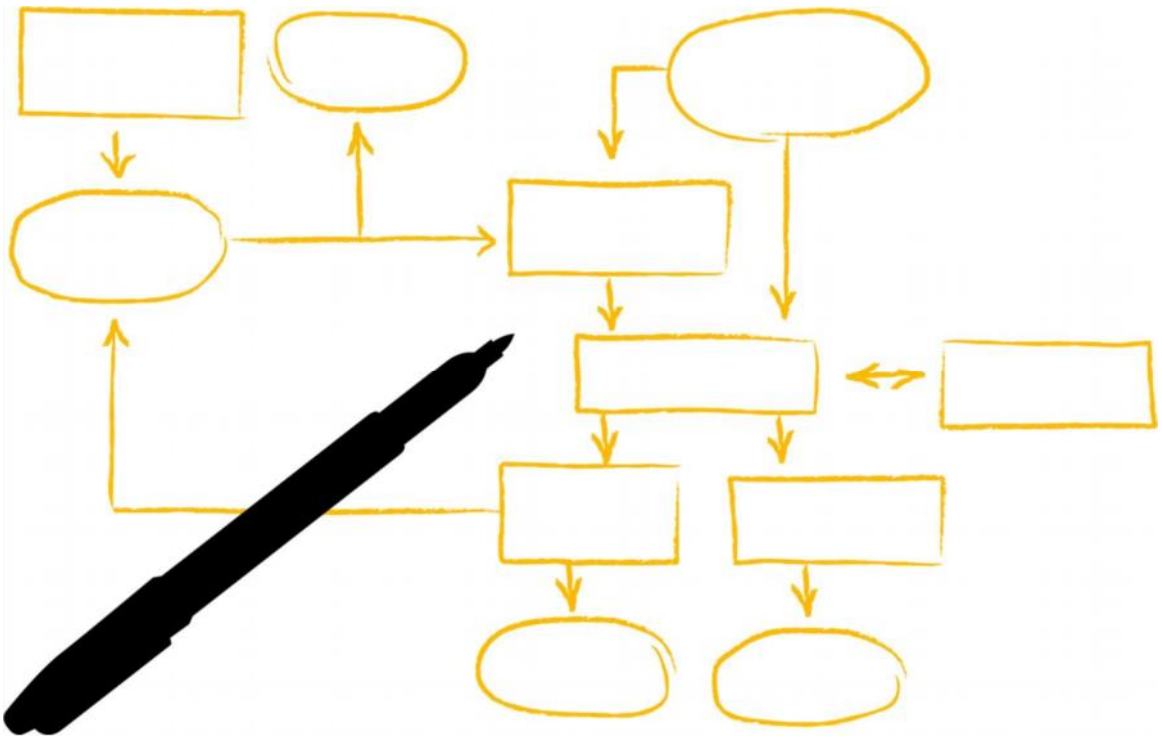

PP/DS Cookbook for S/4HANA 1709/1809

VERSION 1

Run Simple

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DOCUMENT INFORMATION

Version	Changes	Date
1610/1709	Created by	2017/Q4
1610/1709	Created by	2017/Q4
1709/1809	Change Design and Screenshots, Additional Information, Update of Information	2018/Q3
1709/1809	Reviewed	2018/Q3
1709/1809	Minor adjustments for 3.11. Activate CIF Queues	2018/Q4

1 INTRODUCTION

1.1 Use of the Cookbook

This cookbook should be a guideline for the

- basic settings for the integration of the embedded PP/DS to S/4HANA
- basic customizing settings to activate embedded PP/DS

and provide some information and links on

- liveCache
- optimizer
- master data integration
- transaction data integration

It should provide some information to avoid simple errors / missing configuration in setting up embedded PP/DS and data integration.

The cookbook is NOT a description of functionalities and processes in embedded PP/DS.

This document should be used in conjunction with the following SAP Notes:

2382787 - Restrictions and Implementation Recommendations for Production Planning and Detailed Scheduling for SAP S/4HANA 1709

2496628 - Release Information Note: Production Planning and Detailed Scheduling for SAP S/4HANA 1709

2666947 - Restrictions and Implementation Recommendations for Production Planning and Detailed Scheduling for SAP S/4HANA 1809

2674488 - Release Information Note: production Planning and Detailed Scheduling for SAP S/4HANA

The notes provide further information regarding technical considerations that need to be considered to set-up PP/DS applications within 1709 and 1809 while this cookbook as meant as a guide to step through that. Besides there is a lot of information about functionalities of PP/DS for S/4HANA.

This guide book assumes a starting point of an SAP S/4HANA 1709 or 1809 system that was not a direct copy from the provided SAP S/4HANA 000 client (as would occur if one were installing Best Practices for example and only the identified “white space” C/G table entries are copied). Your steps may vary in this set-up had you had a client that was a copied directly from 000.

There are more references to notes in the cookbook concerning certain topics. A list of all notes mentioned in this cookbook you find at the end of the cookbook.

Note: There may be slight differences concerning the screenshots depending on the installed release.

1.2 General Information about embedded PP/DS

Embedded PP/DS is an integral part of S/4HANA (not an add-on, not side-by-side). It is installed and updated together with S/4HANA.

However, embedded PP/DS is still a separate price list item.

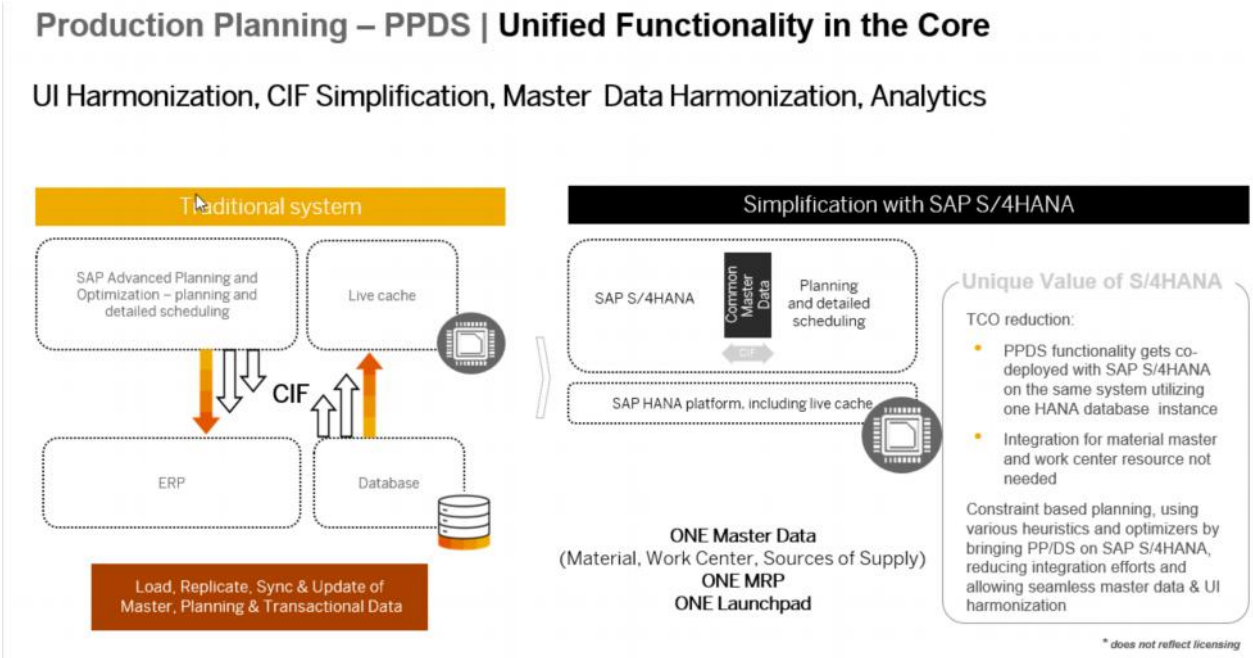
Certain versions of a “Standalone SCM-APO” system running side-by-side with SAP S/4HANA are supported (including the functions integrating standalone SNP, DP and PP/DS).

SCM-APO and embedded PP/DS for SAP S/4HANA can be used together, but the data modelling should ensure that there is no data dependency. That means for example you should take care not to plan the same product-location combinations or the same resources in both PP/DS systems. If you use SNP of SCM-APO and embedded PP/DS on S/4HANA for the same products and/or locations, there will be a lot of restrictions to be considered.

It is possible to use EWM and PP/DS which are part of S/4HANA in the same client.

Refer to SAP Note 2495662 SAP S/4HANA 1709: Process Integration with SAP on-premise Solutions.

The integration of PP/DS on S/4HANA leads to some simplification in CIF infrastructure for master and transaction data with an aligned process integration with SAP S/4HANA.



liveCache

§ liveCache is an integral part of S/4HANA.

§ Use of embedded PP/DS requires the installation of the S/4HANA liveCache.

§ Embedded PP/DS without liveCache is not on the roadmap.

Integration of Master and Transaction Data

§ CIF (Core Interface) is technically part of the integration for master and transaction data

§ Simplified settings for the user

§ NO plans for PP/DS without CIF

§ Activating of transfer of master data to embedded PP/DS:

  § By setting the flag “advanced planning” in the master data object (for example: material master, work center)

  § By executing a report (for example: plants, business partners, production versions/PDS)

  § By creating and activating Integration Models (for example: purchasing info records, characteristics)

Optimizer

§ Embedded PP/DS provides also the PP/DS optimizer for scheduling.

§ The optimizer has to be additionally installed (for most use cases it is recommended to install it on a separate hardware).

§ The corresponding version is published in the S/4HANA Product Availability Matrix.

§ Check SAP Note 1686826 Installation help for installing SCM Optimizers

§ Check SAP Note 712066 Restrictions of the Production Planning and Detailed Scheduling (PP/DS) optimizer for recommendations and restrictions for the PP/DS Optimizer.

For optimizer sizing refer the link:

https://websmp209.sap-ag.de/~sapidb/012002523100010357172015E/SizingSheetPPDSOpt.zip

Note:

Embedded PP/DS for SAP S/4HANA is not a legal successor of the SCM PP/DS. Data migration and customer code migration from PP/DS component from the SAP SCM Server is not supported by the standard solution.

2 PREPARATION

Pre-Condition for using PP/DS is the installation of the liveCache on S/4HANA.

2.1 Installation of the LiveCache on S/4HANA

To use PP/DS functions with S/4HANA system, SAP HANA integrated liveCache must be installed and configured.

The HANA version of the quick sizer provides help to size your live cache memory requirements. Navigate to the node “Advanced Prod. planning & sched.” under “SAP S/4HANA”.

The SAP Note 2407589 Manual installation of liveCache for S/4HANA describes the following steps.

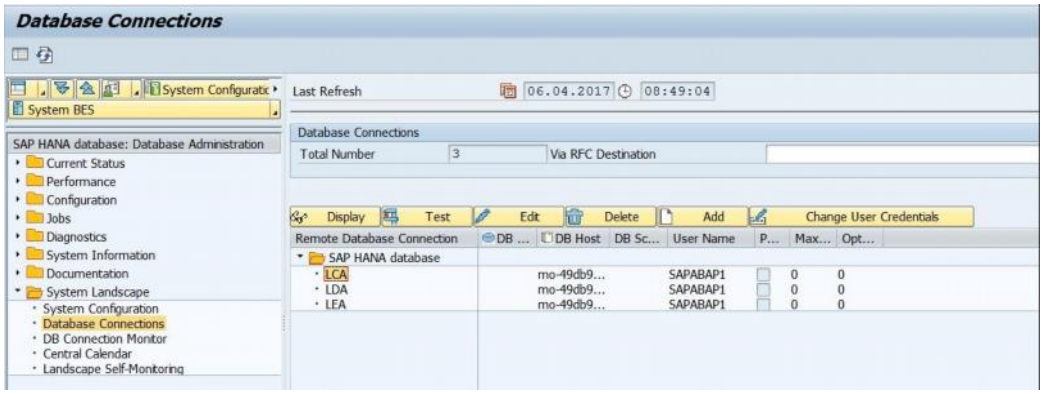
1. Installing the LCAPPS plugin

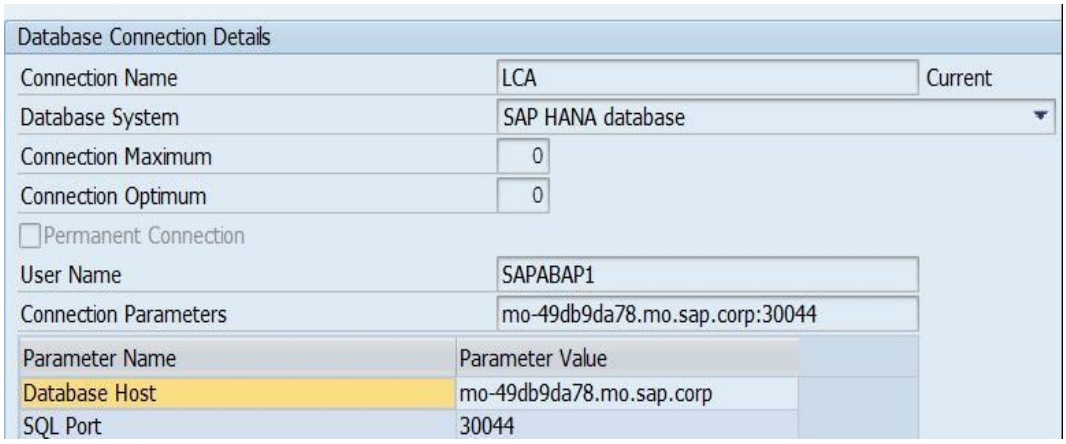
Refer to the SAP Note 2037585 Upgrade of SAP-HANA-integrated liveCaches to find the correct version of LCAPPS plugin download for relevant hardware platform and the processor architecture and on how to install

Use SAP Notes 2074843 Version Matrix for HANA integrated liveCaches and 2074788 Patch strategy for SAP HANA-integrated liveCaches to determine SAP HANA revision

2. Creating the liveCache Connections

Create the three liveCache connection LCA, LDA, and LEA in the DBA Cockpit
Use the SAP<SID> user to connect to the DB For example:



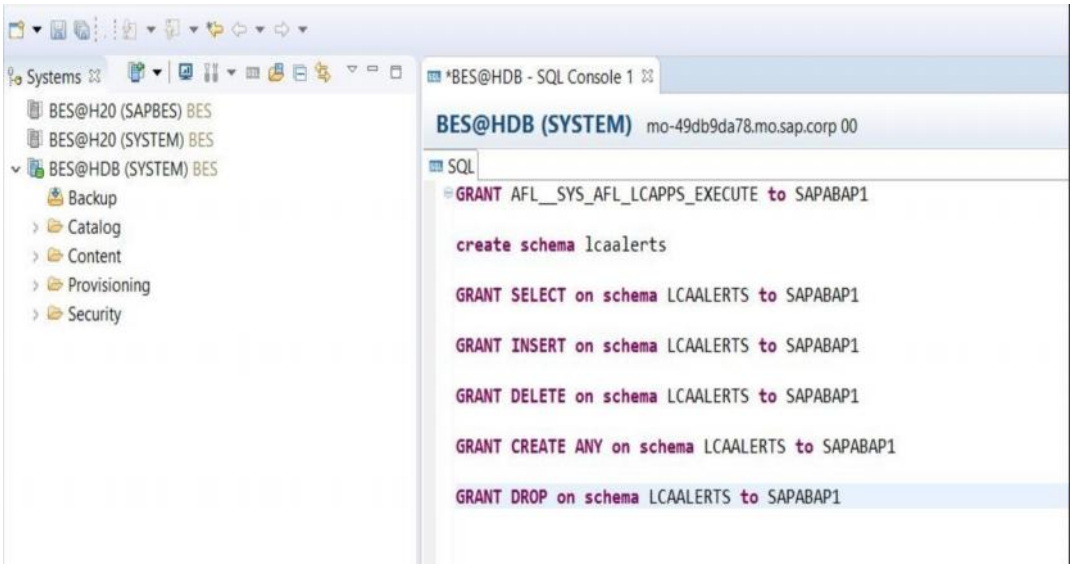


3. Grant Access to SAP<SID> to execute liveCache procedures in SAP HANA Studio

Login to the DB as Administrator user and execute the following SQL commands
GRANT AFL__SYS_AFL_LCAPPS_EXECUTE to SAP<SID>
create schema lcaalerts (Note this schema may already exists in the system)
GRANT SELECT on schema LCAALERTS to SAP<SID>
GRANT INSERT on schema LCAALERTS to SAP<SID>
GRANT DELETE on schema LCAALERTS to SAP<SID>

GRANT CREATE ANY on schema LCAALERTS to SAP<SID>

GRANT DROP on schema LCAALERTS to SAP<SID>

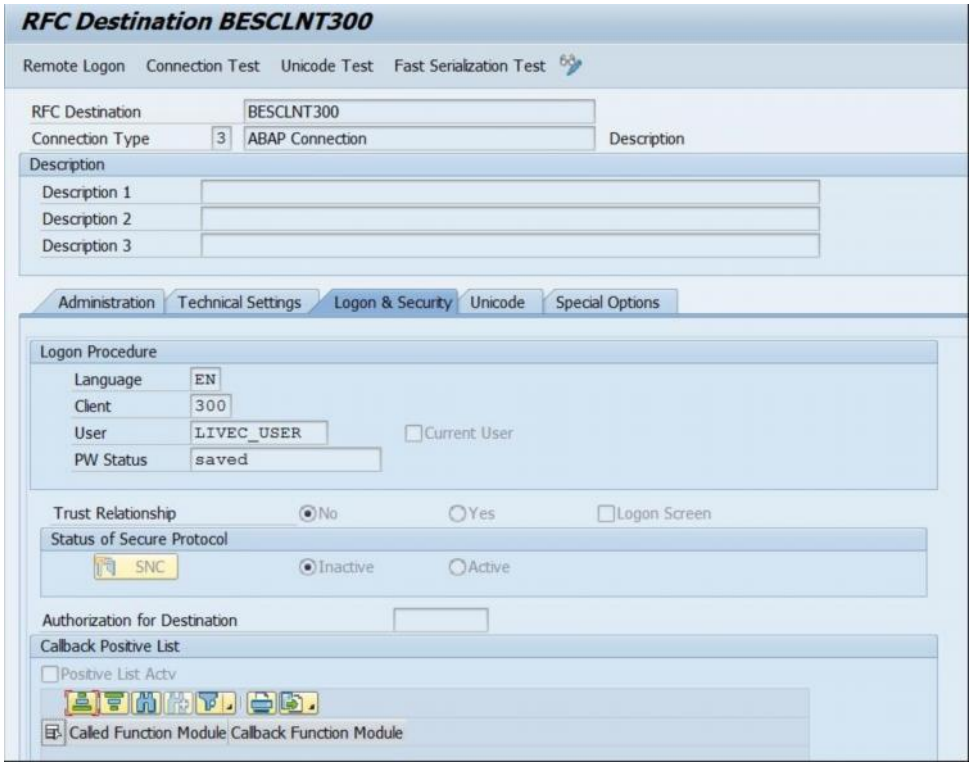


4. Execute Initialization Reports

   In the S/4HANA system execute the following reports in succession to prepare liveCache in S/4HANA system and to create required database tables.
   - § SLCA_INIT_FOLLOW_UP
   - § /SAPAPO/OM_CREATE_LC_TABLES

5. Create RFC connections in all liveCache relevant clients

   Create the RFC connections in all liveCache-relevant clients as described in the document Installation Guide for SAP S/4HANA 1709.

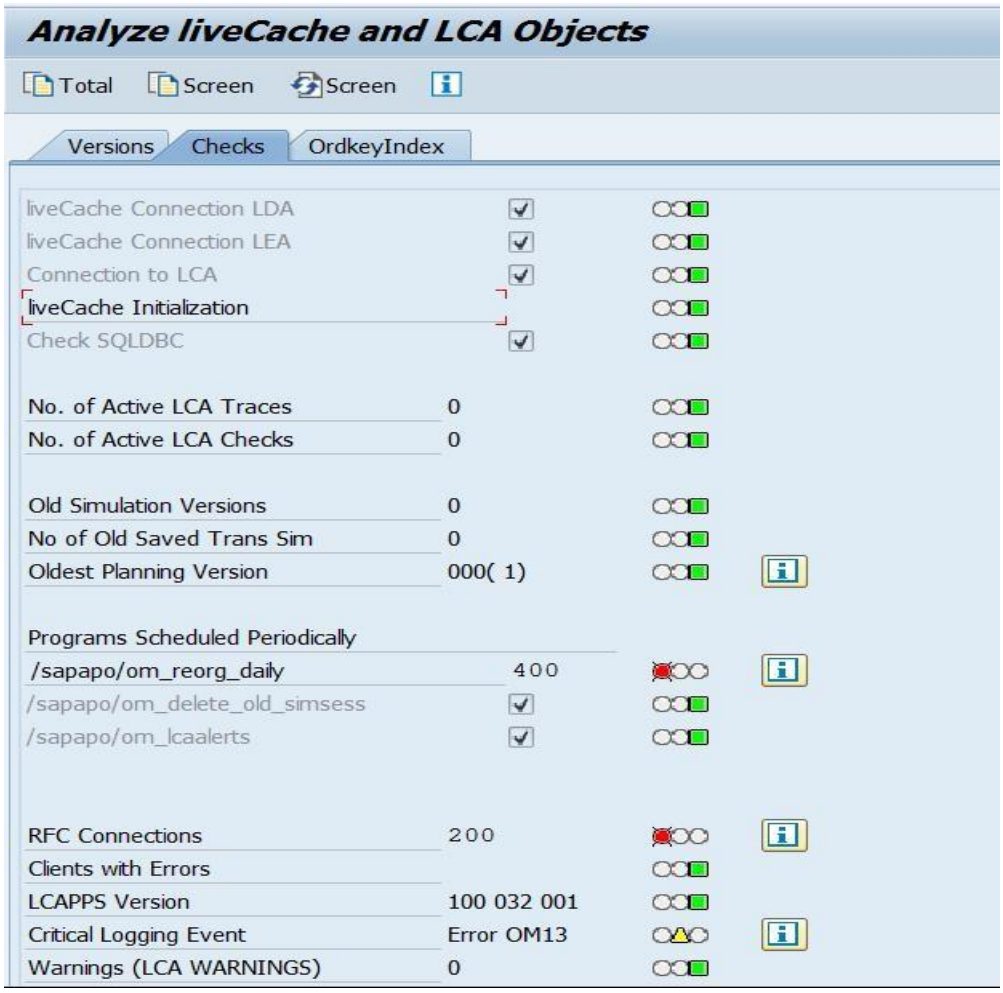


6. Schedule Regular liveCache Jobs

   Schedule the following background jobs in each liveCache-relevant clients
   /SAPAPO/OM_REORG_DAILY in every liveCache-relevant client: daily (preferably at night)
   /SAPAPO/OM_DELETE_OLD_SIMSESS in a liveCache-relevant client: every 30 minutes
   /SAPAPO/OM_LCAALERTS in a liveCache-relevant client: every 12 hours

7. Checking the liveCache Installation

   To determine liveCache configured properly, execute the following transactions
   /n/sapapo/om13: liveCache Health Check. Note any error messages on the tab page "Checks"



/n/sapapo/om03: Basic check of the PP/DS function

3 CONFIGURATION OF THE CORE INTERFACE (CIF)

3.1 General Information

Set up the CIF customizing by choosing Basic Settings for Creating the System Landscape. Create a RFC Destination and Logical System including the SAP S/4HANA itself (own system and client), so that the data can be integrated to embedded PP/DS and a logical system and queue types can be maintained.

There is no need for maintaining distribution definition or publication types as the PP/DS is part of SAP S/4HANA.

3.2 Create RFC Destination for the relevant client (client dependent)

A RFC Destination for the transfer of master and transaction data between S/4 and embedded PP/DS is required. The RFC Destination points to the respective system and client of the S/4HANA system itself.

On the liveCache installation a RFC Destination for the clients should already be created. Start transaction SM59 and check the existing RFC Destinations for the relevant client. If there is no suitable RFC Destination, you have to create one.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	SM59
IMG Menu	*IMG à Advanced Planning à Integration via Core Interface à Integration à Basic Settings for Creating the System Landscape à Set up RFC Connection*

2. Choose Create.
3. Add a CLNT string and the client number (for example, "678") to your system ID (for example, "XYZ") to determine the connection name.

   Note: This constitutes the connection name (for example, "XYZCLNT678"). You must adhere to this naming convention as ABAP does not recognize other names, for example, "XYZMAND678", and causes errors. If there is already a connection with the same destination but a different name, you must still create the connection as described. ".

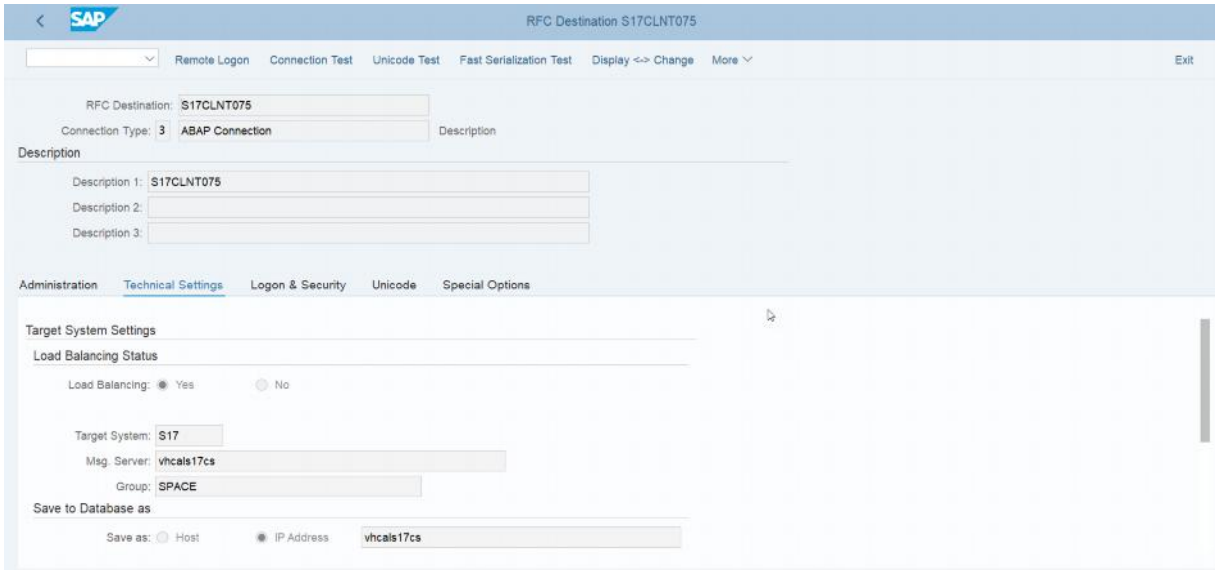
4. Enter the connection name in RFC destination.

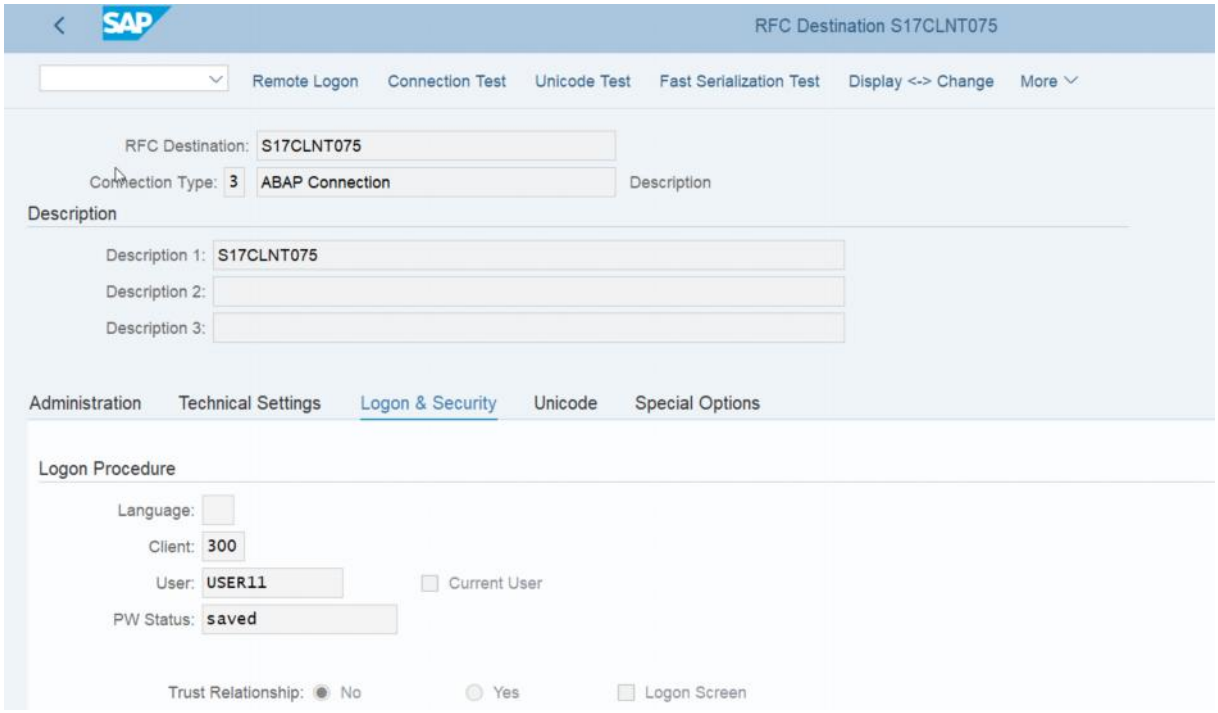
5. As a connection type, choose "3" (= SAP S/4HANA backend system destination or connection to the ABAP system).

6. Enter a description for the destination.
7. In the Logon section, enter the user credentials of the user created in this client. Ensure that the password is no longer initial, and do not select the Current User.

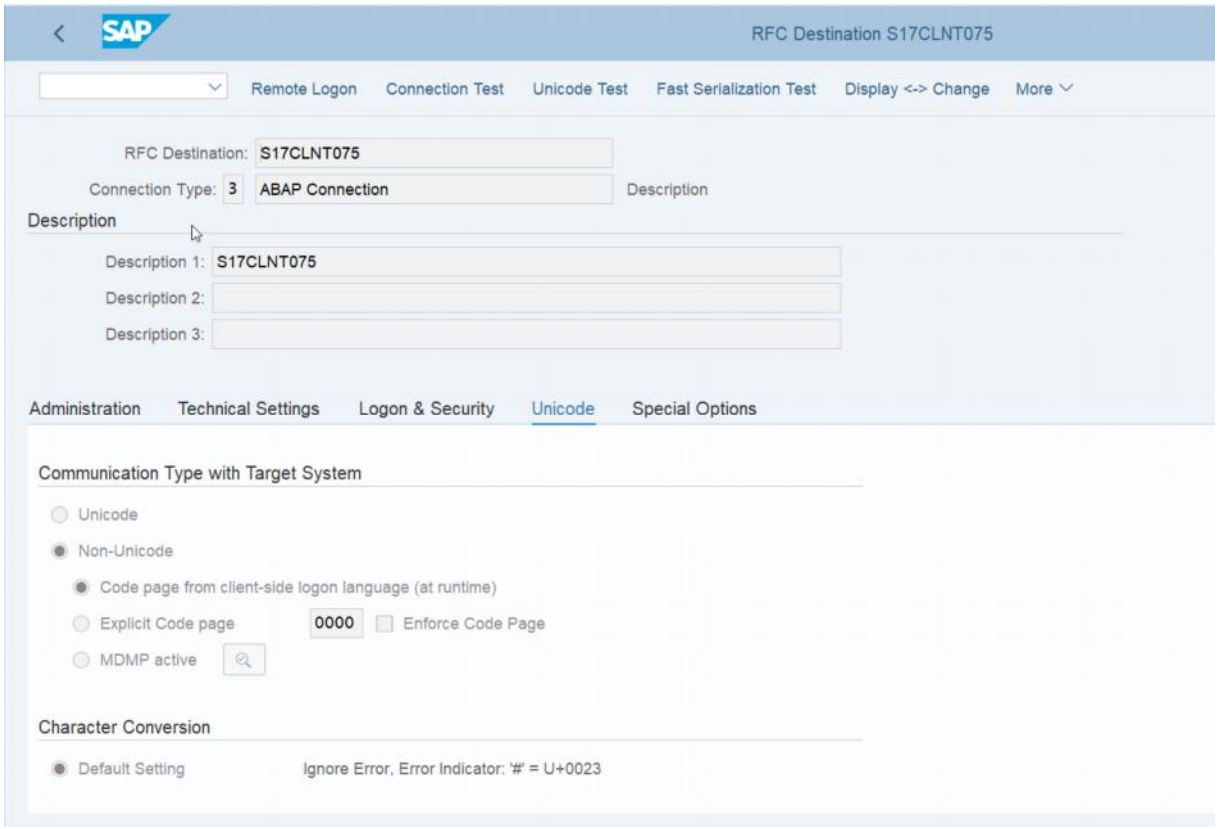
8. Save the changes.

   Verifying the Above Steps:
   To check that you have carried out all the steps correctly, choose Remote Login.
   The system should display an SAP S/4HANA backend system window, but not an SAP S/4HANA backend system logon screen. If the system displays an SAP S/4HANA backend system logon screen, check if all steps above were performed correctly, you should check whether or not the user is actually available in this client (in particular). This test is not possible with an RFC destination with a CPIC user.


RFC Destination S17CLNT075
Remote Logon
Connection Test
Unicode Test
Fast Serialization Test
Display <-> Change
More
Exit
RFC Destination: S17CLNT075
Connection Type: 3 ABAP Connection
Description
Description
Description 1: S17CLNT075
Description 2:
Description 3:
Administration
Technical Settings
Logon & Security
Unicode
Special Options
Target System Settings
Load Balancing Status
Load Balancing: Yes No
Target System: S17
Msg. Server: vhcals17cs
Group: SPACE
Save to Database as
Save as: Host IP Address vhcals17cs


RFC Destination S17CLNT075
Remote Logon
Connection Test
Unicode Test
Fast Serialization Test
Display <-> Change
More
RFC Destination: S17CLNT075
Connection Type: 3 ABAP Connection
Description
Description
Description 1: S17CLNT075
Description 2:
Description 3:
Administration
Technical Settings
Logon & Security
Unicode
Special Options
Logon Procedure
Language:
Client: 300
User: USER11
Current User
PW Status: saved
Trust Relationship: No Yes
Logon Screen

Note: Be careful setting the flag Unicode or Non-Unicode corresponding to your system.



3.3 Name a Logical System (client dependent)

Define a Logical System for the CIF.

Procedure

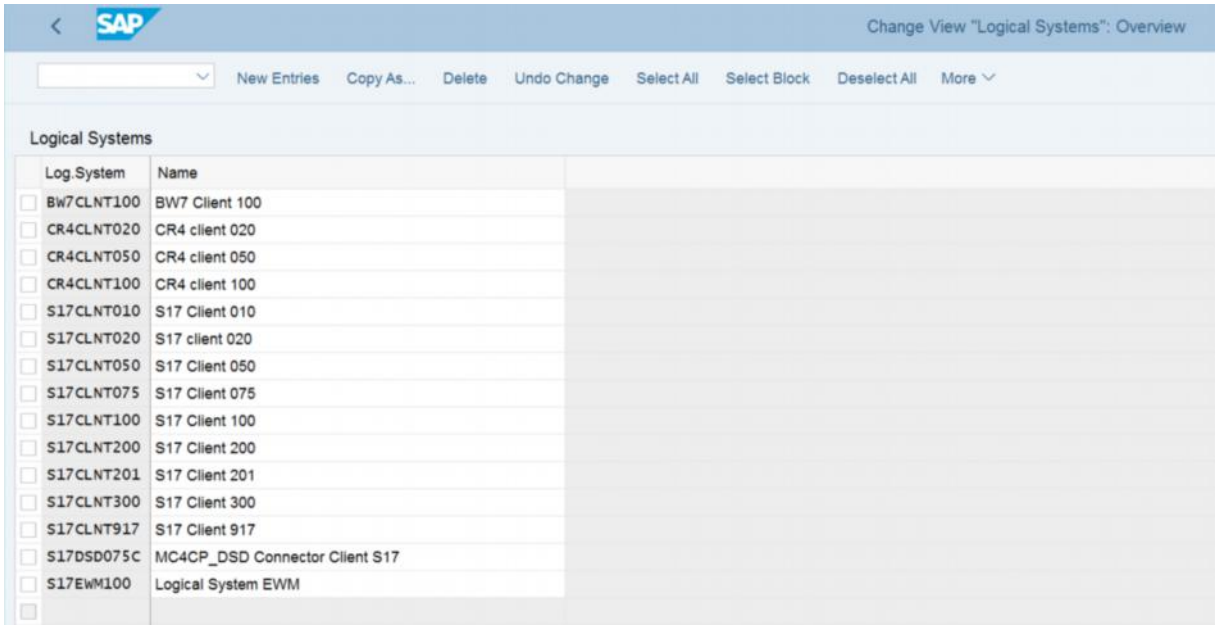
Access the activity using one of the following navigation options:

Transaction Code	SPRO
IMG Menu	*IMG à Advanced Planning à Basic Settings à Integration via Core Interface (CIF) à Integration à Basic Settings for Creating the System Landscape à Name Logical Systems*

Create a new entry:

Field name	**User action and values**
Log. System	Enter the RFC Connection created before.
Name	Enter System and Client

Save the entries.



3.4 Assign Logical Systems to a Client (client dependent)

Assign logical System to the S/4HANA client for the data integration.

Procedure

Access the activity using one of the following navigation options:

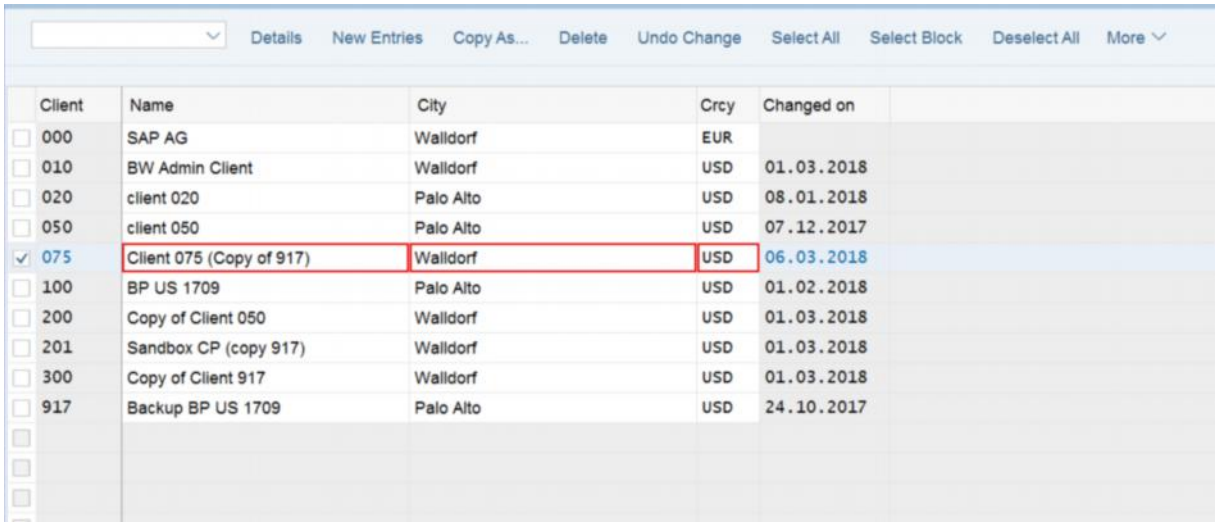
Transaction Code	SPRO
IMG Menu	*IMG à Advanced Planning à Basic Settings à Integration via Core Interface (CIF) à Integration à Basic Settings for Creating the System Landscape à Assign Logical Systems to Client*

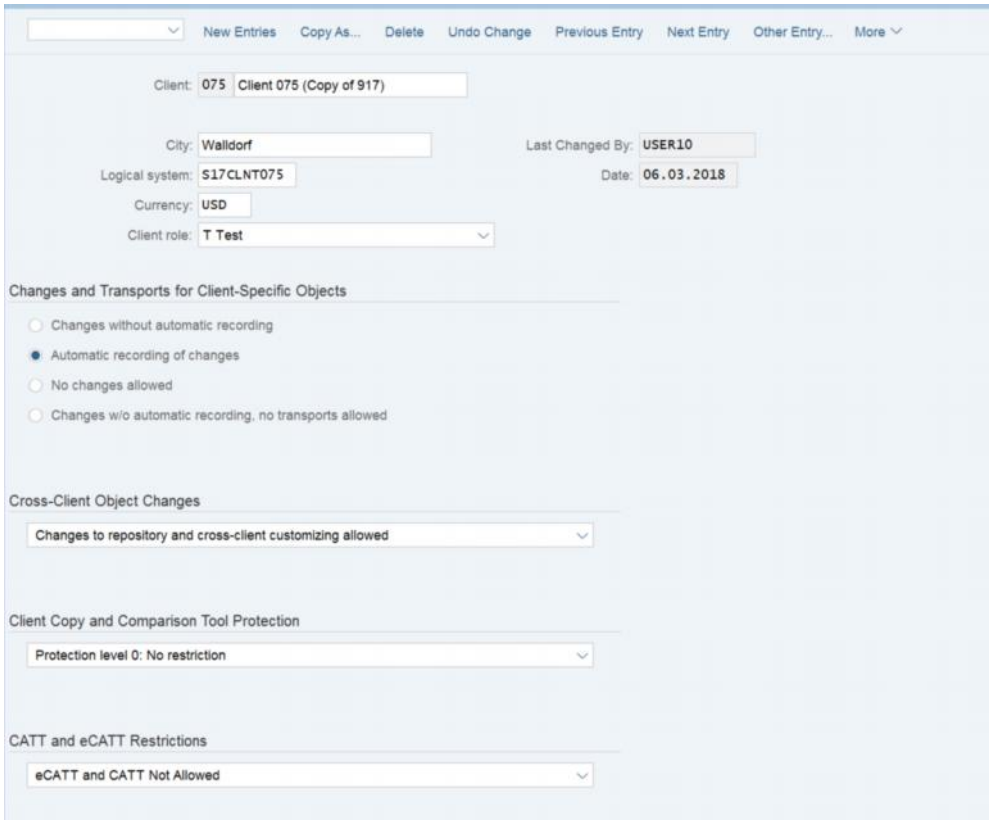
Create a new entry:

Field name	**User action and values**
Client	*Enter the client*
Description of Client	*Enter System and Client*
City (optional)	*Enter City*
Logical System	*Enter the logical System defined in 3.1*
Currency	USD
Client role	*Select the relevant client role*
Automatic recording of changes	*Select the Check Box*

Field name	User action and values
Cross-Client Object Changes	Changes to repository and cross-client customizing allowed
Client Copy and Comparison Tool Protection	*Select the entry according to your IT policy*
eCATT and CATT Not Allowed	*Select the entry according to your IT policy*

Save the entries.





3.5 Assign RFC Destinations to Various Application Cases (client dependent)

Assign RFC Destinations to the logical system.

Procedure

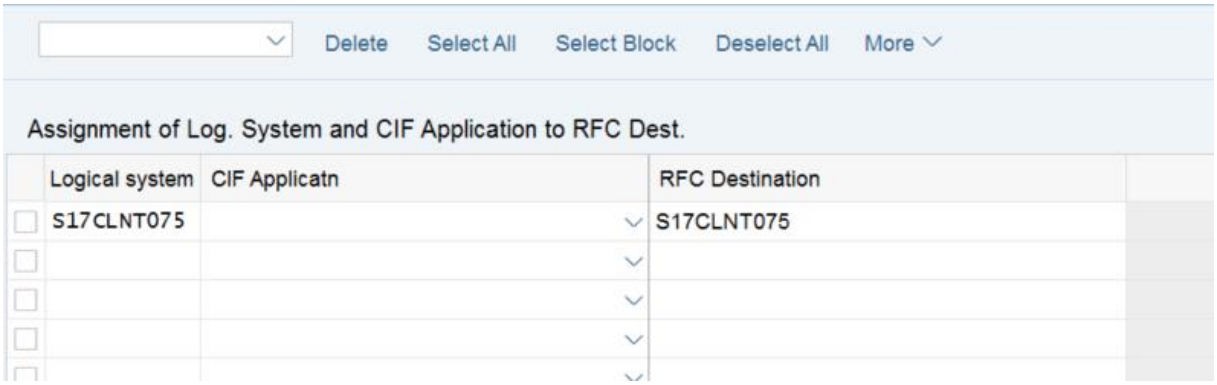
Access the activity using one of the following navigation options:

Transaction Code	SPRO
IMG Menu	*IMG à Advanced Planning à Basic Settings à Integration via Core Interface (CIF) à Integration à Basic Settings for Creating the System Landscape à Assign RFC Destinations to Various Application Cases*

Create a new entry:

Field name	User action and values
Log. System	Enter the logical System defined in previous steps.
RFC Destination	Enter the RFC destination defined in previous steps.

Save the entries.



3.6 Define Business System Group

Define Business System Group for transferring Master Data.

Procedure

Access the activity using one of the following navigation options:

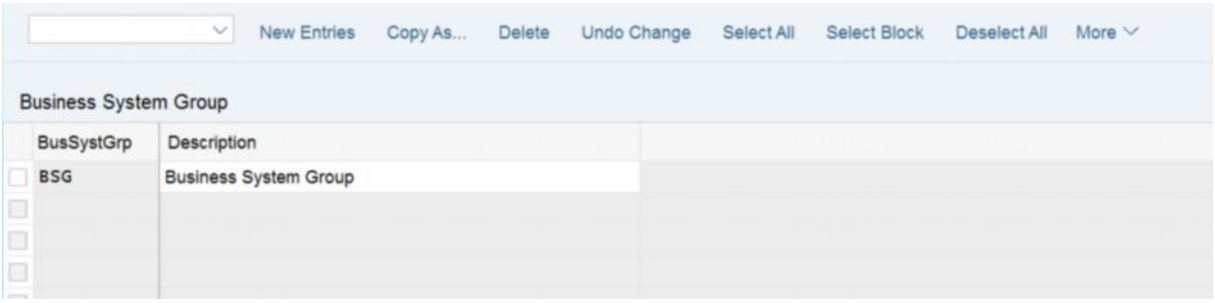
Transaction Code	SPRO
IMG Menu	*IMG à Advanced Planning à Basic Settings à Integration via Core Interface (CIF) à Integration à Basic Settings for*

	Creating the System Landscape à Maintain Business System Group

Create a new entry:

Field name	User action and values
BusSystGrp	BSG *or any other Value*
Description	Business System Group *or any other Value*

Save the entries.



3.7 Assign Logical System and Queue Type (client dependent)

Assign Logical System and define the queue type to the business system group and the client.

Procedure

Access the activity using one of the following navigation options:

Transaction Code	SPRO
IMG Menu	*IMG à Advanced Planning à Basic Settings à Integration via Core Interface (CIF) à Integration à Basic Settings for Creating the System Landscape à Assign Logical System and Queue Type*

Create a new entry:

Field name	User action and values
BusSystGrp	BSG *or the defined value for the Business System Group*
Logical System	Enter the logical System defined in 3.1
SAP System Indicator	X
Release	700
Queue Type	Inbound Queues
Error Handling	Strict (Terminate at Errors)

Field name	User action and values
Role	Not Specified

Save the entries.

3.8 Set Target System and Queue Type (client dependent)

Set the logical system as target system and define the queue type.

Procedure

Access the activity using one of the following navigation options:

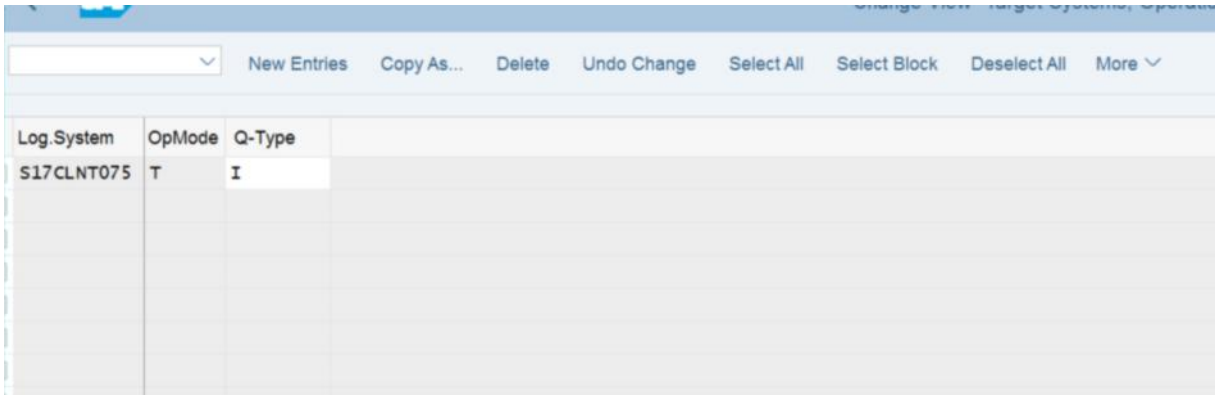
Transaction Code	SPRO
IMG Menu	*IMG à Integration with Other SAP Components à Advanced Planning and Optimization à Basic Settings for Setting Up the System Landscape à Set Target Systen and Queue Type*

Create a new entry:

Field name	User action and values
Logical System	Enter the logical System defined in 3.1
Q-Type	I

Save the entries.

The Operation Mode is set automatically to T. If the operation mode is not set automatically, the note 2634408 PP/DS : Setting OPMODE in CFC1 to 'T' standard has to be implemented. After the implementation delete the entry and enter it again. Then the operation mode should be set automatically to T.



3.9 Specify SAP APO Release (client dependent)

Specify the SAP APO Release for the logical system.

Procedure

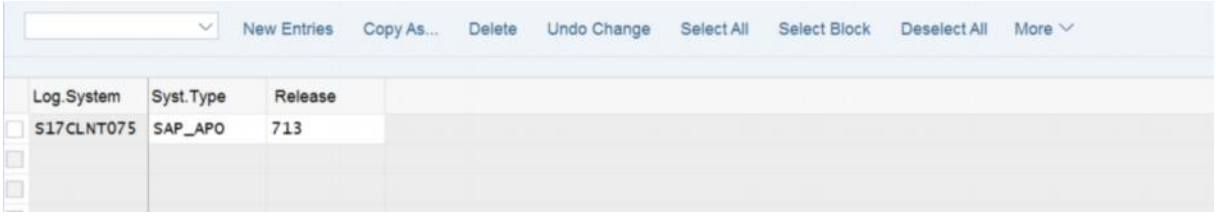
Access the activity using one of the following navigation options:

Transaction Code	SPRO
IMG Menu	*IMG à Integration with Other SAP Components à Basic Settings for Setting Up the System Landscape à Specify SAP APO Release*

Create a new entry:

Field name	**User action and values**
Logical System	Enter the logical System defined in the steps before.
System Type	SAP_APO
Release	713

Save the entries.



3.10 Activate Online Transfer Using BTE

Set the application indicator for ND-APO (New Dimension Plug-In APO) and NDI (New Dimension Integration) to active. Without this activation the integration will not work.

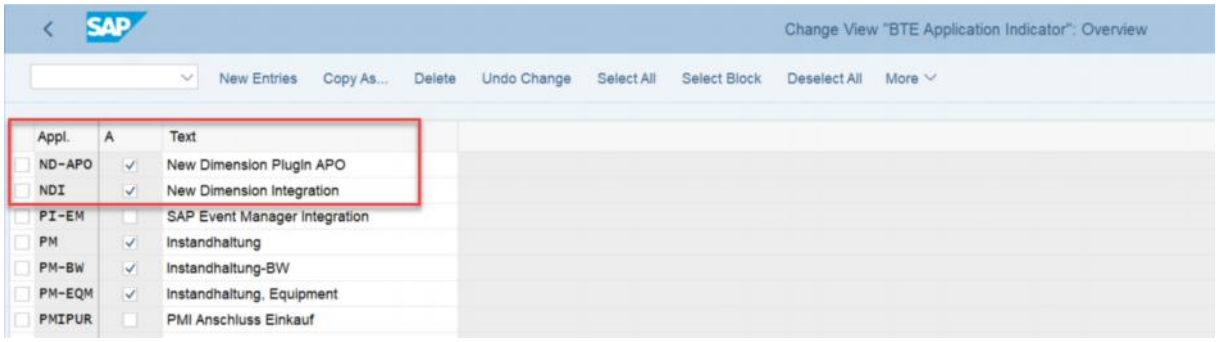
Procedure

Access the activity using one of the following navigation options:

Transaction Code	BF11
IMG Menu	*IMG à Integration with Other SAP Components à Advanced Planning and Optimization à Basic Settings for Data Transfer à Change Transfer à Change Transfer for Transaction Data à Acitvate Online Transfer Using BTE*

Change the settings:

Field name	User action and values
Appl.	Select the value ND-APO
Activate	Set the flag for the value ND-APO
Appl.	Select the value NDI
Activate	Set the flag for the value NDI



Save the entries.

3.11 Activate CIF Queues

To process automatically process queues, it is necessary to register/activate them. In the example provided, inbound queues are used so transaction SMQR can be used to register the queue.

Register the queues for the CIF.

Procedure

Access the activity using one of the following navigation options:

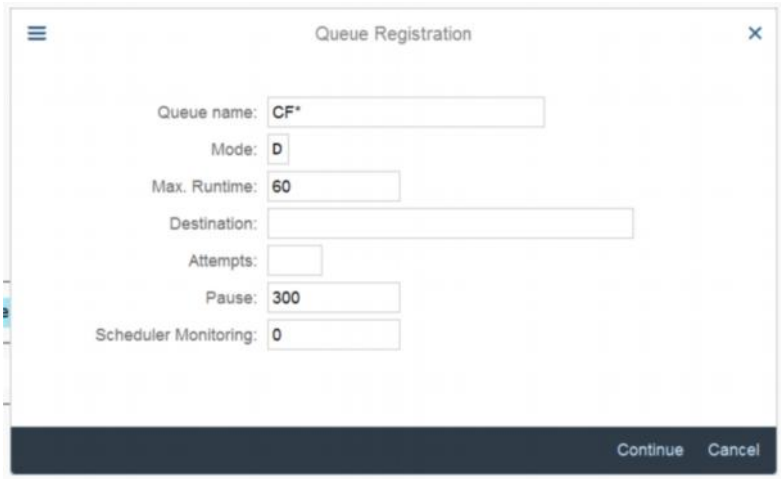
Transaction Code	SMQR

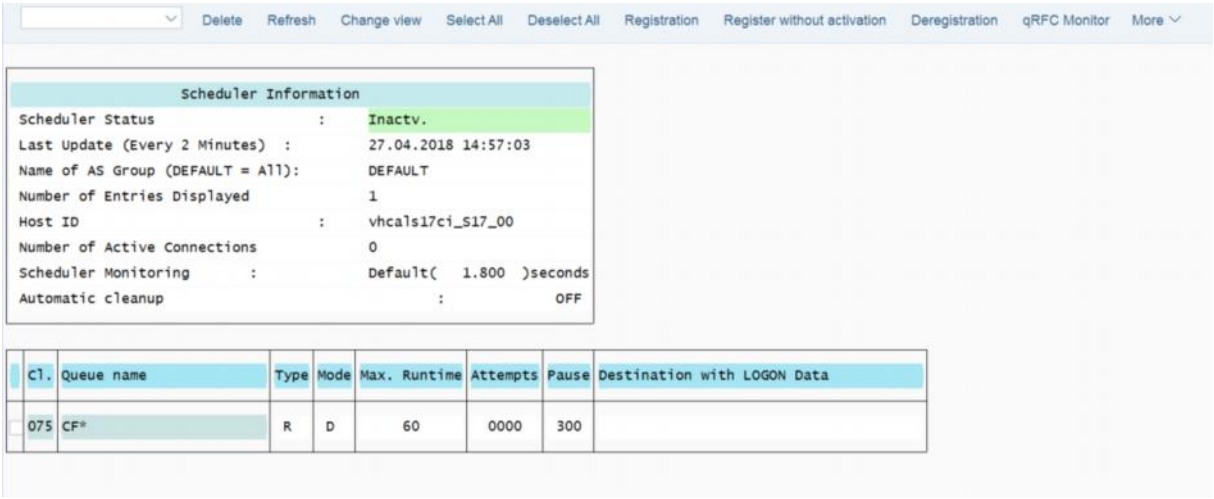
Select "Registration":

Field name	User action and values
Queue Name	CF*
Mode	D
Max. Runtime	60
Destination	Blank
Attempts	e.g. 30, please follow the note 1579728 for details

Field name	User action and values
Pause	300
Scheduler Monitoring	Blank

The table above provides an example, set the parameters of the queue in transaction SMQR based on the clarifications in the note 1579728.
Save the entry.





3.12 Maintain CIF Parameters

Maintain the user-specific settings for generating, debugging and logging of the CIF queues.

Procedure

Access the activity using one of the following navigation options:

Transaction Code	CFC2

Create a new entry.

Field name	User action and values
User Name	*
RFC Mode	Q
Logging	X
Debug	Blank

Save the entry.

4 BASIC PP/DS CUSTOMIZING AND SET-UP

4.1 Activate Advanced Planning

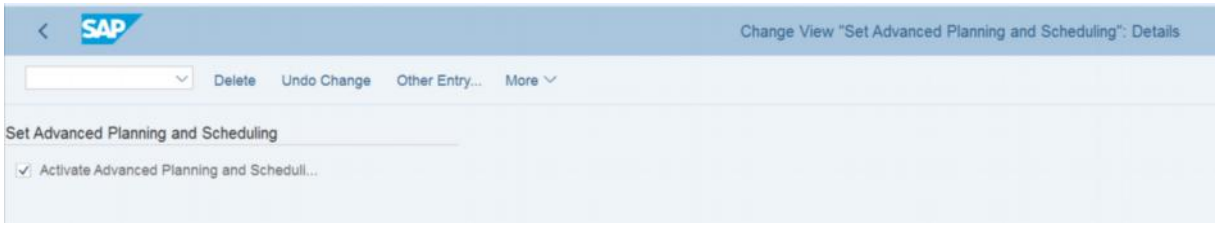
Activate embedded PP/DS for the relevant client.

Procedure

Access the activity using one of the following navigation options:

Transaction Code	SPRO
IMG Menu	*IMG à Advanced Planning à Basic Settings à Activate Advanced Planning and Scheduling*

Set the flag *Activate Advanced Planning and Scheduling*



Save the data.

4.2 Activate Transfer of Transaction Data

Activate the transfer of Transaction Data (no integration model for the CIF).

By default, all material dependent orders and batches are integrated into liveCache for all PP/DS-relevant materials.

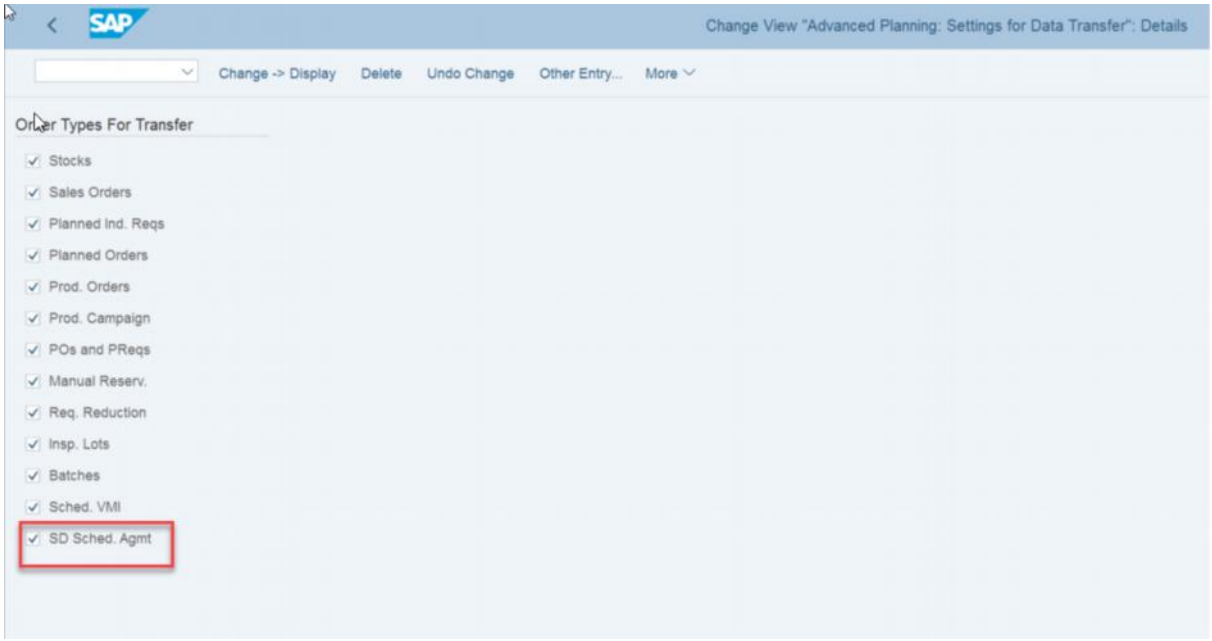
Complete retransfer of material dependent orders can be achieved with the report /SAPAPO/PPDS_DELTA_ORD_TRANS. The report should be executed during a timeframe where orders are not changed in the system. The orders changed while running the report need to be reintegrated using CIF Delta Reconciliation Report.

Procedure

Access the activity using one of the following navigation options:

Transaction Code	SPRO
IMG Menu	*IMG à Advanced Planning à Basic Settings à Settings for Data Transfer*

Set the flags for all order types for transfer:



In case of Sales Scheduling Agreement, if delivery schedules are managed in SAP S/4HANA, and not in PP/DS, you need to unflag check box SD Sched. Agmt.

Save your entries.

4.3 Define Configuration Schema

You determine the configuration schema for products in SAP APO. The configuration schema controls how classes and characteristics are used in SAP APO. If you want to consider characteristic based planning by the MRP heuristics or consider the Best Before Date by some PP/DS heuristics, you will select the Characteristic Based Planning Schema (CDP).

Check also note 2596846 Restrictions and Implementation Recommendations for Production Planning and Detailed Scheduling for SAP S/4HANA 1709 for further information about the configuration schema.

Procedure

Access the activity using one of the following navigation options:

Transaction Code	/n/SAPAPO/RRPC1

IMG Menu	*IMG à Advanced Planning à Global Settings à Define Configuration Schema (CDP or Variant Configuration)*

Select *Characteristic-Dependent Planning (CDP).*

Click on *SAVE.*

4.4 Maintain Number Ranges for Orders

Define a number range for planned orders in PP/DS for SAP S/4HANA.

Procedure

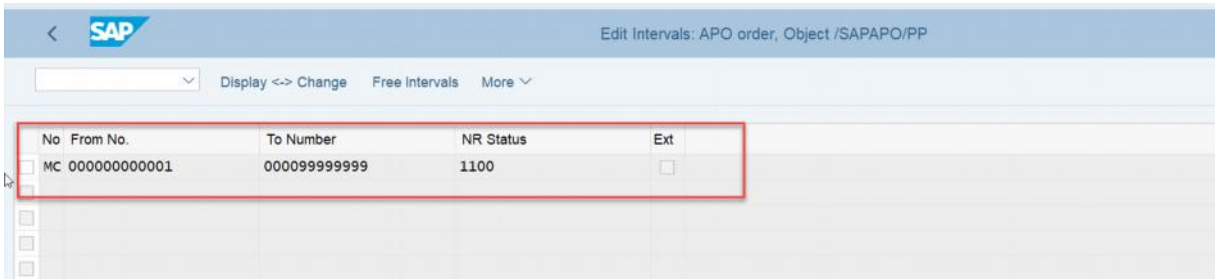
Access the activity using one of the following navigation options:

Transaction Code	/n/SAPAPO/RRPC1
IMG Menu	*IMG à Advanced Planning à Global Settings à Maintain Number Ranges for Orders*

Select *Change Intervals*

Create a new entry:

Field name	User action and values
No	Enter a value
From No.	Define a number range
To No.	Define a number range
NR Status	Blank
Ext	Blank



Save your entry.

4.5 Maintain Global Parameters and Default Values

Assign the previous defined number range for planned orders in PP/DS for SAP S/4HANA to global parameters and values. In addition, maintain number ranges for production campaigns and interchangeability groups depending on the usage of these functions.

Check also whether the settings for Plan Explosion are suitable to your business scenario.

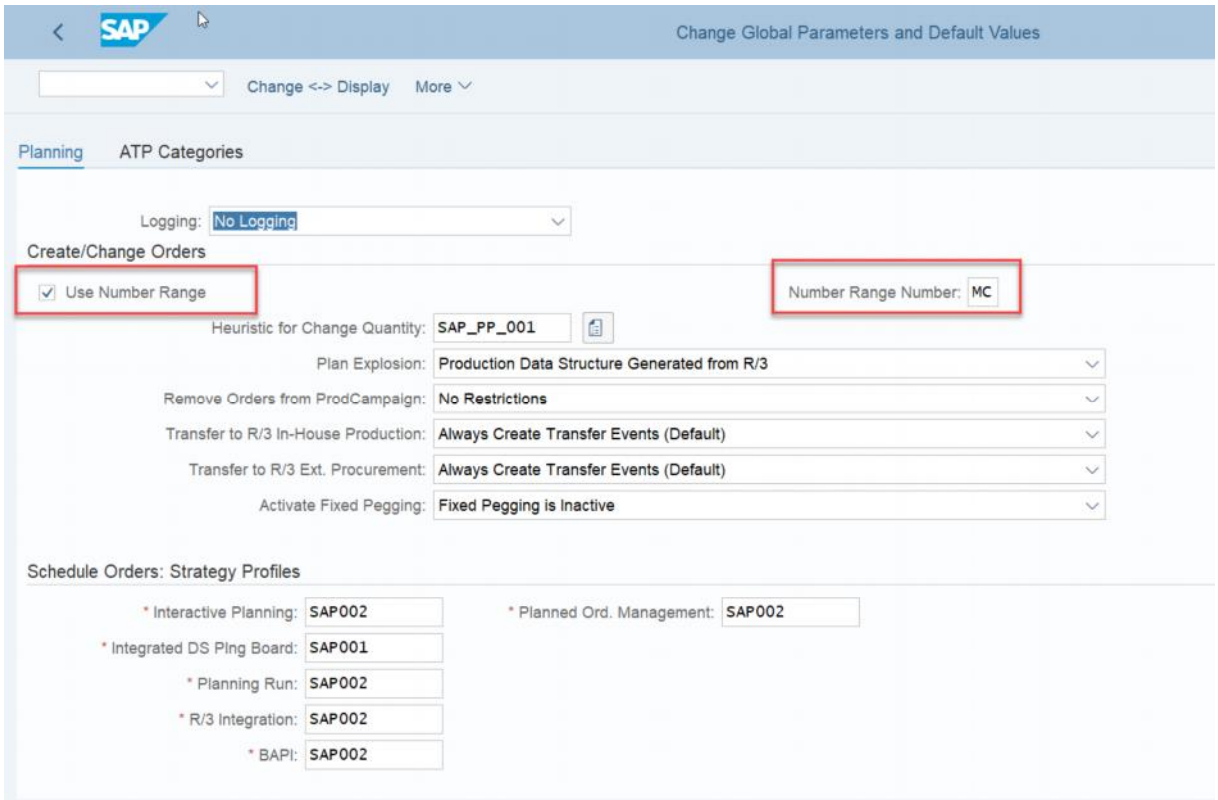
Procedure

Access the activity using one of the following navigation options:

Transaction Code	/n/SAPAPO/RRP_CUST1
IMG Menu	*IMG à Advanced Planning à Global Settings à Maintain Global Parameters and Defaults*

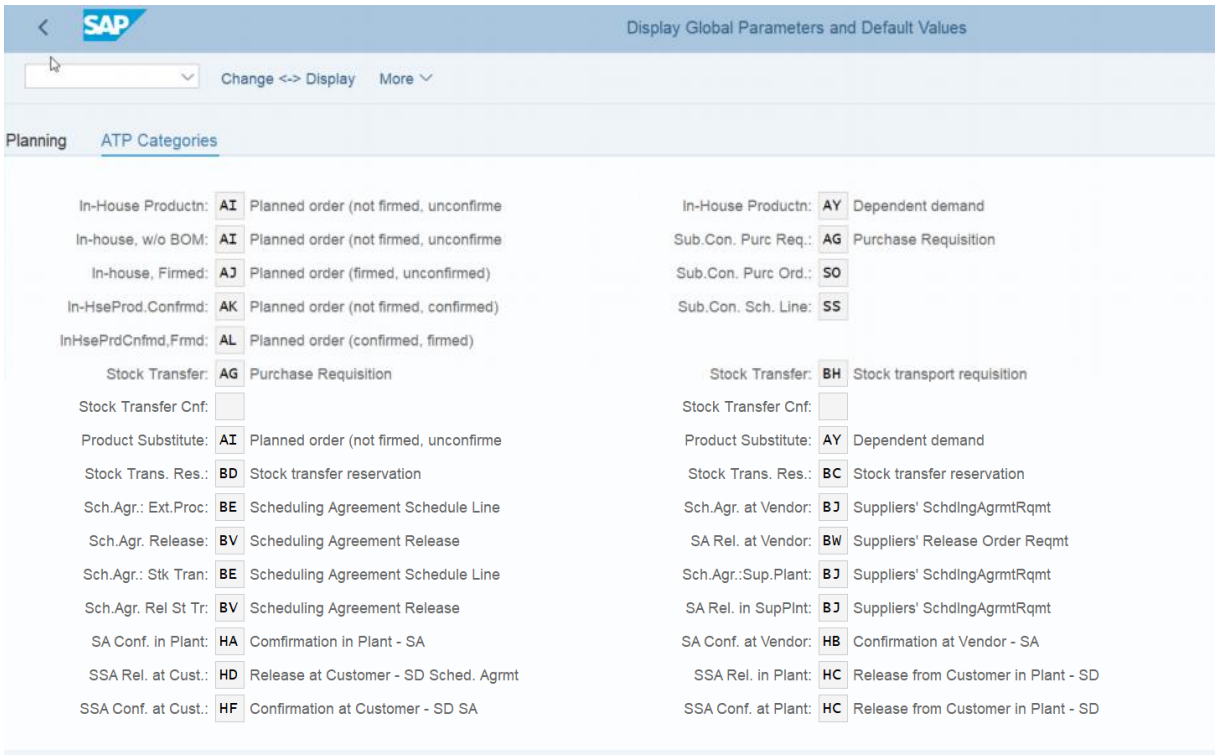
The following values are changed:

Field	*Old value*	*New value*
Use Number Range	*Blank*	*Flag is selected*
Number Range Number	*Blank*	*Value you have maintained before.*
Plan Explosion		*Check the settings*



Save your entries.

Check if pre-delivered ATP categories exist. Refer S/4HANA Administration Guide for Implementation and SAP Note 2272406 Missing Customizing Table Entries for more information.



If there are some missing entries, refer to SAP Note 2272406 to review how the reports available for C/G table updating. From this note, use report /FTI/JF24.

4.6 Optional: Maintain Organizational Area for Material Classes

If you use characteristics for example for considering the Best Before Date in PP/DS, you will have to transfer them to PP/DS.

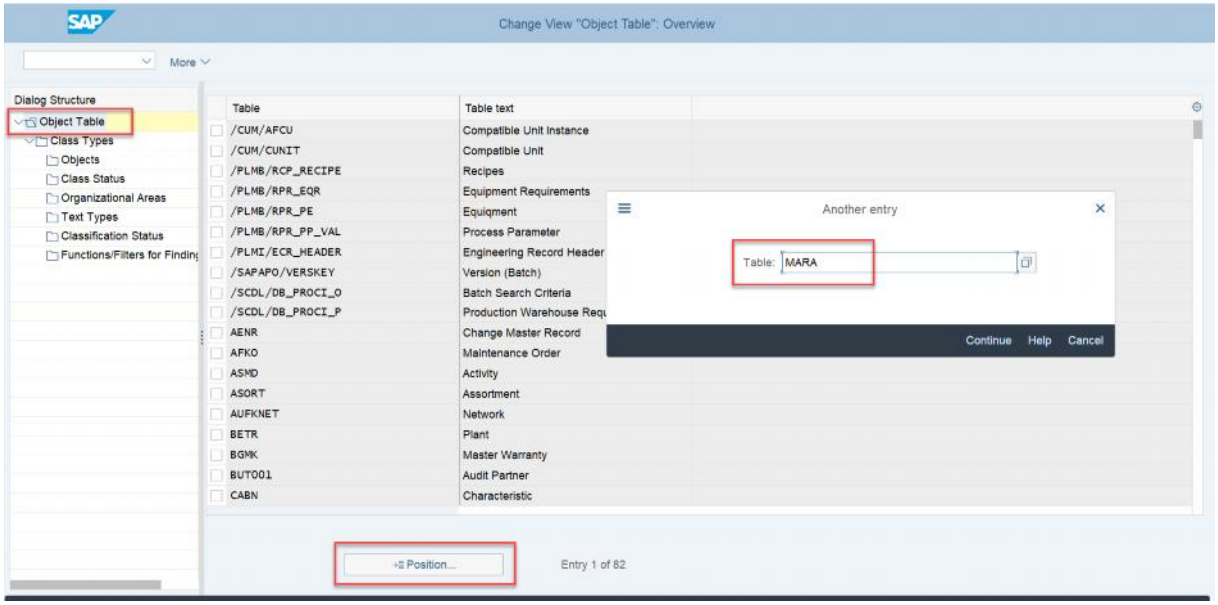
The characteristics, which are transferred to advanced planning, are assigned to a certain organizational area. In the integration model the characteristics are selected considering the organizational area. You create an organizational area for PP/DS.

Procedure

Access the activity using one of the following navigation options:

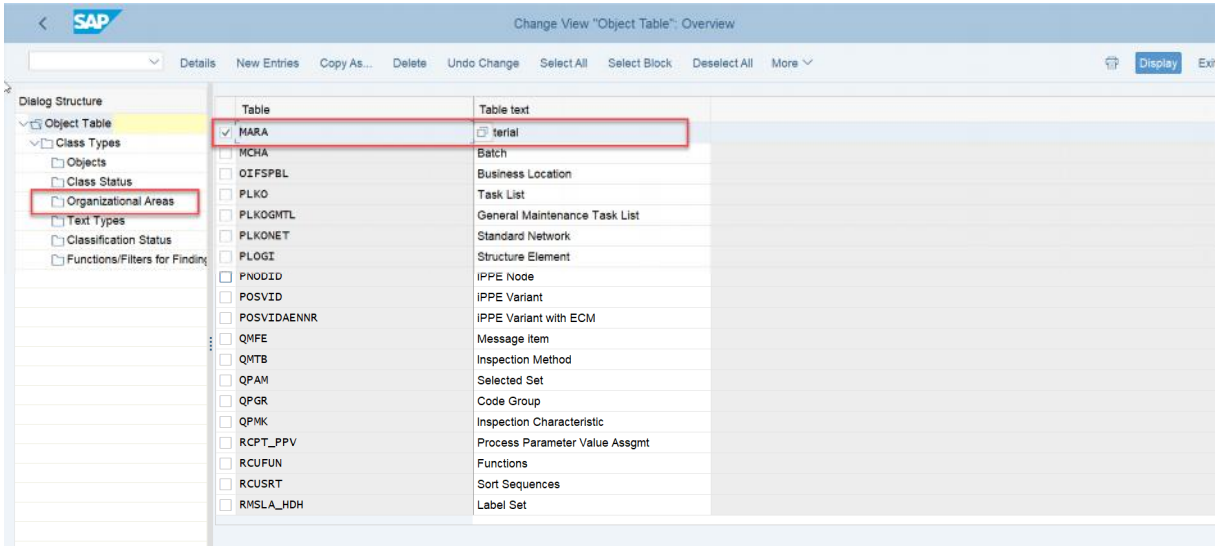
Transaction Code	SPRO
IMG Menu	*IMG à Cross-Apllication Components à Classification System à Classes à Maintain Object Types and Class Types*

Click on *Object Table.*
Click on *Position.*



Enter the table *MARA.*

Click on Continue.



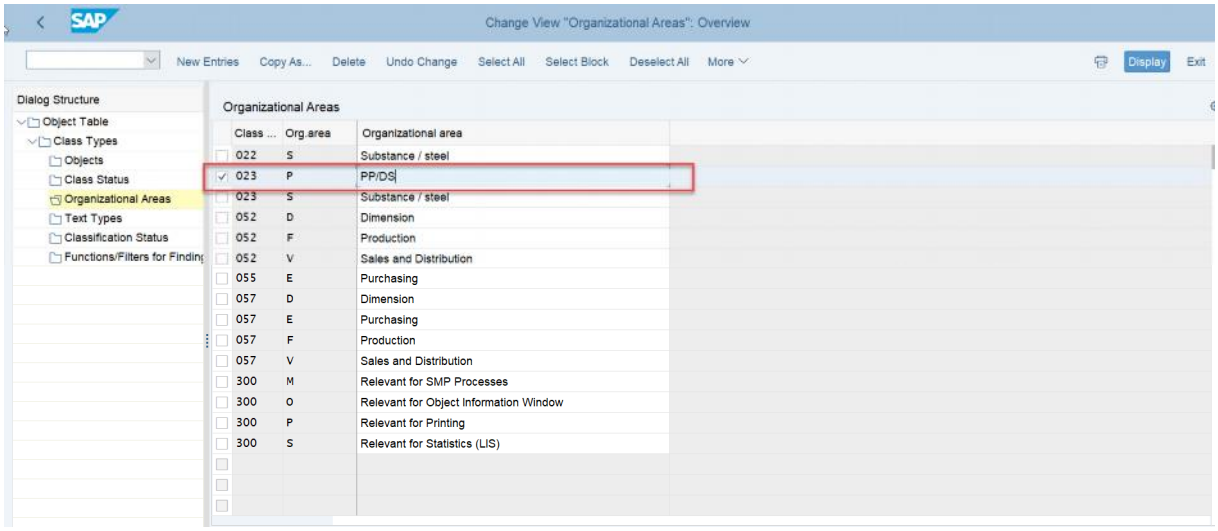
Select the table *MARA.*

Double-Click on *Organizational Area.*

Select *New Entries*

Enter the following values:

Field	*Value / User Action*
Class Type	*023*
Organizational Area	*Maintain P or any other value.*
Organizational Area Description	*PP/DS*



Click on *SAVE.*

4.7 Settings for the Transfer of Resources to SAP APO

Maintain the settings for the transfer of resources to SAP APO and to enable the settings for APO resources for the S/4 work centers.

Procedure

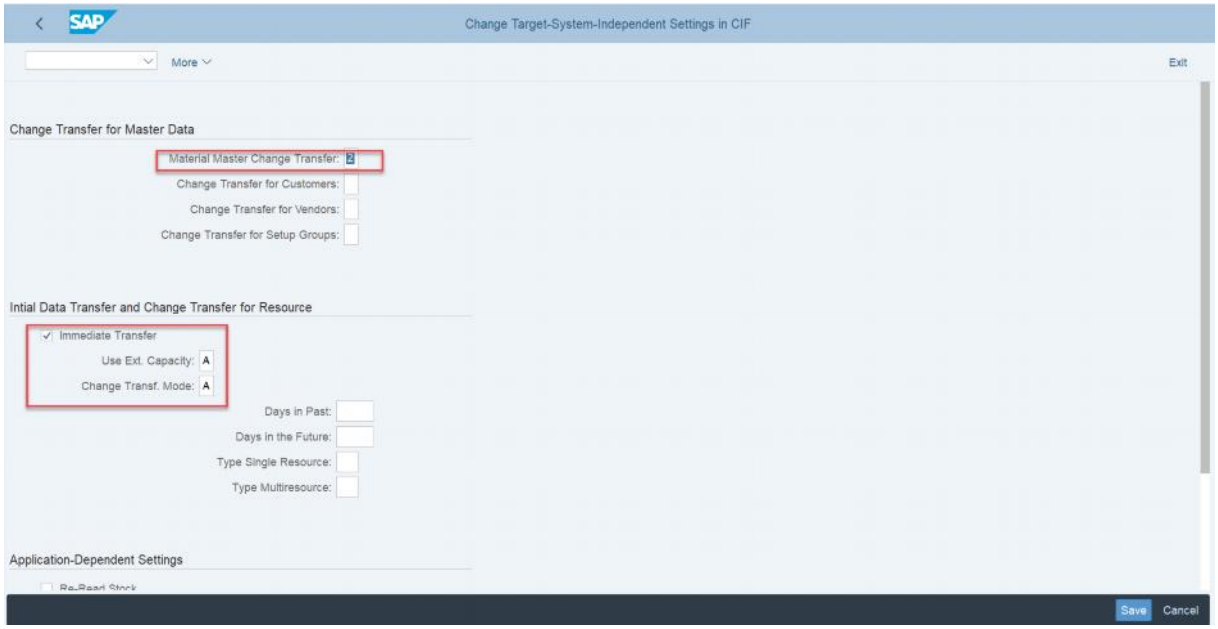
Access the activity using one of the following navigation options:

Transaction Code	CFC9
IMG Menu	*IMG à Integration with Other SAP Components à Advanced Planning and Optimization à Application-Specific Settings and Enhancements à Settings for Resources à Set the Transfer of Resources to SAP APO*

Enter the following data:

Field name	**User action and values**
Material Master Change Transfer	2 BTE Transfer immediately
Immediate Transfer	Set the Flag
Use Ext. Capacity	A
Change Transf. Mode	A

Change transfer mode “No Change Transfer” is not supported in PP/DS for SAP S/4HANA in Target-System Independent Settings in CIF (Transaction CFC9). In case “No Change Transfer” is maintained, the value gets defaulted to ‘N’.



Click on *Save.*

5 MASTER DATA

Basically, the master data is created in S/4HANA and transferred to advanced planning (embedded PP/DS).

The following master data concerning production and advanced planning can be created by the migration cockpit in S/4HANA.

- Material Master
- Bill of Material (BOM)
- Work centers (resources)
- Routing

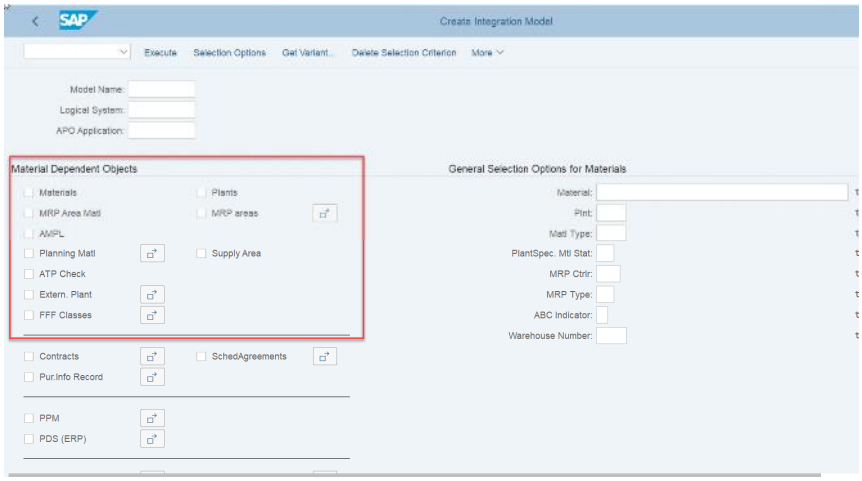
Some master data is not created by the migration cockpit. Either the master data object is not yet supported by the migration cockpit (e.g. master recipe) or it is more efficient to create the data manually since there is only one data set.

After maintaining the master data in S/4HANA the transfer of the master data to PP/DS is triggered by different activities / settings depending on the master data object.

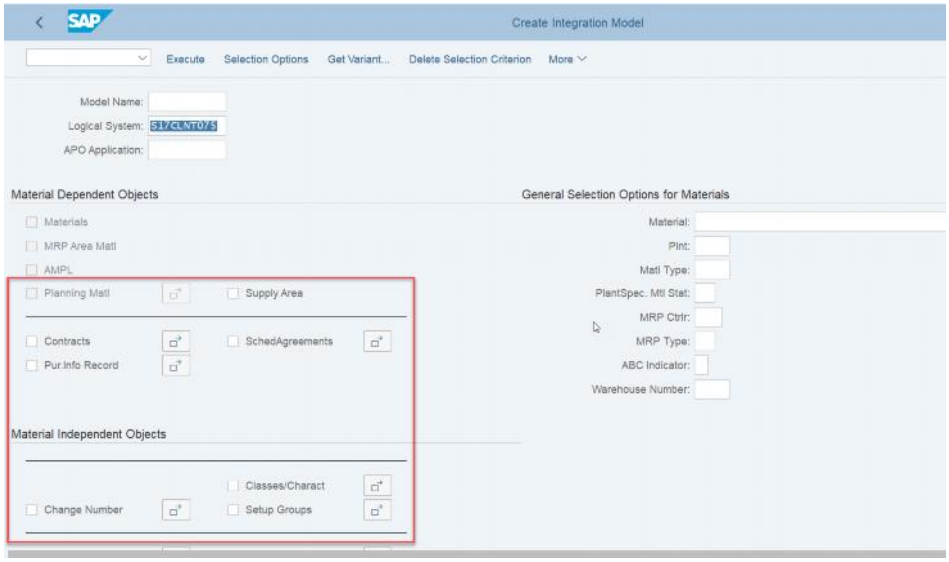
- Set flag “Advanced Planning” in the master data object (e.g. material master, resources)
- Execute a report for transferring (e.g. for plants, business partners, production versions / PDS)
- Create an integration model (e.g. for info records, scheduling agreements)

In comparison to SCM APO PP/DS the integration of the master data has been simplified for the user. The integration model is only used for some objects. You can check easily the objects which requires the activation of the integration model in your system. Enter the logical system of your S/4HANA system and client in the transaction CFM1 *Create an integration model.* The objects which do not require an integration model (depending on your release), are not displayed anymore.

For example:
Transaction CFM1 without entering any logical system: All objects are displayed.



Transaction CFM1 with a S/4HANA logical system: Only some objects are displayed.



NOTE: Before transferring any master data to PP/DS, it is very important that the model 000 and planning version 000 has been created manually in PP/DS. Any transfer of master and transaction data from S/4 to PP/DS refers to the active planning version 000.

5.1 Create Model and Planning Version for PP/DS

The master data in PP/DS is always assigned to a Model and Planning Version. The master and transaction data transferred from S/4 to PP/DS is always assigned automatically to planning version 000. The planning version has to be created manually.

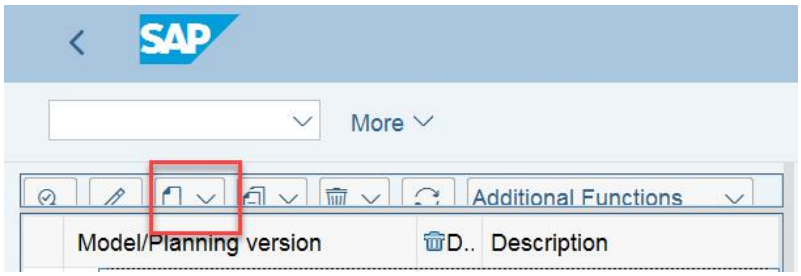
Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	/n/SAPAPO/MVM

IMG Menu	*Logistics à Advanced Planning à Master Data à Planning Version Management à Model and Version Management*

2. Select *Create Model*



3. Maintain the following values:

Field name	User action and values
Name	000
Description	Active Version

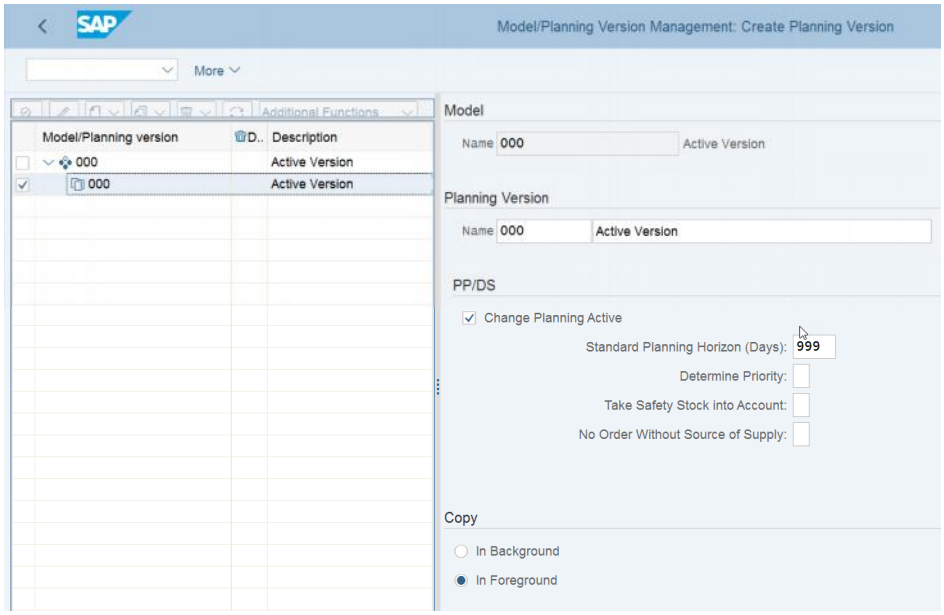
4. Click on the button *Create and Save.*
5. Select the model 000 Active Version and then select *Create*
6. Maintain the following values:

Field name	User action and values
Name	000
Description	Active Version
Change Planning Active	Set the flag
Standard Planning Horizon (Days)	999
Copy in foreground	Set the flag

The PP/DS Horizon can only be maintained at the level of planning versions in SAP S/4HANA. It is not present in product master for each product.

7. Click on the button *Create and Save.*

Active Model and Planning Version are created.



5.2 Create/Change Locations for PP/DS

The S/4HANA master data objects plant, distribution centers, business partners, etc. are transferred as locations. They differ from each other through their respective location types. The function of a location is therefore dependent upon the location type.

The locations for

- Plant
- MRP Area
- Shipping Point

are created by the report /SAPAPO/CREATE_LOCATION and can be changed by the report /SAPAPO/UPD_LOC_SP_PL.

The location for Business Partners can be created on saving a Business Partner by implementing the BAdi /SAPAPO/CREATE_LOCATION.

The location details can be changed by implementing the BAdi /SAPAPO/LOC_DETAILS.

Freely defined attributes of a location are not supported.

Procedure creating location by report

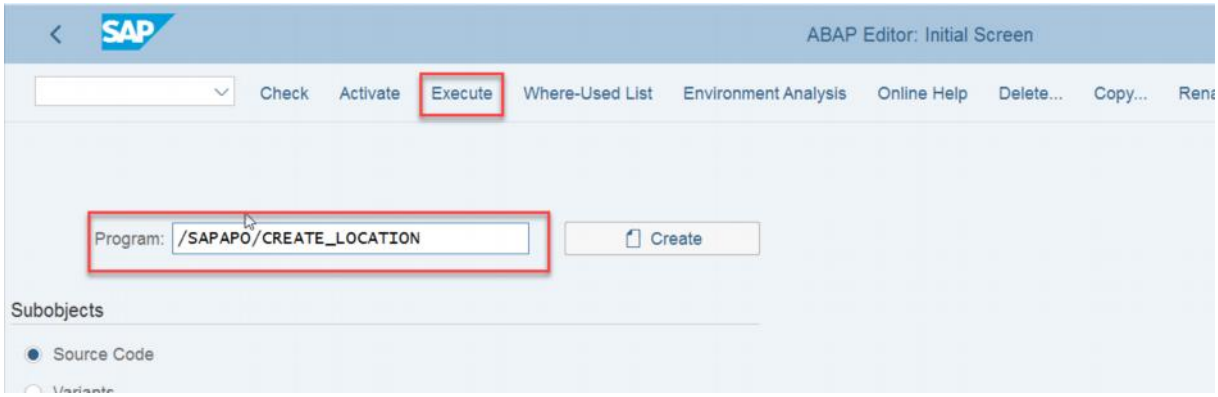
1. Access the activity using one of the following navigation options:

Transaction Code	SE38
IMG Menu	*Tools à ABAP Workbench à Development à ABAP Editor*

2. Enter the name of the report:

Field name	User action and values
Program	/n/SAPAPO/CREATE_LOCATION

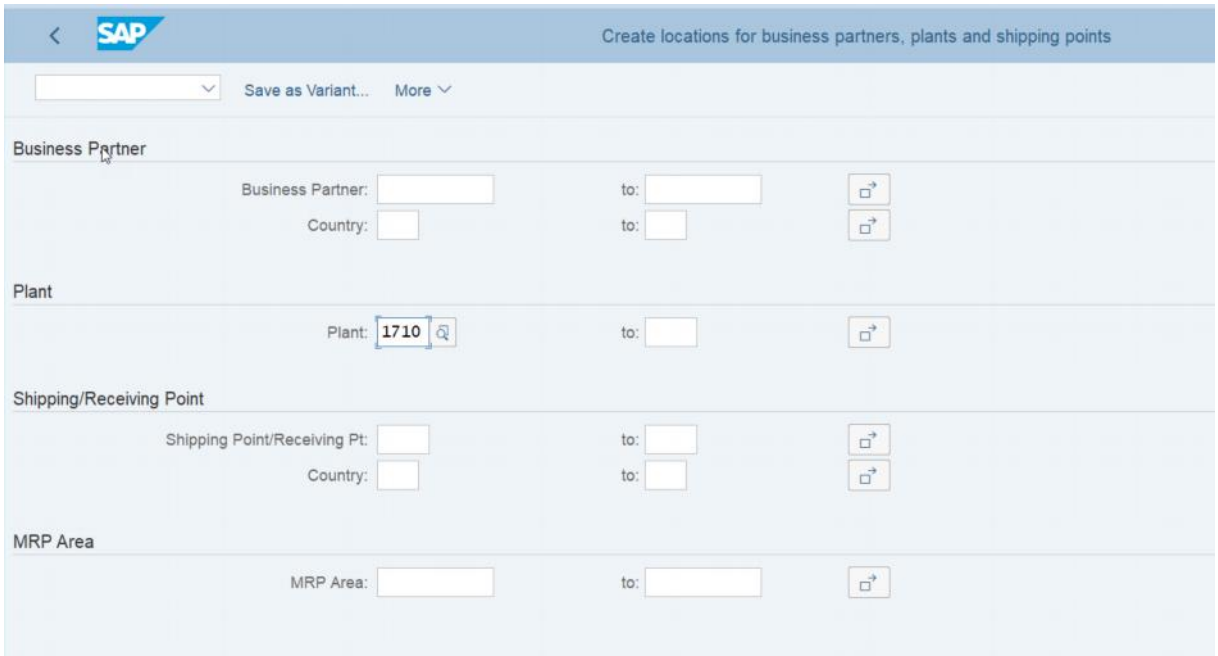
3. Click on *EXECUTE*



4. Maintain the required entries:

Field name	User action and values
For example: Plant	A plant, for example: 1710

5. Select *Execute.*



A log is displayed.

The location is created. If you want to check the location data, access the activity using one of the following entries:

1. Access the activity using one of the following navigation options:

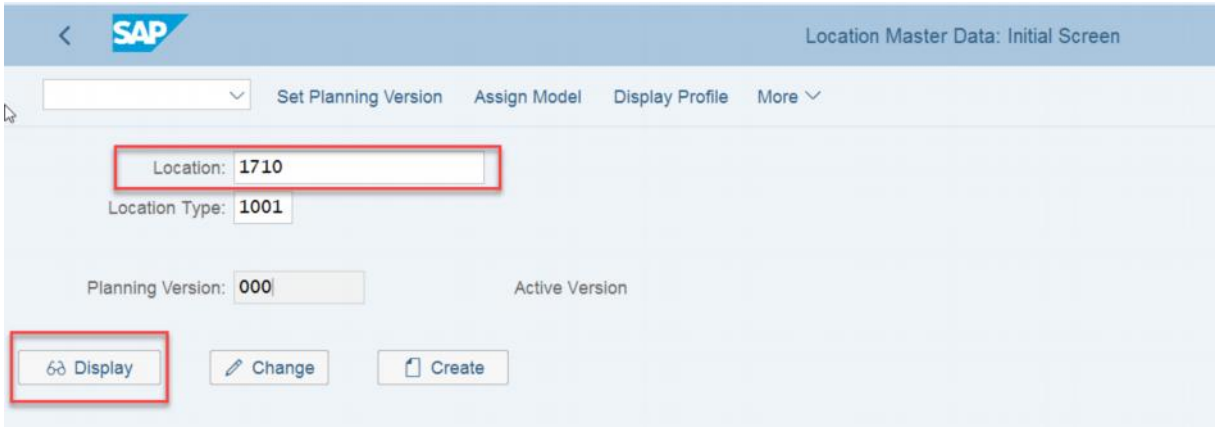
Transaction Code	/n/SAPAPO/LOC3
IMG Menu	*Logistics à Advanced Planning à Master Data à Location à Location*

2. Enter the Location:

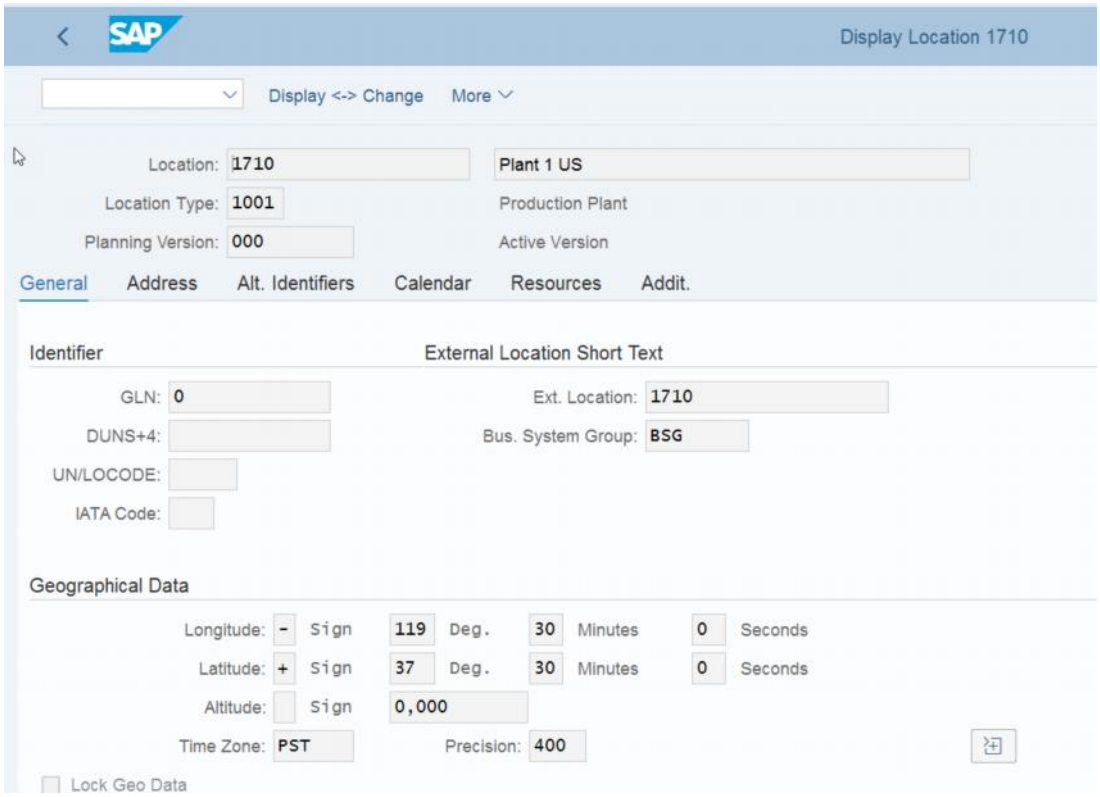
Field name	**User action and values**
Location	Any plant

3. Press *ENTER*

The location type is automatically filled with 1001.



4. Click on *Display*



5.3 Characteristics

Basically, characteristics are transferred by activating an integration model. Therefore, it is necessary to maintain an organizational area (with the description for example PP/DS relevant) in the customizing or use an existing one and select the organizational area in the integration model. The characteristics which are assigned in class maintenance to this organizational area will be transferred via the integration model to PP/DS.

With embedded PP/DS it is not necessary anymore to transfer all characteristics needed for planning/monitoring to PP/DS. Some are already integrated because of simplification. It depends on the configuration schema

Configuration Scheme VC (Variant Configuration)

- § CIF transfer for classification data of class type 300 is NOT required (scenario VC)
- § Embedded PP/DS reads directly class 300 related data from SAP S/4HANA.
- § APO product master data does not show the VC relevant class assignments
- § Relevant class and characteristic data is not transferred automatically anymore to the relevant block planning tables for the scenario VC

Configuration Scheme CDP (Characteristic Based Planning)

- § Activate the content of BC-set /SAPAPO/APO_ON_ERP_CDP
- § Integration model necessary for relevant organization areas to create class type 400
- § APO product master data does shows the CDP relevant class assignments

Characteristics for Best Before Date in PP/DS

§ Integration model necessary for relevant organization areas to transfer the characteristics

§ Best Before Date works only with the configuration scheme characteristics-based planning.

See Appendix *6.3* *Create Batch Classification including Best Before Date for S/4HANA and PP/DS* the Section *Creating class for batch classification* and the Section *Transfer Characteristics for BBD to PP/DS* for description

- how to assign organizational area to the characteristics and
- how to transfer characteristics.

This example describes the creation of a batch class. However, it works the same way for classes for characteristic based planning.

5.4 Material Master

SCM Product Master is integrated into the SAP S/4HANA Product Master with CDS Redirects on material master. For more information, refer SAP Note 2342043 Integration of S/4 Product Master with SCM Product Master

- The PP/DS product master is read-only for active version.
- The product master can only be changed in simulation versions.
- Local material creation in PP/DS is not supported.
- Freely defined attribute of Product Master is not supported.

Note: Some fields of the PP/DS product master can be maintained in the advanced planning view of the S/4HANA material master. For other fields there is a standard mapping or a default value due to simplification.

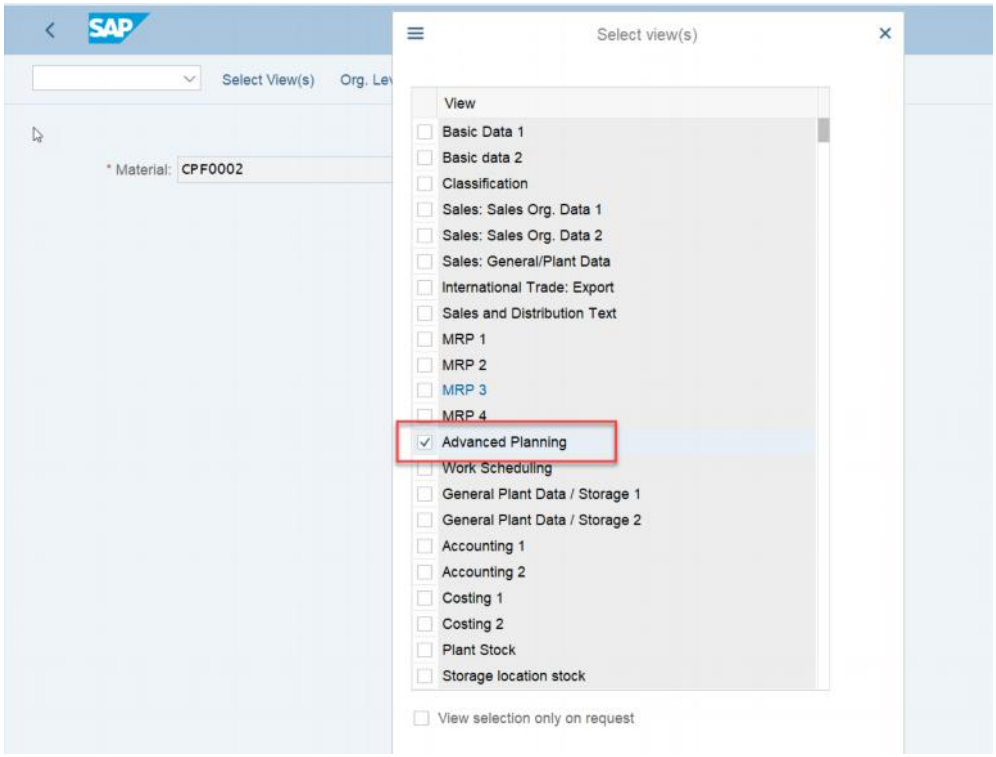
For the extensibility feature for fields of the PP/DS product master and data mapping refer SAP Note 2590603 Extensibility Feature for SCM Related Fields in Product Master from 1709 release for further information. There is also a PDF attached with all mapping and default values are attached to the note.

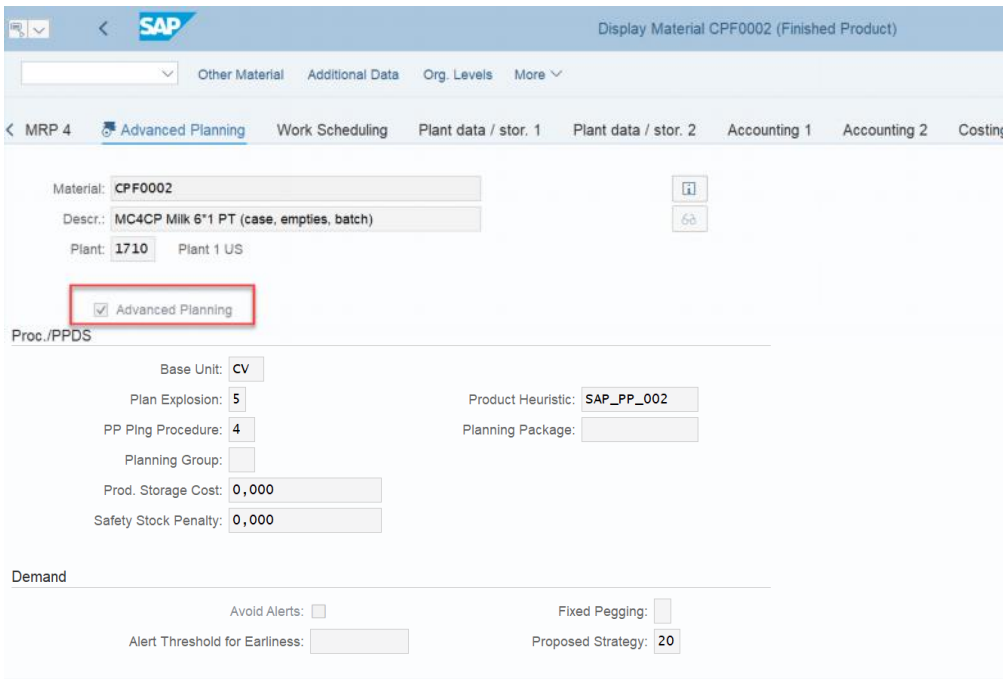
Note:

Materials, that were created in SAP S/4HANA releases prior to 1610, have to be enabled for usage in PP/DS in SAP S/4HANA. To do so run report PRD_SCM_GUID_CONVERSION. For more information, check the report documentation.

Activate PP/DS Materials by selecting the “Advanced Planning” checkbox in the "Advanced Planning" tab of the material master.

Note: You can also activate the materials by mass maintenance (transaction MM17 or MASSD).





The advanced planning attributes are shared between Plant location and corresponding MRP area locations. As a result, it is not possible to maintain different values for advanced planning relevant fields between these locations.

Note:

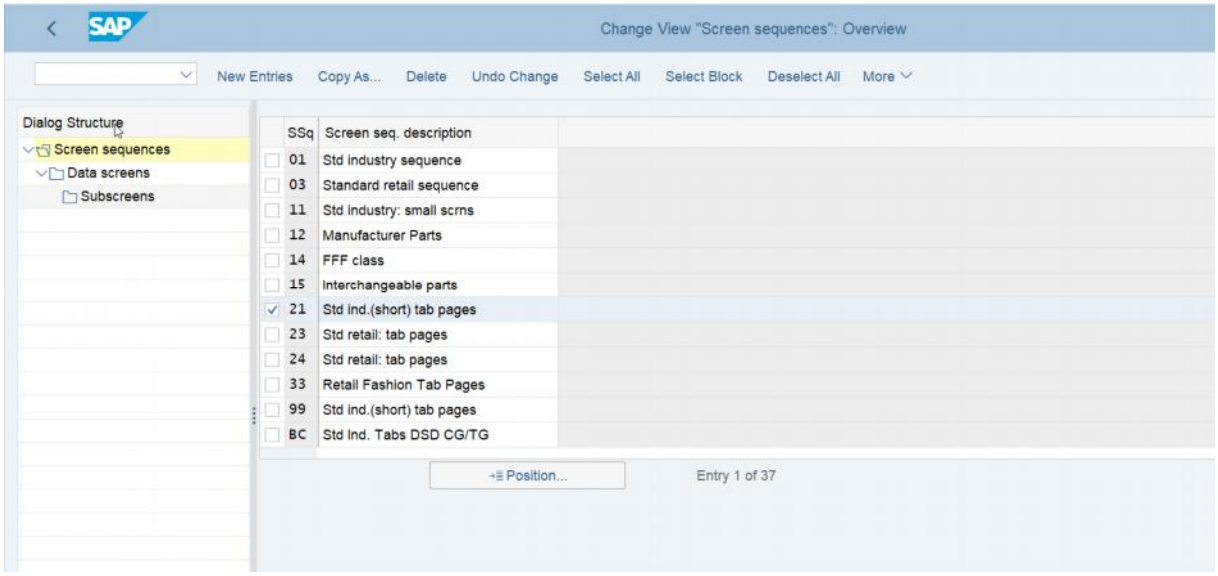
Automatic Creation of Hierarchies for Planning Product is not supported. The assignment of final products to a planning product using hierarchies should be done manually.

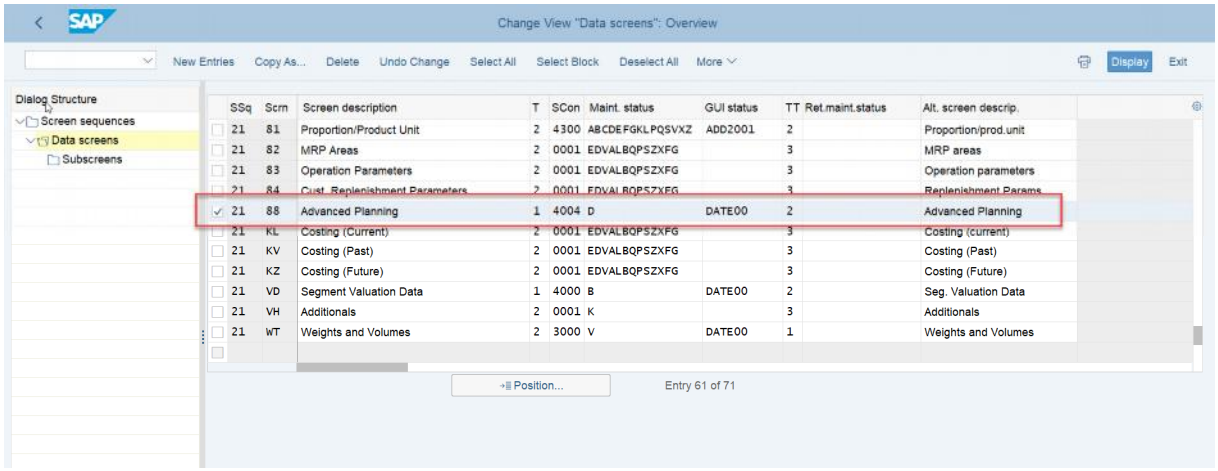
Hint:
If the view advanced planning is not available, the please check the following customizing settings of the material master. For some industry-specific or customer-specific screen sequences the screen for advanced planning is not maintained.

Access the activity using one of the following navigation options:

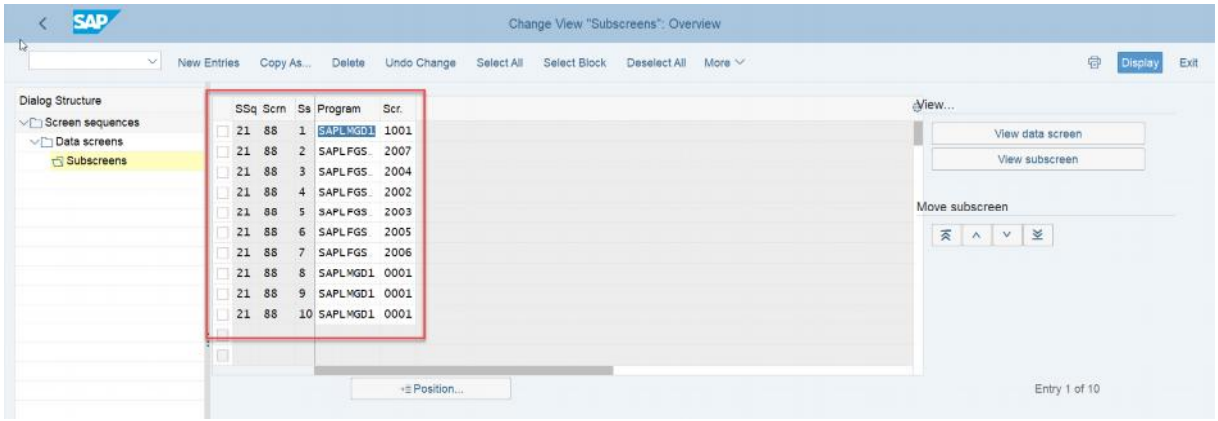
Transaction Code	OMT3B
IMG Menu	*Customizing à Logistics – General à Material Master à Configuring the Material Master à Define Structure of Data Screen*

Check for your Screen Sequence whether the subscreen for advanced planning is maintained as it is for example for the standard Screen Sequence Std. ind. (short) tab pages.





If the screen number 88 or a similar one is not maintained. You can add the settings according to the sub screen settings of the screen Advanced Planning of another sequence or according to the screenshot below.



Removing Advanced Planning flag from Material Master will not delete the related orders or data from PP/DS. This has to be performed separately.

Special Procurement Types:

The following special procurement types from SAP S/4HANA are supported in embedded PP/DS:

- Subcontracting
- Stock transfer
- Phantom assembly
- Production in alternative plant (called "production in alternative location" in SAP APO)

The following special procurement types from SAP S/4HANA are not supported in embedded PP/DS:

- Withdrawal from alternative plant
- Direct production/collective order
- Phantom in planning

5.5 Work Centers: Setting Flag "Advanced Planning"

Setting the flag "*Advanced Planning"* of the work center triggers the initial and change transfer to PP/DS. For each capacity assigned to the work center, a resource is created in PP/DS.

- Local resource creation in PP/DS is not supported.
- The report /SAPAPO/COPY_RESOURCE_HU can be used to create a Handling Resource for Storage Location and subcontracting MRP areas,
- Capacity deletion in advanced planning-relevant work centers functions like it does in the classic integration model, without change transfer being switched on. Deletion of the resources in PP/DS has to be performed separately.

- Setup the Capacity Versions for integrating external capacities from S/4HANA in customizing by selecting Advanced Planning > Master Data > Resource > Specify Capacity Variants. We recommend that you use external capacities as much as possible.

- Capacity Variants, Shifts and Definitions are disabled in SAP GUI when External Capacity is selected for Resources, to prevent data inconsistencies when you are also using Monitor Capacity Utilizaton - Object Page. In case this app is not used and maintenance needs to be enabled, refer

SAP Note 2598760 Enable Capacity Variants, Shifts and Definitions for Resources with External Capacity in SAP GUI

- Most of the resource master data does not need any maintenance from PP/DS resource master(/SAPAPO/RES01). But PP/DS specific features like block maintenance needs to be performed from PP/DS resource master

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	CR02
IMG Menu	*Logistics à Production à Work Centers à Work Center à Change*

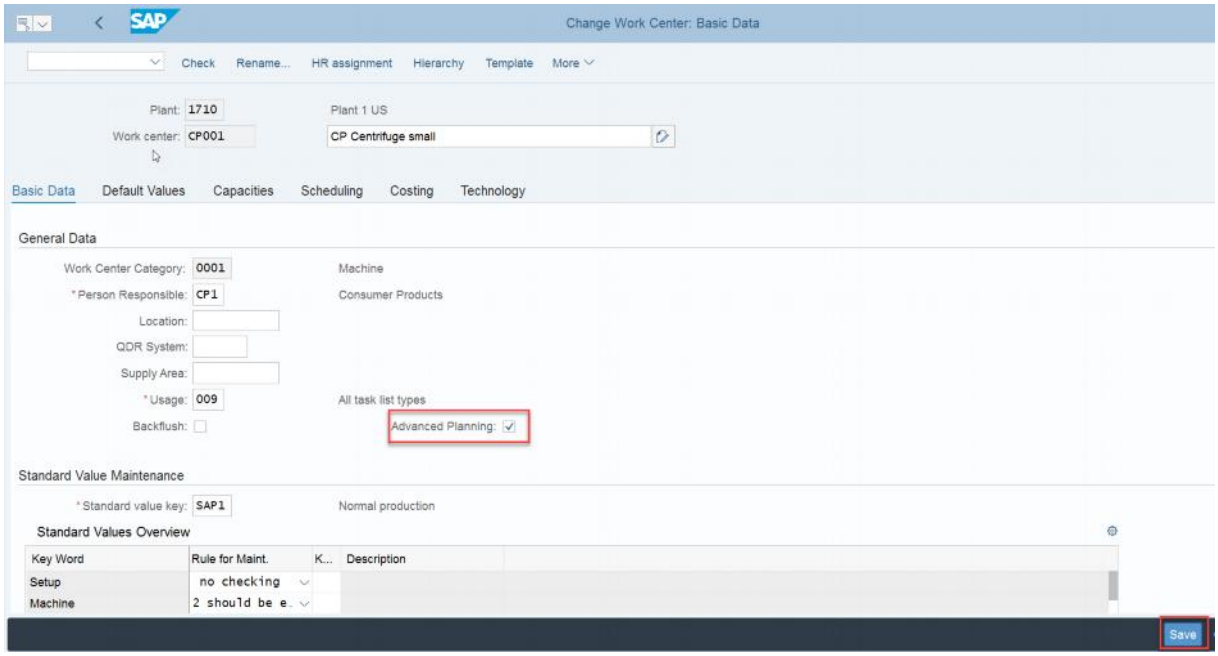
2. Enter the following Data:

Field name	User action and values
Plant	Plant , for example 1710
Work Center	XY

3. Press *ENTER.*

4. Set the flag *Advanced Planning*.

5. Click on *Save.*

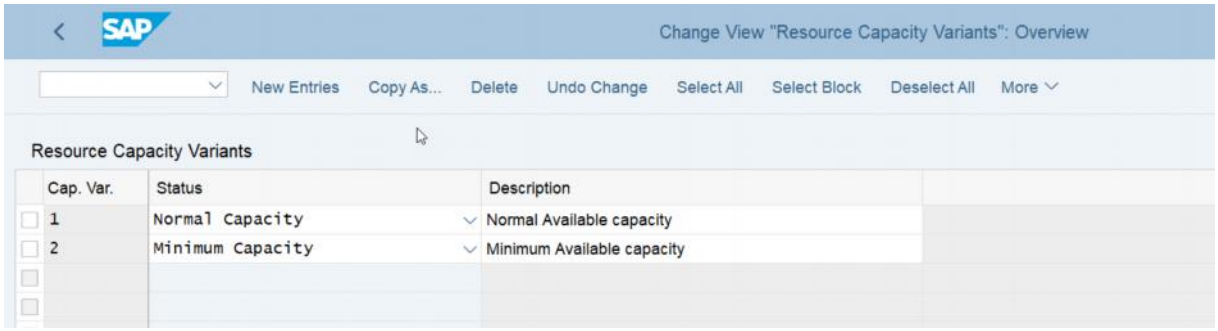


HINT:
If you receive the following message:

“Entry 01 *plant* does not exist in /SAPAPO/RESVERS. Resource has not been created.”

The root cause is that the capacity variant is not set in the customizing transaction:

Transaction Code	SPRO
IMG Menu	*Customizing à Advanced Planning à Master Data à Resource à Define Capacity Variants*



5.6 Setup and Activation of Source of Supply

The integration of sources of supply are triggered either by activating integration models or by executing reports depending on the object.

5.6.1 Source of Supply for External Procurement

The sources of supply for external procurement are transferred by creating and activating integration models.

Create and activate the integration model for

- scheduling agreements
- contracts
- purchasing info records

which needs to be integrated to PP/DS.

Procedure

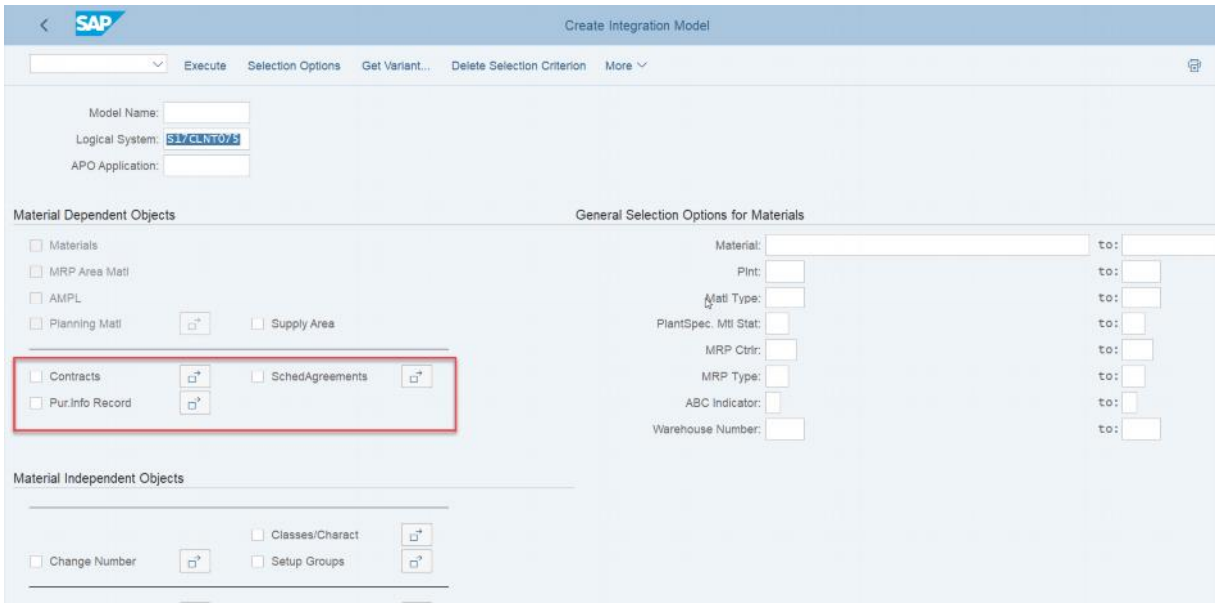
Create Integration Model

Access the activity using one of the following navigation options:

Transaction Code	CFM1
IMG Menu	*Logistics à Production à SOP à Environment à Supply Chain Planning à Core Interface Advanced Planner and Optimizer à Integration Model à Activate*

Enter the following Data

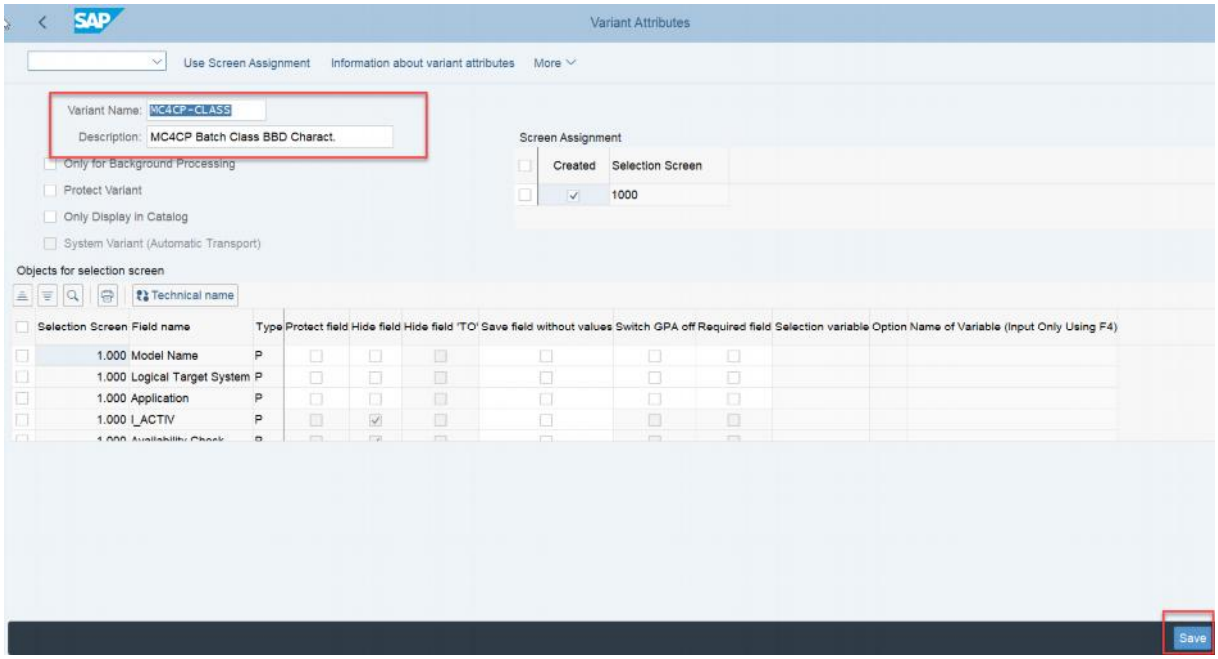
Field name	User action and values
Model Name	Enter any name
Logical System	Select your logical system using the F4-Help
APO Application	Enter any name
Contracts	Set the Flag for transferring contracts and maintain the selection criteria
SchedAgreements	Set the Flag for transferring scheduling agreements and maintain the selection criteria
Pur. Info Record	Set the Flag for transferring purchasing info records and maintain the selection criteria



Click on *Save* to create a variant for your settings. Saving a variant is mandatory to be able to call the selection criteria for a certain model and to schedule the transfer regularly.

Enter the following Data

Field name	User action and values
Variant Name	Enter any name
Description	Enter any description



Click on *Save.*

Click on *Execute.*

Click on *Generate IM.*

An information message is displayed.

Click on *Continue.*

Click on *Back* or *F3.*

Activate Integration Model

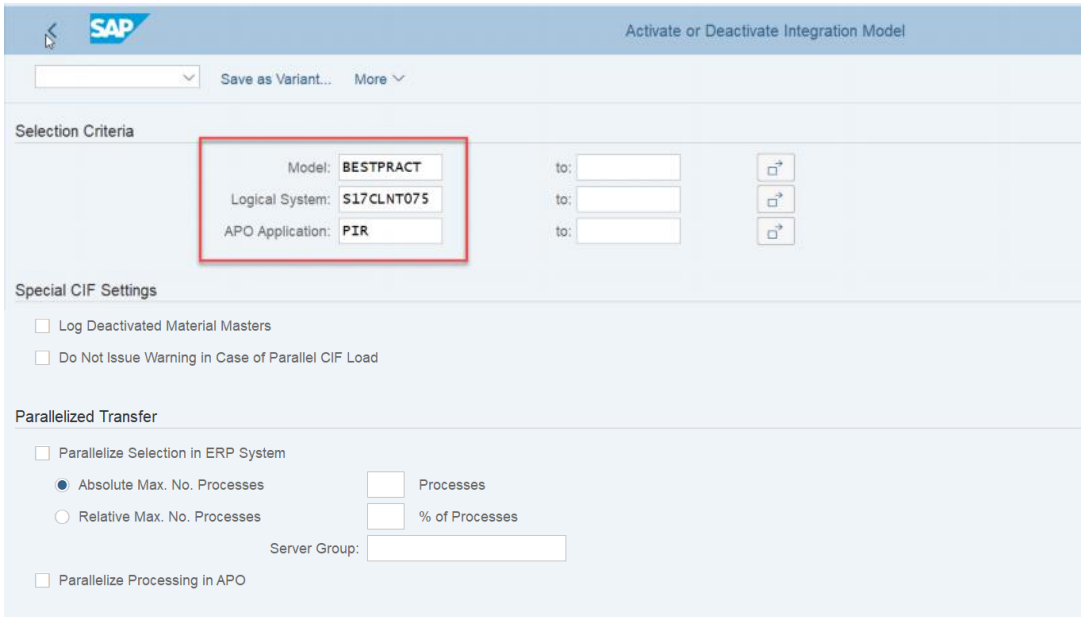
Access the activity using one of the following navigation options:

Transaction Code	CFM2
IMG Menu	*Logistics à Production à SOP à Environment à Supply Chain Planning à Core Interface Advanced Planner and Optimizer à Integration Model à Activate*

Enter the following Data

Field name	User action and values
Model Name	The model name maintained before
Logical System	Select your logical system using the F4-Help
APO Application	The APO Application maintained before

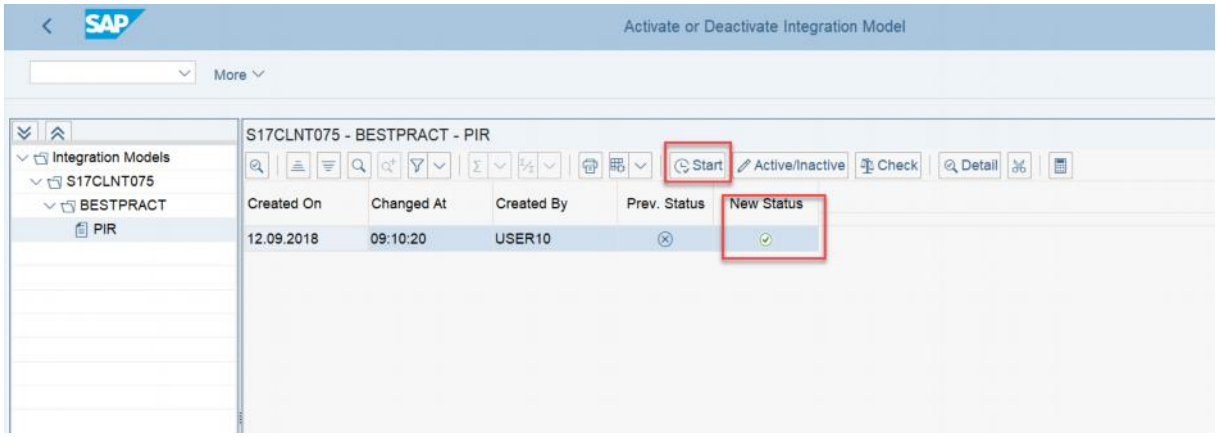
Click on Execute.



Click on the integration model.

Click on *New Status* on the integration model with the latest date.

Click on *Start.*



If any message is displayed, click on *Ignore.*

Click on *NO or YES* for displaying the application log.

The data should have been transferred to PP/DS.

5.6.2 Inhouse-Production: Transfer Product Data Structure (PDS) to PP/DS

The Product Data Structure (PDS) is the source of supply for in-house production in PP/DS.

- PPM is not supported in embedded PP/DS.
- PDS is generated using the production version of the material which has to be maintained in S/4HANA as the source of supply.
- Production Version is also required for phantom items.
- The production version requires the check status “OK”.

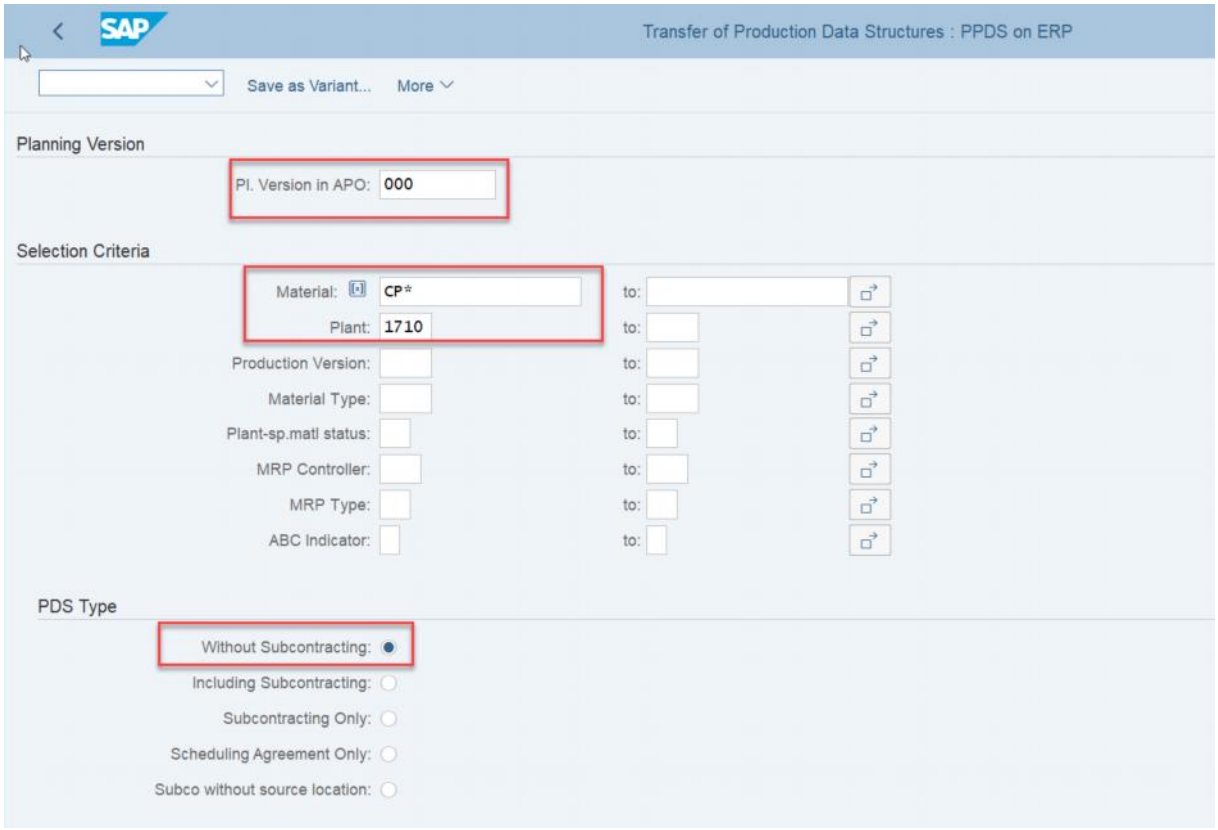
The initial transfer and update of the PDS is triggered by transaction *CURTOADV_CREATE.*
Order BOMs and WBS BOMs are transferred by the transaction CURTOADV_CRT_FOCUS.
For automatic change transfer of PDS on change implement BAdI *CUSLNTRTO_ADDIN*.
Transactions *CURTO_CREATE, CURTO_CREATE_BOM, CURTO_CREATE_FOCUS* cannot be used for integrating in-house production source of supply.

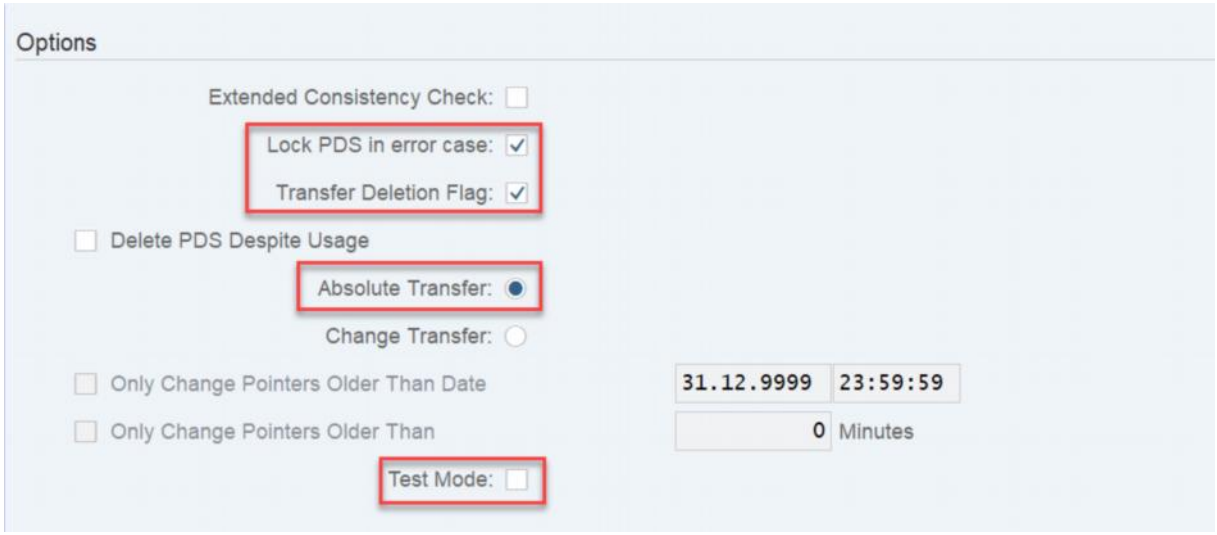
Procedure

Access the activity using one of the following navigation options:

Transaction Code	curtoadv_create
IMG Menu	*Logistics à Production à Master Data à PDS for Advanced Planning à PDS Transfer (PP/DS)*

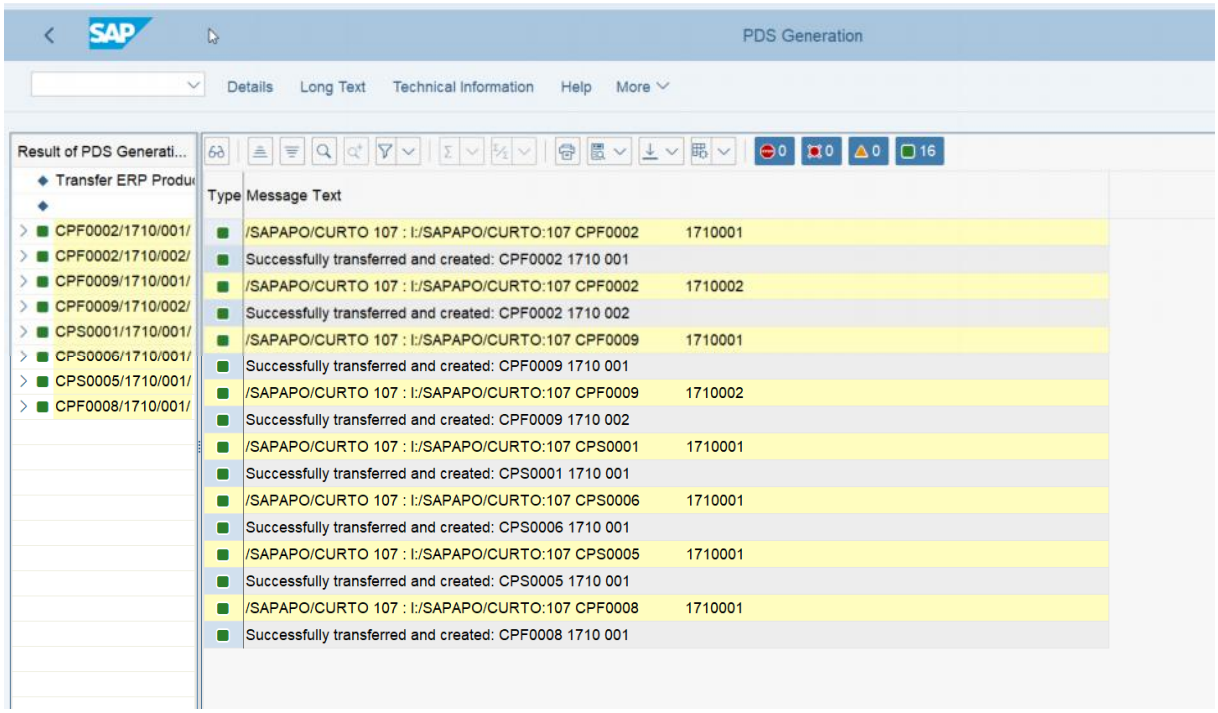
Enter the data according to your requirements.





Press *Execute.*

A log of the PDS Transfer is displayed.



Click on *Exit.*

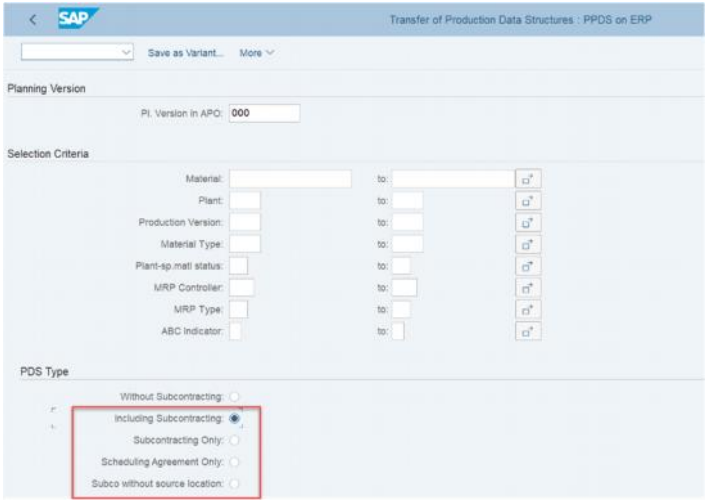
5.6.3 Subcontracting

The following sub-contracting scenarios are supported:

- Subcontracting without Source Location in PP/DS
- Subcontracting with Source Location in PP/DS
- Subcontracting with Scheduling Agreements in PP/DS
- Subcontracting with Third-Party Provision of Components in PP/DS

Source of supply for subcontracting is modelled with a subcontracting PDS. The sub-contracting PDS is created and updated by the same report as for inhouse PDS.

Transaction Code	curtoadv_create
IMG Menu	*Logistics à Production à Master Data à PDS for Advanced Planning à PDS Transfer (PP/DS)*



A subcontracting external procurement relationship is linked to this subcontracting PDS. For propagating the changes of a subcontracting info record or subcontracting scheduling agreement to the linked subcontracting PDS, an absolute transfer of a PDS is necessary.

Check the Note 2670539 Subcontracting Documentation : Production Planning and Detailed Scheduling for SAP S/4HANA for further detailed information.

6 APPENDIX

6.1 Forecast Consumption

Consumption period is calculated in calendar days in embedded PP/DS for SAP S/4HANA and in working days in SAP S/4HANA.

A calendar can be assigned to consider working days by using BAdI /SAPAPO/BADI_FC_CSP_CLNDR. Refer SAP Note 2619345 PP/DS : BAdI for considering production calendar for Forecast consumption for details.

Maintain the Category Group in customizing by selecting *Advanced Planning > Maintain Category Groups.*Maintain the Category Group in customizing by and add relevant ATP categories. Category group defines which categories (of customer requirement) consume PIR.

Check Mode is not displayed in PP/DS product master and cannot be changed. The corresponding strategy group of the requirement class has to be defined in S/4HANA material master. In PP/DS, the Requirement Class has to be defined as Check Mode (same identifier).

The Assignment mode maintained in Check mode and the allocation indicator maintained in the Requirement Class should be the same for consistency in the system's behavior. Maintain requirement class in customizing by selecting Cross-Application Components -> Advanced Available-to-Promise -> Configuration Activities for specific document types -> Sales Order and deliveries -> Configure Requirement Classes and maintain Check mode by selecting Advanced Planning > Maintain Check Mode or maintenance view /SAPAPO/V_ATP06.

6.2 Creating Master Recipe including classification for alternative modes

There are two resources which can be used alternatively. The alternative resources are maintained as alternative mode in the PDS. For the transfer of the alternative modes the work centers and the operation of the master recipe are classified with the same value.

The following example is based on two centrifuges which can be used alternatively to produce milk.

Creating a characteristic for work center classification

Procedure

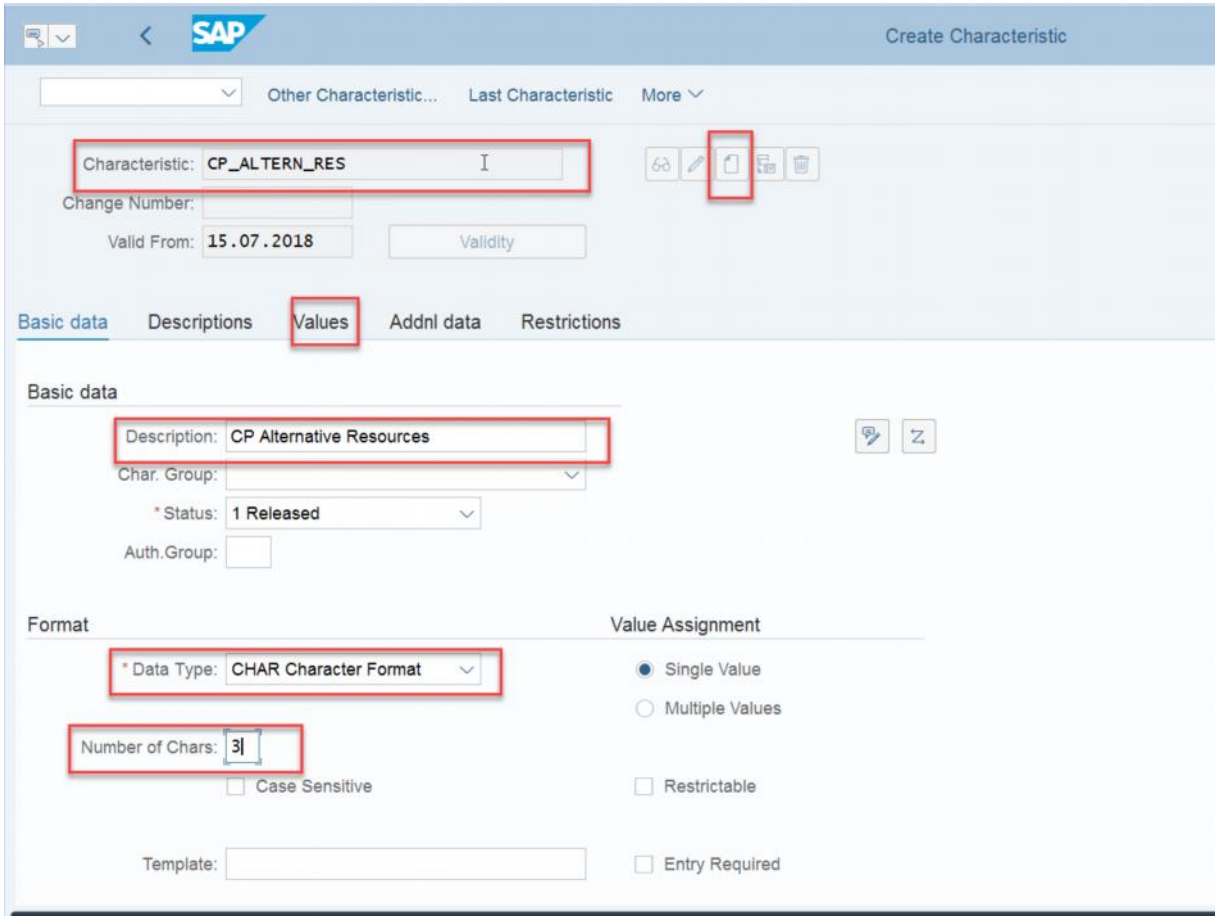
Access the activity using one of the following navigation options:

Transaction Code	CT04
IMG Menu	*Cross-Application Components à Classification System à Master Data à Characteristics*

Click on *Create.*

Enter the following Data

Field name	**User action and values**
Characteristic	CP_ALTERN_RES
	Press *Enter*
Description	CP Alternative Resources
Status	1 Released
Data Type	CHAR
Number of Chars	3
Single Value	Select

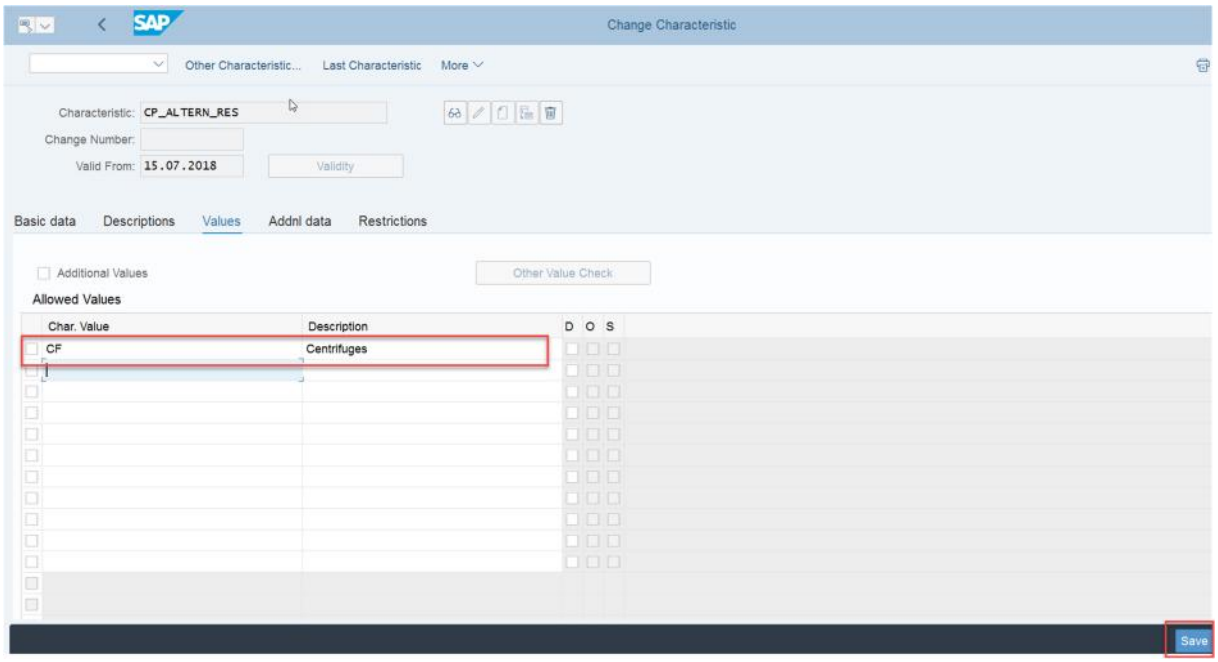


Click on *Values*

Enter the following Data:

Field name	**User action and values**
Char. Value	CF
Description	Centrifuges

Click on *Save.*



Creating class for work center classification

Procedure

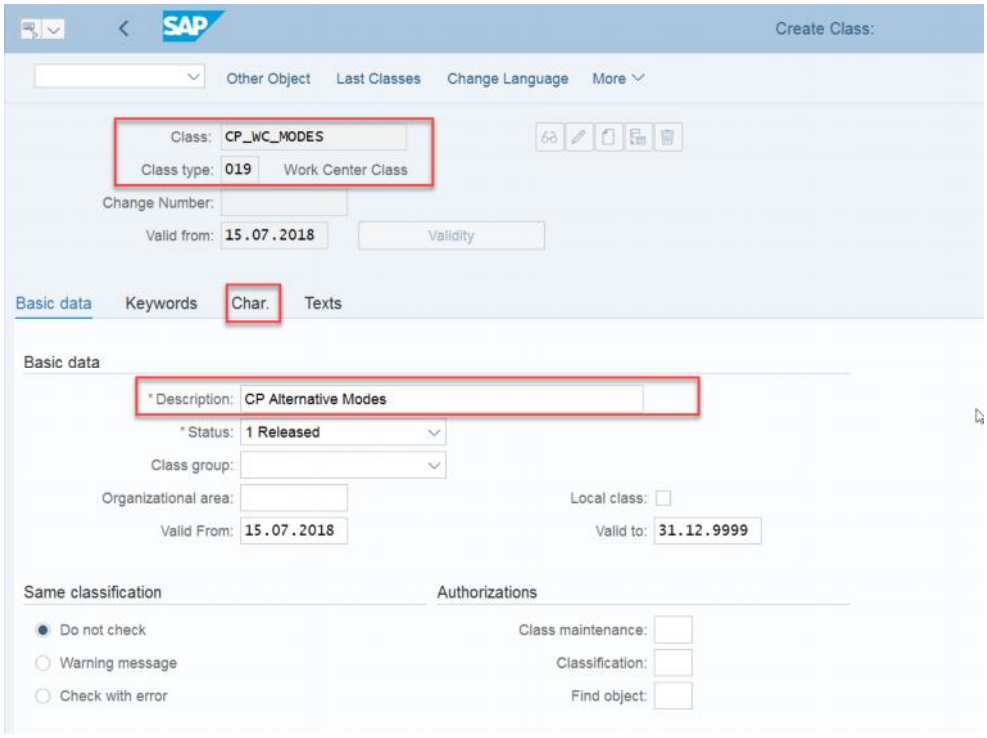
Access the activity using one of the following navigation options:

Transaction Code	Cl02
IMG Menu	*Cross-Application Components à Classification System à Master Data à Classes*

Click on *Create.*

Enter the following Data

Field name	**User action and values**
Class	CP_WC_MODES
Class type	019
	Press Enter
Description	CP Alternative Modes
Status	1 Released

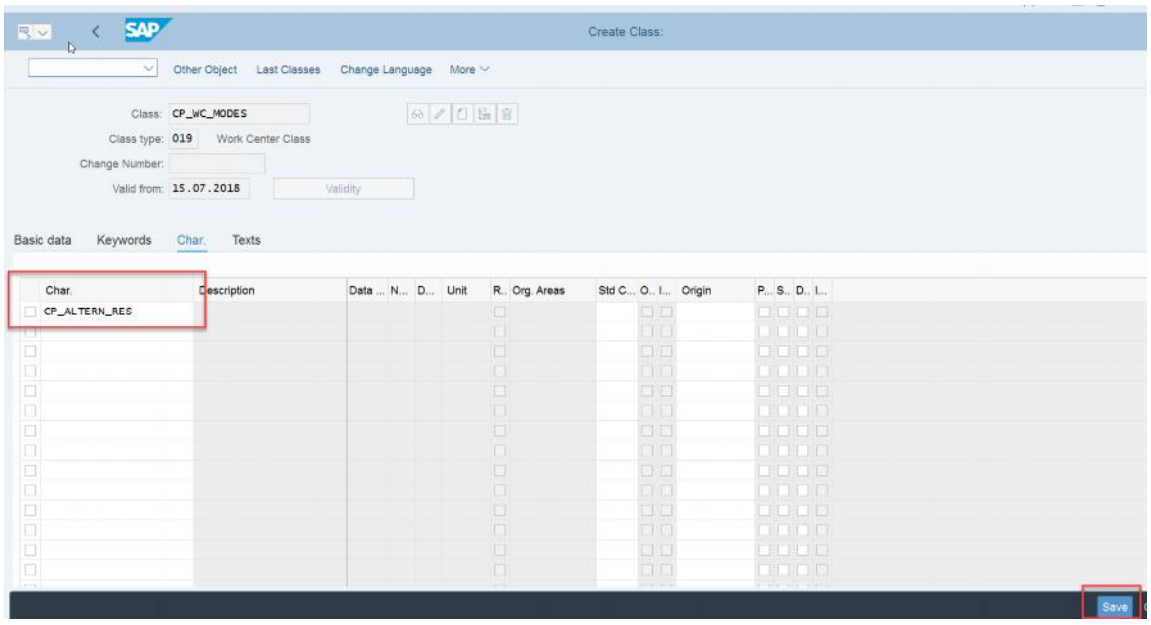


Click on *Char.*

Enter the following Data

Field name	**User action and values**
Characteristic	CP_ALTERN_RES

Click on *Save*



Classification of the work centers

All work centers, which are classified with the same class and same characteristic value as the operation of the master recipe are transferred as alternative modes to advanced planning.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	CR02
IMG Menu	*Logistics à Production à Work Centers à Work Center à Change*

2. Enter the following Data:

Field name	User action and values
Plant	1710
Work Center	CP001

3. Press *ENTER.*
4. *Select More à Extras à Classification*
5. Enter the following Data

Field name	User action and values
Class	CP_WC_MODES
	Press *Enter*
Characteristic Value	CF

6. Click on *Back* or Press *F3.*
7. Click on *Save.*

Execute the steps also for work center CP002.

Creating Master Recipe for material CPS0001 and CPS0006

Procedure

Access the activity using one of the following navigation options:

Transaction Code	C201
IMG Menu	*Logistics à Production – Process à Master Recipes à Recipe and Material List à Create*

Enter the following Data for creating the master recipe for material CPS0001:

Field name	User action and values
Material	CPS0001
Plant	1710
Profile	YPI1

Press *ENTER.*

Enter the following Data:

Field name	User action and values
Status	4
Usage	1

Click on *Operations*

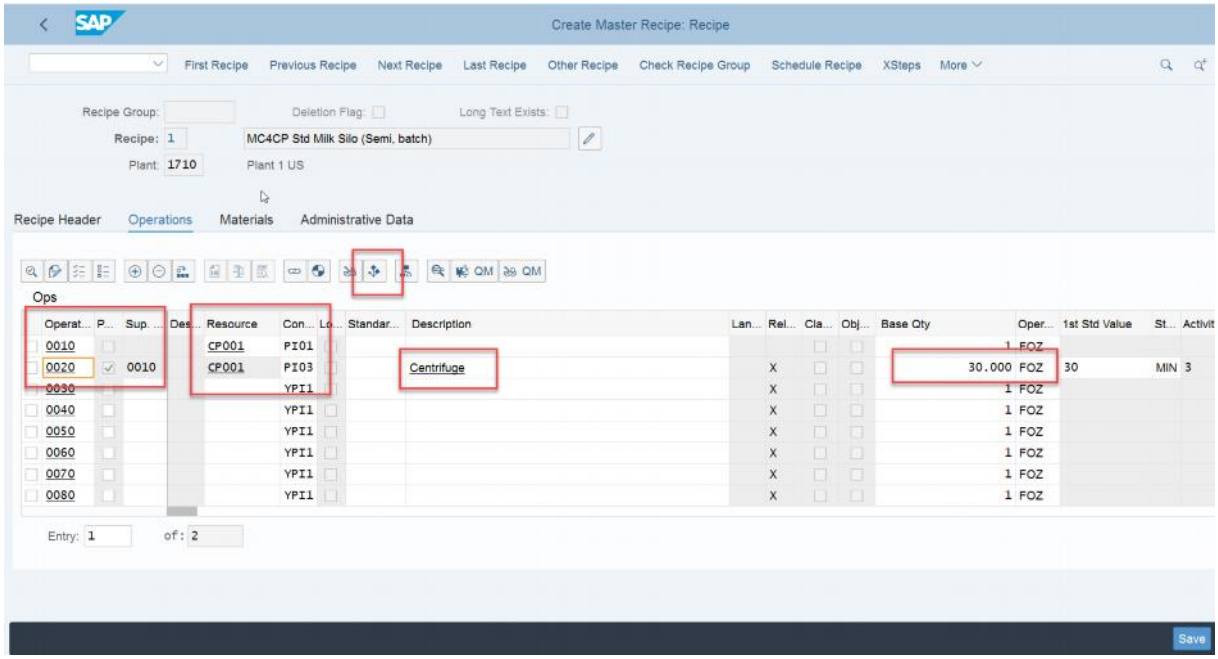
Enter the following Data:

Field name	User action and values
Operation	0010
Resource	CP001
Control Key	PI01
Base Quantity	30000
	Press ENTER
Operation	0020
Superior Operation	0010
Resource	CP001
Control Key	PI03
Description	Centrifuge
Base Quantity	30000
	Press Enter
	Confirm the information message by clicking on *Continue*
Machine Time	30
	Double click on the operation 0020

Set up time	60

Select operation 0010.

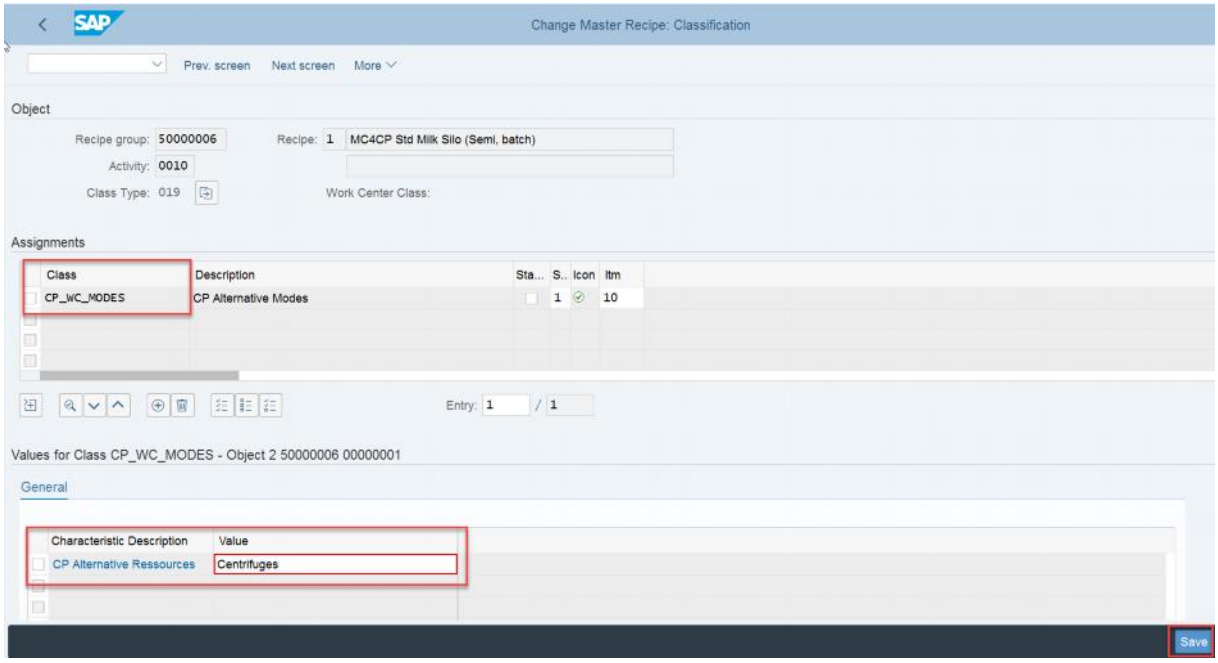
Click on *Resource Selection Criteria*



Enter the following Data

Field name	**User action and values**
Class	CP_WC_MODES
	Press Enter
Characteristic: CP Alternative Ressources	CP

Click on *Save.*



After creating a production version the transfer of the PDS can be triggered.

6.3 Create Batch Classification including Best Before Date for S/4HANA and PP/DS

The example is based on a best before date for milk. The best before date should be considered by the MRP. The name of the class, integration model …. can be defined as you want. However, the name of the characteristics and object dependencies should be defined as described below.

Creating Object Dependencies for Calculating Best Before Date (BBD)

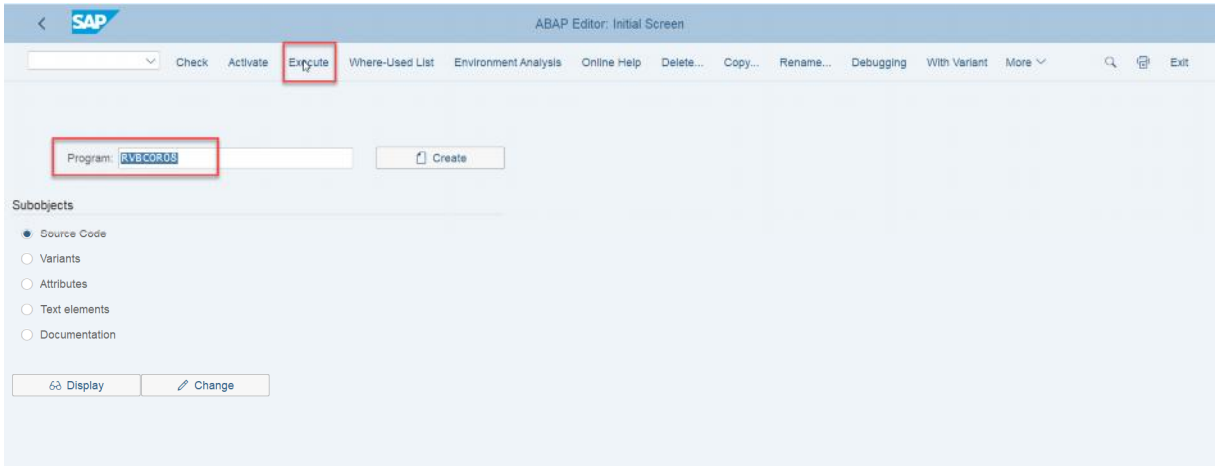
The shelf life data is transferred to advanced planning using the classification. The characteristics are already maintained in the system. The object dependencies can be generated by a standard report.

Procedure

Access the activity using one of the following navigation options:

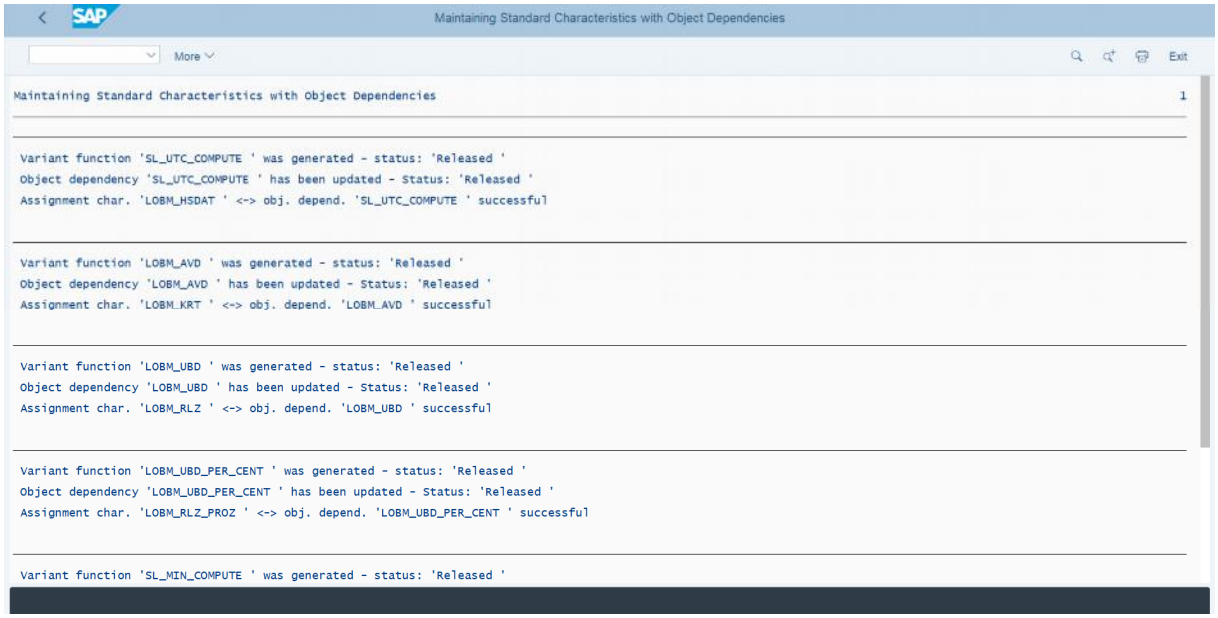
Transaction Code	SE38
IMG Menu	*Cross-Application Components à Classification System à Master Data à Classes*

Enter the report name *RVBCOR08.*



Click on *Execute.*

A log is displayed displaying the generated object dependencies. The report assigns also the object dependencies to the characteristics.



Click on *Exit.*

Creating class for batch classification

Procedure

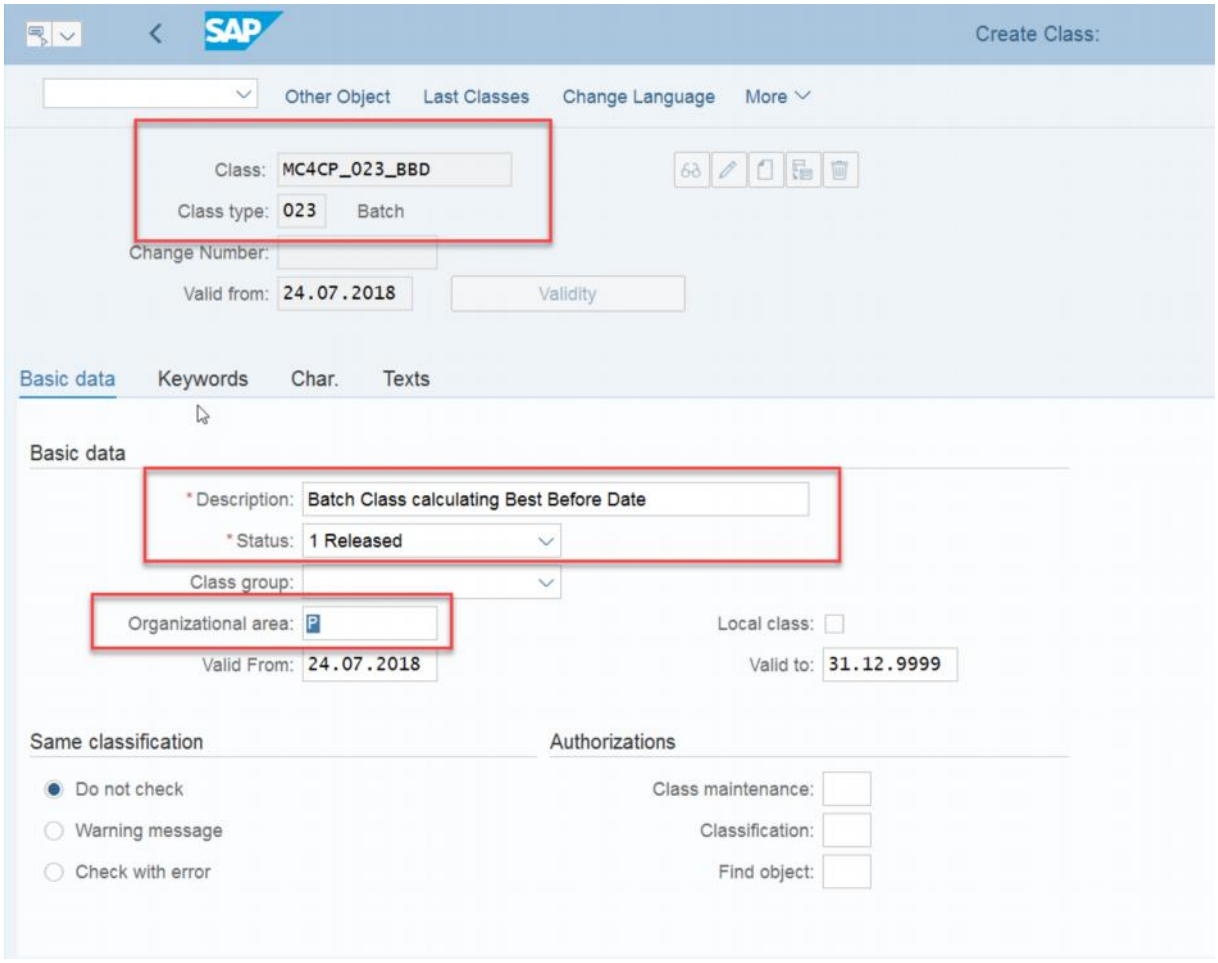
Access the activity using one of the following navigation options:

Transaction Code	CI02
IMG Menu	*Cross-Application Components à Classification System à Master Data à Classes*

Click on *Create.*

Enter the following Data

Field name	User action and values
Class	MC4CP_023_BBD
Class type	23
	Press Enter
Description	Batch Class calculating Best Before Date
Status	1 Released



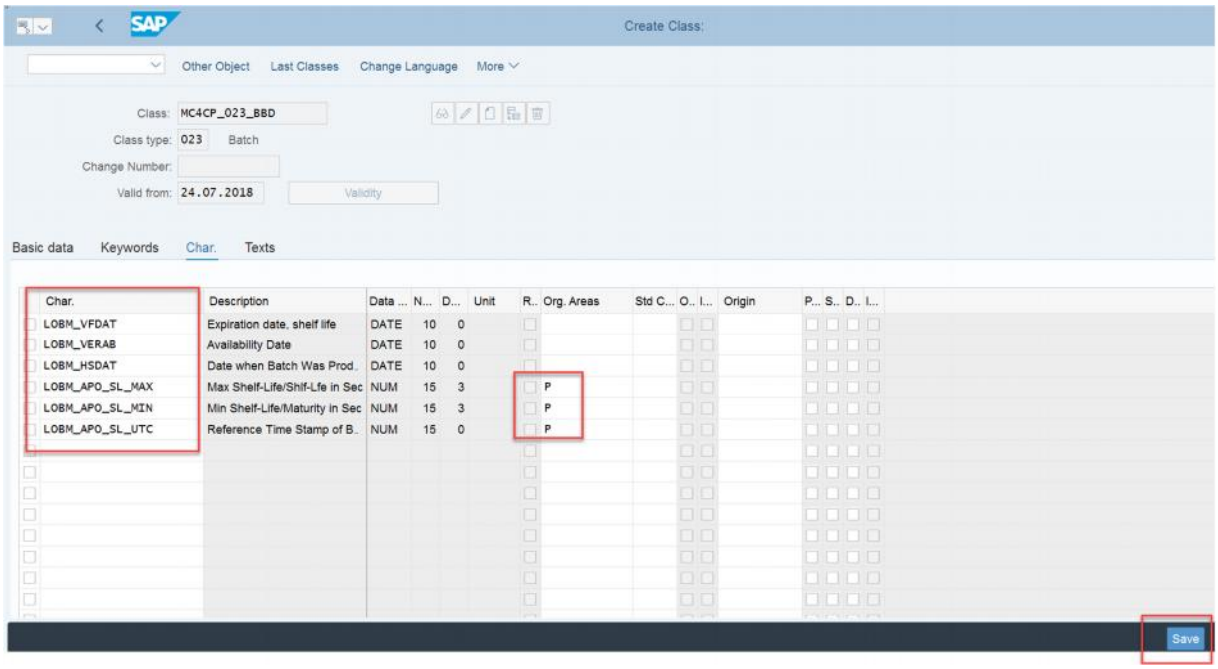
Click on *Char.*

Enter the following Data

Field name	User action and values
Characteristic	LOBM_VFDAT
	Press Enter
Characteristic	LOBM_VERAB

Field name	User action and values
	Press Enter
Characteristic	LOBM_HSDAT
	Press Enter
Characteristic	LOBM_APO_SL_MAX
Organizational Area	P
	Press Enter
Characteristic	LOBM_APO_SL_MIN
Organizational Area	P
	Press Enter
Characteristic	LOBM_APO_SL_UTC
Organizational Area	P
	Press Enter

Click on *Save*



Information message concerning successful creation of the class is displayed.

Transfer Characteristics for BBD to PP/DS

Create Integration Model

Procedure

Access the activity using one of the following navigation options:

Transaction Code	CFM1
IMG Menu	*Logistics à Production à SOP à Environment à Supply Chain Planning à Core Interface Advanced Planner and Optimizer à Integration Model à Activate*

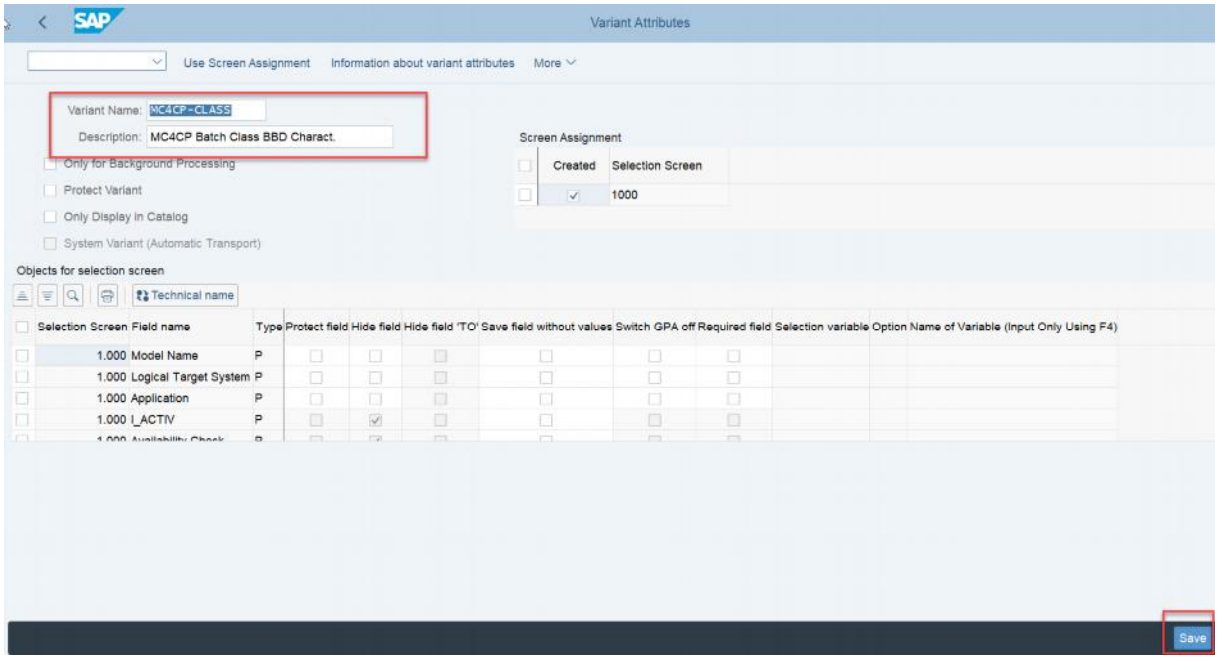
Enter the following Data

Field name	**User action and values**
Model Name	MC4CP
Logical System	Select your logical system using the F4-Help
APO Application	Class
Classes/Charact	Set the Flag
	Click on Special Restrictions (right to Classes/Charact.)
Org. Area	P
Class Type	023

Click on *Save* to create a variant for your settings.

Enter the following Data

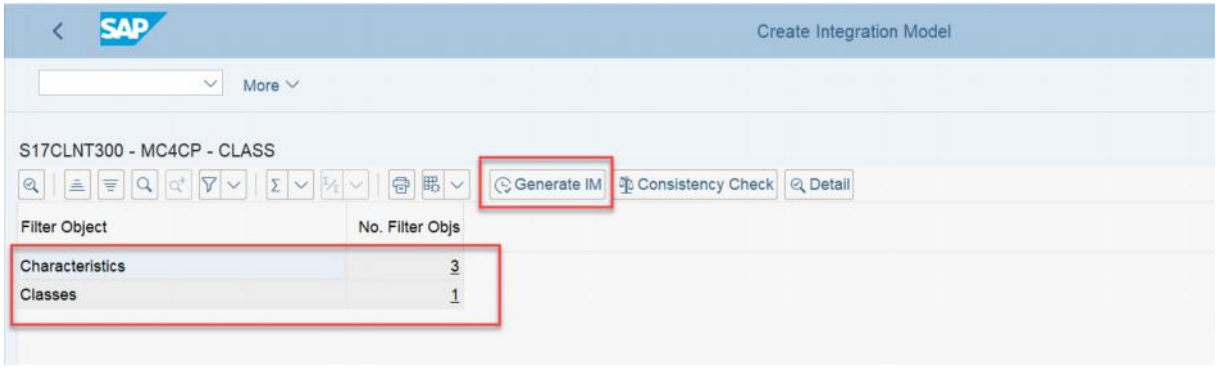
Field name	**User action and values**
Variant Name	MC4CP-CLASS (or any other name)
Description	MC4CP Batch Class BBD Charact.



Click on *Save.*

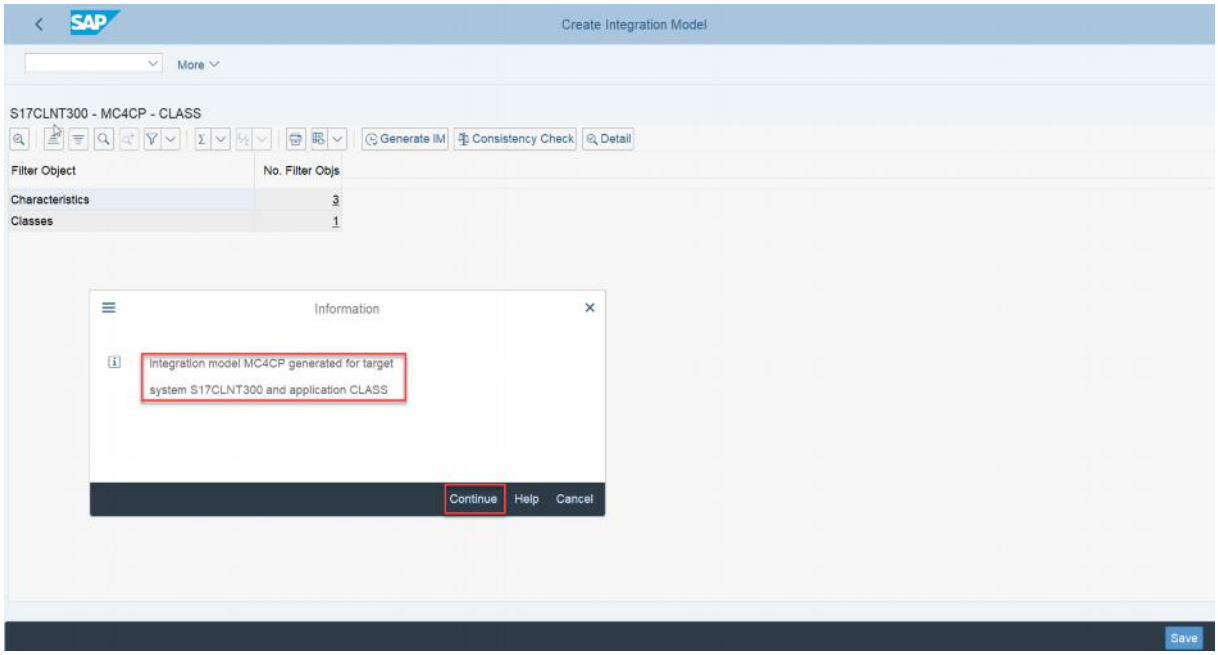
Click on *Execute.*

Click on *Generate IM.*



An information message is displayed.

Click on *Continue.*



Click on *Back* or *F3.*

Activate Integration Model

Procedure

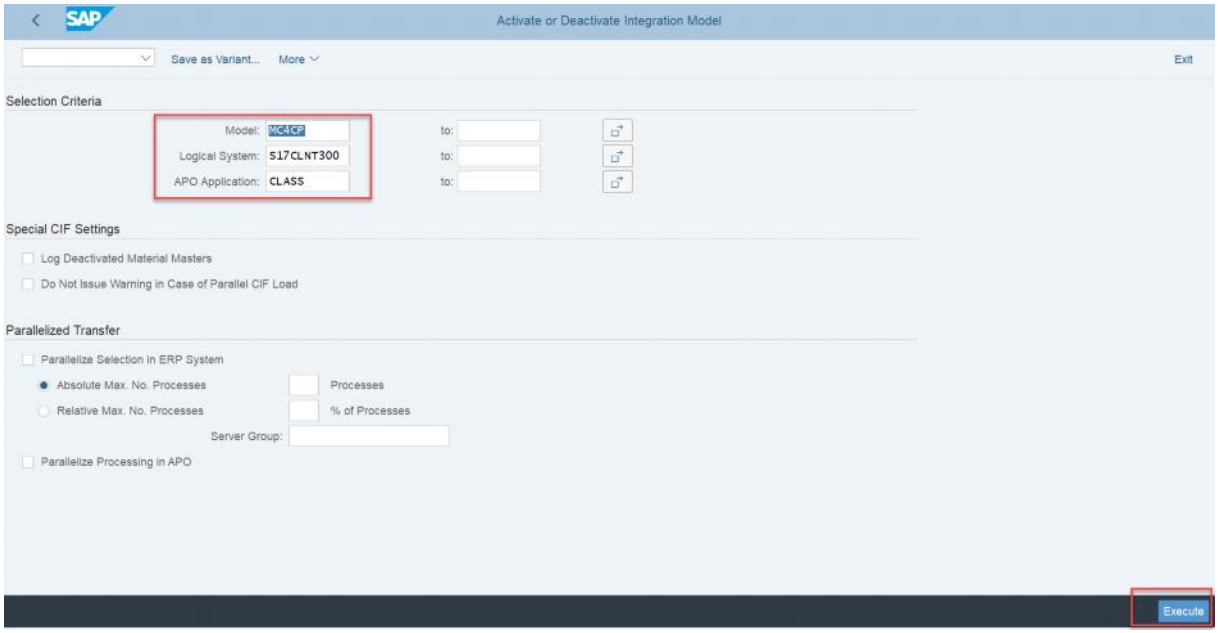
Access the activity using one of the following navigation options:

Transaction Code	CFM2
IMG Menu	*Logistics à Production à SOP à Environment à Supply Chain Planning à Core Interface Advanced Planner and Optimizer à Integration Model à Activate*

Enter the following Data

Field name	**User action and values**
Model Name	MC4CP
Logical System	Select your logical system using the F4-Help
APO Application	Class

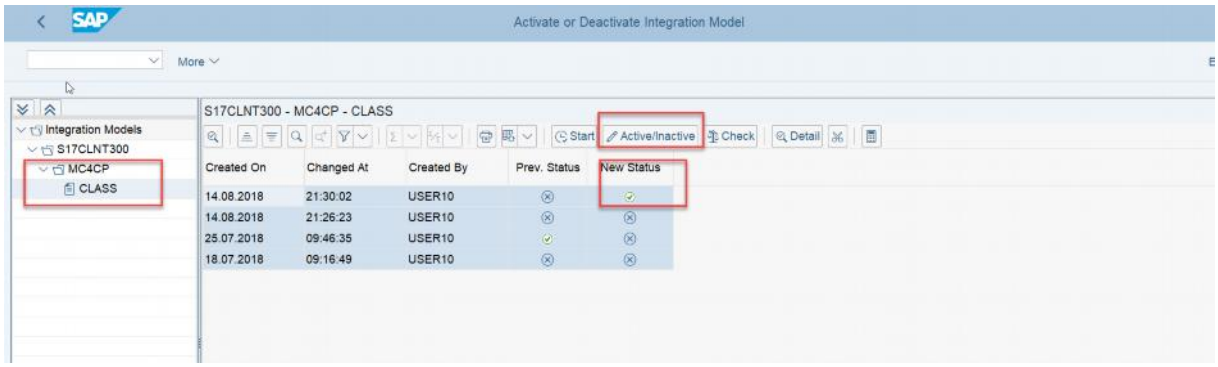
Click on Execute.



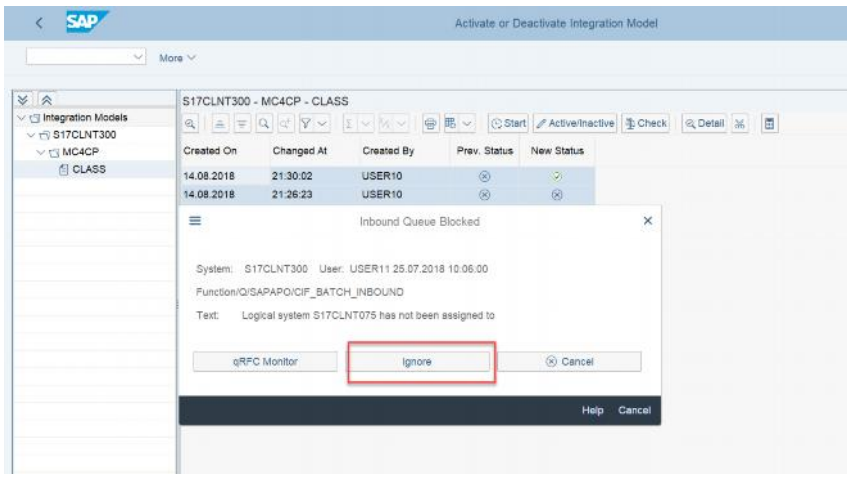
Click on *Class.*

Click on *New Status* on the integration model with the latest date.

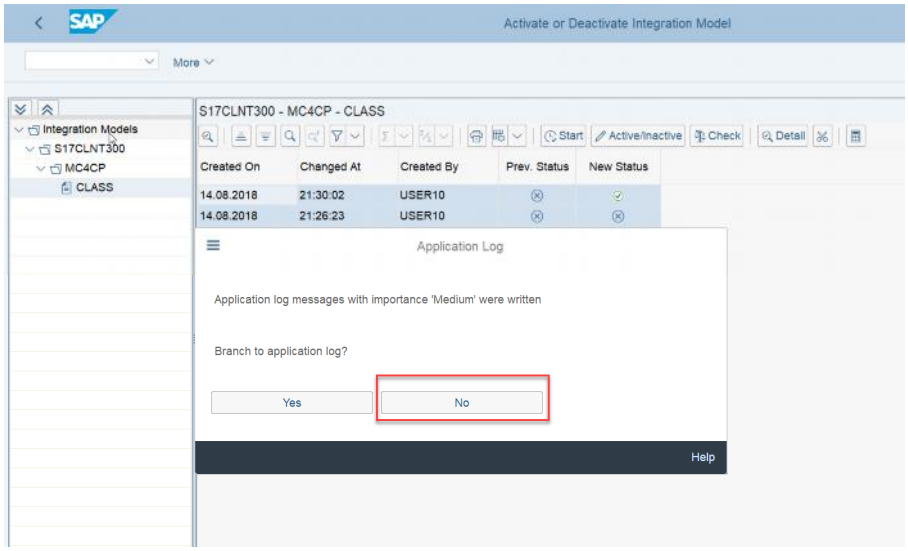
Click on *Start.*



If any message is displayed, click on *Ignore.*



Click on *NO* for displaying the application log.



The characteristics have been transferred to PP/DS.

Assign Batch Class to Material Master

Procedure

Access the activity using one of the following navigation options:

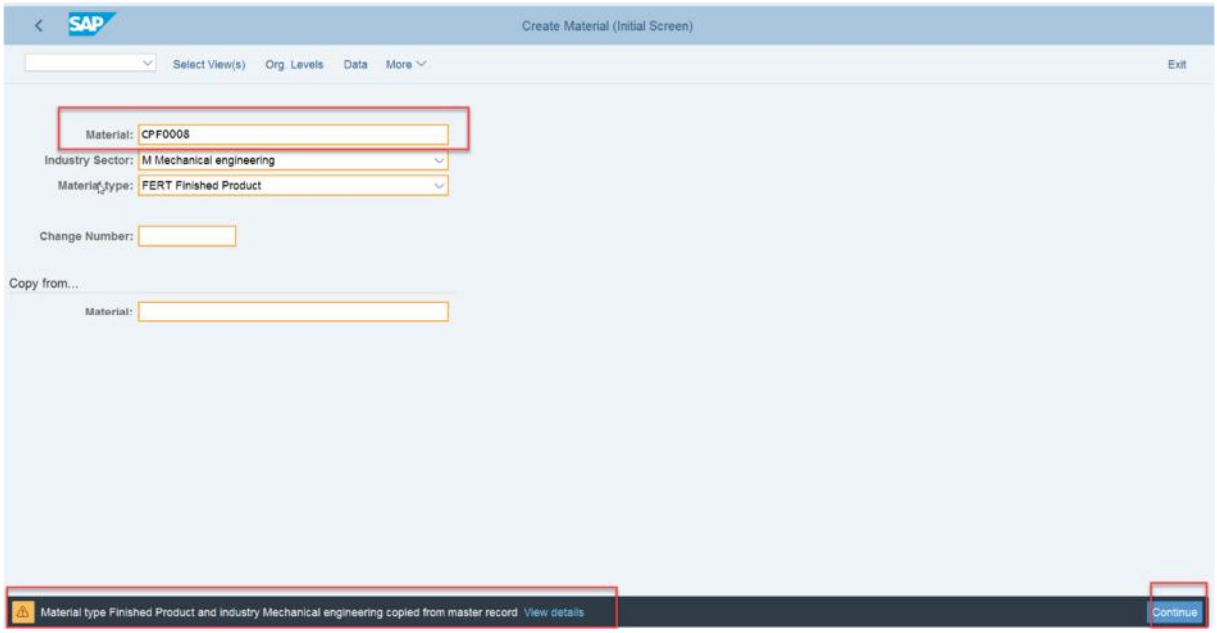
Transaction Code	MM01
IMG Menu	*Logistics à Production à Master Data à Material Master à Create (General) à Immediately*

Enter the following Data

Field name	**User action and values**
Material	Any material which is relevant to advanced planning

Click on Continue.

The industry sector and the material master are copied from the material master. An information message is displayed.



Click on *Continue.*

Select the view *"Classification*".

Assign the class for class type 023 to the material master.

6.4 Notes

Note	Description
2496856	Restrictions and Implementation Recommendations for Production Planning and Detailed Scheduling for SAP S/4HANA 1709
2496628	Release Information Note: Production Planning and Detailed Scheduling for SAP S/4HANA 1709
2666947	Restrictions and Implementation Recommendations for Production Planning and Detailed Scheduling for SAP S/4HANA 1809
2674488	Release Information Note: production Planning and Detailed Scheduling for SAP S/4HANA
2407589	Manual installation of liveCache for S/4HANA
1686826	Installation help for installing SCM Optimizers
712066	Restrictions of the Production Planning and Detailed Scheduling (PP/DS) optimizer
2037585	Upgrade of SAP-HANA-integrated liveCaches
2074788	Patch strategy for SAP HANA-integrated liveCaches
2074843	Version Matrix for HANA integrated liveCaches
2272406	Missing Customizing Table Entries
2634408	PP/DS : Setting OPMODE in CFC1 to 'T' standard
2342043	Integration of S/4 Product Master with SCM Product Master
2590603	Extensibility Feature for SCM Related Fields in Product Master from 1709 release
2619345	PP/DS : BAdI for considering production calendar for Forecast
2598760	Enable Capacity Variants, Shifts and Definitions for Resources with External Capacity in SAP GUI
2495662	SAP S/4HANA 1709: Process Integration with SAP on-premise Solutions
2670539	Subcontracting Documentation : Production Planning and Detailed Scheduling for SAP S/4HANA
2619345	PP/DS : BAdI for considering production calendar for Forecast consumption

6.5 Further Information

Roadmapviewer (EN)

Simplification List

Fiori reference Libr.: Production Scheduling Board

https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/#/detail/Apps('F2176')

Fiori reference Libr: Monitor Capacity Utilization

https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/#/detail/Apps('F1523')/S6OP

Fiori reference Libr: Monitor Capacity Utilization – Object page

https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/#/detail/Apps('F2900')/S9OP

Blog PP/DS for S/4HANA

Blog Production Scheduling Board

For optimizer sizing refer the link:

https://websmp209.sap-ag.de/~sapidb/012002523100010357172015E/SizingSheetPPDSOpt.zip

The HANA version of the quick sizer provides help to size your live cache memory requirements. Navigate to the node "Advanced Prod. planning & sched." under "SAP S/4HANA".

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