assortment figures to the open-to-buy (OTB).
   Run report `/DMF/BI_IF_MERCH_PLAN` (transaction **SE38**) to receive the SAP Planning for Retail information from SAP Business Warehouse (SAP BW) to DDF. You can run this report as a scheduled background job (transaction **SM36**).

> **i Note**
>
> - Provide the required settings in the Customizing activities *Define SAP BW Application for Merchandise Planning* and *Define Field Mapping for Merchandise Planning* under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Integration*.
>   Alternatively, provide a custom implementation for the *BAdI: Read Merchandise Planning* Business Add-In.
> - If you use the standard settings in the *Define Field Mapping for Merchandise Planning* Customizing activity, that is, you are importing the OTB from the `0RP_MP12` MultiProvider, you must specify **MMF** (*Finalized Merchandise Version*) in the *Merchandise Plan Version* field of the report.

6. Schedule demand model (UDF)
   You can schedule the system to create the demand model with the following options:
   - Model by hierarchy
     With this option, you can select a node to include all products and locations assigned to that hierarchy branch.
   - Model by product location
     With this option, you can specify a list of one or more products and one or more locations.

   For more information, see https://help.sap.com/viewer/p/CARAB > *Version* > *Application Help* > *SAP Customer Activity Repository* > *Unified Demand Forecast* > *General Services* > *Schedule Model and Forecast*.
7. Schedule demand forecast (UDF)
   You can schedule the system to create the demand forecast with the following options:
   - Forecast by hierarchy
     With this option, you can select a node to include all products and locations assigned to that hierarchy branch.
   - Forecast by product location
     With this option, you can specify a list of one or more products and one or more locations.

   For more information, see https://help.sap.com/viewer/p/CARAB > *Version* > *Application Help* > *SAP Customer Activity Repository* > *Unified Demand Forecast* > *General Services* > *Schedule Model and Forecast*.

Result

The system generates the demand forecast, which is then saved in the database.

6.1.2 Data Preparation

6.1.2.1 Manage Responsibilities

You use this process to define and display areas of responsibilities. This process consists of two parts:

- **Defining the Category Responsibilities**
  Assortment planners are typically responsible for the planning of a defined set of categories. In this process step, you select the product hierarchy and the nodes within the hierarchy for a specific user. The selected nodes represent the area of responsibility.
  Assortment planners will then be able to plan for these selected category nodes.
  You execute this process part in the *Manage Category Responsibilities* app.
- **Defining the Location Responsibilities**
  Assortment planners are typically responsible for the planning of a defined set of locations. In this process step, you select the location hierarchy and the nodes within the hierarchy for a specific user. The selected nodes represent the area of responsibility.
  Assortment planners will then be able to plan for these selected locations.
  You execute this process part in the *Manage Market Responsibilities* app.

6.1.2.2 Manage Locations and Products

You use this process to update the product master data and the location master data. This process consists of two parts:

- **Update the Location Master Data**
  Change the attributes that you would like to use in location clustering. If you want to change the fields that are not editable, you must change the field in the source system and import the master data again. For more information about importing data, see Enabling Demand Data Foundation and Creating Demand Forecast [page 58].
  You execute this process part in the *Manage Locations* app.
- **Update the Product Master Data**
  Create or edit attributes that you would like to use for building an assortment. Assign attributes and attribute values to product categories. If you want to change the fields that are not editable, you must change the field in the source system and import the master data again. For more information about importing data, see Enabling Demand Data Foundation and Creating Demand Forecast [page 58].
  You execute this process part in the *Manage Product Attributes* app.
- **Manage Market Hierarchy**
  A market hierarchy represents the organizational levels and units for which you want to plan assortments. The hierarchy may organize the units such as selling locations or customers according to organizational levels such as channels, geographical regions etc. Create or update market hierarchies according to your needs.

  To execute this process part, execute transaction `NWBC` on the `SAP GUI` and select *Services* > *Location Services* > *Location Hierarchy*

6.1.2.3 Manage Attributes

You use this process to manage product attributes. This process consists of two steps:

1. Create and maintain product attributes that are relevant for planning purposes and are visible in SAP Assortment Planning.
2. Maintain product attributes that have been imported from an ERP system and change their values for planning purposes. Changes are visible in SAP Assortment Planning.

You execute this process in the *Manage Product Attributes* app.

6.1.3 Assortment Planning Preparation

6.1.3.1 Select Planning Attributes

You use this process to determine which attributes are relevant to planning for each article hierarchy node.

Determine attributes per category that are relevant for planning purposes, such as option-defining attributes used in an option plan or aggregation attributes used for aggregating variants (for example variants of the same color but different size) of a product. This enables planning on the aggregated level of a product.

You execute this process in the *Manage Product Attributes* app.

6.1.3.2 Manage Modules

You use this process to create and manage the list of assortment modules. As a planner, you use modules to group products that are to be listed together in assortments.

You create and manage the list of modules in the *Manage Modules* app.

Modules (and thus the products that are assigned to the modules) are assigned to a location cluster or single locations in the *My Option Plans* app or in the *My Assortment Lists* app.

In the *Build Assortment* process (see Build Assortment [page 68]), you assign products to modules. This can be done in two different ways and is a global customizing setting that is valid for the complete solution:

- Single module assignment: A product can be assigned to only one module in an assortment list.
- Multiple module assignment: A product can be assigned to multiple modules. However, the same product cannot be assigned through different modules to the same location within one assortment list

6.1.3.3 Manage Planning Configuration

The process of planning takes place in a specific context. The context usually defines the range of products and selling locations and the level on which constraints are considered, such as a limited budget for purchase of products. The planning configuration defines such a context for the planner. A set of planning configurations defines a planning context for one or multiple planners.

The planning configuration is used throughout each step of planning in Merchandise Planning, Option Planning and Assortment Planning.

The planning configuration allows that the planning context is ensured from end to end and also allows different planning definitions from the global plans to specific regional plans.

Steps

1. **Define Product Hierarchy**
   Select a logical system and a set of nodes of the product hierarchy. The selected nodes and existing and future products of the selected nodes represent the range of products for planning.
   The selection of nodes can take place on any level of the product hierarchy. The level of the hierarchy of a selected node is called exit hierarchy node level. Planning and monitoring of constraints takes place on the exit level. There are exit levels for each planning step.
2. **Define Market Hierarchy and Exit Hierarchy Node Level**
   Select the locations from the market hierarchy. The selected nodes represent the range of locations for planning. In the planning configuration, you can indicate further parameters that are relevant for the planning context such as planning currency, unit of measure, calculation method of estimated sales, reference location for product prices etc.

6.1.3.4 Cluster Locations

You use this business process to group locations into clusters based on common characteristics or attributes. The characteristics or attributes are cluster criteria. These cluster criteria include but are not limited to geography, formats, selling space, product category, sales and margin performance. Usually, a combination of attributes and performance metrics is used.

As an assortment planner, you group locations into clusters by creating location cluster sets in the *Manage Location Clusters* app.

Steps for Creating a Location Cluster Set

1. **Select Locations**
   Select the locations that are subject to clustering. If you use a planning configuration, the selection of the locations is part of the planning configuration.

2. **Select Products**
   Select a set of categories and products to compute performance metrics per selected locations for using it as cluster criteria in clustering.
3. **Select Clustering Criteria**
   Select appropriate clustering criteria. The clustering criteria can include KPIs and location attributes.
4. **Perform Clustering**
   You can group locations into clusters using a clustering algorithm or manually:
   - The clustering algorithm performs the grouping of locations and selects the optimal number of clusters. The clustering can be done using all cluster criteria in a single clustering step or one or more criteria per consecutive clustering step. If clustering is done in multiple consecutive clustering steps, the algorithm clusters the locations of each existing clusters separately.
   - You can manually create clusters and move locations to clusters and between clusters.

6.1.4 Planning an Assortment

6.1.4.1 Plan Options (Optional)

You use this business process to determine the width and depth of an assortment. At a high level, the width of an assortment refers to the number of different products carried by the retailer and the depth is the number of variations of each product sold. These variations of a product are called product options. As an assortment planner, you can determine the number of product options for each category needed for different locations based on selected attributes. The option process usually takes place well in advance of determining the exact product mix and utilizes historical selling patterns and percentages to help the planner decide what to sell in the upcoming season.

You determine the width and depth of an assortment by creating an option plan in the *Manage Option Plans* or the *My Option Plans* app.

Steps

1. **Select Categories and Attribute Combinations of Options**
   1. Select categories for the option plan.
   2. Select the attribute combinations of the product category that are used to determine the future mix of a category and to divide the total offering according to the attribute combinations.
2. **Select Modules and Assign to Clusters**
   Since you plan products per modules, group those products into modules that are planned to be offered for the same selling locations. In the option plan, product options are grouped into modules. Modules are assigned to location clusters.
3. **Plan Options Across Modules and Location Clusters**
   This step is subject to constraints such as approved purchase budgets (merchandise plan data). You execute this step in a custom workbook for planning options.

To determine the budget, plan the number of options by category, by module and attribute combination. The selling price per option, the number of options per attribute combination and assignment to a module and thus to a cluster of locations determines the overall budget for the category. You can compare this overall budget for the category to the approved purchase budget.

6.1.4.2 Build Assortment

You can use this business process to build your assortment, that is selecting products, assign them to modules and thus fulfill the assortment location cluster strategy. The combination of carryover products and new products using placeholders creates the assortment list for the selected categories.

During this process, you analyze sales and profit metrics to predict an optimal mix of products for selection in an assortment plan using Key Performance Indicators (KPIs) such as Rate of Sale, Sales Units, Sales Cost, Sales Revenue, Gross Margin, or Gross Margin Percent. KPIs can be ranked based on the Pareto algorithm, known as the 80/20 rule.

Throughout the process, you can compare the products in the assortment list to targets set in the option plan. You can optionally link these targets to the assortment list. You can also request a system-generated proposal for the products to be kept in the assortment list. This proposal considers an option plan if there is one available.

You build the assortment by creating an assortment list in the *My Assortment Lists* app.

Steps

1. **Determine the Configuration**
   Select an option plan for which you want to plan your assortment. If you plan an assortment without option plan, select the categories for your assortment, a location cluster set, modules, and a reference and validity period.
2. **Assign Modules to Clusters and Locations**
   If an option plan has been selected, the assignment of modules to clusters is seeded from the option plan.
3. **Select Products**
   Select products from the product hierarchy that are then part of the planning area from which the assortment is built.
4. **Create Placeholder Products (Optional)**
   Create placeholder products for products that you want to add to your assortment but that do not yet exist in the product hierarchy. Later, placeholder products need to be matched with existing products.
5. **Build the Assortment**
   Analyze the past and forecasted performance and the inventory situation of products. Then assign the products to modules or directly to locations. Determine the period of assignment. Compare the assortment with the targets set in the option plan.
   - You can run an automatic optimizer to have your assortment built or you can manually build your assortment.
   - You can also do a mix of automatic and manual adjustments to build your assortment.
6. **Generate a Listing for Your Assortment (Optional)**

Create assortments and modules in the ERP and list the products.

6.1.4.3 Match Placeholder Products (Optional)

You use this business process to match new products from a vendor catalog or from SAP Retail product master data to existing placeholder products (PHPs) that have been added to an assortment list.

Single products are matched to single product placeholder products; generic products are matched to generic placeholder products.

You execute this business process in the *Match Placeholders* app.

Steps

1. Select a PHP.
2. Select the product to match with the PHP.

The completion of the matching process has the following consequences:

- The matched product overrides the PHP in all relevant assortment lists with the same *Kept* or *Pending* status.
- When the assortment list is reopened, an actual product displays with the following information:
  - Product description
  - Product attributes
  - Product status
  - Module assignment
  - Planning data

  The planning workbooks replace the PHP with real products in the planning workbooks. The planned KPIs are transferred from the PHP to the matched real product.

6.1.4.4 Plan Assortment

In the assortment plan, you determine purchase needs based on anticipated and projected sales by locations and products. You plan each product attribute combination to determine the receipt unit quantity for the purchase of the assortment. Sell through, pricing strategies, and margin targets allow for building the required receipt amount for purchase for each product and location.

You execute this business process in a workbook for planning assortments.

Steps

1. Determine KPIs.
2. Plan purchase quantities.
   You can plan top down or bottom up or a mixture of both. For example, you can plan in the following ways:
   - Planned sales values are disaggregated from the planning period to the week level based on a projected sales distribution. Weekly planned sales are aggregated to the complete planning period.
   - Planned sales values are disaggregated from a total level across all locations to the location level based on a projected sales distribution. Planned sales values on a location level are aggregated to the cluster and total product level.
   - Planned sales values are disaggregated from the product level to the variant level based on a projected sales distribution. Planned sales values on variant level are aggregated to the product level.
3. Following the detailed planning, you review the proposed receipt and sales flow by product as well as the receipt quantities planned. Decide which weeks receive receipt units after looking at the purchasing-relevant KPI values that are distributed to fiscal periods.
4. You can plan, optimize, and order prepacks (Optional) if you use the Omnichannel SAP BW structure.
   - You can import prepacks into SAP Customer Activity Repository that have been created in the ERP system. These prepacks are available in the workbook(s) for planning.
   - You can run the prepack optimization to calculate the best combination of prepacks to fulfill your demand.
5. When satisfied with the assortment plan, you can export the KPI values to allow for the creation of purchase orders.
6. Export purchase quantities for products and optionally for prepacks.

7 Configuration Information

Customizing activities and BAdIs to configure to use SAP Assortment Planning.

The configuration that you need to perform the suggested business processes as described in this SAP Assortment Planning Administration guide consists of the following:

- Performing POS Data Transfer and Audit
  SAP Assortment Planning uses historical sales data to help planners create good assortments for future seasons. Sales data, generated at the point of sale, is received by SAP Customer Activity Repository during the POS Data Transfer and Audit process. You must ensure that this process is correctly configured and running in your back-end system.
- Enabling Demand Data Foundation and Creating Demand Forecast
  Sales data, received during the POS Data Transfer and Audit process, is aggregated and accessed by the Demand Data Foundation module of SAP Customer Activity Repository. Since SAP Assortment Planning uses the aggregated historical sales data generated by Demand Data Foundation, you must ensure that the Enabling Demand Data Foundation and Creating Demand Forecast process is also correctly configured and running in your back-end system.
- Data Preparation.
  You use this process to manage authorizations and area of responsibilities for locations, categories, and products.
- Assortment Planning Preparation
  You use this process to select planning attributes, plan modules, manage the planning configuration, and cluster locations. For more information, see Assortment Planning Preparation [page 65].
- Assortment Planning
  In this process, you determine the products of the assortment, assign them to product modules and to location clusters. Products can also be assigned directly to locations.

Related Information

Configuring Assortment Planning [page 82]

7.1 System Preparation

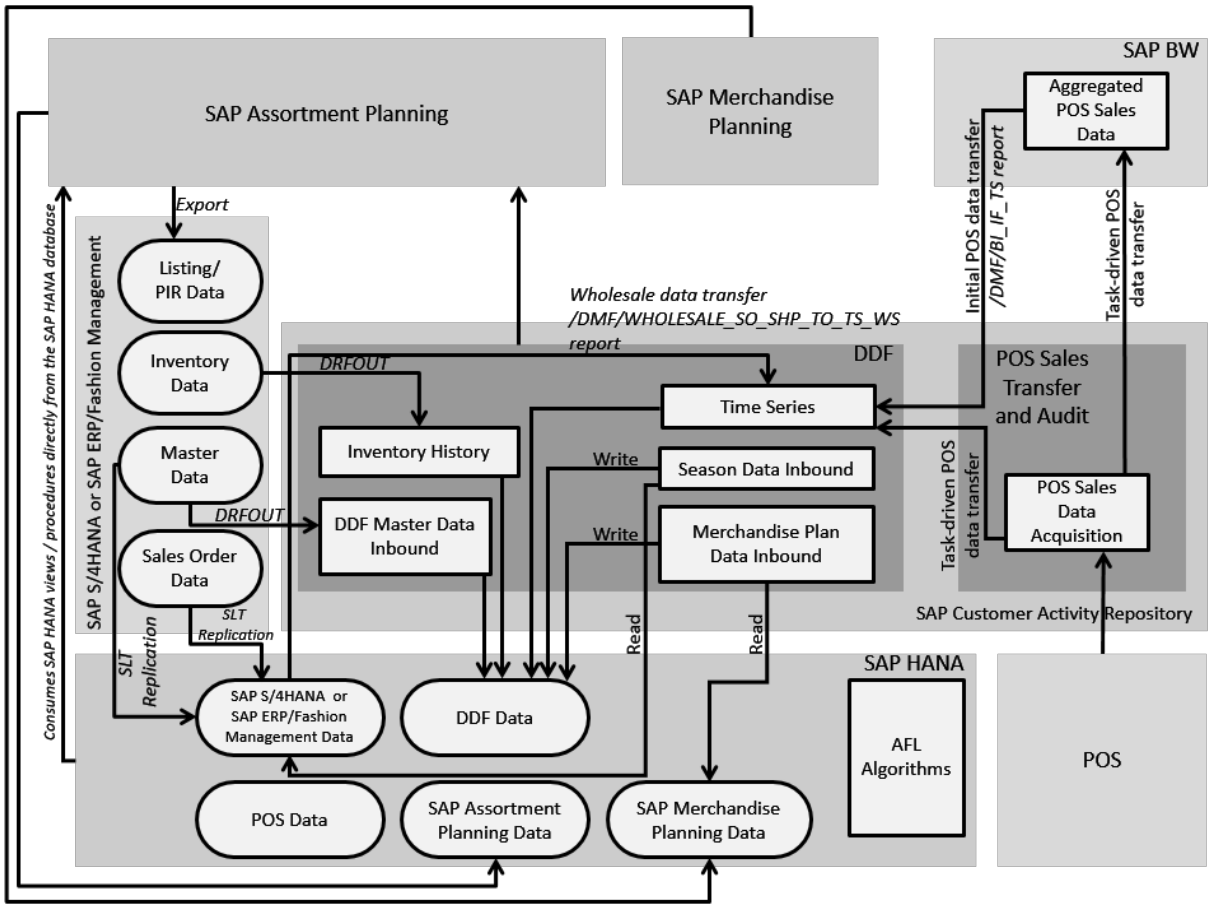
To perform the suggested SAP Assortment Plannng relevant business processes that are relevant to Customer Activity Repository as described in this Administration Guide, the following configuration activies are required:

- Enabling Demand Data Foundation and Creating Demand Forecast [page 58]

7.2 Configure Data Replication

SAP Assortment Planning uses master data, sales history data, inventory data, and merchandise planning data originating from connected systems, such as SAP Retail (SAP ERP) or SAP BW.

The general flow of data in the SAP Assortment Planning is illustrated in the diagram below.



Data Flow to SAP Assortment Planning

The following subsections describe the data replication tasks that you carry out to configure the data flow to the SAP Assortment Planning application.

7.2.1 Initial Load of Data to DDF Using DRFOUT

Use

SAP Assortment Planning uses master data, such as product, location, and product hierarchy, that is replicated from SAP Retail or SAP S/4HANA to DDF using `DRFOUT`. SAP Assortment Planning only works with imported product hierarchies of type **article hierarchy**, maintained in the source master data system (SAP

Retail or SAP S/4HANA). When configuring the import of product hierarchies, ensure to import article hierarchies.

> ⚠ 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.

> ℹ Note
>
> Not all of the master data is replicated into DDF using the `DRFOUT` framework. Some data must be replicated separately using SLT replication, as described in the *Common Installation Guide* under *Create/ Replicate Source Master Data System Tables*.

Prerequisites

Prior to replicating data from SAP Retail or SAP S/4HANA to DDF using `DRFOUT`, the following prerequisites must be fulfilled:

- You must maintain the required article hierarchy(ies) in the source master data system (SAP Retail or SAP S/4HANA) to be imported and used to perform planning in SAP Assortment Planning.
- Your SAP Retail installation is SAP Enhancement Package 6 for SAP ERP SP07 or higher or SAP Enhancement Package 5 for SAP ERP SP10 or higher.
- The following business functions are activated in SAP Retail only:
  - `ISR_APPL_OUTBOUND_DMF`
  - `ISR_RETAIL_OUTBOUND_DMF`
- You have noted the different terms for the following objects:

SAP Retail or SAP S/4HANA	SAP Retail	DDF/SAP Assortment Planning
Material	Article	Product
Plant	Site	Location

Procedure

1. Read *Enabling Demand Data Foundation and Creating Demand Forecast*.
2. Read *Configuring Data Replication from SAP ERP to DDF*.
3. Replicate the required data.
   If you are using SAP Promotion Management and SAP Assortment Planning, define a replication model as described in *Configuring Data Replication from SAP ERP to DDF*. Otherwise, see the additional instructions below.
   SAP Assortment Planning requires that the following master data is replicated sequentially from a connected SAP Retail or SAP S/4HANA system using `DRFOUT`:

Sequence	Master Data	Technical Details	For more information, see:
1	Product Hierarchy	○ **SAP Retail or SAP S/4HANA Description:** Material Group Hierarchy ○ **DRFOUT Outbound Implementation:** `PMCH` ○ **DDF Inbound Interface:** `/DMF/MDIF_PROD_HIER_INBOUND`	http://help.sap.com/car <*your release*> > *Application Help* > *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Product Hierarchy Master Data*
2	Product	○ **SAP Retail or SAP S/4HANA Description:** Material ○ **DRFOUT Outbound Implementation:** `PMAT` ○ **DDF Inbound Interface:** `/DMF/MDIF_PRODUCT_INBOUND`	http://help.sap.com/car <*your release*> > *Application Help* > *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Product Master Data*
3	Location	○ **SAP Retail or SAP S/4HANA Description:** Plant ○ **DRFOUT Outbound Implementation:** `PPLT` ○ **DDF Inbound Interface:** `/DMF/MDIF_LOCATION_INBOUND`	http://help.sap.com/car <*your release*> > *Application Help* > *Demand Data Foundation* > *Integration Information* > *Inbound Interfaces For Remote Function Call (RFC) Communication* > *Product Location Master Data*

Sequence	Master Data	Technical Details	For more information, see:
4	Product Location	○ **SAP Retail or SAP S/4HANA Description:** Material/Plant ○ **DRFOUT Outbound Implementation:** `PMPL` ○ **DDF Inbound Interface:** `/DMF/MDIF_PROD_LOC_INBOUND`	http://help.sap.com/car ▶ *<your release>* ▶ *Application Help* ▶ *Demand Data Foundation* ▶ *Integration Information* ▶ *Inbound Interfaces For Remote Function Call (RFC) Communication* ▶ *Product Location Master Data*
5	Product Location	○ **SAP Retail or SAP S/4HANA Description:** Sales Price ○ **DRFOUT Outbound Implementation:** `PSPR` ○ **DDF Inbound Interface:** `/DMF/MDIF_PROD_LOC_INBOUND`	http://help.sap.com/car ▶ *Application Help* ▶ *Demand Data Foundation* ▶ *Integration Information* ▶ *Inbound Interfaces For Remote Function Call (RFC) Communication* ▶ *Product Location Master Data*
6	Inventory	○ **SAP Retail or SAP S/4HANA Description:** Inventory ○ **DRFOUT Outbound Implementation:** `PINV` ○ **DDF Inbound Interface:** `/DMF/OPIF_INVENTORY_INBOUND`	http://help.sap.com/car ▶ *<your release>* ▶ *Application Help* ▶ *Demand Data Foundation* ▶ *Integration Information* ▶ *Inbound Interfaces For Remote Function Call (RFC) Communication* ▶ *Inventory Master Data*
7	Product Location	○ **SAP Retail or SAP S/4HANA Description:** Moving Average Price ○ **DRFOUT Outbound Implementation:** `PMAP` ○ **DDF Inbound Interface:** `/DMF/MDIF_PROD_LOC_INBOUND`	http://help.sap.com/car ▶ *Application Help* ▶ *Demand Data Foundation* ▶ *Integration Information* ▶ *Inbound Interfaces For Remote Function Call (RFC) Communication* ▶ *Product Location Master Data*
8	Transportation Lane	○ **SAP Retail or SAP S/4HANA Description:** Source of Supply ○ **DRFOUT Outbound Implementation:** `PSOS` ○ **DDF Inbound Interface:** `/DMF/MDIF_LANE_INBOUND`	http://help.sap.com/car ▶ *<your release>* ▶ *Application Help* ▶ *Demand Data Foundation* ▶ *Integration Information* ▶ *Inbound Interfaces For Remote Function Call (RFC) Communication* ▶ *Transportation Lane Master Data*

Sequence	Master Data	Technical Details	For more information, see:
9	Location	○ **SAP Retail or SAP S/4HANA Description:** Vendor ○ **DRFOUT Outbound Implementation:** `PVEN` ○ **DDF Inbound Interface:** `/DMF/MDIF_LOCATION_INBOUND`	http://help.sap.com/car ▶ *<your release>* ▶ *Application Help* ▶ *Demand Data Foundation* ▶ *Integration Information* ▶ *Inbound Interfaces For Remote Function Call (RFC) Communication* ▶ *Location Master Data*
10	Product Hierarchy	○ **SAP Retail or SAP S/4HANA Description:** Article Hierarchy ○ **DRFOUT Outbound Implementation:** `PAHY` ○ **DDF Inbound Interface:** `/DMF/MDIF_PROD_HIER_INBOUND`	http://help.sap.com/car ▶ *Application Help* ▶ *Demand Data Foundation* ▶ *Integration Information* ▶ *Inbound Interfaces For Remote Function Call (RFC) Communication* ▶ *Product Hierarchy Master Data*

You can import the data into staging tables, and then transfer this data to production tables using report `/DMF/PROCESS_STAGING_TABLES`. Or you can skip the staging tables, and import the data directly into the production tables. For more information, see:

- http://help.sap.com/car ▶ *<your release>* ▶ *Application Help* ▶ *Demand Data Foundation* ▶ *Integration Information* ▶ *Inbound Processing*
- http://help.sap.com/car ▶ *<your release>* ▶ *Application Help* ▶ *Demand Data Foundation* ▶ *General Services* ▶ *Monitor Imports* ▶ *Process Inbound Staging Tables*

More Information

For more information on monitoring the replication, see:

- http://help.sap.com/car ▶ *<your release>* ▶ *Application Help* ▶ *Demand Data Foundation* ▶ *General Services* ▶ *Monitor Imports*
- *Periodic Tasks* section under *Management*

7.2.2 Load of Time-Dependent Article Hierarchies

Use

SAP Assortment Planning supports the use of time-dependent article hierarchies.

Procedure

To enable the use of time-dependent article hierarchies in SAP Assortment Planning, do the following:

1. Implement SAP Notes 2196323 and 2196351 in the **connected SAP ERP system**.
2. 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 ERP Description: Article Hierarchy
   - DRFOUT Outbound Implementation: `PAHY`
   - DDF Inbound Interface: `/DMF/MDIF_PROD_HIER_INBOUND`

7.2.3 Delta Load of Data to DDF Using DRFOUT

When performing a delta load of master data from SAP Retail or SAP S/4HANA using the *DRFOUT* framework, you must ensure that the product location data required to enhance the sales records with historical sales cost is loaded prior to the sales data.

Furthermore, we recommend that you schedule a weekly periodic task to replicate inventory data (outbound implementation `PINV`) from the SAP Retail or SAP S/4HANA system to the system for SAP Assortment Planning. This replication builds up the inventory history data that is needed by SAP Assortment Planning.

7.2.4 Delta Load of Sales Data in SAP Customer Activity Repository

Use

Once the initial load of historical sales data is completed, or, if you are working on a brand new system implementation and do not have to perform an initial sales data load, you need to configure the periodic delta load of sales data in SAP Customer Activity Repository.

Procedure

1. Ensure that you have properly configured the POS Sales Transfer and Audit functionality in SAP Customer Activity Repository to receive transaction data from your connected POS systems.
   For more information, see *SAP Customer Activity Repository Administration Guide* under *Performing POS Data Transfer and Audit*.
2. Ensure that you have configured the *Supply - DMF-Based Applications* outbound tasks to load sales data from POS Sales Transfer and Audit to DDF.
   For more information, see http://help.sap.com/car *<your release>* > *Application Help* > *POS Data Transfer and Audit* > *Task Processing* > *Tasks for Sending Data to Follow-On Applications* > *Sending Data to DMF-Based Applications*.

3. Monitor the transfer of sales time series data as described in http://help.sap.com/car ▸ *<your release>* ▸ *Application Help* ▸ *Demand Data Foundation* ▸ *General Services* ▸ *Monitor Imports* .
4. Specify *Point of Sale Data* as the source of sales data in Customizing under ▸ *Cross-Application Components* ▸ *Assortment Planning for Retail* ▸ *Imported Demand Data Foundation Settings* ▸ *Data Maintenance* ▸ *Define Time Series Source* .

More Information

http://help.sap.com/car ▸ *<your release>* ▸ *Application Help* ▸ *Demand Data Foundation* ▸ *Integration Information* ▸ *Inbound Interfaces For Remote Function Call (RFC) Communication* ▸ *Sales Time Series*

7.2.5 Load Product Attributes into SAP Assortment Planning

Use

SAP Assortment Planning allows you to view product attributes imported from SAP Retail or SAP S/4HANA. To enable this functionality, you must first run reports that import product characteristics (attributes), as well as their assignments to products, defined in SAP Retail or SAP S/4HANA .

Procedure

1. Log on to your back-end system.
2. Navigate to ▸ *SAP Customizing Implementation Guide* ▸ *Cross-Application Components* ▸ *Assortment Planning* ▸ *Imported Demand Data Foundation Settings* ▸ *Data Maintenance* ▸ *Attributes* and ensure that you have specified all the required entries in the following Customizing activities:
   - *Define Function Types*
   - *Maintain Number Range for Attributes*
   - *Maintain Number Range for Attribute Values*

   If necessary, provide custom implementations for the BAdIs listed in this Customizing node, for example, to import additional attributes or values.
   - *BAdI: Support Assignment of User-Defined Attribute Types*
   - *BAdI: Manage Attributes and Function Types*
   - *BAdI: Extraction of Location Attributes*
3. Run reports `/DMF/ATR_IMPORT` and `/DMF/PROD_ATR_IMPORT` (transaction SE38).

More Information

For more information, see Management [page 38] under the *Periodic Tasks* section.

7.2.6 Load Season Classification Data

Replicate season data to SAP Assortment Planning.

Context

Product season classification, maintained in an external master data system, for example, SAP Fashion Management's Season Workbench, can be used by the SAP Assortment Planning application to help set planning targets. To use season classification data in SAP Assortment Planning, this data must first be imported into the DDF module in your back-end system.

Procedure

1. Ensure that you have completed the steps described in the *Common Installation Guide* under *Create/ Replicate Source Master Data System Tables*. All SAP Retail or SAP S/4HANA tables that are relevant for SAP Assortment Planning must be replicated prior to replicating season data.
2. Specify the logical system identifier of the source master data system, for example, the SAP Fashion Management system, from which to replicate the season data.

   You define logical systems in Customizing under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Basic Settings* > *Define Logical Systems*.
3. Set up the *Season* master data and product/season assignment. For more information see the application help for: *SAP Customer Activity Repository* under *Demand Data Foundation* > *Master Data* > *Season*

Related Information

https://help.sap.com/viewer/3d09d3032a1649f4abf6eea0a8f3ed11/latest/en-US

7.2.7 Load Merchandise Planning Data

Use

Merchandise planning data, can be used by the SAP Assortment Planning application to help set planning targets. By default, SAP Assortment Planning is configured to consume merchandise planning data from SAP Merchandise Planning, another consuming application of SAP Customer Activity Repository.

The procedure to access merchandise plan data in SAP Assortment Planning varies depending on whether you are planning with or without a planning configuration set.

Procedure with Planning Configuration Sets

To consume merchandise planning data directly from the SAP Merchandise Planning application, do the following:

1. Activate the default implementation of *BAdI: Read Merchandise Planning KPI Data* under *Cross-Application Components* > *Demand Data Foundation* > *Data Maintenance* > *Planning Configuration* > *Enhancements Using Business Add-Ins*.

> **i** Note
>
> With planning configurations sets, the usage of merchandise planning data is not supported by default by the *Manage Location Clusters* app. To display merchandise plan KPIs in the *Manage Location Clusters* app, provide a custom implementation for *BAdI: Extraction of Planned KPIs* under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Enhancements Using Business Add-Ins* > *Extraction of KPIs for Location Clustering* > *Extraction Adjustments*.

Procedure without Planning Configuration Sets

To access merchandise plan data in SAP Assortment Planning, this data must first be imported into the DDF module in your back-end system.

If you are using the SAP Planning for Retail, rapid-deployment solution for merchandise planning, KPIs are stored in SAP Business Warehouse (SAP BW) InfoProviders. To access these figures from SAP Assortment Planning, this data must first be imported from the SAP BW system to your back-end system, as described in SAP Note 2208191.

To load merchandise planning data from the SAP Merchandise Planning application, and consume it from the SAP Assortment Planning application, do the following:

1. Verify that in the *Define SAP BW Application for Merchandise Planning* Customizing activity, under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Integration*, the default settings are applied as follows:
   - Destination: **LOCAL**
     If this field is empty, the application assumes that the InfoProvider exists in the back-end system, which is the case if SAP Assortment Planning and SAP Merchandise Planning are installed on the same back-end system.
   - Fiscal Year Variant: specify the same *Fiscal Year Variant* as the one maintained under *Cross-Application Components* > *Assortment Planning* > *Maintain fiscal year variant*.
2. Verify that in the *Define Field Mapping for Merchandise Planning* Customizing activity, also under, *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Integration*, the default settings for field mapping to the SAP Merchandise Planning InfoProviders are maintained.
   You should see default mappings for the *Merchandise Plan* (`/RAP/MPRC01`) and for the *Store Plan* (`/RAP/MPRC02`).
3. Set up the *SAP BW to Merchandise Plan Interface* report (`/DMF/BI_IF_MERCH_PLAN` in transaction `SE38`) to run as a background job to regularly import any updates from SAP Merchandise Planning to DDF.
   When configuring the report to run, you can select which *Cube Type* to import. In general, when *Store Plan* is selected, the report imports merchandise plan data at the location level. When *Merchandise Plan* is selected, the report imports the merchandise plan data at the category level. Both levels of data should be imported to view merchandise planning data throughout the SAP Assortment Planning application.
4. Activate the default implementation of *BAdI: Extraction of Planned KPIs* under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Enhancements Using Business Add-Ins* > *Extraction of KPIs for Location Clustering* > *Extraction Adjustments*, to display merchandise plan KPIs in the *Manage Location Clusters* app.
5. If necessary, deactivate the default implementation of *BAdI: Read Merchandise Planning KPI Data* under *Cross-Application Components* > *Demand Data Foundation* > *Data Maintenance* > *Planning Configuration* > *Enhancements Using Business Add-Ins*.

More Information

- https://help.sap.com/viewer/p/BI_CONTENT *<BI Content release>* > *SAP Library* > *BI Content & BI Content Extensions* > *BI Content* > *Industry Solutions* > *Trading Industries* > *Retail Trade* > *Merchandise and Assortment Planning* > *Retail Planning* > *MultiProvider* > *Merchandise Retail Plan*

7.2.8 Load Wholesale Data

Replicate wholesale data to SAP Assortment Planning.

Context

Wholesale data used by SAP Assortment Planning refers to sales order and shipment data availabe from a source SAP Retail or SAP S/4HANA master data system. To use wholesale data in SAP Assortment Planning, this data must first be imported into the DDF module in your back-end system.

Procedure

1. Ensure that you have completed the steps described in the *Common Installation Guide* under *Create/ Replicate Source Master Data System Tables*. All SAP Retail or SAP S/4HANA tables that are relevant for SAP Assortment Planning must be replicated prior to replicating wholesale.
2. Specify the logical system identifier of the source master data system, for example, the SAP S/4HANA system, from which to replicate the wholesale data.

   You define logical systems in Customizing under *Cross-Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Basic Settings* > *Define Logical Systems*.
3. Set up the *Mapping report to convert sales orders into /DMF/TS_WS table* (`/DMF/WHOLESALE_SO_SHP_TO_TS_WS` in transaction `SE38`) to run as a background job to regularly import any updates from the source master data system.

7.3 Configuring Assortment Planning

Business Process

To perform the suggested SAP Assortment Planning relevant business processes as described in this Administration Guide, the following configuration activities are required.

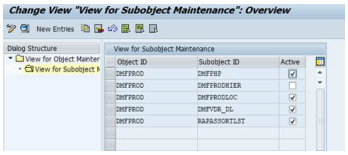
Data Preparation

The first table contains the customizing activities and the second table contains the Business Add-Ins (BAdIs).

Customizing Activities

Object	Path	Description
/DMF/LOG_SYS	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Basic Settings* > *Define Logical Systems*	You enter information regarding the different systems that connect to Demand Data Foundation (DDF) that either provide information (such as product master data) or request information (application server). Along with the ability to configure an SAP S4/HANA or a traditional SAP ERP system, you can configure multiple ERP systems to connect to one SAP Customer Activity Repository system.
/DMF/V_C_MD_DFLT	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Basic Settings* > *Define Default Values*	You define the general settings required for the logical system, product hierarchy, currency, as well as the settings required by consuming applications, such as SAP Assortment Planning and SAP Merchandise Planning.Imported Demand Data Foundation Settings
/DMF/V_BW_SYST	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Integration* > *Define SAP BW Application for Merchandise Planning*	You define the SAP Business Warehouse (SAP BW) application and fiscal year variant that the system uses to receive the merchandise planning data.
/DMF/V_MAP_BI_PL	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Integration* > *Define Field Mapping for Merchandise Planning*	You map the key figures and characteristics of your merchandise plan InfoProvider(s) (SAP Business Warehouse) to the fields of the Merchandise Plan Data (/DMF/MERCH_PLAN) table in Demand Data Foundation (DDF).
/DMF/SYS_MAP_GEN	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Integration* > *Sending System and Master Data System Coupling*	You map SAP systems for connectivity between your logical systems as required by the consuming application. You can select a source system to a target system, or a sending system to a master data system. In addition, a column for an HTTP connection is available for SAP Assortment Planning.

Object	Path	Description
/DMF/PROMO_ATTRIB	*SAP Customizing Implementation Guide* > *Cross Application Cmponents* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Attributes* > *Maintain Attributes*	You can create new attribute types, create new attributes for each attribute type, and assign attributes to business objects.
/DMF/V_ATR_FN_TP	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Attributes* > *Define Function Types*	You define function types that are associated with attributes.
/DMF/ATR	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Attributes* > *Maintain Number Range for Attributes*	You maintain number ranges for attributes.
/DMF/ATRVL	*SAP Customizing Implementation Guide* > *Cross Application Cmponents* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Attributes* > *Maintain Number Range for Attribute Values*	You maintain number ranges for attribute values.
BW_FISCALYEAR	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Maintain Fiscal Year Variant*	You can define the following properties: • How many posting periods a fiscal year has. • How many special periods you require. • How the system should determine the posting periods when posting

Object	Path	Description
/RAP/NR_ACID	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Number Ranges* > *Maintain Number Range for Attribute Container ID*	You maintain the number range for the attribute container ID.
/DMF/V_WUF_CUST	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Demand Data Foundation* > *Basic Settings* > *Define Purge Settings*	You define the basic settings for purging assortment lists: 1. In *View for Object Maintenance*, add the entry for assortment lists: ○ *Object ID*: **RAPASSORTLST** *Active*: Enabled *Cascade*: Not enabled (since assortment lists do not support the cascade mode) *Object name*: **Assortment List** 2. To prevent the purging of objects that have dependencies to other objects, configure the dependencies between the objects such as DMFPHP and the subobject RAPASSORTLST. Do this by creating entries for each of the following objects in the *Subobject Maintenance* view: ○ DMFPHP ○ DMFPROD ○ DMFLOC ○ DMFPRODHIER Enable the *Active* checkbox for each entry for which you want to activate the dependency check:  If a dependency is found in a purging run, the assortment list object is not purged.

Business Add-Ins (BAdIs)

Object	Path	Description
/DMF/ATTRIBUTE_TYPES_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Attributes* > *Enhancements Using Business Add-Ins* > *BAdI: Support Assignment of User-Defined Attribute Types*	You use this BAdI to implement and support the assignment of custom attribute types.
/DMF/ATR_IMPORT_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Attributes* > *Enhancements Using Business Add-Ins* > *BAdI: Manage Attributes and Function Types*	You use this BAdI to manage user-created function types and additional attributes from non-SAP sources.
/DMF/PLANNED_DATA_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Integration* > *Enhancements Using Business Add-Ins* > *BAdI: Read Merchandise Planning*	You use this BAdI to read the merchandise planning data from a non-SAP application.
/DMF/PROP_DESRIPTIONS_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Integration* > *Enhancements Using Business Add-Ins* > *BAdI: Description of Replicated Properties*	You use this BAdI to read SAP ERP assortment descriptions. This BAdI contains the following methods:

Object	Path	Description
/DMF/SALES_HIST_PURCH_PRC	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Imported Data* > *Time Series* > *Enhancements Using Business Add-Ins* > *BAdI: Determination of Purchase Price for Sales History Record*	You use this BAdI to determine the purchase price for a sales history record.
/DMF/BADI_MPR_DSO_INIT_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Planning Configuration* > *Enhancements Using Business Add-Ins* > *BAdI: Initialize BW DSO for Product and Market Hierarchy CR*	You use this BAdI to initialize the SAP Business Warehouse (SAP BW) structures (advance DSO) needed for Merchandise Planning
/DMF/BADI_PLN_CFG_INUSE	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Planning Configuration* > *Enhancements Using Business Add-Ins* > *BAdI: Determine In-Use Planning Configuration*	You use this BAdI to determine if a planning configuration is used in location clustering, option planning, merchandise planning, or in an assortment list.
/DMF/MPR_READ_KPI_DATA	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Planning Configuration* > *Enhancements Using Business Add-Ins* > *BAdI: Read Merchandise Planning KPI Data*	You use this BAdI to allow SAP Merchandise Planinng KPI's to be returned if planning configurations are in use. It also returns the KPI's for previous processes, which do not use planning configurations.

Forecast Configuration (For *My Assortment Lists* app)

To use forecasted values in the *Sales & Inventory Analysis* view within the *My Assortment Lists* app, you must configure Unified Demand Forecast (UDF) and schedule the model and forecast for the production mode:

1. To configure Unified Demand Forecast (UDF), see the *SAP Customer Activity Repository Administration Guide*, section *Configuring Unified Demand Forecast (UDF)*.

   > **i** Note
   >
   > No configuration is necessary regarding aggregation profiles in this case since the *My Assortment Lists* app does not use them.

2. To schedule the model and forecast for the production mode, see the application help for *SAP Customer Activity Repository* at https://help.sap.com/viewer/DRAFT/e95c8443f589486bbfec99331049704a/latest/en-US, section *Schedule Model and Forecast*.

Assortment Planning Preparation

Transaction Type	Object	Path	Description
Business Add-Ins	`/DMF/BADI_LOC_ATTR_EXTRACT`	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Attributes* > *Enhancements Using Business Add-Ins* > *BAdI: Extraction of Location Attributes*	You use this BAdI to extract standard, custom, or extended location attributes for a specified location cluster set or a list of locations.

Transaction Type	Object	Path	Description
IMG Activity	/DMF/C_MD_HIER	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Location Clustering Settings*	You specify general settings for the location clustering functionality.
IMG Activity	/DMF/CLSID	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Maintain Number Range for Locations Cluster Sets*	You maintain number ranges for location cluster sets
Business Add-Ins	/DMF/BADI_KPI_EXTRACTOR_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Enhancements Using Business Add-Ins* > *Extraction of KPIs for Location Clustering* > *BAdI: Extraction of KPIs for Location Clustering*	You use this BAdI as an entry point to extract/provide various types of KPIs for a business object or an application.

Transaction Type	Object	Path	Description
Business Add-Ins	DMF/ BADI_KPI_REF_SALES_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Enhancements Using Business Add-Ins* > *Extraction of KPIs for Location Clustering* > *BAdI: Extraction of KPIs for Location Clustering* > *Extraction Adjustments* > *BAdI: Extraction of Referenced Sales*	You can use this BAdI to extract referenced sales KPIs (that is, historical sales, or actual sales for a past period).
Business Add-Ins	/DMF/ BADI_PROD_DIM_CONV_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Enhancements Using Business Add-Ins* > *Extraction of KPIs for Location Clustering* > *BAdI: Extraction of KPIs for Location Clustering* > *Extraction Adjustments* > *BAdI: Conversion of Product Dimension*	You can use this BAdI to convert individual products to a higher-level node in the product hierarchy.

Transaction Type	Object	Path	Description
Business Add-Ins	/DMF/BADI_KPI_CAPACITY_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Enhancements Using Business Add-Ins* > *Extraction of KPIs for Location Clustering* > *BAdI: Extraction of KPIs for Location Clustering* > *Extraction Adjustments* > *BAdI: Extraction of Capacity KPIs*	You can use this BAdI to extract capacity KPIs from pre-existing data sources.
Business Add-Ins	/DMF/BADI_KPI_PLN_SALES_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Enhancements Using Business Add-Ins* > *Extraction of KPIs for Location Clustering* > *BAdI: Extraction of KPIs for Location Clustering* > *Extraction Adjustments* > *BAdI: Extraction of Planned KPIs*	You can use this BAdI to extract merchandise planning KPIs, from pre-existing data sources.

Transaction Type	Object	Path	Description
Business Add-Ins	DMF/ BADI_LOC_ATTR_EXTRACT	SAP Customizing Implementation Guide > Cross Application Components > Assortment Planning > Imported Demand Data Foundation Settings > Data Maintenance > Location Clustering > Enhancements Using Business Add-Ins > Extraction of KPIs for Location Clustering > BAdI: Extraction of Location Attributes	You use this BAdI to extract standard, custom, or extended location attributes for a specified location cluster set or a list of locations.
Business Add-Ins	/DMF/ BADI_STORE_CLUST_EXEC	SAP Customizing Implementation Guide > Cross Application Components > Assortment Planning > Imported Demand Data Foundation Settings > Data Maintenance > Location Clustering > Enhancements Using Business Add-Ins > Extraction of KPIs for Location Clustering > BAdI: Execution of Smart Clustering	You use this BAdI to specify clustering parameters and to carry out smart clustering.

Transaction Type	Object	Path	Description
Business Add-Ins	/DMF/BADI_CLUSTERSET_CONSUMER	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Enhancements Using Business Add-Ins* > *Extraction of KPIs for Location Clustering* > *BAdI: Determine Location Cluster Set Usage*	You use this BAdI to specify a level of locking of a location cluster set by a consuming application.
Business Add-Ins	/DMF/BADI_ALLOWED_LOC_TYPES	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Location Clustering* > *Enhancements Using Business Add-Ins* > *Extraction of KPIs for Location Clustering* > *BAdI: Determine Allowed Location Types*	You can use this BAdI to specify the location types that are allowed to be used in location clustering.

Transaction Type	Object	Path	Description
IMG Activity	/DMF/NR_MDID	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Assortment Modules* > *Maintain Number Range for Assortment Modules*	You maintain number ranges for assortment modules.
IMG Activity	/DMF/PRM_CFG	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Number Ranges* > *Maintain Number Range for Parameter Configuration*	You use this activity to maintain the number range for parameter configurations.
IMG Activity	/DMF/PLN_CFG	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Number Ranges* > *Maintain Number Range for Planning Configuration*	You use this activity to maintain the number ranges for planning configuration.
IMG Activity	/DMF/NR_MDID	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Number Ranges* > *Maintain Number Range for Assortment Modules*	You use this activity to maintain number ranges for assortment modules.

Transaction Type	Object	Path	Description
IMG Activity	/RAP/NR_MDID	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Number Ranges* > *Maintain Number Range for Module ID*	You use this activity to define the number range for the module ID.
IMG Activity	/DMF/BUS_WEEK	*SAP Customizing Implementation Guide* > *Cross-Application Components* > *Demand Data Foundation* > *Basic Settings* > *Define Business Week*	You define the business week for the use within the time series chart of the *My Assortment Lists* app.

Planning an Assortment

Transaction Type	Object	Path	Description
IMG Activity	/RAP/AL_SETTINGS	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Lists* > *Assortment List Settings*	You use this activity to specify general settings for assortment lists in the SAP Assortment Planning application
IMG Activity	/RAP/NR_APPRD	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Lists* > *Maintain Number Range for Assortment List ID*	You use this activity to define the number range for the assortment list ID.

Transaction Type	Object	Path	Description
IMG Activity	/RAP/NR_APTAG	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Lists* > *Maintain Number Range for Tag ID*	You use this activity to define the number range for tag IDs
IMG Activity	/RAP/NR_ERPAS	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Assortment Lists* > *Maintain Number Range for Assortment List ID to ERP*	You use this activity to define the number range for the assortment ID when exporting to ERP.
Business Add-Ins	/DMF/PROD_ND_ATTR_CONFIG	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Imported Demand Data Foundation Settings* > *Data Maintenance* > *Attributes* > *Enhancements Using Business Add-Ins* > *BAdI: Product Hierarchy Attribute Configuration*	You use this BAdI to transfer product attribute values to columns for the products specified in the input.
IMG Activity	/RAP/NR_OPID	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Number Ranges* > *Maintain Number Range for Option Plan ID*	You use this activity to define the number range for the option plan ID.

Transaction Type	Object	Path	Description
IMG Activity	`/RAP/NR_OPTID`	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Number Ranges* > *Maintain Number Range for Option ID*	You use this activity to define the number range for option planning.
IMG Activity	`/RAP/NR_APID`	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Number Ranges* > *Maintain Number Range for Assortment Plan ID*	You use this activity to define the number range for the assortment plan ID.
Business Add-Ins	`/RAP/AL_PROD_SEAS_MANAGER_DEF`	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Enhancements Using Business Add-Ins* > *BAdI: Determine Product Season Classification*	You use this BAdI to determine the season classification (and its corresponding date range) of a product in an assortment list.
Business Add-Ins	`/RAP/BADI_BW_INIT_DEF`	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Enhancements Suing Business Add-Ins* > *BAdI: Initialize BW Structures for Assortment or Option Plan*	You use this BAdI to initialize the SAP Business Warehouse (SAP BW) structure needed to process an option plan or assortment plan using SAP BusinessObjects Analysis, edition for Microsoft Office.

Transaction Type	Object	Path	Description
Business Add-Ins	/RAP/PLAN_OPTION_KPIS	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Enhancements Suing Business Add-Ins* > *BAdI: Read Plan Options KPIs*	You use this BAdI to read the option counts and the option plan sales KPIs maintained in a workbook for planning options.
Business Add-Ins	/RAP/LISTING_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Enhancements Suing Business Add-Ins* > *BAdI: Additional Information to be Transferred to ERP*	You use this BAdI to transfer additional parameter values when maintaining assortments and maintaining the listing of products associated to those assortments.
Business Add-Ins	/RAP/ERP_ASSORTMENT_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Enhancements Suing Business Add-Ins* > *BAdI: ERP Assortment ID*	You use this BAdI to generate a numerical ID for the SAP ERP assortment if you have not implemented 2128250 in the SAP ERP system.
Business Add-Ins	/RAP/EXPORT_TO_ERP_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Enhancements Suing Business Add-Ins* > *BAdI: Export Assortment Plan to SAP ERP*	You use this BAdI to export an assortment plan to an SAP ERP assortment.

Transaction Type	Object	Path	Description
Business Add-Ins	/RAP/BADI_ASSORT_CONSUMER_DEF	*SAP Customizing Implementation Guide* > *Cross Application Components* > *Assortment Planning* > *Enhancements* > *Suing Business Add-Ins* > *BAdI: Determine Assortment List Use by Applications*	You use this BAdI to determine in which applications the assortment list is used.

Important Disclaimers and Legal Information

Hyperlinks

Some links are classified by an icon and/or a mouseover text. These links provide additional information.
About the icons:

- Links with the icon : You are entering a Web site that is not hosted by SAP. By using such links, you agree (unless expressly stated otherwise in your agreements with SAP) to this:
  - The content of the linked-to site is not SAP documentation. You may not infer any product claims against SAP based on this information.
  - SAP does not agree or disagree with the content on the linked-to site, nor does SAP warrant the availability and correctness. SAP shall not be liable for any damages caused by the use of such content unless damages have been caused by SAP's gross negligence or willful misconduct.
- Links with the icon : You are leaving the documentation for that particular SAP product or service and are entering a SAP-hosted Web site. By using such links, you agree that (unless expressly stated otherwise in your agreements with SAP) you may not infer any product claims against SAP based on this information.

Beta and Other Experimental Features

Experimental features are not part of the officially delivered scope that SAP guarantees for future releases. This means that experimental features may be changed by SAP at any time for any reason without notice. Experimental features are not for productive use. You may not demonstrate, test, examine, evaluate or otherwise use the experimental features in a live operating environment or with data that has not been sufficiently backed up.
The purpose of experimental features is to get feedback early on, allowing customers and partners to influence the future product accordingly. By providing your feedback (e.g. in the SAP Community), you accept that intellectual property rights of the contributions or derivative works shall remain the exclusive property of SAP.

Example Code

Any software coding and/or code snippets are examples. They are not for productive use. The example code is only intended to better explain and visualize the syntax and phrasing rules. SAP does not warrant the correctness and completeness of the example code. SAP shall not be liable for errors or damages caused by the use of example code unless damages have been caused by SAP's gross negligence or willful misconduct.

Gender-Related Language

We try not to use gender-specific word forms and formulations. As appropriate for context and readability, SAP may use masculine word forms to refer to all genders.

www.sap.com/contactsap

THE BEST RUN SAP