Installation Guide for SAP S/4HANA 1909
# Content

1. **Getting Started.** .......................................................... 5
2. **SAP S/4HANA System Landscape Information.** ................ 6
3. **Installation Documentation.** ........................................... 8
4. **Product and Database Information.** .............................. 11
5. **Maintenance Planner.** .................................................. 14
6. **Installation Process.** .................................................... 15
7. **Installation Follow-Up Activities.** .................................. 16
   7.1 Applying the Latest Kernel and Support Package Stacks. .... 16
   7.2 Importing Data to SAP S/4HANA. .................................. 17
       SAP S/4HANA Migration Cockpit. ................................. 17
       SAP Data Services. .................................................... 21
   7.3 System Configuration for SAP S/4HANA. ......................... 21
   7.4 Installation of SAP Fiori. ............................................ 22
   7.5 User Assistance Settings. ............................................. 24
       Enable Context-Sensitive User Assistance and Back-End Help Links. . 24
   7.6 Installation of SAP CoPilot. .......................................... 28
   7.7 Integration of SAP S/4HANA with SAP Cloud Platform Using SAP Cloud Connector. 29
   7.8 Installation of the PI Adapters for Elster and Swift. .......... 29
   7.9 Creating RFC Destinations for liveCache Applications. .... 29
   7.10 Follow-Up Activities for Advanced Variant Configuration. . 31
   7.11 Follow-Up Activities for Predictive Analytics integrator. .... 32
       Setting up the OData Service. ....................................... 33
       Setting up the bgRFC Queue. ....................................... 37
       Configuring Business Roles for the Backend. ................ 38
       Configuring Business Roles for the Frontend. ................. 41
   7.12 Follow-Up Activities for Analytics and Planning. .......... 44
   7.13 Follow-Up Activities in Master Data Governance. ........... 44
   7.14 Follow-Up Activities for Environment, Health, and Safety. .. 45
   7.15 Follow-Up Activities for Management of Change. ............ 46
   7.16 Follow-Up Activities for Enterprise Portfolio and Project Management. 46
       Follow-Up Activities for SAP Portfolio and Project Management. ... 46
       Follow-Up Activities for Commercial Project Management. .... 47
   7.17 Follow-Up Activities for Product Safety and Stewardship. ... 59
# Document History

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>September 20, 2019</td>
<td>First published version for SAP S/4HANA 1909.</td>
</tr>
<tr>
<td>1.01</td>
<td>September 23, 2019</td>
<td>Additions to section Follow-Up Activities for Analytics and Planning [page 44].</td>
</tr>
<tr>
<td>2.0</td>
<td>February 12, 2020</td>
<td>Version for SAP S/4HANA 1909 FPS01.</td>
</tr>
</tbody>
</table>
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

**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](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.

**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>.
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](image)

### 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.


More Information

For more information about SAP Fiori for SAP S/4HANA see SAP Note 2590653.
## 3 Installation Documentation

### Required Installation Documentation

<table>
<thead>
<tr>
<th>Documents</th>
<th>Comments and Links</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Installation Guide for SAP S/4HANA 1909 (this guide)</em></td>
<td>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 <em>Installation Guide for SAP S/4HANA 1909</em> at <a href="https://help.sap.com/s4hana_op_1909">https://help.sap.com/s4hana_op_1909</a>.</td>
</tr>
</tbody>
</table>

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/sitoolset.

You find these guides (as well as a link to the SPM tool) at https://support.sap.com/sitoolset. You can also find guides for version 1.0 on the same page, just choose *Installation Option of Software Provisioning Manager 1.0 SP <latest SP>*. 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.

### 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 <latest SP>*.
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 and / or the Schedule Production app (Fiori ID: F3770) which is part of SAP S/4HANA Manufacturing, it is important that you install HANA integrated liveCache, which is the HANA component SAP LCA (also called LCAPPS- or liveCache Applications plugin).

- SAP VCH AFL
  See also SAP Note 1898497.

**i Note**

For each SAP HANA revision, there exists one corresponding version of these SAP HANA system components.


**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**


**Implement** >> **Guides**

The guide provides important information about the UI implementation.

---

**SAP S/4HANA 1909: Release Information Note**

SAP Note 2769531

---

**SAP S/4HANA 1909: Restriction Note**

SAP Note 2799003

---

**SAP Fiori for SAP S/4HANA 1909: Release Information Note**

SAP Note 2805572

---

**SAP S/4HANA Foundation 1909: Release Information Note**

SAP Note 2750164

---

**SAP S/4HANA Add-on Note**

SAP Note 2214409

---

**Additional Documentation**

---

**Getting Started with SAP S/4HANA**


**Implement** >> **Guides**
<table>
<thead>
<tr>
<th>Documents</th>
<th>Comments</th>
</tr>
</thead>
</table>
| System copy guides using the Software Provisioning Manager 1.0 or 2.0. | You find these guides at [https://support.sap.com/sitoolset](https://support.sap.com/sitoolset)  
[🔗 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] |
| Requirements for other components to use certain functions in decentralized EWM on SAP S/4HANA 1909 | SAP Note 2871189 [🔗] |
# 4 Product and Database Information

This section gives an overview of the components of SAP S/4HANA 1909.

## SAP S/4HANA Components

<table>
<thead>
<tr>
<th>Component Name</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP S/4HANA Server</td>
<td>Note that client 000 is not a productive client.</td>
</tr>
<tr>
<td>SAP Predictive Integrator</td>
<td>● APL 4 FOR HANA 2 SP03+</td>
</tr>
<tr>
<td></td>
<td>● UMML4HANA 1</td>
</tr>
<tr>
<td>SAP HANA Rules Framework</td>
<td>HANA RULES FRAMEWORK 1.0</td>
</tr>
<tr>
<td>SAP S/4HANA AFL</td>
<td>SAP VCH AFL 1909.00</td>
</tr>
<tr>
<td>SAP LiveCache on SAP HANA</td>
<td>SAP HANA LCAPPS 1.00</td>
</tr>
<tr>
<td></td>
<td>When configuring your SAP S/4HANA installation package through Software Provisioning Manager (SWFM), you get a screen named Configuration of SAP liveCache with SAP HANA. Here, choose to install liveCache for SAP System.</td>
</tr>
<tr>
<td></td>
<td>● For SAP S/4HANA you can only choose the SAP HANA integrated liveCache.</td>
</tr>
<tr>
<td></td>
<td>● You need the liveCache installation only when at least one of your applications uses it.</td>
</tr>
<tr>
<td>SAP Optimizer</td>
<td>SAP SCM Optimizer 14.0</td>
</tr>
<tr>
<td>Integration for Elster</td>
<td>● ABAP Platform 1909 - Advanced Adapter Engine Extnd</td>
</tr>
<tr>
<td></td>
<td>● Elster 2.1</td>
</tr>
<tr>
<td></td>
<td>● UTELSTER 730</td>
</tr>
<tr>
<td>Integration for Swift</td>
<td>● ABAP Platform 1909 - Advanced Adapter Engine Extnd</td>
</tr>
<tr>
<td></td>
<td>● SWIFT 622</td>
</tr>
<tr>
<td></td>
<td>● UTSWIFT 730</td>
</tr>
<tr>
<td>ESR Content</td>
<td>ESR Content (XI CONTENT)</td>
</tr>
<tr>
<td>SAP EHS Expert Server</td>
<td>EH&amp;S EXPERT 3.2</td>
</tr>
<tr>
<td>SAP EHS WWI Server</td>
<td>EH&amp;S WWI 3.2</td>
</tr>
<tr>
<td>MSG.PMQ Designer</td>
<td>MSG.PMQ DESIGNER 1.1</td>
</tr>
<tr>
<td>MSG.PMQ XSA Content</td>
<td>XSAC_TOMATOSJ 1</td>
</tr>
<tr>
<td>MSG.PMQ Sample Content</td>
<td>MSG.PMQ SAMPLE CONTENT 804</td>
</tr>
<tr>
<td>Basis Apps</td>
<td>.</td>
</tr>
</tbody>
</table>
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 | -
ABAP in Eclipse | -
SAPUI5 Dev Toolkit: IDE Plugins | -

**Note**
For information about PI Adapters, see also SAP Note [2251604](#).

SAP Fiori for SAP S/4HANA 1909

<table>
<thead>
<tr>
<th>Component Name</th>
<th>Comment</th>
</tr>
</thead>
</table>
| UI for SAP S/4HANA | • UIS4HOP1 500  
• UIAPFI70 700 |
| UI for HCM (Fiori 2.0) | UIHR002 100 |
| UI for MDG | UIMDG001 200 |
| UI for TVR | UITRV001 300 |

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

<table>
<thead>
<tr>
<th>Component Name</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCF UI FOR SAP S/4HANA 1709+</td>
<td>UIS4MCF 100</td>
</tr>
</tbody>
</table>

Database for SAP S/4HANA Backend

<table>
<thead>
<tr>
<th>Database for SAP S/4HANA Backend</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP HANA (SAP HANA DATABASE 2.0)</td>
<td>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).</td>
</tr>
</tbody>
</table>
### Databases for SAP Fiori for SAP S/4HANA (Frontend)

<table>
<thead>
<tr>
<th>Databases for SAP Fiori for SAP S/4HANA Frontend</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP HANA (SAP HANA DATABASE 1.0 and SAP HANA DATABASE 2.0)</td>
<td>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). For more information about SAP Fiori for SAP S/4HANA deployment, see Installation of SAP Fiori [page 22] and SAP Note 2590653.</td>
</tr>
<tr>
<td>SAP MaxDB (MAXDB 7.9 64-BIT)</td>
<td></td>
</tr>
<tr>
<td>SAP Adaptive Server Enterprise (SAP ASE) (SAP ASE 16.0 FOR BUS. SUITE)</td>
<td></td>
</tr>
</tbody>
</table>

---

**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.

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

7.1 Applying the Latest Kernel and Support Package Stacks

If you are already on SAP S/4HANA 1909, you can do an update to any higher SAP S/4HANA 1909 feature or support package stack.

→ 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 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 1946664.
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):

```bash
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:

- SAP S/4HANA Migration Cockpit [page 17]
- SAP Data Services [page 21]

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. The migration 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. A migration object describes how to migrate data for a specific business object to SAP S/4HANA. It contains information about the relevant source and target structures, as well as the relationships between these structures. It also contains mapping information for the relevant fields, as well as any rules used to convert values that are migrated from source fields to target fields.

There are three 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.

   **Note**
   The default size limit for each uploaded file is 100 MB. However, you can increase the size limit for each uploaded file to 160 MB by changing the system parameter `icm/HTTP/max_request_size_KB`, which controls the size of the HTTP request. The value of this parameter is the maximum size (in KB) of an HTTP request. This parameter has the standard value 102400 kb (100 MB) but it can be changed if required.

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. You have a remote system that will act as the staging system, and this system uses an SAP HANA database. In this case, you need to create an SAP HANA database connection between the SAP S/4HANA
system and the staging system. In the SAP S/4HANA system, you then need to manually add the database connection to table DM_C_WL_DBCO_OP. This allows you to use the connection for the migration. This table also ensures that only relevant connections are displayed in the SAP S/4HANA. For more information, see SAP Note 2733253.

As of SAP S/4HANA 1909 FPS01, if you are using the SAP S/4HANA technical job repository in your SAP S/4HANA system, the migration cockpit will use it as well. Otherwise, the technical job repository is not used.

3. Direct data transfer from a SAP source system
This new migration approach that is delivered with SAP S/4HANA 1909 allows you to directly transfer data from a SAP source system to SAP S/4HANA. You can connect to the source system by using an RFC connection, choose the relevant migration objects, and then select data from the source system based on specific criteria. For example, if you are using the migration scenario SAP ERP to SAP S/4HANA, you select data using company codes. This new approach is available for the following migration scenarios:

- **SAP ERP to SAP S/4HANA**
  The lowest supported SAP ERP release is ERP 6.0 (SAP NetWeaver 7.0). The lowest supported SAP source system is SAP ERP Central Component 6.0 EHP00.

- **SAP Apparel and Footwear (SAP AFS) to SAP S/4HANA for fashion and vertical business**
  The supported release is SAP AFS 6.0.

- **SAP Extended Warehouse Management (SAP EWM) to decentralized EWM based on SAP S/4HANA**
  The lowest supported SAP EWM release is SAP EWM 5.1 (SAP NetWeaver 7.0).

- **SAP Customer Relationship Management (SAP CRM) to SAP S/4HANA for Customer Management.**
  The supported release is SAP CRM 7.0.

Some prerequisites for the direct data transfer must be met including some SAP Notes that have to be implemented before the migration. It is necessary to differentiate between the SAP source system and the SAP S/4HANA target system.

**i Note**
- The add-on DMIS_2011 SP17 or higher needs to be installed in the source system (it is included in the license for SAP S/4HANA 1909 and higher).
- An RFC connection from the SAP ERP, SAP AFS, SAP EWM or SAP CRM source system to the SAP S/4HANA target system must be available.
- SAP Fiori must be set up.
- The required SAP Notes must be applied (see below).
- The relevant customizing settings must be available in the target system (for example, organizational units, define document type for migration, define accounts for migration, remove account blocks).
- The required roles and authorizations must be available (see below).
- The program CNV_PE_MC_LOAD_OBJECTS has to be run in the target SAP S/4HANA system. This program loads the migration objects delivered by SAP from client 000 to the client you are working in. Note that if you update your SAP S/4HANA to a new release, or install a new feature package or support package in the SAP S/4HANA system, you need to run the program again.
You must install the SAP Landscape Transformation Add-On DMIS 2011_1 SP17 or higher (which is included in the license for SAP S/4HANA 1909). To do so, follow the instructions in the following SAP Notes and apply all support packages up to the latest level:

- SAP Note 1577441▷ Installation and delta upgrade of DMIS 2011_1
- SAP Note 1577503▷ Upgrade to DMIS 2011_1 in the system switch upgrade
- SAP Note 1648747▷ DMIS 2011 / DMIS_CNT 2011 Generation errors during installation
- SAP Note 1697641▷ Support packages for DMIS 2011

**SAP target system**

For the SAP S/4HANA target system, consider the following SAP Notes:

- SAP Note 2819445▷ SAP S/4HANA Migration Cockpit: Transfer Data Directly from SAP System – Corrections in migration technology for SAP S/4HANA 1909
- SAP Note 2836748▷ SAP S/4HANA Migration Cockpit: Central Note for Transfer Data Directly from SAP System – SAP ERP to SAP S/4HANA
- SAP Note 2836840▷ SAP S/4HANA Migration Cockpit: Central Note for Transfer Data Directly from SAP System – SAP AFS to SAP S/4HANA for fashion and vertical business
- SAP Note 2815704▷ Migrate Your Data Fiori App for SAP S/4HANA 1909

**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. 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.

The functions and features offered by the SAP S/4HANA migration object modeler depend on the migration approach of your SAP S/4HANA migration cockpit project. Detailed documentation for the SAP S/4HANA migration object modeler can be accessed directly from transaction LTMOM.

**Migration Objects**

For a list of the migration objects available with SAP S/4HANA 1909, see https://help.sap.com/S4_OP_MO.
Required Roles

- For the migration approaches to migrate data using files and staging tables, see the required roles and transactions:

  **Role and Transaction Overview**

<table>
<thead>
<tr>
<th>Tools</th>
<th>SAP S/4HANA Transactions</th>
<th>Roles</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP S/4HANA migration cockpit</td>
<td>LTMC</td>
<td>SAP_CA_DMC_MC_USER</td>
<td>Transaction and role for accessing the SAP S/4HANA migration cockpit</td>
</tr>
<tr>
<td>Migration object modeler</td>
<td>LTMOM</td>
<td>SAP_CA_DMC_MC_DEVELOPER</td>
<td>Transaction and role for using the migration object modeler. As prerequisite, 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.</td>
</tr>
</tbody>
</table>

- For the migration approach direct data transfer from SAP source systems, see the required roles and transactions:
  For the SAP S/4HANA target system, a user with the role SAP_DMIS_OBT_MASTER is required. This user must also have the role SAP_BR_CONFIG_EXPERT_DATA_MIG for the front-end server.

  **Role Overview**

<table>
<thead>
<tr>
<th>Tools</th>
<th>Roles in the Source System</th>
<th>Roles in the SAP S/4HANA System</th>
<th>Role in the SAP Fiori Front-End System</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP S/4HANA migration cockpit</td>
<td>SAP_DMIS_OBT_REMOTE</td>
<td>SAP_DMIS_OBT_MASTER</td>
<td>SAP_BR_CONFIG_EXPERT_DATA_MIG</td>
</tr>
<tr>
<td>Migration object modeler</td>
<td>-</td>
<td>SAP_CA_DMC_MC DEVELOPER</td>
<td>-</td>
</tr>
<tr>
<td>RFC user</td>
<td>SAP_DMIS_OBT_REMOTE, type COMMUNICATION</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Migration Cockpit ICF Services

For the file and staging approach, 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

You can use the report Analyze SAP Notes to check whether all the necessary SAP Notes are installed, see SAP Note 2596411.

For more information about the SAP S/4HANA migration cockpit, see:

- 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 https://help.sap.com/s4hana_op_1909

---

### 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**
Embedded Deployment

Components for embedded deployment for SAP S/4HANA 1909:

- Optional UI components
- SAP Fiori for SAP S/4HANA 1909
- SAP Fiori front-end server 6.0 (SAP FES) (including My Inbox – in earlier releases My Inbox was one of the optional UI components)
- SAPUI5 1.65
- SAP S/4HANA 1909
- SAP Gateway 7.54
- ABAP Platform 1909 (part of SAP S/4HANA 1909)

After the installation of SAP S/4HANA 1909, 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 for SAP S/4HANA 1909 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 1909 need to be configured to run against the SAP S/4HANA 1909 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 1909:

- **Frontend:**
  - Optional UI components
  - SAP Fiori for SAP S/4HANA 1909
  - SAP Fiori FES 6.0 (with My Inbox)
  - SAPUI5 1.65
  - SAP Gateway 7.51 (minimum version)
  - SAP NetWeaver 7.51 SP06 (minimum version - the maximum version is SAP NetWeaver 7.52)

- **Backend:**
  - SAP S/4HANA 1909
  - SAP Gateway 7.54
  - ABAP Platform 1909 (part of SAP S/4HANA 1909)

For more information, see:

- Product Documentation about the installation and deployment of SAP Fiori for SAP S/4HANA
- SAP Notes 2590653 and 2790996
7.5  User Assistance Settings

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

7.5.1  Enable Context-Sensitive User Assistance and Back-End Help Links

To make context-sensitive user assistance available in the SAP Fiori launchpad and to enable back-end help links, proceed as follows:

1. Run transaction HELP_CONFIG (Configure Help Settings).
2. Select *Embedded Deployment* or *Hub Deployment*. Depending on what you select, the sections *General Settings*, *Front-End Settings*, and *Back-End Settings* are displayed with prefilled fields.
   
   **Note**
   
   In the hub deployment scenario, it’s currently not possible to configure the front-end settings using transaction HELP_CONFIG. To configure the front-end settings in the hub deployment, you must configure the help plugin in transaction /UI2/FLP_CUS_CONF in the relevant front-end systems, see *Set Up the User Assistance Plugin (Hub Deployment)* [page 27].

3. Modify the values if required. We recommend filling the *Version* field with the "latest" version for the relevant release (for example 1909.latest).
   
   **Note**
   
   If you wish to link to user assistance for a specific release (for example to the version for SAP S/4HANA 1909 FPS01), please see SAP Note 2874229. We recommend, however, to link to the latest version as this ensures that you receive the most up-to-date documentation.

4. Execute the report.

**Result**

Depending on your deployment scenario, the settings in transactions /UI2/FLP_CUS_CONF and/or SR13 are configured with the values maintained in the report.
Technical Details

The following settings are maintained by default in transaction /UI2/FLP_CUS_CONF when executing the report:

<table>
<thead>
<tr>
<th>FLP Configuration</th>
<th>Property Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENABLE_HELP</td>
<td>true</td>
<td>This setting is a prerequisite for the context-sensitive help to work with the SAP Fiori launchpad.</td>
</tr>
<tr>
<td>WEB_ASSISTANT_HELP_PLUGIN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUTTON_LOCATION</td>
<td>head</td>
<td>The help button is displayed in the SAP Fiori launchpad header.</td>
</tr>
<tr>
<td>NO_HELP_MODE</td>
<td>carousel</td>
<td>The help button and panel are always displayed, even if no content is available.</td>
</tr>
<tr>
<td>USE_GLOBAL_HELP</td>
<td>true</td>
<td>In SAP GUI for HTML and WebDynpro apps, instructions about how to access help content are displayed.</td>
</tr>
</tbody>
</table>

7.5.1.1 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 https://help.sap.com/s4hana_op_1909, 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:
   - For the User Assistance Content Platform
     \[\text{wdisp/system}_<\text{number}> = \text{SID}=<\text{SID1}>, \text{EXTSRV}=https://cp.hana.ondemand.com:443, \text{SRCURL}=/sap/dfa/help/, \text{SRCSRV}=*/*, \text{PROXY}=<\text{your proxy}>:<\text{your proxy port}>, \text{STANDARD_COOKIE_FILTER}=OFF\]
   - For the script server in your production system
     \[\text{wdisp/system}_<\text{number}> = \text{SID}=<\text{SID2}>, \text{EXTSRV}=https://xray.hana.ondemand.com:443, \text{SRCURL}=/resources/sap/dfa/help/, \text{SRCSRV}=*/*, \text{PROXY}=<\text{your proxy}>:<\text{your proxy port}>, \text{STANDARD_COOKIE_FILTER}=OFF\]
   
   **iNote**
   - Make sure that the numbers following \text{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:
   \[\text{icm/HTTP/mod}_0 = \text{PREFIX}=/, \text{FILE}=$(\text{DIR_PROFILE})/redirect.txt\]
   For more information, go to [https://help.sap.com/s4hana_op_1909](https://help.sap.com/s4hana_op_1909), enter SAP Web Dispatcher Parameter References into the search bar, press Enter, open the search result with that title and navigate to the section \text{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
   
   **iNote**
   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/?$format=json](https://<your server>:<your port>/sap/dfa/help/odata.svc/?$format=json)

   **Example**
   If the content platform is connected correctly, you can see on your screen the following output, for example:
   ```json
   {"d":{"EntitySets": ["Transport","DeliverableForReplication","Tile","Project","Deliverable","Tran..."}
   ```
You can check if the help script server is working properly through the proxy connection by accessing:

**Example**

If the help script server is connected correctly, you can see on your screen the following output, for example:

```json
{
    "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.

### 7.5.1.2 Set Up the User Assistance Plugin (Hub Deployment)

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

1. Execute transaction /UI2/FLP_CUS_CONF.
2. Under FLP Configuration, click on Change → Display and then on New Entries.
3. In the field FLP Property ID, select or enter ENABLE_HELP.
4. Enter the property value true.
5. Click on Save.
6. Double-click on FLP Plugins.
7. Click on Change → Display and then on New Entries.
8. In the field FLP Plugin ID, select or enter WEB_ASSISTANT_HELP_PLUGIN and in the field Activity State, choose Active.
9. Highlight the entry WEB_ASSISTANT_HELP_PLUGIN and double-click on Configuration.
10. Click on New Entries.
11. Enter the following values:

<table>
<thead>
<tr>
<th>FLP Property ID</th>
<th>Property Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATA_URL_UACP</td>
<td><a href="https://help.sap.com/webassistant">https://help.sap.com/webassistant</a></td>
</tr>
<tr>
<td>EDITOR</td>
<td>false</td>
</tr>
<tr>
<td>LA_COMMUNITY_URL</td>
<td><a href="https://community.sap.com/">https://community.sap.com/</a></td>
</tr>
<tr>
<td>LEARNING_APP_BACKEND_URL</td>
<td><a href="https://education.hana.ondemand.com/education/">https://education.hana.ondemand.com/education/</a></td>
</tr>
<tr>
<td>LEARNING_APP_WORKSPACE</td>
<td>s4</td>
</tr>
<tr>
<td>NO_HELP_MODE</td>
<td>carousel</td>
</tr>
<tr>
<td>PRODUCT</td>
<td>SAP_S4HANA_ON-PREmise</td>
</tr>
<tr>
<td>USE_GLOBAL_HELP</td>
<td>true</td>
</tr>
<tr>
<td>VERSION</td>
<td>1909.latest</td>
</tr>
</tbody>
</table>

**Note**

The table above describes how to set up context-sensitive user assistance to link to the latest published user assistance of the release. If you wish to link to user assistance for a specific release (for example to the version for SAP S/4HANA 1909 FPS01), please see SAP Note 2874229. We recommend, however, to link to the latest version as this ensures that you receive the most up-to-date documentation.

12. Click on **Save**.

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

For more information, go to [https://help.sap.com/s4hana_op_1909](https://help.sap.com/s4hana_op_1909), enter Setting Parameters in SAP Fiori Customizing into the search bar, press **Enter**, and open the search result with that title.

### 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.

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](https://service.sap.com).

---

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](https://service.sap.com) and [1064419](https://service.sap.com).

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/sitoolset](https://support.sap.com/sitoolset) > **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.


---

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'

   **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.

   **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.

   **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.

**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 [https://help.sap.com/s4hana_op_1909](https://help.sap.com/s4hana_op_1909), 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.


  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_VCHCLK
  
  - LO_VCHCLK_INTEGRATION_LEGACY_SRV

  For information about how to activate services, go to [https://help.sap.com/s4hana_op_1909](https://help.sap.com/s4hana_op_1909), 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 1909.00), you need to do some post-installation steps for the VCH AFL described in SAP Note 2598627.

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

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:

<table>
<thead>
<tr>
<th>Product</th>
<th>Supporting Documentation</th>
<th>Further Information</th>
</tr>
</thead>
</table>
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 | i Note
1. We suggest this path when searching for the correct Delivery Unit: Support Packages and Patches. By |

Installation Guide for SAP S/4HANA 1909
Installation Follow-Up Activities
### 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)

---

<table>
<thead>
<tr>
<th>Product</th>
<th>Supporting Documentation</th>
<th>Further Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP HANA database user or ABAP technical user roles.</td>
<td>Assign the <code>sap.hana.pai::ExecutePAI</code> role to the SAP HANA database user or ABAP technical user, in order for them to access functionality such as training and executing models.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

#### Configuration

For information on setting up the OData service and bgRFC Queue, you can refer to the chapters called **Setting up the OData Service and Setting up the bgRFC Queue**. For information on setting up the required authorization, go to the chapters called **Configuring Business Roles for the Backend** and **Configuring Business Roles for the Frontend**.

- Setting up the OData Service [page 33]
- Setting up the bgRFC Queue [page 37]
- Configuring Business Roles for the Backend [page 38]
- Configuring Business Roles for the Frontend [page 41]
7.11.1.1 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_REPOPOSITORY_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.
7.11.1.2 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 conjunction 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.
7.11.1.3 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.
7.11.2 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.
5. In the Create RFC Destination for Supervisor dialog box, maintain the following data:
   - Field Name: Destination Name, Value: BGRFC_SUPERVISOR
   - Field Name: Create User, Value: This should be checked.
   - Field Name: User Name, Value: BGRFC_SUPER
   - Field Name: Password, Value: 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.
10. On the Configure Inbound Destination screen, maintain the following settings:
    - Field Name: Inb. Dest. Name, Value: QD_EQ_LOCAL
    - Field Name: Add Queue Prefix, Value: EQQD_
11. In the Add Queue Prefix screen area, choose Add.
12. Choose Save.
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.

### 7.11.3 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 38]
Backend Authorization for Predictive Models [page 40]

### 7.11.3.1 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, follow these steps:
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. Select **Single Role**.
4. Enter a description and save your created role.
5. Select the **Menu** tab.
6. Select the **SAP Fiori Tile Catalog** from the **Insert Node** dropdown menu.
7. Select the **Remote Front-End Server** radio button and provide the RFC variable or the RFC destination to establish a connection to the front-end server.
8. Enter the catalog **SAP_CA_BC_ANA_UMM_PSC**.
9. Select **Enter** to continue.
10. Select **Save**.
11. Select the **Authorizations** tab.
12. Select **Expert Mode for Profile Generation**.
13. Select **Read old status and merge with new data** and choose **OK**.
   
   This step is not always required. If you don’t see **Read old status and merge with new data**, you can ignore this step.
14. Modify the authorization objects and populate the fields with these values:

<table>
<thead>
<tr>
<th>Authorization Object</th>
<th>Field</th>
<th>Value in Business Catalog Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSANAUMMPS</td>
<td>ACTVT</td>
<td>Add or Create, Change, Display, Delete (01, 02, 03, 06)</td>
</tr>
<tr>
<td></td>
<td>PRED_SCEN</td>
<td>&lt;PS_NAME&gt;</td>
</tr>
<tr>
<td></td>
<td>PAI_OTYPE</td>
<td>PSCENARIO, MCONTEXT, ENHMODEL, MVERSION</td>
</tr>
<tr>
<td>S_DEVELOP</td>
<td>DEVCLASS</td>
<td>&lt;Package&gt;</td>
</tr>
<tr>
<td></td>
<td>OBJTYPE</td>
<td>PAI1</td>
</tr>
<tr>
<td></td>
<td>OBJNAME</td>
<td>&lt;PS_NAME&gt;</td>
</tr>
<tr>
<td></td>
<td>P_GROUP</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>ACTVT</td>
<td>Create (01)</td>
</tr>
<tr>
<td>S_DEVELOP</td>
<td>DEVCLASS</td>
<td>&lt;Package&gt;</td>
</tr>
<tr>
<td></td>
<td>OBJTYPE</td>
<td>DDLS</td>
</tr>
<tr>
<td></td>
<td>OBJNAME</td>
<td>&lt;PS_NAME&gt;_TF01</td>
</tr>
<tr>
<td></td>
<td>P_GROUP</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>ACTVT</td>
<td>Add or Create, Change, Display, Delete, Activate, generate (01, 02, 03, 06, 07)</td>
</tr>
<tr>
<td>S_DEVELOP</td>
<td>DEVCLASS</td>
<td>&lt;Package&gt;</td>
</tr>
<tr>
<td></td>
<td>OBJTYPE</td>
<td>DDLS</td>
</tr>
<tr>
<td></td>
<td>OBJNAME</td>
<td>&lt;PS_NAME&gt;_CDS01</td>
</tr>
<tr>
<td>Authorization Object</td>
<td>Field</td>
<td>Value in Business Catalog Role</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>P_GROUP</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>ACTVT</td>
<td>Add or Create, Change, Display, Delete, Activate, generate (01, 02, 03, 06, 07)</td>
</tr>
<tr>
<td></td>
<td>S_DEVELOP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DEVCLASS</td>
<td>&lt;Package&gt;</td>
</tr>
<tr>
<td></td>
<td>OBJTYPE</td>
<td>VIEW</td>
</tr>
<tr>
<td></td>
<td>OBJNAME</td>
<td>Z_*</td>
</tr>
<tr>
<td></td>
<td>P_GROUP</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>ACTVT</td>
<td>Display, Create in DB, Convert to DB (03, 40, 42)</td>
</tr>
</tbody>
</table>

15. On Exit Authorization Maintenance, select Save.
16. Select Generate.

### 7.11.3.2 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. Select the Menu tab.
6. Select the SAP Fiori Tile Catalog from the Insert Node dropdown menu.
7. Select the Remote Front-End Server radio button and provide the RFC variable or the RFC destination to establish a connection to the front-end server.
8. Enter the catalog SAP_CA_BC_ANA_UMM.
9. Select Enter to continue.
10. Select Save.
11. Choose the Authorizations tab.
12. Modify the authorization objects and populate the fields with these values:

<table>
<thead>
<tr>
<th>Authorization Object</th>
<th>Field</th>
<th>Value in Business Catalog Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSANAUMMPS</td>
<td>ACTVT</td>
<td>Read (03)</td>
</tr>
<tr>
<td></td>
<td>PRED_SCEN</td>
<td>Enter the name of the business case. &lt;PAi Predictive Scenario Name&gt;</td>
</tr>
<tr>
<td></td>
<td>PAI_OTYPE</td>
<td>PSCENARIO, MCONTEXT, ENHMODEL</td>
</tr>
<tr>
<td></td>
<td>ACTVT</td>
<td>Create, Change, Read, and Delete (01,02,03,06)</td>
</tr>
<tr>
<td></td>
<td>PRED_SCEN</td>
<td>Enter the name of the business case. &lt;PAi Predictive Scenario Name&gt;</td>
</tr>
<tr>
<td></td>
<td>PAI_OTYPE</td>
<td>MVERSION</td>
</tr>
</tbody>
</table>


### 7.11.4 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.

Related Information

- Frontend Authorization for Predictive Models [page 43]
- Frontend Authorization for Predictive Scenarios [page 42]

7.11.4.1 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_UUM_PSC)
- Predictive Models Fiori Tile Group (object SAP_CA_BCG_ANA_UUM)

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_UUM_PSC) and Fiori tile group (object name SAP_CA_BCG_ANA_UUM).
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. Enter a description and save your created role.
4. Select the *Menu* tab.
5. Select *SAP Fiori Tile Catalog* and as *Catalog ID*, enter *SAP Fiori Tile Catalog SAP_CA_BC_ANA_UMM_PSC - Predictive Scenarios*.
6. Select *SAP Fiori Tile Group* and as *Group ID*, enter *SAP Fiori Tile Group SAP_CA_BCG_ANA_UMM - Predictive Models*.
7. Select *Save*.
8. Select *Generate*.

**7.11.4.2 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 name **SAP_CA_BC_ANA_UMM**)
- Predictive Models Fiori Tile Group (object name **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. Enter a description and save your created role.
4. Select the Menu tab.
5. Select SAP Fiori Tile Catalog and as Catalog ID, enter SAP Fiori Tile Catalog SAP_CA_BC_ANA_UMM - Predictive Models.
7. Select Save.
8. Select Generate.

### 7.12 Follow-Up Activities for Analytics and Planning

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.

To set up embedded BIW Reporting as well as SAP BPC for SAP S/4HANA for Finance purposes, please follow the instructions in SAP Note 1972819.

### 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.

![Metadata Cache Settings](image)

**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 all *EHFND* and *EHHSS* WebDynpro services below the node `/default_host/sap/bc/webdynpro/sap/`.
- Activate the 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. You need to create business users before you can use the functions in *Environment, Health, and Safety*.

For more information about creating business users, see SAP Note [2570961](https:).
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:

2. From the delivery client, copy the data from the Customizing tables mentioned below using transaction /n/RPM/CUST_COPY:
   - /RPM/DASH_FERS: Dashboard Customization
   - /RPM/DASH_ROLE: Dashboard Attributes Override Table
   - INM_NAV_CTX: INM Navigation Context
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 **Portfolio 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 2824068) 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:

<table>
<thead>
<tr>
<th>Deployment Option</th>
<th>Project Workspace</th>
<th>Project Cost and Revenue Planning</th>
<th>Project Issue and Change Management</th>
<th>SAP BusinessObjects Analysis for Microsoft Office (Analysis Office)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Option 2</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Option 3</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Option 4</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

**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.

   **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`.
12. 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.
13. 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`.
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. Repeat the BC set activation steps for the switch /PIM/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 Enter 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:

2. On the Maintain Services screen, select the hierarchy type Service and choose Execute.
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_FBIVIEW`
     - `/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:

<table>
<thead>
<tr>
<th>SAP Note Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2318716</td>
<td>S4TWL – Rate Card</td>
</tr>
<tr>
<td>2318733</td>
<td>S4TWL – Interface of SAP Commercial Project Management with SAP Cloud for Customer</td>
</tr>
<tr>
<td>2320143</td>
<td>S4TWL – Fiori Apps of SAP Commercial Project Management</td>
</tr>
<tr>
<td>2318728</td>
<td>S4TWL – Launchpads of Gantt Chart and Commercial Project Inception</td>
</tr>
<tr>
<td>2323806</td>
<td>S4TWL – Workbooks Delivered in Project Cost and Revenue Planning</td>
</tr>
<tr>
<td>2712156</td>
<td>S4TWL - CPM - Personal Activity List</td>
</tr>
<tr>
<td>2711002</td>
<td>S4TWL - CPM - Forecast from financial plan versions</td>
</tr>
<tr>
<td>2719743</td>
<td>Commercial Project Management: Migrate Configuration Settings of Key Figures and Resource Types for Analytics</td>
</tr>
<tr>
<td>2741838</td>
<td>Commercial Project Management: Reactivation of Business Switch After Conversion / Upgrade to S/4HANA 1709 and Above</td>
</tr>
<tr>
<td>2725814</td>
<td>Mapping of CPM Analytics HANA views to CDS SQL views</td>
</tr>
</tbody>
</table>

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

If you choose to use the configuration delivered with SAP Best Practices or with manual steps, please check the information provided at https://help.sap.com/s4hana_op_1909 > **Use** > **Product Assistance** > **English** > **Enterprise Business Applications** > **R&D / Engineering** > **Product Compliance** > **Foundation for Product Compliance** > **Configuration for Product 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 [https://help.sap.com/s4hana_op_1909](https://help.sap.com/s4hana_op_1909).

---

**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.

**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**

- **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.

This document is only relevant if you are using integration options for SAP S/4HANA, that is, options 1, 3 and 4.
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 https://help.sap.com/s4hana_op_1909 Integrate Products with Integration Capability SAP SuccessFactors Employee Central Integration to SAP Business Suite.

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.

   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:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>ALE</td>
</tr>
<tr>
<td>Sem.abbr.</td>
<td>REPPA</td>
</tr>
<tr>
<td>Value abbr.</td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Logical System</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

Installation Guide for SAP S/4HANA 1909
Installation Follow-Up Activities
Logical 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.

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:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical System</td>
<td>Logical system: name of the system and client that you are logged in on, for example, SSPCLNT105</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Tabs</th>
<th>Field Name</th>
<th>User Action</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFC Destination</td>
<td>Enter a destination name, for example, SEDCLNT800</td>
<td>&lt;/S/4HANA System ID&gt;CLNT&lt;Client&gt;</td>
<td></td>
</tr>
<tr>
<td>Tabs</td>
<td>Field Name</td>
<td>User Action</td>
<td>Comments</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------</td>
<td>--------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Connection Type</td>
<td>3 ABAP Connection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Enter a description for the RFC</td>
<td></td>
</tr>
<tr>
<td>Technical Settings</td>
<td>Load Balancing Status</td>
<td>Select 'NO'</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Target Host</td>
<td>Enter the S/4HANA, on-premise edition host – fully qualified with domain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Instance No.</td>
<td>Enter the Instance number, for example, 45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Save to Database as</td>
<td>Host or IP Address</td>
<td>Save the target host or message server internally in the database either as the host name or as its IP address.</td>
</tr>
<tr>
<td>Logon &amp; Security Tab</td>
<td>Client</td>
<td>Enter the Receiver System client, for example 800</td>
<td></td>
</tr>
<tr>
<td></td>
<td>User</td>
<td>User ID</td>
<td>Created in “Create Users for ALE transfer ...”</td>
</tr>
<tr>
<td></td>
<td>Password</td>
<td>Enter user password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Current User</td>
<td>Not checked</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trust Relationship</td>
<td>“No” Checked</td>
<td></td>
</tr>
<tr>
<td>Special Options Tab</td>
<td>Special Flags</td>
<td>Not checked</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Activate RFC Trace</td>
<td>Not checked</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trace Export Methods</td>
<td>Default Gateway Value</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keep-Alive Timeout</td>
<td>Default Gateway Value</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transfer Protocol</td>
<td>Select “Classic with tRFC”</td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Field name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of related objects</td>
<td>CP</td>
</tr>
<tr>
<td></td>
<td>P</td>
</tr>
<tr>
<td>Infotype</td>
<td>0000</td>
</tr>
<tr>
<td></td>
<td>0001</td>
</tr>
<tr>
<td></td>
<td>0002</td>
</tr>
<tr>
<td></td>
<td>0003</td>
</tr>
<tr>
<td></td>
<td>0006</td>
</tr>
<tr>
<td></td>
<td>0007</td>
</tr>
<tr>
<td></td>
<td>0009</td>
</tr>
<tr>
<td></td>
<td>0105</td>
</tr>
<tr>
<td></td>
<td>1000</td>
</tr>
<tr>
<td></td>
<td>1001</td>
</tr>
<tr>
<td>Object Type</td>
<td>CP</td>
</tr>
<tr>
<td></td>
<td>P</td>
</tr>
</tbody>
</table>

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 in 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:

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

   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:

<table>
<thead>
<tr>
<th>Field name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner No.</td>
<td>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</td>
</tr>
</tbody>
</table>
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 params.** section, choose **Create outbound Parameter.**

6. In the **Partner profiles: Outbound parameters** view, make the following entries:

<table>
<thead>
<tr>
<th>Field name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Type</td>
<td>HRMD_A</td>
</tr>
<tr>
<td>Receiver Port</td>
<td>Enter the technical Name of the created port, for example, SEDCLNT800</td>
</tr>
<tr>
<td>Pack. Size</td>
<td>For example, 100 (for the first testing use 1)</td>
</tr>
<tr>
<td>Output Mode</td>
<td></td>
</tr>
<tr>
<td>Transfer IDoc Immed.</td>
<td>X</td>
</tr>
<tr>
<td>Basic Type</td>
<td>HRMD_A07</td>
</tr>
<tr>
<td>Cancel Processing After Syntax Error</td>
<td>X</td>
</tr>
</tbody>
</table>

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

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:
**Installation Guide for SAP S/4HANA 1909**

**Installation Follow-Up Activities**

---

1. On the **Post processing: permitted agent** tab, specify the job (person or group of people) to be notified if processing errors occur.

2. In the **Inbound parmxtrs** section, choose **Create inbound Parameter**.

3. In the **Partner profiles: Inbound parameters** view in the **Inbound options** section, make the following entries:

<table>
<thead>
<tr>
<th>Field name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Partner No.</strong></td>
<td>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</td>
</tr>
<tr>
<td>Partn. Type</td>
<td>LS</td>
</tr>
</tbody>
</table>

11. 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:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Insert (complete distribution: delete in target system, re-create)</strong></td>
<td>X</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Type</td>
<td>HRMD_A</td>
</tr>
</tbody>
</table>

   5. Choose Save as Variant to create a new variant.
   6. On the Variant Attributes view, enter the following values:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variant Name</td>
<td>YK_HRMD_A</td>
</tr>
<tr>
<td>Description</td>
<td>Enter a description for the variant</td>
</tr>
</tbody>
</table>

   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:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Name</td>
<td>YK_ALE_DELTA_HRMD_A</td>
</tr>
<tr>
<td>Job Class</td>
<td>C – Low priority</td>
</tr>
<tr>
<td>Job Status</td>
<td>Scheduled</td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABAP program name</td>
<td>RBDMIDOC</td>
</tr>
<tr>
<td>Variant</td>
<td>YK_HRMD_A</td>
</tr>
<tr>
<td>Execution language</td>
<td>EN</td>
</tr>
</tbody>
</table>

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](https://support.sap.com/doc/2265093/1.0/en.html).

- **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)**
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.

**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)**
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.

**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.
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 based 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 if 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.

  **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_FROMEMPL 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_FROMEMPL 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’
  - 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.
  - 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.

---

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

<table>
<thead>
<tr>
<th>Field description</th>
<th>Infotype</th>
<th>Field Name</th>
<th>Comments</th>
<th>BP Field name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee</td>
<td></td>
<td>VORNA</td>
<td></td>
<td>BUT000·NAME_FIRST</td>
</tr>
<tr>
<td>Last Name</td>
<td></td>
<td>NACHN</td>
<td></td>
<td>BUT000·NAME_LAST</td>
</tr>
<tr>
<td>Middle Name</td>
<td></td>
<td>MIDNM</td>
<td></td>
<td>BUT000·NAME_MIDDLE</td>
</tr>
<tr>
<td>Second Name</td>
<td></td>
<td>NACH2</td>
<td></td>
<td>BUT000·NAME_LST2</td>
</tr>
<tr>
<td>Initials</td>
<td></td>
<td>INITS</td>
<td></td>
<td>BUT000·INITIALS</td>
</tr>
<tr>
<td>Academic Title 1</td>
<td></td>
<td>TITEL</td>
<td></td>
<td>BUT000·TITLE_ACA1</td>
</tr>
<tr>
<td>Title</td>
<td></td>
<td>Based on ANRED and GESCH</td>
<td>BUT000·TITLE</td>
<td></td>
</tr>
<tr>
<td>Academic Title 2</td>
<td></td>
<td>TITL2</td>
<td></td>
<td>BUT000·TITLE_ACA2</td>
</tr>
<tr>
<td>Name Supplement</td>
<td></td>
<td>NAMZU</td>
<td></td>
<td>BUT000·TITLE_ROYL</td>
</tr>
<tr>
<td>Name Affix 1</td>
<td></td>
<td>VORSW</td>
<td></td>
<td>BUT000·PREFIX1</td>
</tr>
<tr>
<td>Name Affix 2</td>
<td></td>
<td>VORS2</td>
<td></td>
<td>BUT000·PREFIX2</td>
</tr>
<tr>
<td>Field description</td>
<td>Infotype</td>
<td>Field Name</td>
<td>Comments</td>
<td>BP Field name</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------</td>
<td>------------</td>
<td>----------</td>
<td>---------------</td>
</tr>
<tr>
<td>Gender</td>
<td>2</td>
<td>GESCH</td>
<td>Value 1 is mapped to 2 and vice versa because of domain value differences</td>
<td>BUT000 - XSEXF or XSEXM</td>
</tr>
<tr>
<td>Preferred Lan­guage</td>
<td>2</td>
<td>SPRSL</td>
<td></td>
<td>BUT000 - BU_LANGU</td>
</tr>
<tr>
<td>Nationality</td>
<td>2</td>
<td>NATIO</td>
<td></td>
<td>BUT000 - NATIO</td>
</tr>
<tr>
<td>Date of Birth</td>
<td>2</td>
<td>GBDAT</td>
<td></td>
<td>BUT000 - BIRTHDT</td>
</tr>
<tr>
<td>Name at Birth</td>
<td>2</td>
<td>NAME2</td>
<td></td>
<td>BUT000 - NAME_LAST2</td>
</tr>
<tr>
<td>Nick name</td>
<td>2</td>
<td>RUFNM</td>
<td></td>
<td>BUT000 - NICK_NAME</td>
</tr>
<tr>
<td>Place of Birth</td>
<td>2</td>
<td>GBORT</td>
<td></td>
<td>BUT000 - BIRTHPL</td>
</tr>
<tr>
<td>Marital Status</td>
<td>2</td>
<td>FAMST</td>
<td>BBP_TSAD3HR or TB027HR</td>
<td>BUT000 - MARST</td>
</tr>
<tr>
<td>Search term 1</td>
<td>2</td>
<td>NCHMC</td>
<td></td>
<td>BUT000 - BU_SORT1</td>
</tr>
<tr>
<td>Search term 2</td>
<td>2</td>
<td>VNAMC</td>
<td></td>
<td>BUT000 - BU_SORT2</td>
</tr>
<tr>
<td>Full Name</td>
<td>2</td>
<td>CNAME or ENAME or Concatenation of VORNA MIDNM NACHN</td>
<td>BUT000 - NAME1_TEXT</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td>From Date</td>
<td>BEGDA</td>
<td>Permanent Address (subtype 1) is synchronized</td>
<td>BUT020 - ADDR_VALID_FRO M</td>
</tr>
<tr>
<td></td>
<td>End Date</td>
<td>ENDDDA</td>
<td></td>
<td>BUT020 - ADDR_VALID_TO</td>
</tr>
<tr>
<td></td>
<td>Country</td>
<td>LAND1</td>
<td></td>
<td>ADRC - COUNTRY</td>
</tr>
<tr>
<td>Field description</td>
<td>Infotype</td>
<td>Field Name</td>
<td>Comments</td>
<td>BP Field name</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Region</td>
<td>6</td>
<td>STATE</td>
<td></td>
<td>ADRC-REGION</td>
</tr>
<tr>
<td>City</td>
<td>6</td>
<td>ORTO1</td>
<td></td>
<td>ADRC-CITY1</td>
</tr>
<tr>
<td>District</td>
<td>6</td>
<td>ORTO2</td>
<td></td>
<td>ADRC-CITY2</td>
</tr>
<tr>
<td>Postal Code</td>
<td>6</td>
<td>PSTLZ</td>
<td></td>
<td>ADRC-POST_CODE1</td>
</tr>
<tr>
<td>Street</td>
<td>6</td>
<td>STRAS</td>
<td></td>
<td>ADRC-STREET</td>
</tr>
<tr>
<td>Street 2</td>
<td>6</td>
<td>ADR03</td>
<td></td>
<td>ADRC-STR_SUPPL1</td>
</tr>
<tr>
<td>Street 3</td>
<td>6</td>
<td>ADR04</td>
<td></td>
<td>ADRC-STR_SUPPL2</td>
</tr>
<tr>
<td>Street 4</td>
<td>6</td>
<td>LOCAT</td>
<td></td>
<td>ADRC-STR_SUPPL3</td>
</tr>
<tr>
<td>House number supplement</td>
<td>6</td>
<td>POSTA</td>
<td></td>
<td>ADRC-HOUSE_NUM2</td>
</tr>
<tr>
<td>c/o</td>
<td>6</td>
<td>NAME2</td>
<td></td>
<td>ADRC-NAME_CO</td>
</tr>
<tr>
<td>Building Code</td>
<td>6</td>
<td>BLDNG</td>
<td></td>
<td>ADRC-BUILDING</td>
</tr>
<tr>
<td>Floor</td>
<td>6</td>
<td>FLOOR</td>
<td></td>
<td>ADRC-FLOOR</td>
</tr>
<tr>
<td>House Number</td>
<td>6</td>
<td>HSNMR</td>
<td></td>
<td>ADRC-HOUSE_NUM1</td>
</tr>
<tr>
<td>telephone</td>
<td>6</td>
<td>TLNR</td>
<td></td>
<td>ADCP-TEL_NUM-BER</td>
</tr>
<tr>
<td>Payment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Account Holder Name</td>
<td>1</td>
<td>EMFTX</td>
<td>If infotype 9-EMFTX is not present then map infotype 1 ENAME</td>
<td>BUTOBK-KOINH</td>
</tr>
<tr>
<td>Bank</td>
<td>9</td>
<td>BANKS</td>
<td>If Travel Expenses (subtype 2) Bank information exists then it is synchronized to Business Partner or Vendor else Main Bank (subtype 0) is synchronized.</td>
<td>BUTOBK-BANKS</td>
</tr>
<tr>
<td>Bank Account</td>
<td>9</td>
<td>BANKN</td>
<td></td>
<td>BUTOBK-BANKN</td>
</tr>
<tr>
<td>Control Key</td>
<td>9</td>
<td>BKONT</td>
<td></td>
<td>BUTOBK-BKONT</td>
</tr>
<tr>
<td>Bank Key</td>
<td>9</td>
<td>BANKL</td>
<td></td>
<td>BUTOBK-BANKL</td>
</tr>
<tr>
<td>Field description</td>
<td>Infotype</td>
<td>Field Name</td>
<td>Comments</td>
<td>BP Field name</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Reference specifica-</td>
<td>9</td>
<td>BKREF</td>
<td>both do not exist then vendor will not be created.</td>
<td>BUTOBK - BKREF</td>
</tr>
<tr>
<td>tions for bank details</td>
<td></td>
<td>BUTOBK - BKREF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IBAN No.</td>
<td>9</td>
<td>IBAN</td>
<td></td>
<td>BUTOBK - IBAN</td>
</tr>
<tr>
<td>Valid From</td>
<td>9</td>
<td>BEGDA</td>
<td></td>
<td>BUTOBK - BK_VALID_FROM</td>
</tr>
<tr>
<td>Valid To</td>
<td>9</td>
<td>ENDDA</td>
<td></td>
<td>BUTOBK - BK_VALID_TO</td>
</tr>
<tr>
<td>Vendor Company Code</td>
<td>BUKRS</td>
<td>1</td>
<td></td>
<td>LFB1 - BUKRS</td>
</tr>
<tr>
<td>ZLSCH</td>
<td>9</td>
<td>ZLSCH</td>
<td></td>
<td>LFB1 - ZWELS</td>
</tr>
<tr>
<td>PERNR</td>
<td>1</td>
<td>PERNR</td>
<td></td>
<td>LFB1 - PERNR</td>
</tr>
<tr>
<td>Reconciliation account</td>
<td>(see comment)</td>
<td></td>
<td>Read from /SHCM/RECON based on Employee’s company code (IT0001-BUKRS)</td>
<td>LFB1 - AKONT</td>
</tr>
</tbody>
</table>

### iNote

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.

<table>
<thead>
<tr>
<th>Field Description</th>
<th>Infotype</th>
<th>Field Name</th>
<th>Comments</th>
<th>BP Field Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department</td>
<td>1</td>
<td>ORGEH</td>
<td>ORGEH’s text from text table T527X</td>
<td>ADCP - DEPARTMENT</td>
</tr>
<tr>
<td>Function</td>
<td>1</td>
<td>PLANS</td>
<td>PLANS text from text table T528T</td>
<td>ADCP - FUNCTION</td>
</tr>
<tr>
<td>Room Number</td>
<td>32</td>
<td>ZIMNR</td>
<td></td>
<td>ADCP - roomnumber</td>
</tr>
<tr>
<td>Building Number</td>
<td>32</td>
<td>GEBNR</td>
<td></td>
<td>ADCP - building</td>
</tr>
<tr>
<td>Telephone</td>
<td>105</td>
<td></td>
<td>In case SAP Success Factors integration is used Infotype 105, Subtype ECPB is used else Infotype 105, subtype 0020 is used.</td>
<td>ADR2 - telnr_long</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cell Phone</td>
<td>In case SAP Success Factors integration is used, Infotype 105, Subtype ECPC is used else Infotype 105, subtype CELL is used.</td>
<td>ADR2 - telnr_long</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E-Mail Address</td>
<td>infotype 105, subtype 10</td>
<td>ADR6 - flgdefault = X</td>
</tr>
</tbody>
</table>

### 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 [https://help.sap.com/s4hana_op_1909](https://help.sap.com/s4hana_op_1909).
## Standard Roles

The table below shows the standard roles that are used.

<table>
<thead>
<tr>
<th>Role</th>
<th>Front-end Role</th>
<th>Back-end Role</th>
<th>Both (Front-end + Back-end)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP_BR_ADMINISTRATOR_HRINFO</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
<td>Administrator App (For example, Monitoring Employee Synchronization)</td>
</tr>
<tr>
<td>SAP_BR_EMPLOYEE</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
<td>Employee can search and display an overview of the employee data in Employee fact-sheet</td>
</tr>
</tbody>
</table>

## Standard Authorization Objects

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

<table>
<thead>
<tr>
<th>Authorization Object</th>
<th>Field</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B_BUPA_RLT (Business Partner: BP Roles)</td>
<td>ACTVT</td>
<td></td>
<td>Activity</td>
</tr>
<tr>
<td></td>
<td>RLTYP</td>
<td></td>
<td>BP Role</td>
</tr>
<tr>
<td>B_BUPA_GRP</td>
<td>BEGRU</td>
<td></td>
<td>Authorization Group</td>
</tr>
<tr>
<td></td>
<td>ACTVT</td>
<td></td>
<td>Activity</td>
</tr>
<tr>
<td>B_BUP_PCPT</td>
<td>ACTVT</td>
<td></td>
<td>Activity</td>
</tr>
<tr>
<td>F_LFA1_APP (Vendor: Application Authorization)</td>
<td>ACTVT</td>
<td></td>
<td>Activity</td>
</tr>
<tr>
<td></td>
<td>APPKZ</td>
<td></td>
<td>Customer and Vendor Master Data Application Authorization</td>
</tr>
<tr>
<td>F_LFA1_BUK (Vendor: Authorization for Company Codes)</td>
<td>BUKRS</td>
<td></td>
<td>Company Code</td>
</tr>
<tr>
<td></td>
<td>ACTVT</td>
<td></td>
<td>Activity</td>
</tr>
<tr>
<td>F_LFA1_GEN (Vendor: Central Data)</td>
<td>ACTVT</td>
<td></td>
<td>Activity</td>
</tr>
</tbody>
</table>
### 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.

<table>
<thead>
<tr>
<th>Application Name</th>
<th>Application Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUCP</td>
<td>Central Business Partner: Employee</td>
</tr>
</tbody>
</table>

**Note**
For more information, refer [2142308](https://example.com).
7.20.4.2 Design Constraints

Workplace Address Data

If the infotype 105, system User Name (SY-Unam) 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 an on-premise 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 OP, SAP S/4HANA Cloud, or SAP ERP) to offer centralized procurement processes over your entire system.
landscape. With Central Procurement, the on-premise 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.

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

### 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 an on-premise SAP S/4HANA system as the connected system.
HUBERPI
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.

Make sure you read the availability matrix contained in the release information note 2491065 for more information on the functionalities available with different support packages for HUBERPI.

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.
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
You can find the Customizing structure for Agricultural Contract Management in SAP Reference IMG (transaction SPRO) under Logistics - General > Global Trade Management > Agricultural Contract Management.

**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

<table>
<thead>
<tr>
<th>SAP Note Number</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2920865</td>
<td>ACM on 1909 FPS02: Updated Features and Additional Information</td>
<td>This master note provides:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• List of all updated features for ACM on 1909 FPS02</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Information on follow-up activities and code error handling for ACM after the general installation of SAP S/4HANA 1909 FPS02</td>
</tr>
<tr>
<td>2883847</td>
<td>ACM on 1909 FPS01: New Features and Additional Information</td>
<td>This note is valid for all releases of SAP S/4HANA 1909.</td>
</tr>
<tr>
<td>2858528</td>
<td>ACM: Master SAP Note for System Conversion from ECC to S/4HANA or Upgrade from S/4HANA Lower Release/Feature Pack to Higher Release/Feature Pack</td>
<td>This master note provides information about all the valid combinations of source and target releases for conversion or upgrade, along with the notes that are relevant for each source/target combination.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This is a mandatory note for all ACM customers who are performing a system conversion from ECC to S/4HANA (any release) or an upgrade of S/4HANA from a lower release/feature pack to a higher release/feature pack.</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>SAP Note Number</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>2823310</td>
<td>Release Information Note (RIN) for Policy Management in SAP S/4HANA 1909</td>
</tr>
</tbody>
</table>

**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)

> 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:
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 at: https://help.sap.com/s4hana_op_1909

7.27 Follow-Up Activities for Service

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

Activate Internet Communication Framework (ICF) Services

For information about the ICF services that you have to activate for WebClient UI apps, see the section Activate ICF Services of WebClient UI Apps in the UI Technology Guide for SAP S/4HANA at https://help.sap.com/s4hana_op_1909

Object Navigation

You can navigate from WebClient UI applications directly to other apps available in SAP Fiori launchpad. For more information, see the product assistance for SAP S/4HANA on the SAP Help Portal at https://help.sap.com/s4hana_op_1909

96 PUBLIC

Installation Guide for SAP S/4HANA 1909
Installation Follow-Up Activities
7.28 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.
Important Disclaimers and Legal Information

Hyperlinks

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

About the icons:

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

- Links with the icon 🌐: You are leaving the documentation for that particular SAP product or service and are entering a SAP-hosted Web site. By using such links, you agree that (unless expressly stated otherwise in your agreements with SAP) you may not infer any product claims against SAP based on this information.

Beta and Other Experimental Features

Experimental features are not part of the officially delivered scope that SAP guarantees for future releases. This means that experimental features may be changed by SAP at any time for any reason without notice. Experimental features are not for productive use. You may not demonstrate, test, examine, evaluate or otherwise use the experimental features in a live operating environment or with data that has not been sufficiently backed up.

The purpose of experimental features is to get feedback early on, allowing customers and partners to influence the future product accordingly. By providing your feedback (e.g. in the SAP Community), you accept that intellectual property rights of the contributions or derivative works shall remain the exclusive property of SAP.

Example Code

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

Gender-Related Language

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

Videos Hosted on External Platforms

Some videos may point to third-party video hosting platforms. SAP cannot guarantee the future availability of videos stored on these platforms. Furthermore, any advertisements or other content hosted on these platforms (for example, suggested videos or by navigating to other videos hosted on the same site), are not within the control or responsibility of SAP.