Installation Guide for SAP S/4HANA 2022

THE BEST RUN **SAP**

Content

Document History

Version	Date	Description
1.0	October 12, 2022	Version for SAP S/4HANA 2022.
1.1	February 09, 2023	Corrections to section Integration with Oil & Gas and Commodity Management [page 85].
2.0	February 22, 2023	Version for SAP S/4HANA 2022 FPS01.
3.0	May 26, 2023	Version for SAP S/4HANA 2022 FPS02.
3.0	November 15, 2023	Version for SAP S/4HANA 2022 SPS03.
3.1	February 13, 2024	Minor corrections.

1 Getting Started

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

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

> ⓘ Note
>
> This guide cannot be used on its own, you need to use it together with the installation guides describing the installation of Application Server Systems with the Software Provisioning Manager 2.0 tool.
>
> You find these guides (as well as a link to the SPM tool) on the SAP Support Portal at https:// support.sap.com/sltoolset ↗ ▶ *System Provisioning* ❯ *System Provisioning Scenarios* ❯ *Install a System using Software Provisioning Manager* ❯ *Installation Option of Software Provisioning Manager 2.0 <latest SP>* ❯ *Installation Guides - Application Server Systems* ❯ .
>
> These installation guides are sorted by database, technical stack (ABAP and Java), and operating system platform. For the installation of SAP S/4HANA, choose the SAP HANA Database guide for your operating system (UNIX, IBM, or Windows) and 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 (see note above), just choose **Installation Option of Software Provisioning Manager 1.0 <latest SP>**.

2   SAP S/4HANA System Landscape Information

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

Example: SAP S/4HANA New Installation

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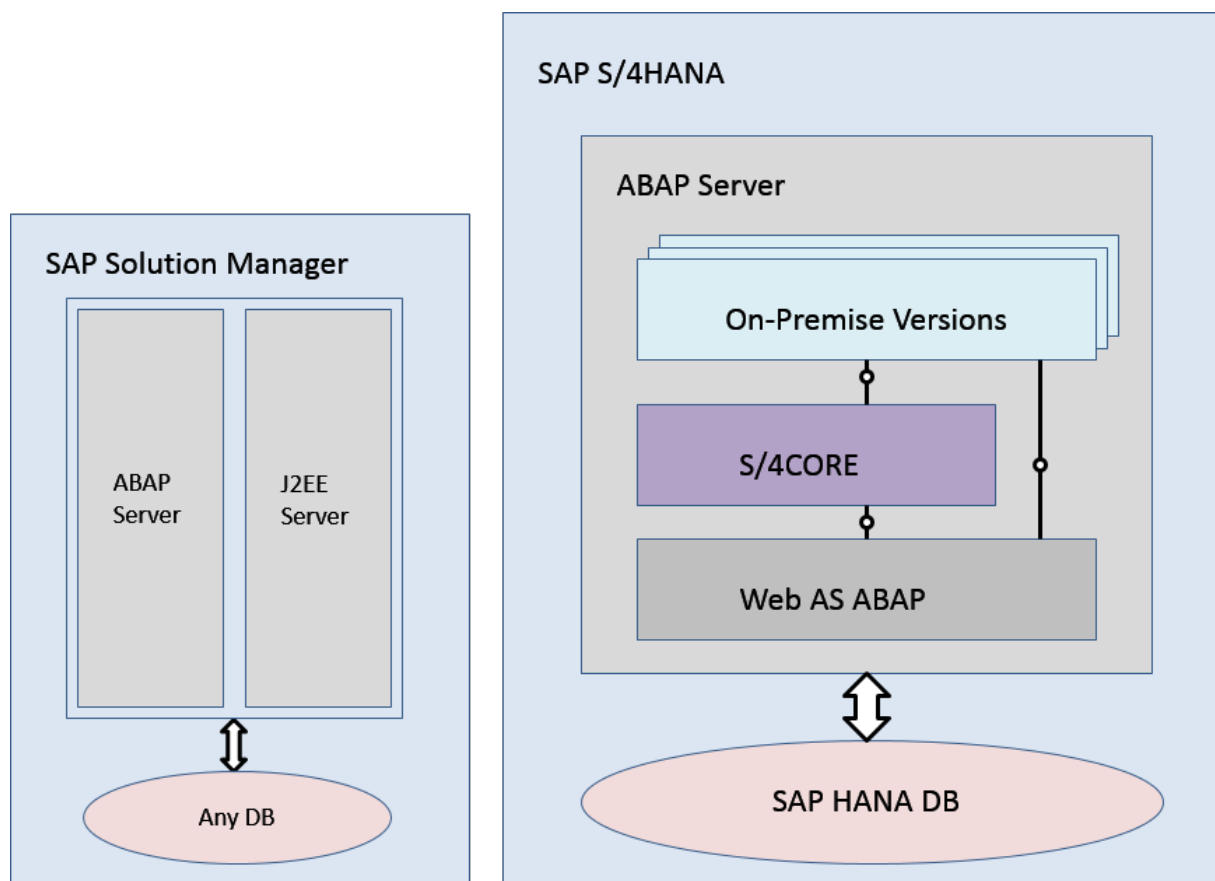
Simple SAP S/4HANA Deployment

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

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

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

For more information about the *Simplification Item Catalog*, see the *Conversion Guide for SAP S/4HANA* at https://help.sap.com/s4hana_op_2022 ❯ *Implement* ❯ *Guides* ❯.
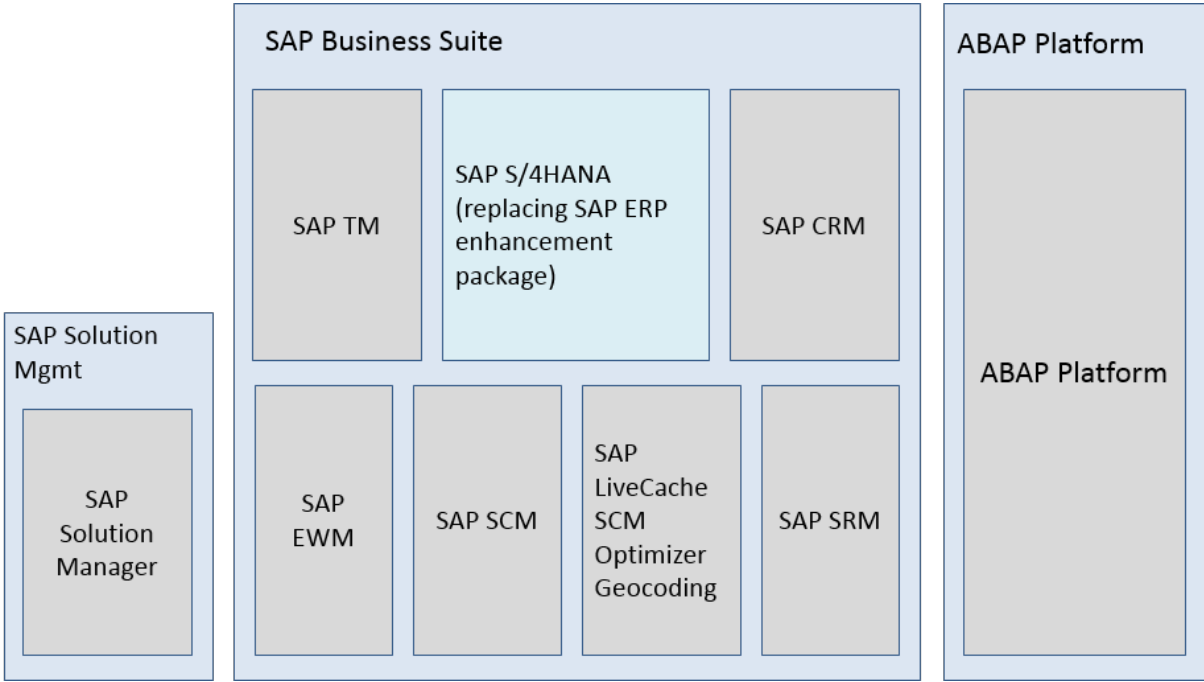
Example SAP Business Suite landscape with an embedded SAP S/4HANA system

More Information

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

3 Installation Documentation

Required Installation Documentation

| Documents	Comments and Links
Installation Guide for SAP S/4HANA 2022 (this guide)	This document contains information relevant for the installation of SAP S/4HANA, but it does not describe the process or the installation tool. They are described in the Software Provisioning Manager guides listed below. Always find the latest version of the *Installation Guide for SAP S/4HANA 2022* at https://help.sap.com/s4hana_op_2022 ▌▶ *Implement* ❭ *Guides* ❭
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.	You find these guides (as well as a link to the SPM tool) at https://help.sap.com/viewer/swpm20guides ▌▶ *Installation Option of Software Provisioning Manager 2.0* ❭ *Installation Guides - Application Server Systems - Software Provisioning Manager 2.0* ❭. 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) and 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 at https://help.sap.com/viewer/swpm10guides ▌▶ *Installation Option of Software Provisioning Manager 1.0* ❭ *Installation Guides - Application Server Systems - Software Provisioning Manager 1.0* ❭.

Documents	Comments and Links
SAP HANA Server Installation and Update Guide	You need the *SAP HANA Server Installation and Update Guide* for the installation of the following components: • SAP liveCache on SAP HANA If you plan to use the SAP S/4HANA **Production Planning & Detailed Scheduling (PP/DS)** application and / or the **Capacity Scheduling Table** (Fiori ID: F3770) and **Capacity Scheduling Board** (Fiori ID: F3951) apps, which are a 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. > ⓘ Note > For each SAP HANA revision, there exists one corresponding version of these SAP HANA system components. You find this guide at http://help.sap.com/hana_platform ▶ *Implement* ❯ *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	With SAP S/4HANA 2020 the content of the *UI Technology Guide for SAP S/4HANA* has moved to the product assistance: https://help.sap.com/s4hana_op_2022 ▶ *Use* ❯ *Product Assistance* ❯ *English* ❯ *SAP S/4HANA* ❯ *Enterprise Technology* ❯ *SAP Fiori* ❯ *SAP Fiori Overview* ❯. This documentation provides important information about the UI implementation.
SAP S/4HANA 2022: Release Information Note	SAP Note 3145277
SAP S/4HANA 2022 Feature Package Stack 00: Additional Release Information	SAP Note 3226530
SAP S/4HANA 2022: Restriction Note	SAP Note 3230844
SAP Fiori for SAP S/4HANA 2022: Release Information Note	SAP Note 3226678
SAP S/4HANA Foundation 2022: Release Information Note	SAP Note 3143630

Documents	Comments and Links
SAP S/4HANA Add-on Note	SAP Note 2214409
ABAP Platform 2022 – General Information	SAP Note 3225464
ABAP Platform 2022 – Restrictions	SAP Note 3225504
Java components for SAP S/4HANA 2022 – Restrictions	SAP Note 3225521

Additional Documentation

Documents	Comments
Getting Started with SAP S/4HANA	You find this guide at https://help.sap.com/ s4hana_op_2022 ▶ *Discover* ▶
System copy guides using the Software Provisioning Manager 1.0 or 2.0.	You find these guides at https://help.sap.com/viewer/ swpmguides.
Requirements for other components to use certain functions in decentralized EWM on SAP S/4HANA	SAP Note 2871189

4 Product and Database Information

This section gives an overview of the components of SAP S/4HANA 2022

SAP S/4HANA Components

Component Name	Comment
SAP S/4HANA Server	Note that client 000 is not a productive client.
	Includes SAP S/4HANA Foundation. As well as the SAP S/4HANA Server, this component needs to be specifically selected in the Software Provisioning Manager 2.0.
SAP Predictive Integrator	• APL 4 FOR HANA 2 SP03+
	• UMML4HANA 1
	For information about SAP Predictive Integrator, see https://help.sap.com/ s4hana_op_2022 〉 *Use* 〉 *Product Assistance* 〉 *English* 〉 *SAP S/4HANA* 〉 *Cross Components* 〉 *Analytics* 〉 *Predictive Analytics integrator (PAi)* 〉.
SAP HANA Rules Framework	HANA RULES FRAMEWORK 1.0
SAP S/4HANA VCH AFL	SAP VCH AFL 2022.00
SAP S/4HANA SCA AFL	SAP SCA AFL 1.0
SAP LiveCache on SAP HANA	SAP HANA LCAPPS 1.00
	When configuring your SAP S/4HANA installation package through Software Provisioning Manager (SWPM), you get a screen named *Configuration of SAP liveCache with SAP HANA*. Here, choose to install liveCache for SAP System.
	• For SAP S/4HANA you can only choose the SAP HANA integrated liveCache.
	• You need the liveCache installation only when at least one of your applications uses it.
SAP Optimizer	SAP SCM Optimizer 14.0
Integration for Elster	• ABAP Platform 2022 - Advanced Adapter Engine Extnd
	• ELSTER 2.2
	• ELSTER_LIBS 2.2
	• UTELSTER 730
Integration for Swift	• ABAP Platform 2022 - Advanced Adapter Engine Extnd
	• SWIFT 622
	• UTSWIFT 730
ESR Content	ESR Content (XI CONTENT)

Component Name	Comment
SAP EHS Expert Server	EH&S EXPERT 3.2
SAP EHS WWI Server	EH&S WWI 3.2
MSG.PMQ Designer	MSG.PMQ DESIGNER 2
MSG.PMQ XSA Content	XSAC_TOMATOSJ 2 For information about msg.PMQ, see https://help.sap.com/viewer/product/SAP_POL-ICY_MANAGEMENT_OVERVIEW/2022.latest/en-US
MSG.PMQ Sample Content	MSG.PMQ SAMPLE CONTENT 807
Business Intelligence	For more information, see SAP Note 2289424 .
BI Content Extension	For more information, see SAP Note 2289424 .
SAP S/4HANA Java	-
Adobe Document Services	-
Advanced Adapter Engine Extnd	-
Enterprise Services Repository	-
Content Server	-
SAP Web Dispatcher	-
Frontend	-
ABAP in Eclipse	-

> ⓘ **Note**
>
> For information about PI Adapters, see SAP Note 2251604 .
>
> For information about SAP S/4HANA and the ABAP Platform, see the product assistance at https://help.sap.com/s4hana_op_2022 ▶ *Use* ▶ *Product Assistance* ▶ *English* ▶ *SAP S/4HANA* ▶ *Enterprise Technology* .

SAP Fiori for SAP S/4HANA 2022

Component Name	Comment
UI for SAP S/4HANA	• UIAPFI70 901 • UIS4HOP1 800
UI for HCM	UIHR002 100

Component Name	Comment
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

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

Database for SAP S/4HANA Backend

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

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

Databases for SAP Fiori for SAP S/4HANA Frontend	Comments
SAP HANA (`SAP HANA DATABASE 1.0` and `SAP HANA DATABASE 2.0`)	The SAP Fiori frontend for SAP S/4HANA can run on SAP HANA, SAP MaxDB, and SAP ASE in a hub deployment, but the database for the SAP S/4HANA backend must be SAP HANA (see table above).
SAP MaxDB (`MAXDB 7.9 64-BIT`)	
SAP Adaptive Server Enterprise (SAP ASE) (`SAP ASE 16.0 FOR BUS. SUITE`)	For more information about SAP Fiori for SAP S/4HANA deployment, see Installation of SAP Fiori [page 21] and SAP Note 2590653

> ⓘ 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 tile *Plan for SAP S/4HANA* provides you with a guided procedure for SAP S/4HANA which also offers information about the selection of SAP Fiori Front-end Server deployment options. You find the tile at http://help.sap.com/maintenanceplanner ▶ *Additional Information* ❯ *Launch Maintenance Planner* ❭.

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).

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

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

6 Installation Process

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

7 Installation Follow-Up Activities

> ⓘ Note
>
> For information about how to configure the ABAP Platform, see https://help.sap.com/s4hana_op_2022
> ▌ *Use* ❯ *Product Assistance* ❯ *English* ❯ *Enterprise Technology* ❯ *ABAP Platform* ❯ *Configuring the ABAP*
> *Platform* ▌

7.1 Applying the Latest Kernel and Support Package Stacks

If you are already on SAP S/4HANA 2021, you can do an update to any higher SAP S/4HANA 2021 feature or support package stack.

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

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

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

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

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

7.2 Importing Data to SAP S/4HANA

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

- SAP S/4HANA Migration Cockpit [page 17]
- SAP Data Services [page 20]

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.

Using SAP S/4HANA Migration Cockpit

For an overview of the SAP Notes relevant for the SAP S/4HANA migration cockpit, see SAP Note 2780378 .

Use the note analyzer report for the scenario SAP S/4HANA Migration Cockpit (MC) available in SAP Note 3016862 to check whether all the necessary SAP Notes for SAP S/4HANA migration cockpit are installed.

SAP Fiori must be set up as prerequisite for the data migration approaches. For more information about the SAP Fiori app *Migrate Your Data*, see:

- SAP Fiori Apps Reference Library and search for the SAP Fiori app *Migrate Your Data*
- SAP Note 3039598

As of SAP S/4HANA 2020, there are two migration approaches for transferring data to SAP S/4HANA using the SAP Fiori app *Migrate Your Data*:

1. **Migrate data using staging tables**
   The SAP S/4HANA migration cockpit creates staging tables for the migration objects that are relevant for your project and migrates data from these staging tables to the target SAP S/4HANA system. Template files are provided for each migration object. You can use these template files to fill the staging tables with data. Alternatively, you can fill the staging tables using your preferred tools (for example SAP Data Services). For more information about this approach, see SAP Notes 2537549 and 2733253 . If you plan to use CSV files to fill the staging tables, see SAP Note 3210687 .

   > ⓘ Note
   >
   > When creating a migration project, you specify a location for the staging tables. If you use the option **Local SAP S/4HANA Database Schema**, the SAP S/4HANA migration cockpit will generate the staging tables in the local database schema of the SAP S/4HANA system.
   >
   > If you use the option **Remote SAP HANA Database Schema**, you specify the relevant connection to a remote SAP HANA system and the SAP S/4HANA migration cockpit will generate the staging tables there. Prerequisite is a secondary database connection (via transaction DBCO) that has to be listed (manually add it to table DMC_C_WL_DBCO_OP in the SAP S/4HANA system).

> For more information about the local SAP S/4HANA and remote SAP HANA database schema, see SAP Note 2733253 .
>
> For performance tips and tricks and how to modify data transfer jobs, see SAP KBAs 3065607 and 3066336 .
>
> 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.

2. **Migrate data directly from an SAP system**

   This migration approach 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 more information about this approach, see SAP Note 2747566 .

   This migration approach is available for the following migration scenarios:

   - SAP ERP to SAP S/4HANA
   - SAP Apparel and Footwear (SAP AFS) to SAP S/4HANA for fashion and vertical business
   - SAP Extended Warehouse Management (SAP EWM) to EWM in SAP S/4HANA
   - SAP Customer Relationship Management (SAP CRM) to SAP S/4HANA for Customer Management.
   - SAP Supply Chain Management Service Parts Planning (SAP SCM APO SPP) to SAP S/4HANA Extended Service Parts Planning (eSPP).

   For information about the lowest supported releases for these migration scenarios, see https://help.sap.com/S4_OP_DM ▶ *Migrate Your Data - Migration Cockpit* ❯ *Migrate Data Directly from SAP System* ❯.

   > ⓘ Note
   >
   > Note that the SAP S/4HANA migration cockpit does not support the migration of data from one SAP S/4HANA system to another SAP S/4HANA system. SAP S/4HANA Finance systems (previously known as SAP Simple Finance) are classified as SAP S/4HANA systems. We strongly recommend to check the compatibility of your SAP ERP DMIS - SAP S/4HANA, as shown in SAP Note 3209755 .

   > ⓘ Note
   >
   > - The add-on DMIS must be installed in the source system. See SAP Note 2747566 for details.
   > - An RFC connection between the SAP S/4HANA system and the SAP source system must be available.
   >   The RFC user in the SAP ERP source system must have the role `SAP_DMIS_MC_DT_REMOTE`. For security reasons, we recommend that this RFC user is a user of type **Communication**. Note that it is not possible to use RFC connections that use trusted systems.
   > - The program `CNV_PE_MC_LOAD_OBJECTS` must have been 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 system to a new release, or install a new feature or support package, you need to run the program again. For more information, see SAP Note 2870546 .
   > - To check whether your system has an SAP S/4HANA Finance installation go to ▶ *SAP GUI* ❯ *System* ❯ *Status* ❯ *SAP System data* ❯ *Product version details* ❯ *Installed software component versions* ❯ where you can see if an SAP S/4HANA Finance product version is installed.
   > - For performance tips and tricks, see SAP KBA 3056885 .

> - Before creating your first project, we strongly recommend that you use the SAP Note analyzer to check if all relevant SAP Notes have been implemented, see SAP Note 3016862.

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 complete list of migration objects, see https://help.sap.com/S4_OP_MO.

Required Roles

To access the SAP S/4HANA migration cockpit, use the SAP Fiori app *Migrate Your Data*. You need the business role `SAP_BR_CONFIG_EXPERT_DATA_MIG` for the front-end server.

To transfer data using the SAP S/4HANA migration cockpit, a user with the role `SAP_CA_DMC_MC_USER` is required in the SAP S/4HANA system.

To use the migration object modeler (transaction `LTMOM`), assign the role `SAP_CA_DMC_MC_DEVELOPER` to the respective user. Before using the modeler, you first need to create a migration project.

Technical Job Repository Information

The technical job repository (`SJOBREPO`) is active for the dispatcher job of the SAP S/4HANA migration cockpit. This framework uses a technical user, typically `SAP_SYSTEM`, `DDIC` or another user specified in the settings.

For the approach migrate data using staging tables, the jobs (for example for simulation or migration) are scheduled with user `DDIC`. However, the migration steps in the job run with the user who started the activity.

Usually, the framework expects either the user `SAP_SYSTEM` or `DDIC`. It is, however, also possible to store a different user (step user), see SAP Notes 2731999 and 3194839.

For general information about the technical job framework, see SAP Note 2190119.

The `/ LTB / JOB_DISPATCHER` can work with or without a technical job framework. This means that if the technical job does not exist or is inactive or if the technical job framework does not exist, the jobs are scheduled in the usual way.

The migration approach transfer data directly from SAP System also uses the technical job framework. For this approach, the jobs are started by technical users (for example, `SAP_SYSTEM` or `DDIC`). The steps in the jobs are run by the user who started the activity.

> ⓘ Note
>
> For both migration approaches (Migrate Data Using Staging Tables and Migrate Data Directly from SAP System), the technical job repository requires one single user which serves as a step user for all the technical jobs scheduled via `SJOBREPO`. This user must be registered once per client in transaction `SJOBREPO_STEPUSER`. You can use profile the `SAP_APP` which you have to regenerate using program `REGENERATE_SAP_APP` as explained in SAP Note 2437635🔗. The authorization profile `SAP_APP` must be added to the step user to run the SAP S/4HANA migration cockpit correctly.
>
> For more details about how to create a step user see SAP Note 3094534🔗. For information about other relevant SAP Notes related to the job dispatcher, see SAP Note 3166765🔗.

Additional Information

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

- https://help.sap.com/S4_OP_DM
- 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: https://me.sap.com/processnavigator/SolS/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.

   > ⓘ 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 the SAP Help Portal at https://help.sap.com/s4hana_op_2022 ▶ *Implement* 〉 *SAP Best Practices* 〉

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.

> ⓘ 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_2022 ▶ *Implement* 〉 *Guides* 〉.

7.4 Installation of SAP Fiori

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

Hub deployment of SAP Fiori front-end server
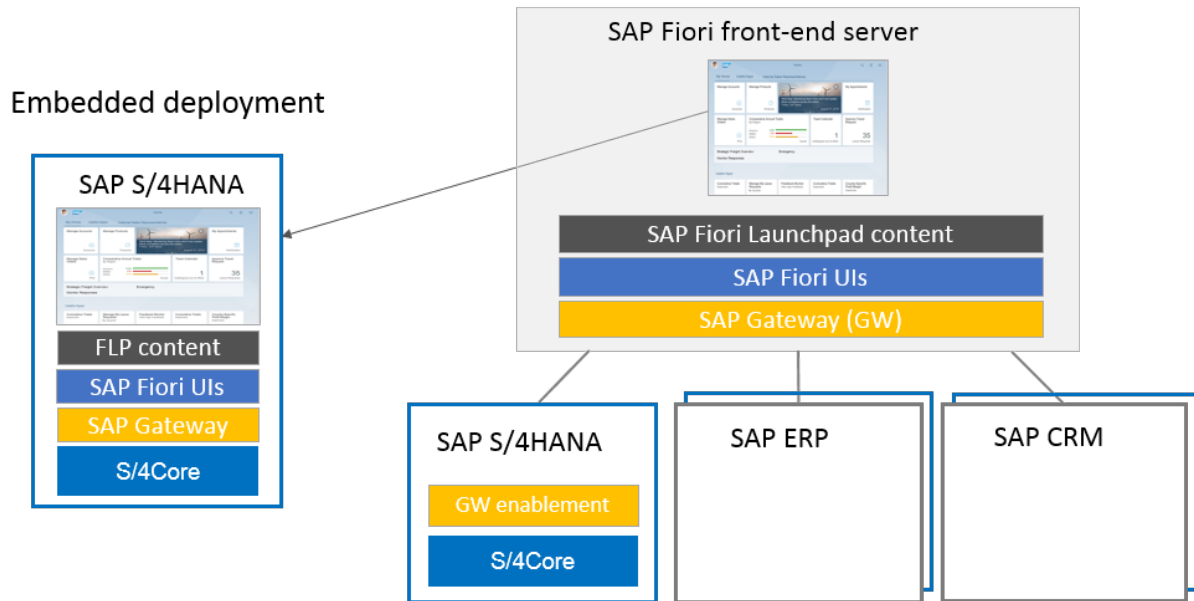
Embedded Deployment

Components for embedded deployment for SAP S/4HANA 2022:

- Optional UI components (HR, Travel, MDG)
- SAP Fiori for SAP S/4HANA 2022
- SAP Fiori front-end server 2022 for SAP S/4HANA
- UIBAS001 757
- SAPUI5 1.102
- SAP_UI 7.57
- S4CORE 107
- SAP Gateway 7.57
- ABAP Platform 2022 (part of SAP S/4HANA 2022)

After the installation of SAP S/4HANA 2022, 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 a SAP Fiori forSAP S/4HANA 2022 standalone 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 2022 need to be configured to run against the SAP S/4HANA 2022 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 2022:

- **Frontend**:
    - Optional UI components (HR, MDG)
    - SAP Fiori for SAP S/4HANA 2022
    - SAP Fiori front-end server 2022 for SAP S/4HANA
    - UIBAS001 757
    - SAPUI5 1.102
    - SAP_UI 7.57
    - SAP Gateway 7.52
    - SAP NetWeaver 7.52 SP10 (minimum version)
- **Backend**:
    - SAP S/4HANA 2022
    - S4CORE 107
    - SAP Gateway 7.57
    - ABAP Platform 2022 (part of SAP S/4HANA 2021)

For more information, see: .

- *SAP Fiori Overview* at https://help.sap.com/s4hana_op_2022 |▶ *Use* ❯ *Product Assistance* ❯ *English* ❯ *Enterprise Technology* ❯ *SAP Fiori* ▌.
- SAP Notes 2590653 and 3191581

7.5 User Assistance Settings

The following sections describe how to enable context-sensitive user assistance and back-end help links for SAP S/4HANA.

Once you have correctly configured the help settings, the context-sensitive user assistance will be available on the SAP Fiori launchpad and back-end help links to the product assistance will work.

To test whether you have correctly configured the context-sensitive user assistance, choose the question mark icon on the SAP Fiori launchpad homepage.

If content is displayed, everything is correctly configured and all available content, such as static help or guided tours, will be visible.

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

> **ⓘ Note**
>
> You can run this task as part of the automatic tasklist *SAP Fiori - Initial Setup for Fiori Applications S/4* (`SAP_FIORI_FOUNDATION_S4`). This is only possible if you have implemented SAP Note 2712785⬈.
>
> When you do, the task is run with the default settings, meaning that the *Front-End Settings* and *Back-End Settings* are configured for an Embedded Deployment scenario.
>
> If your system is set up in a *Hub Deployment* scenario, you need to manually call up the transaction `SHELP_CONFIG` and adjust the settings accordingly before executing it.

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 `SHELP_CONFIG` (*Configure Help Settings*).

   > **ⓘ Note**
   >
   > The transaction `SHELP_CONFIG` replaces the transaction `HELP_CONFIG`.
   >
   > Although the transaction `HELP_CONFIG` is still available, we recommend that you use transaction `SHELP_CONFIG` instead, as it automatically makes some settings that have to be manually configured when you use transaction `HELP_CONFIG`. For more information, see the section *Additional In-App Help Configuration Settings (Only Required When Using HELP_CONFIG)* below.

2. Select the relevant scope in *Settings for*: *Front End*, *Back End*, or *Both*.
   If you select *Both* or *Front End*, select a *Scenario*: *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.

   General Settings

Field	Value
Product	SAP_S4HANA_ON-PREMISE
Version	2022.latest

   Front-End Settings

Field	Value	Additional Information
RFC Destination	<blank>	This field only appears if you select *Hub Deployment*.
		If you do, you have to enter a suitable RFC connection into the field to establish a connection to the relevant front-end system.

Field	Value	Additional Information
Without Web Dispatcher	Yes	We recommend the configuration without Web Dispatcher, but if you are already using SAP Web Dispatcher, you can also make the settings there, as described in Configure the SAP Web Dispatcher [page 27].
Learning App Backend URL	`https:// education.hana.ondemand.c om/education/`	
Learning App Workspace	S4	To see the most up-to-date learning content, manually change this value to `s4` (with a lower-case "s").
SAP Community URL	`https:// community.sap.com/topics/ s4hana`	
URL for In-App Help	`https://help.sap.com/ webassistant`	
Show Short Description	No	

Back-End Settings

Field	Value	Additional Information
Language	EN,DE	
Fallback ID	2C0E7C571FBEB576E10000000A44 50E5	This ID specifies which structure of the product assistance should be opened if no dedicated ID is available for a back-end help link.
Server	`https://help.sap.com/ http.svc/ahp2`	
Path	`SAP_S4HANA_ON-PREMISE/ 2022.latest`	You cannot manually change the value of this field, as it is generated based on the product and version values.

3. Modify the values if required.
   We recommend filling the *Version* field with the "latest" version for the relevant release (for example `2022.latest`).

> ⓘ **Note**
>
> If you wish to link to user assistance for a **specific** release (for example to the version for SAP S/4HANA 2022 FPS00), please see SAP Note 3145277 🔗. 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:

FLP Configuration

FLP Property ID	Property Value	Additional Information
ENABLE_HELP	true	This setting is a prerequisite for the context-sensitive help to work with the SAP Fiori launchpad.

WEB_ASSISTANT_HELP_PLUGIN

FLP Property ID	Property Value	Additional Information
BUTTON_LOCATION	head	The help button is displayed in the SAP Fiori launchpad header.
NO_HELP_MODE	carousel	The help button and panel are always displayed, even if no content is available.
USE_GLOBAL_HELP	true	In SAP GUI for HTML and WebDynpro apps, instructions about how to access help content are displayed.

In transaction `SR13`, entries are created based on the defined server, path, and languages. For each language, entries for the areas `XML_DOCU` and `IWBHELP` and the most common platforms (such as `ITS` and `WN32`) are created.

Result

The question mark for in-app help will be displayed and help links to the product assistance resolve correctly in the relevant front-end system.

Additional In-App Help Configuration Settings (Only Required When Using `HELP_CONFIG`)

In addition to executing `HELP_CONFIG`, you have to maintain further values to enable the in-app help.

1. Run transaction `/UI2/FLP_CUS_CONF`.
2. Select *Launchpad Plug-Ins*.
3. For the plugin *WEB_ASSISTANT_HELP_PLUGIN*, enter the following value into the *URL* field: `https://xray.hana.ondemand.com/xRayControls/resources/sap/dfa/help/utils/adapters/fiori`
4. Select *Configuration*.
5. Add an entry with the launchpad property ID *PARAMETERS* and the value `resourceUrl=https://xray.hana.ondemand.com/xRayControls/resources/sap/dfa/help`
6. Save your changes.

7.5.2 Configure the SAP Web Dispatcher

> ⓘ Note
>
> Instead of configuring the SAP Web Dispatcher, you can maintain the URLs required for the context-sensitive user assistance in transaction `/UI2/FLP_CUS_CONF` as described in SAP Note 3022494 .
>
> If this does not work, please configure the SAP Web Dispatcher as described below.

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_2022, 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
     `wdisp/system_<number> = SID=<SID1>, EXTSRV=https://cp.hana.ondemand.com:443, SRCURL=/sap/dfa/help/, SRCSRV=*:*, PROXY=<your proxy>:<your proxy port>, STANDARD_COOKIE_FILTER=OFF`
   - For the script server in your production system
     `wdisp/system_<number> = SID=<SID2>, EXTSRV=https://xray.hana.ondemand.com:443, SRCURL=/resources/sap/dfa/help/, SRCSRV=*:*, PROXY=<your proxy>:<your proxy port>, STANDARD_COOKIE_FILTER=OFF`

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

2. Activate the usage of the modification handler:
   `icm/HTTP/mod_0 = PREFIX=/, FILE=$(DIR_PROFILE)/redirect.txt`
   For more information, go to https://help.sap.com/s4hana_op_2022, enter *SAP Web Dispatcher Parameter References* into the search bar, press ⌗Enter⌗, open the search result with that title and navigate to the section *icm/HTTP/mod_<xx>*.

3. Adjust the SAP Web Dispatcher redirect file.
   In the `redirect.txt` file, add the following parameters:

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

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

4. You can check if the content platform is working properly through the proxy connection by accessing:
   `https://<your server>:<your port>/sap/dfa/help/odata.svc/?$format=json`

   > ⁂ Example
   >
   > If the content platform is connected correctly, you can see on your screen the following output, for example:
   >
   > `{"d":{"EntitySets":`
   > `["Transport","DeliverableForReplication","Tile","Project","Deliverable","Tran`

```
sportHistory","TourIssue","ReplicationTourIssue","Hotspot","Product","Context
"]}}
```

5. You can check if the help script server is working properly through the proxy connection
    by accessing: `https://<yourserver>:<yourport>/resources/sap/dfa/help/utils/adapters/`
    `fiori/Component.js`

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

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

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

Result

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

7.6 Installation of the PI Adapters for Elster and Swift

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

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

1 Installation from DVD

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

For more information how to use the SUM tool, see SUM guides at https://support.sap.com/sltoolset
▶ *System Maintenance* ❯ *System Maintenance Scenarios* ❯ *Software Update/Upgrade using SUM* ❯ *Guides for*
SUM 2.0 <latest SP> . Select the guide according to your operating systems and database.

2 Installation with Maintenance Planner

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

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

7.7 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.

7.8 Follow-Up Activities for Advanced Variant Configuration

AVC Post-Installation Steps

Configuring SAP Fiori alias

The SAP Fiori alias configuration is necessary for the embedded SAP Fiori Launchpad in SAP GUI or WebGUI to run the AVC SAP Fiori Application. It must be determined which ABAP system acts as a provider for the SAP Fiori Launchpad. The reason for this configuration is found in the different deployment variants. In the following steps it is relevant which deployment variant out of the four specified has been chosen:

- Co-Deployment with Web Dispatcher
- Co-Deployment without Web Dispatcher
- Hub-Deployment with Web Dispatcher
- Hub-Deployment without Web Dispatcher

1. Run transaction `stc01` in the backend or S/4 Co-Deployment system
2. Create a tasklist run for `SAP_SAP2GATEWAY_TRUSTED_CONFIG`
3. Maintain parameters for step 2 – Create ABAP / HTTP(S) Connections for SAP System (SM59) as described in the following table:

	Co-Deployment		Hub-Deployment	
	with Web Dispatcher	without Web Dispatcher	with Web Dispatcher	without Web Dispatcher
ABAP System				
System ID	S4 SID		FRONTEND SID	
Client	S4 CLIENT		FRONTEND CLIENT	
Create HTTPS connection			TRUE	
Create HTTP connection			FALSE	
ABAP Connection				
Load Balancing Mode			FALSE	
Target host	S4 HOST		FRONTEND HOST	
Service	S4 INST NR		FRONTEND INST NR	
HTTPS Connection to ABAP system				
Host	WEB DISP HOST	S4 HOST	WEB DISP HOST	FRONTEND HOST
Port	WEB DISP SSL PORT	S4 SSL PORT	WEB DISP SSL PORT	FRONTEND SSL PORT
Path Prefix			/sap/bc/ui2/flp	

> ⓘ **Note**
>
> For obtaining host and port, the transaction `smicm` (List Services) can be used. The instance Number can be read from the profile – transaction `rz10`.

Remove RFC destination (only Co-Deployment)

1. Start transaction `SM59` on the S/4 Co-Deployment system
2. Open node *ABAP Connections (Type 3)*
3. Delete the created destination `<S4_SID>CLNT<S4_CLIENT>_RFC` (this is necessary as a missing RFC destination for the specified Fiori alias mapping is the indicator for the Co-Deployment variant and prevents the system from sending origin information, which in Co-Deployment is not allowed by the gateway)

Trusted RFC connection (only Hub-Deployment)

1. Start transaction `stc01` in the backend system
2. Create a tasklist run for `SAP_ABAP2ABAP_TRUST_CLIENT_CFG`

3. Maintain parameters for step 2 – Create / Select trusted ABAP RFC Destination to SAP System (SM59)
4. Select the RFC destination created before `<FRONTEND_SID>CLNT<FRONTEND_CLIENT>_RFC`
5. Perform the manual steps for the authorization check as described

HTTP Whitelist Maintenance on Frontend (only Hub-Deployment)

The HTTP Whitelist can be maintained using transaction `se16` for editing table `HTTP_WHITELIST` or transaction `uconcockpit`. Be aware that when switching to `uconcockpit`, the old table maintenance can no longer be used. The following section describes the procedure using `uconcockpit`.

1. Start transaction `uconcockpit`
2. Select *HTTP Whitelist Scenario* from the scenario dropdown
3. Go to menu *HTTP Whitelist*-> *Setup*
4. Activate Clickjacking Protection by selecting the option *Activate Clickjacking Protection (Context Type 02) for all clients (recommended)*
5. Enter the detail screen for context type 02 (Clickjacking Frame Protection) by double-clicking on it
6. Enter a new entry on the right side of the screen with the following data:
   - Schema rule: * or HTTPS
   - Host rule: Backend host
   - Port rule: * or SSL Port
   - Path rule: *

Activation of OData Services

1. Start transaction `stc01` in the frontend or S/4 Co-Deployment system
2. Create a tasklist run for `SAP_GATEWAY_ACTIVATE_ODATA_SERV`
3. Maintain parameters for step 2 – Define OData Services for Activation
4. Enter the services: `LO_VCHCLF` and `LO_VCHCLF_INTEGRATION_LEGACY_SRV`
5. Maintain parameters for step 3 – Select Processing Mode / System Alias for Activation
6. Choose the settings depending on the deployment variant from the following table:

	Co-Deployment		Hub-Deployment	
	with Web Dispatcher	without Web Dispatcher	with Web Dispatcher	without Web Dispatcher
Processing Mode	Co-deployed-only		Routing-Based	
System Alias	n.a.		Select Alias of Frontend -> Backend connection	

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 2022.00), you need to do some post-installation steps for the VCH AFL described in SAP Note 2987015.

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

7.9 Follow-Up Activities for Predictive Analytics integrator

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

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

Product	Supporting Documentation	Further Information
	modeling data and analytic views, and building application logic) ❯ *SAP HANA Application Lifecycle Management* ❯ *Maintaining Delivery Units* ❯ *Import a Delivery Unit* ⬏.	*Alphabetical Index* ❯ *SAP S/4HANA* ❯ *UMML4HANA 1* ⬏. 2. For more detailed information about the exact Predictive Analytics integrator (UMML4HANA 1) Delivery Unit version required, please refer to SAP Note 2631182 ⬏.
SAP HANA database user or ABAP technical user roles	Assign the *sap.hana.pai::ExecutePAI* role to the SAP HANA database user or ABAP technical user, in order for them to access functionality such as training and executing models.	N/A
Configuration	For information about ABAP Technical Jobs, you can refer to the chapter called *ABAP Technical Jobs*. 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 the chapters called *Configuring Business Roles for the Backend and Configuring Business Roles for the Frontend*.	• ABAP Technical Jobs [page 35] • Setting up the OData Service [page 36] • Setting up the bgRFC Queue [page 40] • Configuring Business Roles for the Backend [page 41] • Configuring Business Roles for the Frontend [page 45]

7.9.1 ABAP Technical Jobs

PAi uses ABAP technical jobs to perform model version training.

To run technical jobs in SAP S/4HANA, one of the users *SAP_SYSTEM* or *DDIC* with *SAP_ALL* authorization must be available in the *ADMIN (=000)* and *BUSINESS* clients.

This user is used by default to execute technical jobs.

Viewing and Monitoring ABAP Technical Jobs

To view ABAP technical jobs, use transaction *SJOBREPO*. To monitor the execution of ABAP technical jobs, use transaction *SM37*. Enter the job name into the ABAP program name field.

Job Name	Description
SAP_PAI_SCHEDULER	This job runs in the Administration Client system, and manages the execution concurrency control for PAi. The job is timed based, and runs frequently to manage the PAi workload on the system.
SAP_PAI_PROCESSOR	This job runs in Business Client, and performs model version training. It's triggered when *EVENT* is raised by the scheduler as needed.

PAi Training Concurrency Limit

To limit the workload on the system, SAP S/4HANA have restricted to 2, the default number of PAi model version trainings that may run concurrently. This restriction is achieved with the jobs *SAP_PAI_SCHEDULER* and *SAP_PAI_PROCESSOR*, and a queuing process.

This limit can be changed by using transaction *SM30* for maintenance for the table *RSANAUMMTSKSCONF*.

Task Type	`Train`
Control Level	• S = System level restriction • C = Client level restriction
Limit	Number of concurrent PAi model version trainings allowed

7.9.2 Setting up the OData Service

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

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

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

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

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

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

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

Context

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

Procedure

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

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

10. Select the service name in the listing.

    The *Add Service* window opens.

11. In *Add Service* window, for *Package Assignment*, select *Local Object*, or assign a suitable package as required.

12. Select the icon to accept.

13. The *Information* window opens, confirming that the service was created.

Next Steps

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

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

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

Context

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

Procedure

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

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

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

Next Steps

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

7.9.2.3 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.

7.9.3 Setting up the bgRFC Queue

How to configure background processing with the bgRFC Queue.

Context

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

Procedure

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

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

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

Field Name	Value
Inb. Dest. Name	PAI_QBGRFC_INBOUND_DEST
Add Queue Prefix	PAI_

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

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

16. Choose *Save*.

17. Choose *Save* again.

18. Choose *Back*.

7.9.4 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

7.9.4.1   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:

Authorization Data

Authorization Object	Field	Value in Business Catalog Role
RSANAUMMPS	ACTVT	Add or Create, Change, Display, Delete (01, 02, 03, 06)
	PRED_SCEN	**<PS_NAME>**
	PAI_OTYPE	PSCENARIO, MCONTEXT, ENHMODEL, MVERSION
S_DEVELOP	DEVCLASS	**<Package>**
	OBJTYPE	PAI1
	OBJNAME	**<PS_NAME>**
	P_GROUP	*
	ACTVT	Create (01)
S_DEVELOP	DEVCLASS	**<Package>**
	OBJTYPE	DDLS
	OBJNAME	**<PS_NAME>**_TF01
	P_GROUP	*

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

15. On *Exit Authorization Maintenance*, select *Save*.

16. Select *Generate*.

7.9.4.2   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:

Authorization Data

Authorization Object	Field	Value in Business Catalog Role
RSANAUMMPS	ACTVT	Read (03)
	PRED_SCEN	Enter the name of the business case. **<PAi Predictive Scenario Name>**
	PAI_OTYPE	PSCENARIO, MCONTEXT, ENHMO-DEL
RSANAUMMPS	ACTVT	Create, Change, Read, and Delete (01,02,03,06)
	PRED_SCEN	Enter the name of the business case. **<PAi Predictive Scenario Name>**
	PAI_OTYPE	MVERSION

13. On *Exit Authorization Maintenance*, select *Save*.
14. Select *Generate*.

7.9.5 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 47]
How to perform frontend ABAP role configuration for predictive models.

Frontend Authorization for Predictive Scenarios [page 46]
How to perform frontend ABAP role configuration for predictive scenarios.

7.9.5.1 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_UMM_PSC)
- Predictive Models Fiori Tile Group (object SAP_CA_BCG_ANA_UMM)

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

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

Creating PFCG Authorizations

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

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

Procedure

1. In the ABAP frontend server, access the activity using the transaction code PFCG.
2. On the Role Maintenance screen, input Role using a suitable role name for use with PAi. Choose *Single Role*.
3. 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*.

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

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

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

Creating PFCG Authorizations

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

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

Procedure

1. In the ABAP frontend server, access the activity using the transaction code PFCG.
2. On the Role Maintenance screen, input Role using a suitable role name for use with PAi. Choose *Single Role*.
3. 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.
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*.

7.10   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 .

With SAP S/4HANA 2022 FPS01, there's a change in the required configuration for Embedded Analytics in a hub deployment: the front-end gateway server differs from the back-end server. You can find a description of the configuration in the following note: 3205494 .

This configuration is mandatory for all UIs that use InA as communication protocol, for example, the deprecated Design-Studio-based applications. For more information, see https://help.sap.com/ s4hana_op_2022 ▶ *Use* 〉 *Product Assistance* 〉 *English* 〉 *Cross Components* 〉 *Analytics* 〉 *Multidimensional Reports (Web Dynpro Apps)* 〉 *Design Studio Apps* ﹂ and SAP Note 3170381 .

7.11   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
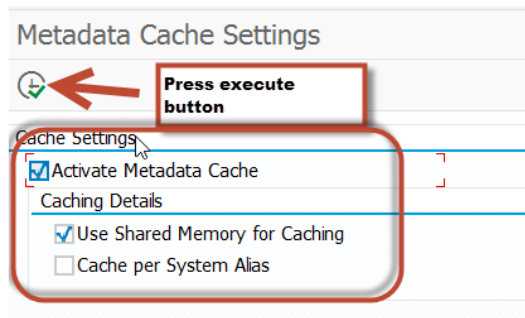
Manually Applying Settings

7.12 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*, EHENV*, 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 delivered Customizing from client 000 into your other clients.

- Configure the relevant settings in the Customizing activities for *Environment, Health, and Safety* under *Foundation for EHS* and under *Incident Management*, *Health and Safety Management*, or *Environment Management*.

- Run report `R_EHFND_CHEM_PROP_MIGRATION` to migrate the chemical properties defined in Customizing activity *Specify Chemical Properties* under *Master Data Configuration* to the content of the *Chemical/Physical Property* business object. More details are available in the report documentation and SAP Note 3127655 .

- Schedule and run batch job `SAP_EHFND_PC_CONTENT_LOAD`. You can do this in the Customizing activity under *Product Compliance* → *Foundation for Product Compliance* → *Product Compliance Background*

Processing → *Activation of Scope-Dependent Background Job Definitions*. This will load the necessary regulatory content and product categorization data to allow you to create new materials. For more information, you can also see Chapter 10.7.3.1.3 *Scheduled Periodic Tasks* in the Operations Guide for SAP S/4HANA 2022.

> ⓘ 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 .

7.13 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`.

7.14 Follow-Up Activities for Enterprise Portfolio and Project Management

7.14.1 Follow-Up Activities for SAP Portfolio and Project Management

Navigation

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

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

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

7.14.2 Follow-Up Activities for Commercial Project Management

7.14.2.1 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 3089817👈) contains important information and references related to Commercial Project Management. Based on your business needs, you can choose one of the following component combinations as a deployment option:

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

> ⓘ 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 SAP Lumira. On this page, search for *Application Designer Guide: Designing Analysis Applications* and then navigate to *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* ❱).

   > ⓘ 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 3089817👉).
6. Enable *Planning Application Kit* (PAK). PAK allows you to use the workbooks of SAP BusinessObjects Analysis, edition for Microsoft Office as part of the Commercial Project Management content.
   Procedure
   1. Get the latest information posted in SAP note 1637199👉.
   2. In the back-end system, launch table/view maintenance (transaction SM30).
   3. Enter RSPLS_HDB_ACT in the table/view field and choose *Maintain*.
   4. Choose *New Entries*.
   5. In the *HANA Integratn. Active* column, select *Deep HANA Integration Active*; and in the *Functn. Active* column, select the checkbox.
7. Commercial Project Management uses the BW layer that is available in each NetWeaver stack.

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

   For setting up Project Cost and Revenue Planning, see SAP note 2363617👉.
8. You must activate the analytics content under info-areas /CPD/AVR and /PICM/AVR. For information about setting up Analytics, see SAP Note 1999149👉.
9. To link generated SQL views of CDS views to HANA views, implement SAP Note 2952636👉.
10. You must follow these steps to enable delivery customizing in the relevant clients:
    1. Go to transaction SFW_BROWSER.
    2. Expand the business function /CPD/CA_CPD_PWS_1.
    3. Double-click on switch /CPD/CA_CPD_SFWS_PWS_1 to implement BC set activation.
    4. Choose the *Activate Dependent BC Sets* button.
    5. In the dialog box, select *Activate Switch BC Sets* and choose *Continue*.
    6. In the next dialog box, select the following:
       1. *Only Logon client for Cascading BC Sets*
       2. *Activate in logon client for Non-Cascading BC sets*
       3. *Activate for Cross-Client BC sets*
       4. Select the checkboxes to ignore previous activations and ignore table delivery class for a new installation.
    7. Repeat the BC set activation steps for the switch /CPD/CA_CPD_SFWS_PWS_S4_1.
    8. Expand the business function /CPD/CA_CPD_PFP_1.
    9. Repeat the BC set activation steps for the switch /CPD/CA_CPD_SFWS_PFP_1.
    10. Expand the business function /PICM/CA_CPD_PICM_1.
    11. Repeat the BC set activation steps for the switch /PICM/CA_CPD_SFWS_PICM_1.
11. Check and activate SICF services as follows:
    1. Go to transaction SICF.
    2. Choose *Execute*.
    3. Go to ▐ *default host* ❯ *sap* ❯ *bc* ❯ *webdynpro* ❯.
    4. Ensure that all services under the cpd node are active.
    5. Ensure that all services under the picm node are active.

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

- **Client 000**
    1. Run the report `FDT_TRANS`.
    2. Provide the relevant customizing request.
    3. Enter the object ID as `38EAA71741841EE59EFAD4B491883514`.
    4. Enter the object ID as `F0D5105146757029E10000000A42852B`.
    5. Select the *Transport Whole Application(s)* radio button.
- **Productive Client**
    1. Launch the transaction `SCC1`.
    2. Enter the source client as `000`.
    3. Provide the transport request in which you have transported the application (from client 000).
    4. Select the *Include Tasks in Requests* checkbox.
    5. Execute the transaction.

Option 2

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

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

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

2. Activate the `/CPD/CA_CPD_PFP_1` business function (see transaction SFW5 ▶ *Enterprise Business Functions* ❯ */CPD/CA_CPD_PFP_1* ❯).
3. Install NWBC for Desktop (optional).
4. If you wish to use workbooks as the front-end, install Analysis Office (see SAP note 3089817).
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 2952636.

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* ◀).

> ⓘ **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 3089817🔗).

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 2952636🔗.

7. You must follow these steps to enable delivery customizing in the relevant clients:
   1. Go to transaction `SFW_BROWSER`.
   2. Expand the business function `/CPD/CA_CPD_PWS_1`.
   3. Double-click on switch `/CPD/CA_CPD_SFWS_PWS_1` to implement BC set activation.
   4. Choose the *Activate Dependent BC Sets* button.
   5. In the dialog box, select *Activate Switch BC Sets* and choose *Continue*.
   6. In the next dialog box, select the following:
      1. *Only Logon client for Cascading BC Sets*
      2. *Activate in logon client for Non-Cascading BC sets*
      3. *Activate for Cross-Client BC sets*
      4. Select the checkboxes to ignore previous activations and ignore table delivery class for a new installation.
   7. Repeat the BC set activation steps for the switch `/CPD/CA_CPD_SFWS_PWS_S4_1`.
   8. Expand the business function `/PICM/CA_CPD_PICM_1`.
   9. Repeat the BC set activation steps for the switch `/PICM/CA_CPD_SFWS_PICM_1`.

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

9. BRF+ framework is used within analytics and the processing of change requests in Project Issue and Change Management. Import the BRF+ customizing application as follows:
   - **Client 000**
     1. Run the report `FDT_TRANS`.
     2. Provide the relevant customizing request.
     3. Enter the object ID as `38EAA71741841EE59EFAD4B491883514`.
     4. Enter the object ID as `F0D5105146757029E10000000A42852B`.
     5. Select the *Transport Whole Application(s)* radio button.
   - **Productive Client**
     1. Launch the transaction `SCC1`.
     2. Enter the source client as `000`.
     3. Provide the transport request in which you have transported the application (from client 000).

4. Select the *Include Tasks in Requests* checkbox.
5. Execute the transaction.

Option 4

Install Project Workspace with Analysis Office (AO):

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

> ⓘ **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 3089817🔗).
4. You must activate the analytics content under the info-area `/CPD/AVR`. For information about setting up Analytics, see SAP Note 3089817🔗.
5. To link generated SQL views of CDS views to HANA views, implement SAP Note 2952636🔗.
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.

7.14.2.2 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.

> ⓘ 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.

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

Set-Up for Launching Native Transactions in Project Workspace

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

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

Definition of RFC Destinations for Charts

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

Activation of Relevant OData Services

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

- `CPD_MASTERPROJECT_OVERVIEW_SRV`
- `CPD_PROJECT_ACTIVITIES_SRV`

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`)).

7.14.2.3 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 Analysis for Microsoft Office, follow these steps to activate the default planning options in workbooks:

1. Launch a planning workbook.
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 Analysis 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 Analysis for Microsoft Office

> ⓘ Note
>
> This setting is available only in SAP Analysis 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 Analysis for Microsoft Office, see the relevant guides in https://help.sap.com/viewer/p/SAP_BUSINESSOBJECTS_ANALYSIS_OFFICE.
2. Depending on the type of installation, do one of the following:
   - If you are using a 32-bit operating system, locate the AdvancedAnalysis folder either under HKEY_CURRENT_USER\Software\SAP or HKEY_LOCAL_MACHINE\Software\SAP.
   - If you are using a 64-bit operating system, locate the Wow6432Node either under HKEY_CURRENT_USER\Software\SAP or HKEY_LOCAL_MACHINE\Software\SAP.
3. In the identified path, create nested keys to form the path *\Software\SAP\AdvancedAnalysis\Settings\ExcelGrid.
4. Under *ExcelGrid*, create the string `EnableDoubleClick`, and enter the value **False**.

Installation and Upgrade of BW

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

Enhancing HANA Views to Add New Resources

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

Data Consistency of Forecasting Method Descriptions During Upgrade

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

Clean-Up of Invalid FBI Structures

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

1. In transaction SE38, run `/BOFU/R_FBI_VIEW_CLEANUP_DDIC`
2. In the selection screen, remove the checks in the following checkboxes:
   - *Inactive Only*
   - *Deleted Objects Only*
   - *Test Mode*
3. Choose Execute
4. The system lists inconsistent objects (from the following list). Select the objects that are listed by the system.
   - Business Object
     - `/BOBF/ATTACHMENT_FOLDER`
   - FBI View
     - `/CPD/PWS_MP_STEXT`
     - `/CPD/PWS_MP_LIST`
     - `/BOFU/VIEW_ATF_DOC`
     - `/BOFU/VIEW_ATF`
     - `/CPD/WDC_PFP_HEADER_TEXT_FBIVIEW`
     - `/CPD/WDC_PFP_HEADER_FBIVIEW`
     - `/CPD/WDC_PFP_VERSION_FBIVIEW`
     - `/CPD/WDC_PFP_STRUCTURE_FBI_VIEW`
     - `/CPD/PWS_MP_PROJ_MEMBER`
     - `/CPD/PWS_PM`
     - `/CPD/PWS_TEAM_ROLES`
     - `/CPD/PFP_DETAIL_MAPPING_FBIVIEW`
5. Choose *Cleanup*.

7.14.2.4 Conversion-Relevant Information

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

SAP Note Number	Description
2318716	S4TWL – Rate Card
2318733	S4TWL – Interface of SAP Commercial Project Management with SAP Cloud for Customer
2320143	S4TWL – Fiori Apps of SAP Commercial Project Management
2318728	S4TWL – Launchpads of Gantt Chart and Commercial Project Inception
2323806	S4TWL – Workbooks Delivered in Project Cost and Revenue Planning
2712156	S4TWL - CPM - Personal Activity List
2711002	S4TWL - CPM - Forecast from financial plan versions
2719743	Commercial Project Management: Migrate Configuration Settings of Key Figures and Resource Types for Analytics
2741838	Commercial Project Management: Reactivation of Business Switch After Conversion / Upgrade to S/4HANA 1709 and Above
2952636	Upgrade to HANA View-Based InfoProviders and CDS Views for 1909 Systems and Later

7.15 Follow-Up Activities for Product Safety and Stewardship

Verify and carry out all Customizing steps under ▶ *SAP Customizing Implementation Guide* ▶ *Product Safety and Stewardship.* ▶

7.15.1 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`.

7.15.2 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:

- Verify and carry out all Customizing steps under ▶ *SAP Customizing Implementation Guide* ❯ *Product Safety and Stewardship* ❯ *Product Compliance for Process Industries* ◀.
- 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 .

7.16 Follow-Up Activities for Product Compliance

Configuration for Product Compliance

If you choose to use the configuration delivered with SAP Best Practices or with manual steps, please check the information provided on the SAP Help Portal at https://help.sap.com/s4hana_op_2022 under ▶ *Product Assistance* ❭ *[Your Preferred Language]* ❭ *Enterprise Business Applications* ❭ *R&D / Engineering* ❭ *Product Compliance* ❭ *Foundation for Product Compliance* ❭ *Configuration for Product Compliance* ❭.

You must copy the delivery Customizing for *Product Compliance* from client 000 to your system-relevant clients. To compare the Customizing content contained in these clients, execute the transaction *Customizing Cross-System Viewer* (SCU0) and run a full comparison for the *Product Compliance* node of the SAP Customizing Implementation Guide.

See also SAP Note 2972572 .

Configuration of Output Parameters for Safety Data Sheet Shipment

When you want to configure output parameters for the shipment of safety data sheets, you must install the business rule framework plus (BRFplus). For more information, see SAP Note 2248229 .

You can find more information about BRFplus on the SAP Help Portal at https://help.sap.com/s4hana_op_2022 under ▶ *Product Assistance* ❭ *[Your Preferred Language]* ❭ *Cross Components* ❭ *SAP S/4HANA Output Control* ❭ *Setup of SAP S/4HANA Output Control* ❭ *Setting up Business Rule Framework Plus (BRFplus)* ❭.

7.17 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_2022.

> ⓘ 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.

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

7.18.1 Employee-Business Partner Synchronization

The following steps enable you to synchronize employee information with BPs. 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 corresponding Customizing documentation under ▌▶ *Personnel Management* ❯ *SAP S/4HANA for Human Resources* ❯ *Synchronize Business Partners for SAP HCM Employee Roles* ❯ (when business function `/SHCM/EE_BP_1` is switched off) or ▌▶ *Personnel Management* ❯ *SAP S/4HANA for Human Resources* ❯ *Synchronize Business Partners with an Active Business Partner Integration* ❯ (when business function `/SHCM/EE_BP_1` is switched on).

For more information on selection, refer to the documentation of the report `/SHCM/RH_SYNC_BUPA_FROM_EMPL`.

> ⓘ Note
>
> - Initial synchronization of all employees must be done during the initial business downtime before the production starts.

> • In case of large volume of employee data, standard report `/SHCM/RH_SYNC_BUPA_FROM_EMPL` may take a lot of time to synchronize the employees. Refer to the corresponding FAQ note for 2409229 ↗ to process the employees in parallel jobs.

Notes (SAP S/4HANA)

Report `HRALXSYNC`

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

Transaction `PRAA`

This transaction was used for Vendor creation in the SAP ERP system for travel expenses This transaction 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 ENUMB` (type of number assignment for BPs with Employment role) and `HRALX ESUBG` (subgroup of the number range interval for BPs with Employment role): Use these switches to provide information regarding types of number assignment and subgroups of number range intervals for BPs with Employment role.
  - `HRALX PNUMB` (Business Partner Number Assignment Employee) and `HRALX PSUBG` (Business Partner Subgroup Emmployee): Use these switches to provide different number ranges to BPs.
  - `PLOGI PLOGI` Integration Plan Version / Active Plan Version: Use this switch to determine the active integrated plan version.

    > → Tip
    >
    > For additional information on same numbers, visit the FAQ via SAP Note 3023906 ↗.

    > ⓘ Note
    >
    > All other switches under `HRALX` are not relevant in SAP S/4HANA for employee-BP synchronization.

- Execute the relevant BP Customizing activities for the CVI and Vendor account.

  > → Tip
  >
  > Refer to the FAQs in SAP Note 2713963 ↗ for additional information. Under *Where can I find the guide for Business Partner conversion Activities - Customer Vendor Integration (CVI)?*, you will also find the link to a cookbook that provides further details.

- CP should exist for all the employee records (`HRP1001` table should have CP-P relationship record for all the employees).

- All the employees should have at least infotype 0 (*Actions*), 1 (*Organizational Assignment*) and 2 (*Personal Data*) maintained.
- You need to install the following notes before you can start replicating employee master data and organizational data:
  - 2539457: BP is created in Person category during Vendor creation or conversion when CVI is active.
  - 2542175: Employee BP is reused during Vendor creation or conversion when CVI is active.
  - 2517507: Reference Vendor data, company code, and bank account are created based on HR master data.
  - 2568251: Invalid BP assignments are deleted.
  - 2991508: Use of business partner identification type 'Employee ID' (`HCM001`)
- To maintain HR master data for external employees, create an active implementation of the Business Add-In *BAdI: Contingent Worker* (`/SHCM/B_EXTERNAL_EMPLOYEE`). For further information, refer to SAP Note 2340095.

7.18.1.1 SAP S/4HANA Business Partner Synchronization Report and Role Synchronization Report

Business Partner Synchronization

You can use the BP Synchronization Report (`/SHCM/RH_SYNC_BUPA_FROM_EMPL`) to synchronize employee data stored in HCM master data persistences (infotypes) with the BP and Vendor and/or customer as well as to link BPs to users (if infotype 105, subtype 0001 is maintained) and to the corresponding workplace address.

The BP Synchronization Report has the following functions:

- Synchronizing the HCM infotypes of new employees
- Synchronizing employees who haven't been synchronized successfully during the last synchronization run
- Synchronizing employees with split records

For more information, you can also refer to the Customizing under ▶ *Personnel Management* ❯ *SAP S/4HANA for Human Resources* ❯.

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`

  > ⓘ Note
  >
  > By default, this implementation is not active.

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

> ⓘ Note
>
> - Certain HCM master data is time-independent but some BP data is not. Therefore, schedule this report to run on a daily basis (or according to your required frequency) to update the BPs and receive up-to-date employee data.

> • If a synchronization is unsuccessful, all the employee data is updated in the next synchronization run.

Role Synchronization

You can use the Role Synchronization Report (technical name: `/SHCM/R_EMPL_HDLE_BPRLES_DELTA`) to update or delete additional roles of personnel numbers with an existing BP instance with the Employment role. If the additional roles already exist (to be found in table `/SHCM/D_RLE_SYNC`), the system only updates the according BP master data.

The system updates the BPs with additional roles associated to the personnel numbers for which the BP synchronization has been executed by means of the above-mentioned reports. By this, you can flexibly adapt the roles in case of change of main employment.

For more information, you can also refer to the Customizing under ▶ *Personnel Management* ❯ *SAP S/4HANA for Human Resources* ❯.

Field mapping used for employee synchronization

BP Fields:

- BP grouping: If BP grouping is created with `BPEE`, it will be considered for BP creation in another way:
    1. If switch `HRALX PNUMB` is 1, the standard grouping for internal number assignment for BPs is used.
    2. If switch `HRALX PNUMB` is 2, an individual number range interval for BPs in role employee is used. BP grouping should be the same as for switch `HRALX PSUBG` in `T77S0`. For BPs in role employment, use switch `HRALX ENUMB` to define the number assignment. The grouping should be the same as for switch `HRALX ESUBG` in `T77S0`.
    3. If switch `HRALX PNUMB` is 3, the BP number is matched to the *personnel number* of the employee. BP grouping should be the same as for switch `HRALX PSUBG` in `T77S0`. For BPs in role employment, use switch `HRALX ENUMB` to define the number assignment. The grouping should be the same as for switch `HRALX PSUBG` in `T77S0`. The grouping as well as the number range of `HRALX ESUBG` must differ from `HRALX PSUBG`.
    4. If switch `HRALX PNUMB` is 4, the BP number is matched to the *Central Person ID* of the employee.

    > → Tip
    >
    > It is recommended to set `HRALX PNUMB` to 4 for employees, and `HRALX ENUMB` to 3 for BPs in role employment. This leads to the following number assignments:
    >
    > - The BP in role employee is matched to the Central Person ID.
    > - The BP in role employment is matched to the personnel number of the employee.

- BP category: 1 (Person)
- Identification Category:
    - Employee: `HCM001`
    - Personnel Number (Main Employment): `HCM012` (used in case the business function `/SHCM/EE_BP_1` is switched off)
    - Personnel Number (Main Employment): `HCM032` (used in case the business function `/SHCM/EE_BP_1` is switched on)
    - Personnel Number (Employment): `HCM033`

- Service Performer: `HCM030`
- Identification ID for Employees (`HCM001`):
  - In case of CE or single assignment, the smallest active PERNR is used.
  - In case of SAP SuccessFactors Integration, the same PERNR or 105-ECUS is used.
- Roles:
  - Employee: `BUP003`
  - Employment: `BUP010` with e.g., `FLVN00` and/or `FLCU00`
  - External Employment: `BUP011`
  - Service Performer: `BBP005`
- Relation Category
  - Employment: `HCM001`
  - External Employment: `HCM002`
  - Service Performer Contract: `HCM003`
  - Service Performer: `BUR025`
- Address Usage
  - Standard Address: `XXDEFAULT`
  - Workforce Private Address: `HCM001`
  - Address of Main Employment: `HCM003`
- Bank ID
  - Bank ID generally begins with `HC`, e.g.; `HC01`, `HC02`.

> **⚠ Restriction**
>
> For external employees, the **payment data** and the **address data** is not synchronized.

	Field description	Infotype	Field Name	Comments	BP Field name
Employee	First Name	2	VORNA		BUT000 - NAME_FIRST
	Last Name	2	NACHN		BUT000 - NAME_LAST
	Middle Name	2	MIDNM		BUT000 - NAME-MIDDLE
	Second Name	2	NACH2		BUT000 - NAME_LST2
	Initials	2	INITS		BUT000 - INITIALS
	Academic Title 1	2	TITEL	TSAD2	BUT000-TITLE_ACA1

Field description	Infotype	Field Name	Comments	BP Field name
Title	2	Based on ANRED and GESCH	BBP_TSAD3HR or TSAD3HR	BUT000 - TITLE
Academic Title 2	2	TITL2	TSAD2	BUT000- TI-TLE_ACA2
Name Supplement	2	NAMZU	TSAD5	BUT000- TI-TLE_ROYL
Name Affix 1	2	VORSW	TSAD4	BUT000- PREFIX1
Name Affix 2	2	VORS2	TSAD4	BUT000- PREFIX2
Gender	2	GESCH	Value 1 is mapped to 2 and vice versa because of domain value differences	BUT000 - XSEXF, XSEXM, or GEN-DER
Preferred Lan-guage	2	SPRSL		BUT000 - LANGU _CORR BUT000- BU_LANGU
Nationality	2	NATIO		BUT000 - NATIO
Date of Birth	2	GBDAT		BUT000 - BIRTHDT
Name at Birth	2	NAME2		BUT000- NAME_LAST2
Nick name	2	RUFNM		BUT000- NICK-NAME
Place of Birth	2	GBORT		BUT000- BIRTHPL
Marital Status	2	FAMST	BBP_TSAD3HR or TB027HR	BUT000- MARST
Search term 1	2	NCHMC		BUT000- BU_SORT1
Search term 2	2	VNAMC		BUT000- BU_SORT2

	Field description	Infotype	Field Name	Comments	BP Field name
	Full Name	2		CNAME or ENAME or Concatenation of VORNA MIDNM NACHN	BUT000-NAME1_TEXT
Communication	E-Mail Address	105		Subtype 0010	ADR6-SMTP_ADDR
Address	From Date	6	BEGDA	Permanent Address (subtype 1) is synchronized	BUT020 - ADDR_VALID_FROM
	End Date	6	ENDDA		BUT020 - ADDR_VALID_TO
	Country	6	LAND1		ADRC - COUNTRY
	Region	6	STATE		ADRC - REGION
	City	6	ORT01		ADRC -CITY1
	District	6	ORT02		ADRC -CITY2
	Postal Code	6	PSTLZ		ADRC – POST_CODE1
	Street	6	STRAS		ADRC – STREET
	Street 2	6	ADR03		ADRC – STR_SUPPL1
	Street 3	6	ADR04		ADRC - STR_SUPPL2
	Street 4	6	LOCAT		ADRC - STR_SUPPL3
	House number supplement	6	POSTA		ADRC – HOUSE_NUM2
	c/o	6	NAME2		ADRC – NAME_CO
	Building Code	6	BLDNG		ADRC –BUILDING
	Floor	6	FLOOR		ADRC –FLOOR
	House Number	6	HSNMR		ADRC – HOUSE_NUM1

	Field description	Infotype	Field Name	Comments	BP Field name
	Telephone	6	TELNR		ADCP - TEL NUM-BER
Payment	Account Holder Name	1	EMFTX	If infotype 9-EMFTX is not present: map info-type 1 ENAME	BUT0BK-KOINH
	Bank	9	BANKS	If Travel Expenses (subtype 2) Bank information exists, it is synchronized with BP or Vendor; otherwise, Main Bank (subtype 0) is synchronized. If both do not exist, Vendor will not be created.	BUT0BK - BANKS
	Bank Account	9	BANKN		BUT0BK - BANKN
	Control Key	9	BKONT		BUT0BK - BKONT
	Bank Key	9	BANKL		BUT0BK - BANKL
	Reference specifi-cations for bank details	9	BKREF		BUT0BK - BKREF
	IBAN No.	9	IBAN		BUT0BK - IBAN
	Valid From	9	BEGDA		BUT0BK - BK_VALID_FROM
	Valid To	9	ENDDA		BUT0BK - BK_VALID_TO
Vendor Company Code	Company Code	1	BUKRS		LFB1 -BUKRS
	Payment Method	9	ZLSCH		LFB1 -ZWELS
	Personnel Number	1	PERNR		LFB1 -PERNR
	Reconciliation ac-count		(see comment)	Read from /SHCM/ RECON based on Employee's company code (IT0001-BUKRS)	LFB1 -AKONT
	Business Partner Type		BPKIND	Read from Refer-ence BP while cre-ating BP	BUT000 - BPKIND
	Authorization Group		AUGRP	Read from Refer-ence BP while cre-ating BP	BUT000 - AUGRP

Field description	Infotype	Field Name	Comments	BP Field name
Business Partner Print Format		PRINT_MODE	Read from Reference BP while creating BP	BUT000 - PRINT_MODE

> ⓘ Note
>
> You can maintain the view `PTRV_VENDOR_SYNC` per company code to fulfill the additional requirements concerning:
>
> - Vendor or Customer Roles, or both, or no Roles (Customer role is only available if Enterprise Business Function `/SHCM/EE_BP_1` is activated.)
> - 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`)
> - Additional information for Customer company code segments (`KNB1`), Customer general data (`KNA1`) as well as for dunning data (`KNB5`), and withholding tax data (`KNBW`)
> - Source of bank account, bank account key on BP as well as partner bank type in Vendor bank data (`LFBK`) and/or Customer bank data (`KNBK`)
> - Setting payment locks for inactive employees
> - Used identification categories for loosely coupled BPs
> - Address types to be used for BPs
>
> Either refer to 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 USR21-IDADTYPE: 00), the existing workplace address data is retained and only the following information is updated or overwritten (if present in the infotypes).
- If no user is maintained, following information is updated as workplace address.

> ⓘ Note
>
> You can use the view `TBZ_V_EEWA_SRC` to maintain the address data for users with a business partner assignment. For more information, see SAP Note 2813203🔗.

Field Description	Infotype	Field Name	Comments	BP Field Name
Department	1	ORGEH	Text from organizational unit (ORGEH) from table T527X	ADCP - DEPARTMENT

Field Description	Infotype	Field Name	Comments	BP Field Name
Function	1	STELL	Text from job (STELL) from table T513S	ADCP - FUNCTION
Room Number	32	ZIMNR		ADCP - roomnumber
Building Number	32	GEBNR		ADCP - building
Telephone	105		If SAP SuccessFactors integration is used, infotype 105, subtype ECPB is used; otherwise, infotype 105, subtype 0020 is used.	ADR2 - telnr_long ⓘ Note Additional condition: r3_user = '1'
FAX	105		Infotype 105, subtype 0005	ADR3
Cell Phone	105		If SAP SuccessFactors integration is used, infotype 105, subtype ECPC is used; otherwise, Infotype 105, subtype CELL is used.	ADR2 - telnr_long ⓘ Note Additional condition: r3_user = '3'
E-Mail Address	105		Infotype 105, subtype 10	ADR6 - flgdefault = 'X' ADR6- SMTP_ADDR

7.18.1.1.1 Authorizations

Human Resources uses the authorization concept provided by 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.

> ⓘ 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_2022 ▸ *Use* ▸ *Product Assistance* ▸ *English* ▸ *Enterprise Technology* ▸ *ABAP Platform* ▸ *Securing the ABAP Platform* ▸.

Standard Roles

The table below shows the standard roles that are used.

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

Standard Authorization Objects

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

Authorization Object	Field	Value	Description
B_BUPA_ADR (Business Partner: BP Addresses)	ACTVT		Activity
	SENSTVT		Sensitivity
B_BUPA_BNK (Business Partner: BP Banks)	ACTVT		Activity
	SENSTVT		Sensitivity
B_BUPA_RLT (Business Partner: BP Roles)	ACTVT		Activity
	RLTYP		BP Role
B_BUPA_GRP	BEGRU		Authorization Group
	ACTVT		Activity
B_BUP_PCPT	ACTVT		Activity
F_LFA1_APP (Vendor: Application Authorization)	ACTVT		Activity
	APPKZ		Customer and Vendor Master Data Application Authorization

Authorization Object	Field	Value	Description
F_LFA1_BUK (Vendor: Authorization for Company Codes)	BUKRS		Company Code
	ACTVT		Activity
F_LFA1_GEN (Vendor: Central Data)	ACTVT		Activity
F_LFA1_GRP (Vendor: Account Group Authorization	KTOKK		Vendor account group
	ACTVT		Activity
F_KNA1_APP (Customer: Application Authorization)	ACTVT		Activity
	APPKZ		Customer and Vendor Master Data Application Authorization
F_KNA1_BUK (Customer: Authorization for Company Codes)	BUKRS		Company Code
	ACTVT		Activity
F_KNA1_GEN (Customer: Central Data)	ACTVT		Activity
F_KNA_GRP (Customer: Account Group Authorization)	KTOKD		Customer Account Group
	ACTVT		Activity
P_ORGIN (HR: Master Data)	INFTY		Infotype
	SUBTY		Subtype
	AUTHC		Authorization level
	PERSA		Personnel Area
	PERSG		Employee Group
	PERSK		Employee Subgroup
	VDSK1		Organizational Key
PLOG (Personnel Planning)	PLVAR		Plan Version
	OTYPE		Object Type
	INFOTYP		Infotype
	SUBTYP		Subtype

Authorization Object	Field	Value	Description
	ISTAT		Planning Status
	PPFCODE		Function Code
S_USER_GRP (User Master Maintenance: User Groups)	CLASS		User group in user master maintenance
	ACTVT		Activity

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

Human Resources provides an EoP check to determine whether Employee Business Partner is still relevant for business activities in the application or can be blocked.

Application Name	Application Description
BUCP	Central Business Partner: Employee

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

7.18.1.2 Design Constraints

Workplace Address Data

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

If user assignment is removed (infotype 105, subtype 0001 is removed for the employee), the user needs to be unassigned from the business partner by running the report RSUID_REMOVE_FALSE_BP_ASGN (after the employee synchronization report has been executed). Refer to note 2568251 for more information.

If user is converted to 02 or 04 (IDADTYPE), workplace address or address section will not be editable in user administration transactions like SU01.

7.18.2 FAQ

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

7.18.3 Related Notes

- 2265093 - S4TWL - Business Partner Approach
- 2570961 - Simplification item S4TWL - Business User Management
- 2340095 - S4TWL - Conversion of Employees to Business Partners
- 2273108 - S4TWL - General HCM Approach within SAP S/4HANA
- 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

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

7.19.1 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.

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

7.19.2 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.

> ⓘ 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.
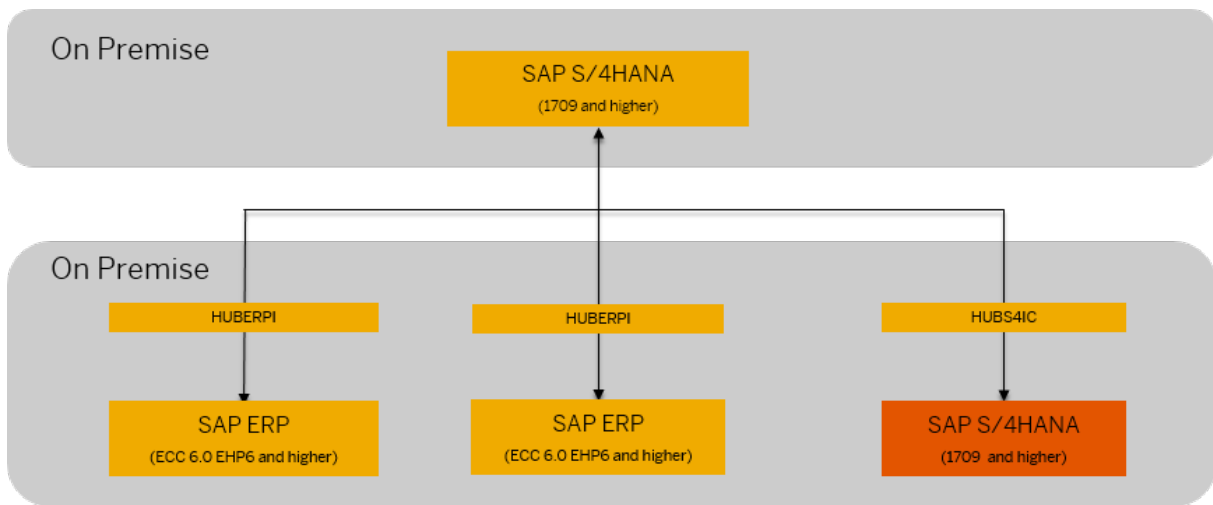
Deployment Option: On Premise

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.
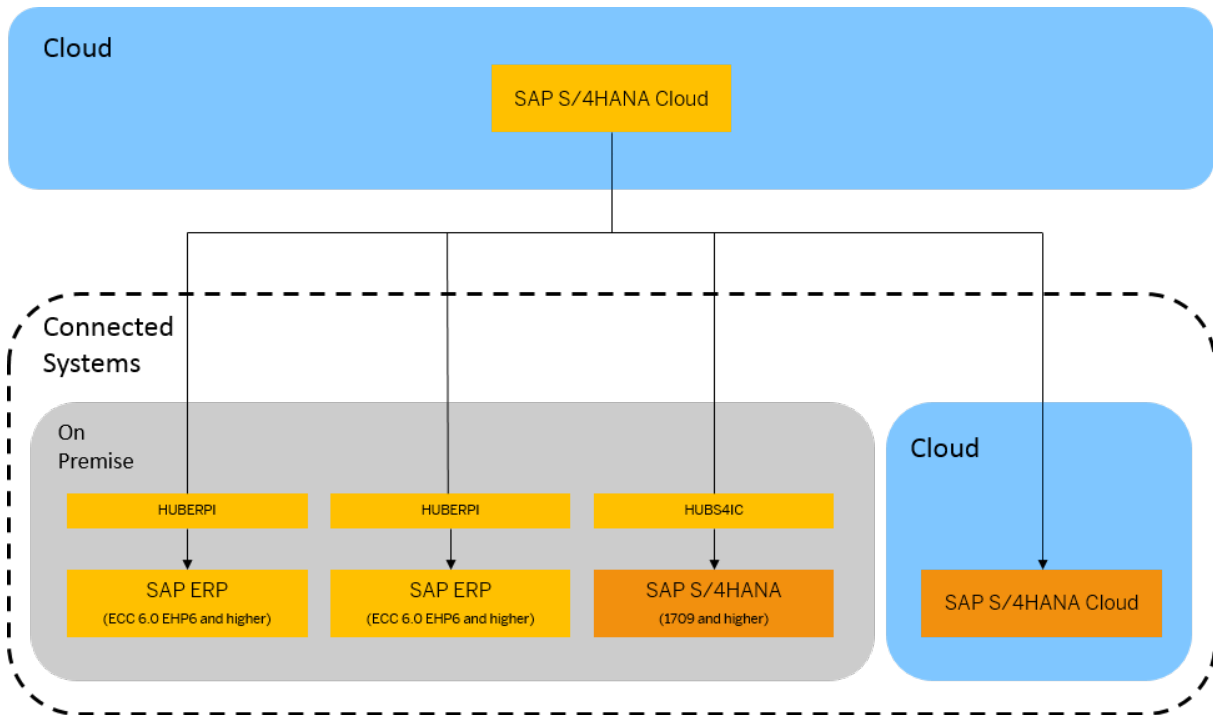
Deployment Option: Hybrid - SAP S/4HANA Cloud and SAP S/4HANA (OP)

More Information

General Instructions to Install Add-ons

7.20 Follow-Up Activities for Commodity Risk Management

After installing *Commodity Risk Management* and when opening an existing or when creating a new financial commodity transaction you will face the situation where you get the message "Flows missing from Open Transaction" (CMM_CMDTY_HACC_GEN 101).

To avoid this system behavior after the installation it is strongly recommended that you carry out SAP note 3324729 .

7.21 Follow-Up Activities for Agricultural Contract Management

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

Delivery Customizing

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

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

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

SAP Note Number	Title	Description
2965612	Reference Program for Mass Creation of Load Data Capture using Parallel Processing	This note provides information about the reference program for mass creation of Load Data Capture (LDC). To improve performance, LDC data are grouped and created using parallel processing.
2954877	ACM: S/4HANA OP 2020 FPS0 and Above Post Conversion Corrections of Legacy Contracts	This note provides information about the post conversion corrections of legacy contracts that enable repricing in legacy contracts by updating the legacy values for quantity distribution routine.
2952195	ACM relevant transactions not working correctly due to missing customizing after S/4HANA Conversion or Upgrade	This note provides information about how you can copy the missing delivery customizing from client 000 to your system-relevant clients.
2951709	Unexpected issues related to data type changes in ACM CDS Views I_ContrPnLValueCube, I_PnLNewActivityDeltaVal and I_PnLNewActyDeltaValCube	This note provides information about how you can change data type to increase the length and precision of elements used in the relevant ACM CDS views.
2926465	ACM: System Conversion or upgrade to S/4HANA OP2020 FPS0 and above with SDM conversion is still in progress	This note provides information about activities required for system conversion or upgrade to S/4HANA 2020 FPS0 in case SDM conversion is still in progress. ⓘ Note This is a mandatory note for all ACM customers who are performing a system conversion or an upgrade to S/4HANA 2020 FPS0 where SDM conversion is taking place during uptime.

SAP Note Number	Title	Description
2858528	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	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. ⓘ Note 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.
1909425	SFW- Activation error in Dictionary: clear up the inconsistencies	This note provides information about how you can copy missing delivery customizing in your relevant client by activating all the switch BC sets that are associated with the ACM switch.
3025395	Contract Status Configurations for Contract Closure and Amendment Process	This note provides information about the contract status configuration steps that are a prerequisite for the contract closure and contract amendment functionalities.
3150571	Master Note for CDOTE Functionality in Maintain ACM Pricing app	This note allows you to enable the CDOTE functionality in the Maintain ACM Pricing app.
3228219	Master Note/Collective Note for ACM Prepayment functionality	This note allows you to enable improvements in the ACM Prepayment functionality.
3291156	Master Note for ACM S/4 HANA 2022 FSP01	This note allows you to get revised functionalities and corrections in the ACM.

7.21.1 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

For installations:

- With ACM specific add-ons (such as, SAP Bulk Transportation Extension), see restriction note 3296571 SAP ACM Restriction Note for add-ons for details on business function activation.
- Without ACM specific add-ons (such as, SAP Bulk Transportation Extension), the following IS-Oil business functions need to be activated as a prerequisite before activation of ACM business function `/ACCGO/BF_ECC`.
    - `BUSINESS_FUNCTION_BASIS_COM`
    - `COMMODITY_MGMT_&_BULK_LOGISTIC`
    - `LOG_COMMODITY_TRANSPORT_MGMT_5`

For integration with Commodity Pricing Engine (CPE), the business functions must be activated in the following sequence:

1. IS-Oil business functions as listed above
2. ACM business function: `/ACCGO/BF_ECC`

7.21.2 Integration with Prepayment Agreements

Agricultural Contract Management (ACM) is integrated with Prepayment Agreements (CA-PPA). This integration enables the user to use various Prepayment Agreements functions in the agribusiness context.

Integration

To enable the integration between ACM and Prepayment Agreements (CA-PPA), the following switches must be activated:

- /ACCGO/SWITCH_PPMG
- SWITCH_PPMG

The following figure provides an overview of the integration between ACM and CA-PPA in the SAP S/4HANA Core landscape.
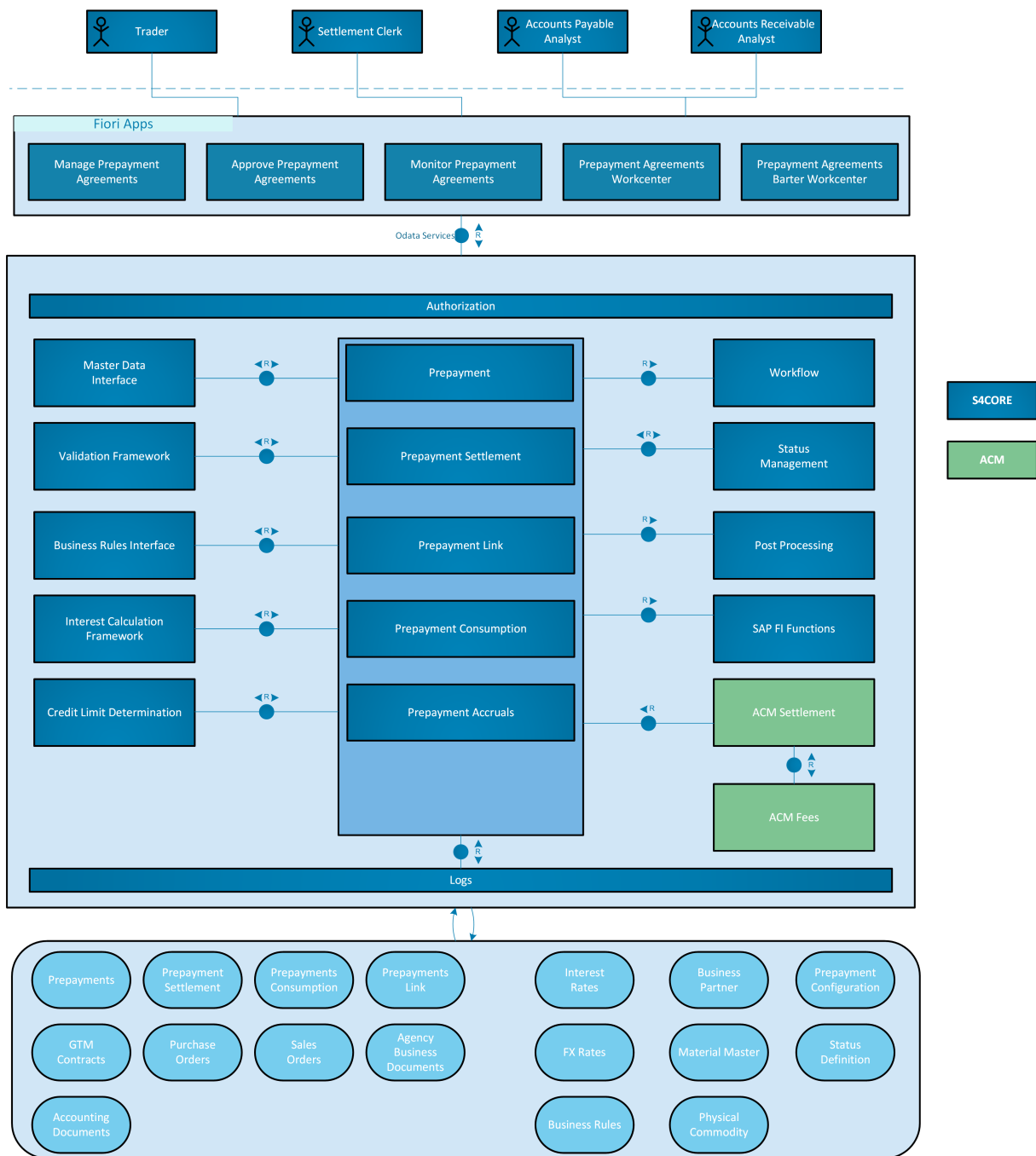
7.22 Follow-Up Activities for Prepayment Agreements

Once the installation is complete, you need to perform the following activities for Prepayment Agreements (CA-PPA):

Delivery Customizing

You must copy the delivery customizing for Prepayment Agreements 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 Prepayment Agreements, the application component CA-PPA is relevant.

You can find the Customizing structure for Prepayment Agreements in SAP Reference IMG (transaction SPRO) under ▶ *Cross-Application Components* ❭ *Prepayment (CA-PPA)* ❭.

Important SAP Notes

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

List of SAP Notes relevant to Agricultural Contract Management

SAP Note Number	Title	Description
3228218	Master Note / Collective Note for Pre-payment functionality.	This note allows you to enable improve-ments in the Prepayment functionality.
3256461	User Interface related note for ACM Prepayment functionality	Language Text Corrections

7.23 Follow-Up Activities for Policy Management

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

SAP Notes for the Installation of Policy Management

SAP Note Number	Title
3250498	Release Information Note (RIN) for Policy Management and Claims Management in SAP S/4HANA 2022

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 89])
- SAP Product, Quotation and Underwriting Management (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:

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

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

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

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

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

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

7.25 Follow-Up Activities for Transportation Management

After the installation, you need to carry out the following activities for Transportation Management (TM):

- 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 .
- Check whether all services in the following SICF paths have been activated (transaction SICF):
  - `/default_host/sap/bc/webdynpro/scmtms/*` (all TM WebDynpro apps)
  - `/default_host/sap/bc/ui5_ui5/scmtms/*`
  - `/default_host/sap/bc/bsp/gntlb`
  - `/default_host/sap/bc/bsp/scmtms/*`
  - `/default_host/sap/bc/apc/sap/fpm_apc`
  - `/default_host/sap/public/bc/ui5_ui5/ILMRWC`
  - `/default_host/sap/bc/srt/xip/scmtms` (only if Web-Service-based communication is required; not required if only PI-based communication is used)

For successful installation, always check the SAP Note 3232331 (SAP S/4HANA 2022 Supply Chain for Transportation Management - Release Information) for the most current implementation details.

7.26 Follow-Up Activities for Production Planning and Detailed Scheduling (PP/DS)

In order to use optimizers in PP/DS (Production Planning Optimizer or PP/DS Optimizer), you must install the SAP SCM Optimizer.

For more information, see SAP Note 1686826 .

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

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

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

For more information, see the product assistance on the SAP help portal by following this path: https://help.sap.com > SAP S/4HANA > Product Assistance (English) > Enterprise Technology > Data Quality Management, version for SAP Solutions.

7.28   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 product assistance for SAP S/4HANA on the SAP help portal at https://help.sap.com/s4hana_op_2022 ▐▶ *Enterprise Technology* ❯ *SAP Fiori* ❯ *SAP Fiori Overview* ❯ *Implement SAP Fiori Apps* ❯ *Implementation Tasks on Back-End Components (App Implementation)* ❯ *Configuration Steps for SAP GUI for HTML Transactions, Web Dynpro Applications, and WebClient UI Applications* ❯ *Activate ICF Services of WebClient UI Apps* ❱

SAP Note 2825458 contains information on the services required for WebClient UI apps.

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_2022 under ▐▶ *Enterprise Business Applications* ❯ *Service* ❯ *WebClient UI Framework* ❯ *Integration with SAP Fiori Launchpad* ❯ *Outbound Navigation* ❱.

Specific Customizing Settings for In-House Repair

When you set up In-House Repair in Customizing for *Service*, you must follow the instructions outlined in the Customizing section under *In-House Repair* in addition to the generic settings for Service. This ensures that In-House Repair operates as expected.

7.29   Troubleshooting

Unable to Create New Clients

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

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