Installation Guide for SAP S/4HANA 1809
Feature Package Stack 02

THE BEST RUN SAP

Content

Document History

Version	Date	Description
1.0	May 8, 2019	First published version.
1.0	September 18, 2019	Minor corrections.

1 Getting Started

This guide provides you with the following information about SAP S/4HANA:

- A system landscape and product overview
- A list of the tools and documentation you need for the installation
- Important follow-up activities you need to consider after the installation

> **i Note**
>
> This guide cannot be used on its own, you need to use it together with the installation guides describing the installation of Application Server Systems with the Software Provisioning Manager 2.0 tool.
>
> You find these guides (as well as a link to the SPM tool) on the SAP Support Portal at https://support.sap.com/sltoolset ➤ *System Provisioning* ➤ *System Provisioning Scenarios* ➤ *Install a System using Software Provisioning Manager* ➤ *Installation Option of Software Provisioning Manager 2.0 <latest SP>* ➤ *Installation Guides - Application Server Systems* ➤.
>
> These installation guides are sorted by database, technical stack (ABAP and Java), and operating system platform. For the installation of SAP S/4HANA, choose the SAP HANA Database guide for your operating system (UNIX, IBM, or Windows), the ABAP Stack and the SAP HANA Database.

> **i Note**
>
> Java components and databases other than SAP HANA are still installed using the 1.0 version of the Software Provisioning Manager. You find the guides for version 1.0 on the same page as those for version 2.0 (see note above), just choose **Installation Option of Software Provisioning Manager 1.0 <latest SP>**.

2 SAP S/4HANA System Landscape Information

There are various ways of deploying SAP S/4HANA in your new or already existing system landscape. This section describes some examples.

Example: SAP S/4HANA New Installation

A new installation of SAP S/4HANA needs to run on the SAP HANA database. It is recommended to use the SAP Solution Manager, which can run on any database. This very simple landscape can be enhanced with the SAP cloud solutions and SAP Business Suite products.
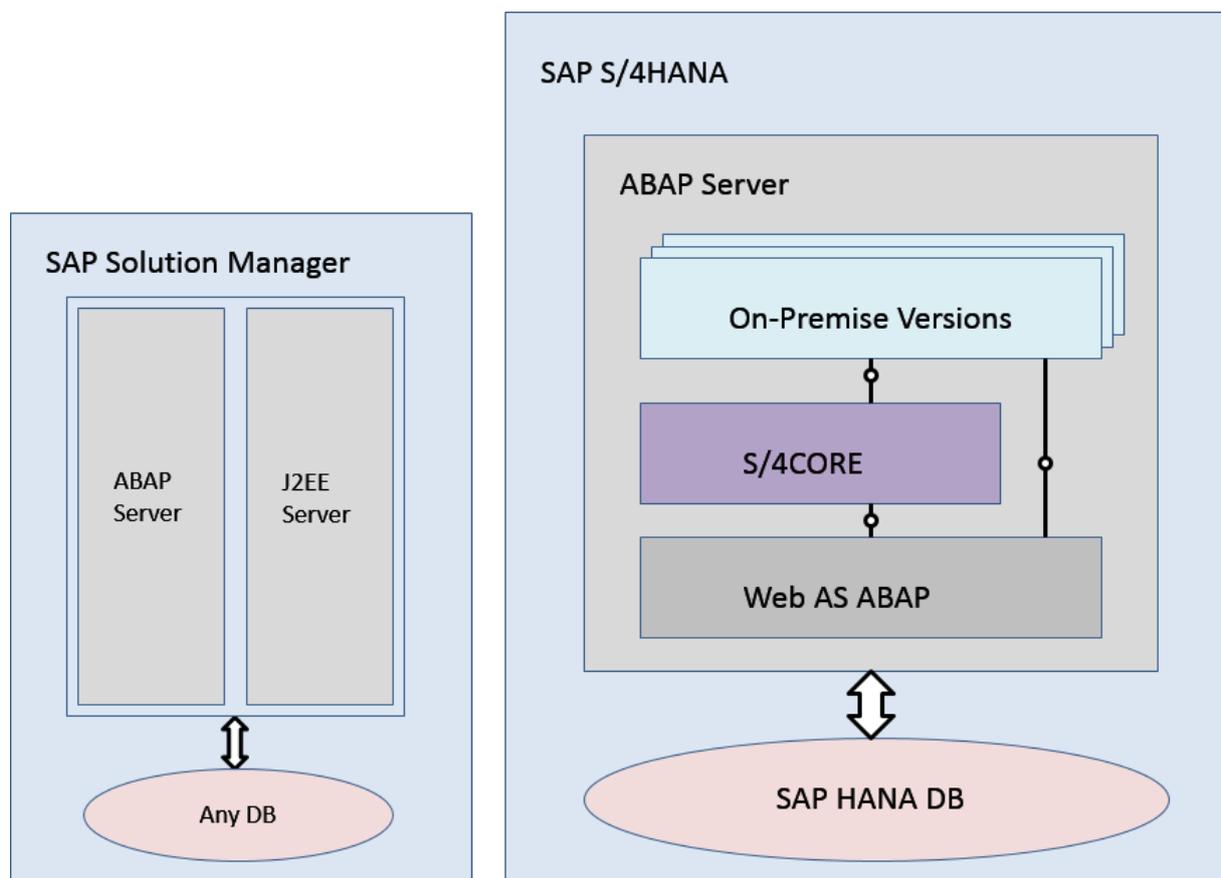
Simple SAP S/4HANA Deployment

Example: SAP S/4HANA in an SAP Business Suite Landscape

It is possible to integrate SAP S/4HANA into an existing SAP Business Suite landscape by replacing the SAP ERP enhancement package product with SAP S/4HANA. When performing this conversion in your system

landscape, you need to do some adaptations, for example you need to convert some of your existing business processes to the simplified SAP S/4HANA processes. Some of the SAP Business Suite processes are no longer supported, some have been changed, and there are also new processes. How to convert your existing processes to the SAP S/4HANA processes is described in the *Simplification Item Catalog*.

For more information about the *Simplification Item Catalog*, see the *Conversion Guide for SAP S/4HANA* at http://help.sap.com/s4hana_op_1809_002 ▶ *Product Documentation* ▶.
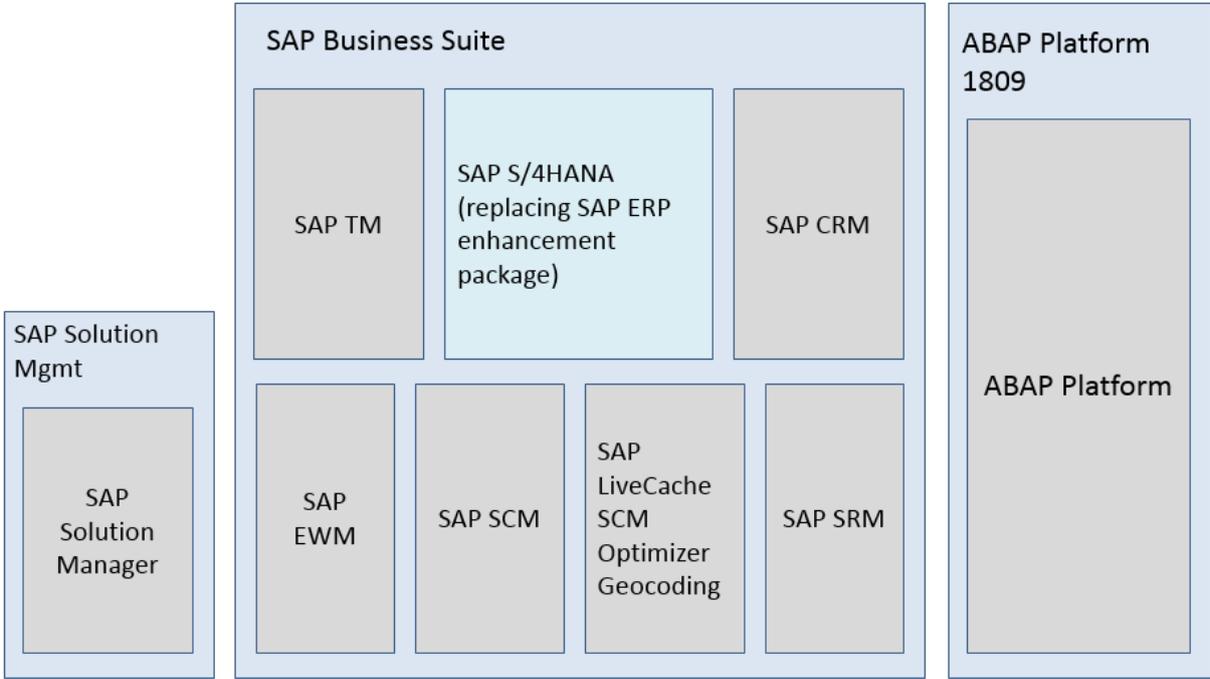
Example SAP Business Suite landscape with an embedded SAP S/4HANA system

More Information

For more information about SAP Fiori for SAP S/4HANA see SAP Note 2590653 .

3 Installation Documentation

Required Installation Documentation

| Documents	Comments and Links
Installation Guide for SAP S/4HANA 1809 FPS02 (this guide)	This document contains information relevant for the installation of SAP S/4HANA, but it does not describe the process or the installation tool. They are described in the Software Provisioning Manager guides listed below. Always find the latest version of the *Installation Guide for SAP S/4HANA 1809 FPS02* at http://help.sap.com/s4hana_op_1809_002 ▶ *Product Documentation* ◢
Installation guides describing the installation of Application Server Systems with the Software Provisioning Manager 2.0 which is part of SL Toolset 1.0. Make sure that you always use the latest SP version of the tool and guides available on the SAP Support Portal at http://help.sap.com/sltoolset ◢.	You find these guides (as well as a link to the SPM tool) at https://support.sap.com/sltoolset ◢ ▶ *System Provisioning* ▶ *System Provisioning Scenarios* ▶ *Install a System using Software Provisioning Manager* ▶ *Installation Option of Software Provisioning Manager 2.0 SP 00 (or higher)* ▶ *Installation Guides - Application Server Systems* ◢. These installation guides are sorted by database, technical stack (ABAP and Java), and operating system platform. For the installation of SAP S/4HANA, choose the SAP HANA Database guide for your operating system (UNIX, IBM, or Windows), the ABAP Stack and the SAP HANA Database. > **i Note** > Java components and databases other than SAP HANA are still installed using the 1.0 version of the Software Provisioning Manager. You find the guides for version 1.0 on the same page as those for version 2.0, just choose **Installation Option of Software Provisioning Manager 1.0 SP 23** (or higher).

Documents	Comments and Links
SAP HANA Server Installation and Update Guide	You need the *SAP HANA Server Installation and Update Guide* for the installation of the following components: • SAP LiveCache on SAP HANA If you plan to use the SAP S/4HANA **Production Planning & Detailed Scheduling (PP/DS)** application, it is important that you install HANA integrated liveCache, which is the HANA component SAP LCA (also called LCAPPS- or liveCache Applications plugin). • VCH AFL (SAP VCH AFL 1809.00) See also SAP Note 1898497. i Note For each SAP HANA revision, there exists one corresponding version of these SAP HANA system components. You find this guide at http://help.sap.com/hana_platform ▶ *Installation and Upgrade* > *SAP HANA Server Installation and Update Guide* > For information about how to install or update these components, see the section *Managing SAP HANA System Components* in the guide.
UI Technology Guide for SAP S/4HANA	You find this guide at http://help.sap.com/s4hana_op_1809_002 ▶ *Product Documentation* The guide provides important information about the UI implementation.
SAP S/4HANA 1809: Release Information Note	SAP Note 2625407
SAP S/4HANA 1809: Restriction Note	SAP Note 2659710
SAP Fiori for SAP S/4HANA 1809: Release Information Note	SAP Note 2667191
SAP S/4HANA Add-on Note	SAP Note 2214409

Additional Documentation

Documents	Comments
Getting Started with SAP S/4HANA	You find this guide at http://help.sap.com/s4hana_op_1809_002 ▶ *Product Documentation*

Documents	Comments
System copy guides using the Software Provisioning Manager 1.0 or 2.0.	You find these guides at https://support.sap.com/sltoolset *System Provisioning* 〉 *System Provisioning Scenarios* 〉 *Copy a System using Software Provisioning Manager* 〉 *System Copy of Software Provisioning Manager 1.0 or 2.0 (latest SPs)* 〉 *System Copy Guides - Software Provisioning Manager 1.0 or 2.0*.

4 Product and Database Information

This section gives an overview of the components of SAP S/4HANA 1809 FPS02.

SAP S/4HANA Components

Component Name	Comment
SAP S/4HANA Server	Note that client 000 is not a productive client.
SAP Predictive Integrator	- APL 4 FOR HANA 2 SP03+ and alternative SCV - UMML4HANA1
SAP HANA Rules Framework	HANA RULES FRAMEWORK 1.0
SAP S/4HANA AFL	SAP VCH AFL 1809.00
SAP LiveCache on SAP HANA	SAP HANA LCAPPS 1.00 When configuring your SAP S/4HANA installation package through Software Provisioning Manager (SWPM), you get a screen named *Configuration of SAP liveCache with SAP HANA*. Here, choose to install liveCache for SAP System. - For SAP S/4HANA you can only choose the SAP HANA integrated liveCache. - You need the liveCache installation only when at least one of your applications uses it.
SAP Optimizer	SAP SCM Optimizer 13.0
Integration for Elster	- Advanced Adapter Engine Extnd - Elster 2.1 - UTELSTER 730
Integration for Swift	- Advanced Adapter Engine Extnd - SWIFT 622 - UTSWIFT 730
ESR Content	ESR Content (XI CONTENT)
SAP EHS Expert Server	EH&S EXPERT 3.2
SAP EHS WWI Server	EH&S WWI 3.2
MSG.PMQ Designer	MSG.PMQ DESIGNER 1.0
MSG.PMQ XSA Content	XSAC_TOMATOSJ 1
MSG.PMQ Sample Content	MSG.PMQ SAMPLE CONTENT 803
Basis Apps	-

Component Name	Comment
Business Intelligence	-
BI Content Extension	-
TMC Content	-
SAP S/4HANA Java	-
Adobe Document Services	-
Advanced Adapter Engine Extnd	-
Enterprise Services Repository	-
Content Server	-
SAP Web Dispatcher	-
Frontend	-
ABAP in Eclipse	-
SAPUI5 Dev Toolkit: IDE Plugins	-

> **i Note**
>
> For information about PI Adapters, see also SAP Note 2251604 .

SAP Fiori for SAP S/4HANA 1809 FPS02

Component Name	Comment
UI for SAP S/4HANA	• UIAPFI70 600 • UIS4HOP1 400
UI for HCM (Fiori 2.0)	UIHR002 100
UI for MDG	UIMDG001 200
UI for TVR	UITRV001 200 and alternative SCV

SAP Multichannel Foundation for Utilities and Public Sector, UI add-on for SAP S/4HANA 1709 and higher releases

Component Name	Comment
MCF UI FOR SAP S/4HANA 1709+	UIS4MCF 100

Database for SAP S/4HANA Backend

Database for SAP S/4HANA Backend	Comments
SAP HANA (`SAP HANA DATABASE 2.0`)	Used as database for SAP S/4HANA backend; can also be used by SAP Fiori for SAP S/4HANA in an embedded and in a hub deployment (see table below).

Databases for SAP Fiori for SAP S/4HANA (Frontend)

Databases for SAP Fiori for SAP S/4HANA Frontend	Comments
SAP HANA (`SAP HANA DATABASE 1.0` and `SAP HANA DATABASE 2.0`)	The SAP Fiori frontend for SAP S/4HANA can run on SAP HANA, SAP MaxDB, and SAP ASE in a hub deployment, but the database for the SAP S/4HANA backend must be SAP HANA (see table above).
SAP MaxDB (`MAXDB 7.9 64-BIT`)	
SAP Adaptive Server Enterprise (SAP ASE) (`SAP ASE 16.0 FOR BUS. SUITE`)	For more information about SAP Fiori for SAP S/4HANA deployment, see Installation of SAP Fiori [page 19] and SAP Note 2590653

> i Note
>
> Databases other than the ones mentioned in the tables above are **not supported** for SAP S/4HANA.

5 Maintenance Planner

We recommend that you use the Maintenance Planner to plan your installation. The Maintenance Planner creates a stack XML file with the support package stack information that you then hand over to the Software Provisioning Manager (the installer).

> **i Note**
>
> The Maintenance Optimizer (MOPZ) cannot be used with SAP S/4HANA. It has been replaced by the Maintenance Planner.

You access the Maintenance Planner tool and its *User Guide* on the SAP Support Portal at http://help.sap.com/maintenanceplanner.

6 Installation Process

The installation process for SAP S/4HANA and its components is described in the Software Provisioning tool guides referenced in the section Installation Documentation [page 8].

7 Installation Follow-Up Activities

> **i** Note
>
> For information about how to configure the ABAP Platform, see http://help.sap.com/s4hana_op_1809_002 ▶ *Product Assistance* ▶ *English* ▶ *Enterprise Technology* ▶ *ABAP Platform* ▶ *Configuring the ABAP Platform* ▶

7.1 Applying the Latest Kernel and Support Package Stacks

If you are already on SAP S/4HANA 1809 FPS01, you can do an update to SAP S/4HANA 1809 FPS02.

> **i** Note
>
> Support package stack (SPS) is equivalent to feature package stack (FPS). The term **feature** indicates that new features are delivered with the FPS, not just bug fixes as with support package stacks.

> **→** Recommendation
>
> Although it is possible to do the update manually, we recommend that you do this using the Software Update Manager (SUM), as described in the guide *Software Update Manager (SUM) 2.0 <latest sp>* found at https://support.sap.com/sltoolset ▶ *Software Logistics Toolset* ▶ *System Maintenance* ▶.

If you do want to update the kernel manually, proceed as a follows:

1. Log on as user `<SAP System ID>adm` to the hosts of the SAP system instances to be updated.
2. Download the latest kernel for your operating system and database platform as described in SAP Note 19466 .
3. Back up the kernel directory that is specified by the profile parameter `DIR_CT_RUN`.
4. Extract the SAR files of the kernel support packages of the target support package level to a temporary directory using the SAPCAR tool.
5. Copy or move the extracted programs from the temporary directory to the local kernel directory.
6. Adjust the ownership and permissions of the kernel binaries by entering the following command sequence (Run the `saproot.sh` script that is located in the kernel directory):

```
su - root
cd <kernel_directory>
./saproot.sh <SAP system ID>
exit
```

7.2 Importing Data to SAP S/4HANA

The following sections explain possible ways of migrating data to SAP S/4HANA:

7.2.1 SAP S/4HANA Migration Cockpit

For the migration of legacy data to SAP S/4HANA, SAP provides the SAP S/4HANA migration cockpit. It helps you to transfer your master data and business data from SAP systems and non-SAP systems to SAP S/4HANA 1610, 1709, and 1809. The cockpit is available as part of SAP S/4HANA and is included in the SAP S/4HANA license.

Preconfigured SAP S/4HANA-Specific Content

For the data migration, the SAP S/4HANA migration cockpit uses predefined migration content, that is, standard migration objects such as customer, supplier or purchase order objects to identify and transfer the relevant data. These migration objects contain pre-defined mappings to support the migration.

There are two options for transferring data to SAP S/4HANA:

1. **Template file upload**
   For each migration object, the migration cockpit provides Microsoft Excel XML files that contain the necessary fields for the SAP S/4HANA target structure. You download the file for the migration object, fill it with the source data, upload it to the cockpit, and then migrate the data to the SAP S/4HANA target system.
2. **Staging tables**
   As of SAP S/4HANA 1709 FPS01, the data transfer option using staging tables is available in the migration cockpit. This option allows you to handle large data volumes more easily. You can fill in the staging tables either manually or by using your preferred tools (SAP or third-party tools). The migration cockpit reads the data from the staging tables and migrates them into the SAP S/4HANA target system.
   As a prerequisite for this option, you need a remote system that acts as the staging system, and this system must be running an SAP HANA database.

Integration of Custom Data

In addition, the SAP S/4HANA migration cockpit allows you to integrate your custom data into the migration using the migration object modeler. For example, you can adjust the predefined standard migration objects by adding fields to them. As of SAP S/4HANA 1610 FPS02, you can also create your own custom-specific migration objects or SAP standard objects that have not yet been included in the scope of the migration cockpit.

Migration Objects

For a list of the available migration objects, see

http://help.sap.com/s4hana_op_1809_002 ▶ *Product Assistance* ▶ *English* ▶ *Cross Components* ▶ *Implementation Based on SAP Best Practices* ▶ *SAP S/4HANA Migration Cockpit* ▶ *Transfering Data to SAP S/4HANA Using Files* ▶ *Working with Migration Objects* ▶ *Available Migration Objects* ▶ .

Required Roles

For direct access to the SAP S/4HANA migration cockpit, use transaction `LTMC`. To work with the migration cockpit, you need the role `SAP_CA_DMC_MC_USER`.

To access the migration object modeler, use transaction `LTMOM`. As prerequisite for using the modeler, you first need to create a migration project in the migration cockpit and assign the role `SAP_CA_DMC_MC_DEVELOPER` to the respective user.

Migration Cockpit ICF Services

Make sure to activate the migration cockpit ICF services. Use transaction `SICF` in the backend system and activate the following services:

- `/sap/bc/webdynpro/sap/DMC_WDA`
- `/sap/bc/webdynpro/sap/DMC_WDA_GAF`

Additional Information

For more information, see:

- http://help.sap.com/s4hana_op_1809_002 ▶ *Product Assistance* ▶ *English* ▶ *Cross Components* ▶ *Implementation Based on SAP Best Practices* ▶ *SAP S/4HANA Migration Cockpit* ▶ .
- SAP Note 2481235 : SAP S/4HANA Migration Cockpit (on-premise) - restrictions and extensibility of pre-delivered migration objects

7.2.2 SAP Data Services

SAP provides SAP Data Services with Rapid Data Migration content to assist you with importing your data into your SAP S/4HANA system after installation.

For additional information, see:

- SAP Notes 2239701 and 2287723
- SAP Data Services at the SAP Help Portal http://help.sap.com/bods
- SAP Best Practice content for data migration: http://rapid.sap.com/bp/RDM_S4H_OP

7.3 System Configuration for SAP S/4HANA

After you have installed SAP S/4HANA, you have a number of options how to proceed with the system configuration:

1. You follow SAP Activate and SAP Best Practices to guide you through your system configuration.

   > i Note
   >
   > We strongly recommend that you use SAP Activate and SAP Best Practices as this will simplify both the initial implementation process and future updates of your software.

   SAP Activate is the innovation adoption framework that helps you to implement your SAP S/4HANA system. It provides ready-to-run business and technology processes and guided configurations. For ordering information see SAP Note 2041140 (for partners and customers).
   For additional information about SAP Activate and SAP Best Practices, see:
   - https://www.sap.com/services/rapid-deployment.html
   - https://go.support.sap.com/roadmapviewer/
   - http://rapid.sap.com/bp/BP_OP_ENTPR

2. You use SAP Activate and SAP Best Practices as templates for your system configuration and make changes using the Implementation Guide (IMG). This allows you to adapt the SAP-delivered configuration settings to your specific requirements.

3. You use only the Implementation Guide (IMG) to configure your system.

> i Note
>
> In case of a conversion of an existing SAP Business Suite system, you proceed as described in the *Conversion Guide for SAP S/4HANA* at the SAP Help Portal under http://help.sap.com/s4hana_op_1809_002.

7.4 Installation of SAP Fiori

There are two possible deployment options for SAP Fiori for SAP S/4HANA, the embedded or the hub deployment option.

Hub deployment of SAP Fiori front-end server
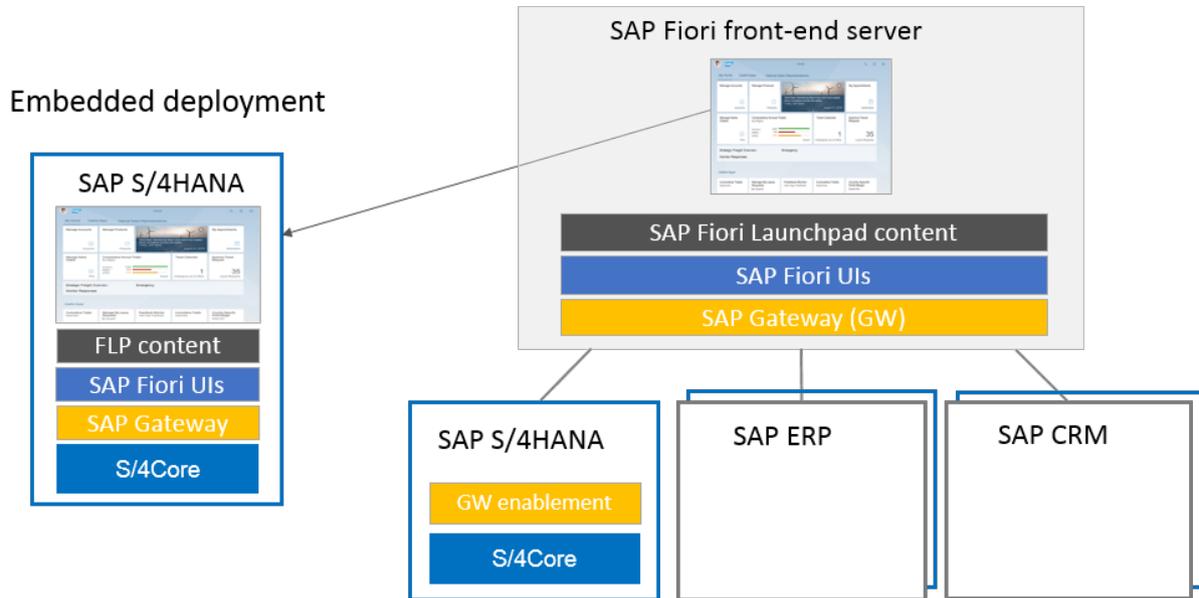
Embedded Deployment

Components for embedded deployment for SAP S/4HANA 1809 FPS02:

- Optional UI components
- SAP Fiori for SAP S/4HANA 1809 FPS02
- SAP Fiori front-end server 5.0 (SAP FES) (including My Inbox – in earlier releases My Inbox was one of the optional UI components)
- SAP S/4HANA 1809 FPS02
- SAP Gateway 7.53
- ABAP Platform 1809 FPS02 (part of SAP S/4HANA 1809 FPS02)

After the installation of SAP S/4HANA 1809 FPS02, the other components of the embedded deployment option may need to be upgraded to the required version.

Hub Deployment

You can co-deploy an existing SAP Business Suite hub with the SAP Fiori forSAP S/4HANA 1809 FPS02 deployment. Existing apps continue to run against the SAP Business Suite back-end systems while the newly installed applications of SAP Fiori for SAP S/4HANA 1809 FPS02 need to be configured to run against the SAP S/4HANA 1809 FPS02 system. As a prerequisite, you have to migrate the database of the existing SAP Business Suite hub (supported databases are SAP HANA, SAP MaxDB, or SAP ASE) and upgrade the system to the minimum required versions.

Components for hub deployment for SAP S/4HANA 1809 FPS02:

- **Frontend**:
  - Optional UI components
  - SAP Fiori for SAP S/4HANA 1809 FPS02
  - SAP Fiori FES 5.0 (with My Inbox)
  - SAPUI5 1.56
  - SAP Gateway 7.51 (minimum version)
  - Kernel 7.49 PL401 (minimum version)
  - SAP NetWeaver 7.51 SP06 (minimum version - the maximum version is SAP NetWeaver 7.52)
- **Backend**:
  - SAP S/4HANA 1809 FPS02
  - SAP Gateway 7.53
  - ABAP Platform 1809 (part of SAP S/4HANA 1809 FPS02)

For more information, see: .

- The *UI Technology Guide for SAP S/4HANA* at http://help.sap.com/s4hana_op_1809_002 ▶ *Product Documentation* ▶ ▶ about the installation and deployment of SAP Fiori for SAP S/4HANA
- SAP Notes 2590653 and 2662732

7.5   User Assistance Settings

The following sections describe how to enable context-sensitive user assistance for SAP S/4HANA.

7.5.1 Enable User Assistance for the Back-End System

Enable Context-Sensitive User Assistance

You need to do these settings in the back-end system which you use to create your system configuration setting. After you have done the settings, you save them, create a transport for them and transport them to your productive system(s).

Proceed as follows:

1. Open transaction SR13.
2. Select the tab *PlainHtmlHttp*.
3. Choose *New Entries*.
   You have to create new entries for both documentation and XML documentation areas. To create entries for the **documentation** area, enter the following values:

Name	Value to be entered
Variant	Enter a name for the variant (any name).
Platform	Select the platform relevant for your implementation, for example, `WN32`.
Area	Select `Documentation`. This will display as `IWBHELP` in the table.
Server Names	**`https://help.sap.com/http.svc/ahp2`**
Path	**`SAP_S4HANA_ON-PREMISE/1809.002`**
Language	Select the language you need.

To create entries for the **XML documentation** area, enter the following values:

Name	Value to be entered
Variant	Enter a name for the variant (any name).
Platform	Select the platform relevant for your implementation, for example, `WN32`.
Area	Select `XML Documentation`. This will display as `XML_DOCU` in the table.
Server Names	**`https://help.sap.com/http.svc/ahp2`**
Path	**`SAP_S4HANA_ON-PREMISE/1809.002`**
Language	Select the language you need.

4. Repeat step 3 for each relevant platform and language.
5. Select **one** entry as default per platform.
6. Save your changes and create a transport.

Enable Product-Specific User Assistance

After you have done the settings in transaction `SR13` described above, you need to enable the product-specific User Assistance with the program **`RSIWBH04`** in transaction `SE38`:

1. Open transaction `SE38`.
2. Enter the program name **`RSIWBH04`** in the *Program* field and open the program.
3. Under *Product-Specific SAP Library* enter the ID **`2c0e7c571fbeb576e10000000a4450e5`** in the *Structure/DITA Map ID* field.

- o Class must be `XDP_STRUCT`.
- o The radio button *Change* must be selected.
4. Run the program.

7.5.2 Enable Context-Sensitive User Assistance for SAP Fiori Launchpad

To make context-sensitive user assistance available in the SAP Fiori launchpad, you need to do the settings described in the following sections:

- Configure the SAP Web Dispatcher [page 23]
- Set Up the User Assistance Plugin [page 25]

7.5.2.1   Configure the SAP Web Dispatcher

Use

If you want to make context-sensitive user assistance available in the SAP Fiori launchpad, you must configure SAP Web Dispatcher.

Prerequisites

You have installed SAP Web Dispatcher 7.5 as the reverse proxy. For more information, go to http://help.sap.com/s4hana_op_1809_002, enter *Operating SAP Web Dispatcher* into the search bar, press `Enter`, open the search result with that title and navigate to the section *Installing SAP Web Dispatcher*.

Activities

1. Adjust the SAP Web Dispatcher profile file.
   In the `sapwebdisp_pf.txt` file, add the following parameters:
   - o For the User Assistance Content Platform
     ```
     wdisp/system_<number> = SID=<SID1>, EXTSRV=https://cp.hana.ondemand.com:443,
     SRCURL=/sap/dfa/help/, SRCSRV=*:*, PROXY=<your proxy>:<your proxy port>,
     STANDARD_COOKIE_FILTER=OFF
     ```
   - o For the script server in your production system
     ```
     wdisp/system_<number> = SID=<SID2>, EXTSRV=https://xray.hana.ondemand.com:
     443, SRCURL=/resources/sap/dfa/help/, SRCSRV=*:*, PROXY=<your proxy>:<your
     proxy port>, STANDARD_COOKIE_FILTER=OFF
     ```

> **i Note**
>
> - Make sure that the numbers following `wdisp/system_` are smaller than the numbers that you use for all your application server. The rules for the context-sensitive user assistance need to come before the rules for the application servers.
> - Make sure that the SIDs are not the same as your system IDs.

2. Activate the usage of the modification handler:

   `icm/HTTP/mod_0 = PREFIX=/, FILE=$(DIR_PROFILE)/redirect.txt`

   For more information, go to http://help.sap.com/s4hana_op_1809_002, enter *SAP Web Dispatcher Parameter References* into the search bar, press Enter , open the search result with that title and navigate to the section *icm/HTTP/mod_<xx>*.

3. Adjust the SAP Web Dispatcher redirect file.

   In the `redirect.txt` file, add the following parameters:

```
# User Assistance Content Platform - rewrite rule
if %{SID} = <SID1>
begin
SetHeader HOST cp.hana.ondemand.com:443
RegRewriteRawUrl  ^/sap/dfa/help/(.*) /dps/$1
end
# Script Server - rewrite rule
if %{SID} = <SID2>
begin
SetHeader HOST xray.hana.ondemand.com:443
RegRewriteRawUrl  ^/resources/sap/dfa/help/(.*) /xRayControls/
resources/sap/dfa/help/$1
end
```

> **i Note**
>
> Make sure that the SIDs in the `redirect.txt` file are the same as in the `sapwebdisp_cf.txt` file.

4. You can check if the content platform is working properly through the proxy connection by accessing:

   `https://<your server>:<your port>/sap/dfa/help/odata.svc/?$format=json`

   > **⚙ Example**
   >
   > If the content platform is connected correctly, you can see on your screen the following output, for example:
   >
   > `{"d":{"EntitySets":`
   > `["Transport","DeliverableForReplication","Tile","Project","Deliverable","Tran`
   > `sportHistory","TourIssue","ReplicationTourIssue","Hotspot","Product","Context`
   > `"]}}`

5. You can check if the help script server is working properly through the proxy connection by accessing:

   `https://<yourserver>:<yourport>/resources/sap/dfa/help/sap/cfg/`
   `XrayBootstrapHelpConfig.json`

   > **⚙ Example**
   >
   > If the help script server is connected correctly, you can see on your screen the following output, for example:
   >
   > `{`

```
    "description":"This configuration registers the Xray bootstrap plug-in",
    "modulePaths":{
        "sap.dfa.help":"/resources/sap/dfa/help/~201509221536~"
    },
    "bootstrapPlugins":{
        "BootstrapXrayPlugin":{

"module":"sap.dfa.help.utils.adapters.fiori.BootstrapXrayHelpPlugin"
        }
    }
}
```

Result

You can access SAP Fiori launchpad with context-sensitive user assistance.

7.5.2.2   Set Up the User Assistance Plugin

To make context-sensitive user assistance available in the SAP Fiori Launchpad, you set up the user assistance plugin in the following way:

1. You create a catalog.
   For more information about creating catalogs, go to http://help.sap.com/s4hana_op_1809_002, enter *Initial Setup of the Launchpad* into the search bar, press Enter , and open the search result with that title.
2. You create a role that references the catalog.
   For more information about creating roles for tile catalogs, go to http://help.sap.com/ s4hana_op_1809_002, enter *Initial Setup of the Launchpad* into the search bar, press Enter , and open the search result with that title.
3. You assign the role to every user that needs to access the context-sensitive user assistance.
4. In the catalog, you create a target mapping with the following values:

Field Label	Value
Semantic Object	**Shell**
Action	**plugin**
Application Type	**SAPUI5 Fiori App**
Title	**User Assistance Plugin**
URL	**/resources/sap/dfa/help/utils/adapters/fiori** This requires that the SAP Web Dispatcher is set up accordingly so that this URL is routed to the script server.
Component	**sap.dfa.help.utils.adapters.fiori**

Field Label	Value
Information	**User Assistance Plugin, relevant for all app users**
Device Types	Select your required devices: ○ *Desktop* ○ *Tablet* ○ *Phone*

Parameters	Enter the following parameters in the table:
	
	○ *Name*: **product**; *Value*: **SAP_S4HANA_ON-PREMISE**
	○ *Name*: **version**; *Value*: **1809.002**
	○ *Name*: **editor**; *Value*: **false**
	○ *Name*: **noHelpMode**; *Value*: **carousel**
	○ *Name*: **useGlobalHelp**; *Value*: **true**
	
	Optional parameters
	
	○ *Name*: **buttonLocation**
	You can decide where the user assistance button should appear.
	Possible values:
	  ○ **head** (default value): The user assistance button appears in the SAP Fiori header in the top right corner.
	  ○ **me**: The user assistance button appears in the Me Area.
	○ *Name*: **showWhatsNew**
	You can decide whether "What's New" information should be displayed on app level, if available.
	Possible values:
	  ○ **true** (default value): Yes
	  ○ **false**: No

After you have made these setting, the user assistance icon is available for the SAP Fiori Launchpad.

7.6   Installation of SAP CoPilot

SAP CoPilot enables a humanized user experience for your SAP applications and is an optional addition to your SAP S/4HANA system. It is a digital assistant that allows you to accomplish tasks without having to navigate away from the context of your screen. You can add and create objects and notes on-the-go through conversation in the app. You can use SAP CoPilot on your phone, desktop, or through an external channel.

To use SAP CoPilot skills and the digital assistant capabilities for SAP S/4HANA, a separate purchase may be required.

For more information about SAP CoPilot, see https://help.sap.com/viewer/p/SAP_COPILOT.

7.7 Integration of SAP S/4HANA with SAP Cloud Platform Using SAP Cloud Connector

The SAP Cloud Connector serves as a link between SAP Cloud Platform applications and on-premise systems. If you are entitled to use SAP Cloud Platform services and applications, you can install the SAP Cloud Connector and use it to connect SAP S/4HANA to the SAP Cloud Platform Neo environment. You find information about how to do this in SAP Note 2610956 .

7.8 Installation of the PI Adapters for Elster and Swift

The Advanced Adapter Engine Extended (AEX) is required for the installation of the Process Integration Adapters for Elster and Swift. AEX is part of SAP S/4HANA as described in the section Product Information [page 11]. For more information about Elster and Swift, see also SAP Notes 1802839 and 1064419 .

You have the following two options how to install the Elster/Swift adapters:

1 Installation from DVD

With this option, you copy the archives from the DVD location `\S4HANA10JAVA\DATA_UNITS\S4_JAVA` to the directory `/usr/sap/trans/EPS/` and use the Software Update Manager (SUM) to deploy the files using the option *Manually prepared directory*.

For more information how to use the SUM tool, see SUM guides at https://support.sap.com/sltoolset ▶ *Software Logistics Toolset 1.0* ▶ *System Maintenance* ▶. Select the guide according to your operating systems and database.

2 Installation with Maintenance Planner

With this option, you use Maintenance Planner to generate a stack XML file with the Elster and Swift support package stack information that you then hand over to the Software Update Manager (SUM) tool.

You access the Maintenance Planner tool and its *User Guide* at http://help.sap.com/maintenanceplanner .

7.9 Creating RFC Destinations for liveCache Applications

You use this procedure to use liveCache across clients, for example, to initialize liveCache correctly.

1. Create a user with the following authorizations in all production clients:
   ○ Cross-application AAAB authorization objects
     Authorization object: S_TCODE Value: SE38
     Authorization object: S_RFC Activity: 16
     Name of RFC object to be protected : /SAPAPO/DM_LC_SYNC, SYST
     Type of RFC object to be protected : FUGR
   ○ Basis development environment BC_C
     Authorization object: S_DEVELOP Value: 03, 16
     Authorization object: S_PROGRAM
     User action ABAP/4 program : *
     Authorization gr.ABAP/4 program : (no input necessary)
   ○ Basis administration BC_A
     Authorization object: 'S_BTCH_JOB'
     User action: 'RELE'

   > **i Note**
   >
   > Ensure that the user no longer has the initial password in any of the clients.

2. In each client, create a RFC destination by performing the following substeps:
   1. Start transaction SM59.
   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.

   > **i 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 in step 1.

   > **i Note**
   >
   > Ensure that the password is no longer initial, and do not select **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.

> **i Note**
>
> You create the same user in each client only once. You must, however, ensure that the clients of the destination and user match. The user may also be a CPIC user. The authorization "Authorization object: S_TCODE Value: SE38" and similar should be assigned here also. You should also check if you can implement SAP Note 536291👉.

7.10 Follow-Up Activities for Advanced Variant Configuration

Integration of the Fiori UI into SAP GUI

You enable the integration of the Advanced Variant Configuration SAP Fiori UI in SAP GUI as described in the product assistance on the SAP Help Portal:

- Go to http://help.sap.com/s4hana_op_1809_002, enter *Configuration of SAP Fiori Infrastructure* into the search bar, press `Enter`, open the search result with that title, and navigate to ▶ *Communication Channels* ▶ *ABAP Servers: Setup of Communication* ▶ *Creating System Alias for Applications* ▶.
  Steps 1 to 3 in the documentation describe how to enable OData calls for the Fiori UI. Step 4 describes the settings required for enabling SAP GUI transactions in the SAP Fiori Launchpad and also contains important information about whitelisting.
- Go to http://help.sap.com/s4hana_op_1809_002, enter *Establish a Connection from Back-End System to Front-End Server* into the search bar, press `Enter`, and open the search result with that title.
  This documentation describes how to set up a connection between the back-end system with a front-end server. This is necessary for activating the integrated SAP Fiori UI.
- In addition, you have to activate the following OData services on the front-end server:
  - LO_VCHCLF
  - LO_VCHCLF_INTEGRATION_LEGACY_SRV

  For information about how to activate services, go to http://help.sap.com/s4hana_op_1809_002, enter *SAP Fiori: App Implementation* into the search bar, press `Enter`, open the search result with that title, and navigate to ▶ *Implementation Tasks on Front-End Server* ▶ *Activating OData Services* ▶.

Execute the Report VCH_MASS_MAINTENANCE

You use this report for the initial preparation of your variant configuration data for SAP S/4HANA Advanced Variant Configuration. For information about how to use the report, see the system documentation in transaction SE38 or SE80, click on the *Goto* menu, and select *Documentation*.

Post-Installation Steps for VCH AFL

An Application Function Library (AFL) extends the SAP HANA Database with functions required for business applications - specifically, the VCH AFL (Variant Configuration on SAP HANA) extends the SAP HANA Database with functions to run SAP S/4HANA Advanced Variant Configuration. After you have installed VCH AFL (SAP VCH AFL 1809.00), you need to do some post-installation steps for the VCH AFL described in SAP Note 2598627.

> **i Note**
>
> For information about the installation of this component, see Installation Documentation [page 8]: *SAP HANA Server Installation and Update Guide*.

Define a background job for VCH AFL Session-Cleanup

Schedule a Job

1. Call transaction SM36.
   Alternatively, you can go to Customizing under *SAP Menu System Services Jobs Define Job*.
2. In the *Define Background Job* view, choose *Define Job using Wizard* (Ctrl+F1.
3. In the *Create a Job* dialog box, choose *Continue*.
4. In the *General Job Information* dialog box, make the following entries:

Field Name	Value
Job Name	Y_AVC_SESSION_CLEANUP
Job Class	C – Low Priority
Job Status	Scheduled
Target Server	-

5. Choose *Continue*.
6. In the job definition *Job step dialog* box, select *ABAP program step* and choose *Continue*.
7. Make the following entries in the *ABAP program step* dialog box:

Field Name	Value
ABAP Program Name	PLM_VC_AFL_SESSION_CLEANUP
Execution Language	EN

8. Choose *Continue*.
9. In the multi-step option dialog box, choose *Continue*.
10. In the job definition *Start Conditions* view, choose *Immediately*, then choose *Continue*.

11. In the definition of the start immediately dialog box, select the *Period* checkbox in the periodic jobs' section and choose *Continue*.
12. In the period definition dialog box, choose *None of the Above*.
13. Choose *Other Periods*.
14. In the *Other Periods* dialog box, schedule the service for a convenient time interval (five minutes is recommended).
15. Choose *Create*.
16. Choose *Continue*.
17. In the *Set Job* dialog box, choose *Complete* to finish the steup.

7.11 Follow-Up Activities for Predictive Analytics integrator

To enable the use of Predictive Analytics integrator with SAP S/4HANA, perform the following steps:

Product	Supporting Documentation	Further Information
SAP HANA Automated Predictive Library.	Go to https://help.sap.com/viewer/product/apl/1809/en-US ▶ *SAP HANA Automated Predictive Library Reference Guide* ▶ *Getting Started with SAP HANA APL* ▶ *Installing SAP HANA APL* ▶ . ▶	**i Note** For more detailed information about the exact APL version required for Predictive Analytics integrator, please refer to SAP Note 2631182 .
Application Function Library (AFL), which includes SAP HANA Predictive Analysis Library.	For more information, go to the chapter called *Prerequisites* in the *SAP HANA Predictive Analysis Library (PAL)* guide on the SAP Help Portal at https://help.sap.com	Choose the option to install PAL. The revision number of the AFL must match the revision number of SAP HANA. Ensure that the correct AFL role is assigned. Assign one of the following roles to the SAP HANA database user or ABAP technical user: • AFL__SYS_AFL_AFLPAL_EXECUTE • AFL__SYS_AFL_AFLPAL_EXECUTE_WITH_GRANT_OPTION
Predictive Analytics integrator (UMML4HANA 1) Delivery Unit.	For more information, go to https://help.sap.com/viewer/p/SAP_HANA_PLATFORM ▶ *Development* ▶ *SAP HANA Developer Guide (How to develop applications for SAP HANA Extended Application Services classic model using the SAP HANA studio, including modeling data and analytic views, and building application logic)* ▶ *SAP HANA Application Lifecycle Management* ▶	**i Note** 1. We suggest this path when searching for the correct Delivery Unit: ▶ *Support Packages and Patches* ▶ *By Alphabetical Index* ▶ *SAP S/4HANA* ▶ *UMML4HANA 1* ▶ .

Product	Supporting Documentation	Further Information
	Maintaining Delivery Units ❯ *Import a Delivery Unit* ❯.	2. For more detailed information about the exact Predictive Analytics integrator (UMML4HANA 1) Delivery Unit version required, please refer to SAP Note 2631182 .
SAP HANA database user or ABAP technical user roles.	Assign the *sap.hana.pai::ExecutePAI* role to the SAP HANA database user or ABAP technical user, in order for them to access functionality such as training and executing models.	N/A
Configuration.	For information on configuring back end and frontend business roles, setting up the OData service, and bgRFC Queue, you can refer to the chapter called *Configuring Business Roles for the Backend*.	Configuring Business Roles for the Backend [page 32].

7.11.1 Configuring Business Roles for the Backend

Configuring business roles for the backend.

Backend roles should be assigned based on the *Predictive Models* app and *Predictive Scenarios* app user's needs. Backend roles should include the necessary PAi authorizations as described in the following chapters: *Backend Authorization for Predictive Scenarios* and *Backend Authorization for Predictive Models*.

Related Information

Backend Authorization for Predictive Scenarios [page 33]
Backend Authorization for Predictive Models [page 34]

7.11.1.1 Backend Authorization for Predictive Scenarios

How to perform backend ABAP role configuration for predictive scenarios.

Context

Additional configuration is required for PAi-specific authorizations, which grant roles access to predictive scenarios and predictive models.

You will need to authorize a role to call the PAi OData service (ANA_PAI_PS_SRV) using the OData service authorization object (S_SERVICE).

You also need to add authorizations for the authorization objects RSANAUMMPS and S_DEVELOP, which are required for predictive analytics.

Procedure

To add authorizations for RSANAUMMPS, do the following:

1. In the SAP backend system, access the activity using the transaction code PFCG or on the IMG menu, navigate to *Tools > Administration > User Maintenance > Role Administration > Roles*.
2. On the *Role Maintenance* screen, create a new role. Enter the name of your role.
3. Choose *Single Role*.
4. Enter a description and save your created role.
5. Choose the *Authorizations* tab.
6. Choose *Expert Mode for Profile Generation*.
7. Select *Read old status and merge with new data* and choose *OK*.
8. Click *Manually* for manual entry of authorization.
9. Add the authorization objects and fill fields with the following values:

Authorization Data

Authorization Object	Field	Value in Business Catalog Role
RSANAUMMPS	ACTVT	Add or Create, Change, Display, Delete (01, 02, 03, 06)
	PRED_SCEN	**\<PS_NAME\>**
	PAI_OTYPE	PSCENARIO, MCONTEXT, ENHMODEL, MVERSION
S_DEVELOP	DEVCLASS	**\<Package\>**
	OBJTYPE	PAI1
	OBJNAME	**\<PS_NAME\>**

Authorization Object	Field	Value in Business Catalog Role
	P_GROUP	*
	ACTVT	Create (01)
S_DEVELOP	DEVCLASS	**\<Package\>**
	OBJTYPE	DDLS
	OBJNAME	**\<PS_NAME\>**_TF01
	P_GROUP	*
	ACTVT	Add or Create, Change, Display, Delete, Activate, generate (01, 02, 03, 06, 07)
S_DEVELOP	DEVCLASS	**\<Package\>**
	OBJTYPE	DDLS
	OBJNAME	**\<PS_NAME\>**_CDS01
	P_GROUP	*
	ACTVT	Add or Create, Change, Display, Delete, Activate, generate (01, 02, 03, 06, 07)
S_DEVELOP	DEVCLASS	**\<Package\>**
	OBJTYPE	VIEW
	OBJNAME	Z_*
	P_GROUP	*
	ACTVT	Display, Create in DB, Convert to DB (03, 40, 42)

10. On *Exit Authorization Maintenance*, click the *Generate* button.
11. Choose *Save*.

7.11.1.2 Backend Authorization for Predictive Models

How to perform backend ABAP role configuration for Predictive Models.

Context

Additional configuration is required for PAi-specific authorizations, which grant roles access to predictive scenarios and predictive models.

You will need to authorize a role to call the PAi OData service (ANA_PAI_REPOSITORY_SRV) using the OData service authorization object (S_SERVICE).

You also need to add authorizations for the authorization object RSANAUMMPS, which is required for predictive analytics.

To add authorizations for RSANAUMMPS, do the following:

Procedure

1. In the SAP backend system, access the activity using the transaction code PFCG or on the IMG menu, navigate to *Tools > Administration > User Maintenance > Role Administration > Roles*.
2. On the *Role Maintenance* screen, create a new role. Enter the name of your role.
3. Choose *Single Role*.
4. Enter a description and save your created role.
5. Choose the *Authorizations* tab.
6. For RSANAUMMPS, edit authorization data by choosing *Change Authorization Data*.
7. At *Choose Template*, choose the *Do Not Select Templates* option.
8. For the required Predictive Scenario(s) <PAi Predictive Scenario Name> (the field *PRED_SCEN*), users require read access to the following PAi entities (PSCENARIO, MCONTEXT, ENHMODEL) and full access (create, read, update, delete rights) to PAi entity (MVERSION). This requires two manual authorizations for RSANAUMMPS, which is achieved by performing the next few steps. Click *Manually* for manual entry of authorization.
9. Enter RSANAUMMPS and choose continue.
10. Under *Authorization* fields, enter the following values:
    - **ACTVT** - Activity: Enter 03 to grant read access.
    - **PRED_SCEN** - <PAi Predictive Scenario Name>: Enter the name of the business case.
    - **PAI_OTYPE** - PAi Entity: Enter the values PSCENARIO, MCONTEXT, ENHMODEL.
11. Click *Manual Entry of Authorization*.
12. As users will also need full access to create and delete model versions, repeat the previous process, using the following values:
    - **ACTVT** - Activity: Enter 01,02,03,06 to grant create, change, read and delete access.
    - **PRED_SCEN** - <PAi Predictive Scenario Name>: Enter the name of the business case.
    - **PAI_OTYPE** - PAi Entity: Enter the value MVERSION.
13. On *Exit Authorization Maintenance*, click the *Generate* button.
14. Choose *Save*.

7.11.2 Configuring Business Roles for the Frontend

Configuring ABAP frontend role authorization for *Predictive Models* and *Predictive Scenarios* apps.

Authorization and Roles

All access to data and the execution of actions in the system requires authorization. The user must have authorization privileges to perform an operation, and to access the object to which the operation applies. Privileges can be granted to users either directly, or indirectly through roles.

A role is simply a set of access privileges. Roles are the standard mechanism for granting privileges. They allow you to implement different hierarchies of user access that can be modeled on business roles.

If you are using the SAP Fiori Launchpad as the user interface, you must have roles assigned to your Fiori user in the NetWeaver Gateway system.

SAP Business Roles

SAP delivers a wide range of business roles as templates for customers. The analytics specialist role called `SAP_BR_ANALYTICS_SPECIALIST`, includes Fiori frontend role menu authorizations for the *Predictive Models* and *Predictive Scenarios* apps. It also gives you access to several other catalogs and groups.

To get the necessary privileges for using all features of the *Predictive Models* and *Predictive Scenarios* apps, further configuration is required for the frontend and backend of the system. To validate and train predictive models, the user needs the necessary privileges for the *Predictive Models* app. To review and publish custom predictive use cases, the user needs the necessary privileges for the *Predictive Scenarios* app.

7.11.2.1 Frontend Authorization for Predictive Models

How to perform frontend ABAP role configuration for predictive models.

Context

Creating Frontend Authorizations

To utilize the PAi Fiori application, two Fiori (frontend) role menu authorizations are required:

- Predictive Models Fiori Tile Catalog (object SAP_CA_BC_ANA_UMM)
- Predictive Models Fiori Tile Group (object SAP_CA_BCG_ANA_UMM)

This section briefly describes how you create a frontend authorization role using the PFCG (Profile Generator) transaction code.

Transaction code PFCG is for role maintenance and administration, and allows you to manage roles and authorization data. It automatically creates authorization data based on selected menu functions, which can then be fine-tuned as required.

Creating PFCG Authorizations

Access to Fiori app catalogs and groups is controlled by PFCG authorizations in the ABAP frontend server. Access is granted to end users by assigning roles. You need to add authorizations for Fiori tile catalog (object name *SAP_CA_BC_ANA_UMM*) and Fiori tile group (object name *SAP_CA_BCG_ANA_UMM*).

To create a role for *Predictive Models* apps Fiori tile, do the following:

Procedure

1. In the ABAP frontend server, access the activity using the transaction code PFCG.
2. On the Role Maintenance screen, input Role using a suitable role name for use with PAi. Choose *Single Role*.
3. The next few steps are to add authorizations for the Predictive Models Fiori Tile Catalog (SAP_CA_BC_ANA_UMM). On the *Create Roles* screen, choose the *Menu* tab.
4. Open the drop-down menu for *+* and select *Catalog*.
5. On the *Assign Tile Catalog* dialog box, choose *Catalog Provider* as Fiori Launchpad Catalogs, and then input *SAP_CA_BC_ANA_UMM* in the *Catalog ID* field, and then choose continue (Enter).
6. The remaining steps are to add authoriziations for the Predictive Models Fiori Tile Group (SAP_CA_BCG_ANA_UMM). Choose *+* again and select *Group*.
7. On the *Assign Group* dialog box, input *SAP_CA_BCG_ANA_UMM* in the *Group ID* field, and then choose continue (Enter).
8. Click *Save*.

7.11.2.2 Frontend Authorization for Predictive Scenarios

How to perform frontend ABAP role configuration for predictive scenarios.

Context

Creating Frontend Authorizations

To utilize the PAi Fiori application, two Fiori (frontend) role menu authorizations are required:

- Predictive Scenarios Fiori Tile Catalog (object SAP_CA_BC_ANA_UMM_PSC)
- Predictive Models Fiori Tile Group (object SAP_CA_BCG_ANA_UMM)

This section briefly describes how you create a frontend authorization role using the PFCG (Profile Generator) transaction code.

Transaction code PFCG is for role maintenance and administration and allows you to manage roles and authorization data. It automatically creates authorization data based on selected menu functions which can then be fine-tuned as required.

Creating PFCG Authorizations

Access to Fiori app catalogs and groups is controlled by PFCG authorizations in the ABAP frontend server. Access is granted to end users by assigning roles. You need to add authorizations for Fiori tile catalog (object name SAP_CA_BC_ANA_UMM_PSC) and Fiori tile group (object name SAP_CA_BCG_ANA_UMM).

To create a role for *Predictive Scenarios* app Fiori tile, do the following:

Procedure

1. In the ABAP frontend server, access the activity using the transaction code PFCG.
2. On the Role Maintenance screen, input Role using a suitable role name for use with PAi. Choose *Single Role*.
3. The next few steps are to add authorizations for the Predictive Scenarios Fiori Tile Catalog (SAP_CA_BC_ANA_UMM_PSC). On the *Create Roles* screen, choose the *Menu* tab.
4. Open the drop-down menu for + and select *Catalog*.
5. On the *Assign Tile Catalog* dialog box, choose *Catalog Provider* as Fiori Launchpad Catalogs, and then input *SAP_CA_BC_ANA_UMM_PSC* in the *Catalog ID* field, and then choose continue (Enter).
6. The remaining steps are to add authoriziations for the Predictive Models Fiori Tile Group (SAP_CA_BCG_ANA_UMM). Choose + again and select *Group*.
7. On the *Assign Group* dialog box, input *SAP_CA_BCG_ANA_UMM* in the *Group ID* field, and then choose continue (Enter).
8. Click *Save*.

7.11.3 Setting up the OData Service

Setting up the OData service for *Predictive Models* and *Predictive Scenarios* apps.

The Open Data Protocol (OData) is a standardized protocol for exposing and accessing information from various sources. OData is based on core protocols, including HTTP, AtomPub (Atom Publishing Protocol), XML, and JSON (Java Script Object Notation).

OData provides a standard API on service data and metadata presentation and data operations. Use OData version 2.0.

For access to *Predictive Models* and *Predictive Scenarios* apps, you need to register the OData Service as the backend server. The steps for doing this will be different depending on how the servers are configured. The main configuration tasks are as follows:

- Configure the OData service backend server.
- Configure the OData service frontend server. (Only required where the frontend and backend servers are on different machines)

7.11.3.1 Setting up OData - Configuring the Backend Server for Predictive Models App

How to set up the backend server for the OData service for the *Predictive Models* app.

Context

For the *Predictive Models* app you need to register the OData service as the backend server. To do so, perform the following steps:

Procedure

1. Open SAP-Logon.
2. Enter the transaction */IWFND/MAINT_SERVICE* in the top left side of the user interface.
3. Select *Add Service*.
4. Select the *System Alias* field.
5. Select the icon to open the *SAP System Alias* window.
6. In the *SAP System Alias* window, select *Local*.
7. Select the *OK* button to confirm the selection.
8. In the *External Service Name* field, search for *ANA_PAI_REPOSITORY_SRV*
9. Select *Enter* to search.

   The result is shown in the *Select Backend Services* panel in the column *Technical Service Name*.
10. Select the service name in the listing.

    The *Add Service* window opens.
11. In *Add Service* window, for *Package Assignment*, select *Local Object*, or assign a suitable package as required.
12. Select the icon to accept.
13. The *Information* window opens, confirming that the service was created.

Next Steps

If the OData backend and frontend servers are installed on different machines, then you will need to perform additional configuration on the OData frontend server.

7.11.3.2 Setting up OData - Configuring the Backend Server for Predictive Scenarios App

How to set up the backend server for the OData service for the *Predictive Scenarios* app.

Context

For the *Predictive Scenarios* app, you need to register the OData Service as the backend server. The *ANA_PAI_PF_SRV* service is used in conjuction with SAP Predictive Factory or SAP Analytics Cloud Smart Predict to create the draft predictive scenarios. The *ANA_PAI_PS_SRV* service is used by the Fiori app to display or update draft predictive scenarios, and display published ones. Perform the following steps for both:

Procedure

1. Open SAP-Logon.
2. Enter the transaction */IWFND/MAINT_SERVICE* in the top left side of the user interface.
3. Select *Add Service*.
4. Select the *System Alias* field.
5. Select the icon to open the *SAP System Alias* window.
6. In the *SAP System Alias* window, select *Local*.
7. Select the *OK* button to confirm the selection.
8. In the *External Service Name* field, search for *ANA_PAI_PS_SRV* and *ANA_PAI_PF_SRV*.
9. Select *Enter* to search.

   The results are shown in the *Select Backend Services* panel in the column *Technical Service Name*.
10. Select the service names in the listing.

    The *Add Service* window opens.
11. In *Add Service* window, for *Package Assignment*, select *Local Object*, or assign a suitable package as required.
12. Select the icon to accept.
13. The *Information* window opens, confirming that the service was created.

Next Steps

If the OData backend and frontend servers are installed on different machines then you will need to perform additional configuration on the OData frontend server.

7.11.3.3 Setting up OData - Configuring the Frontend Server

How to set up the frontend service for the OData service for *Predictive Models* and *Predictive Scenarios* apps.

Context

SAP S/4HANA provides an interface through which you can also integrate predictive use cases from another system, currently SAP Predictive Factory or SAP Analytics Cloud Smart Predict. In scenarios, where the backend and frontend servers are on different machines, you need to perform the following steps on the frontend server:

Procedure

1. Open SAP-Logon.
2. On the upper left enter transaction */IWFND/MAINT_SERVICE*.
3. Select *Add Service*.
4. Click the field *SAP System Alias*. Click the search button. The *SAP System Alias* window opens.
5. Select the appropriate server name where your service is running. Confirm this selection by double-clicking. **Note:** The frontend server communicates with the backend server using RFC (Remote Function Call).
6. Search for a backend service (the PAi backend service that you previously created) to add by entering part of the service name, enclosed in * characters. Press enter, and the search result is listed in the *Select Backend Services* panel in the column *Technical Service Name*. Click on the service name in the listing. The *Add Service* window opens.
7. In the *Add Service* window, in the *Package Assignment* field, select *Local Object for Package Assignment* or specify suitable package as required. Click accept.
8. An *Information* popup window should appear, confirming that the service was created. Click the accept button to confirm that the process has been completed.

7.11.4 Setting up the bgRFC Queue

How to configure background processing with the bgRFC Queue.

Context

You need to configure the settings for background processing with the bgRFC Queue. Do the following:

Procedure

1. Log on to the SAP backend system using the SAP GUI.
2. Access the activity using the transaction code: *SBGRFCCONF*.
3. On the *bgRFC Configuration* screen, choose the *Define Supervisor Dest* tab page.
4. On the *Define Supervisor Dest.* tab page, choose *Create*.
5. In the *Create RFC Destination for Supervisor* dialog box, maintain the following data:

Field Name	Value
Destination Name	BGRFC_SUPERVISOR
Create User	This should be checked.
User Name	BGRFC_SUPER
Password	Enter a password.

6. Choose *Save*.
7. On the *bgRFC Configuration* screen, choose *Save*.
8. On the *bgRFC Configuration* screen, choose the *Define Inbound Dest.* tab page.
9. On the *Define Inbound Dest* tab page, choose *Create*.
10. On the *Configure Inbound Destination* screen, maintain the following settings:

Field Name	Value
Inb. Dest. Name	QD_EQ_LOCAL
Add Queue Prefix	EQQD_

11. In the *Add Queue Prefix* screen area, choose *Add*.
12. Choose *Save*.
13. On the *Scheduler: Destination* tab page, choose *Create*.
14. In the *bgRFC Configuration* dialog box, choose *Inbound*.

15. On the *Create Scheduler Settings for Inbound Destination* screen, choose the *QD_EQ_LOCAL* destination.

16. Choose *Save*.

17. Choose *Save* again.

18. Choose *Back*.

7.12 Follow-Up Activities for Analytics

To enable the use of Analytics with SAP S/4HANA, you need to set up the Analytic Engine. For information how to do so, see SAP Note 2289865 .

7.13 Follow Up Activities in Master Data Governance

Gateway Buffering in Test Systems

To avoid very slow performance, the metadata cache and usage of shared memory for caching options need to be activated. In productive systems, metadata caching is active by default. However, if you are working in test systems you have to activate the Gateway metadata caching (buffering) manually. These settings have to be performed on the frontend system where the Gateway server is installed.

To manually activate these settings, in a test system, you do the following:

1. Go to the Gateway system with transaction /IWFND/MED_ACTIVATE, or in Customizing by the IMG path
   ▶ *SAP NetWeaver* ▶ *SAP Gateway* ▶ *OData Channel* ▶ *Administration* ▶ *Cache Settings* ▶ *Metadata* ▶
   Activate or Deactivate Cache. ▶
2. Select the *Activate Metadata Cache* check box
3. Select the *Use Shared Memory for Caching* check box
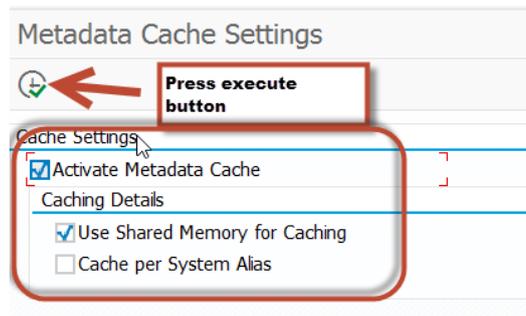
Manually Applying Settings

7.14 Follow-Up Activities for Environment, Health, and Safety

After the installation, you need to carry out the following activities for *Environment, Health, and Safety*:

- In transaction `SICF`, activate the following WebDynpro services below the node `/default_host/sap/bc/webdynpro/sap/`:
  - All EHFND* and EHHSS* services
  - POWL
  - IBO_WDA_INBOX
  - WDR_CHIP_PAGE
- Also activate the following services
  - NWBC runtime node on the path `/default_host/sap/bc/nwbc`.
  - SAPUI5 application handler on the path `/default_host/sap/bc/ui5_ui5` and on the path `/default_host/sap/public/bc/ui5_ui5`.
- Copy the delivery Customizing from client 000 into your other clients.
- Make the relevant settings in the Customizing activities for *Environment, Health, and Safety* under *Foundation for EHS* and under *Incident Management*, under *Health and Safety Management*, or under *Environment Management*.

> **i Note**
>
> In *SAP S/4HANA*, a new identity model for business users was introduced. The new task management uses this business user instead of the system user. Therefore, you need to create business users before you can use the new task management function.
>
> For more information about creating business users, see SAP Note 2570961

7.15 Follow-Up Activities for Management of Change

After the installation, you need to carry out the following activities for Management of Change:

- In transaction `SICF`, activate the following WebDynpro services below the node `/default_host/sap/bc/webdynpro/moc/`:
  - `WDA_ACTIVITY`
  - `WDA_ACTIVITY_CHANGE_LOG`
  - `WDA_CHANGE_REQUEST`
  - `WDA_CHGREQ_CHANGE_LOG`
- Also activate the following services:
  - NWBC runtime node on the path `/default_host/sap/bc/nwbc`.
  - SAPUI5 application handler on the path `/default_host/sap/bc/ui5_ui5` and on the path `/default_host/sap/public/bc/ui5_ui5`.
- Copy the delivery Customizing from client 000 into your other clients.
- Make the relevant settings in the Customizing activities for Management of Change under ▶ *Cross-Application Components* ❯ *Management of Change* ◀.
- Example Customizing is delivered with the hierarchical BC set `/MOC/EXAMPLE_CUSTOMIZING`.

7.16 Follow-Up Activities for Enterprise Portfolio and Project Management

7.16.1 Follow-Up Activities for SAP Portfolio and Project Management

Navigation

To enable the navigation, carry out the following manual steps:

1. Maintain the Customizing settings in SAP Portfolio and Project Management under ▶ *Portfolio Management* ❯ *Global Customizing* ❯ *Process and Service Settings* ❯ *Navigation Settings* ◀. SAP delivers the Customizing entries as standard in the Customizing client.
2. From the delivery client, copy the data from the Customizing tables mentioned below using transaction `/n/RPM/CUST_COPY`:
   - `/RPM/DASH_PERS`: Dashboard Customization
   - `/RPM/DASH_ROLE`: Dashboard Attributes Override Table
   - `INM_NAV_CTX`: INM Navigation Context
   - `INM_NAV_CTX_W`: INM Navigation Context Workcenter
   - `INM_NAV_INF_W`: INM Navigation Information
3. Manually adjust and compare the Customizing data with the delivery client using transaction `SCU0`.
4. Initially all dashboard fields are displayed as standard fields. With this, it is not possible to navigate to the object windows. To activate the links to the object windows, select the *Link* checkbox in Customizing for SAP Portfolio and Project Management under ▶ *Portfolio Management* ❯ *Global Customizing* ❯ *Global Field Settings* ❯ *Dashboard Settings* ❯ *Define Fields for Dashboards* ◀.
   You can also copy the Customizing for the dashboards by copying `/RPM/DASHBOARD` using transaction `/n/RPM/CUST_COPY`.

> ⚠ Caution
>
> This transaction copies the standard Customizing for all dashboards and invalidates all customer-specific Customizing for the dashboards. Object-type-specific copying is not supported by transaction /n/RPM/ CUST_COPY.

7.16.2 Follow-Up Activities for Commercial Project Management

7.16.2.1 Overall Implementation Sequence

This section describes the implementation sequence for Project Workspace, Project Cost and Revenue Planning, and Project Issue and Change Management.

The Release Information Note (SAP Note 2674994 🔗) contains important information and references related to Commercial Project Management. Based on your business needs, you can choose one of the following component combinations as a deployment option:

Deployment Option	Project Workspace	Project Cost and Revenue Planning	Project Issue and Change Management	SAP BusinessObjects Analysis for Microsoft Office (Analysis Office)
Option 1	x	x	x	x
Option 2	x	x		x
Option 3	x		x	x
Option 4	x			x

> **i Note**
>
> By default, sample workbooks are delivered as front-end applications for planning. These sample workbooks require Analysis Office and use the delivered BW-IP content.
>
> As an alternative, you may build your own front-end application using SAP Lumira. Please note that no sample application is delivered by default. For more information, see the following: .
>
> - SAP Lumira
> - Application Designer Guide: Designing Analysis Applications
> - Creating Planning Applications

Option 1

Install Project Workspace, Project Cost and Revenue Planning, and Project Issue and Change Management with Analysis Office (AO):

1. Activate the `/CPD/CA_CPD_PWS_1` business function (see transaction SFW5 ▶ *Enterprise Business Functions* ❭ */CPD/CA_CPD_PWS_1* ❭).

   > **i Note**
   >
   > The activation of the business function `OPS_PS_CI_1` is a prerequisite for working with Project System (PS) projects.

2. Activate the `/CPD/CA_CPD_PFP_1` business function (see transaction SFW5 ▶ *Enterprise Business Functions* ❭ */CPD/CA_CPD_PFP_1* ❭).

3. Activate the `/PICM/CA_CPD_PICM_1` business function (see transaction SFW5 ▶ *Enterprise Business Functions* ❯ */PICM/CA_CPD_PICM_1* ❯).

4. Install NWBC for Desktop (optional).

5. If you wish to use workbooks as the front-end, install Analysis Office (see SAP note 2188859🔗).

6. Enable *Planning Application Kit* (PAK). PAK allows you to use the workbooks of SAP BusinessObjects Analysis, edition for Microsoft Office as part of the Commercial Project Management content.

   Procedure

   1. Get the latest information posted in SAP note 1637199🔗.

   2. In the back-end system, launch table/view maintenance (transaction SM30).

   3. Enter `RSPLS_HDB_ACT` in the table/view field and choose *Maintain*.

   4. Choose *New Entries*.

   5. In the *HANA Integratn. Active* column, select *Deep HANA Integration Active*; and in the *Functn. Active* column, select the checkbox.

7. Commercial Project Management uses the BW layer that is available in each NetWeaver stack.

   > ⚠ Caution
   >
   > Project Cost and Revenue Planning uses BW Integrated Planning (BW-IP), which uses real-time InfoCubes to capture data generated through input-ready queries and planning functions. Therefore, only a configuration of the local BI client is required (and not an additional BI system).

   For setting up Project Cost and Revenue Planning, see SAP note 2363617🔗.

8. You must activate the analytics content under info-areas `/CPD/AVR` and `/PICM/AVR`. For information about setting up Analytics, see SAP Note 1999149🔗.

9. To link generated SQL views of CDS views to HANA views, implement SAP Note 2725814🔗.

10. You must follow these steps to enable delivery customizing in the relevant clients:

    1. Go to transaction `SFW_BROWSER`.

    2. Expand the business function `/CPD/CA_CPD_PWS_1`.

    3. Double-click on switch `/CPD/CA_CPD_SFWS_PWS_1` to implement BC set activation.

    4. Choose the *Activate Dependent BC Sets* button.

    5. In the dialog box, select *Activate Switch BC Sets* and choose *Continue*.

    6. In the next dialog box, select the following:

       1. *Only Logon client for Cascading BC Sets*

       2. *Activate in logon client for Non-Cascading BC sets*

       3. *Activate for Cross-Client BC sets*

       4. Select the checkboxes to ignore previous activations and ignore table delivery class for a new installation.

    7. Repeat the BC set activation steps for the switch `/CPD/CA_CPD_SFWS_PWS_S4_1`.

    8. Expand the business function `/CPD/CA_CPD_PFP_1`.

    9. Repeat the BC set activation steps for the switch `/CPD/CA_CPD_SFWS_PFP_1`.

    10. Expand the business function `/PICM/CA_CPD_PICM_1`.

    11. Repeat the BC set activation steps for the switch `/PICM/CA_CPD_SFWS_PICM_1`.

11. Check and activate SICF services as follows:

    1. Go to transaction `SICF`.

    2. Choose *Execute*.

    3. Go to ▶ *default host* ❯ *sap* ❯ *bc* ❯ *webdynpro* ❯.

4. Ensure that all services under the `cpd` node are active.

5. Ensure that all services under the `picm` node are active.

12. BRF+ framework is used within analytics and in the processing of change requests in Project Issue and Change Management. Import the BRF+ customizing application as follows:

   ○ **Client 000**

   1. Run the report `FDT_TRANS`.

   2. Provide the relevant customizing request.

   3. Enter the object ID as `38EAA71741841EE59EFAD4B491883514`.

   4. Enter the object ID as `F0D5105146757029E10000000A42852B`.

   5. Select the *Transport Whole Application(s)* radio button.

   ○ **Productive Client**

   1. Launch the transaction `SCC1`.

   2. Enter the source client as `000`.

   3. Provide the transport request in which you have transported the application (from client 000).

   4. Select the *Include Tasks in Requests* checkbox.

   5. Execute the transaction.

Option 2

Install Project Workspace and Project Cost and Revenue Planning with Analysis Office (AO):

1. Activate the `/CPD/CA_CPD_PWS_1` business function (see transaction SFW5 ▶ *Enterprise Business Functions* ❯ */CPD/CA_CPD_PWS_1* ❯).

   > **i Note**
   >
   > The activation of the business function `OPS_PS_CI_1` is a prerequisite for working with Project System (PS) projects.

2. Activate the `/CPD/CA_CPD_PFP_1` business function (see transaction SFW5 ▶ *Enterprise Business Functions* ❯ */CPD/CA_CPD_PFP_1* ❯).

3. Install NWBC for Desktop (optional).

4. If you wish to use workbooks as the front-end, install Analysis Office (see SAP note 2188859).

5. Enable *Planning Application Kit* (PAK). PAK allows you to use the workbooks of SAP BusinessObjects Analysis, edition for Microsoft Office as part of the Commercial Project Management content.
   Procedure

   1. Get the latest information posted in SAP note 1637199 .

   2. In the back-end system, launch table/view maintenance (transaction SM30).

   3. Enter `RSPLS_HDB_ACT` in the table/view field and choose *Maintain*.

   4. Choose *New Entries*.

   5. In the *HANA Integratn. Active* column, select *Deep HANA Integration Active*; and in the *Functn. Active* column, select the checkbox.

6. Commercial Project Management uses the BW layer that is available in each NetWeaver stack.

> ⚠ **Caution**
>
> Project Cost and Revenue Planning uses BW Integrated Planning (BW-IP), which uses real-time InfoCubes to capture data generated through input-ready queries and planning functions. Therefore, only a configuration of the local BI client is required (and not an additional BI system).

For setting up Project Cost and Revenue Planning, see SAP note 2363617🡒.

7. You must activate the analytics content under info-area `/CPD/AVR`. For information about setting up Analytics, see SAP Note 1999149🡒.

8. To link generated SQL views of CDS views to HANA views, implement SAP Note 2725814🡒.

9. You must follow these steps to enable delivery customizing in the relevant clients:
   1. Go to transaction `SFW_BROWSER`.
   2. Expand the business function `/CPD/CA_CPD_PWS_1`.
   3. Double-click on switch `/CPD/CA_CPD_SFWS_PWS_1` to implement BC set activation.
   4. Choose the *Activate Dependent BC Sets* button.
   5. In the dialog box, select *Activate Switch BC Sets* and choose *Continue*.
   6. In the next dialog box, select the following:
      1. *Only Logon client for Cascading BC Sets*
      2. *Activate in logon client for Non-Cascading BC sets*
      3. *Activate for Cross-Client BC sets*
      4. Select the checkboxes to ignore previous activations and ignore table delivery class for a new installation
   7. Repeat the BC set activation steps for the switch `/CPD/CA_CPD_SFWS_PWS_S4_1`.
   8. Expand the business function `/CPD/CA_CPD_PFP_1`.
   9. Repeat the BC set activation steps for the switch `/CPD/CA_CPD_SFWS_PFP_1`.

10. Check and activate SICF services as follows:
    1. Go to transaction `SICF`.
    2. Choose *Execute*.
    3. Go to ▐▶ *default host* ❯ *sap* ❯ *bc* ❯ *webdynpro* ❯.
    4. Ensure that all services under the `cpd` node are active.

11. BRF+ framework is used within analytics. Import the BRF+ customizing application as follows:
    - **Client 000**
      1. Run the report `FDT_TRANS`.
      2. Provide the relevant customizing request.
      3. Enter the object ID as `38EAA71741841EE59EFAD4B491883514`.
      4. Select the *Transport Whole Application(s)* radio button.
    - **Productive Client**
      1. Launch the transaction `SCC1`.
      2. Enter the source client as `000`.
      3. Provide the transport request in which you have transported the application (from client 000).
      4. Select the *Include Tasks in Requests* checkbox.
      5. Execute the transaction.

Option 3

Install Project Workspace and Project Issue and Change Management with Analysis Office (AO):

1. Activate the `/CPD/CA_CPD_PWS_1` business function (see transaction SFW5 ▶ *Enterprise Business Functions* ❯ */CPD/CA_CPD_PWS_1* ▶).

   > **i Note**
   >
   > The activation of the business function `OPS_PS_CI_1` is a prerequisite for working with Project System (PS) projects.

2. Activate the `/PICM/CA_CPD_PICM_1` business function (see transaction SFW5 ▶ *Enterprise Business Functions* ❯ */PICM/CA_CPD_PICM_1* ▶).
3. Install NWBC for Desktop (optional).
4. If you wish to use workbooks as the front-end, install Analysis Office (see SAP note 2188859).
5. You must activate the analytics content under info-areas `/CPD/AVR` and `/PICM/AVR`. For information about setting up Analytics, see SAP Note 1999149 .
6. To link generated SQL views of CDS views to HANA views, implement SAP Note 2725814 .
7. You must follow these steps to enable delivery customizing in the relevant clients:
   1. Go to transaction `SFW_BROWSER`.
   2. Expand the business function `/CPD/CA_CPD_PWS_1`.
   3. Double-click on switch `/CPD/CA_CPD_SFWS_PWS_1` to implement BC set activation.
   4. Choose the *Activate Dependent BC Sets* button.
   5. In the dialog box, select *Activate Switch BC Sets* and choose *Continue*.
   6. In the next dialog box, select the following:
      1. *Only Logon client for Cascading BC Sets*
      2. *Activate in logon client for Non-Cascading BC sets*
      3. *Activate for Cross-Client BC sets*
      4. Select the checkboxes to ignore previous activations and ignore table delivery class for a new installation.
   7. Repeat the BC set activation steps for the switch `/CPD/CA_CPD_SFWS_PWS_S4_1`.
   8. Expand the business function `/PICM/CA_CPD_PICM_1`.
   9. Repeat the BC set activation steps for the switch `/PICM/CA_CPD_SFWS_PICM_1`.
8. Check and activate SICF services as follows:
   1. Go to transaction `SICF`.
   2. Choose *Execute*.
   3. Go to ▶ *default host* ❯ *sap* ❯ *bc* ❯ *webdynpro* ▶.
   4. Ensure that all services under the `cpd` node are active.
   5. Ensure that all services under the `picm` node are active.
9. BRF+ framework is used within analytics and the processing of change requests in Project Issue and Change Management. Import the BRF+ customizing application as follows:
   ○ **Client 000**
      1. Run the report `FDT_TRANS`.
      2. Provide the relevant customizing request.

3. Enter the object ID as `38EAA71741841EE59EFAD4B491883514`.

4. Enter the object ID as `F0D5105146757029E10000000A42852B`.

5. Select the *Transport Whole Application(s)* radio button.

○ **Productive Client**

1. Launch the transaction `SCC1`.

2. Enter the source client as `000`.

3. Provide the transport request in which you have transported the application (from client 000).

4. Select the *Include Tasks in Requests* checkbox.

5. Execute the transaction.

Option 4

Install Project Workspace with Analysis Office (AO):

1. Activate the `/CPD/CA_CPD_PWS_1` business function (see transaction SFW5 ▶ *Enterprise Business Functions* ❯ */CPD/CA_CPD_PWS_1* ❯).

> **i Note**
>
> The activation of the business function `OPS_PS_CI_1` is a prerequisite for working with Project System (PS) projects.

2. Install NWBC for Desktop (optional).

3. If you wish to use workbooks as the front-end application, install Analysis Office (see SAP note 2188859).

4. You must activate the analytics content under the info-area `/CPD/AVR`. For information about setting up Analytics, see SAP Note 2188859 .

5. To link generated SQL views of CDS views to HANA views, implement SAP Note 2725814 .

6. You must follow these steps to enable delivery customizing in the relevant clients:

   1. Go to transaction `SFW_BROWSER`.

   2. Expand the business function `/CPD/CA_CPD_PWS_1`.

   3. Double-click on switch `/CPD/CA_CPD_SFWS_PWS_1` to implement BC set activation.

   4. Choose the *Activate Dependent BC Sets* button.

   5. In the dialog box, select *Activate Switch BC Sets* and choose *Continue*.

   6. In the next dialog box, select the following:

      1. *Only Logon client for Cascading BC Sets*

      2. *Activate in logon client for Non-Cascading BC sets*

      3. *Activate for Cross-Client BC sets*

      4. Select the checkboxes to ignore previous activations and ignore table delivery class for a new installation.

   7. Repeat the BC set activation steps for the switch `/CPD/CA_CPD_SFWS_PWS_S4_1`.

7. Check and activate SICF services as follows:

   1. Go to transaction `SICF`.

   2. Choose *Execute*.

3. Go to ▶ *default host* ❯ *sap* ❯ *bc* ❯ *webdynpro* ◀.
4. Ensure that all services under the `cpd` node are active.

8. BRF+ framework is used within analytics. Import the BRF+ customizing application as follows:
   - **Client 000**
     1. Run the report `FDT_TRANS`.
     2. Provide the relevant customizing request.
     3. Enter the object ID as `38EAA71741841EE59EFAD4B491883514`.
     4. Select the *Transport Whole Application(s)* radio button.
   - **Productive Client**
     1. Launch the transaction `SCC1`.
     2. Enter the source client as **000**.
     3. Provide the transport request in which you have transported the application (from client 000).
     4. Select the checkbox *Include Tasks in Requests*.
     5. Execute the transaction.

7.16.2.2 Settings for Project Workspace

Schema Mapping

For the HANA content of Commercial Project Management, you must map the `SAP_ECC` schema to the `SAP <SID>` schema.

Configuration of Display Options for Analytical Reports

Analytical UIBBs are used in Project Workspace to display reports such as Progress Analysis, Work in Progress, and Project Cost Status. By default, these reports are displayed in a SAP List Viewer (ALV) table. However, you can also choose to view these reports as a graphic, or a table and graphic, or using Crystal Reports. To enable additional options for displaying reports, it is necessary to make the following Customizing settings:

To configure options for Graphic and Table and Graphic displays, follow these steps:

1. In Customizing for SAP NetWeaver, choose ▶ *UI Technologies* ❯ *SAP List Viewer (ALV)* ❯ *Maintain Web Dynpro ABAP-Specific Settings* ◀.
2. Select the *Java Server Available* checkbox.

> **i** Note
>
> The display options are available in the frontend only if you also have enabled a Java server.

To configure options for Crystal Reports, follow these steps:

1. In Customizing for SAP NetWeaver, choose ▶ *UI Technologies* ❯ *SAP List Viewer (ALV)* ❯ *Maintain SAP GUI-Specific Settings* ◀.

2. Select the *Allow Crystal Reports* checkbox.

> **i Note**
>
> ○ Commercial Project Management does not deliver any Crystal Report template for viewing reports.
> ○ Crystal reporting requires a special viewer in the frontend. This setting is only meaningful if this viewer has been installed. For more information, see SAP note 1353044.

Set-Up for Launching Native Transactions in Project Workspace

To launch native SAP transactions using the launchpad in Project Workspace, you must activate the MIME Repository service in the following way:

1. On the *SAP Easy Access* screen, choose ▶ *Tools* ❯ *Administration* ❯ *Administration* ❯ *Network* ❯ *HTTP Service Hierarchy Maintenance* ❯.
2. On the *Maintain Services* screen, select the hierarchy type *Service* and choose *Execute*.
3. 3. In the *Virtual Hosts / Services* hierarchy, navigate to the MIME Repository service by choosing ▶ *default_host* ❯ *sap* ❯ *public* ❯ *bc* ❯ *its* ❯ *mimes* ❯.
4. Right-click and choose *Activate Service*.

Definition of RFC Destinations for Charts

The Fiori-themed analytics content of Commercial Project Management uses charts based on WebDynpro ABAP technology. To connect the IGS (Internet Graphics Server) to the SAP system, you have to create an RFC destination in the SAP system. For more information, see SAP note 454042.

Activation of Relevant OData Services

In Commercial Project Management, the following OData services must be activated:

- `CPD_MASTERPROJECT_OVERVIEW_SRV`
- `CPD_PROJECT_ACTIVITIES_SRV`

Installation and Upgrade of BW

For information about the new and changed objects in this release, see SAP note 2526289.

Enabling Enterprise Search

In Commercial Project Management, the following search connectors must be set up:

- Commercial Project
  - Model Name: `MASTERPROJECT_H`
  - Connector Name: Commercial Project
- Financial Plan
  - Model Name: `FINANCIALPLAN_H`
  - Connector Name: Financial Plan
- Change Request
  - Model Name: `CHANGEREQUEST_H`
  - Connector Name: Change Request (Commercial Project)
- Issue
  - `ISSUECHANGEREQ_H`
  - Connector Name: Issue (Commercial Project)

The connector ID is generated automatically when the connector is created and the name of the connector can be edited. For more information, see SAP note 2382734 .

Role for Adding Fiori Apps in the Fiori Launchpad

To add the Fiori apps of Commercial Project Management in the Fiori launchpad, the following roles are required:

- `SAP_BR_PROJECTMGR_COMMPRJ` (Project Manager (CPM))
- `SAP_BR_PRJTEAMMEMBER_COMMPRJ` (Project Team Member (CPM))

Set-Up for Linking Commercial Projects to CRM Opportunities

To be able to link commercial projects to CRM opportunities, you must provide the HTTP connection to the CRM system (by defining the RFC destination (`CPD_CRM`) (connection type `H`)).

Predefinition of Project Workspace Views

For the predefinition of Project Workspace views for the personalization for end users, see SAP note 2011052 .

7.16.2.3 Settings for Project Cost and Revenue Planning

Schema Mapping

For the HANA content of Commercial Project Management, you must map the `SAP_ECC` schema to the `SAP <SID>` schema.

Set-Up of the Planning Group

After installing the latest SP of SAP BusinessObjects Analysis, edition for Microsoft Office, follow these steps to activate the default planning options in workbooks:

1. Launch a planning workbook and navigate to ▌ *File* ❯ *Commercial Project* ❯ *Settings* ▌.
2. In the *Settings* dialog box, choose the *Advanced* tab, select *Show Planning Group*.
3. Close and relaunch the planning workbook.

Set-Up of SAP Multiresource Scheduling (MRS)

Project Cost and Revenue Planning allows you to update staffing information in SAP Multiresource Scheduling. For more information about the compatibility of Commercial Project Management with SAP Multiresource Scheduling, see SAP Note 2363617 .

Enhancing Workbooks for SAP BusinessObjects Analysis, edition for Microsoft Office

The delivered workbooks contain input-ready queries and planning objects, launched in a Microsoft Excel-based frontend for planning. We recommend that you use the delivered workbooks as templates and create your own workbooks to suit individual requirements. To know more about creating planning workbooks, see the relevant guides in https://help.sap.com/viewer/p/SAP_BUSINESSOBJECTS_ANALYSIS_OFFICE. We also recommend that you use the delivered input-ready queries as templates and create your own queries to suit your requirements.

Disabling the Intelligent Double-Click Function in SAP BusinessObjects Analysis, edition for Microsoft Office

> **i** Note
>
> This setting is available only in SAP BusinessObjects Analysis, edition for Microsoft Office 1.4 SP02 and above.

When you double-click a cell, the intelligent double-click function (if enabled) automatically executes the first command in the context menu of the cell.

To disable the intelligent double-click function, do the following:

1. Launch *Registry Editor*. To know more about maintaining registry settings for SAP BusinessObjects Analysis, edition for Microsoft Office, see the relevant guides in https://help.sap.com/viewer/p/ SAP_BUSINESSOBJECTS_ANALYSIS_OFFICE.
2. Depending on the type of installation, do one of the following:
   - If you are using a 32-bit operating system, locate the AdvancedAnalysis folder either under HKEY_CURRENT_USER\Software\SAP or HKEY_LOCAL_MACHINE\Software\SAP.
   - If you are using a 64-bit operating system, locate the Wow6432Node either under HKEY_CURRENT_USER\Software\SAP or HKEY_LOCAL_MACHINE\Software\SAP.
3. In the identified path, create nested keys to form the path *\Software\SAP\AdvancedAnalysis\Settings \ExcelGrid.
4. Under *ExcelGrid*, create the string `EnableDoubleClick`, and enter the value **`False`**.

Installation and Upgrade of BW

For information about the new and changed objects in this release, see SAP note 2522216.

Enhancing HANA Views to Add New Resources

For more information about enhancing HANA views to add new resources, see SAP note 2560000.

Data Consistency of Forecasting Method Descriptions During Upgrade

If you upgrade to Commercial Project Management 1709 onwards from the lower add-on releases SAP Commercial Project Management for S/4HANA 2.0 SP01 and SP02, you must execute the following report to ensure data consistency of forecasting method descriptions: `/CPD/PFP_FORECAST_DATA_TRANS`

Clean-Up of Invalid FBI Structures

To clean up invalid FPM BOPF Integration (FBI) structures, you must run the `/BOFU/ R_FBI_VIEW_CLEANUP_DDIC` report.

1. In transaction SE38, run `/BOFU/R_FBI_VIEW_CLEANUP_DDIC`
2. In the selection screen, remove the checks in the following checkboxes:
   - *Inactive Only*
   - *Deleted Objects Only*

- ○ *Test Mode*
3. Choose Execute
4. The system lists inconsistent objects (from the following list). Select the objects that are listed by the system.
    - ○ Business Object
        - ○ `/BOBF/ATTACHMENT_FOLDER`
    - ○ FBI View
        - ○ `/CPD/PWS_MP_STEXT`
        - ○ `/CPD/PWS_MP_LIST`
        - ○ `/BOFU/VIEW_ATF_DOC`
        - ○ `/BOFU/VIEW_ATF`
        - ○ `/CPD/WDC_PFP_HEADER_TEXT_FBIVIEW`
        - ○ `/CPD/WDC_PFP_HEADER_FBIVIEW`
        - ○ `/CPD/WDC_PFP_VERSION_FBIVIEW`
        - ○ `/CPD/WDC_PFP_STRUCTURE_FBI_VIEW`
        - ○ `/CPD/PWS_MP_PROJ_MEMBER`
        - ○ `/CPD/PWS_PM`
        - ○ `/CPD/PWS_TEAM_ROLES`
        - ○ `/CPD/PFP_DETAIL_MAPPING_FBIVIEW`
5. Choose *Cleanup*.

7.16.2.4 Conversion-Relevant Information

After conversion to SAP S/4 HANA, the system automatically retains the data and configuration. The following table provides the simplification list for Commercial Project Management delivered in SAP S/4 HANA:

SAP Note Number	Description
2318716	S4TWL – Rate Card
2318733	S4TWL – Interface of SAP Commercial Project Management with SAP Cloud for Customer
2320143	S4TWL – Fiori Apps of SAP Commercial Project Management
2318728	S4TWL – Launchpads of Gantt Chart and Commercial Project Inception
2323806	S4TWL – Workbooks Delivered in Project Cost and Revenue Planning
2712156	S4TWL - CPM - Personal Activity List
2711002	S4TWL - CPM - Forecast from financial plan versions
2719743	Commercial Project Management: Migrate Configuration Settings of Key Figures and Resource Types for Analytics

SAP Note Number	Description
2741838	Commercial Project Management: Reactivation of Business Switch After Conversion / Upgrade to S/4HANA 1709 and Above
2725814	Mapping of CPM Analytics HANA views to CDS SQL views

7.17 Follow-Up Activities for Product Safety and Stewardship

7.17.1 Follow-Up Activities for Product Compliance for Discrete Industries

For successful installation, always check the release information note 2278589 for the most current implementation details.

After the installation, carry out the following activities for *Product Compliance for Discrete Industries*:

- Verify and activate the following BC sets depending on the processes you need.
  For the process *Managing Product Compliance*:
  - `EHPRC_SPECIAL` *Critical PRC Customizing from other components*
  - `EHPRC_BASIC` *Customizing for Product and REACH Compliance*
  - `EHPRC_DI_PRODUCT_COMPLIANCE` *Managing Product Compliance*

  For the process *Managing IMDS Compliance*:
  - `EHPRC_SPECIAL` *Critical PRC Customizing from other components*
  - `EHPRC_BASIC` *Customizing for Product and REACH Compliance*
  - `EHPRC_DI_IMDS_COMP` *Managing IMDS Compliance*

  For both above mentioned processes:
  - `EHPRC_SPECIAL` *Critical PRC Customizing from other components*
  - `EHPRC_BASIC` *Customizing for Product and REACH Compliance*
  - `EHPRC_DI` *Customizing for Product Compliance*
- Verify and carry out all Customizing steps under ▶ *SAP Customizing Implementation Guide* ❯ *Product Safety and Stewardship* ❯ *Product Compliance for Discrete Industries* ▶.
- In transaction `SICF`, activate the following WebDynpro services below the node `/default_host/sap/bc/webdynpro/sap/`:
  - All `EHFND*` and `EHPRC*` services
  - `POWL`
  - `IBO_WDA_INBOX`
  - `WDR_CHIP_PAGE`
- Also activate the following services:
  - NWBC runtime node on the path `/default_host/sap/bc/nwbc`.

- SAPUI5 application handler on the path `/default_host/sap/bc/ui5_ui5`.

7.17.2 Follow-Up Activities for Product Safety and Stewardship for Process Industries

For successful installation, always check the release information note 2278589 for the most current implementation details.

After the installation, you need to carry out follow-up activities as described in the following SAP Notes:

- For information regarding installation instructions for *Windows Wordprocessor Integration* (*WWI*) and *Expert / Open Content Connector* (*OCC*), see SAP Note 568302.
- For information regarding installation instructions for the *WWI* server, see SAP Note 1394553.

7.18 Follow-Up Activities for Product Compliance

7.18.1 Follow-Up Activities for Product Marketability and Chemical Compliance

If you choose configuration with best practice or only with manually steps, please check the prerequisites seriously.

For more information, see http://help.sap.com/s4hana_op_1809_002 ❯ *Product Assistance* ❯ *English* ❯ *Enterprise Business Applications* ❯ *R&D / Engineering* ❯ *Product Compliance* ❯ *Product Marketability and Chemical Compliance* ❯ *Configuration for Product Marketability and Chemical Compliance* ❯

7.19 Follow-Up Activities for Supplier Management

After the installation, you need to carry out the following activities for Supplier Management:

Delivery Customizing

You have to copy the delivery Customizing for Supplier Management from client 000 to your relevant clients. You can run transaction *Customizing Cross-System Viewer* (SCU0) to compare Customizing contents in the 000

client and in the client in your system. For Supplier Management, the following application components are relevant:

- `SLC-EVL`, `SLC-ACT`, `SLC-CAT` for Supplier Management Customizing
- `BC-SRV-NUM` for number range intervals required for purchasing categories, activities, tasks, and for the objects used in Supplier Evaluation
- `BC-SEC-AUT-PFC` for PFCG role Customizing

In addition, you must copy alert texts with text ID 'ALRT ' and text names EVAL_REMINDER* and TASK* to the productive client. For more information, see SAP Note 601619.

Important SAP Notes

Define the system characteristic as described in SAP Note 2224695.

Activate Internet Communication Framework (ICF) Services

For information about the ICF services that you have to activate for Supplier Management, see the configuration information for Supplier Management. This documentation is included in the product assistance for SAP S/4HANA that is available on SAP Help Portal at http://help.sap.com/s4hana_op_1809_002.

> **i Note**
>
> This documentation also contains further information about the implementation of Supplier Management, such as jobs that must be scheduled and roles that need to be assigned.

7.20 Follow-Up Activities for Human Resources (Compatibility Packs)

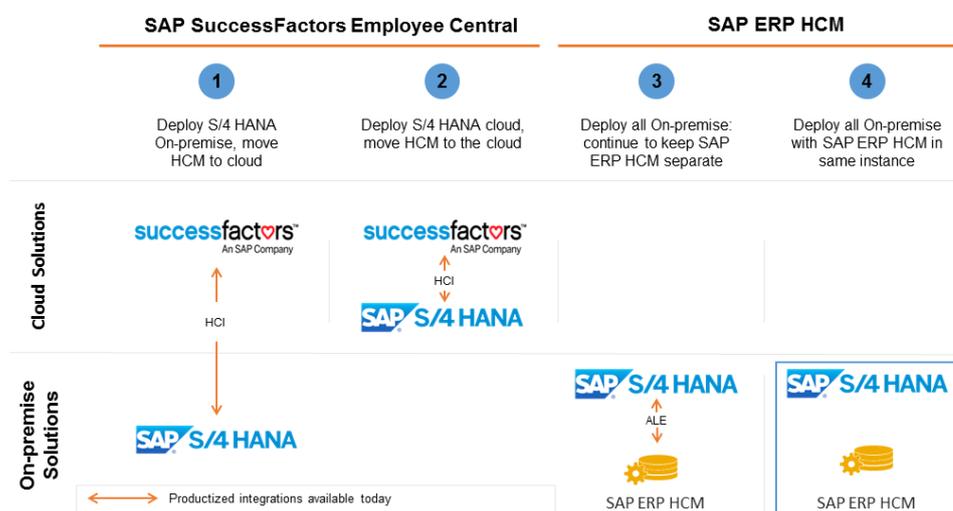## 7.20.1 Integration in SAP S/4HANA

Introduction

The recommended HCM solution for SAP S/4HANA is the SAP SuccessFactors HCM Suite. You can use the existing integration based on HANA Cloud Integration (HCI) to connect SAP SuccessFactors to the SAP S/4HANA system.

> **i Note**
>
> No integration is required if the SAP S/4HANA system is used to store the data. This information is only relevant if you want to replicate data from your HR master system to the SAP S/4HANA system.

To transition into SAP S/4HANA system, , it is important that at least the basic employee master data related infotypes (that is, infotypes 0,1,2,3,6,7,9,17, 32, 105, 315) are moved into the PA table and then this data is synchronized with BP in SAP S/4HANA system. Currently, the following transition options are available:

Transition Options in SAP S/4HANA

This document is only relevant if you are using integration options for SAP S/4HANA, that is, options 1, 3 and 4.

1. The following integration option is available for new customers:
   - If you are a new SAP HR or SAP S/4HANA (without a legacy SAP HCM system) customer, then you can implement SAP SuccessFactors and connect EC with SAP S/4HANA (Option 1 from the diagram)
2. The following integration options are available for existing customers.
   If you are an SAP S/4HANA customer also using SAP ERP HCM and are not able to make the move to SAP SuccessFactors in the near term, you can continue to use SAP ERP HCM. You have 2 options:
   - Running SAP ERP HCM on a separate instance, integrated via ALE with SAP S/4HANA (Option 3 in diagram)
   - Running SAP ERP HCM on same instance with SAP S/4HANA (co-deployed) (Option 4 in diagram)
   This integration helps minimize disruption in your HR processes during the SAP S/4HANA migration and enables the ability to migrate your HR processes to SAP SuccessFactors whenever you are ready.

7.20.2 Integration Scenarios

7.20.2.1 Implementing SAP SuccessFactors

You can use this prepackaged integration to replicate employee master data and organizational data from SAP SuccessFactor Employee Central to the SAP S/4HANA system and cost center data from SAP S/4HANA to SAP SuccessFactor Employee Central, if you are using SAP SuccessFactors Employee Central as your HR master data system.

Based on your business requirements, you can:

- Replicate the employee mini master (basic infotypes) for using employee data in processes that are not HR specific.
- Replicate the employee global infotypes for using employee data in HR specific processes such as payroll.

Prerequisites

- In SAP S/4HANA system there has to be the Integration Add-On software component `PA_SE_IN` installed which does the inbound processing of the receiving Employee and Organizational data from SAP SuccessFactors via HCI.

Steps for Execution

Implementing HR Mini Master Data

You can replicate the basic PA infotypes and exclude the payroll infotypes from the integration. In this case, you can filter out the payroll specific infotypes during configuration and can skip the payroll related steps from the integration document.

For more information regarding the integration using HR mini master, download the documents from the Employee Integration: S/4HANA on-premise with Employee Central (1HW): Employee Integration: S/4HANA on-premise with Employee Central (1HW) . Download the documents listed under Configuration:

- SuccessFactors: Integration of Employee Central and SAP S/4HANA (CSP)
- Integration of Employee Central to SAP S/4HANA(Employee, Org Data) with HCI (DSN)
- Integration of SAP S/4HANA to Employee Central (Cost Center Data) with HCI (DSI)

Full Implementation

If you want to replicate employee data, organizational data, and cost center data for the full scope of integration, please refer to the documentation at http://help.sap.com/s4hana_op_1809_002 *Additional Information* *SAP SuccessFactors Employee Central Integration to SAP Business Suite* *Integration with SAP S/4HANA On Premise* .

Employee-Business Partner Synchronization

Execute the employee synchronization after employee replication. For more details, refer to section Employee-Business Partner Synchronization [page 78].

Notes

- The cost center and company code are owned by SAP S/4HANA Finance. The cost centers defined in financials need to replicate into SAP SuccessFactors Employee Central to enable the assignment of employee to the Cost Center, for example, during the Hiring Process. This integration is supported through HCI Middleware iFlow.

- Company Codes are not replicated and have to be manually created in SAP SuccessFactors Employee Central (SFSF EC) because the definition of Companies in SFSF EC requires some additional information.
- SAP SuccessFactors Employee Central is responsible for the employee administration including the organizational assignment of employees to a Cost Center. This employment information is replicated into SAP S/4HANA via HCI.
- The Inbound processing within SAP S/4HANA maps existing Users with the corresponding Employee, Business Partner, and Employment.

7.20.2.2 Running SAP ERP HCM on a Separate Instance, Integrated via ALE with SAP S/4HANA

The purpose of this section is to enable the integration of employee data in the SAP S/4HANA system for running the employee-related processes in SAP S/4HANA. The HR master system is the SAP ERP HCM system, which is the source of the employee data.

For this integration, the Application Link Enabling (ALE) from the SAP ERP HCM system is reused and no specific changes required for SAP S/4HANA. This section describes the steps involved in ALE configuration.

Prerequisite

The Application Link Enabling (ALE) HR master data replication for employees is a 1:1 replication of the values. To ensure that the ALE replication works successfully both the systems must have the same HCM configuration.

Steps for Execution

ALE Configuration Steps

1. Create Users for ALE transfer in both receiving and sending systems.
   Create users in both systems. Provide the same user name and relevant authorizations in both systems. These user IDs are used to logon through the remote connection and to perform IDoc transfers.
   Make the necessary Customizing settings under ▶ *IDOC Interface/ Application Link Enabling* ▶ *Basic Settings* ▶ *Logical Systems* ▶.
2. Make entries in *ALE: Original System Active for HR Data*.
   1. Call up transaction `SALE` in the SAP ERP HCM (SSP Client 105) system.
   2. In Customizing, go to ▶ *IDOC Interface/ Application Link Enabling* ▶ *Modelling and Implementing Business Processes* ▶ *Configure Predefined ALE Business Processes* ▶ *Human Resources* ▶ *Master Data Distribution* ▶ *Distributed HR Master Data* ▶.
   3. Choose *ALE: Original System Active for HR Data*.

4. Make the following entries:

Field Name	Value
Group	ALE
Sem.abbr.	REPPA
Value abbr.	

5. Save your changes.
6. Choose *Continue*.

3. Define the logical systems.
Create logical systems for both the SAP ERP HCM system and the SAP S/4HANA, on-premise edition system if system management has not yet done so.

   1. Call up transaction SALE in the SAP ERP HCM (SSP Client 105) system.
   2. In Customizing, go to ▶ *IDOC Interface/ Application Link Enabling* 〉 *Basic Settings* 〉 *Logical Systems* 〉 *Define Logical System* 〉.
   3. Choose *New Entries.*
   4. Make the following entries:

Logical System	Name
Enter Logical Systems with the naming convention **'system name'+'CLNT'+client no**, for example, SSPCLNT105 for the sending system.	Enter a name to identify your SAP ERP HCM system.
Enter Logical Systems with naming convention **'system name'+'CLNT'+client no**, for example, SEDCLNT800 for the receiving system.	Enter a name to identify your S/4HANA, on-premise edition system.

   > **i Note**
   >
   > The distribution of data between systems requires that each system in the network has a unique identification. The logical system is used for this purpose.

   5. Save your entries and choose *Continue*.
   6. In the SAP S/4HANA, on-premise edition system (SED client 800) repeat steps **1** through **5** to create the logical systems for the Sending and Receiving system (for example, SEDCLNT800 and SSPCLNT105) if system management has not yet done so.

4. Assign the logical system to the client.
Assign the logical system for SAP ERP HCM system and the SAP S/4HANA, on-premise edition system to the corresponding client if system management has not yet done so.

   1. Call up transaction SALE in the SAP ERP HCM (SSP Client 105) system.
   2. In Customizing, go to ▶ *IDOC Interface/ Application Link Enabling* 〉 *Basic Settings* 〉 *Logical Systems* 〉 *Define Logical System* 〉.

3. Search for the client you are currently logged in on (in this example 105) and choose the entry to display the details.
4. Check the following entry:

Field Name	Value
Logical System	Logical system: name of the system and client that you are logged in on, for example, SSPCLNT105

5. Save your entry and choose *Continue*.
6. In the SAP S/4HANA, on-premise edition system (SED client 800): repeat steps **1** through **5** and check the logical system for the SAP S/4HANA, on-premise edition system/client (for example SEDCLNT800).

5. Create RFC connections.
   1. Call up transaction `SM59` in the SAP ERP HCM system (SSP Client 105).
   2. Choose *Create* in the *Configuration of RFC Connections* view.
   3. Make the following entries in the *RFC Destination* view:

Tabs	Field Name	User Action	Comments
	RFC Destination	Enter a destination name, for example, SEDCLNT800	`<S/4HANA System ID>CLNT<Client>`
	Connection Type	3 ABAP Connection	
	Description	Enter a description for the RFC	
Technical Settings	Load Balancing Status	Select 'NO'	
	Target Host	Enter the S/4HANA, on-premise edition host – fully qualified with domain	
	Instance No.	Enter the Instance number, for example, 45	
	Save to Database as	Host or IP Address	Save the target host or message server internally in the database either as the host name or as its IP address.
Logon & Security Tab	Client	Enter the Receiver System client, for example 800	

Tabs	Field Name	User Action	Comments
	User	User ID	Created in "Create Users for ALE transfer ..."
	Password	Enter user password	
	Current User	Not checked	
	Trust Relationship	"No" Checked	
Special Options Tab	Special Flags	Not checked	
	Activate RFC Trace	Not checked	
	Trace Export Methods	Default Gateway Value	
	Keep- Alive Timeout	Default Gateway Value	
	Transfer Protocol	Select "Classic with tRFC"	

4. Save your changes.
5. Choose *Remote Logon* to test the RFC.
6. In the SAP S/4HANA, on-premise edition system (SED client 800): repeat steps **1** through **5** and create an ABAP connection `SSPCLNT105` pointing to the SAP ERP HCM system giving logon credentials to client 105.

6. Maintain the distribution model.
   The distribution model is created in the original system (sending system) and then distributed to other systems.
   You can create a distribution model using the following steps:
   1. Call up transaction `BD64`, in the SAP ERP HCM system (SSP client 105).
   2. Choose *Create Model view* (CTRL + F4) in the *Distribution Model* view (in change mode).
   3. In the **Create Model View** dialog box, enter a short text (for example, SAP HCM to SAP S/4) and a technical name (for example,`<ZSSP_SED>`).
   4. Choose *Continue* and save your entries.
   5. Select the newly created model and choose *Add Message Type*.
   6. In the **Add Message Type** dialog box, enter the logical system of the SAP ERP HCM system in the *Sender* field (SSPCLNT105) and the logical system of the SAP S/4HANA, on-premise edition system in the *Receiver* field (SEDCLNT800). As message type, select `HRMD_A`.
   7. Expand the model view and double-click *No filter set*.
   8. Select *Create Filter Group* in the **Change Filter** view and restrict the replication to the required objects.

Field name	Value
Type of related objects	CP
	P

Field name	Value
Infotype	0000
	0001
	0002
	0003
	0006
	0007
	0009
	0105
	1000
	1001
Object Type	CP
	P

9. Choose *Enter*.
10. Save your entry.
11. Select the model view that you have created and go to ▎▶ *Environment* ❯ *Generate Partner Profiles* ❯.
12. Select *Transfer IDOC Immediately* and *Trigger Immediately* in the **Generate Partner Profile** view.
13. Choose *Execute*. Go back to the main view.
    If it has been executed successfully, a green list is displayed.
14. Select the model view again and choose ▎▶ *Edit* ❯ *Model view* ❯ *Distribute* ❯.
15. Choose *Continue*.
    A list is displayed with a message to inform you that the model view has been successfully distributed.

7. Activate the change pointer.
   1. Call up transaction SALE in the SAP ERP HCM (SSP Client 105) system.
   2. In Customizing, go to ▎▶ *IDOC Interface/ Application Link Enabling* ❯ *Modelling and Implementing Business Process* ❯ *Master Data Distribution* ❯ *Replication of Modified Data* ❯ *Activate Change Pointers for Message Types.* ❯
   3. In the change view **Activate Change pointers for Message Type**, verify that the activation is set for message type HRMD_A.

8. Maintain the port.
   1. Call up transaction WE21 in the SAP ERP HCM (SSP Client 105) system.
      Alternatively, you can go to Customizing under ▎▶ *SAP Menu* ❯ *Tools* ❯ *ALE* ❯ *ALE Administration* ❯ *Runtime Settings* ❯ *Port Maintenance.* ❯
   2. Select *Transactional RFC* n the navigation panel of the **Ports in IDOC processing** view.
   3. Choose *Create*.
   4. In the **Ports in IDoc processing** view, select *own port name* and enter a technical name, for example <SEDCLNT800>.

5. Choose *Enter*.
6. Make the following entries on the **Creating a tRFC port** view:

Field name	Value
Description	Enter a description for your port name.
Version	
IDoc record types SAP Release 4.x	X
RFC destination	Enter the technical name of your RFC destination for the receiving SAP S/4HANA, on-premise edition system, for example, SEDCLNT800.

7. Save your entries.

9. Create partner profiles
    1. Call up transaction `WE20` in the SAP ERP HCM (SSP Client 105) system.
    2. Select *Partner Type LS* in the navigation panel of the **Partner profiles** view.
    3. Choose *Create* and make the following entries:

Field name	Value
Partner No.	Enter the ID for your partner no. Your ALE partner is an SAP system that is addressed by your system (using RFC), in this case the SAP S/4HANA, on-premise edition system, for example, SEDCLNT800
Partn. Type	LS

4. On the **Post processing: permitted agent** tab, specify the job (person or group of people) to be notified if processing errors occur.
5. In the *Outbound parmtrs.* section, choose *Create outbound Parameter*.
6. In the **Partner profiles: Outbound parameters** view, make the following entries:

Field name	Value
Message Type	HRMD_A
Receiver Port	Enter the technical Name of the created port, for example, SEDCLNT800
Pack. Size	For example, 100 (for the first testing use 1)
Output Mode	
Transfer IDoc Immed.	X

Field name	Value
Basic Type	HRMD_A07
Cancel Processing After Syntax Error	X

Field Name	Value
Message Type	SYNCH
Receiver Port	Enter the technical Name of the created port, for example, SEDCLNT800
Pack. Size	For example, 100
Output Mode	
Transfer IDoc Immed.	X
Basic Type	SYNCHRON
Cancel Processing After Syntax Error	X

7. Save your entries.
8. Call up transaction WE20 in the SAP S/4HANA, on-premise edition system (SED client 800).
9. Select *Partner Type LS* in the navigation panel of the **Partner profiles** view.
10. Choose *Create* and make the following entries:

Field name	Value
Partner No.	Enter the ID for your partner no. Your ALE partner is an SAP system that is addressed by your system (using RFC), in this case the SAP ERP HCM system, for example SSPCLNT105
Partn. Type	LS

11. On the **Post processing: permitted agent** tab, specify the job (person or group of people) to be notified if processing errors occur.
12. In the *Inbound parmtrs.* section, choose *Create inbound Parameter*.
13. In the **Partner profiles: Inbound parameters** view in the *Inbound options* section, make the following entries:

Field name	Value
Message Type	HRMD_A
Process Code	HRMD

Field name	Value
Cancel Processing After Syntax Error	X
Processing by Function Module	
Trigger Immediately	X

14. Save your entries.

> **i Note**
>
> By default, in the receiving system IDocs are grouped together and received.

10. Run the initial distribution.
    1. Call up transaction `PFAL` in the SAP ERP HCM system (SSP client 105)
    2. On the **HR: ALE Distribution of HR Master Data** view, specify the required Object Type, Object ID, and so on, before executing and choose the following option:

Field Name	Value
Insert (complete distribution: delete in target system, re-create)	X

    3. Choose *Execute*.

11. Check IDocs.
    In the receiving system (SED client 800) check the inbound IDocs (transaction: `WE02/WE05`). Some inbound IDocs may have errors. This may be due to some HR specific Data and configuration issues in the receiving system. In this case, contact an HR functional consultant.

12. Define a background job for delta distribution.
    To schedule the background job in the sending system (SSP client 105), create a variant of ABAP program `RBDMIDOC`.
    1. Create a variant.
        1. Go to transaction `SE38` in the SAP ERP HCM (SSP Client 105) system.
           Alternatively, you can go to customizing under ▐ *SAP Menu* ❭ *Tools* ❭ *ABAP Workbench* ❭ *Development* ❭ *ABAP Editor.* ❭
        2. On the **ABAP Editor: Initial Screen**, enter **RBDMIDOC** in the `Program` field.
        3. Choose *Execute*.
        4. In the **Creating IDoc Type from Change Pointers** view, enter the following value:

Field Name	Value
Message Type	`HRMD_A`

        5. Choose *Save as Variant* to create a new variant.

6. On the **Variant Attributes** view, enter the following values:

Field Name	Value
Variant Name	YK_HRMD_A
Description	Enter a description for the variant

7. Save your entries.

> **i Note**
>
> A system notification confirms the creation.

2. Schedule a job
   1. Call up transaction SM36 in the SAP ERP HCM (SSP Client 105) system.

      Alternatively, you can go to Customizing under ▷ *SAP Menu* ❯ *System* ❯ *Services* ❯ *Jobs* ❯ *Define Job* ◁

   2. In the **Define Background Job** view, choose *Define Job using Wizard* (Ctrl+F1).
   3. In the **Create a Job** dialog box, choose *Continue*.
   4. In the **General Job Information** dialog box, make the following entries:

Field Name	Value
Job Name	YK_ALE_DELTA_HRMD_A
Job Class	C – Low priority
Job Status	Scheduled
Target Server	

   5. Choose *Continue*.
   6. In the **Job-Definition: Job step** dialog box, select *ABAP program step* and choose *Continue*.
   7. In the **ABAP program step** dialog box, make the following entries:

Field Name	Value
ABAP program name	RBDMIDOC
Variant	YK_HRMD_A
Execution language	EN

   8. Choose *Continue*.
   9. In the **Multi-step option** dialog box, choose *Continue*.
   10. In the **Job Definition: Start conditions** view, choose *Immediately*. Choose *Continue*.

11. In the **Def. of start immediately** dialog box, select the *Period* checkbox in the **Periodic jobs** section and choose *Continue*.
12. In the **Period definition** dialog box, choose *None of the Above*.
13. Choose *Other Periods*.
14. In the **Other Period** dialog box, schedule the service for a convenient time interval.
15. Choose *Create*.
16. Choose *Continue*.
17. In the **Set job** dialog box, choose *Complete* to finish the setup.

Employee-Business Partner Synchronization

After employee replication, you must execute the employee synchronization. For more details, refer to section Employee-Business Partner Synchronization [page 78].

7.20.2.3 Running SAP ERP HCM on the Same Instance with SAP S/4HANA (Co-deployed)

The purpose of this section is to enable you to run SAP S/4HANA HCM on the same instance with SAP S/4HANA. All the required steps to implement this integration are listed in the Customizing documentation under ▌▶ *Personnel Management* ❯ *SAP S/4HANA for Human Resources* ❯ *Synchronization of Business Partner for SAP HCM Employee Role* ❱.

All the existing employees have to be synchronized during business downtime. For more information, refer to the section Employee-Business Partner Synchronization [page 78].

Prerequisites

You must have an existing SAP ERP HCM solution as your HR master data system.

Notes

Report like HRALXSYNC (report)

You cannot use this sync report for employee synchronization in SAP S/4HANA. For any other (organizational unit) object synchronization, you can use this report.

Transaction PRAA

This transaction was used for employee vendor creation in the SAP ERP system for travel expenses. You cannot create employee vendors using this transaction and it is no longer valid in the SAP S/4HANA system.

7.20.3 Conversion from SAP ERP to SAP S/4HANA

This section is relevant only if you are converting from SAP ERP to SAP S/4HANA.

There are 2 processes involved in the conversion to SAP S/4HANA:

- CVI Conversion in the SAP ERP system
  This can be considered as a pre-conversion process which has to be performed in the SAP ERP system.
  This is relevant only if you are using employee vendor in the SAP ERP system. For more information about
  the CVI conversion process, refer to the SAP Note 2265093 .
- Employee-BP Synchronization in the SAP S/4HANA System
  This is the post conversion process that has to be performed in the SAP S/4HANA system during business
  downtime. For more information, refer to section Employee-Business Partner Synchronization [page 78].

BP Synchronization Data Models for SAP ERP and SAP S/4HANA

Source Data Model (SAP ERP)

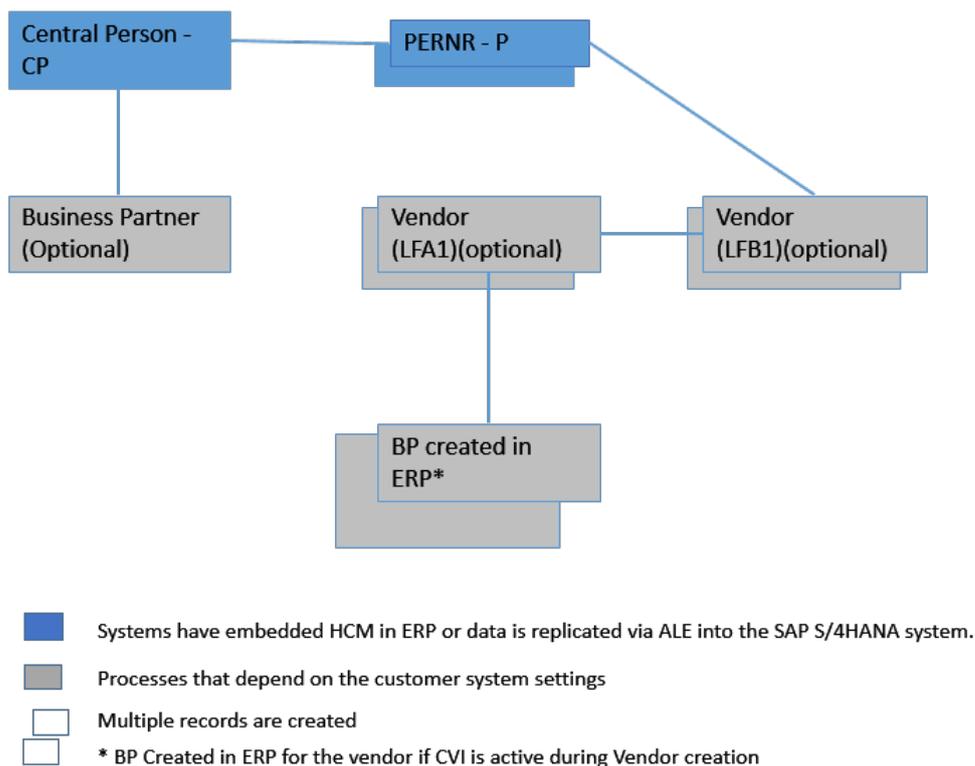|	
■ (blue)	Systems have embedded HCM in ERP or data is replicated via ALE into the SAP S/4HANA system.
■ (gray)	Processes that depend on the customer system settings
□	Multiple records are created
□	* BP Created in ERP for the vendor if CVI is active during Vendor creation

Diagram 1

In the above data model, each central person can have a single or multiple PERNR associated with it. A vendor
can be created for a PERNR. This is an optional step. In case of concurrent employment, multiple vendors can
be created for a person.

Example: If a record 100(CP) exists and a PERNR 500 (P) exists for the CP, a business partner BP1 is created
for this CP. In case of additional assignment PERNR 501 also exist (for CP-100). You can create vendors for

PERNR, For example, V1, V2. Another business partner is created for each of these associated vendors, for example, BPV1, BPV2 (if CVI is active during Vendor creation). Hence in the SAP ERP model, each employee can have 2 or more BP associated, depending on the number of vendors and configuration.

> **i Note**
>
> To reuse the BP or to create a new BP in Person category in the CVI for vendor you can apply the following SAP notes:
>
> - 2539457 : if CVI is active, during Vendor creation or conversion BP is created in Person category.
> - 2542175 : if CVI is active, during Vendor creation or conversion Employee-BP is reused (instead of creating new BP for the Vendor).

Target Data Model (SAP S/4HANA)
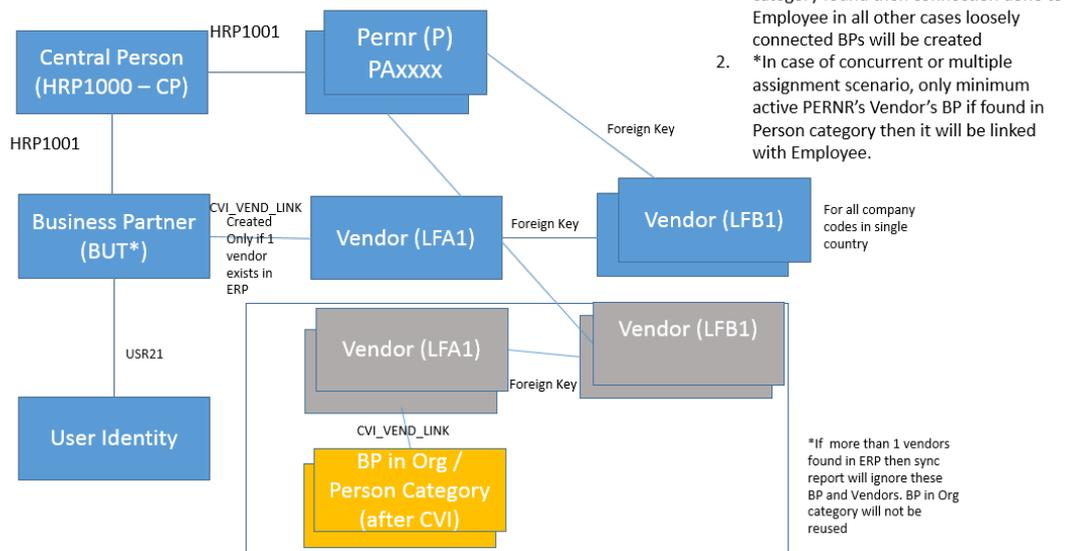
Diagram 2

In the new data model, each Central Person (CP) is associated with PERNRs. If a BP is already associated with the CP, then information is synchronized to this BP and BP is linked to the user identity (if user is maintained in infotype 105 subtype 0001 for the employee).

If Employee-BP (HRP1001 table, CP-P, and, CP-BP relationship exist) also Vendor-BP (of type Person category) exist, then sync report does not update the Employee BP with Vendor roles. Vendor BP will be reported in the application log. It is a warning or a conflicting scenario, as which BP is to be linked with Employee and Vendor is not known (as it depends on business scenario). In such scenario, you need to remove one of the BP or relationships.

If no BP exists for the Employee (CP-BP relationship) then the system checks for the associated vendor.

In case of single assignment: If one vendor exists for the employee with BP of Person category then the BP (of category Person) associated with the vendor is linked with the CP and user identity. If no vendor exists, a new vendor is created for PERNR depending on the data and configuration i.e. if Permanent address (subtype 1 of

infotype 6) and Payment (Main Bank or Travel Expense – subtype 0 or 2 of Infotype 9) is assigned for the employee. This is a mandatory step. For more information refer notes 2632026 and 2517507 .

In case of multiple assignment: only minimum active PERNR's vendor's BP if found in Person category then it will be linked with the Employee.

> **i Note**
>
> In case of concurrent employment or multiple assignment in ERP system vendor exists for each assignment, then during employee synchronization:
>
> - Employee-BP will be linked with minimum-active PERNR's vendor. In case minimum active PERNR's vendor has different BP (Case 1: HRP1001 CP-BP exist in ERP and vendor also has BP & Case 2: Vendor has BP of category Organization) then Employee-BP will not be linked with the vendor.
> - Only loosely coupled BPs exist. Loosely coupled BP will be created for additional assignment (PERNRs). For more information refer to 2517507 .

> **i Note**
>
> Vendor has BP of type Organization category, then it will NOT be deleted, but a warning message is displayed in the application log so that BP of type Organization category is found. Customer can remove the BP or retain it as standalone BP in case it is still consumed in business processes

Example: If a record 100(CP) exists, then a PERNR 500 (P) is associated with it. After the integration, if a BP1 is found that is associated with this CP, then this data is used for synchronization. The user identity is also linked to this BP1. If vendors are associated with this PERNR, for example, V1. Vendor has BPV1. In case, the BP1 already exists for the CP 100, then a warning message is displayed that multiple BPs found. In case, no BP exists for CP 100, then the Vendor BP, BPV1 is used for synchronization in case BPV1 is of category Person. Otherwise this BP will be reported in the warning message and new BP of category Person will be created and linked with the objects.

Differences Between SAP ERP and SAP S/4HANA Data model

- Synchronization
  This process was optional and base on switch setting in the SAP ERP system, but it is a mandatory step in the SAP S/4HANA system.
- Vendor and BP relation
  An employee could have multiple vendors and BPs associated with his PERNR in the SAP ERP system. In case of single assignment in SAP S/4HANA system: a single BP and Vendor* is created for an employee (*Depends on the data and customizing).

> **i Note**
>
> In case of concurrent employment or multiple assignment loosely coupled BP will be created for additional assignment (PERNRs). Refer note 2517507 for more information.

- User Identity
  - In SAP S/4HANA, User identity is connected to BP only it is maintained in Infotype 105.
  - In the SAP ERP system, workplace address was modeled using the BP (Organization) -> BP (Employee) relationship. In SAP S/4HANA, Workplace Address information (business phone, e-mail) is stored in workplace address connected to BP.

> **i Note**
>
> You can only maintain one workplace address for an employee.

- ○ In SAP S/4HANA, if a BP and user relationship exists then it's always modeled as 1:1. Hence, it is recommended to use only single user (SY-UNAME) across all employment (P) of employee(CP).
- Address Types and Identification
  In SAP ERP, employees were linked BP through Personnel Number field in BP. In SAP S/4HANA, New Address types (HCM001, private address of employee) and New Identification (HCM001) are created for BP employee.

> **i Note**
>
> In S/4HANA it is recommended to use HRP1001 table (relationship P-CP and CP-BP) to determine the BP for an Personnel Number (PERNR).

Conversion Scenarios for Employee Vendors in SAP S/4HANA

In SAP S/4HANA, each employee will have a corresponding business partner and vendor (if address, bank, and configurations exist) for the employee. So any vendors created manually in the SAP ERP system (using the transaction PRAA or other transactions) have to be migrated consistently into the SAP S/4HANA system. The following scenarios might exist:

- No business partner or vendor exists for an employee
  After the synchronization business partner is created. Vendor will be created if the appropriate configurations and information is maintained like Permanent address (subtype 1 of infotype 6) and Payment (Main Bank or Travel Expense – subtype 0 or 2 of Infotype 9) is assigned for the employee.

> **i Note**
>
> In case of Concurrent Employment or multiple assignment loosely coupled BP will created for additional assignment (PERNRs). Refer note 2517507 for more information.

- Only a business partner exists
  In this case the business partner has to be enriched. For the BP vendor role and the vendor has to be created (if appropriate configurations and information are maintained) in case Vendor and payment information is maintained for the employee (LFB1-PERNR as to be filled).
- A vendor for an employee exists with LFB1-PERNR but is assigned to a different business partner of category Person than the business partner related to the Central Person of PERNR. This will be error scenario, customer need to correct one of the BusinessPartner and need to adjust the relationships.

The first two scenarios are transformed using the Employee-Business partner Synchronization. This is triggered by any change made on Employee side effecting integration relevant infotypes (0, 1, 2, 6, 9, 17, 32, 105).

7.20.4 Employee-Business Partner Synchronization

The following steps enable you to synchronize employee information to the business partners. This synchronization is a mandatory activity for SAP S/4HANA to make sure the follow-up activities and the CDS views work.

For more information, you can also refer to the Customizing under ▶ *Personnel Management* ❭ *SAP S/4HANA for Human Resources* ❭ *Synchronization of Business Partner for SAP HCM Employee Role* ❭.

For more information on selection, refer the report `/SHCM/RH_SYNC_BUPA_FROM_EMPL` documentation in the system.

> **i** Note
>
> - Initial synchronization of all employees must be done during the initial business downtime before the production starts.
> - In case of large volume of employee data, standard report `/SHCM/RH_SYNC_BUPA_FROM_EMPL` will take lot of time to synchronize the employees. You could try the recommendations in FAQ note for 2409229🔗 regarding process the employees in parallel jobs.

Notes (SAP S/4HANA)

HRALXSYNC (report)

You cannot use this sync report for employee synchronization in SAP S/4HANA. For any other (organizational unit) object synchronization, you can use this report.

Transaction PRAA

This transaction was used for employee vendor creation in the SAP ERP system for travel expenses. You cannot create employee vendors using this transaction and it is no longer valid in the SAP S/4HANA system.

Prerequisites

- Set the following switches in the table T77S0:
  - Set `HRALX HRAC` to 'X' and `HRALX PBPON` to 'ON'

    > **i** Note
    >
    > From 1709 SPS1 or after applying the SAP note 2535438🔗 and 2549563🔗 in 1709, set HRALX HRAC to 'X' and HRALX PBPON to 'ON' to synchronize Employee information.
    >
    > In earlier releases (before 1709 SPS1) Set `HRALX PBPON` to OFF.

  - `HRALX PNUMB` Business Partner Number Assignment (Employee) and `HRALX PSUBG` Business Partner Subgroup (Employees): use this to provide to different number range to BP. Refer to the T77S0 switch documentation.

- ○ `PLOGI PLOGI` Integration Plan Version / Active Plan Version: determines the active integrated plan version.

> **i Note**
>
> All other switches under HRALX are not relevant in SAP S/4HANA for Employee BP Synchronization.

- Set up the BP customizing for CVI and vendor account
- CP (central person) should exist for all the employee records (HRP1001 table should have CP-P relationship record for all the employees).
- All the employee's should have atleast infotype 0-Actions, 1-Organizational Assignment, and 2-Personal Data maintained.
- You need to install the following notes before you start replicating employee master data and organizational data:
  - ○ 2539457 : Business Person is created in Person category during Vendor creation or conversion when CVI is active.
  - ○ 2542175 : Employee Business Person is reused during Vendor creation or conversion when CVI is active.
  - ○ 2517507 : Reference Vendor data, company code, and bank account is created based on HR master data.
  - ○ 2568251 : Deleting the invalid business partner assignments.

For more information regarding the customizing, see *Requirement* section in the Customizing document under
▶ *Personnel Management* ❯ *SAP S/4HANA for Human Resources* ❯ *Synchronization of Business Partner for SAP HCM Employee Role* ❯.

7.20.4.1 SAP S/4HANA BUPA Synchronization Report

You can use the BUPA Synchronization Report (technical name: `/SHCM/RH_SYNC_BUPA_FROM_EMPL`) to synchronize employee data stored in HCM master data persistence (infotypes) with the business partner, vendor, and linking BP to User (if Infotype 105 subtype 0001 is maintained) and WorkPlace Address.

Employee synchronization report (technical name: /SHCM/RH_SYNC_BUPA_FROM_EMPL) processes employees:

- Employee(s) HCM infotypes are modified from last synchronization
- Employee(s) failed during previous synchronization processing
- Employee(s) has split records (records which were delimited like the begin date of the split record is on the synchronization date or end date of the split record was yesterday) were synchronized

For more information, you can also refer to the Customizing under:

- ▶ *Personnel Management* ❯ *SAP S/4HANA for Human Resources* ❯ *Synchronization of Business Partner for SAP HCM Employee Role* ❯
- ▶ *Personnel Management* ❯ *SAP S/4HANA for Human Resources* ❯ *Define Default Vendor Data for Employees in Role FI Supplier* ❯

Data is synchronized if employee data is created or changed in the following ways:

- Inbound processing using ALE
  The synchronization is triggered using the following BAdI implementation:`HRALE00INBOUND_IDOC: / SHCM/BUPA_SYNC_TRIG`

  > **i** Note
  >
  > This implementation is not active (by default).

- Personnel master data maintenance (for example, transaction PA30/PA40)

> **i** Note
>
> - HCM master data is time–independent, but some business partner data is not. Therefore, schedule this report to run on a daily basis (or required frequency) to update the business partner and receive up-to-date employee data.
> - If a synchronization is unsuccessful, all the employee data is updated in the next synchronization run.

Field mapping used for employee synchronization

BP Fields:

- BP Grouping: If BP grouping is created with BPEE then it will be considered for BP creation otherwise:
  1. In case switch `HRALX PNUMB` is 1 and internal number range scenario, then set true value to XINST (Standard Grouping for Internal Number Assignment) for the BP Grouping, that is, BP group of internal number range type and field XINST is set is considered.
  2. In case `HRALX PNUMB` is 2 or 3 then BP grouping should be same as switch `HRALX PSUBG` in T77S0.
- BP category: 1 (Person)
- Identification Category:
  - Employee: HCM001
- Identification ID: minimum active PERNR in case of CE or single assignment the same PERNR or 105-ECUS in case of SAP SuccessFactors Integration is used.
- Roles:
  - Employee: BUP003, 1511- till SP1: FLVN01, 1511 SP2 & higher releases FLVN00.

	Field description	Infotype	Field Name	Comments	BP Field name
Employee	First Name	2	VORNA		BUT000 - NAME_FIRST
	Last Name	2	NACHN		BUT000 - NAME_LAST
	Middle Name	2	MIDNM		BUT000 - NAME-MIDDLE

Field description	Infotype	Field Name	Comments	BP Field name
Second Name	2	NACH2		BUT000 - NAME_LST2
Initials	2	INITS		BUT000 - INITIALS
Academic Title 1	2	TITEL	TSAD2	BUT000-TITLE_ACA1
Title	2	Based on ANRED and GESCH	BBP_TSAD3HR or TSAD3HR	BUT000 - TITLE
Academic Title 2	2	TITL2	TSAD2	BUT000- TITLE_ACA2
Name Supplement	2	NAMZU	TSAD5	BUT000- TITLE_ROYL
Name Affix 1	2	VORSW	TSAD4	BUT000- PREFIX1
Name Affix 2	2	VORS2	TSAD4	BUT000- PREFIX2
Gender	2	GESCH	Value 1 is mapped to 2 and vice versa because of domain value differences	BUT000 - XSEXF or XSEXM
Preferred Language	2	SPRSL		BUT000 - LANGU_CORR
				BUT000- BU_LANGU
Nationality	2	NATIO		BUT000 - NATIO
Date of Birth	2	GBDAT		BUT000 - BIRTHDT
Name at Birth	2	NAME2		BUT000- NAME_LAST2
Nick name	2	RUFNM		BUT000- NICKNAME
Place of Birth	2	GBORT		BUT000- BIRTHPL
Marital Status	2	FAMST	BBP_TSAD3HR or TB027HR	BUT000- MARST

Field description	Infotype	Field Name	Comments	BP Field name
	Search term 1	2	NCHMC		BUT000-BU_SORT1
	Search term 2	2	VNAMC		BUT000-BU_SORT2
	Full Name	2		CNAME or ENAME or Concatenation of VORNA MIDNM NACHN	BUT000-NAME1_TEXT
Address	From Date	6	BEGDA	Permanent Address (subtype 1) is synchronized	BUT020 - ADDR_VALID_FROM
	End Date	6	ENDDA		BUT020 - ADDR_VALID_TO
	Country	6	LAND1		ADRC - COUNTRY
	Region	6	STATE		ADRC - REGION
	City	6	ORT01		ADRC -CITY1
	District	6	ORT02		ADRC -CITY2
	Postal Code	6	PSTLZ		ADRC – POST_CODE1
	Street	6	STRAS		ADRC – STREET
	Street 2	6	ADR03		ADRC – STR_SUPPL1
	Street 3	6	ADR04		ADRC - STR_SUPPL2
	Street 4	6	LOCAT		ADRC - STR_SUPPL3
	House number supplement	6	POSTA		ADRC – HOUSE_NUM2
	c/o	6	NAME2		ADRC – NAME_CO
	Building Code	6	BLDNG		ADRC –BUILDING
	Floor	6	FLOOR		ADRC –FLOOR

	Field description	Infotype	Field Name	Comments	BP Field name
	House Number	6	HSNMR		ADRC – HOUSE_NUM1
	telephone	6	TLNR		ADCP - TEL NUM-BER
Payment	Account Holder Name	1	EMFTX	If infotype 9-EMFTX is not present then map infotype 1 ENAME	BUT0BK-KOINH
	Bank	9	BANKS	If Travel Expenses (subtype 2) Bank information exists then it is synchronized to Business Partner or Vendor else Main Bank (subtype 0) is synchronized. If both do not exist then vendor will not be created.	BUT0BK - BANKS
	Bank Account	9	BANKN		BUT0BK - BANKN
	Control Key	9	BKONT		BUT0BK - BKONT
	Bank Key	9	BANKL		BUT0BK - BANKL
	Reference specifications for bank details	9	BKREF		BUT0BK - BKREF
	IBAN No.	9	IBAN		BUT0BK - IBAN
	Valid From	9	BEGDA		BUT0BK - BK_VALID_FROM
	Valid To	9	ENDDA		BUT0BK - BK_VALID_TO
Vendor Company Code	BUKRS	1	BUKRS		LFB1 -BUKRS
	ZLSCH	9	ZLSCH		LFB1 -ZWELS
	PERNR	1	PERNR		LFB1 -PERNR
	Reconciliation account		(see comment)	Read from `/SHCM/RECON` based on Employee's company code (IT0001-BUKRS)	LFB1 -AKONT

i Note

You can maintain the view `PTRV_VENDOR_SYNC` per company code to fulfill the additional requirements concerning:

- Roles
- Source of company code for company code segments

- Source of subtype for address
- Additional information for vendor company code segments (LFB1), vendor general data (LFA1) as well as for dunning data (LFB5) and withholding tax data (LFBW)
- Source of bank account, bank account key on business partner as well as partner bank type in vendor bank data LFBK
- Setting payment lock for inactive employees
- Used identification category for loosely coupled business partners
- Address type to be used for business partners

Refer to either the F1 help for the fields in maintenance view `PTRV_VENDOR_SYNC` or read the knowledge based article 2632026 to learn more about the usage of the control table `PTRV_VENDOR_SYNC`.

Field mapping for Workplace Address:

- In case User (infotype 105, subtype 0001) is maintained for the Employee. During employee synchronization, if the user is of type 00 (user's old Type 3 Address, that is, USR21-IDADTYPE: 00), then the existing workplace address data is retained and only the following information is updated or overwritten if present in the infotypes.
- In case no user is maintained then following information is updated as workplace address.

Field Description	Infotype	Field Name	Comments	BP Field Name
Department	1	ORGEH	ORGEH's text from text table T527X	ADCP - DEPARTMENT
Function	1	PLANS	PLANS text from text table T528T	ADCP - FUNCTION
Room Number	32	ZIMNR		ADCP - roomnumber
Building Number	32	GEBNR		ADCP - building
Telephone	105		In case SAP Success Factors integration is used Infotype 105, Subtype ECPB is used else Infotype 105, subtype 0020 is used.	ADR2 - telnr_long **i Note** Additional condition that r3_user = '1'
Cell Phone	105		In case SAP Success Factors integration is used, Infotype 105, Subtype ECPC is used else Infotype 105, subtype CELL is used.	ADR2 - telnr_long **i Note** Additional condition that r3_user = '3'
E-Mail Address	105		infotype 105, subtype 10	ADR6 - flgdefault = 'X' ADR6- SMTP_ADDR

7.20.4.1.1 Authorizations

Human Resources uses the authorization concept provided by the AS ABAP or AS Java. Therefore, the recommendations and guidelines for authorizations as described in the SAP NetWeaver AS Security Guide ABAP and SAP NetWeaver AS Security Guide Java also apply.

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 and the User Management Engine's user administration console on the AS Java.

> i Note
>
> For more information about how to create roles, see the information on user administration and authentication in the Product Assistance at http://help.sap.com/s4hana_op_1809_002 ▶ *Product Assistance* ▶ *English* ▶ *Enterprise Technology* ▶ *ABAP Platform* ▶ *Securing the ABAP Platform* ▶.

Standard Roles

The table below shows the standard roles that are used.

Role	Front-end Role	Back-end Role	Both (Front-end + Back-end)	Description
SAP_BR_ADMINIS-TRATOR_HRINFO	Yes	-	-	Administrator App (For example, Monitoring Employee Synchronization)
SAP_BR_EMPLOYEE	Yes	-	-	Employee can search and display an overview of the employee data in Employee factsheet

Standard Authorization Objects

The table below shows the security-relevant authorization objects that are used.

Authorization Object	Field	Value	Description
B_BUPA_RLT (Business Partner: BP Roles)	ACTVT		Activity
	RLTYP		BP Role

Authorization Object	Field	Value	Description
B_BUPA_GRP	BEGRU		Authorization Group
	ACTVT		Activity
B_BUP_PCPT	ACTVT		Activity
F_LFA1_APP (Vendor: Application Authorization)	ACTVT		Activity
	APPKZ		Customer and Vendor Master Data Application Authorization
F_LFA1_BUK (Vendor: Authorization for Company Codes)	BUKRS		Company Code
	ACTVT		Activity
F_LFA1_GEN (Vendor: Central Data)	ACTVT		Activity
F_LFA1_GRP (Vendor: Account Group Authorization	KTOKK		Vendor account group
	ACTVT		Activity
P_ORGIN (HR: Master Data)	INFTY		Infotype
	SUBTY		Subtype
	AUTHC		Authorization level
	PERSA		Personnel Area
	PERSG		Employee Group
	PERSK		Employee Subgroup
	VDSK1		Organizational Key
PLOG (Personnel Planning)	PLVAR		Plan Version
	OTYPE		Object Type
	INFOTYP		Infotype
	SUBTYP		Subtype
	ISTAT		Planning Status
	PPFCODE		Function Code
S_USER_GRP (User Master Maintenance: User Groups)	CLASS		User group in user master maintenance

Authorization Object	Field	Value	Description
	ACTVT		Activity

Business Partner End of Purpose (EoP) Check in Human Resources

Human Resources provides an (EoP) check to determine whether employee business partner is still relevant for business activities in the application or can be blocked.

Application Name	Application Description
BUCP	Central Business Partner: Employee

> **i** Note
>
> For more information, refer 2142308 .

7.20.4.2 Design Constraints

Workplace Address Data

If the infotype 105, system User Name (SY-Uname) 0001 is maintained for the employee and workplace address is synchronized then User will be converted to type 04 (Identity with Workplace Address).

In case User assignment is removed (infotype 105, subtype 0001 is removed for the employee) then after the employee synchronization report execution, then user need to be unassigned from the business partner by running the report RSUID_REMOVE_FALSE_BP_ASGN. Refer note 2568251 for more information.

In case User is converted to 02 or 04 -IDADTYPE then Workplace address or address section will not be editable in User Administration transaction like SU01.

7.20.5 FAQ

For more information about the FAQs, refer to the SAP Note 2409229 .

7.20.6 Related Notes

- 2265093 - S4TWL - Business Partner Approach

- 2570961 - Simplification item S4TWL - Business User Management
- 2383837 - S4TWL - SAP Learning Solution not available in Compatibility Mode
- 2340095 - S4TWL - Conversion of Employees to Business Partners
- 2273108 - S4TWL - General HCM Approach within SAP S/4HANA
- 2383888 - S4TWL - SAP E-Recruiting not available in Compatibility Mode
- 2383879 - S4TWL - Java-based ESS and MSS not available in Compatibility Mode
- 2393462 – All changes in 1610
- 2241838 – Limitations to PRAA transaction in S/4HANA
- 2399801 - Workplace Address synchronization corrections

7.21 Follow-Up Activities for SAP S/4HANA for Central Procurement

7.21.1 Integration in SAP S/4HANA

This section describes the integration of SAP S/4HANA system or SAP S/4HANA Cloud system with some other enterprise resource planning systems in your system landscape (for example, SAP S/4HANA, SAP S/4HANA Cloud, or SAP ERP) to offer centralized procurement processes over your entire system landscape. With Central Procurement, SAP S/4HANA system or SAP S/4HANA Cloud system acts as a hub system and the enterprise resource planning systems act as connected systems.

Central Procurement enables you to manage the procurement processes of several connected systems from a single-source system. The hub system can be operated centrally by the company headquarters, whereas the respective connected systems are operated by the subsidiaries. Using this approach, you can simplify certain aspects of your procurement processes. For example, employees from different subsidiaries raise requests to procure materials by creating self-service purchase requisitions in the hub system of the company headquarters. When employees create purchase requisitions, they are only able to select materials from the subsidiary that they belong to. They are also provided with information about available sources of supply, for example, contracts and purchasing info records, for the selected material. After an employee, has completed and saved the purchase requisition, it goes to the approval process. After the approval process is completed, the purchase requisition is replicated to the respective connected system of the subsidiary that the employee belongs to. After successful replication, a purchase order is created automatically to procure the material, and the number of the purchase order is updated back to the self-service purchase requisition.

If you want to use the SAP S/4HANA system that you have installed as one of the connected systems for Central Procurement, then the following information is relevant to you.

The integration of the hub system with SAP S/4HANA system as the connected system is supported in on-premise and cloud integration scenarios. If you want to integrate the hub system with the SAP S/4HANA system as the connected system, you must install the `HUBS4IC` add-on.

> i Note
>
> You only need to install this add-on if your SAP S/4HANA-based hub system or connected system is an on-premise system.

7.21.2 Integration Scenarios

This section describes the integration scenarios that use SAP S/4HANA system as a connected system for Central Procurement.

This section is relevant only if you are using the SAP S/4HANA system as the connected system when using Central Procurement. If you consider your current SAP S/4HANA system installation to be the connected system, continue reading.

You can use your current integration based on SAP S/4HANA to implement SAP S/4HANA for Central Procurement. If you are an SAP S/4HANA customer also using SAP ERP, you can continue to use SAP ERP.

Prerequisites

To open the connectivity of the hub system and the connected systems, an integration add-on must be installed for each of the connected systems. The add-ons for SAP ERP and SAP S/4HANA system are as follows:

- HUBS4IC
  This add-on is used to integrate the hub system with SAP S/4HANA system as the connected system.
- HUBEPRI
  This add-on is used to integrate the hub system with SAP ERP system as the connected system.

Integration Scenarios

The following integration scenarios are available:

On Premise (OP)

This scenario is relevant if you want to connect one or more SAP ERP or SAP S/4HANA systems as the connected systems to the hub system to carry out procurement processes in an OP environment.

> i Note
>
> Depending on the support pack that you install, you get different functionalities. For example, if you install SP02 of HUBERPI, it includes the functionality for central contracts and central requisitioning but if you install SP00 of HUBERPI, you get the functionality for central requisitioning only.

For more information on the functionalities available with different support packages for HUBERPI, see release information note 2491065 .

For more information on the functionalities available with different support packages for HUBS4IC, see release information note 2573672 .
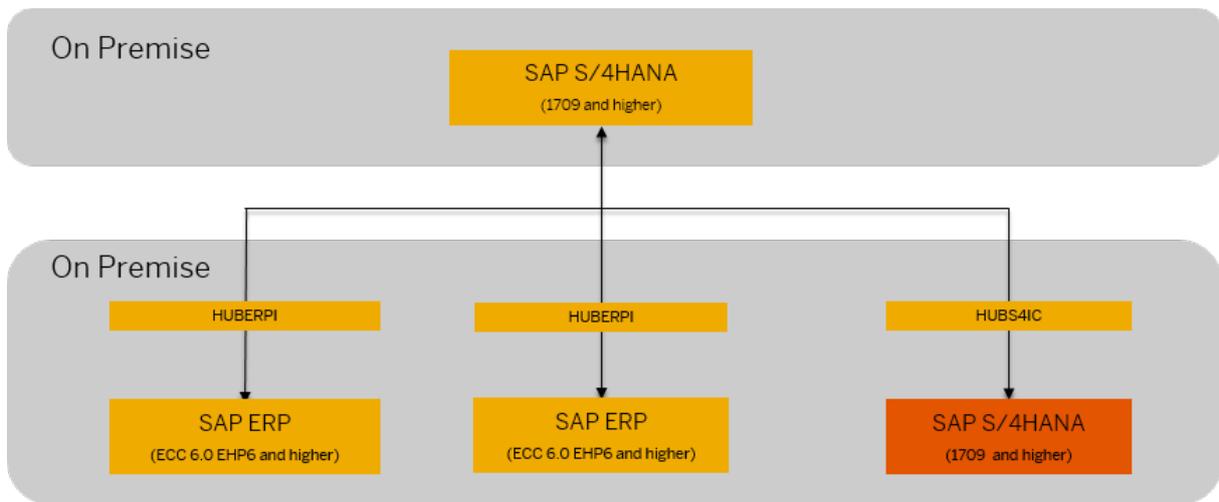
Deployment Option: On Premise

Hybrid - SAP S/4HANA Cloud and SAP S/4HANA back-end (OP)

This scenario is relevant if you want to address your strategic procurement needs in the cloud and at the same time continue to maintain OP investments for operational procurement.
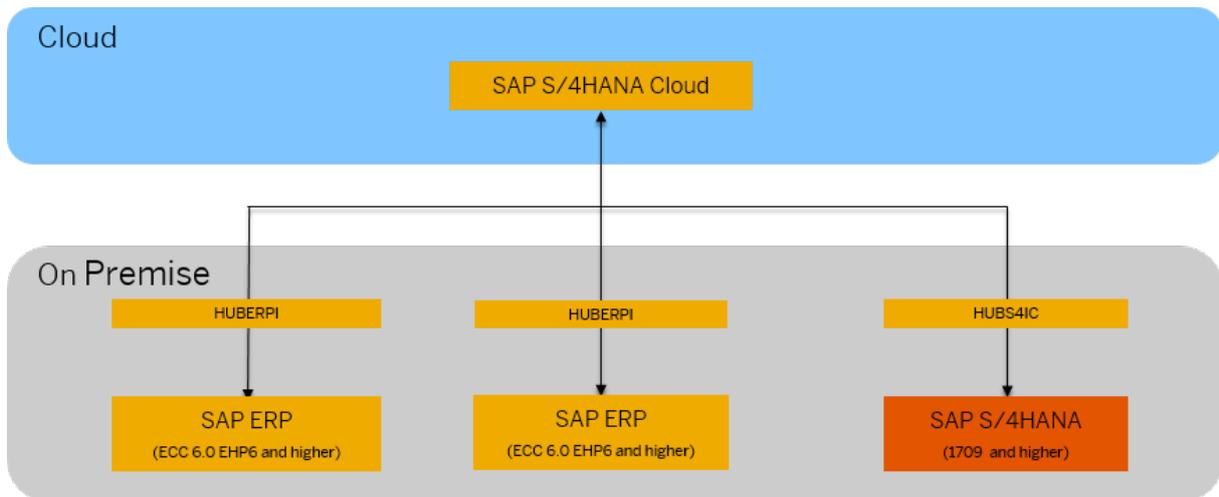
Deployment Option: Hybrid - SAP S/4HANA Cloud and SAP S/4HANA (OP)

More Information

General Instructions to Install Add-ons

7.22 Follow-Up Activities for Agricultural Contract Management

Once the installation is complete, you need to perform the following activities for Agricultural Contract Management (ACM):

Delivery Customizing

You must copy the delivery customizing for ACM from client `000` to your system-relevant clients. To compare the customizing content contained in these clients, you can execute the transaction *Customizing Cross-System Viewer* (`SCU0`). For ACM, the following application components are relevant:

- `LO-AGR-LDC`
- `LO-AGR-APP`
- `LO-AGR-STL`
- `LO-AGR-CC`

Important SAP Notes

Make sure that you read the following SAP Notes before you start implementing Agricultural Contract Management (ACM).

List of SAP Notes relevant to Agricultural Contract Management

SAP Note Number	Title	Description
2775664	Information of features for ACM on S/4 HANA 1809 FPS2	This note provides following information: - List of all new features for ACM on 1809 FPS02 - List of all SAP Notes that must be implemented as follow-up activities for ACM after the general installation of SAP S/4HANA 1809 FPS02

SAP Note Number	Title	Description
2734569	ACM on 1809 FPS1: New Feature and Additional Information	This note provides following information: • List of all new features for ACM on 1809 FPS01 • List of all SAP Notes that must be implemented as follow-up activities for ACM after the general installation of SAP S/4HANA 1809 FPS01
2675731	ACM 1809 FPS0 Post Installation Note	This note provides following information: • List of all new features for ACM on 1809 FPS00 • List of all SAP Notes that must be implemented as follow-up activities for ACM after the general installation of SAP S/4HANA 1809 FPS00
1909425	SFW- Activation error in Dictionary: clear up the inconsistencies	This note provides information about how you can copy missing delivery customizing in your relevant client by activating all the switch BC sets that are associated with the ACM switch.
2753928	Agricultural Contract Management S/4 1809 FP02 - BC Sets (SCUS TRs Only)	This note provides information about how you can implement the BC sets (with SCUS transport requests) for ACM on S/4HANA 1809 FPS02 functionality, in order to maintain the support continuity for 1809 FPS00 and FPS01 releases.
2755496	Agricultural Contract Management 1809 FPS02: Junction function BC set Configuration	This note provides information about how you can implement the BC sets (with Junction Function configuration settings) for ACM on S/4HANA 1809 FPS02 functionality, in order to maintain the support continuity for 1809 FPS00 and FPS01 releases.

7.22.1 Integration with Oil & Gas and Commodity Management

Agricultural Contract Management (ACM) is delivered as part of Oil & Gas (IS-OIL) and is integrated with Commodity Management (CM). This integration enables the user to use various CM functions for the commodities processed based on the ACM scenarios.

Integration

To activate the ACM business function (`/ACCGO/BF_ECC`), either the IS-OIL or the I-TSW business functions must be activated as a prerequisite:

- IS-OIL business functions:
  - `BUSINESS_FUNCTION_BASIS_COM`
  - `COMMODITY_MGMT_&_BULK_LOGISTIC`
  - `LOG_COMMODITY_TRANSPORT_MGMT_5`
- I-TSW business functions:
  - `LOG_TSW_ECC`

The integration with CM has been achieved through incorporation of various CM switches in the ACM business function `/ACCGO/BF_ECC`.

7.23 Follow-Up Activities for Policy Management

With Policy Management (FS-PM), you can map the whole life cycle of an insurance contract, starting from the creation of an application, through policy issuance and ongoing contract maintenance, right up to the termination of the contract.

SAP Notes for the Installation of Policy Management

SAP Note Number	Title
2672068	Release Information Note (RIN) for Policy Management in SAP S/4HANA 1809

Activating Business Function /PM0/INS_FSPM

To use the functions of Policy Management, you must activate the `/PM0/INS_FSPM` (*Insurance, SAP Policy Management*) business function (with transaction `SFW5`, ▶ *INSURANCE* ❯ */PM0/INS_FSPM* ❯).

Connecting a Product Engine

Each policy is based on a product that is defined in a product engine. For this reason, Policy Management for Insurance is always connected to a single product engine, which is usually one of the following:

- msg.PMQ (see also Follow-Up Activities for Insurance Product Engine msg.PMQ [page 95])
- SAP Product Lifecycle Management for Service Industries (FS-PRO)

> **i Note**
>
> Only one product engine can be connected to Policy Management for Insurance. It is not possible to integrate multiple FS-PRO systems, or multiple msg.PMQ systems, with Policy Management for Insurance.

Customer Variants for Group Insurance Features

If you want to use Group Insurance Features in Policy Management you have to check if the corresponding customer variant is activated in Policy Based Technology (PBT). To do so proceed as follows:

1. Start transaction `/PM0/3FW_START`.
2. In the context menu of *Workplace*, choose *Customer Variant*.
3. Enter application `00001` for FS-PM.
4. Check if the customer variant `PMG` is available.
   If it is not there proceed as follows:
   1. Add the customer variant `PMG` and assign `PM0` as the previous customer variant.
   2. Change the customer variant `MVA` (for *Auto* line of business) by assigning `PMG` as the previous customer variant.
   3. Select the *Active* checkbox for the customer variant `MVA`.
   The *Customer Variants* screen should look like as follows:

Sequence	Customer Variant	Active	Previous Customer Variant
1	PM0	not active	<No entry>
2	PMG	not active	PM0
3	MVA	X (= active)	PMG

5. If you have an own customer variant, add this customer variant with the following settings:
   - Make sure that this and only this entry is selected as *Active*.

- Enter `MVA` as the previous customer variant.

7.24 Follow-Up Activities for Insurance Product Engine msg.PMQ

You can use the product engine msg.PMQ to define and calculate insurance products. msg.PMQ consists of the following:

- PMQ.Designer
  PMQ.Designer is a desktop application that has to be installed on the client computer of a PMQ.Designer user.
  For the distributed development, as well as for the central storage of the product data, a version control system is also required, which is not part of the shipment of PMQ.Designer. It has to be installed and administered separately.
  PMQ.Designer generally supports all version control systems that are capable of being integrated into Eclipse.
  For the operation, we recommend a version control system on the basis of Apache Subversion (SVN).
- MSGPMCON
  The msg.PM connection (MSGPMCON) is the link between msg.PMQ and Insurance Policy Management (FS-PM) as part of SAP S/4HANA.
  The main tasks of MSGPMCON are the following:
  - Management of the product data for the import into In-Force Business Configurator (IFBC) of FS-PM
  - Forwarding of calculation requests from FS-PM to TOMATOSJ
- TOMATOSJ
  TOMATOSJ has to be installed as a software component on SAP HANA XSA. Installation and administration is handled by mechanisms of the XSA platform.
  During the installation, a customer-specific configuration file can be specified to adapt several default values.

For more information, see the attachments in SAP Note 2635864 .

7.25 Follow-Up Activities for Transportation Management

In order to use automatic planning with the optimizer, you must install the SAP SCM Optimizer. In order to use detailed mixed package building, you must install the Package Building Optimizer. For more information, see SAP Note 1686826 .

7.26 Follow-Up Activities for Data Quality Management, version for SAP Solutions

After installation, several follow-up activities are necessary to set up Data Quality Management, version for SAP Solutions.

Your follow-up activities depend on whether you are using SAP HANA Smart Data Quality, SAP Data Services, and/or SAP Data Quality Management, microservices for location data as the underlying engine.

For more information, see the product assistance on the help portal at: https://help.sap.com/viewer/p/SAP_S4HANA_ON-PREMISE ▶ *Product Assistance* ⟩ *English* ⟩ *Enterprise Technology* ⟩ *Data Quality Management, version for SAP Solutions* ▶ .

7.27 Troubleshooting

Unable to Create New Clients

If you are unable to create new clients in transaction SCC4 or SM30 (table T000) because the *New Entries* button is missing, see SAP Note 2140167 .

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