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# Operations Guide for SAP S/4HANA 1709

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# Document History

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1.0	January 31, 2018	Initial Version

# 1 Getting Started

## → Recommendation

This guide does not replace the daily operations handbook that we recommend you to create for your specific production operations.

## About This Guide

This guide provides a starting point for managing your SAP applications and maintaining and running them optimally. It contains specific information for various tasks and lists the tools that you can use to implement them. This guide also provides references to the documentation required for these tasks, so you will also need to refer to other documentation, especially to the documentation *Technical Operations for SAP NetWeaver* at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► [SAP NetWeaver for SAP S/4HANA](#) ◀.

## i Note

You always find the most up-to-date version of this guide at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709).

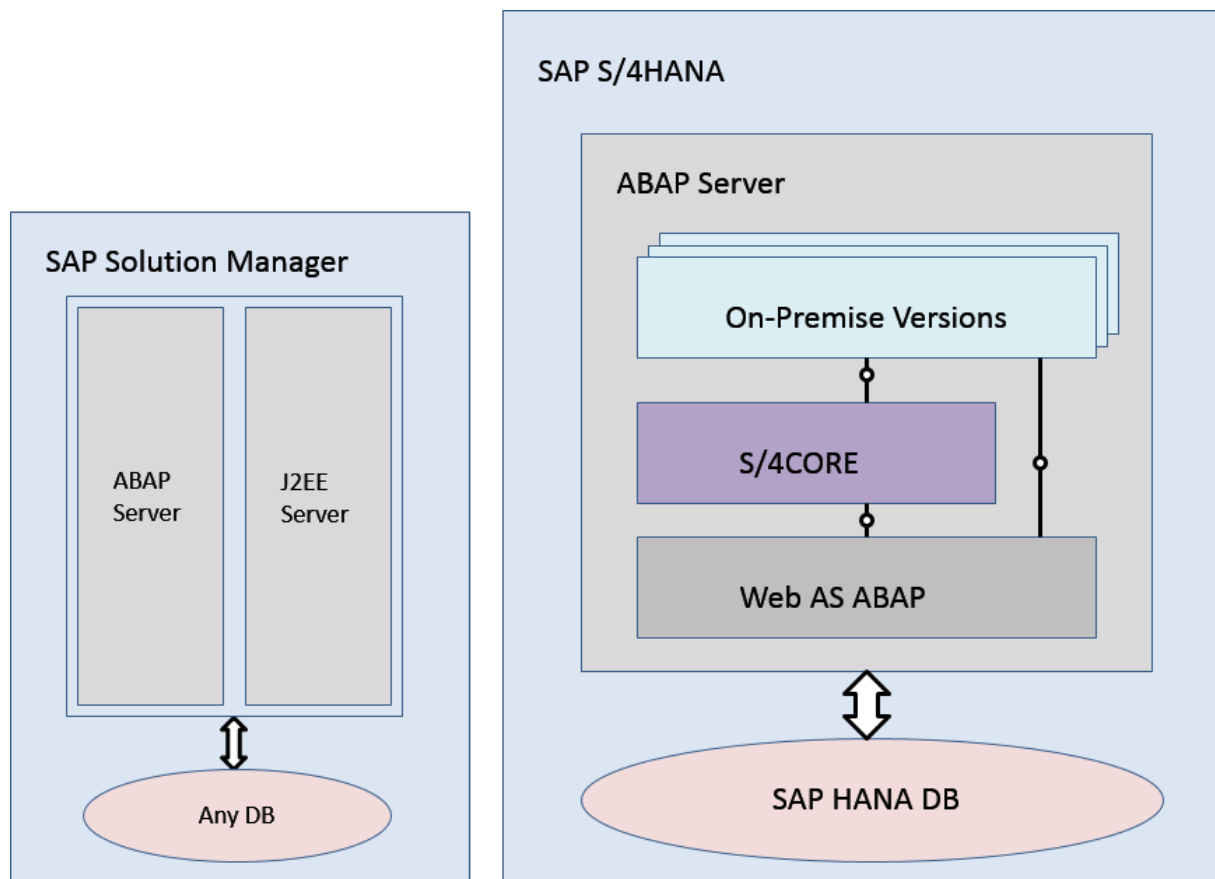
The first section of the guide contains generic information, valid for the entire on-premise edition of SAP S/4HANA. The sections starting with [SAP S/4HANA Enterprise Management \[page 20\]](#) contain information for specific functional areas.

## 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.



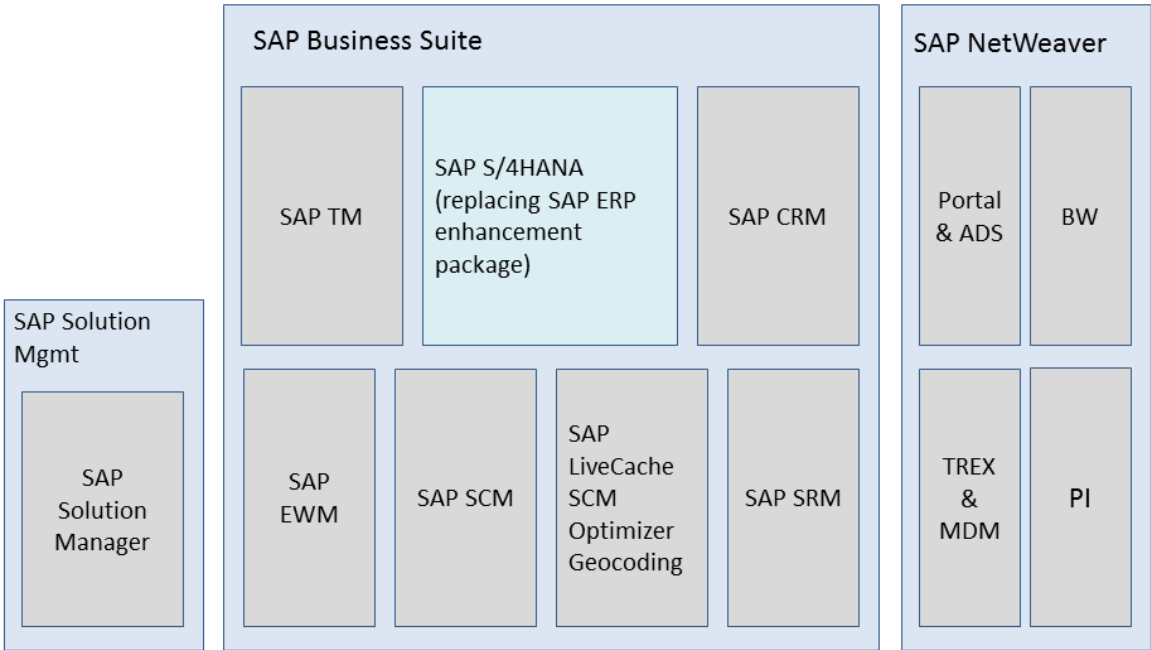
Simple SAP S/4HANA Deployment

### 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 List*.

For more information about the *Simplification Item Catalog*, see the *Conversion Guide for SAP S/4HANA 1709* at [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► [Product Documentation](#) ►.



Example SAP Business Suite landscape with an embedded SAP S/4HANA system

**More Information**

For more information about SAP Fiori for SAP S/4HANA in a hub deployment, see [Landscape Deployment Recommendations for SAP Fiori Front-End Server](#).

## 3 Monitoring

SAP provides you with an infrastructure to help your technical support consultants and system administrators effectively monitor your system landscape.

For more information about monitoring topics, see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Technical Operations for SAP NetWeaver* ► *Solution Life Cycle Management* ► *Solution Monitoring* ►.

For more information about monitoring with SAP Solution Manager, see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Technical Operations for SAP NetWeaver* ► *Solution Life Cycle Management* ► *Connecting a Technical System to SAP Solution Manager* ►.

### 3.1 Alert Monitoring with CCMS

SAP S/4HANA uses the standard SAP NetWeaver monitoring tools, including the Computing Center Management System (CCMS). The tool allows you to monitor your system landscape centrally.

Alerts form a central element of monitoring. They quickly and reliably report errors (such as values exceeding or falling below a particular threshold value or that an IT component has been inactive for a defined period of time). These alerts are displayed in the Alert Monitor of the CCMS.

You can also monitor your data archiving activities with the monitoring functions provided by the CCMS.

For more information about CCMS, the Alert Monitor, and monitoring of data archiving, see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Function-Oriented View* ► *Solution Life Cycle Management* ► *Solution Monitoring* ► *Monitoring in the CCMS* ►.

For more information about how to enable the auto-alert function of CCMS, see SAP Note [617547](#) ►.

For more information about data archiving, see [Data Archiving and Data Aging \[page 12\]](#).

### 3.2 Trace and Log Files

Trace and log files are essential for analyzing problems. SAP S/4HANA uses the standard SAP NetWeaver tools for tracing and logging.

For more information about this topic, see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Technical Operations for SAP NetWeaver* ► *Solution Life Cycle Management* ► *Application Log (BC-SRV-BAL)* ►.



## 4 Management of SAP S/4HANA

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

For more information about operational topics, see *Technical Operations for SAP NetWeaver* at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ►.

### 4.1 Starting and Stopping

You use the SAP Management Console to stop and start SAP systems based on SAP NetWeaver, including SAP S/4HANA.

For more information on the SAP Management Console, see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Technical Operations for SAP NetWeaver* ► *Solution Life Cycle Management* ► *Starting and Stopping SAP NetWeaver AS for ABAP and Java* ►.

### 4.2 Software Configuration

For information about how to do the configuration for SAP S/4HANA, see the guide *Getting Started With SAP S/4HANA* at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *Getting Started* ►.

### 4.3 Output Management

SAP S/4HANA introduces a new style of output management. Note that other existing frameworks can be used as well, depending on the application.

You make settings for output control in Customizing under ► *Cross-Application Components* ► *Output Control* ►.

This is an overview of the required technical setup.

#### Prerequisites for Output Control

- bgRFC configuration has been set up
- Storage system and category have been maintained

- BRFplus is active and usable
- Adobe Document Services is available (when using Adobe Forms)

### bgRFC (Background Remote Function Call)

Output control uses a bgRFC to process output. Therefore, you need to maintain the bgRFC configuration. Otherwise, no output can be performed.

You can perform all the relevant steps in transaction `SBGRFCCONF`. One of the most important steps is defining a supervisor destination, as bgRFC doesn't work without it.

For more information, enter the keyword *bgRFC Configuration* at <http://help.sap.com>, and refer to SAP Note [2309399](#) and SAP Note [1616303](#).

### Storage System and Category

Output control needs a defined storage system (content repository) to save the rendered form output as PDF.

To set up the storage system, choose the following navigation option:

SAP Menu	<a href="#">SPRO</a> > <a href="#">Cross-Application Components</a> > <a href="#">Document Management</a> > <a href="#">General Data</a> > <a href="#">Settings for Storage Systems</a> > <a href="#">Maintain Storage System</a>
Transaction Code	/nOAC0

You can set up the storage type which fits your needs, for example a SAP System Database, or a HTTP content server (such as fileserver, database, or external archive).

Once the storage system is available, you need to assign it to the predelivered storage category SOMU. To do so, choose the following navigation option:

SAP Menu	<a href="#">SPRO</a> > <a href="#">Cross-Application Components</a> > <a href="#">Document Management</a> > <a href="#">General Data</a> > <a href="#">Settings for Storage Systems</a> > <a href="#">Maintain Storage Category</a>
Transaction Code	/nOACT

Select category SOMU. For column *Document Area*, choose SOMU. For column *Content Repository*, choose the content repository you created in the previous step.

### Business Rule Framework plus (BRFplus)

Output control uses BRFplus for the output parameter determination. Technically, BRFplus is based on WebDynpro applications. Therefore, you need to set up the according ICF services:

/sap/bc/webdynpro/sap/fdt_wd_workbench	FDT Workbench
/sap/bc/webdynpro/sap/fdt_wd_object_manager	FDT Object Manager
/sap/bc/webdynpro/sap/fdt_wd_catalog_browser	FDT Catalog Browser

For more information, enter the keyword *Active Services in SICF* at <http://help.sap.com>.

Once you've set up the services, download and install the required BRFplus applications from SAP Note [2248229](#).

Procedure:

1. Access transaction `BRF+`.  
If required, personalize your screen, and change the user mode from *Simple* to *Expert*.
2. On the *Business Rule Framework plus* screen, choose **Tools** > **XML Import**.
3. On the *Business Rule Framework plus – XML Import* screen, under *File and Transport Request*, browse for the local \*.xml files you want to import. You can import the files one after the other.
4. In the *Customizing Request* field, enter an applicable Customizing Request ID.
5. Choose *Upload XML File*.
6. Choose *Back to Workbench*.

### Adobe Document Services (ADS)

Applications in SAP S/4HANA ship default form templates implemented as PDF-based print forms with fragments.

They require ADS for rendering. ADS is available as cloud solution or on-premise solution.

The cloud solution is a service provided on SAP Cloud Platform. See SAP Note [2219598](#) for more information and links to the documentation for the new solution Form Service by Adobe.

For the on-premise solution, you need an AS Java installation (with `ADOBE` usage type) to run ADS.

ADS itself must have version 10.4 (1040.xxx) or higher. This version is delivered with SAP NetWeaver 7.3 EHP1 SP7 (and higher), NW 7.40 SP2 (and higher), and NW 7.50 (all SPs).

You do not necessarily need to use ADS, as output management also supports SAPscript and Smart Forms.

However, special customizing is necessary for these two form technologies, and restrictions apply. For more information, see SAP Notes [2292539](#) and [2294198](#).

### Printer Setup

Printing is done using the spool. For more information, see the *SAP Printing Guide* at the SAP Help portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) > *SAP NetWeaver for SAP S/4HANA* > *View All* > *Function-Oriented View* > *Solution Life Cycle Management*.

Output control uses the short name of the printer (for example `LP01`), as defined in transaction `SPAD`.

### Limitations

- Printing using the spool is not available in release S4CORE 1.00 SP00. If this is the case, please upgrade to S4CORE 1.00 SP01.
- Currently, a PDF is always created for any kind of form.  
This has the following impact:
  - Previewing the document from the spool request is only possible when the device type is `PDF1` or `PDFUC`.
  - Using another device type can lead to alignment issues for SAPscript and Smart Forms.
- Frontend output is not supported, since the output is processed via `bgRFC`.

## Related Information

[SAP Note 2228611](#)

## 4.4 Backup and Recovery

You need to back up your system landscape regularly to ensure that you can restore and recover it in case of failure.

To use an appropriate back up and restore method is one of the most important tasks of the system and database administrator. However, there is no general recommendation for such a method, since it depends on several factors, such as:

- Disaster recovery concept
- Maximum permissible downtime during restore
- Amount of data loss that can be tolerated
- Available budget

For more information about backup and recovery, see:

- The SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Technical Operations for SAP NetWeaver* ► *Solution Life Cycle Management* ► *Backup and Recovery* .
- *SAP HANA Technical Operations Manual* at the SAP Help Portal under [http://help.sap.com/hana\\_platform](http://help.sap.com/hana_platform) ► *System Administration* .

## 4.5 Load Balancing

SAP S/4HANA uses the standard SAP NetWeaver functions for load balancing.

For more information about this topic, see *Technical Operations for SAP NetWeaver* at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* .

## 4.6 Data Archiving and Data Aging

### Data Archiving

You can use the data archiving functions to archive any completed business transactions that are no longer relevant for your daily operations, and so significantly reduce the load on the database. SAP S/4HANA uses the functions for archiving provided by SAP NetWeaver.

For more information about data archiving, see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Technical Operations for SAP NetWeaver* ► *Solution Life Cycle Management* ►.

For more information about monitoring of data archiving, see [Alert Monitoring with CCMS \[page 8\]](#).

## Data Aging

Data aging offers you the option of moving large amounts of data within a database so as to gain more working memory.

You use the relevant SAP application to move data from the current area to the historical area. You control the move by specifying a data temperature for the data. The move influences the visibility when data is accessed. This means that you can perform queries of large amounts of data in a much shorter time.

For more information about data aging (including the prerequisites for enabling it), see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Technical Operations for SAP NetWeaver* ► *Solution Life Cycle Management* ►.

For more information about specific SAP S/4HANA data aging objects, see [Efficient Logistics and Order Fulfillment \[page 28\]](#).

# 5 User Management

SAP S/4HANA generally relies on the user management and authentication mechanisms provided with the SAP NetWeaver platform, in particular the SAP NetWeaver AS for ABAP Application Server, and the SAP HANA Platform. Therefore, the security recommendations and guidelines for user administration and authentication as described in the Security Guides for SAP NetWeaver and SAP HANA Platform also apply to SAP S/4HANA.

For more information, see:

- *Security Guide for SAP NetWeaver* at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709)  
▶ *SAP NetWeaver for SAP S/4HANA* ▶
- *SAP HANA Security Guide* at the SAP Help Portal under [http://help.sap.com/hana\\_platform/](http://help.sap.com/hana_platform/)  
▶ *Security* ▶

In addition to these guidelines, we include information about user administration and authentication that specifically applies to SAP S/4HANA in the Security Guide for SAP S/4HANA at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ▶ *Product Documentation* ▶.

## 6 Business Continuity and High Availability

The term *business continuity* covers all activities performed by system administrators to ensure that critical business functions are available to system users. Strategies for high availability are a subset of business continuity activities, but business continuity is not limited to high availability. Other activities that relate to business continuity include:

- System backup and archiving
- System updates with minimum downtime

SAP S/4HANA uses the standard SAP NetWeaver functions for high availability and business continuity.

For more information about these topics, see:

- *Technical Operations for SAP NetWeaver* at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ►
- *SAP HANA Technical Operations Manual* at the SAP Help Portal under [http://help.sap.com/hana\\_platform](http://help.sap.com/hana_platform) ► *System Administration* ►

# 7 Software Logistics and Change Management

The tools and processes in *Software Logistics* help you to manage the system landscape in all lifecycle phases. Besides initial implementation of an application, the tools also support on-going system optimization and adaptation to evolving demands, as well as implementing additional functions.

## i Note

Some software logistics tools are delivered and regularly updated with the **Software Logistics Toolset**. For more information about these tools, see the documentation on the SAP Help Portal under <http://help.sap.com/sltoolset>.

*Software Change Management* standardizes and automates the distribution of software in system landscapes.

For more information, see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Technical Operations for SAP NetWeaver* ► *Solution Life Cycle Management* ► *Software Logistics* ►.

## 7.1 Change and Transport Management

SAP S/4HANA uses the SAP NetWeaver tool **Change and Transport System** (CTS) to organize development projects in ABAP Workbench and customizing, and to then transport the changes between the SAP systems in your system landscape. In addition to ABAP objects, you can transport non-ABAP objects and non-SAP applications in your system landscape.

For more information about the CTS tool, see *Technical Operations for SAP NetWeaver* at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ►.

## 7.2 Support Package and Patch Implementation

We recommend that you implement Support Package Stacks (SP stacks), which are sets of support packages and patches for a specific product version that must be used in a specific combination.

You can find detailed information about the availability of SP-Stacks for SAP S/4HANA at the SAP Support Portal under [support.sap.com/sp-stacks](http://support.sap.com/sp-stacks). Check the corresponding Release and Information Notes (RIN) before you apply any support packages or patches of the selected SP-Stack. The RIN for SAP S/4HANA 1610 is SAP Note [2346431](https://support.sap.com/notes/2346431). See also the Support Package Levels for SAP S/4HANA in SAP Note [2236608](https://support.sap.com/notes/2236608).

For more information about the implementation of support packages, see information on the SAP Support Portal under [support.sap.com/patches](http://support.sap.com/patches) ► *SAP Support Packages* ►.



For more information about the tools for implementing patches, see also the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Technical Operations for SAP NetWeaver* ► *Solution Life Cycle Management* ► *Software Logistics* ►.

#### i Note

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

## 7.3 Release and Upgrade Management

Corrections for SAP S/4HANA are available in support packages.

## 8 Troubleshooting

For more information about troubleshooting for SAP NetWeaver based systems, see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Technical Operations for SAP NetWeaver* ► *Solution Life Cycle Management* ►.

# 9 Support Desk Management

You can set up problem resolution procedures tailored to your requirements. The procedure should integrate your business users, internal support personnel, partners and SAP support.

## Remote Support Setup

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

For more information about setting up remote service connections to SAP, see the SAP Support Portal under [support.sap.com/access-support](https://support.sap.com/access-support) and the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709)  
▶ *SAP NetWeaver for SAP S/4HANA* ▶ *Technical Operations for SAP NetWeaver* ▶ *Solution Life Cycle Management* ▶ *Remote Support Setup* ▶.

## Problem Message Handover

SAP S/4HANA uses the functions of the SAP Solution Manager to create internal support messages and to forward them to SAP.

For more information, see the SAP Help Portal under <http://help.sap.com/solutionmanager/> ▶ *SAP Solution Manager 7.1* ▶ *Application Help* ▶ *SAP Engagement and Service Delivery* ▶.

To send problem messages to SAP, use the relevant application component in the SAP application component hierarchy.

# 10 SAP S/4HANA Enterprise Management

This section of the Operations Guide for SAP S/4HANA contains specific operations information for the functionality included in SAP S/4HANA Enterprise Management.

## 10.1 Finance

This section of the Operations Guide for SAP S/4HANA contains information about operation tasks specific to Finance.

### Archiving and Data Aging

#### Archiving

For information about archiving in Finance, see *Enterprise Technology* at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *Product Assistance* >.

#### Data Aging

To use Data Aging, proceed as follows:

1. Activate Data Aging by entering the profile parameter `abap/data_aging` in the database.
2. Activate the Data Aging business function `DAAG_DATA_AGING` using the switch framework (transaction `SWF5`).
3. Partition the database tables for aging (transaction `DAGPTM`).
4. Activate aging object `FI_DOCUMENT`.
5. Maintain the residence time in Customizing for data object `FI_DOCUMENT` according to company code, account types, and document types.

For more information, see also [Data Archiving and Data Aging \[page 12\]](#)

### 10.1.1 Specific Monitoring Tools for Settlement Management

This section of the Operations Guide for SAP S/4HANA contains information about monitoring tools specific to Settlement Management.

## Condition Contract Management

In Settlement Management, you can create remuneration settlements by using the Post Processing Framework. Depending on the Customizing settings, remuneration settlements are created:

- Automatically in a synchronous or an asynchronous way when a document is saved
- Manually when the *Selection and Processing of Actions* report is run (transaction `SPPFP`)

The relevant Customizing settings are located in Customizing for *Logistics - General* under **► Settlement Management ► Condition Contract Management ► Condition Contract ► Define and Configure Actions ►**.

The processing status is tracked in the log of the Post Processing Framework.

### Selecting Actions with Processing Errors

1. Go to transaction `WCB_SPPFP`.
2. Set the processing time to initial and then select action status **2**.  
After execution, the system displays all actions with processing errors.
3. Use the processing log to analyze the cause of the errors.  
To select actions that have not been processed yet, select action status **0**. By adding the creation date as an additional search parameter, you can find successful actions that have not been processed for a long period of time.

## 10.2 Manufacturing

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to Manufacturing.

### 10.2.1 Production Planning

This section contains information for Production Planning valid for Material Requirements Planning.

#### 10.2.1.1 Material Requirements Planning

This section describes specific operational details that are valid for Material Requirements Planning.

### Report for Processing MRP Records

You use the report `PPH_SETUP_MRPRECORDS` to create and correct MRP records for a given set of plants. It reads material master data such as the MRP type and creates a corresponding MRP record.

You can use this report to create MRP records that are to be used for operative planning. If you want to create MRP records to be used for simulative planning (long-term planning), a second report is available:

PPH\_SETUP\_MRPRECORDS\_SIMU.

## Prerequisites

The materials in the plant must be relevant for MRP. That is, you must have maintained the MRP views in the material master records of the materials and have set a suitable MRP type.

## Features

By selecting the *Regenerative (w. BOM Explosion)* checkbox, you can start the report in regenerative mode meaning that the system automatically sets the net change flag and the BOM explosion flag for each material. Alternatively, you can use the report as a consistency check to update the MRP records - in this case you do not set the *Regenerative (w. BOM Explosion)* checkbox.

## Clean Up Total Requirements

Before you can carry out the planning run using MRP Live, you have to make sure that you have no total requirements in your system. Proceed as described below to deal with your total customer requirements and your total dependent requirements.

## Procedure

### Procedure for dealing with total customer requirements

Originally, there were two alternative ways of transferring customer requirements from Sales and Distribution (SD) to Material Requirements Planning (MRP): Individual requirements and total requirements. Individual requirements are stored in table `VBBE`, whereas total requirements are stored in table `VBBS`. Table `VBBS` stores the total demand for a material, plant, and requirement date. This causes a massive amount of data to be loaded, stored, and aggregated on the database at the same time which, on the one hand, speeds up the demand reading process. However, on the other hand, the data involved is locked for further processing; different sales orders requiring the same material at the same date cannot be posted in parallel, for example. When using an in-memory database such as SAP HANA to execute your planning run, however, total requirements are no longer necessary. Your customer demand is aggregated individually at runtime — without having a negative impact on the performance of your MRP.

1. Check whether you have total customer requirements in the system. Use the data browser (transaction `SE16`) for table `VBBS` and check the number of entries in that table.
  - If there are no entries in table , you have no total customer requirements and therefore you do not have a problem. In this case, proceed with step 7.
  - If you have entries in this table, you have total customer requirements and you should proceed with step 2.
2. Check whether you can safely use individual customer requirements. For example, check whether you have custom reports that evaluate table `VBBS`. These reports should read table `VBBE` instead.
3. Check the ATP (Available-to-Promise) checking group in Customizing. The ATP checking group defines whether total or individual requirements are created for sales orders.
  - In Customizing for *Sales and Distribution*, under **Basic Functions** > **Availability Check And Transfer of Requirements** > **Availability Check** > **Availability Check with ATP Logic or Against Planning** > **Define Checking Groups** determine the ATP checking groups with total requirements; an ATP checking

group with *B* (Totals records per day) in column *TotalSales* or *TotDlvReqs* creates total requirements. If no checking group exists with this entry, the entries you found in table `VBBS` are meaningless. In this case, proceed with step 7.

- If such a checking group exists, either delete the ATP checking groups that create total requirements or change their *TotalSales* and *TotDlvReqs* attributes in Customizing from *B* (Totals records per day) to *A* (Single records). This prevents the usage of incorrect ATP checking groups in future. Proceed with step 4.
4. Create and execute the ABAP report `Z_MATERIALS_W_COLLECTIVE_REQS` (transaction SE38) to determine which materials use the ATP checking group that creates total customer requirements. This report finds all the materials with the ATP checking group *01* that creates total requirements. Note that if you have different checking groups that create total requirements, you have to adjust the ABAP report accordingly:

```
data:
  ls_marc type marc.
select matnr werks from marc into (ls_marc-matnr, ls_marc-werks) where mtvfp
= '01'.
write: / ls_marc-matnr, ls_marc-werks.
ENDSELECT.
```

- If the system does not find any materials, your `VBBS` records are meaningless. In this case, proceed with step 7.
  - If the system finds materials for which the ATP checking group is *01*, proceed with step 5.
5. For every material found by the report in step 4, open the *MRP 3 View* of the *Material Master* in change mode and select an ATP checking group that creates individual requirements.
  6. For each material, execute report `SDRQCR21`, *Recovery of Sales and Delivery Requirements* to recreate the customer requirements.
  7. Check whether you have implemented any of the methods of the BAdI `MD_CHANGE_MRP_DATA`. If you have and if the BAdI only adds data to MRP evaluations such as MD04, re-implement your BAdI implementations in BAdI `MD_ADD_ELEMENTS`.

### **i** Note

The BAdI `MD_ADD_ELEMENTS` is processed in MRP evaluations such as MD04 or MD07 and is processed in the classic MRP transactions MD01 or MD02 or if you have set the *Plan in Classic MRP* indicator for the material in the report *Include Material in Classic MRP* (transaction `MD_MRP_FORCE_CLASSIC`). Check which materials require the processing of a BAdI during the MRP run and set the *Plan in Classic MRP* indicator for these materials.

### **Procedure for dealing with total dependent requirements**

1. Now check whether you have a problem with total dependent requirements. Use the data browser (transaction SE16) for table `RQIT` and check the number of entries in that table.
  - If there are no entries in table `RQIT`, you have no total dependent requirements and therefore you do not have a problem. In this case, proceed with step 5.
  - If entries exist in this table, you have total dependent requirements and you should proceed with step 2.
2. Create a planning file entry for every material in table `RQID` (transaction MD20) and set the *Net change planning* and the *Re-explode BOM* indicators.
3. If you work with repetitive manufacturing, you have to check and, if necessary, switch off the *Aggregate reqmts* indicator in the repetitive manufacturing profiles in Customizing for *Production*. In combination

with the collective requirements indicator in the material master, this indicator determines whether dependent requirements are grouped to collective requirements on a daily basis.

In Customizing for Production, under [▶ Repetitive Manufacturing ▶ Control Data ▶ Define Repetitive Manufacturing Profiles ▶](#), check the *Control data 2* tab for each profile to see whether the *Aggregate reqmts* checkbox is selected. Remove the selection, if necessary.

4. Execute an MRP run which re-explodes all BOMs for the affected materials and creates individual dependent requirements.
5. Create number range *PP* for planned orders, purchase requisitions, and reservations.

## Correct the Secondary Persistence of Sales Documents Relevant to ATP

You use the report `ATP_VBBE_CONSISTENCY` if there are too many, too few, or incorrect sales documents (quotation, sales order, scheduling agreement) or delivery requirements in your system. You can detect or check this in the stock/requirements list. These inconsistencies may trigger follow-on errors in planning, procurement (production, purchase order) or document processing (availability check).

This report reads all the sales orders and deliveries with open quantities and compares this information with the available entries on the database. By selecting the *Simulation Mode* checkbox, you can perform this report in simulation. If you do not start the report in simulation mode, all inconsistencies found will be corrected automatically.

### 10.2.1.2 Production Planning and Detailed Scheduling

List of main monitoring transactions:

Transaction	Description
SMQ1	qRFC Monitor (Outbound Queue)
SMQ2	qRFC Monitor (Inbound Queue)
/SAPAPO/CCR	Comparison and Conciliation Report
/SAPAPO/PPP	CIF Post Processing
/SAPAPO/CC	Core Interface Cockpit
/SAPAPO/OM17	Data Reconciliation

#### Monitoring of HANA integrated liveCache

Following reports are used to check the liveCache integration and functionality, or to check and to reorganize the liveCache data.

- Transaction `/sapapo/om13`: It is a basic check of the liveCache configuration and of the most important liveCache relevant settings. The “Versions” section displays the version of the currently installed ABAP Support Package, the current version of the HANA LCAPPS PlugIn (“Current LCA Version”) and the version of the installed SQLDBC.



The [Checks](#) should be run once after a system installation/upgrade/copy/migration and the alert-marked problems (red traffic light) should be resolved immediately. Click on the corresponding information buttons to display documentation on how to resolve an issue.

- Transaction /SAPAPO/OM03: It provides a brief functional check (should be run once after a system installation/upgrade/copy/migration). Note that this transaction doesn't change or even clean the main window area, but uses only the status-line at the bottom for its output.
- Transaction /SAPAPO/OM17: It provides a collection of consistency checks and repair mechanisms for mainly master data (to be run once in a while, or more frequently for data with occasional new inconsistencies until the root cause isn't found). This transaction checks the consistency of master data in liveCache by comparing this data with the corresponding data stored in SQL tables of SAP HANA. This transaction also provides an option to resolve master data inconsistencies between liveCache objects and HANA database tables.

## 10.3 Sales

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to *Sales*.

### 10.3.1 Order and Contract Management

#### 10.3.1.1 Sales Contract Management

##### 10.3.1.1.1 Monitoring Tools

This section of the Operations Guide for SAP S/4HANA contains information about monitoring tools specific to [Sales Contract Management](#).

## Global Trade Management

List of Tools

Tool	Transaction	Use
<a href="#">Trading Contract Synchronization</a> application log	SLG1	<ul style="list-style-type: none"> <li>Display logs for queues (in the <i>External Identification</i> field, choose object WB2_SYNC)</li> </ul>
<a href="#">qRFC Monitor</a>	SMQ1	<ul style="list-style-type: none"> <li>Select erroneous queues</li> <li>Restart queues after errors have been fixed</li> </ul>

### → Recommendation

We recommend that you do not to use any time restrictions. You can select the erroneous queues in transaction SMQ1 by using generic search parameters.

Generic Search Parameters for Queue Names

Type of Queue	Search Parameter
Completely generic	WB2_TC_*
Generic for purchase side	WB2_TC_M*
Generic for sales side	WB2_TC_V*
Single document on purchase side	WB2_TC_M_[ <b>xxx</b> ] where <b>xxx</b> represents the document number (leading zeros have to be considered)
Single document on sales side	WB2_TC_V_[ <b>xxx</b> ] where <b>xxx</b> represents the document number (leading zeros have to be considered)

## 10.3.1.2 Claims, Returns, and Refund Management

### 10.3.1.2.1 Manage Customer Returns

To use the *Manage Customer Returns* app to process customer returns, you must use the *Accelerated Customer Returns (BKP)* scope item. For more information, see <https://rapid.sap.com/bp/scopeitems/BKP>



## 10.4 Sourcing and Procurement

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to Sourcing and Procurement.

### 10.4.1 Supplier Information and Master Data

This section contains information for Supplier Information and Master Data.

### 10.4.2 Specific Monitoring Information for Supplier Information and Master Data

Monitoring is essential to running and managing SAP technology. This section provides information about monitoring specifically for *Supplier Information and Master Data*. For more generic information, see [Monitoring \[page 8\]](#).

List of Relevant Transactions

Transaction	Description
SBGREFCMON	Background remote function calls (bgRFCs) are used in Supplier Evaluation to enable asynchronous creation of documents. You can monitor the calls using transaction SBGREFCMON.
SLG1	Logging and tracing for ABAP components are done using transaction SLG1. The objects and subobjects of Supplier Information and Master Data have the namespace /SRMSMC/*. These are: <ul style="list-style-type: none"><li>• SLC: Supplier Evaluation (/SRMSMC/EVAL)<ul style="list-style-type: none"><li>◦ SLC: Group-Based Evaluation (/SRMSMC/EVAL_GRP_BSD)</li><li>◦ SLC: Background Processes in Supplier Evaluation (/SRMSMC/EVAL_BGRD_PR)</li></ul></li><li>• SLC Tasks (Buy Side) (SRMSMC/TSK_BUY)</li></ul>

### 10.4.3 Scheduled Periodic Tasks

You have to schedule the reports listed below as regular jobs:

List of Periodic Tasks

Program Name / Task	Recommended Frequency
---------------------	-----------------------

SAPConnect: Start Send Process (RSCONN01)	In short intervals; for example, once in 5 minutes
E-Mail Reminders for Pending Evaluation Responses (/SRMSMC/REM_RESP)	Daily
E-Mail Reminders for Pending Evaluation Responses (/SRMSMC/REM_RESP)	Daily
E-Mail Reminders for Tasks (/SRMSMC/REM_TSK)	Daily
Creation of Evaluation Responses (R_SEV_CREA_RESPONSES)	Does not need to be scheduled periodically; can be started manually if follow-on documents of evaluation requests fail to be created, which causes evaluation requests to remain in status <i>In Submission</i> ). For more information, see the system documentation of the report.

## 10.4.4 Specific Troubleshooting for Supplier Information and Master Data

Below you can find solutions to some problems that may occur:

List of Possible Problems

Problem	Suggested Solution
Supplier evaluation requests remain in status <i>In Submission</i> because follow-on documents (evaluation responses and evaluation scorecards) are not created.	Start the report <i>Creation of Evaluation Responses</i> (/SRMSMC/R_SEV_CREA_RESPONSES) manually to create the follow-on documents. For more information, see the system documentation of the report.

## 10.5 Supply Chain

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to Supply Chain.

### 10.5.1 Efficient Logistics and Order Fulfillment

This section contains information about Efficient Logistics and Order Fulfillment valid for *Basic Warehouse Management (S/4HANA)*.

## Data Aging for Material Documents

You can use data aging for your *material transaction documents* (data aging object `MM_MATDOC`). Data aging enables you to perform queries on large numbers of material transaction documents in a shorter time and helps you to avoid using valuable memory for historical data that is rarely used.

### Restricted Customizing

There is restricted individual Customizing for the data aging object `MM_MATDOC`. The following system behavior is set by default:

- When starting a data aging run material documents are moved from the current to the historical area in packages of 100,000 material document items by default. You can change the default package size for the data aging procedure in the transaction *Data Aging Objects* (`DAGOBJ`).
- The residence time of the data aging object `MM_MATDOC` in the current area is 2 years by default. You can change the default residence time on a plant level. The relevant Customizing settings are located in the Customizing for *Materials Management* under ► [General Settings for Materials Management](#) ► [Data Aging](#) ► [Data Aging for Material Documents](#) ► [Define Data Aging for Material Documents](#) ►.
- The current posting period and the previous posting period are excluded from the data aging process by default.

For more information also see the section [Data Archiving and Data Aging \[page 12\]](#).

## 10.5.2 Extended Warehouse Management

This section describes specific operational details that are valid for Extended Warehouse Management.

### 10.5.2.1 Specific Administration Tools for Extended Warehouse Management

This section of the Operations Guide for SAP S/4HANA contains information about administration tools specific to Extended Warehouse Management.

#### 10.5.2.1.1 Scheduled Periodic Tasks

This section describes all tasks that can be automated and that must be run periodically to keep the application running smoothly. Such tasks may be required on component level and are, therefore, relevant in each scenario that uses the component. Other tasks may be relevant for certain business scenarios only. It is important that you monitor the successful execution of these tasks on a regular basis.

The following table contains all the scheduled periodic tasks:

Program Name/Task	Task Scheduling Tool	Recommended Frequency	Detailed Description
Transaction SARA	Transaction SARA and Definition of Background Jobs	Depends on the archiving object and the database growth	Archives archiving objects (see <a href="#">Data Growth and Data Archiving Monitors [page 40]</a> )
Transaction SLG2 (report SBAL_DELETE)	Definition of Background Jobs	Weekly/monthly	Deletes application logs (see <a href="#">Overview of Trace and Log Files [page 38]</a> )
Report /SCWM/ R_REORG_DATA_CONT	Definition of Background Jobs		Deletes batch processing data from warehouse management monitor
Report /SCWM/ PI_COMPL_DELETE	Definition of Background Jobs	Yearly	Deletes physical inventory completeness data sets from the years prior to the last year.
Report RSPPF_SWJCLEAN	Definition of Background Jobs	Weekly/monthly	Deletes technical data from Post Processing Framework (PPF) actions (see SAP Note <a href="#">1890845</a> )
Report /SCWM/ PI_PERS_PPF_DEL	Definition of Background Jobs	Periodicity analogous to archiving periods of the physical inventory documents	Warehouse logistics processing: Deletes PPF action data specific to Extended Warehouse Management (EWM)

Program Name/Task	Task Scheduling Tool	Recommended Frequency	Detailed Description
Report /LIME/ COLLECTION_DELETE	Definition of Background Jobs	Periodicity analogous to archiving periods of the confirmed warehouse tasks	<p>Warehouse logistics processing: Deletes the dispatch message log for goods movements:</p> <ul style="list-style-type: none"> <li>• Planning System</li> <li>• SAP Business Warehouse</li> <li>• Financial System</li> <li>• Inventory System</li> <li>• External System</li> <li>• S/4HANA Inventory Mngmt</li> <li>• GI_W2IM: X</li> <li>• Minimum Age in Days</li> <li>• End Date of Deletion Run: &lt;fill in actual date&gt;</li> </ul> <p>All processed records will be deleted</p>
Report /LIME/ BACKGROUND_DELETE_EXEC	Definition of Background Jobs	<p>Weekly/monthly</p> <p>To delete zero quantities, set no other parameter</p>	<p>Inventory: Deletes database entries for zero stock quantities and, on request, index entries without stock. EWM index tables are as follows:</p> <ul style="list-style-type: none"> <li>• /SCWM/STOCK_IW01</li> <li>• /SCWM/STOCK_IW02</li> <li>• /SCWM/STOCK_IW03</li> <li>• /SCWM/STOCK_IW04</li> </ul> <p>The index table entries are only deleted if this is allowed in Customizing. For more information, see Customizing for <i>SCM Basis</i> under</p> <p>▶ <a href="#">Logistics Inventory Management Engine (LIME)</a>  ▶ <a href="#">Basic Settings</a> ▶ <a href="#">Index Tables and Hierarchy</a> ▶ <a href="#">Determine Index Tables</a> ▶</p>
Report /SCWM/ R_REORG_HU_WO_PRINT	Definition of Background Jobs	Periodicity analogous to archiving periods of the warehouse tasks	Warehouse logistics processing: Deletes PPF action data specific to EWM

Program Name/Task	Task Scheduling Tool	Recommended Frequency	Detailed Description
Report /SCWM/ R_EWM_AUDIT_DELETE_DATA	Definition of Background Jobs	Yearly/monthly	Deletes data that is no longer required for audit purposes
Report /SCMB/ ALEN_ALERT_DELETE	Definition of Background Jobs	Weekly/monthly	Deletes alerts older than x days
Report /SCWM/ R_BW_COLLECTIVE_RUN	Definition of Background Jobs		Transfers extracted data from the following queued remote function call (qRFC) queues to the BI Delta Queue: <ul style="list-style-type: none"> <li>• WMTB (warehouse task)</li> <li>• WMOB (warehouse order)</li> <li>• WMBB (storage bin)</li> <li>• WMDB (delivery item)</li> <li>• WMVB (value added service)</li> </ul>
Report /SCWM/ R_WM_ADJUST	Definition of Background Jobs		Posts differences (for example, warehouse task differences) to the system
Report /SCWM/ R_PDO_COMPLETE	Definition of Background Jobs	Daily	Completes outbound delivery order items with zero quantity
Report /SCWM/ R_REORG_EXCEPTION_SOLVED	Definition of Background Jobs	Yearly/monthly	Warehouse logistics processing: Deletes the object-related history records of exception code processing

The following table contains scenario-specific scheduled periodic tasks:

Required for Scenarios	Program Name/Task	Recommended Frequency	Description
Advanced Production Integration	Report /SCWM/ R_MFG_PDI_COMPLETE	Weekly	Closes unprocessed inbound deliveries from production



Required for Scenarios	Program Name/Task	Recommended Frequency	Description
Advanced Production Integration	Report RSQIWKEXI	Hourly	Restarts goods movement queues not executed due to temporary material locks (for example if the same material is received handling unit (HU) by HU for two production orders in parallel production lines)
Queue Alerting	Report /SCWM/ R_QRFC_QUEUE_ALERT	Every 30 – 120 minutes	Creates alert for failed qRFC message
Queue Alerting	Report RSALERTPROC	Monthly	Deletes old alerts
Dock Appointment Scheduling	Report /SCWM/ R_DAS_DELETE	Monthly	Deletes old SAP Dock Appointment Scheduling time slots and appointments
Proof of Delivery	Report /SCWM/RPOD_IMP Option Create	Daily	Imports proof-of-delivery (POD) data
Proof of Delivery	Report /SCWM/RPOD_IMP Option Delete	Monthly	Deletes POD data
Cartonization Planning	Transaction /SCWM/ CAPDEL	Depends on how often planned shipping HUs (PSHUs) are used in the outbound process: weekly, monthly, or yearly	For goods issue posted outbound delivery orders the planned shipping can be deleted. Alternatively you can also delete PSHUs before wave creation with report /SCWM/ R_WAVE_PLAN_BACKGROUND . To do so, select the <i>Delete Planned Shipping HUs</i> checkbox of the report.
Labor Management	Report /SCWM/ R_MS_RESULT_DELETE	Depends on the usage of measurement services	Labor Management (Analytics): Deletes measurement service results (on the <i>SAP Easy Access</i> screen, choose <a href="#">Extended Warehouse Management</a> > <a href="#">Settings</a> > <a href="#">Measurement Services</a> > <a href="#">Periodic Processing</a> >)

Required for Scenarios	Program Name/Task	Recommended Frequency	Description
Labor Management	Report /SCWM/ RLM_EWL_COMPLETE	Daily (hourly if asynchronous completion is active)	Processes incomplete executed workload records
Labor Management Using BRFplus	Report /SCWM/ R_LEAN_TRACE_DELETE	Daily, weekly, or monthly, depending on the use of BRFplus and the size of the warehouse	Deletes EWM-specific lean trace records for BRFplus
Labor Management with Time and Attendance Data	Report /SCWM/ R_TATT_UPLOAD	Daily	Uploads time and attendance data
Labor Management with Time and Attendance Data	Report /SCWM/ R_TATT_DELETE	Monthly or yearly, depending on the growth rate of the TATT DB table and the retention needs for TATT entries	Deletes time and attendance data
Transit Warehouse	Report /SCWM/ R_REORG_HU_TW_PPF	Monthly	HU processing in transit warehouse: Deletes PPF action data specific to EWM
Delayed Completion of In-bound Deliveries	Report /SCWM/ R_DELETE_DWM_VARI	Daily	Deletes obsolete variants for report /SCWM/ R_PRDI_SET_DWM  When you schedule the job, ensure that the job to reorganize the background jobs (RSBTCDEL2) deleted the corresponding job logs
Warehouse Billing	Report /SCWM/ WB_SNAPSHOT_DELETION	Monthly	Deletes obsolete snapshot data
Warehouse Billing	Report /SCWM/ WB_WBMR_DELETION	Yearly	Deletes obsolete request for warehouse billing measurement and specifications of warehouse billing measurement
Transit Warehouse	Report /SCWM/ R_REORG_HU_TW_PPF	Monthly	HU processing in transit warehouse: Deletes PPF action data specific to EWM

## 10.5.2.1.2 Optional Manual Periodic Tasks

This section describes optional manual tasks you can run periodically in order to keep the application running smoothly over time. A manual task needs a user to execute each task, as opposed to scheduled tasks which

can be automated using a task scheduler program. Such tasks may be useful on component level and are therefore relevant in each scenario that uses the component. Other tasks may be relevant for certain business scenarios only. It is important that you monitor the successful execution of these tasks on a regular basis.

The following table describes the only optional manual task in Extended Warehouse Management:

Required for Scenarios	Tools Supporting this Task	Recommended Frequency	Description
Dock Appointment Scheduling	Web Dynpro Application / SCWM/DSSLOT_GEN	Depends on the usage of time slots in SAP Dock Appointment Scheduling: weekly or monthly	For the creation of time slots in the graphical view of SAP Dock Appointment Scheduling

## 10.5.2.2 Specific Monitoring Tools for Extended Warehouse Management

Extended Warehouse Management provides the warehouse management monitor as a central place to monitor your business processes from the business and the technical perspective. You can start the monitor on the *SAP Easy Access* screen by choosing **Extended Warehouse Management > Monitoring > Warehouse Management Monitor** (transaction / SCWM/MON).

### 10.5.2.2.1 Interface Monitors

Interface monitors are essential for analyzing problems with interfaces such as remote function call (RFC), IDoc, and HTTP. The following table contains all the interface monitors in Extended Warehouse Management (EWM):

Interface	Description	Technology Used
Delivery Processing	Communication based on deliveries or warehouse requests as the foundation for logistics execution in EWM  Relevant for all systems	Queued remote function call (qRFC)
Goods Movement	Goods movements that are not directly related to a delivery document  Relevant for all systems	qRFC

Interface	Description	Technology Used
Production	Asynchronous creation of production material requests based on production and process orders as the foundation for logistics execution in EWM  Optional business process	qRFC
BI Data Sources	SAP Business Information Warehouse and EWM	Not applicable
Transportation Integration (SAP TM)	SAP Transportation Management (SAP TM) and EWM  Web services  Optional business process	SAP Process Integration (SAP PI) + Web service
Warehouse Billing	SAP TM  Web services  Optional business process	SAP PI + Web service
Quality Inspection	Integration of quality inspection  Optional business process	qRFC
Global Trade Compliance Check	SAP Global Trade Services and EWM  Optional business process	RFC, qRFC
Material Flow System	Not applicable	Not applicable
Yard Management	Web services for non-SAP systems  Optional interface	SAP PI + Web service
Delivery Notifications	Web services for non-SAP systems  Optional interface	SAP PI + Web service

The monitor tools for these interfaces are as follows:

Interface	Monitor	Description	Prerequisites
Delivery Processing	SMQ1/SMQ2	<p>Standard qRFC monitoring as described in the application help for SAP NetWeaver</p> <p>Queues beginning with DLVS or DLWS</p> <p>The queue should be monitored within one month as a goods movement can only be posted in the current and previous period (for example, a goods movement sent to the queue on July 15 must be posted on August 31 at the latest).</p>	Create settings for qRFC scheduling and administration in transactions SMQE, SMQS, and SMQR as described in the Integration Guide.
Goods Movement	SMQ1/SMQ2	<p>Standard qRFC monitoring as described in the application help for SAP NetWeaver</p> <p>Queues beginning with EWM-GOODSMVT, WMPGR, or WMPGI</p> <p>For the monitoring of queues, see row <a href="#">Delivery Processing</a> above.</p>	Create settings for qRFC scheduling and administration in transactions SMQE, SMQS, and SMQR as described in the Integration Guide.
Production (Production Material Request)	SMQ1/SMQ2	<p>Standard qRFC monitoring as described in the application help for SAP NetWeaver</p> <p>Queues beginning with PR</p>	Create settings for qRFC scheduling and administration in transactions SMQE, SMQS, and SMQR as described in the Integration Guide.
BI Data Sources	SMQ1/SMQ2	<p>Standard qRFC monitoring as described in the application help for SAP NetWeaver</p> <p>Queues beginning with WMBB, WMDB, WMTB, WMOB, or WMVB</p>	
Transportation Integration (SAP TM)	SXMB_MONI	Standard SAP PI monitoring as described in the application help for SAP NetWeaver	

Interface	Monitor	Description	Prerequisites
Warehouse Billing	SXMB_MONI	Standard SAP PI monitoring as described in the application help for SAP NetWeaver	
Material Flow System	/SCWM/MON (node ▶ <a href="#">Material Flow System</a> ▶ <a href="#">Telegram Buffer</a> ▶	Communication between EWM and programmable logic controllers (PLCs)	
Yard Management	SXMB_MONI	Standard SAP PI monitoring as described in the application help for SAP NetWeaver	
Delivery Notifications	SXMB_MONI	Standard SAP PI monitoring as described in the application help for SAP NetWeaver	

### Note

As an alternative to the technical monitoring, you can monitor the qRFC messages in a business context. In the warehouse management monitor (transaction /SCWM/MON) under node ▶ [Tools](#) ▶ [Message Queue](#) ▶ you can get a list of EWM-relevant queues. The system enriches the list with relevant information for a business user such as the warehouse number and texts. You can use this additional option for monitoring queues without additional configuration. You can also adapt the selection to the needs of your users in Customizing for *Extended Warehouse Management* under ▶ [Monitoring](#) ▶ [Warehouse Management Monitor](#) ▶ [Message Queue Monitoring](#) ▶.

You can configure e-mail and SMS alerts for failed queues. Therefore you do not need to monitor the queues actively. For more information, see <http://help.sap.com/s4hana> under ▶ [<Your SAP S/4HANA release>](#) ▶ [Product Assistance](#) ▶ [Enterprise Business Applications](#) ▶ [Supply Chain](#) ▶ [Extended Warehouse Management \(EWM\)](#) ▶ [Monitoring](#) ▶ [Warehouse Management Monitor](#) ▶ [Message Queue Monitoring](#) ▶.

EWM uses the qRFC for internal messages to achieve minimal response time for users who need to work with a high throughput. These queues also need to be monitored. You can do the monitoring as described for the interfaces above, using transaction SMQ2/SMQ1 for queues starting with WM, EWM, or DLV.

Alternatively, you can use the warehouse management monitor to display the queues with additional business data as described above.

## 10.5.2.3 Overview of Trace and Log Files

Extended Warehouse Management (EWM) uses the application log (part of SAP NetWeaver) to store application errors, warnings, and success messages issued in critical processes (for example, the delivery interface or in user interface (UI) transactions). For UI transactions, the user has to save the application log explicitly.

For general information on application logs, see [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) under [▶ SAP NetWeaver for SAP S/4HANA ▶ View All ▶ Function-Oriented View ▶ Solution Life Cycle Management ▶ Application Log – \(BC-SRV-BAL\) ▶](#).

You can monitor the application logs with transaction `SLG1` or in the warehouse management monitor under [▶ Tools ▶ Application Log ▶](#).

The following table contains all the trace and log files in EWM:

Log Object	Detailed Description	Activation/Deactivation
/SCWM/DLV_ERP	Delivery Processing: Stores error messages issued during the queued remote function call (qRFC) communication of deliveries with an expiry time of seven days.	The system saves the log automatically when the qRFC fails. If you need a log for messages that were processed without error for test purposes, you can change the settings in transaction /SCWM/ERPLOG (on the <a href="#">SAP Easy Access</a> screen choose <a href="#">▶ Extended Warehouse Management ▶ Settings ▶ Application Log ▶ Configure Log for ERP Messages ▶</a> ).
/SCMB/PATTERN_UI	Log for UI messages	Log has to be saved explicitly in the EWM UI transactions.
/SCWM/WME	Warehouse Logistics Processing: Log for EWM operations	Log has to be activated with transaction /SCWM/ACTLOG (on the <a href="#">SAP Easy Access</a> screen choose <a href="#">▶ Extended Warehouse Management ▶ Settings ▶ Activate Application Log ▶</a> ). You can activate the application log on sub-object level.
/SCWM/SHP_RCV	Site Logistic Processing: Log for shipping and receiving transactions	
/SCWM/EPD	Labor Management: Log for sending performance documents to human resources (HR)	Log has to be saved explicitly by the user in transaction /SCWM/EPD_TRANSFER (on the <a href="#">SAP Easy Access</a> screen choose <a href="#">▶ Extended Warehouse Management ▶ Labor Management ▶ Employee Performance ▶ Send Performance Document to HR ▶</a> ).

Log Object	Detailed Description	Activation/Deactivation
/SCMB/MD	Master Data: Log for deleting supply chain units	
/SCWM/PACKSPEC	Master Data: Log for packaging specifications	The log for the determination analysis has to be activated in transaction /SCWM/PSLOG. The log for uploading packaging specifications has to be saved explicitly by the user in transaction /SCWM/IPU (on the <i>SAP Easy Access</i> screen choose <a href="#">► SCM Basis</a> <a href="#">► Master Data</a> <a href="#">► Packaging Specification</a> <a href="#">► Initial Data Transfer of Packaging Specifications</a> <a href="#">►</a> ).
PPF	Post Processing Framework	The log is always active. You can deactivate the log for delivery processing in transaction /SCWM/DLVPPFLOG (on the <i>SAP Easy Access</i> screen choose <a href="#">► Extended Warehouse Management</a> <a href="#">► Delivery Processing</a> <a href="#">► Actions</a> <a href="#">► Deactivate PPF Log Depending on Warehouse and User</a> <a href="#">►</a> ).
/SCWM/CHM	EWM Check Monitor	
/SCWM/DAS	SAP Dock Appointment Scheduling	The log is used for asynchronous processes and reports in SAP Dock Appointment Scheduling. By default it is written for errors and warnings. You can change the activation of the log in transaction /SCWM/DSLOG.

During the implementation and test phase, or when you need to investigate an issue, you should activate the related logs. Once the system is running smoothly, you can improve the performance if you configure the logs to record only *Important* or *Very Important* messages or deactivate them completely.

For descriptions of the recommended tasks to contain data growth, see [Scheduled Periodic Tasks \[page 29\]](#).

## 10.5.2.4 Data Growth and Data Archiving Monitors

Extended Warehouse Management (EWM) uses the standard tools available in SAP NetWeaver and does not require a component-specific tool. For more information, see the SAP NetWeaver Operations Guide on SAP Service Marketplace at <http://service.sap.com/operationsnw75>.



You can archive the following data in EWM:

<b>Application Component</b>	<b>Business Object/Document Category</b>	<b>Archiving Object</b>
Warehouse Request Processing	Internal Warehouse Requests (Inbound Delivery)	DLV_INB
	Internal Warehouse Requests (Outbound Delivery)	DLV_OUT
	Production Material Requests	DLV_PROD
Stock Management	Handling Units	WME_HU
Warehouse Logistic Processing	Warehouse Tasks and Goods Movement Documents	WME_TO
	Warehouse Orders	WME_WO
	Waves	WME_WAVE
	Telegram Flows	WME_MFS
	Relevant Resource Data	WME_RSRC
	Value-Added Service Orders (VAS Orders)	WME_VAS
	Physical Inventory Documents	LIME_PI
	LIME Log Entries (goods movements and confirmed warehouse tasks). Periodicity analogous to WME_TO.	LIME_NLOG
Site Logistic Processing	Door Activities	WME_DOOR
	Vehicle Activities	WME_VEH
	Transport Unit Activities	WME_TU
Labor Management	Indirect Labor Tasks	WME_ILT
	Executed Workloads	WME_EWL
	Employee Performance Documents	WME_EPD
	Business Partners (Processors) – only if created originally in Warehouse Management	CA_BUPA
Express Shipping Interface	Manifests	EWM_ESI_MF
	Parcels	EWM_ESI_PA

Application Component	Business Object/Document Category	Archiving Object
Warehouse Billing	Warehouse Management Warehouse Billing Measurements	EWM_WBM

## 10.5.2.5 Data Consistency

Extended Warehouse Management (EWM) exchanges data with other solutions in SAP S/4HANA using asynchronous messages. Monitor the queued remote function call (qRFC) messages in the system as described in [Interface Monitors \[page 35\]](#).

You can check the consistency of your EWM system using transaction `/SCWM/CHM_PRF` (*Maintain Check Monitor Profile*). The particular checks are documented in the transaction.

## 10.5.3 Transportation Management

This section of the Operations Guide for SAP S/4HANA, on-premise edition contains information on operations tasks specific to Transportation Management.

### 10.5.3.1 Trace and Log Files

Trace and log files are essential for analyzing problems. SAP S/4HANA uses the standard SAP NetWeaver tools for tracing and logging.

The following application logs can be monitored with transaction `SLG1`:

- `/SCMTMS/TMS` (Transportation Management)
- `PPF` (Post Processing Framework)

Important Trace and Log Files

Monitoring Object	Monitor Transaction/Tool	Monitor Frequency	Indicator or Error	Monitoring Activity or Error Handling Procedure	Responsibility
Optimizer logs and trace files	rcc_log To display the trace files, choose ► <a href="#">Extras</a> ► <a href="#">Display</a> ► <a href="#">Log</a> <a href="#">File</a> ►.	Check frequently – daily, weekly	Check for Errors	Display and analyze optimizer logs and trace files.  These files are on the server in the directory log of the SAP gateway on which the optimizers are installed (either own server or application, or database server):  Directory (Windows version):  \usr\sap\ <sid&gt;\g&lt;gwnr&gt;\log or<br=""></sid&gt;\g&lt;gwnr&gt;\log> \usr\sap\ <sid&gt;\dvebmgs&lt;gwnr&gt;\log </sid&gt;\dvebmgs&lt;gwnr&gt;\log  <SID> = SystemID  <GWNr> = SystemNr (=GatewayNr) for example00  For more information, see SAP Note <a href="#">391808</a> .	Basis Support
Changing the detail level of trace files	/SCMTMS/ WDC_TS_ENG_COM F	Check frequently – daily, weekly	Check for Errors	► <a href="#">System Administration</a> ► <a href="#">Remote Control and Communication</a> <a href="#">Framework</a> ► <a href="#">Settings</a> ► <a href="#">Engine Debug</a> <a href="#">Configuration</a> ►	Basis Support

Monitoring Object	Monitor Transaction/Tool	Monitor Frequency	Indicator or Error	Monitoring Activity or Error Handling Procedure	Responsibility
Spool file of optimizer run	SM37	As required	Messages in spool file	Check also for application errors after the optimizer run using rcc_log (see above).	Application Support/Job scheduling team

For more information about this topic, see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709)  
▶ *SAP NetWeaver for SAP S/4HANA* ▶ *Technical Operations for SAP NetWeaver* ▶ *Solution Life Cycle Management* ▶ *Application Log (BC-SRV-BAL)* ▶.

## 10.5.3.2 Administration Tools

Once you install and configure SAP SCM Optimizer, the following monitors and transactions can be used for administration, analysis, and maintenance.

Monitoring Object	Monitor Transaction / Tool	Monitor Frequency	Indicator or Error	Monitoring Activity or Error Handling Procedure	Responsibility
User list for optimizers	rcc_session	As required	Not applicable	Displays a user list for optimizers	Basis Support
Versions of optimizers	rcc_version	As required	Not applicable	Displays optimizer versions	System monitoring team
Running optimizer processes	rcc_session	As required	Not applicable	Display optimizer processes	Basis Support
RFC destinations for optimizers	SM59 / rcc_cust	During installation or after configuration changes	Test connection status to ensure all is OK	Defining and checking optimizer RFC destinations – can also be used to check if optimizer server is online	System monitoring team and Basis Support

Monitoring Object	Monitor Transaction / Tool	Monitor Frequency	Indicator or Error	Monitoring Activity or Error Handling Procedure	Responsibility
Spool file of optimizer run	SM37	As required	Messages in spool file	Check also for application errors after the optimizer run using <code>rcc_log</code> (see section <a href="#">Trace and Log Files</a> [page 42]).	Application Support / Job scheduling team
Optimizer server settings	rcc_cust	During installation, or for configuration changes to optimizer servers	Not applicable	Maintain master data for optimization servers.	Basis Support

### 10.5.3.3 Scheduled Periodic Tasks

You have to schedule the reports listed below as regular jobs:

Standard / Housekeeping Jobs for Transportation Management (TM)

Program Name / Task	Recommended Frequency	Description
Report POWL_WLOAD	Once, nightly	<p>All user query (work lists) results within a POWL context are cached into an internal cluster table. Every time a user chooses the refresh link in the worklist, the results of the feeder class method <code>GET_OBJECTS</code> are saved to this cache. The POWL always reads the cache regardless of the Syncsetting in the type repository or query definition.</p> <p>This cache enables the administrator to create a scheduled worklist using the POWL_WLOAD report.</p>
Report SBAL_DELETE	Occasionally, for example, monthly	<p>As described in SAP Note <a href="#">195157</a>, using the application log occupies storage space on the database. To free the database of outdated entries, we recommend that you execute report <code>SBAL_DELETE</code> periodically.</p> <p>Recommendation: coordinate with archiving cycles.</p>

Program Name / Task	Recommended Frequency	Description
Report /SAPAPO/DELETE_LOCATIONS	Yearly	Master data: Deletes locations with deletion flag
Report /SCMTMS/PLN_EXP_DELETE	Daily	Deletes Optimizer Explanation logs older than x days

Standard / Housekeeping Jobs for TM Tendering

Program Name/Task	Recommended Frequency	Detailed Description
Report /SCMTMS/ TEND_CONT_PROCESS	Every 5 to 120 minutes, depending on the minimum response times for carriers in tendering	Processes incoming freight quotations and continues the tendering process after a freight quotation has been received or after the maximum response time for a freight request for quotation is over.
Report /SCMTMS/ TEND_PROCESS_INBOX	Same frequency as report /SCMTMS/TEND_CONT_PROCESS. We recommend that you run this report immediately before /SCMTMS/TEND_CONT_PROCESS.	Converts freight quotations that have been received from carriers by e-mail so that the quotations can be processed by report /SCMTMS/TEND_CONT_PROCESS. This report is not required if receiving freight quotations by e-mail is not enabled.
Report /SCMTMS/ TEND_NOTIFICATION_MAIL	Hourly/daily	Instead of notifying a carrier immediately about tendering events by e-mail, the system administrator can choose to send collective e-mails to carriers periodically. Schedule this report to create these notification e-mails.

Standard / Housekeeping Jobs for SCM Optimizer

Program Name/Task	Recommended Frequency	Detailed Description
Report RCC_CLEANUP Transaction RCC_CUST	Daily	This report should be run daily to delete all log entries made by RCC and all external files on remote engine servers for which the log deletion time parameter is set inrcc_cust.
Report BRCONNECT	Daily	Calculates BI-relevant optimizer statistics (for Oracle); see SAP Notes <a href="#">129252</a> and <a href="#">421795</a>

## 10.6 R&D / Engineering

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to R&D / Engineering.

### 10.6.1 Product Lifecycle Management

This section describes specific operational details that are valid for Product Lifecycle Management (PLM).

#### 10.6.1.1 Specific Monitoring Tools for PLM

This section of the Operations Guide for SAP S/4HANA contains information about monitoring tools specific to Product Lifecycle Management.

##### Workload Monitors

Product Lifecycle Management uses the standard SAP NetWeaver workload monitor. For more information, see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Technical Operations for SAP NetWeaver* ► *Administration of SAP NetWeaver systems and components* ► *Administration of Application Server ABAP* ► *Monitoring and Administration Tools for Application Server ABAP* ► *Workload Monitor* ►.

##### Interface Monitors

Interface monitors are essential for analyzing problems with interfaces such as RFC, IDoc, and HTTP. If you create RFC connections for running your PLM system landscape, use standard SAP NetWeaver tools for monitoring these RFC connections. For more information, see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *Function-Oriented View* ► *Application Server* ► *Functions and Tools of SAP NetWeaver Application Server* ► *Connectivity* ► *Components of SAP Communication Technology* ► *Classic SAP Technologies (ABAP)* ► *RFC* ► *RFC Administration* ►.

#### 10.6.1.2 High Availability for PLM

*Product Lifecycle Management* follows the general high availability (HA) concept for all SAP NetWeaver based systems. For more information, see [Business Continuity and High Availability \[page 15\]](#).

In particular, you can protect Product Lifecycle Management from downtimes using redundancy approaches such as installations on at least two different runtime environments or physical machines. A load balancing or dispatching mechanism ensures that in case of a downtime of one runtime or physical machine the remaining ones can handle all requests.

### 10.6.1.3 Specific Troubleshooting for PLM

If errors occur during the operation of the PLM Web UI applications, we recommend that you create a BCP ticket under the corresponding application component (they all start with PLM-WUI\*).

For more information about how to operate SAP NetWeaver Enterprise Search, see the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ▶ *SAP NetWeaver for SAP S/4HANA* ▶ *Function-Oriented View* ▶ *Search and Operational Analytics* ▶ *Enterprise Search* ▶.



# 11 SAP S/4HANA LoB Products

This section of the Operations Guide for SAP S/4HANA contains specific operations information for the functionality included in SAP S/4HANA LoB Products.

## 11.1 Asset Management

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to Asset Management.

### 11.1.1 Environment, Health, and Safety

This section of the Operations Guide for SAP S/4HANA contains information for Environment, Health, and Safety valid for:

- Incident Management
- Environment Management
- Health and Safety Management

#### 11.1.1.1 Specific Monitoring Tools for EHS

Monitoring is essential to running and managing SAP technology. The following sections provide information about monitoring specifically for Environment, Health, and Safety. For more generic information, see [Monitoring \[page 8\]](#).

##### 11.1.1.1.1 Monitoring Processes and Workflows in EHS

###### 11.1.1.1.1.1 Monitoring the Workflow and Process Foundation

The process foundation is essential to the business processes supported by *Environment, Health, and Safety*. It links together the SAP Business Workflow engine and the BOPF business objects of *Environment, Health, and Safety* for all the solution's components.

You can monitor the processes with the following process tools:

- EHFND\_WFF\_PRCDEF\_LST

- EHFND\_WFF\_PROCS\_LST
- EHFND\_WFF\_TECH\_WFIBO

### 11.1.1.1.2 Monitoring Scheduled Processes

The process scheduler of *Environment, Health, and Safety* is used for recurring tasks and planned execution of a process instance. You can use the following transactions to monitor the scheduled processes:

List of Transactions

Transaction	Description
SLG1	Application log
SM37	<p>Job log</p> <p>The scheduler uses a self-rescheduling job to do its work. In addition to the application log, you can also find information about the scheduler executions in this transaction.</p> <p>To display only the jobs related to the <i>Environment, Health, and Safety</i> scheduler, you can filter by job name R_EHFND_SCHEDULER_JOB. In addition, you should change the user name parameter to "*" (asterisk) as the jobs are always run under the last user that created a scheduler entry.</p>

For more information about the log objects for the scheduler, see [Overview of Application Log Objects \[page 52\]](#).

### 11.1.1.1.3 SAP Business Workflow Log

You can use the workflow log to inspect workflow instances. You can use either the standard view for end-users or the technical view. The technical view contains additional options for developers and administrators, such as inspecting workflows and work item containers.

To access the workflow log, you can use the following standard transactions to find a workflow:

List of Transactions

Transaction	Description
SWI6	<p>Workflows for Object</p> <p>Use this if you know the ABAP class and key of the PCO that is related to the workflow that you are searching for.</p>
SWI14	<p>Workflows for Object</p> <p>Use this if you want to get all of the workflows that have a common PCO class.</p>

## i Note

The PCO class that is used by your process is configured in Customizing under ► [Environment, Health, and Safety](#) ► [Foundation for EHS](#) ► [Process Foundation](#) ► [Specify Process Definitions](#) ►.

### 11.1.1.1.4 Process Logs on the User Interface

In most places where [Environment, Health, and Safety](#) uses workflows in the application, you can access the process progress log for this workflow easily from the user interface. You can access the log in the following ways:

- Choose the [See Also](#) menu to access the progress log for the underlying process.
- Select the status link for a process.

If your user is authorized to use the process tools, you can see pushbuttons on the progress log that take you to the more technical logs. For more information about the required authorizations, see the [Environment, Health, and Safety](#) specific information in the *Security Guide for SAP S/4HANA* at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► [Product Documentation](#) ►.

### 11.1.1.1.2 Tracing BOPF Data

You can use the BOPF data trace to analyze the runtime behavior of BOs. It can be configured to trace the data that flows through certain interfaces between BOPF and its environment. Traces are configured for the following flows of data:

- Service Provider <-> BOPF
- BOPF <-> Buffer
- Buffer Dispatcher <-> Node Buffers (if applicable)
- Buffer <-> Data Access (if applicable)
- BOPF <-> Association, Action, Determination, Query, Validation
- Association, Action, Determination, Query, Validation I <-> Internal Access (io\_read, io\_modify, io\_check, io\_query).

## Trace Configuration

To configure traces in the *Business Object Processing Framework* (transaction BOBF), proceed as follows:

- In the menu under ► [Utilities](#) ► [Settings](#) ► select the checkbox [System Browser](#) and save your entry.
- In the added [System Browser](#) option, select [Application Flow & Data Trace](#) under [Runtime Tools](#).
- Open the context menu by clicking the right-hand mouse button and select [Maintain Trace Settings](#). Note that you can switch the trace on for different interfaces, specified users, and specified BOs.

### ⚠ Caution

Activating a blank user name activates the trace for all users. Activating a blank BO name activates the trace for all BOs. Do not activate the trace for all users and for all BOs.

After activation, the tool writes trace data until it is deactivated. You should deactivate all of your traces after recording.

### i Note

The trace does not work for a BO that is already in use at the time when you activate the trace.

## Trace Analysis

To analyze or view the traces directly in the *Business Object Processing Framework* (transaction BOBF), proceed as follows:

- In the menu under **Utilities > Settings** select the checkbox *System Browser* and save your entry.
- In the added *System Browser* option, select the user for whom you want to view traces in *Application Flow & Data Trace* under *Runtime Tools*.
- Open the context menu by clicking the right-hand mouse button and select *Display Trace*.

### 11.1.1.1.3 Overview of Application Log Objects

The following table contains all the objects and subobjects that are used for the application log in *Environment, Health, and Safety*

List of Log Objects and Subobjects

Log Object	Log Subobject	Description
EHFND_FW (Foundation for EHS)	GENERAL	General messages for the foundation for EHS
	UI_COMMUNICATION	UI communication.
	WF_SCHEDULER	The General Scheduler Log displays information about the executions of the scheduler, which scheduled process instances were executed, and which had errors.
	WF_SCHEDULER_ITEM	The Scheduler Item Log displays detailed information about the execution of scheduled process instances with detailed error information in case of errors.
EHFND_INTEGRATION (Integration Framework)	EHFND_EXT_NOTIF	Log for notifications to integrated systems, such as PM.

Log Object	Log Subobject	Description
EHHSS_BO_INC (Incident Management)	EHHSS_AIF_INC_INBD	Log for inbound processing of SAP Interactive Forms by Adobe in the incident application.
	EHHSS_HR_ABS	Log for HR absence notifications.
EHHSS_BO_RAS (Risk Assessment)	EHHSS_AIF_RAS_INBD	Log for inbound processing of SAP Interactive Forms by Adobe in the risk assessment application.
EHHSS_BO_HSP	EHHSS_RPT_HSP	Log for the batch report which sends health surveillance protocol proposals to occupational health.
EHFND_REP_FILL (Chemical)	FILL_CHM_BY_EHS_SUB	Log for the batch report which transfers chemical substances from <i>EHS Management</i> as part of <i>SAP ERP</i> .
	FILL_CHM_PHRASES	Log for the batch report which transfers phrases used in the chemical substances.
	FILL_REGL_BY_EHS_SUB	Log for the batch report which transfers regulatory lists.
EHENV_EMIS (Environment Management)	AUTO_MDEF_CHECK	Scheduler job log for missing and due amounts
	CHK_CALC	Log for check job for approved amounts and calculation triggers

#### 11.1.1.1.4 Tasks - Notifications to Integrated Systems

The system documents all notifications for tasks that are sent to integrated systems in the application log. You can display the created plant maintenance notifications in transaction `IW23` (Display PM Notification).

#### 11.1.1.2 Specific Management Tools for EHS

SAP provides you with infrastructure to help your technical support consultants and system administrators effectively manage all SAP components and complete all tasks related to technical administration and operation. The following sections provide information about managing *Environment, Health, and Safety*. For more generic information, see [Management of SAP S/4HANA \[page 9\]](#) in the *Getting Started* section.

##### 11.1.1.2.1 List of Administration Tools

The following tools are especially relevant to *Environment, Health, and Safety*.

Software Component	Transaction / Tool	Description
BOPF (Business Object Processing Framework)	BOBT	Test UI for BOPF.  For analysis and change to the runtime data stored in business objects.
	BOB	Customization UI for BOPF.  For analysis and enhancements of the structure/definition of business objects.
POWL, Work Inbox, Task Management	POWL_ADMIN_COCKPIT	This report is a single point of entry to perform different administrator activities relevant for personal object worklist (POWL) development, Customizing, and testing.
	POWL_D01	You can use this report to delete derived administration queries and user-defined queries.  You might want to use the deletion report if administration queries have been changed, but the user has already received a derivation of the old version.
	POWL_D03	Check Consistency of POWL Table Entries.
	POWL_D04	Delete Cached Selection Criteria for Admin Queries.
	POWL_D07	Delete Shadowing Entries: This report deletes derived or user-defined POWL queries created in shadowing mode from the cache, based on application ID or user.
	POWL_WLOAD	Refresh Active POWL Queries:  You can use this report to update queries. If you schedule the report as a background job, for example, you can update the queries overnight. Users then have access to the updated data when they start work, without having to refresh the data themselves. This is a way of controlling the server load.
Process Setup, Process Scheduler	Report R_EHFND_PSE_DISABLE_ENTRY	The report allows you to disable one entry by providing the ID of the respective process setup as the parameter. The ID of the entry can be found in one of the messages in the scheduler log.
	Report R_EHFND_PSE_DISABLE_ERRONEOUS	The report allows you to disable all entries that have had more than a given number of errors since a given date.
Process Foundation	EHFND_WFF_GRAPH_WFLG	The Graphical Workflow Log enables you to open the graphical workflow log with the ID of a work item or workflow.
	EHFND_WFF_PRCDEF_CHK	The Process Definition Check runs several checks on a process definition.

Software Component	Transaction / Tool	Description
	EHFND_WFF_PROCDEF_INF	The Process Definition Information displays detailed technical information about a process definition.
	EHFND_WFF_PROCDEF_LST	The Process Definition List shows the process definitions from the process definitions table (EHFNDC_PROCDEF).
	EHFND_WFF_PROCS_CHK	The Process Instance Check runs several checks on a process instance
	EHFND_WFF_PROCS_INF	The Process Instance Information displays detailed technical information about a process instance.
	EHFND_WFF_PROCS_LST	The Process Instance List shows process instances for a given process.
	EHFND_WFF_SYSTEM_CHK	The Process System Check runs several checks to see if the system has been correctly setup to use the process foundation.
	EHFND_WFF_TECH_WFIBO	The Technical Workflow Inbox displays the work items of a given user with technical information.
	EHFND_WFF_TECH_WFLOG	The Technical Workflow Log allows direct access to the technical workflow log using ID of a work item or workflow instance.
	EHFND_WFF_WI_INF	The Technical Information for Work Item displays detailed technical information about a work item and its related process.
	Report R_EHFND_WFF_CORRECT_PCBOS	The report helps to delete/disable PCBOs which are defective.
	Report R_EHFND_WFF_SHOW_TASKS_OF_WFID	The report lists all tasks that are used in a workflow template and indicates if they are background tasks.

### **i** Note

To execute the transactions for the process foundation, the PFCG role assigned to your user requires the authorization object EHFND\_WFT with activity 16 and the transaction names.

This also authorizes you to access these back-end transactions from the front end, for example, from the process progress log UI.

## 11.1.1.2.2 Data Archiving

For archiving data, *Environment, Health, and Safety* uses the data archiving function within *SAP S/4HANA*.

*Environment, Health, and Safety* provides configuration for the following archiving objects:

List of Archiving Objects

Archiving Object	Description	Archived Data
EHHSS_INC	EHS Incidents	Data of the <i>Incident</i> business object
EHHSS_ISR	EHS Incident Summary Reports	Data of incident summary reports
EHHSS_RSV	Risks Revisions	Data records of risk revisions (partial archiving)
EHHSS_RSK	Risks	Data records of risks
EHHSS_RAS	Risks Assessments	Data records of risk assessments
EHHSS_SI	Safety Instructions	Data records of safety instructions
EHHSS_CEVL	Control Evaluations	Data records of control evaluations
EHHSS_CINS	Control Inspections	Data records of control inspections
EHHSS_CRPL	Control Replacements	Data records of control replacements
EHHSS_SPLC	Sampling Campaigns	Data records of sampling campaigns
EHFND_SPLG	Samplings	Data records of samplings
EHFND_CHA	Chemical Approvals	Data records of chemical approvals
EHFND_LOCP	Assignments of Persons to Locations	Data records of persons who are assigned to locations
EHFND_JOBP	Assignments of Persons to Jobs	Data records of persons who are assigned to jobs
EHENV_SAC	EHS Environmentally-related tasks	Tasks of category <i>Action</i>

All archiving objects comply with the rules of *SAP Information Lifecycle Management* (ILM). You can activate ILM in the *Switch Framework* (transaction `SEW5`).

For more generic information, see [Data Archiving and Data Aging \[page 12\]](#).



### 11.1.1.2.3 Scheduling of Periodic Tasks

You have to run the following job periodically in order to keep *Environment, Health, and Safety* running smoothly over time.

Job Details

Program Name/Task	Recommended Frequency	Detailed Description
R_EHFND_WFF_UPDATE_STATISTICS	Daily	See Customizing activity <a href="#">Schedule Jobs for Process Statistics</a> (EHFND_WFF_STAT)

If you have enabled integration into other applications, you have to run the following jobs periodically.

List of Jobs

Program Name/Task	Recommended Frequency	Detailed Description
R_EHFND_CHECK_COMPL_EXT_NO-TIF	Daily	See Customizing activity <a href="#">Schedule Job for Notification Status Check</a> (EHFND_CHECK_COMP_NOT)
R_EHFND_SYNCEAM_LOCATION	Daily	See Customizing activity <a href="#">Schedule Jobs for Location Synchronization</a> (EHFND_LOC_SYNCEAM)
R_EHHSS_CHECK_HCM_ABS_CHAN GED	Daily	See Customizing activity <a href="#">Schedule Jobs for HR Absence Check</a> (EHHSS_CHECK_HR_ABS)
R_EHHSS_PROPOSE_HSPROTO-COLS	Daily	See Customizing activity <a href="#">Schedule Job for Proposing Health Surveillance Protocols</a> (EHHSS_PROP_HSPROT)
1. R_EHFND_PHRASE_TRANSFER 2. R_EHFND_FILL_REGL_BY_EHS_SUBST 3. R_EHFND_FILL_CHM_BY_EHS_SUBST	Daily or less frequently	The reports should be executed in this order. See Customizing activity <a href="#">Schedule Job for Transfer of Chemical Data</a>
R_EHENV_MDEF_CHECK_EXECUTE	Daily	See Customizing activity <a href="#">Schedule Job for Measurement Checks</a> (EHENV_MDEF_CHECK_EXE)
R_EHENV_CDEF_AUTO_CALC_JOB	On event SAP_EHFND_AMOUN T_CNG	See Customizing activity <a href="#">Schedule Job for Automatic Calculations</a> (EHENV_CDEF_AUTO_CALC)

#### → Recommendation

All jobs should be run at times of minimal system activity, so as not to affect performance or otherwise disrupt your daily operations.

## 11.1.1.2.4 Transferring Data

### Transferring Incident Data

You can transfer incident data between *Environment, Health, and Safety (EHS)* systems or between an *Environment, Health, and Safety* system and a component extension for *SAP EHS Management* (release 3.0 or higher) system. In addition, you can import incident data from non-SAP systems to an *Environment, Health, and Safety* system.

For more information about transferring incident data between SAP systems or importing incident data from non-SAP systems, see information about *Incident Management* at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *Product Assistance* ►. Open the product assistance and go to the section on *Environment, Health, and Safety*.

### Transferring Specification Data

You can use three reports to transfer chemical data from the specification database of *SAP EHS Management* as part of *SAP ERP* or of *Product Safety and Stewardship* as part of *SAP S/4HANA* to the *Environment, Health, and Safety* system for use in health and safety management.

For more information about transferring data from the specification database, see the section *Managing Chemicals for Health and Safety Processes* at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *Product Assistance* ►. Open the product assistance and go to the section on *Environment, Health, and Safety*.

## 11.1.1.3 Specific Troubleshooting for EHS

The following sections provide information about troubleshooting and error handling for *Environment, Health, and Safety*

For general information, see [Troubleshooting \[page 18\]](#).

### 11.1.1.3.1 Troubleshooting the Process Foundation

Since the process foundation is responsible for implementing your business processes in the system, it may be directly related to problems or problems may be found by analyzing the information available through the process foundation.

## Problem: A Process Did Not Start

You can perform the following steps to troubleshoot this problem:

1. Make sure that the process did not really start. Processes that you can schedule may sometimes be delayed even if they are scheduled to run immediately because the process scheduler executes these processes. For more information, see section [Process Setup and Scheduled Processes](#).
2. Ensure that a short dump did not occur in transaction ST22.
3. Use transaction EHFND\_WFF\_PROCS\_LST to search for the instance.
4. If you cannot find the instance there, it may be that the system has not yet established the linkage between the workflow and the PCBO. Usually, this linkage occurs during the call of the START\_PROCESSING action of the PCBO through the workflow system. If this call fails or cannot successfully be finished (maybe the PCBO or another important component is currently locked and therefore the process has to wait), you may still find the process by searching for it in transaction SWI14. Note that you will need the name of the PCO class to use this transaction.
5. If you cannot find the process instance, there may be a problem with the system or the process definition.
6. Check if the system is correctly set up for using the process foundation of EHS by executing transaction EHFND\_WFF\_SYSTEM\_CHK.
7. If the system is set up correctly, check the process by executing transaction EHFND\_WFF\_PRCDEF\_CHK for the process definition, or checking the status of the process definition in EHFND\_WFF\_PRCDEF\_LST. The system provides information about possible problems.
8. If none of the above helped, you can also look at the event queue browser of SAP Business Workflow (transaction SWEQBROWSER), or the event queue administrator (transaction SWEQADM\_1) and check if there were any events that could not be delivered.

## Problem: Process Stopped

If a process stopped, you can perform the following steps:

1. Ensure that a short dump did not occur in the workflow execution. The workflow cannot catch these dumps and is not able to recognize that a problem has occurred. You can check for short dumps by analyzing transaction ST22.
2. If a short dump did not occur, execute transaction EHFND\_WFF\_PROCS\_CHK either directly, or by selecting the Checkicon for your process in transaction EHFND\_WFF\_PROCS\_LST. The system runs several checks on the instance and may give you information about what caused the problem.
3. If you still cannot find the problem, you can analyze the workflow log for your process. You can launch the workflow log, for example, from transaction EHFND\_WFF\_PROCS\_LST by choosing the Logicon for the respective row.

The following information might be helpful when you troubleshoot the problem:

- Are there any problems with the agent assignment?  
Perhaps the work item could not be assigned to a user.
- Is there any information in the step details of the workflow instance or one of the work items?  
Maybe the workflow is just waiting because the object it is trying to change is currently locked.

## Problem: Inconsistent Data

If a workflow or a PCBO instance has been deleted and the other part is still in the system, you can use report R\_EHFND\_WFF\_CORRECT\_PCBOS to correct inconsistencies.


### 11.1.1.3.2 Process Setup and Scheduled Processes

Processes that can be scheduled, for example, the processes that you start on the *Tasks* tab in the application are not created directly after you choose the *Start Process* pushbutton; they are launched by the *Environment, Health, and Safety* process scheduler. The scheduler is integrated into the process setup business object when they are due for execution. To avoid problems, ensure that you have activated the event type linkage for scheduled processes. For more information, see Customizing for *Environment, Health, and Safety* under [▶ Foundation for EHS ▶ Process Foundation ▶ Processes ▶ Activate Linkage for Scheduled Processes ▶](#).

Almost all problems that could occur on execution will be reported in the application log (transaction SLG1) for the scheduler log objects. For more information, see [Overview of Application Log Objects \[page 52\]](#).

If there are problems with a scheduled process and the system executes it more than once, you can use reports to disable them. For more information, see [List of Administration Tools \[page 53\]](#).

### 11.1.1.3.3 Form Generation with Adobe Document Services

To gain comprehensive information about how to troubleshoot the form generation with Adobe Document Services, see SAP Note [944221](#) .

### 11.1.1.3.4 Notifications to Integrated Systems

If there are problems with the notification processes to integrated systems, you should first make sure that the process itself is working correctly. See the steps in the section [Troubleshooting the Process Foundation \[page 58\]](#).

If you are sure that there are no problems with the process, check the monitoring transactions for notifications. For more information, see the section [Tasks - Notifications to Integrated Systems \[page 53\]](#).

Pay special attention to the requirements of these notifications as described in the Customizing for *Environment, Health, and Safety* under [▶ Foundation for EHS ▶ Integration ▶ Specify Notification Types ▶](#).

## 11.1.1.4 Support Desk Management for EHS

If issues arise when using SAP software, you can get in contact with the SAP support desk.

For general information about SAP support, see [Support Desk Management \[page 19\]](#).

For sending problem messages/tickets for *Environment, Health, and Safety* to SAP, choose one of the following components (or subcomponents) from the SAP component hierarchy.

- EHS-SUS (Sustainability)
  - EHS-SUS-FND (Sustainability Foundation)
  - EHS-SUS-IM (Incident Management)
  - EHS-SUS-HS (Health and Safety Management)
  - EHS-SUS-EM (Environment Management)

### **i Note**

For *Environment, Health, and Safety*, the same application components are applicable as for component extension for *SAP EHS Management*.

## **11.2 Cross Applications**

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to Cross Applications.

### **11.2.1 Master Data Governance**

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to MDG.

#### **11.2.1.1 Interfaces**

Interfaces use monitor tools that are essential for analyzing problems.

<b>Interface</b>	<b>Monitor</b>	<b>Detailed Description</b>
DRF	DRFLOG	Data Replication Log (SAP GUI)
DRF	DRFRSD	Display Object Replication Status (SAP GUI)
DRF	MDG_BS_WD_RSI_DISPLAY	Display Replication Status Information (Web Dynpro application)
Key Mapping	MDG_ANALYSE_IDM	Display/Search for Key Mapping (SAP GUI)
Key Mapping	MDG_BS_WD_ANALYSE_IDM	Display/Search for Key Mapping (Web Dynpro application)

Interface	Monitor	Detailed Description
Data Transfer	MDG_BS_DL_MONITOR_CONF	Data Transfer Monitor (Web Dynpro application)

## 11.2.1.2 Change Request Analysis

You can analyze change requests in the following ways:

- Check how Quickly Change Requests are being Processed**  
 For any time frame or change request priority, you can quickly identify the extent to which change requests comply with or violate target processing times. If you enable dashboards, you can view this information in an interactive graphical format.
- Check the Status of Change Requests**  
 For any time frame or change request priority, you can get a summary of the numbers of change requests completed and rejected, completed and accepted, and created. You can also get a summary of rejection reasons.
- Assess your own Involvement with Change Requests**  
 For change requests involving you, you can view a graphical summary of the nature of your involvement in a side panel.
- MDG Track My Requests App**  
 With the transactional app MDG Track My Requests, you can display all of your master data requests.

## 11.2.1.3 Scheduled Periodic Tasks

This section describes all automatable tasks required to run periodically in order to keep the application running smoothly over time. Such tasks may be required on component level and are therefore relevant in each scenario that uses the component. Other tasks may be relevant for certain business scenarios only. It is important that you monitor the successful execution of these tasks on a regular basis.

For MDG, you can plan a periodic report `RBDMIDOC` to trigger ALE outbound tasks based on change pointers.

### Scheduled Periodic Tasks for Master Data Governance

Program Name/Task	Recommended Frequency	Detailed Description
DRFLOGDEL (RDRF_DELETE_LOG)	Weekly. More often, if high number of objects are replicated within a week	Deletes the application log data written by DRF as well as DRF internal log information

Program Name/Task	Recommended Frequency	Detailed Description
DRFRSDEL (RDRF_DELETE_REP_STA)	Same as DRFLOGDEL	Deletes the replication status information, but keeps the last record and the last successful record for each object instance/target system
MDGCPDEL (MDG_BS_CHANGE_POINTER_TOOLS)	Different for each object type; depends on whether change pointers are written at all and if yes, how many.	Deletes processed change pointers and by special request, also newly created ones.
DRFOUT	Depends on business case	Execution of data replication;DRFOUT can be used for manual replication as well as for regular planned deferred replication by using change pointers
USMD_EDITION_REPLICATE	On or shortly after the valid-from date (or period) for changes to the relevant business objects.	Ensures the timely replication of changes to edition-based business objects belonging to a data model in cases where the target system does not support time dependency for the relevant business objects.

### 11.2.1.4 Load Balancing

MDG uses the bgRFC (Background Remote Function Call) to schedule background processing and to parallelize data processing in process steps. MDG also uses bgRFC Configuration for distributing the processing load in systems.

Scenarios	Detailed Description	Tools To Be Used
Data Replication with DRF using transaction DRFOUT	The report allows you to define settings for parallel processing.	Data Replication with DRF, using transaction DRFOUT
Data Export and Data Import	Both data export and data import can be started with multiple parallel processes.	Data Export and Data Import

### 11.2.1.5 Virus Scan Profile for MDG Request Applications

The virus scan profile MDG\_BS\_FILE\_UPLOAD/MDG\_VSCAN is used when uploading files to the MDG Request applications.

## 11.3 Finance

This section of the Operations Guide for SAP S/4HANA contains information about operation tasks specific to Finance.

### Archiving and Data Aging

#### Archiving

For information about archiving in Finance, see *Enterprise Technology* at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *Product Assistance* 🗉.

#### Data Aging

To use Data Aging, proceed as follows:

1. Activate Data Aging by entering the profile parameter `abap/data_aging` in the database.
2. Activate the Data Aging business function `DAAG_DATA_AGING` using the switch framework (transaction `SWF5`).
3. Partition the database tables for aging (transaction `DAGPTM`).
4. Activate aging object `FI_DOCUMENT`.
5. Maintain the residence time in Customizing for data object `FI_DOCUMENT` according to company code, account types, and document types.

For more information, see also [Data Archiving and Data Aging \[page 12\]](#)

### 11.3.1 Monitoring of the SAP S/4HANA Financial Closing cockpit

This section of the Operations Guide for S/4HANA contains information specific to the monitoring of the SAP S/4HANA Financial Closing cockpit.

#### Trace and Log Files

Logging and tracing for ABAP components is done using transaction `SLG1`. An application log comprises a log header and a set of messages. The log header contains general data (type, created by/on, etc.). Each log in the database also has the attributes *Object* and *Sub-object*. These attributes describe the application which wrote the log, and classify this application. The *SAP S/4HANA Financial Closing cockpit* uses the following log object and sub-objects:

- Log object
  - FCC (Financial Closing cockpit Log)



- Sub-objects
  - MIG (Financial Closing cockpit Upgrade Messages)
  - SOT (Financial Closing cockpit Schedule Overdue Tasks Messages)
  - STD (Financial Closing cockpit Standard Messages)

## 11.4 R&D / Engineering

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to R&D / Engineering.

### 11.4.1 Enterprise Portfolio and Project Management

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to Enterprise Portfolio and Project Management.

#### 11.4.1.1 SAP Portfolio and Project Management

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to SAP Portfolio and Project Management.

##### 11.4.1.1.1 Alert Monitoring of Components

To set up the monitoring for Project Management follow the following procedure. Via this monitoring not all components which can be used by Project Management are covered but the most important ones.

1. Go to transaction RZ20 and create a new monitor: **Portfolio and Project Management monitor**.
2. On the top level, create a virtual node for each of the following areas:
  - Adobe Availability
  - Database
  - ABAP WebDynpro
3. On the second level, create rule-based monitors for each area as described in the following table:

Node	Type	Parameter	Value
<i>Adobe Availability</i>	Virtual		

Node	Type	Parameter	Value
CCMS_GET_MTE_BY_CLA SS	Rule	<i>R3System</i>	<CURRENT>
		<i>MTEClass</i>	GRMG_ADS
<i>Database</i>	Virtual		
CCMS_GET_MTE_BY_CLA SS	Rule	<i>R3System</i>	<CURRENT>
		<i>MTEClass</i>	CCMS_DB_mcmtc
<i>ABAP WebDynpro</i>	Virtual		
CCMS_GET_MTE_BY_CLA SS	Rule	<i>R3System</i>	<CURRENT>
		<i>MTEClass</i>	WDAClass

With SAP Portfolio and Project Management, a monitor template is delivered which you can find in transaction RZ20 under ► [SAP Portfolio and Project Monitor Templates](#) ► [SAP Portfolio and Project Management](#) ▾.

There is no specific alert monitoring functionality for SAP Portfolio and Project Management.

## 11.4.1.1.2 Detailed Monitoring and Tools for Problem and Performance Analysis

### Trace and Log Files

SAP Portfolio and Project Management logs application errors for background reports to transaction SLG1. Background reports are executed in the areas of financial integration, migration, import from Microsoft Excel, and versioning. You can display these application logs via the objects RPM\_DOCUMENT, RPM\_DX, RPM\_INTEGRATION, RPM\_MIGRATION, RPM\_PLANNING, RPM\_UC, RPM\_VERSIONING, DPR\_DX.

### Portfolio Management

All reports that are used to transfer data to other systems, for example to the SAP S/4HANA system, contain logs. You can access these logs directly from the individual reports.

## Scenario-Specific Problem Analysis Tools

### Invalid Characters in the Project ID

For security reasons, the system does not permit certain characters in the project ID. To avoid these invalid characters, the system checks the project ID entered by the user.

You can start the `DPR_CHECK_CHAR_OF_PROJECT_ID` program to check for existing projects that contain invalid characters. The result list displays all projects whose IDs you need to change.

### Comparing Field Controls

You can use the program `DPR_COMPARE_FC` to compare two local Project Management field controls, to export a local field control as Comma Separated Value (CSV) file or to compare a local field control with an external field control that was imported as a CSV file. For more information about the program `DPR_COMPARE_FC`, see the program documentation.

### Changing User Settings

You can use the `DPR_CHANGE_USER_SETTINGS` program to update the Project-Management-specific user settings for one user or for all users. The changeable user settings are the same as on the *Personalization* tab in the *personalization object key* column, entry `DPR_USER_SETTINGS` (transaction SU01).

For more information about the `DPR_CHANGE_USER_SETTINGS` program, see the program documentation.

### Where-Used List for GUIDs

With the program `DPR_GUID_ANALYZE`, you can search all database tables, relevant to SAP Portfolio and Project Management, for entries containing the GUID of a SAP Portfolio and Project Management application object, for example, a project or portfolio element. The program can be used by system administrators, consultants, or developers during problem analysis.

## 11.4.1.1.3 Scheduled Periodic Tasks

### Project Management

The following tasks must be carried out by an administrator.

Standard/Housekeeping Jobs

Program Name/Task	Recommended Frequency	Detailed Description
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DPR_REPLICATE_RATES_TO_R3	When you use the accounting integration functions and create new cost or revenue rates within a project for costing	<p>Project Management:</p> <p>You can use this report if you have an accounting system connected to Project Management. The report replicates cost and revenue rates to the accounting system so that they are recognized there.</p> <p>This replication of cost and revenue rates and accounting relevant characteristics has to start for each destination assigned to the corresponding object link for the accounting integration.</p> <p>After replication of cost and revenue rates, maintain the replicated data. You can add valid cost element, activity type and revenue element to the corresponding cost/revenue rates.</p> <p>For more information, see the Product Assistance documentation for SAP Portfolio and Project Management under <a href="#">▶ Project Management ▶ Accounting Integration ▶ Controlling ▶ Controlling Cockpit ▶</a>.</p>
DPR_FIN_GECCO_R3_REPLICATION	When you create new project types or project reasons	<p>Project Management:</p> <p>Replicates project types and project reasons.</p>
DPR_EVE_BATCH_DPO	As needed	<p>Project Management:</p> <p>Allows you to extract data from your projects and display the evaluations in Project Management. You can either plan the extraction of the data or trigger it manually.</p> <p>For more information, see the <a href="#">Extracting Evaluations for a Project</a> section of the <a href="#">Basic Settings for Project Management</a> in SAP Solution Manager.</p>

HR_SYNC_PERSON	Daily	Project Management:  You use this report only if SAP HR is installed on the same system as Project Management. For more information, see the <a href="#">From SAP HR to Project Management</a> section of the Configuration Guide for SAP Portfolio and Project Management.
DPR_QUALI_PERSON_TRANSFER	As needed	Project Management:  You use this report only if SAP HR is installed on the same system as Project Management. This program replicates qualifications to the business partner objects. For more information, see SAP Note <a href="#">1058953</a> .
DPR_CATS_CPR_TRANSF	As needed	Project Management:  Integration to the Cross-Application Time Sheet (CATS) You can use this report for transferring the recorded data from CATS to Project Management.

## Portfolio Management

### Standard/Housekeeping Jobs

Program Name/Task	Recommended Frequency	Detailed Description
RPM_FIN02	Daily	Only when RPM_FICO_DATA_Transfer is not available in SAP S/4HANA
/RPM/PLAN_INT_PREP	As Needed	FI/CO Integration to SAP S/4HANA
RPM_FICO_DATA_TRANSFER	Daily	FI/CO Integration to SAP S/4HANA (improved version). To be executed in the ERP system. Alternatively, /RPM/FICO_INT_PLANNING can be used (see below).

/RPM/FICO\_INT\_PLANNING

Daily

FI/CO Integration to SAP S/4HANA (improved version). To be executed in the PPM system. Alternatively, RPM\_FICO\_DATA\_TRANSFER can be used (see above).

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### 11.4.1.1.4 Required Manual Periodic Tasks

The following tasks must be carried out by an administrator.

Task or Transaction	Description	Recommended Frequency
SAP Load Generator Use transaction <code>SGEN</code> to start the SAP Load Generator.	Project Management: When you call the individual WebDynpro pages that make up Portfolio and Project Management for the first time, you may experience delays. This is because the individual pages are generated at runtime. To avoid this, we recommend that you centrally generate each page once.	After you have installed SAP Portfolio and Project Management for the first time or after an upgrade After importing Support Packages If you have added customer fields to SAP Portfolio and Project Management tables
Activate Internet Communication Framework (ICF) services	If you upgrade or implement a Support Package, the ICF may be deactivated and needs to be activated again. For more information, see the <a href="#">Data Replication</a> section of the <a href="#">Basic Settings for Project Management</a> in SAP Solution Manager.	After you have upgraded or implemented a Support Package
Standard Business Intelligence (BI) reports	To analyze your application data, you can use the standard reports and analysis tools of the SAP NetWeaver BI system.	As needed

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## Project Management

Task or Transaction	Description	Recommended Frequency
DPR_EVE_BATCH_DPO	Project Management:  You can use this report to extract data from your projects and display the evaluations in Project Management. You can either plan the extraction of the data or trigger it manually.	As needed
RPM_FES_AVAILABILITY	To maintain the availability of resources over a period of time for better performance.	Whenever the availability of a resource changes
SHMM	Refresh Shared Memory:  Start the transaction and mark the corresponding entry of area CL_DPR_FC_MAP_AREA and choose <i>Delete all Instances</i> to delete this shared memory area.	After you have changed the field control Customizing
SARA	To archive a project, specify the archiving object CPROJECTS and process the first step (Write).	As needed
RSIR_CONTENT_UNMARK_PRELIM	You can use this report to delete the temporary document content.	As needed
In the front-end system:  ▶ <a href="#">Portfolio and Project Administration</a> ▶ <a href="#">Services</a> ▶ <a href="#">Replace User / Resource</a> ▶	You can replace users and resources in multiple objects, relevant subobjects, and in role-task assignments.	As needed

## Portfolio Management

Task or Transaction	Description	Recommended Frequency
/RPM/PLANNING_DATA_DELETION	You can use this report to delete financial and capacity data.	As needed
RSIR_CONTENT_UNMARK_PRELIM	You can use this report to delete the temporary document content.	As needed

Task or Transaction	Description	Recommended Frequency
SARA	To archive Portfolio Management data, specify the respective archiving object <code>RPM*</code> and process the first step (Write).	As needed

### 11.4.1.1.5 Troubleshooting

For frequently asked questions, see SAP Note [2496974](#). For more information about performance, see SAP Note [2497996](#).

For more information about trace files and logs, see section [Detailed Monitoring and Tools for Problem and Performance Analysis](#) [page 66].

## 11.4.1.2 Commercial Project Management

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to Commercial Project Management.

### 11.4.1.2.1 Monitoring

Detailed Monitoring and Tools for Problem and Performance Analysis

Project Workspace supports the use of SAP Business Rules Framework plus (BRFplus) to determine resource and resource type for cost elements and activity types.

Project Issue and Change Management supports the use of SAP Business Rules Framework plus (BRFplus) to:

- Determine business partners for issues and activities
- Determine additional activities for issues
- Find experts for certain activities

It is not recommended to activate these BRFplus traces for long periods of time as they are performance critical.

#### Procedure:

Trace data can be found in the BRFplus Workbench as follows:

1. Start the `BRFplus` transaction to launch the [BRFplus Workbench](#).
2. Switch to the expert mode by choosing the [Personalize User](#) mode.
3. In the [Tools](#) menu choose [Lean Trace](#).
4. Enter the required BRFplus function using the given selection data.
5. Start the search to see if any trace data is available.



## Trace and Log Files

The Project Cost and Revenue Planning application uses the tracing functions of Analysis Office to trace actions performed in the planning workbook (Analysis Office).

You can also activate a trace file for Project Cost and Revenue Planning using the Activate Tracing button on the Financial Planning ribbon. Details of the items are recorded in the trace file (CACPDFP\_TRACE\_LOG.log).

### Important Log Files for Project Cost and Revenue Planning

In the CA-CPD-FP component, the following log objects are created in SLGO:

- Log Object ID: /CPD/PPF
- Subobject ID: /CPD/ERP\_TRANSFER
- Subobject ID: /CPD/IMPORT\_DATA

All the logs created during the transfer uses the log object and the subobject to identify the logs efficiently.

External ID: A unique external ID of the log is created whenever a new version is created. The external ID is used at the time of the creation of the log. The log database contains an index in the fields OBJECT/SUBOBJECT/LOG and EXTENAL ID. If these fields are specified, the system reads the log from the database, efficiently (without a full table scan).

The application logging infrastructure supports a hierarchical display of logs. The log is shown in a hierarchical format with two levels. To achieve this, all generic messages are added at level 1; and the granular and object-type-specific messages are added at level 2.

### Important Trace Files for Project Cost and Revenue Planning

Component	Content	File	Path
Project Cost and Revenue Planning (CA-CPD-FP)	<ul style="list-style-type: none"><li>• Queries</li><li>• Planning functions</li><li>• Errors</li><li>• Flow of subroutines and functions</li></ul>	CACPDFP_TRACE_LOG.log	Example: \sapdb\data\wrk\db

### Activating Trace Files

When you launch the Analysis Office, choose *Activate Tracing* in the *Financial Planning* ribbon. A dialog box prompts you to choose a location to save the trace files (on the local disk). This activates the tracing in the Project Cost and Revenue Planning application. For information about tracing related to Analysis Office, see [https://help.sap.com/viewer/p/SAP\\_BUSINESSOBJECTS\\_ANALYSIS\\_OFFICE](https://help.sap.com/viewer/p/SAP_BUSINESSOBJECTS_ANALYSIS_OFFICE).

### Displaying Trace Files

To display the trace files, you must go to the location specified by you when you had activated the trace file using the *Activate Tracing* button in the *Financial Planning* ribbon.

### Deleting Trace Files

You can use the *Delete Trace Log* pushbutton to delete an existing trace file. Note that if you change the name of the trace file from CACPDFP\_TRACE\_LOG.log to something else, you cannot delete the trace log. To create a new trace file, you can choose *Activate Tracing* again.

## 11.4.1.2.2 Periodic Tasks

This section describes all automatable tasks required to run periodically in order to keep the application running smoothly over time. Such tasks may be required on component level and are therefore relevant in each scenario that uses the component. Other tasks may be relevant for certain scenarios only. It is important that you monitor the successful execution of these tasks on a regular basis.

Scenario-Specific Scheduled Periodic Tasks in Project Cost and Revenue Planning

Required for Scenario	Program Name/Task	Task Scheduling Tool	Recommended Frequency	Detailed Description
Removes inconsistencies from the BW InfoCube; these may be caused by changes in the project structure	/CPD/ PFP_MAINTAIN_CONS ISTENCY	Transaction SM36	Weekly	If there is any change (deletion of nodes) in the project structure on which the planning has already been done, this report deletes the planned line items against the deleted node, from the BW InfoCube of Project Cost and Revenue Planning. This removes the inconsistencies caused by changes in the project structure.
Saves cost elements and activity types for a line item (only relevant when planning on cost elements)	/CPD/ PFP_CREATE_COSTEL M_ACTTYP	Transaction SM36	Weekly	When a user creates a new plan record in the planning workbook (Analysis Office), this report determines the cost elements and activitytypes defined in Customizing, and saves this into the BW InfoCube of Project Cost and Revenue Planning.
Updates staffed quantities for a request number from the MRS system to the BW InfoCube (relevant only if MRS integration exists)	/CPD/ PFP_SET_MRS_STAFF ED_QTY	Transaction SM36	Weekly	For each plan record, a document number is generated. The user enters the staffed quantity in the MRS system for a request. This quantity gets reflected in the MRS planning workbook

Required for Scenario	Program Name/Task	Task Scheduling Tool	Recommended Frequency	Detailed Description
				after running this report.
Process chain to compress data of the BW InfoCube (/CPD/PFP_R01)	/CPD/PFP_PC01	Transaction RSPC	Weekly	This process chain is used to compress the data of the BW InfoCube before data compression. The process chain closes the open data request and drops and recreates the cube index.
To delete plan data for employees who no longer have an active HR master record	/CPD/ PFP_EMP_DATA_CONS ISTENCY	Transaction SM36	Monthly	You can use this report to delete plan data for an employee who no longer has an active HR master record. The report deletes plan data from the InfoCube /CPD/PFP_R01.

### 11.4.1.2.3 Other Tasks

Copying of Standard Texts from One Client to Another

Follow these steps to copy standard texts from one client to another.

1. Execute transaction SO10.
2. Go to **Utilities > Copy from Client**.
3. Enter the relevant details and submit your changes.

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.

## 11.4.1.2.4 Data Consistency

If related or identical data is stored in multiple places there may be the possibility of inconsistencies (for example, after a restore of a single component). The following table describes how consistency can be verified and how inconsistencies may be repaired.

Component / Data Store	Check Tool / Method	Detailed Description	Prerequisites
Project Cost and Revenue Planning	▶ <i>Transaction code: RSRT</i> ▶ <i>query /CPD/</i> <i>PFP_MPO1_Q0001</i> ▶	This report shows the consistency of plan data and the Controlling posting data (if it had been changed) after the transfer to S4CORE. This report only shows the data consistency of work breakdown structure elements.	The transfer to S4CORE is complete

## 11.4.1.2.5 Management of BW

The planning cube of Project Cost and Revenue Planning does not depend on data extraction from OLTP tables. It is a real-time cube into which data is directly written into and read from during planning activities. Using real-time data acquisition, new or changes to master data is constantly updated from source master data tables, into the InfoCube. Therefore, physical management of a data warehouse is not a mandatory activity. However, if you have a central BW installation and a local BW client for Commercial Project Management, then it is necessary to monitor both BW systems.

# 12 SAP S/4HANA Industries

## 12.1 Agriculture

### 12.1.1 Agricultural Contract Management

There are certain administrative activities required for the proper functioning of SAP Agricultural Contract Management. These activities need to be performed periodically and affect the data integration, data consistency, and system performance. The following activities are specific to this solution:

- Monitoring
- Transport and Change Management

#### Monitoring

Monitoring is an essential task within **SAP Agricultural Contract Management**.

Error messages generated from within the various applications that comprise ACM can be viewed from the following tool in the area menu:

▶ [SAP Menu](#) ▶ [Agricultural Contract Management](#) ▶ [Tools](#) ▶ [Display Application Log](#) ▶

#### Features

For more information about standard monitoring tools, see the [SAP Help Portal](#) ▶ [SAP NetWeaver](#) ▶ [SAP NetWeaver 7.3 Including Enhancement Package 1](#) ▶ [Technical Operations for SAP NetWeaver](#) ▶ [English](#) ▶ [Administration of Application Server ABAP](#) ▶ [Monitoring and Administration Tools for Application Server ABAP](#) ▶ [Monitoring in the CCMS](#) ▶.

#### Transport and Change Management

The standard procedures of SAP NetWeaver apply for transport and change management issues.

For more information about this, see the **Technical Operations Manual for SAP NetWeaver** on the [SAP Help Portal](#) ▶ [SAP NetWeaver](#) ▶ [SAP NetWeaver 7.3 Including Enhancement Package 1](#) ▶ [Technical Operations for SAP NetWeaver](#) ▶ [English](#) ▶ [Administration of Application Server ABAP](#) ▶ [Change and Transport System](#) ▶.

## 12.2 Automotive

### 12.2.1 Vehicle Management System

This section describes specific operational details that are valid for Vehicle Management System

#### Vehicle Search Using SAP HANA

To search for a vehicle, ensure that the following settings are available:

- Initial setup of SAP HANA enterprise search  
For more details on the initial setup of SAP HANA search, see ► [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *View All* ► *Function-Oriented View* ► *Search and Operational Analytics* ► *Enterprise Search* ► *Setting Up Enterprise Search* ► *Automatic Configuration Using Task Manager Task Lists* ►
- Establishing connection between enterprise search and SAP HANA  
For more details, see ► [http://help.sap.com/s4hana\\_op\\_1709](http://help.sap.com/s4hana_op_1709) ► *SAP NetWeaver for SAP S/4HANA* ► *View All* ► *Function-Oriented View* ► *Search and Operational Analytics* ► *Enterprise Search* ► *Setting Up Enterprise Search* ► *Creating a Connection Between Enterprise Search and SAP HANA or TREX/BWA* ►

# 13 SAP S/4HANA Compatibility Packs

This section of the Operations Guide for SAP S/4HANA contains specific operations information for the functionality included in SAP S/4HANA Compatibility Packs.

## 13.1 R&D / Engineering

This section of the Operations Guide for SAP S/4HANA contains information on operations tasks specific to R&D / Engineering.

### 13.1.1 Product Safety and Stewardship

This section contains operations information about Product Safety and Stewardship for:

- Product Compliance
- Process Industries

#### 13.1.1.1 Product Safety and Stewardship for Product Compliance

This section contains information for *Product Safety and Stewardship* valid for Product Compliance for Discrete Industries

##### 13.1.1.1.1 Specific Monitoring Tools for Product Compliance

Monitoring is essential to running and managing SAP technology. The following sections provide information about monitoring specifically for *Product Compliance for Discrete Industries*. For more generic information, see [Monitoring \[page 8\]](#).

###### 13.1.1.1.1.1 Trace and Log Files for Product Compliance

Trace files and log files are essential for analyzing problems.

## SAP Business Workflow Log

You can use the workflow log to inspect workflow instances. You can use either the standard view for end-users or the technical view. The technical view contains additional options for developers and administrators, such as inspecting workflows and work item containers.

To access the workflow log, you can use the following standard transactions to find a workflow:

Transaction Details

Transaction	Description
SWI6	Workflows for Object  Use this if you know the ABAP class and key of the PCO that is related to the workflow that you are searching for.
SWI14	Workflows for Object  Use this if you want to get all of the workflows that have a common PCO class.

### i Note

The PCO class that is used by your process is configured in Customizing under ► [Product Safety and Stewardship](#) ► [Product Compliance for Discrete Industries](#) ► [Foundation for Product Compliance](#) ► [Process Foundation](#) ► [Specify Process Definitions](#) ►.

## Process Logs on the User Interface

In most places where [Product Compliance for Discrete Industries](#) uses workflows in the application, you can access the process progress log for this workflow easily from the user interface. You can access the log in the following ways:

- Choose the [See Also](#) menu to access the progress log for the underlying process.
- Select the status link for a process.

If your user is authorized to use the process tools, you can see pushbuttons on the progress log that take you to the more technical logs. For more information about the required authorizations, see the [Product Compliance for Discrete Industries](#) specific information in the [Security Guide for SAP S/4HANA](#) at the SAP Help Portal under [http://help.sap.com/s4hana\\_op\\_1610\\_002](http://help.sap.com/s4hana_op_1610_002) ► [Product Documentation](#) ►.



## Tracing BOPF Data

You can use the BOPF data trace to analyze the runtime behavior of BOs. It can be configured to trace the data that flows through certain interfaces between BOPF and its environment. Traces are configured for the following flows of data:

- Service Provider <-> BOPF
- BOPF <-> Buffer
- Buffer Dispatcher <-> Node Buffers (if applicable)
- Buffer <-> Data Access (if applicable)
- BOPF <-> Association, Action, Determination, Query, Validation
- Association, Action, Determination, Query, Validation I <-> Internal Access (io\_read, io\_modify, io\_check, io\_query).

### Trace Configuration Concept Tags

To configure traces in the *Business Object Processing Framework* (transaction BOBF), proceed as follows:

- In the menu under **Utilities** > **Settings** select the checkbox *System Browser* and save your entry.
- In the added *System Browser* option, select *Application Flow & Data Trace* under *Runtime Tools*.
- Open the context menu by clicking the right-hand mouse button and select *Maintain Trace Settings*. Note that you can switch the trace on for different interfaces, specified users, and specified BOs.

#### Caution

Activating a blank user name activates the trace for all users. Activating a blank BO name activates the trace for all BOs. Do not activate the trace for all users and for all BOs.

After activation, the tool writes trace data until it is deactivated. You should deactivate all of your traces after recording.

#### Note

The trace does not work for a BO that is already in use at the time when you activate the trace.

### Trace Analysis

To analyze or view the traces directly in the *Business Object Processing Framework* (transaction BOBF), proceed as follows:

- In the menu under **Utilities** > **Settings** select the checkbox *System Browser* and save your entry.
- In the added *System Browser* option, select the user for whom you want to view traces in *Application Flow & Data Trace* under *Runtime Tools*.
- Open the context menu by clicking the right-hand mouse button and select *Display Trace*.

## Overview of Application Log Objects

The following table contains all the objects and subobjects that are used for the application log in *Product Compliance for Discrete Industries*

## List of Log Objects and Subobjects

Log Object	Log Subobject	Description
EHFND_FW (Foundation for Product Compliance)	GENERAL	General messages for the foundation for EHS
	UI_COMMUNICATION	UI communication.
	WF_SCHEDULER	The General Scheduler Log displays information about the executions of the scheduler, which scheduled process instances were executed, and which had errors.
	WF_SCHEDULER_ITEM	The Scheduler Item Log displays detailed information about the execution of scheduled process instances with detailed error information in case of errors.
EHPRC_CP_CORE (Product Compliance Core)	AUTO_CHANGE_PROC	Log for the automated change processing
	WORKLIST	Log for worklists
	IMDS	Log for IMDS processing
	CPRVDR	Log for Content Provider
	CUSTOMIZING	Log for Customizing
	EMAIL	Log for Email Processing
	BOMBOS	Log for BOMBOS
EHPRC_PFR (Product Compliance - Spreadsheet)	ADMIN	Log for Administrators
	DEV	Log for Developers
EHPRC_PFR (Product Compliance - Spreadsheet Report)	ADMIN	Log for Administrators
	DEV	Log for Developers
	PFR_BGR	Log for Background Spreadsheet Reporting
EHPRC_SCC (Product Compliance - Supply Chain Collaboration)	ADMIN	Log for Administrators

## 13.1.1.1.2 Workload Monitors for Product Compliance

### Monitoring the Workflow and Process Foundation

The process foundation is essential to the business process of *Product Compliance for Discrete Industries*. It links together the SAP Business Workflow engine and the BOPF business objects of *Product Compliance for Discrete Industries*

You can monitor the processes with the following process tools:

- EHFND\_WFF\_PRCDEF\_LST
- EHFND\_WFF\_PROCS\_LST
- EHFND\_WFF\_TECH\_WFIBO

## Monitoring Scheduled Processes

The process scheduler of *Product Compliance for Discrete Industries* is used for recurring tasks and planned execution of a process instance. You can use the following transactions to monitor the scheduled processes:

Transaction Details

Transaction	Description
SLG1	Application log
SM37	Job log  The scheduler uses a self-rescheduling job to do its work. In addition to the application log, you can also find information about the scheduler executions in this transaction.  To display only the jobs related to the <i>Product Compliance for Discrete Industries</i> scheduler, you can filter by job name R_EHFND_SCHEDULER_JOB. In addition, you should change the user name parameter to "*" (asterisk) as the jobs are always run under the last user that created a scheduler entry.

For more information about the log objects for the scheduler, see section [Overview of Application Log Objects](#).

## Monitoring Automated Change Processing

The automated change processing handles relevant changes of compliance data automatically. As long as the affected compliance data is not up to date, it is considered to be pending. The monitoring application shows all pending records and the number of attempts to execute an entry. In case of problems, the user can view the application log for the errors that have occurred.

You can access this monitoring in the application under *Product Safety and Stewardship* → *Compliance Worklists* → *Monitor Changes to Compliance Information*.

## Monitoring Campaigns for Product Compliance

Campaigns are used to collate and organize communication with business partners. The monitoring application shows the status of a campaign and of tasks that have been started for the campaign. You can change administrative data, send reminders, send requests, and complete a campaign.

You can access this monitoring in the application under *Product Safety and Stewardship* → *Supply Chain Collaboration* → *Search Campaigns*.

### 13.1.1.1.3 Data Consistency

Data can be inconsistent when related or identical data is stored in multiple places, for example, after you restore a single component. The following table describes how you can verify consistency and how you can repair inconsistencies.

Component / Data Storage	Check Tool / Method	Detailed Description	Prerequisites
PCBO <-> Business Workflow	Report R_EHFND_WFF_COR-RECT_PCBOS	For more information, see the report documentation.	You have set up the process system correctly, including the process definitions in Customizing under <a href="#">▶ Environment, Health, and Safety</a> > <a href="#">Foundation for EHS</a> > <a href="#">Process Foundation</a> > <a href="#">Specify Process Definitions</a> >

### 13.1.1.1.2 Specific Management Tools for Product Compliance

SAP provides you with infrastructure to help your technical support consultants and system administrators effectively manage all SAP components and complete all tasks related to technical administration and operation. The following sections provide information about managing *Product Compliance for Discrete Industries*. For more generic information, see [Management of SAP S/4HANA \[page 9\]](#).

#### 13.1.1.1.2.1 List of Administration Tools

The following tools are especially relevant to *Product Compliance for Discrete Industries*.

List of Administration Tools

Software Component	Transaction / Tool	Description
BOPF (Business Object Processing Framework)	BOBT	Test UI for BOPF.  For analysis and change to the runtime data stored in business objects.

Software Component	Transaction / Tool	Description
	BOB	Customization UI for BOPF.  For analysis and enhancements of the structure/definition of business objects.
POWL, Work Inbox, Task Management	POWL_ADMIN_COCKPIT	This report is a single point of entry to perform different administrator activities relevant for personal object worklist (POWL) development, Customizing, and testing.
	POWL_D01	You can use this report to delete derived administration queries and user-defined queries.  You might want to use the deletion report if administration queries have been changed, but the user has already received a derivation of the old version.
	POWL_D03	Check Consistency of POWL Table Entries.
	POWL_D04	Delete Cached Selection Criteria for Admin Queries.
	POWL_D07	Delete Shadowing Entries: This report deletes derived or user-defined POWL queries created in shadowing mode from the cache, based on application ID or user.
	POWL_WLOAD	Refresh Active POWL Queries:  You can use this report to update queries. If you schedule the report as a background job, for example, you can update the queries overnight. Users then have access to the updated data when they start work, without having to refresh the data themselves. This is a way of controlling the server load.
Process Setup, Process Scheduler	Report R_EHFND_PSE_DISABLE_ENTRY	The report allows you to disable one entry by providing the ID of the respective process setup as the parameter. The ID of the entry can be found in one of the messages in the scheduler log.
	Report R_EHFND_PSE_DISABLE_ERRONEOUS	The report allows you to disable all entries that have had more than a given number of errors since a given date.
Process Foundation	EHFND_WFF_GRAPH_WFLG	The Graphical Workflow Log enables you to open the graphical workflow log with the ID of a work item or workflow.
	EHFND_WFF_PRCDEF_CHK	The Process Definition Check runs several checks on a process definition.
	EHFND_WFF_PRCDEF_INF	The Process Definition Information displays detailed technical information about a process definition.

Software Component	Transaction / Tool	Description
	EHFND_WFF_PRCDEF_LST	The Process Definition List shows the process definitions from the process definitions table (EHFNDC_PROCDEF).
	EHFND_WFF_PROCS_CHK	The Process Instance Check runs several checks on a process instance
	EHFND_WFF_PROCS_INF	The Process Instance Information displays detailed technical information about a process instance.
	EHFND_WFF_PROCS_LST	The Process Instance List shows process instances for a given process.
	EHFND_WFF_SYSTEM_CHK	The Process System Check runs several checks to see if the system has been correctly setup to use the process foundation.
	EHFND_WFF_TECH_WFIBO	The Technical Workflow Inbox displays the work items of a given user with technical information.
	EHFND_WFF_TECH_WFLOG	The Technical Workflow Log allows direct access to the technical workflow log using ID of a work item or workflow instance.
	EHFND_WFF_WI_INF	The Technical Information for Work Item displays detailed technical information about a work item and its related process.
	Report R_EHFND_WFF_CORRECT_PCBOS	The report helps to delete/disable PCBOs which are defective.
	Report R_EHFND_WFF_SHOW_TASK_OF_WFID	The report lists all tasks that are used in a workflow template and indicates if they are background tasks.

### Note

To execute the transactions for the process foundation, the PFCG role assigned to your user requires the authorization object EHFND\_WFT with activity 16 and the transaction names.

This also authorizes you to access these back-end transactions from the front end, for example, from the process progress log UI.

## 13.1.1.1.2.2 Data Archiving

For archiving data, *Product Compliance for Discrete Industries* makes use of the data archiving function within SAP S/4HANA.

*Product Compliance for Discrete Industries* provides configuration for the following archiving object:

Object Details

Archiving Object	Description	Archived Data
EHPRC_IMDS	IMDS Documents	Documents attached to IMDS records

For more information, see also [Data Archiving and Data Aging \[page 12\]](#).

### 13.1.1.1.2.3 Scheduling of Periodic Tasks

If you have enabled integration into other applications, you have to run the following jobs periodically in order to keep *Product Compliance for Discrete Industries* running smoothly over time.

Periodic Task Details

Program Name/Task	Recommended Frequency	Detailed Description
R_EHFND_WFF_UPDATE_STATISTICS	Daily	See Customizing activity <i>Schedule Jobs for Process Statistics</i> (EHFND_WFF_STAT)
R_EHPRC_ACP_WORKLIST_DETERMIN E	After event: SAP_EHPRC_ACP_NEW _CHANGE	See Customizing activity <i>Schedule Jobs for Automated Change Processing</i> (EHPRC_ACP_JOBS)
R_EHPRC_ACP_WORKLIST_EXECUTE	Every 10 Minutes	See Customizing activity <i>Schedule Jobs for Automated Change Processing</i> (EHPRC_ACP_JOBS)
R_EHPRC_ACP_WORKLIST_FUTUR_CH G	Daily during night	See Customizing activity <i>Schedule Jobs for Automated Change Processing</i> (EHPRC_ACP_JOBS)
R_EHPRC_SEND_EMAILS	Hourly or even faster	See Customizing activity <i>Schedule Jobs for Supply Chain Collaboration Process</i> (EHPRC_SCC_JOBS)
R_EHPRC_WL_REGCHG_GENERATE	After event: SAP_EHPRC_START_R EG_WL_GENERATE	See Customizing activity <i>Schedule Jobs for Regulatory List Revision</i> (EHPRC_REGL_WL_JOBS)
R_EHPRC_WL_REGCHG_POST_PROC	Daily	See Customizing activity <i>Schedule Jobs for Regulatory List Revision</i> (EHPRC_REGL_WL_JOBS)
R_EHPRC_IMDS_DOWNLOAD	Daily	See Customizing activity <i>Set Up Daily Synchronization with IMDS</i> (EHPRC_IMDS_SYNC)

Program Name/Task	Recommended Frequency	Detailed Description
R_EHPRC_IMP_APPL_BATCH_JOB Variants:	Daily	See Customizing activity <a href="#">Set Up Daily Synchronization with IMDS</a> (EHPRC_IMDS_SYNC)
<ul style="list-style-type: none"> <li>• IMDS_PURE</li> <li>• IMDS_ORG</li> <li>• IMDS_REQ</li> <li>• IMDS_MODUL</li> </ul>		
R_EHPRC_IMDS_DOWNLOAD	Every 10 Minutes	See Customizing activity <a href="#">Set Up Daily Synchronization with IMDS</a> (EHPRC_IMDS_SYNC)
R_EHPRC_PBB_SUPPL_CHNG_MON	Every 10 Minutes	See Customizing activity <a href="#">Schedule Job for Changes in Supplier and Manufacturer Material Information</a> (EHPRC_PBB_JOBS)

You must schedule jobs specific to [Product Compliance for Discrete Industries](#) in your system and, where specified, in all the connected SAP systems. All jobs, unless otherwise specified, should be run at times of minimal system activity, so as not to affect performance or otherwise disrupt your daily operations.

### 13.1.1.1.3 Specific Troubleshooting for Product Compliance

The following sections provide information about troubleshooting and error handling for [Product Compliance for Discrete Industries](#)

For general information, see [Troubleshooting \[page 18\]](#).

#### 13.1.1.1.3.1 Troubleshooting the Process Foundation

Since the process foundation is responsible for implementing your business processes in the system, it may be directly related to problems or problems may be found by analyzing the information available through the process foundation.

#### Problem: A Process Did Not Start

You can perform the following steps to troubleshoot this problem:

1. Make sure that the process did not really start. Processes that you can schedule may sometimes be delayed even if they are scheduled to run immediately because the process scheduler executes these processes. For more information, see the [Process Setup and Scheduled Processes](#) section.
2. Ensure that a short dump did not occur in transaction ST22.



3. Use transaction `EHFND_WFF_PROCS_LST` to search for the instance.
4. If you cannot find the instance there, it may be that the system has not yet established the linkage between the workflow and the `PCBO`. Usually, this linkage occurs during the call of the `START_PROCESSING` action of the `PCBO` through the workflow system. If this call fails or cannot successfully be finished (maybe the `PCBO` or another important component is currently locked and therefore the process has to wait), you may still find the process by searching for it in transaction `SWI14`. Note that you will need the name of the `PCO` class to use this transaction.
5. If you cannot find the process instance, there may be a problem with the system or the process definition.
6. Check if the system is correctly set up for using the process foundation of *Product Compliance* by executing transaction `EHFND_WFF_SYSTEM_CHK`.
7. If the system is set up correctly, check the process by executing transaction `EHFND_WFF_PRCDEF_CHK` for the process definition, or checking the status of the process definition in `EHFND_WFF_PRCDEF_LST`. The system provides information about possible problems.
8. If none of the above helped, you can also look at the event queue browser of SAP Business Workflow (transaction `SWEQTBROWSER`), or the event queue administrator (transaction `SWEQADM_1`) and check if there were any events that could not be delivered.

## Problem: Process Stopped

If a process stopped, you can perform the following steps:

1. Ensure that a short dump did not occur in the workflow execution. The workflow cannot catch these dumps and is not able to recognize that a problem has occurred. You can check for short dumps by analyzing transaction `ST22`.
2. If a short dump did not occur, execute transaction `EHFND_WFF_PROCS_CHK` either directly, or by selecting the Checkicon for your process in transaction `EHFND_WFF_PROCS_LST`. The system runs several checks on the instance and may give you information about what caused the problem.
3. If you still cannot find the problem, you can analyze the workflow log for your process. You can launch the workflow log, for example, from transaction `EHFND_WFF_PROCS_LST` by choosing the *Log* icon for the respective row.

The following information might be helpful when you troubleshoot the problem:

- Are there any problems with the agent assignment?  
Perhaps the work item could not be assigned to a user.
- Is there any information in the step details of the workflow instance or one of the work items?  
Maybe the workflow is just waiting because the object it is trying to change is currently locked.

## Problem: Inconsistent Data

If a workflow or a `PCBO` instance has been deleted and the other part is still in the system, you can use report `R_EHFND_WFF_CORRECT_PCBOS` to correct inconsistencies.

### 13.1.1.1.3.2 Process Setup and Scheduled Processes

Processes that can be scheduled, for example, the processes that you start on the tasks tab in the application are not created directly after you choose the *Start Process* pushbutton; they are launched by the *Product Compliance for Discrete Industries* process scheduler. The scheduler is integrated into the process setup business object when they are due for execution. To avoid problems, ensure that you have activated the event type linkage for scheduled processes. For more information, see Customizing for *Product Compliance for Discrete Industries* under ► *Foundation* ► *Process Foundation* ► *Processes* ► *Activate Linkage for Scheduled Processes* ►.

Almost all problems that could occur on execution will be reported in the application log (transaction `SLG1`) for the scheduler log objects. For more information, see the section *Overview of Application Log Objects* in [Trace and Log Files for Product Compliance \[page 79\]](#).

If there are issues with a scheduled process and the system executes it more than once, you can use reports to disable them. For more information, see [List of Administration Tools \[page 84\]](#).

### 13.1.1.1.3.3 Form Generation with Adobe Document Services

To gain comprehensive information about how to troubleshoot the form generation with Adobe Document Services, see SAP Note [944221](#).

### 13.1.1.1.4 Support Desk Management

If issues arise when using SAP software, you can get in contact with the SAP support desk.

For sending problem incidents for *Product Compliance for Discrete Industries* to SAP, choose the appropriate component name from the SAP component hierarchy.

#### i Note

For *Product Compliance for Discrete Industries*, the same application components are applicable as for component extension for *SAP EHS Management*.

- EHS-MGM (EHS Management)
  - EHS-MGM-FND (Foundation for EHS Management)
  - EHS-MGM-PRC (Product Compliance)

For general information about SAP support, see [Support Desk Management \[page 19\]](#).

## 13.1.1.2 Product Safety and Stewardship for Process Industries


This section contains information valid for:

- Basic Data and Tools
- Product Safety
- Global Label Management
- Dangerous Goods Management

### 13.1.1.2.1 Specific Monitoring Tools

Monitoring is essential to running and managing SAP technology. The following sections provide information about monitoring specifically for *Product Safety and Stewardship for Process Industries*. For more generic information, see [Monitoring \[page 8\]](#).

#### 13.1.1.2.1.1 Component-Specific Monitoring

To monitor the availability of Windows Wordprocessor Integration servers (WWI servers) and Expert servers with CCMS, see SAP Note [1061242](#). 

You can monitor the report shipping under *Edit Report Shipping Orders* (transaction `CVD1`). Under *WWI Monitor* (transaction `CG5Z`), you can monitor the report generation and the report shipping.

You can monitor the status of print requests that are generated in the SAP component *Global Label Management* in the *Labeling Workbench* (transaction `CBGLWB`).

#### 13.1.1.2.1.2 Monitoring and Tools for Problem and Performance Analysis

##### Log and Trace Files

Use trace files and log files to analyze problems.

Important Log and Trace Files for Report Shipping (EHS-SAF-RSH)

Component	Content	File/Log Object	Path
EHS-SAF-RSH	Logging Report Shipping	Log object <code>CVDS</code>	SAP Application Log (transaction <code>SLG1</code> )

#### Important Log and Trace Files for Report Generation (EHS-BD-RDF)

Component	Content	File/Log Object	Path
EHS-BD-RDF	Logging Report Generation	Log object EHRE	SAP Application Log (transaction SLG1)

To log the report generation, set the environment parameter `REPORT_GENERATION_PROTOCOL` to X in the Customizing for *Basic Data and Tools* under *Specify Environment Parameters*.

#### Important Log and Trace Files for Global Label Management (EHS-SAF-GLM) Component Content

Component	Content	File/Log Object	Path
EHS-SAF-GLM	Logging Global Label Management	Log object EHGL	SAP Application Log (transaction SLG1)
EHS-SAF-GLM	Logging print requests that are processed in Global Label Management	Log object EHPR	SAP Application Log (transaction SLG1)

#### Important Log and Trace Files for Expert (EHS-BD-TLS-EXP)

Component	Content	File/Log Object	Path
EHS-BD-TLS-EXP	RFC log	Rfc*.log	Configured Expert log directory
	RFC trace	Rfc*.trc	Expert installation directory
	EXP log	Exp*.log	Configured Expert log directory
	Windows Event Log	-	Windows Control Panel - Event Viewer
	Dev_trc	dev_rfc.trc	Expert installation directory
	Application Log	object EHAD	SAP Application Log (transaction SLG1)

For more information on Expert logs and traces and how to enable them, see SAP Note [1364100](#).

#### Important Log and Trace files for WWI (EHS-BD-RDF-WWI)

Component	Content	File/Log Object	Path
EHS-BD-RDF-WWI	(1) Logging Report Generation	object EHAD	SAP Application Log (transaction SLG1)
	(2) WWI err file Trace of one generation	*.err	WWI root directory

Component	Content	File/Log Object	Path
	(3) Windows Event Log	-	Windows Control Panel - Event Viewer
	(4) WWI file log	*.log	Windows temp directory
	(5) RFC errors from RFC library	dev_rfc.trc	WWI installation directory
	(6) RFC trace	Rfc*.trc	WWI installation directory

1. To log the report generation, set the environment parameter `REPORT_GENERATION_PROTOCOL` to `X` in Customizing for *Basic Data and Tools* under *Specify Environment Parameters*.
2. To save temporary WWI files including the err file, set **dont\_delete** to **1** under **[spool]** in WWI.INI. Temporary WWI files are used for error analysis by SAP Support. The amount of disk space that is consumed by the temporary WWI files can increase rapidly. For this reason, set **dont\_delete** to **0** to switch off this setting. For further information, see SAP Note [959195](#).
3. You can also check the recent generation logs in the Windows Event Log for each WWI service.
4. To enable the WWI file log, set **LogToFile** to **1** under **[Global]** in WWI.INI. The WWI file log is mainly used for long-term error analysis and to analyze crashes of WWI.

#### Caution

The logs can consume a lot of disc space. For this reason, the log to file will slow down the WWI server. For further information, see SAP Note [778684](#).

5. `dev_rfc.trc` is enabled through Remote Function Call (RFC) by default. `dev_rfc.trc` logs RFC connection errors.
6. To enable the RFC traces, set **RFC\_TRACE** to **1** in the SAPRFC.INI file of the RFC destination. The RFC library logs the complete binary RFC traffic to the file. Note that the generated log files consume a lot of disc space. Therefore, set **RFC\_TRACE** to **1** in the SAPRFC.INI file when not required.

The WWI logs depend on the trace level that has been configured for WWI. The WWI trace level is configured as parameter **-T** in the WWI service. Trace level ranges from **0** (only fatal errors) to **5** (debug trace) Trace level **3** is set as default.

## Workload Monitors

### Monitor Details

Component	Monitor	Description	Prerequisites
Windows Wordprocessor Integration (for Product Safety)	<i>WWI Monitor</i> (transaction CG5Z)	Shows the queue of the report generation and report shipping orders in WWI.	You have configured the WWI generation in Customizing for <i>Basic Data and Tools</i> under <i>Specify Generation Servers</i> .
Windows Wordprocessor Integration (for print requests in EHS Global Label Management)	<i>Labeling Workbench</i> (transaction CBGLWB)	You can filter the print request queue by their states.	You have configured the processing of print request in Global Label Management.

Use the following filters in the *Labeling Workbench* to show the print requests in the respective status:

- Print requests bodies to be processes: status AA (Print request body exists)
- Print requests to be created: status ZS (Print request created, not yet processed)
- Print requests to be printed: status ZD (Print request ready for printing)

## Other Problem Analysis and Monitoring Tools

### Monitor Tool Details

Component	Monitor	Description	Prerequisites
Windows Wordprocessor Integration and Expert	WWI and Expert Server Administration (transaction CGSADM)	Here, you can check the configuration and the Windows event log of WWI servers and Expert servers, furthermore you can switch on logging and download log files.	Management Servers are set up (see Customizing for <i>Basic Data and Tools</i> under <i>Set Up Management Server</i> )
Windows Wordprocessor Integration (for Product Safety)	Job selection (transaction SM37)	Shows job logs	Use filter the following filters: <ul style="list-style-type: none"> <li>• Job Name: <b>WWI*</b></li> <li>• User Name:*</li> <li>• and after event: *</li> </ul>
Windows Wordprocessor Integration (for print requests in Global Label Management)	Job selection (transaction SM37)	Shows job logs	Use filter the following filters: <ul style="list-style-type: none"> <li>• Job Name: <b>EHSGLM_PRQ*</b></li> <li>• User Name:*</li> <li>• and after event: *</li> </ul>

## Interface Monitors

### Interface Details

Interface	Description	Technology Used
REPMAS	Reports are distributed from the product safety system to logistics systems.	IDoc
SUBMAS	Specification data is distributed from the product safety system to logistics systems.	IDoc
PHRMAS	Phrase data is distributed from the product safety system to logistics systems.	IDoc
DANGEROUSGOOD	Dangerous goods data is distributed from the product safety system to logistics systems.	IDoc
WWI*	There are several RFC functions (WWI*) which call the WWI server.	RFC
START_EXPERT_SYSTEM	Calls the Expert rules engine.	RFC
RMS_SOLVE_RXM	Calls the Expert matrix solver.	RFC

## Data Growth and Data Archiving Monitors

Most critical regarding database growth are reports as they consume considerable disc space. The documents are saved in the Document Management System (DMS). If you do not use an external DMS system, data base table `DRAO` increases in size and consumes considerable space.

To reduce the consumed database space, see SAP Note [586293](#).

To use data archiving see SAP Notes [915854](#) and [1093408](#).

To reduce database space consumed by specification data run report `RC1PHDEL` regularly. Specification data is not deleted by default but marked for deletion. Run report `RC1PHDEL` to delete the data on the database physically.

### i Note

Consider the applicable data retention policies.

You can define periodic tasks required to contain data growth (that is, to reorganize temporary data).

## Data Consistency

If you store related or identical data in different locations, this can cause data inconsistencies, for example, after restoring a single component (such as Windows Wordprocessor Integration or Expert). The following table describes how you can verify data consistency and how you can repair data inconsistencies.

Component / Data Store	Check Tool / Method	Description	Prerequisites
Expert Cache	Initialize cache in transaction CGSADM	See <i>Expert Cache Initialization</i> documentation	You use the Expert cache.
WWI Print Request Cache	Delete cache	Delete the DMS folder on the WWI server. WWI will refill this cache.	You have configured the Customizing activity <i>Configure WWI Document Management System</i> .

### 13.1.1.2.2 Specific Management Tools

SAP provides you with infrastructure to help your technical support consultants and system administrators effectively manage all SAP components and complete all tasks related to technical administration and operation. The following sections provide information about managing *Product Safety and Stewardship for Process Industries*. For more generic information, see [Management of SAP S/4HANA \[page 9\]](#).

#### 13.1.1.2.2.1 Starting and Stopping

Start and Stop Tools

Software Component	Tool	Description
Windows Wordprocessor Integration (WWI)	Windows Services	Start the watchdog service that is used for WWI (EhsStart or EhsManagementServer).
Expert	Windows Services	Start the watchdog service that is used for Expert (EhsStart or EhsManagementServer).

#### 13.1.1.2.2.2 Software Configuration

This chapter explains the configurable components or scenarios that are used by *Product Safety and Stewardship for Process Industries* and the tools that are used to configure the settings.



## Component Configuration Tools

Component	Configuration Tool(s)	Description
Windows Wordprocessor Integration ( WWI) and Expert	Transaction CGSADM	Offers the most commonly used administration and configuration options that are necessary for WWI and Expert.
Windows Wordprocessor Integration ( WWI) and Expert	SvcAdmin.Exe	Tool to change the Windows service settings.
Windows Wordprocessor Integration ( WWI) and Expert	File Saprfc.ini	Used to configure the RFC destinations.
Windows Wordprocessor Integration (WWI)	File WWI.INI	Used to configure WWI.
Windows Wordprocessor Integration (WWI)	ConPro.Exe	WWI configuration program that guides the installation steps you have to proceed manually and that checks the consistency of the configuration.
Expert	ExpAdmin.Exe	Used to configure the Expert rule sets and the general Expert settings.

### 13.1.1.2.2.3 Administration Tools

#### List of Tools

Software Component	Transaction / Tool	Description	Prerequisites
Windows Wordprocessor Integration (WWI) and Expert	WWI and Expert Server Administration (transaction CGSADM)	Offers the most commonly used administration and configuration options that are necessary to implement WWI and Expert.	
Windows Wordprocessor Integration (WWI) and Expert	SvcAdmin.Exe	Used to change the Windows service settings.	
Windows Wordprocessor Integration (WWI)	File WWI.INI	Used to configure WWI, including the log files.	
Expert	ExpAdmin.Exe	Used to configure the Expert rule sets and the Expert settings including the trace levels.	

## 13.1.1.2.2.4 Periodic Tasks

Scheduled Periodic Tasks for Windows Wordprocessor Integration (WWI) and Expert

Program Name / Task	Task Scheduling Tool	Recommended Frequency	Description
Windows Update	Windows Update	1 / month	Install the Microsoft security updates on the WWI servers and Expert servers

Manual Tasks for Windows Wordprocessor Integration (WWI) and Expert

Task	Tool(s) Supporting this Task	Recommended Frequency	Description
Clean up logs and traces		1 / week	For Expert and WWI clean up the log and trace files as well as temporary WWI files. See <i>Trace and Log Files</i> .

## 13.1.1.2.2.5 Load Balancing

You can determine load balancing from *Product Safety and Stewardship for Process Industries* to Expert servers and WWI servers through Remote Function Call (RFC).

For more information see SAP Note [1061242](#).

Logging On and Load Balancing Setup / Tools

Scenario(s)	Description	Tools to be Used
Expert	Connect several Expert services to one RFC destination. RFC applies the load balancing automatically.	RFC
WWI	If you use several WWI servers on several RFC destinations, the load balancing is determined by the WWI dispatcher background job.	Customizing
WWI for Global Label Management	If you connect several WWI services to one RFC destination, RFC applies the load balancing automatically.	RFC
WWI for print request processing in Global Label Management	If you connect several WWI services to each RFC destination, RFC applies the load balancing automatically.  The load is distributed through several decentralized WWI servers.	RFC Customizing

## 13.1.1.2.2.6 Management of Outdated Technical Data

For Expert and Windows Wordprocessor Integration (WWI), you must clean up the log and trace files as well as temporary WWI files. For more information, see the section *Log and Trace Files* in [Monitoring and Tools for Problem and Performance Analysis \[page 91\]](#).

## 13.1.1.2.3 High Availability

*Product Safety and Stewardship for Process Industries* follows the general high availability (HA) concept for all SAP NetWeaver based systems. For more information, see [Business Continuity and High Availability \[page 15\]](#).

HA Setup

Component	Description	HA Setup Description
Windows Wordprocessor Integration ( WWI)	Creation and printing of reports	See SAP Note <a href="#">1061242</a>
Expert	Calculation of secondary specification data	

Each of the above components can be a single point of failure in this scenario. In order to achieve high availability (HA) for the complete scenario, it is required that all components with single point of failures are setup with HA.

## 13.1.1.2.4 Specific Troubleshooting

For more information on troubleshooting Expert, see SAP Note [1364100](#).

For more information on troubleshooting Windows Wordprocessor Integration (WWI), see SAP Note [1058521](#).

## 13.1.1.2.5 Support Desk Management


If issues arise when using SAP software, you can get in contact with the SAP support desk.

For general information about SAP support, see [Support Desk Management \[page 19\]](#).

For sending problem messages/tickets for *Product Safety and Stewardship for Process Industries* to SAP, choose the appropriate component (or subcomponent) name from the SAP component hierarchy.

## Remote Support Setup

To analyze Windows Wordprocessor Integration (WWI) and Expert issues you must set up a remote connection to the underlying Windows servers, for example, by Windows Terminal Services (WTS).

See SAP Note [35010](#)  for setting up remote connections.

## Problem Message Handover

Use the appropriate sub-component of *Product Safety and Stewardship*.

# 14 Business Network Integration

SAP S/4HANA currently supports integration scenarios with the Ariba Network and with SAP Fieldglass.

## 14.1 Monitoring Business Network Integration: Overview

To monitor the integration of SAP S/4HANA with a business network, you have the following options, depending on your connectivity type:

- Output Management (only for **outbound** messages)
- Web Services Monitor (transaction `SRT_MONI`) - only for **direct** connectivity and connectivity via HANA Cloud Integration (HCI)
- Integration Engine: Monitor (transaction `SXMB_MONI`) - only for **mediated** connectivity via Process Integration (PI), therefore only available for the Ariba Network
- Application Interface Framework (AIF) - (**optional** component)

In addition, the application log (transaction `SLG1`) records the message exchange between SAP S/4HANA and the business network.

For error handling, you can use Forward Error Handling (FEH).

### 14.1.1 Monitoring of cXML Messages

#### Output Management (Only for Outbound Messages)

In the output management, you can monitor as well as cancel or resend messages for which the transfer to the Ariba Network has failed or has been performed with errors.

Starting point is the application itself, where you can display the output status and the output processing log.

For example, in the *Manage Purchase Orders* app under *Output Items*, you can click ► *Open Action Menu* ► *Show Application Log* ►. This takes you to the *Log Details*, where you can display the XML message ID. You can use this ID to find specific messages in various monitoring tools.

#### Web Service Monitor - (for Direct Connectivity and Connectivity via HCI)

In the Web Service Monitor (transaction `SRT_MONI`), you can monitor both inbound and outbound cXML messages. To monitor the messages exchanged with the business network, you have to filter for cXML messages. You do this on the *Standard Selection* tab: Under *Sender Information* and under *Receiver Information*, enter **cXML\*** in the *Interface Name* field.

To cancel or restart messages for which an error has occurred in the transfer, you can use the [Actions](#) button.

You can use the report [Send Status Update for Canceled Inbound Messages](#) (ARBFND\_SEND\_STATUS\_CANCELLED) to discard messages: The report selects messages that you have canceled manually in transaction `symb_moni` ([Integration Engine: Monitor](#)) and transfers the *Failed* status to the business network.

## Integration Engine: Monitoring (Only for Ariba Network Using Mediated Connectivity)

In [Integration Engine: Monitoring](#) (transaction `SXMB_MONI`), you can monitor both inbound and outbound cXML messages. Double-click [Monitor for Processed XML Messages](#). To filter for messages exchanged with the business network, you have the following options:

- On the [Standard Selection Criteria](#) tab, under [Sender Information](#) and under [Receiver Information](#), enter `http://sap.com/xi_ARBFND1` in the [Interface Namespace](#) field.
- On the [Standard Selection Criteria](#) tab, under [Sender Information](#) and under [Receiver Information](#), enter `cXML*` in the [Interface Name](#) field.

## Informing the Ariba Network About Discarded Messages

If you do not use Forward Error Handling or SAP Application Interface Framework (AIF), you can use the report [Send Status Update for Canceled Inbound Messages](#) (ARBFND\_SEND\_STATUS\_CANCELLED) to inform your suppliers on the Ariba Network about discarded messages: The report selects messages that you have canceled manually in the [Web Service Monitor](#) (transaction `SRT_MONI`) or in transaction the [Integration Engine: Monitor](#) (transaction `symb_moni`) and transfers the *Failed* status to the Ariba Network.

## SAP Application Interface Framework (AIF)

You can use the SAP Application Interface Framework (AIF) to monitor cXML messages and perform related troubleshooting activities. AIF enables you to monitor different mechanisms for data exchange, such as XML, IDOC, etc.

In AIF, you can monitor the following cXML messages:

- All **inbound** cXML messages that are received in SAP S/4HANA.
- All **outbound** messages that are sent via **direct** connectivity or via HANA Cloud Integration (HCI).

For outbound messages that are sent via mediated connectivity, you have to use the monitoring tools provided by the middleware.

To display cXML messages in transaction [Monitor and Error Handling](#) (/AIF/ERR), you have to specify a namespace, for example the default namespace /BNARB.

In the *Monitor and Error Handling* transaction, you can do the following:

- Restart messages that were transmitted with errors.
- Edit the message payload.
- Display the same information as in the *Application Log* (transaction `SLG1`).
- Cancel messages.

If you cancel inbound messages, the “Failed” status is transferred to the business network, informing the business partner about the cancellation of the message.

## More Information

For more information about AIF, see:

- The sections about the SAP Application Interface Framework in this guide
- The user assistance for the SAP Application Interface Framework in SAP S/4HANA. It is available on SAP Help Portal at [help.sap.com/erp](http://help.sap.com/erp).

### 14.1.2 Application Log

The application log (transaction `SLG1`) records all messages sent to or received from the Ariba Network or SAP Fieldglass. The log entries are listed under the `CXML_INTEGRATION` object. Note that log entries created in releases earlier than SAP S/4HANA 1610 can be found under the log object `ARIBA_INTEGRATION`.

There are four subobjects for further filtering:

- *INBOUND*

The SAP S/4HANA system processes all messages belonging to the namespace `http://sap.com/XI/ARBFND1` and the below defined interfaces. Corresponding entries are written to the application log. You can review the processing status of the entries. Note:

- Messages that have been **pushed** into the SAP S/4HANA system by middleware create an entry only with the subobject *INBOUND*.
- Messages that have been **polled** from a business network directly or via HCI into SAP S/4HANA have entries both under the *INBOUND* and the *POLLING* subobjects.

- *POLLING*

If you run the integration with the business network through direct connectivity or via HCI, you must schedule a polling job, also known as Polling Agent, to retrieve messages. Each time the polling job runs, it writes an entry in the application log, listing the message type and timestamp when the system has polled. After messages have been polled from the business network, the log entry lists all message IDs (XML ID and payload ID) that have been retrieved and put in the queue for message processing.

For more information about the polling jobs, see the documentation available in Customizing for Business Network Integration under the following paths:

- [▶ Integration with the Ariba Network ▶ Framework Settings ▶ Direct Connectivity Settings ▶ Schedule Polling Agent ▶](#)
- [▶ Integration with SAP Fieldglass ▶ Framework Settings ▶ Direct Connectivity Settings ▶ Schedule Polling Agent ▶](#)

- **OUTBOUND**

Every message leaving the SAP S/4HANA system writes an entry to the application log with the subtype **OUTBOUND**. For direct connectivity and HCI, there are two entries:

- An entry for the creation of the cXML message
- An entry indicating whether the message has been transferred to the business network successfully.

## Search in the Application Log

For inbound and outbound messages you can filter the application log entries by object and subobject as described above. To search for specific entries, you can enter a business object ID, a payload ID, or a XML message ID - preceded and followed by an asterisk (\*) - in the *External ID* field.

Since many entries are created in the application log to record the message exchange with business networks, we recommend that you optimize your settings for archiving your application log. For more information, search for the phrase "Application Log – User Guidelines (BC-SRV-BAL)" in the documentation of SAP NetWeaver at <http://help.sap.com>.

## 14.1.3 Forward Error Handling

You can use Forward Error Handling (FEH) to monitor errors and to perform related troubleshooting activities.

In FEH, you can monitor errors that have occurred during transfer of the following cXML messages:

- All **inbound** messages that have been received in SAP S/4HANA.
- All **outbound** messages that have been sent via **direct** connectivity or via HANA Cloud Integration (**HCI**).

For outbound messages that are sent via mediated connectivity, you have to use the monitoring tools provided by the middleware.

### Prerequisites

To use FEH, you have to define a resolution strategy that specifies whether and how processes are executed again or ended after errors or conflicts occur. You can define, for example, the periods during which a certain error can be corrected by automatically repeating the process. For more information, see Customizing for Cross-Application Components under ► [Processes and Tools for Enterprise Applications](#) ► [Enterprise Services](#) ► [Error and Conflict Handler](#) ► [Define Resolution Strategy](#) ►. For business network integration, the component BNS-ARI-SE-FND is available for which you create the resolution strategy.

### Postprocessing Desktop

A postprocessing order is created in FEH when there is an error in either inbound or outbound processing. Use [Error and Conflict Handler: Process Postprocessing Orders](#) (transaction ECH\_MONI\_SEL) to analyze the error.



The following table provides an overview of the business objects and the corresponding cXML messages for which errors may occur. Note that the “business objects” in the sense of FEH correspond to cXML message types.

“Business object”, also referred to as “Business Process” in FEH	cXML Message Type
ARBFNDOADP	This object is used for error handling of <b>all outbound</b> cXML message types.
ARBFNDCONF	ConfirmationRequest
ARBFNDSHIP	ShipNoticeRequest
ARBFNDINVC	InvoiceDetailRequest
ARBFNDSRVE	ServiceEntryRequest
ARBFNDCCPAYP	CopyRequestPaymentProposalRequest
ARBFNDQTEM	QuoteMessage

## Postprocessing Desktop: Edit Order

For troubleshooting, double-click a postprocessing order to edit the details. In the [Postprocessing Desktop – Edit Order: Details](#) screen you can perform the following actions to resolve the error:

- Repeat**  
 The [Repeat](#) action restarts the processing of the cXML message. This is usually done after you have resolved an error. For example, you may have changed the business object or the payload, or a temporary system issue has been resolved.
- Display or change payload**  
 To resolve an error, it may be necessary that you change the payload of a cXML message. You can make the required authorization settings in Customizing for Cross-Application Components under [General Application Functions > Error and Conflict Handler > Authorization for Payload Editor](#).  
 Use the [Details](#) icon in the message table to navigate from the Postprocessing Desktop to the application log, where you can display further information.
- Confirm**  
 The [Confirm](#) action changes the order status in the Postprocessing Office to [Completed](#). You normally use this option if an inbound cXML message could not be transferred and you have applied the changes to the business document manually.
- Discard**  
 The [Discard](#) action changes the order status in the Postprocessing Office to [Completed](#) and sends a StatusUpdateRequest cXML message to the Ariba Network to set the acknowledgement status of the corresponding Ariba document to [Failed](#).

# 15 SAP S/4HANA Sourcing and Procurement Integration with SAP ERP

SAP S/4HANA currently supports integration with SAP ERP for EHP 6.0 and higher. To run the processes seamlessly, you can monitor the application in the SAP S/4HANA hub system and in the connected SAP ERP back-end systems.

## 15.1 Monitoring and Error Handling in the SAP S/4HANA Hub System

### 15.1.1 Monitoring in the SAP S/4HANA Hub System

To monitor the integration of SAP S/4HANA with SAP ERP in the SAP S/4HANA hub system, you can use the Application Interface Framework (AIF).

#### 15.1.1.1 Enable SAP Application Interface Framework

You can use the SAP Application Interface Framework (AIF) to monitor XML messages and perform related troubleshooting activities.

To enable AIF, you must perform the following steps:

- In the SAP S/4HANA hub system, enter the transaction `/nSE38`.
- Enter the program name `MM_PUR_HUB_AIF_CONF` and execute.

The report log displays that the configuration for AIF is enabled.

Once you enable AIF, you must perform the following tasks:

- [Monitor XML Messages \[page 106\]](#)
- [View XML Messages \[page 107\]](#)
- [Assign Recipients \[page 107\]](#)

### Monitor XML Messages

In AIF, you can monitor the following XML messages if you have the role `SAP_BR_ADMINISTRATOR` assigned to your user:

- All inbound XML messages that are received in the SAP S/4HANA hub system.
- All outbound XML messages that are sent from the SAP S/4HANA hub system.

The inbound XML messages are:

XML Message	Scenario
PurchaseRequisitionReplicationConfirmation_In	This XML message is sent from the connected SAP ERP back-end system to the SAP S/4HANA system to confirm that a purchase requisition has been copied to the SAP S/4HANA hub system.
PurchaseRequisitionSourcingNotification_In	This XML message is triggered when a purchase order is created in the back-end system and confirmation of this purchase order is sent to the SAP S/4HANA hub system.

The outbound XML message is:

XML Message	Scenario
PurchaseRequisitionReplicationRequest_Out	This XML message is triggered when a purchase requisition is created in the SAP S/4HANA hub system and is sent for replication in the SAP ERP back-end system.

## View XML Messages

You can use the **Message Dashboard** in the SAP Fiori launchpad to display the XML messages. For more information on the **Message Dashboard**, search for the phrase "Interface Monitor" in the documentation of SAP Application Interface Framework User Guide at <http://uacp2.hana.ondemand.com>.

To view these messages in the SAP ERP back-end system, perform the following steps in the transaction for **Monitor and Error Handling**:

1. Go to transaction /AIF/ERR.
2. In the namespace field, enter /MMHUB.
3. Execute.
4. Perform either of the following tasks:
  - Restart the inbound messages that were sent with errors to the SAP S/4HANA hub system.
  - Cancel the messages.

## Assign Recipients

To monitor the errors in the **Message Dashboard**, you can assign users to recipients. Additionally, these users can receive Fiori Notifications if the notification center is enabled. For more information on how to enable the notification center and configure the Fiori Notifications for the SAP S/4HANA hub system, see [Enable Fiori Notifications in SAP S/4HANA Hub System \[page 108\]](#).

To assign recipients for this scenario, you must do the following:

1. Launch the **Assign Recipients** app.
2. Specify the namespace.  
The default namespace is `/MMHUB`.
3. Enter a message type for each recipient. The recipients for alerts are `PROC_APPL` (Procurement Application Errors) and `PROC_TECH` (Procurement Technical Errors). For each recipient, you can specify a message type that defines which kind of message is included in an alert. For example, Application Error, Warning, and so on.
4. Execute.

After you have completed the above steps, you can get an overview of the recipients assigned to a user and you can make new assignments.

## More Information

For more information about AIF, see the documentation of SAP Application Interface Framework in SAP S/4HANA at <http://uacp2.hana.ondemand.com>.

## 15.1.2 Error Handling in the SAP S/4HANA Hub System

### 15.1.2.1 Enable Fiori Notifications in SAP S/4HANA Hub System

You can configure Fiori Notifications in the SAP S/4HANA hub system to ensure that a user receives notifications about any failed actions. To enable Fiori Notifications, you must perform the below steps in the SAP S/4HANA hub system:

1. Logon to the SAP S/4 HANA hub system.
2. Enter transaction `SPRO`.
3. Go to **SAP NetWeaver > Notification Channel > Notification Channel Provider Enablement > Administration > Notification Provider Settings > Manage Notification Provider**.
4. Click **New Entries** and enter the **Notification Provider ID** as `PROC_HUB_NOTIF_PROVIDER`.
5. Choose **Is Active?** and then **Save**.

Additionally, you must perform the following configurations:

- To enable the notification center for Fiori Notifications, search for the phrase "Notification Channel" in the documentation of SAP Gateway Foundation at <http://uacp2.hana.ondemand.com>.
- To enable the notification center for a specific user, you need to create a custom PFCG role. For more information, search for the phrase "Setup of Catalogs, Groups, and Roles" in the documentation of SAP Fiori Implementation Information at <http://uacp2.hana.ondemand.com>. You must assign the catalog `/UI2/CONFIG_NOTIFICATION` to this new role, as the properties to enable Fiori notifications are delivered using this catalog.

- The authorization objects S\_RFC and S\_RFCACL are required to display and create Fiori notifications. These authorization objects are delivered using the following role templates:

- /IWNGW/RT\_USER\_PRODU
- /IWNGW/RT\_USER\_CONSU

You must assign the above templates to the custom role that you have created.

### i Note

If any failure occurs during the import of sources of supply from the connected SAP ERP back-end system, then only the user who has scheduled the job to extract the sources of supply will receive Fiori notifications.

## 15.2 Monitoring and Error Handling in the SAP ERP Back-end System

### 15.2.1 Monitoring in the SAP ERP Back-end System

Depending on the connectivity type, you can monitor the integration of SAP S/4HANA with SAP ERP in the back-end systems. The following table provides an overview of the monitoring tools and the respective transactions that can be used to monitor the back-end systems:

Connectivity Type	Monitor	Transaction
Direct Connectivity	Web Services	SRT_MONI
Mediated connectivity Using Process Integration (PI)	Integration Engine	SXMB_MONI

#### 15.2.1.1 Monitor Web Services for Direct Connectivity

Using the transaction SRT\_MONI, you can access the Web Service Monitor and monitor both inbound and outbound XML messages. To monitor messages sent from the back-end systems, you can filter based on the requests or the user by following the below steps:

1. Enter transaction SRT\_MONI.
2. Go to the *Standard Selection* tab.
3. In the *Sender Information* and *Receiver Information* pane -> *Interface Name* field, enter the request you want to monitor.

## 15.2.1.2 Monitor Integration Engine for Mediated Connectivity

Using the transaction `SXMB_MONI`, you can access *Integration Engine: Monitoring* and monitor both inbound and outbound XML messages by following the below steps:

1. Double-click *Monitor for Processed XML Messages*.
2. Go to the *Standard Selection Criteria* tab to filter for messages exchanged with the business network.
3. In the *Sender Information* and *Receiver Information* pane -> *Interface Namespace* field, you can either enter <http://sap.com/xi/HubERPI> or enter the request you want to monitor.
4. You can either cancel or restart messages where an error has occurred in the transfer.

## 15.2.2 Error Handling in SAP ERP Back-end System

For error handling in SAP ERP Back-end systems, you can use Forward Error Handling (FEH).

Additionally, you can configure the alerts in the add-on for SAP S/4HANA Sourcing and Procurement Integration with SAP ERP so that you receive email notifications about any failure actions.

You can use the transaction `SLG1` to view the logs related to the automatic creation of purchase orders from purchase requisitions.

### 15.2.2.1 Activate Forward Error Handling

You can use Forward Error Handling (FEH) to monitor errors and to perform related troubleshooting activities in the back-end systems.

In FEH, you can monitor the errors that have occurred during the transfer of inbound messages. These are the messages that have been received in SAP ERP using direct connectivity or mediated connectivity.

#### Prerequisites

To use FEH, you must activate it in the all the back-end clients. For more information, see Customizing for Cross Application Components under ► *General Application Function* ► *Error and Conflict Handler* ► *Activate Error and Conflict Handler* ▶.

In addition, you can define a resolution strategy that specifies whether and how processes are either executed again, or ended after errors or conflicts occur. You can define, for example, the periods during which a certain error can be corrected by automatically repeating the process.

For more information, see Customizing for Cross Application Components under ► *General Application Function* ► *Error and Conflict Handler* ► *Define Resolution Strategy* ▶.

If you need to create a resolution strategy for the SAP S/4HANA Sourcing and Procurement Integration with SAP ERP, you can use the component CA-SOA-ESM\_ERP-PUR.

## 15.2.2.2 Monitoring and Resolving Errors Using Postprocessing Desktop

To monitor and correct errors in inbound processing, you can use Postprocessing Desktop in FEH.

A postprocessing order is created in FEH when an error occurs in inbound processing. Use [Error and Conflict Handler: Process Postprocessing Orders](#) (transaction ECH\_MONI\_SEL) to analyze the error. The errors may occur for the business object PURREQ009 and the corresponding XML messages `PurchaseRequisitionReplicationRequest_In`. To view the errors, enter the business process as PURREQ009 and component as CA-SOA-ESM\_ERP-PUR.

### Postprocessing Desktop: Edit Order

For troubleshooting, double-click a postprocessing order to edit its details. In the [Postprocessing Desktop Edit Order: Details](#) screen you can perform the following actions to resolve the error:

- **Repeat**  
The [Repeat](#) action restarts the processing of the XML message. This is usually done after you have resolved an error. For example, you may have changed the business object or the payload, or a temporary system issue has been resolved.
- **Display or change payload**  
To resolve an error, it may be necessary that you change the payload of a XML message. You can make the required authorization settings in Customizing for Cross-Application Components under [General Application Functions > Error and Conflict Handler > Authorization for Payload Editor](#). To change the payload, follow the below steps:
  1. Choose [Process](#), add comments, and double-click [Change](#).
  2. Choose [Save](#) after making the required changes.
  3. Choose [Repeat](#). The Repeat action restarts the processing of the XML message.
  4. Click the [Details](#) icon in the message table to navigate from the **Postprocessing Desktop** to the application log, where you can display further information.
- **Confirm**  
The [Confirm](#) action changes the order status in the **Postprocessing Desktop** to [Completed](#). You normally use this option if an inbound XML message could not be transferred and you have applied the changes to the business document manually.

#### i Note

Discarding a postprocessing order is currently not supported.

## 15.2.2.3 Configure Email Notifications

A user will receive email notifications for the pre-configured alerts about any failed actions. The following alert categories are pre-configured in the add-on SAP S/4HANA Sourcing and Procurement Integration with SAP ERP:

Alert Category	Description
PR_REPLICATION_FAILS	Failure while replicating a PR to the back-end system
NO_AUTH_MAT_GRP_PLANT	No authorization to extract the Sources of Supply
NO_AUTH_MAT_GRP	No authorization to extract the Sources of Supply
NO_AUTH_PLANT	No authorization to extract the Sources of Supply
PR_TO_PO_FAILURE	Failure during automatic conversion of a PR to a PO

To receive email notifications, you can configure recipients by following the below steps:

1. Enter transaction `/ALRTCATDEF`.
2. Choose the alert category classification for which you want to configure the recipients.
3. You can either choose *Fixed Recipients* or *Recipients via User Roles* to maintain a user.

## 15.2.2.4 View the Application Log

You can use the transaction `SLG1` (application log) that records all messages that are issued during the automatic conversion of a purchase requisition to a purchase order. The log entries are listed under the `MMPUR_S4PR_AUTOPO` object.

### Search in the Application Log

For inbound and outbound messages, you can filter the application log entries by entering a business object, as mentioned above. Since many entries are created in the application log to record the message exchange with SAP ERP, we recommend that you optimize your settings for archiving your application log. For more information, search for the phrase "Application Log – User Guidelines (BC-SRV-BAL)" in the documentation of SAP NetWeaver at <http://uacp2.hana.ondemand.com>.





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