



PUBLIC

Document Version: 1H 2024 – 2024-04-19

# **Replicating Organizational Data from Employee Central to SAP ERP HCM Using SAP Cloud Integration as the Middleware (For Implementation Started Before Q2 2017)**

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# 1 Introduction to Organizational Data Replication

Find out how to replicate organizational data from Employee Central to your SAP ERP HCM system.

## ⚠ Caution

If you're starting a new integration project, this is **not** the right guide for you.

We strongly recommend that you use our new standard integrations, which are based on SAP Cloud Integration. We provide a standard integration for employee master data replication (which includes employee organizational assignments) and one for organizational object replication from Employee Central to SAP ERP HCM. For more information, refer to [Replicating Employee Master Data and Organizational Assignments from Employee Central to SAP ERP HCM](#) and [Replicating Organizational Objects from Employee Central to SAP ERP HCM](#).

## ⚠ Caution

The SFSF EC INTEGRATION (PA\_SE\_IN) add-on (product SAP SuccessFactors Employee Central Integration to SAP Business Suite) can be used to integrate the cloud HR solution provided by SAP (such as SAP SuccessFactors) with ERP applications provided by SAP, such as SAP S/4HANA (on-premise edition or SAP S/4HANA Cloud Private Edition) or SAP ERP HCM, only. The add-on is included in the license for these systems. The add-on cannot be licensed to use for integration between non-SAP cloud HR solutions and SAP ERP HCM.

For more information about the maintenance of the SFSF EC INTEGRATION add-on, refer to SAP Note [3250816](#).

The integration described in this guide supports the *Core Hybrid* deployment option. *Core Hybrid* means that Employee Central is used as the system of record holding the employee data and reporting lines of all employees. But existing processes such as payroll, time management, or custom HR processes still run in an SAP ERP HCM system landscape.

## 📌 Note

Don't change any data that was replicated from Employee Central in the SAP ERP HCM system. Your changes would probably be overwritten by the next replication run from Employee Central. They wouldn't be replicated back to Employee Central either. That is, the systems would no longer be in sync.

## Related Information

[Preparing the Systems for Organizational Data Replication \[page 11\]](#)

[Integration Scenario and Processing Logic \[page 36\]](#)

[Configuring Organizational Data Replication in the SAP ERP HCM System \[page 57\]](#)

[Middleware Setup \[page 151\]](#)

[Business Logic, Mapping Information, and Extensibility \[page 191\]](#)



## 1.1 Before Starting: Am I reading the right documentation?

Before you start looking for information in this document, you need to be sure you're looking in the right place.

This document describes how to set up **integration** between SAP ERP HCM and SAP SuccessFactors Employee Central. It assumes that you have a team of experts in place who know their ways in the systems involved in the integration.

What this document does **not** describe:

- How to set up and use Employee Central. For example:
  - How to configure object types in Employee Central. We tell you which prerequisites object types must fulfill so that they can be replicated between SAP ERP HCM and Employee Central. For example, whether a length restriction applies to a specific field. For basics such as how to restrict the length of a field, please see the Employee Central documentation.
  - Why and how to enable Position Management in Employee Central. We tell you what happens in the integration if Position Management is or is not enabled. For basics such as when and how to enable it, please see the Employee Central documentation.
- How to set up and use the SAP ERP HCM system. For example:
  - How to use the Customizing Implementation Guide (IMG) in your system. We tell you which customizing activities and settings are relevant for integration. For basics such as how to make entries in customizing views or how to implement a Business Add-In, please see the SAP ERP HCM documentation.
  - How to create a variant for a program or schedule it to be run in the background. We tell you which programs you need to execute or schedule. For basics such as how to define variants or background jobs, please see the SAP ERP HCM documentation.
- How to set up and use the middleware. For example:
  - How to find and use the monitoring UI. We tell you what you should pay attention to when monitoring integration flows. For basics such as how to use middleware monitoring in general, please see the middleware documentation.
  - How to upload a certificate. We tell you when a certificate is required. For basics such as how to upload it, please see the middleware documentation.

Read the following information to learn how to set up and use the products or modules involved in the integration.

Product / Module	Where to Find Information
Employee Central	<a href="https://help.sap.com/docs/SAP_SUCCESSFACTORS_EMPLOYEE_CENTRAL">https://help.sap.com/docs/SAP_SUCCESSFACTORS_EMPLOYEE_CENTRAL</a> > <i>Implement</i>

Product / Module	Where to Find Information
SAP ERP HCM	<p>For platform information: <a href="https://help.sap.com/docs/SAP_NETWEAVER">https://help.sap.com/docs/SAP_NETWEAVER</a> &gt; <i>ABAP Platform</i></p> <p>For information about SAP ERP in general: <a href="https://help.sap.com/docs/SAP_ERP">https://help.sap.com/docs/SAP_ERP</a></p> <p>For specific information about SAP ERP HCM: <a href="https://help.sap.com/docs/ERP_HCM">https://help.sap.com/docs/ERP_HCM</a></p>
Middleware	<a href="https://help.sap.com/docs/CLOUD_INTEGRATION">https://help.sap.com/docs/CLOUD_INTEGRATION</a>

### Note

For information about data purge, refer to the following sections in the SAP SuccessFactors guide *Implementing and Managing Data Protection and Privacy*:

- [Purge of Employee Central Data Replicated to the Enterprise Resource Planning \(ERP\) System](#)
- [Purge of Data Related to Data Replication to Employee Central in the Enterprise Resource Planning \(ERP\) System](#)

## 1.2 Your Integration Team

The implementation and integration process of SAP SuccessFactors Employee Central with SAP ERP HCM is a collaborative effort that leverages the skills of various experts.

You need to pull together a team of experts for your implementation project when integrating SAP SuccessFactors Employee Central with SAP ERP HCM.

The following experts are typically involved in the process:

Expert	What the Expert Does
SAP SuccessFactors consultant	<ul style="list-style-type: none"> <li>• Is the main point of contact for the entire implementation and integration process.</li> <li>• Ensures that all required system settings for Employee Central are done.</li> <li>• Works closely with the SAP ERP HCM team, to ensure successful data replication.</li> </ul>
Middleware consultant	Provides support on setting up the middleware.
SAP ERP HCM consultant	<ul style="list-style-type: none"> <li>• Is the main point of contact for the configuration of SAP ERP HCM according to the needs of the customer.</li> <li>• Works closely with the SAP SuccessFactors consultant to ensure successful data replication.</li> </ul>



## 1.3 Target Group of This Document

Take a look at the target groups this document is intended for.

The following groups of people will benefit from reading this document:

- Implementation partners, consultants, and Product Support, for fast support of customers and prospective customers
- Cloud operations
- SAP-certified administrators at customer site

## 1.4 Terminology

More information about the terminology used in this guide.

Here are some differences in terminology for fields in Employee Central and their counterparts in SAP ERP HCM.

Different Terminology Used in Employee Central and SAP ERP HCM

Term in Employee Central	Term in SAP ERP HCM Systems
Supervisor	Manager
Department (organizational structure item)	Organizational unit
Division (organizational structure item)	Organizational unit
Business unit (organizational structure item)	Organizational unit
Job classification	Job

This is an overview of terminology changes we've made for the Business Integration Builder (BIB). Using BIB you set up the SAP ERP HCM system for organizational data replication from Employee Central.

Terminology Changes for Business Integration Builder

Old term		New term	
Long form	Abbreviated form	Long form	Abbreviated form
Employee Central company	EC company	Employee Central instance	EC instance
Employee Central company ID	EC company ID	Employee Central instance ID	EC instance ID
Employee Central company description	EC company description	Employee Central instance description	EC instance description
Employee Central template	EC template	Employee Central entity	EC entity

Old term		New term	
Long form	Abbreviated form	Long form	Abbreviated form
Employee Central template ID	EC template ID	Employee Central entity ID	EC entity ID
Employee Central template description	EC template description	Employee Central entity description	EC entity description
Employee Central template name	EC template name	entity name in Employee Central	entity name in EC
ERP picklist ID	–	Employee Central picklist ID	EC picklist ID
Employee Central picklist ID	EC picklist ID	Employee Central picklist name	EC picklist name
template group	–	transformation template group	–
SAP ERP template	ERP template	transformation template	–
Employee Central to SAP ERP	EC to ERP	from Employee Central	from EC
SAP ERP to Employee Central	ERP to EC	to Employee Central	to EC
SAP ERP / SAP ERP HCM	–	Enterprise Resource Planning system	ERP system

## 2 Preparing the Systems for Organizational Data Replication

Learn more about what needs to be in place if you want to replicate organizational data from Employee Central.

### [Checking the Minimum Setup Required for Your Systems \[page 11\]](#)

Check if your systems are ready so that you can set up organizational data replication from Employee Central to SAP ERP HCM.

### [How to Keep Your Systems in Sync \[page 16\]](#)

Why we recommend installing the latest support package of the integration add-on in your SAP ERP HCM system.

### [Deciding on the Full Transmission Start Date \[page 17\]](#)

Prepare for integration between Employee Central and SAP ERP HCM by deciding on the date when the data replication is to start.

### [Permissions for Data Replication from Employee Central \[page 21\]](#)

Set up the permissions needed by API users in Employee Central, as well as permissions for data replication users and users who process the replicated data in the SAP ERP HCM.

### [Employee Central Preparation for Replication of Organizational Data \[page 25\]](#)

When setting up Employee Central for organizational data replication to SAP ERP HCM, check the things we list here.

### [Advantages of Using Infoporter Tool \[page 35\]](#)

Take a look at on the advantages of using the Infoporter tool.

## 2.1 Checking the Minimum Setup Required for Your Systems

Check if your systems are ready so that you can set up organizational data replication from Employee Central to SAP ERP HCM.

### Procedure

1. Is Employee Central set up?

For more information, refer to [Employee Central Overview](#).

2. Is the middleware already set up?

For more information about how to set up SAP Cloud Integration see [SAP Cloud Integration](#).

### Caution

You are only allowed to configure the content as described in this guide. If you make modifications not described in this guide, SAP will not provide support for the modified content.

The middleware content described in this guide is meant for use in SAP Cloud Integration. You are not allowed to deploy it in an on-premise SAP Process Orchestration system. For more information, see SAP Note [2428801](#).


### 3. Do you meet the minimum setup for SAP ERP HCM systems?

Required Software Component Versions and Support Packages


Component	Required Software Component Version
SAP NetWeaver	<p>SAP_BASIS with one of the following versions:</p> <ul style="list-style-type: none"><li>• 700 with SP27 or a higher SP</li><li>• 701 with SP12 or a higher SP</li><li>• 702 with SP08 or a higher SP</li></ul>

Component	Required Software Component Version
SAP ERP HCM	<p>The following software component versions are required in your system:</p> <ul style="list-style-type: none"> <li>• SAP_APPL SAP_APPL 600 SP15 or a higher version/SP</li> <li>• SAP_HR The required minimum is one of the following versions: <ul style="list-style-type: none"> <li>• SAP_HR 600 SP59</li> <li>• SAP_HR 604 SP25</li> <li>• SAP_HR 608 (initial delivery version, no SP required)</li> </ul> <p>The minimum version ensures that the integration works, but you most probably need to implement additional SAP Notes. Which SAP Notes are required depends on the exact SP level available in your system. To prevent additional effort caused by investigating the required SAP Notes and by implementing them, we recommend that you use at least one of the following versions:</p> <ul style="list-style-type: none"> <li>• SAP_HR 600 SPC7 (127)</li> <li>• SAP_HR 604 SP93</li> <li>• SAP_HR 608 SP21</li> </ul> </li> <li>• EA-HR The required minimum is one of the following versions: <ul style="list-style-type: none"> <li>• EA-HR 600 SP59</li> <li>• EA-HR 602 SP38</li> <li>• EA-HR 603 SP33</li> <li>• EA-HR 604 SP25</li> <li>• EA-HR 605 SP02</li> <li>• EA-HR 606 (initial delivery version, no SP required)</li> <li>• EA-HR 607 (initial delivery version, no SP required)</li> <li>• EA-HR 608 (initial delivery version, no SP required)</li> </ul> <p>The minimum version ensures that the integration works, but you most probably need to implement additional SAP Notes. Which SAP Notes are required depends on the exact SP level available in your system. To prevent additional effort caused by investigating the required SAP Notes and by implementing them, we recommend that you use at least one of the following versions:</p> <ul style="list-style-type: none"> <li>• EA-HR 603 SPA1</li> <li>• EA-HR 604 SP93</li> <li>• EA-HR 605 SP64</li> </ul> </li> </ul>

Component	Required Software Component Version
	<ul style="list-style-type: none"> <li>EA-HR 606 SP49</li> <li>EA-HR 607 SP38</li> <li>EA-HR 608 SP21</li> </ul>
Integration add-on for SAP ERP HCM and SAP SuccessFactors Employee Central	PA_SE_IN 100 SP33

 **Note**  
Only this newest PA\_SE\_IN support package ensures that all features described in this document are available in your system.

For more information, refer to [SFSF EC INTEGRATION 1210](#) in the Software Download Center. You can access the Software Download Center from [SAP for Me](#) by choosing *Systems and Provisioning*.

 **Caution**

The PA\_SE\_IN software component can be installed in Unicode systems only. Non-Unicode systems are not supported.

The Unicode conversion was already announced in the year 2006. The support of non-Unicode systems ends soon. The SFSF EC INTEGRATION add-on with the software component PA\_SE\_IN has been developed and tested in a Unicode environment. It's not planned to offer it for non-Unicode systems. This means that Unicode is a prerequisite if you want to run the integrations provided by this add-on. For more information, refer to:

- SAP Note [838402](#) (*Problems within non-Unicode systems and landscape*) and the customer letter attached to this SAP Note
- SAP Note [1322715](#) (*Unicode FAQs*)
- SAP Knowledge Base Article (KBA) [2033243](#) (*End of non-Unicode Support: Release Details*)


4. Are the required SAP Notes installed?


Make sure that you have the up-to-date version of each SAP Note, which you can find in SAP for Me at <https://me.sap.com/home>. Check the LOD-EC-INT-ORG application area for SAP Notes that are relevant for the organizational data replication from Employee Central to SAP ERP HCM.

- a. Install SAP Notes that are **not** contained in the minimum version of the PA\_SE\_IN 100 software component mentioned above:

Required SAP Notes

SAP Note Number	Title	Issue Corrected by the SAP Note	Correction Will Be Contained in Support Package
<a href="#">1487337</a>	<i>Downporting the class CL_ABAP_DYN_PRG</i>	Contains various quality improvement measures for dynamic programming.	none

SAP Note Number	Title	Issue Corrected by the SAP Note	Correction Will Be Contained in Support Package
1043195 	<i>Configuration of Web service runtime</i>	You don't know how to set up the technical configuration of the Web service runtime environment in your SAP ERP HCM system and how to check it.	none


- b. To enable input validation on the selection screen of the *Create and Execute Organizational Object Replication Query* (RH\_SF10M\_ORG\_OBJ\_REPL\_QUERY) program, implement SAP Note 1743483  or install the following support package for software component SAP\_BASIS, depending on your software component version:

Minimum SAP\_BASIS Support Package Level for Input Validation

Software Component Version	Required Minimum SP
700	28
701	13
702	13
710	16
711	11
720	08
730	08
731	05

Input validation keeps users from entering invalid characters, such as apostrophes, in free-text fields, such as *EC Org. Object ID*.

- c. If you want to enable use of the new infotype framework for integration between Organizational Management and Personnel Administration, ensure that the following support packages or SAP Notes are installed in your SAP ERP HCM system.

**For software component SAP\_BASIS:** Either SAP Note 2504865  or the following support package, depending on your software component version:

Minimum SAP\_BASIS Support Package Level for New Infotype Framework

Software Component Version	Required Minimum SP
700	36
701	21



Software Component Version	Required Minimum SP
702	20
710	23
711	18
730	18
731	22
740	19
750	11
751	05
752	01

**For software component SAP\_HRRXX:** Either SAP Note [2505223](#) or the following support package, depending on your software component version:

Minimum SAP\_HRRXX Support Package Level for New Infotype Framework

Software Component Version	Required Minimum SP
600	F3
604	B9
608	47

## 2.2 How to Keep Your Systems in Sync

Why we recommend installing the latest support package of the integration add-on in your SAP ERP HCM system.

The main use case of the *SFSF EC INTEGRATION 1210* add-on, which comprises the `PA_SE_IN` 100 software component version, is to synchronize data between the cloud solution SAP SuccessFactors Employee Central and an SAP ERP HCM system.

Cloud solutions are regularly upgraded by SAP. Upgrades of on-premise systems are customer-managed.

New features in Employee Central often require enhancements of the `PA_SE_IN` software component. New integration features are also made available in the latest version of the `PA_SE_IN` software component only. You can use these new features only if your SAP ERP HCM system is up to date. Furthermore, the data synchronization between Employee Central and the SAP ERP HCM system can only run smoothly if regular upgrades are performed on both sides. Therefore, the add-on must also be upgraded regularly.

Ideally, you install the latest support package of the add-on together with each new Employee Central release.

If this isn't possible due to upgrade restrictions concerning your SAP ERP HCM system, we recommend installing the latest support package of the add-on at least once a year. Only then we can ensure that the integration runs smoothly.

## 2.3 Deciding on the Full Transmission Start Date

Prepare for integration between Employee Central and SAP ERP HCM by deciding on the date when the data replication is to start.

### Context

Deciding on the full transmission start date (FTSD) is an important step. That's why we recommend that you work it out in an early project phase.

### Procedure

1. Choose the date when the data replication from Employee Central to SAP ERP HCM is to start, considering the implications we've listed in this document.

To reduce the amount of historical data being replicated, set the FTSD as late as possible. But be aware that data is replicated from Employee Central to the SAP ERP HCM system only if it has an effective end date that is on or after the FTSD. Data that has an effective end date before the FTSD isn't replicated.

2. For organizational object replication, enter the full transmission start date you've chosen on the selection screen of the [Create and Execute Organizational Object Replication Query](#) (RH\_SF10M\_ORG\_OBJ\_REPL\_QUERY) program.

For organizational assignment replication, enter the full transmission start date you've chosen in the FULL\_TRANSMISSION\_START\_DATE parameter when configuring the process in the middleware.

### Next Steps

The following additional steps are required if you change the full transmission start date after you've already replicated data:

- If you move the date into the past, ensure that you trigger a full load manually to include all relevant data into the replication. The full load isn't triggered automatically.
- If you move the date into the future, no full load is required. But you must ensure that all changes made before the new FTSD have been replicated successfully.

Consider the FTSD when configuring retention times for employee data in Employee Central: The FTSD must be after the latest retention date of any Employee Central entity that is contained in the data replication to SAP ERP HCM. Otherwise, the data replication fails for the employee in question.

#### [What Is the Full Transmission Start Date? \[page 18\]](#)

Find out what the full transmission start date is and which effects it has on data replication from Employee Central to SAP ERP HCM.

#### [Recommendations for Choosing a Full Transmission Start Date \[page 20\]](#)

We have some recommendations for you when you choose the full transmission start date (FTSD) for your integration project.

## 2.3.1 What Is the Full Transmission Start Date?

Find out what the full transmission start date is and which effects it has on data replication from Employee Central to SAP ERP HCM.

The full transmission start date (FTSD) is the date from which the data transfer from Employee Central to the SAP ERP HCM system begins. It is used to determine from which start date on data records are provided. Only records that are valid on or after the FTSD are extracted from Employee Central. Processing in SAP ERP HCM updates the records of all corresponding infotypes only if their validity begins at or after the FTSD.

The choice of the specific FTSD has consequences for existing data in SAP ERP HCM. During the initial full load from Employee Central to SAP ERP HCM, already existing records in SAP ERP HCM are cut at the FTSD if they have changes after this date. This could trigger consecutive actions on the SAP ERP HCM side. Records that weren't changed after the FTSD aren't split by the initial load.

Let's look at some examples. The examples refer to the data transferred for an organizational object. But what we show from the examples applies to all types of data included in the replication and any SAP ERP HCM infotype that is updated accordingly.

### Example 1: FTSD in Second Record, Today's Date in Third Record

Let's assume name of a department in your company has changed over time. Your FTSD is May 1, 2021.



Example 1

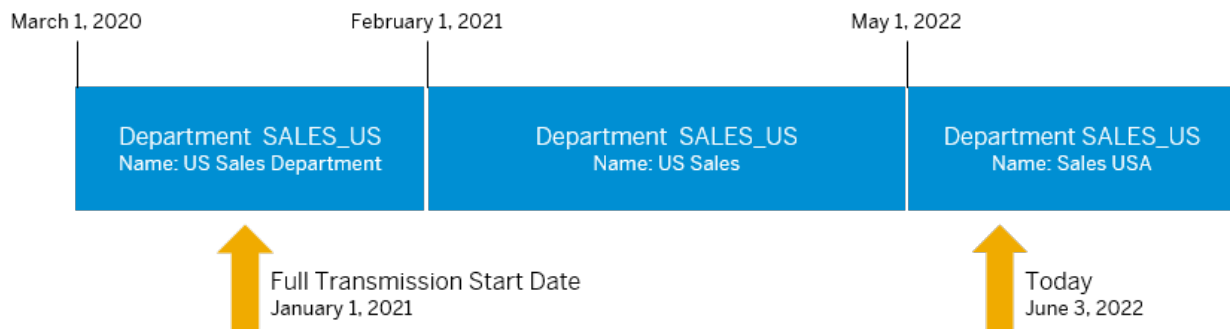
In this example, the second and third records are transferred. The second record is considered starting from the full transmission start date. The first record isn't included in the replication because it ends before the full transmission start date.

Records Considered in SAP ERP HCM

First Record	Second Record
May 1, 2021 – April 30, 2022	May 1, 2022 – December 31, 9999
Department name: US Sales	Department name: Sales USA

### Example: FTSD in First Record, Today's Date in Third Record

Let's assume the name of a department in your company has changed over time. Your FTSD is January 1, 2021.



Example 2

In this example, all three records are transferred. The first record is considered starting from the full transmission start date.

Records Considered in SAP ERP HCM

First Record	Second Record	Third Record
January 1, 2021 – January 31, 2021	February 1, 2021 – April 30, 2022	May 1, 2022 – December 31, 9999
Department name: US Sales Department	Department name: US Sales	Department name: Sales USA

## 2.3.2 Recommendations for Choosing a Full Transmission Start Date

We have some recommendations for you when you choose the full transmission start date (FTSD) for your integration project.

### Use the Latest Possible Date

Set the FTSD as late as possible, ideally to the date when you start to use Employee Central as the leading system for employee data.

### Use the Same FTSD for Employee Data and Organizational Objects

Make sure that the replication of employee master data and of organizational data from Employee Central to SAP ERP HCM use the same FTSD.

### FTSD Must Be After Retroactive Accounting Limit

Make sure that the FTSD is on the same date or after the date defined for the retroactive accounting limit in SAP ERP HCM.

When determining the retroactive accounting limit for payroll, the SAP ERP HCM system takes the following dates into account and uses the latest (that is, the most recent) of these dates:

- The date that is stored for the employee in the *Earliest Personal Retroactive Accounting Date* (PRDAT) field in the *Payroll Status*(0003) infotype. PRDAT defines the date up to which master and time data changes are allowed for the employee and up to which the system carries out retroactive accounting.
- The earliest period for which retroactive accounting can be run in general (as specified for the payroll area).
- The employee's hire date.

For more information, see [Known Issue: Organizational Assignment Change Extends Too Far Into the Past](#).

### Don't Change Employee Central Data That's Affected by the Replication Before the FTSD

If you've decided on an FTSD, make sure that you no longer make changes that are valid before the FTSD to data in Employee Central that is to be replicated to SAP ERP HCM. Data that has an effective end date that is before the FTSD isn't replicated. Therefore, the data wouldn't be consistent in Employee Central and SAP ERP HCM.

## Required Activities When Moving the FTSD

The following additional steps are required if you change the full transmission start date after you've already replicated data:

- If you move the date into the past, ensure that you trigger a full load manually to include all relevant data into the replication. The full load isn't triggered automatically.
- If you move the date into the future, no full load is required. But you must ensure that all changes made before the new FTSD have been replicated successfully.

## FTSD and Retention Times

If you use the validation against the effective end date filter provided by the `CompoundEmployee` API, the FTSD also influences retention times for employee data (which includes employee organizational assignments) in Employee Central: The FTSD must be after the latest retention date of any Employee Central entity that is contained in data replication to SAP ERP HCM. Otherwise, the data replication fails for the employee in question. If the employee's data is completely purged, this employee can never be replicated again – even if they're rehired later.

### → Remember

Using the validation against the effective end date filter means that you didn't select the [Use Purge Status Overview](#) checkbox when configuring the parameters for the employee master data and organizational assignment query.

## 2.4 Permissions for Data Replication from Employee Central

Set up the permissions needed by API users in Employee Central, as well as permissions for data replication users and users who process the replicated data in the SAP ERP HCM.

### [Permissions Required for SAP SuccessFactors API Access \[page 22\]](#)

Data replication between SAP SuccessFactors Employee Central and the SAP ERP HCM system requires administrator and user permissions for SAP SuccessFactors APIs.

### [Granting Permissions for Organizational Data Replication \[page 24\]](#)

Set up permissions for the users who carry out data replication and who process the replicated data in the SAP ERP HCM system.

## 2.4.1 Permissions Required for SAP SuccessFactors API Access

Data replication between SAP SuccessFactors Employee Central and the SAP ERP HCM system requires administrator and user permissions for SAP SuccessFactors APIs.

The permissions listed here grant users and administrators access to the SAP SuccessFactors OData API and SFAPI. SFAPI access includes access to CompoundEmployee API.

Who's This Permission For?	Permission Location	Permission Name
User	<i>General User Permission</i>	<i>SFAPI User Login</i>
Administrator	<i>Employee Central API</i>	<i>Employee Central Foundation SOAP API</i>
Administrator	<i>Employee Central API</i>	<i>Employee Central HRIS SOAP API or Employee Central Compound Employee API (restricted access)</i>

### Note

Either grant the *Employee Central HRIS SOAP API* permission, to give the administrator unrestricted access to the CompoundEmployee API. Or grant the *Employee Central Compound Employee API (restricted access)* permission, to restrict the access to the data of specific employees. Don't select both permissions for the same permission role. For more information, refer to [Granting Permissions for Full Access to the CompoundEmployee API](#) and [Granting Permissions for Restricted Access to the CompoundEmployee API](#) in the *Employee Central Compound Employee API* guide.



Who's This Permission For?	Permission Location	Permission Name
Administrator	<i>Employee Central API</i>	<i>Employee Central Compound Employee API (restricted segment access)</i>
		<p><b>Note</b></p> <p>With this permission, you can further restrict either the <i>Employee Central HRIS SOAP API permission</i> or the <i>Employee Central Compound Employee API (restricted access)</i> permission. The <i>Employee Central Compound Employee API (restricted segment access)</i> permission allows the user with this role to access CompoundEmployee segments according to the configuration setup only. For more information, refer to <a href="#">Granting Permissions for Segment Access to the CompoundEmployee API</a> in the <i>Employee Central Compound Employee API</i> guide.</p>
Administrator	<i>Employee Central API</i>	<i>Employee Central Foundation OData API (read-only)</i>
Administrator	<i>Employee Central API</i>	<i>Employee Central HRIS OData API (read-only)</i>
Administrator	<i>Employee Central API</i>	<i>Employee Central Foundation OData API (editable)</i>
Administrator	<i>Employee Central API</i>	<i>Employee Central HRIS OData API (editable)</i>

Who's This Permission For?	Permission Location	Permission Name
Administrator	<i>Metadata Framework</i>	<i>Admin access to MDF OData API</i>

**Note**

This permission is required for snapshot pagination. Snapshot pagination is used in all integration flows that perform an OData query. This applies to the following integration flows:

- *Replicate Organizational Objects from SAP SuccessFactors Employee Central to SAP ERP or SAP S4HANA*
- *Replicate Time Off Data from SAP SuccessFactors Employee Central to SAP ERP*
- *Replicate Time Sheet Data from SAP SuccessFactors Employee Central to SAP ERP*

## Related Information

[What Are Role-Based Permissions?](#)

## 2.4.2 Granting Permissions for Organizational Data Replication

Set up permissions for the users who carry out data replication and who process the replicated data in the SAP ERP HCM system.

### Context

You need a data replication user in SAP ERP HCM who has the permissions required for the web services used in organizational data replication from Employee Central. And a user who has suitable permissions required for tasks such as:

- Checking the key mapping in table `SFIOM_KMAP_OSI`
- Running and scheduling the query program for organizational object replication, `ECPAO_EE_ORG_REPL_QUERY`
- Resetting organizational object queries if necessary

- Deleting organizational object queries if necessary
- Accessing the staging area with the Replication Request Monitor or Replication Request Viewers
- Scheduling the program that processes the replication requests in the staging area and posts the results to the database.
- Changing the organizational model (also required for being able to schedule the background job for processing replication requests in the staging area).

For your convenience, we have created template roles you can copy and assign to the users:

- SAP\_HR\_SF10M\_WEBSERVICES
- SAP\_HR\_SF10M\_PROCESSING

We recommend that you create the users with these template roles.

## Procedure

1. Go to the [Role Maintenance](#) (PFCG) transaction in your SAP ERP HCM system.
2. Set up the data replication user.

You need a technical user of type B ([System User](#)) with specific permissions and restrictions to ensure that the middleware can successfully communicate with the SAP ERP HCM system.

- a. Copy the template role SAP\_HR\_SF10M\_WEBSERVICES to the customer namespace.
  - b. Assign the copied role to the data replication user.
3. Set up the user needed for processing the replicated data.
    - a. Copy the template role SAP\_HR\_SF10M\_PROCESSING to the customer namespace.
    - b. Set up permissions for the copied role to suit your specific requirements (for example, if you want to restrict permissions to specific relationships).
    - c. Assign the copied role to the user who processes the data replicated from Employee Central in the SAP ERP HCM system.

## 2.5 Employee Central Preparation for Replication of Organizational Data

When setting up Employee Central for organizational data replication to SAP ERP HCM, check the things we list here.

The following settings must be in place if you want to replicate organizational data from Employee Central to the SAP ERP HCM system.

### No Cyclic Dependencies

When assigning a parent department to a department, a parent division to a division, or a parent business unit to a business unit in Employee Central, ensure that you don't select the object itself as the parent object. Or

else, the corresponding replication request fails if you try to replicate the object, and you're shown the following error message: <Object type> <object ID>: The assigned parent object will cause a cyclic dependency

## MDF Version History

If you want the middleware to filter the organizational object replication for active data records, make sure that the *MDF Version History* field of the object definition is set to either *Delete History* or *Complete History*. This setting is especially important for the *Position* object, since the default setting for *MDF Version History* is *No* for *Position*. For the *Business Unit*, *Division*, *Department*, and *Job Classification* objects, *Delete History* is the default.

If the *MDF Version History* isn't set to either *Delete History* or *Complete History*, creating an inactive record for the object or changing an active record to inactive doesn't trigger replication to SAP ERP HCM. Meaning that Employee Central and SAP ERP HCM would be out of sync.

For more information, refer to [Basic Configurations in Object Definition](#) in *Implementing the Metadata Framework (MDF)*.

## Number Ranges

If you want to synchronize IDs of organizational objects in SAP ERP HCM with Employee Central, you need to define suitable number ranges for the object types to be replicated.

## No Change of External Codes

External codes of business units, divisions, departments, job classifications, or positions in Employee Central that are affected by the organizational data replication must not be changed. Otherwise, situations such as described in the following example can occur.

### ❖ Example

You replicate organizational data, including the department with the external code D\_1234, from Employee Central to SAP ERP HCM. In SAP ERP HCM, the organizational unit 1234 is created that corresponds to department D\_1234. Then you change the external code of department D\_1234 to D\_5678 in Employee Central. Now, you replicate the organizational data again from Employee Central to SAP ERP HCM. The replication considers the existing department, which now has the new external code D\_5678, to be a new object and therefore creates a new organizational unit 5678. But the employees' assignments to the department in Employee Central aren't automatically reassigned to the new organizational unit 5678 in SAP ERP HCM. In SAP ERP HCM, the employees are still assigned to the organizational unit 1234.

## API Usage

API usage must be enabled in Employee Central.

## Related Information

[Filtering Out Data Records When the Object Is Inactive \[page 137\]](#)

[Synchronizing IDs of Organizational Objects in SAP ERP HCM and Employee Central \[page 92\]](#)

### 2.5.1 Creating Associations from Department to Division and from Division to Business Unit

Create associations in Employee Central to replicate organizational structure hierarchies to SAP ERP HCM.

## Context

If you want to replicate both departments and divisions, make sure that the association from the [Department](#) to the [Division](#) object is created in the generic object definition of the [Department](#) object. If you want to replicate both divisions and business units, make sure that the association from the [Division](#) to the [Business Unit](#) object is created in the generic object definition of the [Division](#) object.

[Department](#) to [Division](#) to [Business Unit](#) is the only hierarchy that can be handled by organizational assignment replication from Employee Central to the SAP ERP HCM system.

## Procedure

1. Go to the Admin Center and choose the [Configure Object Definitions](#) tool.
2. Select the object definition ([Department](#) or [Division](#)) and choose [Take Action](#).
3. Add the following association in the [Department](#) object definition:

Association to Division

Name	Multiplicity	Destination Object	Type
cust_toDivision	One To Many	Division	Valid When

4. Add the following association in the [Division](#) object definition:

Association to Business Unit

Name	Multiplicity	Destination Object	Type
cust_toBusinessUnit	One To Many	Business Unit	Valid When

## 2.5.2 Replication of Shared Positions from Employee Central

Configure Employee Central to replicate shared positions (also known as mass positions) and employee assignments to shared positions to the SAP ERP HCM system.

SAP ERP HCM requires that all employees who share a position belong to the same organizational unit and have the same manager, the same job, and the same cost center assigned. The settings we describe make sure that shared positions replicated from Employee Central meet this condition.

### ⚠ Caution

Assigning more than 10 employees to a shared position can reduce the system performance when processing the replicated employees in the SAP ERP HCM system.

1. [Enabling Shared Positions in Employee Central \[page 29\]](#)  
Enable shared positions in Employee Central, to be able to replicate them to the SAP ERP HCM system.
2. [Enabling Propagation of Position Assignments to Job Information of the Incumbents in Employee Central \[page 29\]](#)  
Make sure that position assignments are propagated from Employee Central Position Management to the Job Information of the position incumbents.
3. [Preventing Overstaffing of Shared Positions in Employee Central \[page 31\]](#)  
Prevent shared positions in Employee Central from being overstaffed by assigning to many employees.
4. [Configuring FTE Limit for Shared Positions in Employee Central \[page 32\]](#)  
Implement an FTE limit for positions to specify how many employees may be assigned to the same position in Employee Central.
5. [Preventing Manual Organizational Assignments in Job Information for Employees Who Share a Position in Employee Central \[page 34\]](#)  
Prevent departments, divisions, business units, job classifications, and cost centers from being assigned manually in Job Information for employees who share a position in Employee Central.

## 2.5.2.1 Enabling Shared Positions in Employee Central

Enable shared positions in Employee Central, to be able to replicate them to the SAP ERP HCM system.

### Procedure

1. Go to the Admin Center and choose the [Configure Object Definitions](#) tool.
2. Select the object definition of the [Position](#) object.
3. Change the visibility of the [multipleIncumbentsAllowed](#) field to **Editable**.

This setting specifies that more than one employee may be assigned to the position.

If you want to set positions by default as shared positions, you can use an [onInit](#) rule on the position object that sets the [multipleIncumbentsAllowed](#) field to **True**.

4. Change the visibility of the [positionControlled](#) field to **Editable**.

This setting allows you to define the FTE limit which mustn't be exceeded by the assigned position incumbents.

### Next Steps

In the next step, enable propagation of position assignments to Job Information of the position incumbents.

**Task overview:** [Replication of Shared Positions from Employee Central \[page 28\]](#)

**Next task:** [Enabling Propagation of Position Assignments to Job Information of the Incumbents in Employee Central \[page 29\]](#)

## 2.5.2.2 Enabling Propagation of Position Assignments to Job Information of the Incumbents in Employee Central

Make sure that position assignments are propagated from Employee Central Position Management to the Job Information of the position incumbents.

### Procedure

1. Create a propagation rule.
  - a. Go to the Admin Center and choose the [Configure Business Rules](#) tool.
  - b. Create a rule such as [Pos2Job](#) based on an appropriate scenario such as [Synchronize Position Changes to Incumbents](#).



If no suitable scenario is available, create a basic rule for the *Job Information* base object.

- c. To use the rule for all positions, add this *If* condition:

**Position is not equal to Null**

- d. To use the rule for shared positions only, add the following *If* conditions using the *and* operator:

**Position is not equal to Null**

**and**

**Mass Position is equal to Yes**

In the *Then* statement, make the following entries:

**Set Division to be equal to Position.Division**

**Set Department to be equal to Position.Department**

**Set Business Unit to be equal to Position.Business Unit**

**Set Job Classification to be equal to Position.Job Classification**

**Set Cost Center to be equal to Position.Cost Center**

2. Enable synchronization with Job Information if the *Position* object changes.
  - a. Go to the Admin Center and choose the *Position Management Settings* tool.
  - b. Choose the *Synchronization* tab and make the following settings:
    - Set the *Position Organizational Chart Synchronization* field to **Automatic**.
    - In the *Event Reason for Assigning Employees to New Manager* field, choose **Data Change (DATACHG)**.
    - In the *Rule for Synchronizing Position to Job Information* field, enter the name of your propagation rule (for example, **Pos2Job**).
3. Enable propagation of changes being made to position assignments in Job Information.
  - a. Log on to Provisioning of the relevant instance and download the current Succession Data Model configuration by choosing *Import/Export Data Model* in the *Succession Management* section.
  - b. Open the XML file in a suitable editor and make the following changes:
    1. Go to ► *HRIS element: jobInfo* ► *HRIS section: positionInfoList* ► *HRIS field: Position* ►.
    2. Add your propagation rule (for example, *Pos2Job*) below the last *<label>* entry, as shown in this example:

#### Sample Code

```
<hris-field id="position" visibility="both">
  <label>Position</label>
  <label xml:lang="da-DK">Stilling</label>
  <label xml:lang="de-DE">Planstelle</label>
  <label xml:lang="en-GB">Position</label>
  <label xml:lang="es-ED">Puesto</label>
  <label xml:lang="fr-FR">Poste</label>
  <label xml:lang="en-US">Position</label>
  <trigger-rule event="onChange" rule="Pos2Job"/>
</hris-field>
```

Save your changes and re-upload the changed Succession Data Model configuration.

### → Remember

As a customer, you don't have access to Provisioning. To complete tasks in Provisioning, contact your implementation partner or Account Executive. For any non-implementation tasks, contact Product Support.

## Next Steps

In the next step, prevent overstaffing of shared positions in Employee Central.

**Task overview:** [Replication of Shared Positions from Employee Central \[page 28\]](#)

**Previous task:** [Enabling Shared Positions in Employee Central \[page 29\]](#)

**Next task:** [Preventing Overstaffing of Shared Positions in Employee Central \[page 31\]](#)

## 2.5.2.3 Preventing Overstaffing of Shared Positions in Employee Central

Prevent shared positions in Employee Central from being overstaffed by assigning to many employees.

### Procedure

1. Create a position control rule.
  - a. Go to the Admin Center and choose the *Configure Business Rules* tool.
  - b. Create a basic rule such as *SetPosCntrToYes* for the *Position* base object.
  - c. Add this *If* condition:  
**Mass Position is equal to Yes**
  - d. In the *Then* statement, make this entry:  
**Set Subject to Position Control to be equal to Yes**
2. Trigger the position control rule whenever the *Position* object is saved or changed.
  - a. Go to the Admin Center and choose the *Configure Object Definitions* tool.
  - b. Add your position control rule (for example *SetPosCntrToYes*) in the generic object definition of the *Position* object as shown in this example:

#### ❁ Example

*saveRules*

- **SetPosCntrToYes (SetPosCntrToYes)**

## Next Steps

In the next step, configure an FTE limit for shared positions in Employee Central.

**Task overview:** [Replication of Shared Positions from Employee Central \[page 28\]](#)

**Previous task:** [Enabling Propagation of Position Assignments to Job Information of the Incumbents in Employee Central \[page 29\]](#)

**Next task:** [Configuring FTE Limit for Shared Positions in Employee Central \[page 32\]](#)

## 2.5.2.4 Configuring FTE Limit for Shared Positions in Employee Central

Implement an FTE limit for positions to specify how many employees may be assigned to the same position in Employee Central.

### Context

The FTE limit ensures that no more than the specified number of employees (for example, no more than 10 FTE) can be assigned to the position.

#### ⚠ Caution

Assigning more than 10 employees to a shared position can reduce the system performance when processing the replicated employees in the SAP ERP HCM system.

### Procedure

1. Create an FTE message definition.
  - a. Go to the Admin Center and choose the [Manage Data](#) tool.
  - b. Create a message definition such as [CheckFTE](#) and configure it as shown in this example:

#### 🔗 Example

*text:* **FTE greater than 10 is not allowed**

*externalCode:* **CheckFTE**

*externalName:* **CheckFTE**

*status:* **Active**

2. Create an FTE rule.
  - a. Go to the Admin Center and choose the [Configure Business Rules](#) tool.
  - b. Create a basic rule such as [CheckFTE](#) for the [Position](#) base object.
  - c. Add the following [If](#) conditions using the [and](#) operator:

**Mass Positions is equal to Boolean Yes**

**and**

**FTE > Decimal 10**

In the [Then](#) statement, make this entry:

**Raise Message – Message: [CheckFTE](#) – Severity: **Error** – Associate Message To: [FTE](#)**

3. Trigger the FTE rule whenever the [Position](#) object is saved or changed.
  - a. Go to the Admin Center and choose the [Configure Object Definitions](#) tool.
  - b. Add your FTE rule (for example [CheckFTE](#)) in the generic object definition of the [Position](#) object as shown in this example:

#### ❖ Example

[saveRules](#)

- **SetPosCntrToYes (SetPosCntrToYes)**
- **CheckFTE (CheckFTE)**

## Next Steps

In the next step, prevent manual organizational assignments in Job Information for employees who share a position in Employee Central.

**Task overview:** [Replication of Shared Positions from Employee Central \[page 28\]](#)

**Previous task:** [Preventing Overstaffing of Shared Positions in Employee Central \[page 31\]](#)

**Next task:** [Preventing Manual Organizational Assignments in Job Information for Employees Who Share a Position in Employee Central \[page 34\]](#)

## 2.5.2.5 Preventing Manual Organizational Assignments in Job Information for Employees Who Share a Position in Employee Central

Prevent departments, divisions, business units, job classifications, and cost centers from being assigned manually in Job Information for employees who share a position in Employee Central.

### Procedure

1. Create a visibility rule.
  - a. Go to the Admin Center and choose the *Configure Business Rules* tool.
  - b. Create a basic rule such as *SetOrgAssgnmReadOnlyForMassPos* for the *Job Information Model* object.
  - c. Add the following *If* conditions using the *and* operator:

`Position.Value is not equal to Null`

and

`Position.Value.Mass Position is equal to Boolean Yes`

In the *Then* statement, make the following entries:

`Set Department.Visibility to equal to Text view`

`Set Division.Visibility to equal to Text view`

`Set Business Unit.Visibility to equal to Text view`

`Set Job Classification.Visibility to equal to Text view`

`Set Cost Center.Visibility to equal to Text view`

2. Enable propagation of changes being made to position assignments in Job Information.
  - a. Log on to Provisioning of the relevant instance.

#### → Remember

As a customer, you don't have access to Provisioning. To complete tasks in Provisioning, contact your implementation partner or Account Executive. For any non-implementation tasks, contact Product Support.

- b. Download the current Succession Data Model configuration and open the XML file in a suitable editor.
- c. Make the following changes:
  1. Go to: ► *HRIS element: jobInfo* ► *HRIS section: positionInfoList* ► *HRIS field: Position* ►.
  2. Add your visibility rule (for example, *SetOrgAssgnmReadOnlyForMassPos*) below the last *<label>* entry, as shown in this example:

#### Sample Code

```
<hris-field id="position" visibility="both">
  <label>Position</label>
  <label xml:lang="da-DK">Stilling</label>
```

```

<label xml:lang="de-DE">Planstelle</label>
<label xml:lang="en-GB">Position</label>
<label xml:lang="es-ED">Puesto</label>
<label xml:lang="fr-FR">Poste</label>
<label xml:lang="en-US">Position</label>
<trigger-rule event="onChange" rule="Pos2Job" />
<trigger-rule event="onChange"
rule="SetOrgAssgnmReadOnlyForMassPos" />
</hris-field>

```

- d. Save your changes and re-upload the changed Succession Data Model configuration.

## Results

You have successfully set up shared positions in Employee Central and can now use them in integration with the SAP ERP HCM system.

**Task overview:** [Replication of Shared Positions from Employee Central \[page 28\]](#)

**Previous task:** [Configuring FTE Limit for Shared Positions in Employee Central \[page 32\]](#)

## 2.6 Advantages of Using Infoporter Tool

Take a look at on the advantages of using the Infoporter tool.

Being an on-premise customer, you first need to migrate the existing employee master data and organizational data from SAP ERP HCM to SAP SuccessFactors Employee Central.

It is strongly recommended to use standard SAP Infoporter tool for the migration in order to avoid any errors while replicating back the employee master data to SAP ERP HCM. Here are some of the advantages of using the SAP Infoporter tool.

- When an employee is replicated from Employee Central, a new personnel number (PERNR) may get generated in SAP ERP HCM even though the employee is already existing. Instead of replicating data to the existing PERNR in SAP ERP HCM, the employee master data then gets replicated to this new PERNR. Usage of Infoporter for migration ensures that the existing PERNR is reused during replication since the employee key mapping table will be updated during migration.
- Sending historical data before the earliest transfer date (this can be dummy data) during migration via the Infoporter tool is possible with the Additional events configuration. This ensures that the hire date of the employee in Employee Central is correct and also migration of terminated/withdrawn employees becomes possible.  
If the standard Infoporter tool with additional event records are not used, then there is a high risk that some infotype data before the full transmission start date (FTSD) gets overwritten during replication. The customer should create a split and pass real data from the earliest transfer date onwards during migration, which is possible to configure in additional event records. Since employee data in Employee Central after earliest transfer will be real, data in SAP ERP HCM before FTSD will not be overwritten by dummy data sent in the additional event record before the earliest transfer date.

# 3 Integration Scenario and Processing Logic

Here's an overview of the integration scenarios and processing logic for organizational object and organizational assignment replication from Employee Central.

## [Organizational Object Replication \[page 36\]](#)

Take a look at the scenario and the processing logic used in organizational object replication from Employee Central.

## [Organizational Assignment Replication \[page 47\]](#)

Take a look at the scenario and the processing logic used in employee organizational assignment replication from Employee Central.

## [What SAP ERP HCM Does When Position Management Is Enabled in Employee Central \[page 51\]](#)

If you use Position Management in Employee Central and replicate positions and position assignments to SAP ERP HCM, the SAP ERP HCM system can reuse the position assignments from Employee Central with small changes.

## [What SAP ERP HCM Does When Position Management Is Disabled in Employee Central \[page 53\]](#)

If you don't use Position Management in Employee Central and replicate positions and position assignments to SAP ERP HCM, the SAP ERP HCM system must react because it requires positions.

## [Processing and Statuses of Replication Requests \[page 54\]](#)

Find out what statuses are used in the processing of replication requests for organizational data.

## [Web Services Used for Organizational Data Replication \[page 55\]](#)

Organizational data replication from Employee Central to the SAP ERP HCM system uses different web services.

## 3.1 Organizational Object Replication

Take a look at the scenario and the processing logic used in organizational object replication from Employee Central.

### [Organizational Object Replication – Scenario and Use Cases \[page 37\]](#)

This scenario supports a generic replication of all kinds of organizational objects from Employee Central to the SAP ERP HCM organizational model.

### [Replication Process for Organizational Objects \[page 40\]](#)

This process supports a generic replication of all kinds of organizational objects from Employee Central to the SAP ERP HCM organizational model.



## 3.1.1 Organizational Object Replication – Scenario and Use Cases

This scenario supports a generic replication of all kinds of organizational objects from Employee Central to the SAP ERP HCM organizational model.

By default, the following Employee Central entities are replicated and mapped to their SAP ERP HCM counterparts:

Mapping of Default Employee Central Entities to SAP ERP HCM Entities

Employee Central Entity	SAP ERP HCM Entity	SAP ERP HCM Object Type
business unit	organizational unit	O
division	organizational unit	O
department	organizational unit	O
job classification	job	C
position	position	S

To replicate other organizational objects from Employee Central (including custom objects), you define a mapping to suitable organizational object types in SAP ERP HCM. The mapping, plus other settings needed for the replication, is done in Customizing in the SAP ERP HCM system

### Note

To be able to replicate positions from Employee Central to SAP ERP HCM, Position Management must be enabled for your account using the [Manage Employee Central Settings](#) admin tool in Employee Central.

The integration comes with a pre-defined integration pack that covers the full load as well as delta replication of changed entities.

## Prerequisites

Organizational entities are independent from other entities (for example, the employee). Replication can be run independently from other integration processes.

## Use cases

Generic replication of the default organizational objects we've listed above supports two use cases.

### Note

For other objects (including custom objects) you don't have the choice – only the first use case applies for them.

## Generic object replication with generic processing

This is the standard use case. It means that you use generic object replication together with a generic, configuration-based processing for organizational objects that are replicated from Employee Central. This use case is recommended if you are a new customer.

Here's what this use case means in detail:


Generic Object Replication with Generic Processing

Regarding this subject ...	These are the implications ...	And here's where you can find more info ...
Setting of the <code>SFSFI</code> <code>SPOMP</code> switch	You leave the switch value blank.	<a href="#">Generic Processing Compared to Object-Specific Processing of Organizational Objects [page 65]</a>
Customizing settings	You make detailed settings including a mapping of Employee Central fields to SAP ERP HCM fields.	<a href="#">Configuring Generic Object Replication with Generic Processing [page 72]</a>
Staging area	Generic staging area tables are used.	<a href="#">Staging [page 195]</a>
Field mapping	There is no default field mapping – the mapping depends on the settings you make in Customizing. You can use the sample content we provide to define the field mapping.	<a href="#">Defining Transformation Template Groups, Transformation Templates, and Primary Field Mapping for Organizational Object Replication [page 109]</a> <a href="#">Configuring Conditional Mapping for Organizational Object Replication [page 114]</a> <a href="#">Using the Sample Content to Map Organizational Data Fields [page 69]</a>
Extensibility	You don't need to implement any BADIs to replicate custom Employee Central fields.	You can map custom fields in Customizing, the same way you map standard fields. This means the sections linked above in the <i>Field Mapping</i> row are also relevant here.

## Generic object replication with object-specific processing

This is an exceptional use case that applies only to the default objects and only in specific situations. It is only recommended if you have already used object-specific replication from Employee Central to SAP ERP HCM for the default objects before and have made settings that you want to continue to use. For example, if you have implemented the Business Add-Ins provided for the object-specific processing, such as [BADI: Enhancements for Processing Customer-Specific Fields](#) (`EX_SF10M_PROC_CUSTOMER_FIELDS`), and want to continue to use your implementations.

### Note

You can only use object-specific processing of organizational objects if the Business Integration Builder mode is **not** enabled in your system. That is, in Customizing of the Business Integration Builder, under  [Basic](#)

[Settings](#) > [Maintain the Constant Values](#) > , there must not be an entry for [Activate BIB for EC to ERP Employee Replication](#) with the constant value set to **X**.

This use case means that you use generic object replication together with the object-specific processing provided for business units, divisions, departments, job classifications, and positions replicated from Employee Central in the SAP ERP HCM system.

#### Note

If you also replicate other objects than the default objects, you need to use the generic processing for these other objects.

Here's what this use case means in detail:

Generic Object Replication with Object-Specific Processing

Regarding this subject ...	These are the implications ...	And here's where you can find more info ...
Setting of the <code>SFSFI SPOMP</code> switch	You set the switch value to <b>X</b>	<a href="#">Generic Processing Compared to Object-Specific Processing of Organizational Objects [page 65]</a>
Customizing settings	You make some basic settings, but you don't define a mapping of Employee Central fields to SAP ERP HCM fields	<a href="#">Configuring Generic Object Replication with Object-Specific Processing [page 143]</a>
Staging area	Object-specific staging area tables are used	<a href="#">Staging [page 195]</a>
Field mapping	A default field mapping is provided <div> <h4>Note</h4> <p>Setting the <code>SFSFI SPOMP</code> switch to <b>X</b> means that you can't change the default mapping. Even if you define a field mapping for the default objects as described for the <i>Generic Object Replication with Generic Processing</i> use case, these settings aren't taken into account by the replication process. Your only option to enhance the default mapping in this case is to use the BADIs provided for organizational objects replication.</p> </div>	<a href="#">Business Unit, Division, and Department Field Mapping for Generic Object Replication with Object-Specific Processing [page 215]</a> <a href="#">Job Classification Field Mapping for Generic Object Replication with Object-Specific Processing [page 217]</a> <a href="#">Position Field Mapping for Generic Object Replication with Object-Specific Processing [page 218]</a>
Extensibility	You need to implement a BAdI to replicate custom fields	<a href="#">Replicating Custom Fields and Custom Texts of Organizational Objects [page 225]</a>

## Technical objects used by this scenario

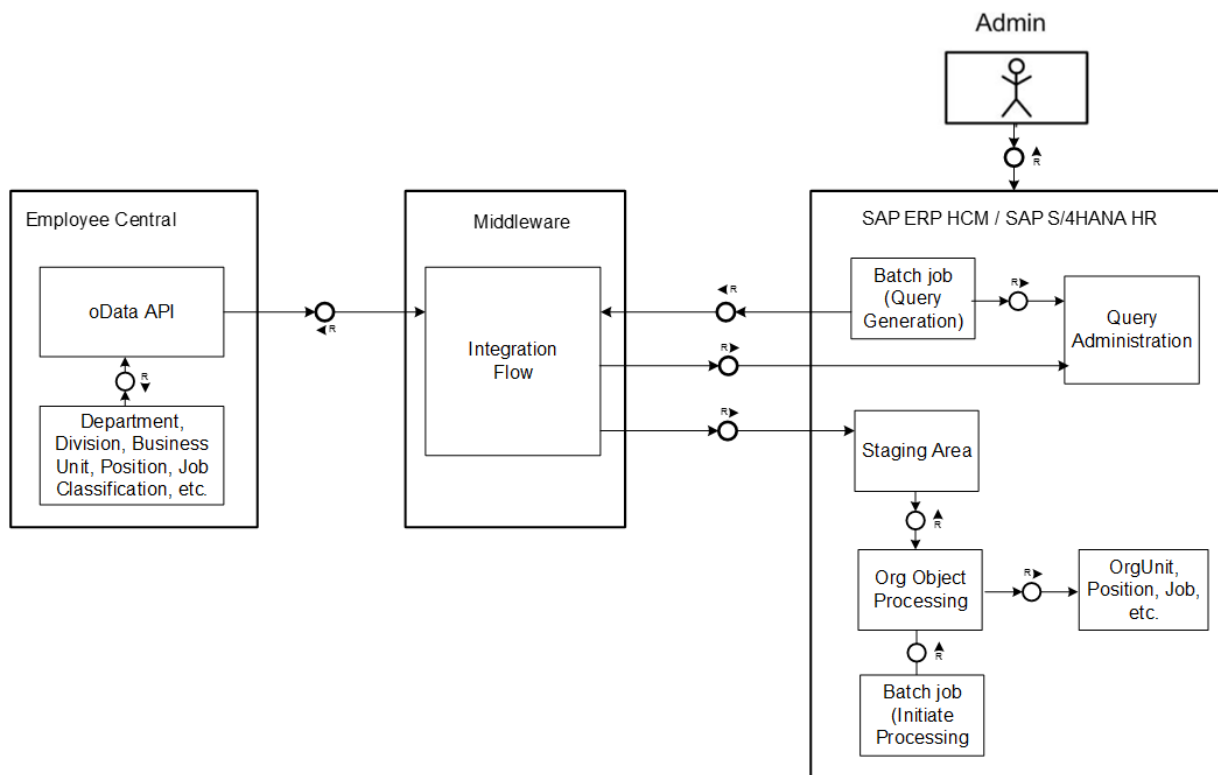
On the Employee Central side, organizational object replication from Employee Central to the SAP ERP HCM backend system uses OData APIs in order to read the generic objects *Business Unit*, *Division*, *Department*, *Job Classification*, and *Position*, plus other generic objects if you've defined them in Customizing.

On the SAP ERP HCM side, the outbound service interface *getOrganisationalObjectReplicationQuery\_Out* and the inbound service interfaces *OrganisationalObjectReplicationNotification\_In* and *OrganisationalObjectReplicationResponse\_In* are used.

### 3.1.2 Replication Process for Organizational Objects

This process supports a generic replication of all kinds of organizational objects from Employee Central to the SAP ERP HCM organizational model.

Here's an overview of the process:



Replication Process Overview

The replication process is triggered by the SAP ERP HCM system. To trigger it, schedule the *Create and Execute Organizational Object Replication Query* (RH\_SF10M\_ORG\_OBJ\_REPL\_QUERY) program to be run regularly in the background.

This program creates and sends a query to replicate data for organizational objects from Employee Central. The organizational objects include the default objects (business units, divisions, departments, job classifications, and positions) as well as all additional (including custom) objects that you've defined in Customizing of the SAP ERP

HCM system. When scheduling the program you can use one variant to replicate all object types together, or several variants to replicate the object types separately. To specify the object types, you select a transformation template group that you have defined in Customizing. You can use one template group if you want to replicate all object types together, or several template groups if you want to replicate the object types separately.

You can also restrict the selection, for example, to replicate data again for a specific object. To do so, use one the following options:

- You can restrict the selection to a specific organizational object or specific objects. To improve the performance, you can only select a maximum number of 500 objects at a time. Restricting the selection to specific objects triggers a full load for the objects in question. Meaning, all data is transferred (as specified by the transformation template group), regardless of when the data was last modified.
- You can restrict the selection to organizational objects that were changed after a specific date. Note that the change date must not be more than three months in the past and must be before the last modified date. If you enter a change date, the last modified date is reset to this change date.
- You can trigger a full load manually. Triggering a full load extracts all organizational objects that currently exist in Employee Central.

#### Note

If you schedule the program to be run in the background, don't select the *Initiate Full Load* checkbox. When the program is run for the first time, a full load is carried out automatically. After the first data extraction, the timestamp of the query is stored as the last modified date. The next query uses this timestamp as a lower limit. Only records that have a newer timestamp are considered as changed and are replicated.

You can choose any time intervals that suit your specific requirements.

The communication is as follows:

1. The RH\_SF10M\_ORG\_OBJ\_REPL\_QUERY program reads the Customizing settings, passes on the filtering information to the *getOrganisationalObjectReplicationQuery\_Out* SOAP message, and triggers the middleware process using this message. The filter settings tell the middleware which data records are to be replicated – for example, only active records if you've defined a suitable filter.
2. The middleware process reads the data from Employee Central. On the Employee Central side, an OData service is called and extracts data according to the filter values you've defined.
3. The middleware process passes on that data to the SAP ERP HCM system using the *OrganisationalObjectReplicationResponse\_In* SOAP message. In addition, the middleware process sends a notification about the replication status using the *OrganisationalObjectReplicationNotification\_In* message. The status is stored in the *Administration of Organizational Object Query* (SF10M\_QRY\_ADM) table. This table stores an entry for each object type, which is updated with each replication run. The status can be *Sent*, *Successful*, or *Failed*.
4. SAP ERP HCM writes the data that was transferred from Employee Central to staging area tables. Whenever replication requests from Employee Central are written to the staging area tables, an event (SAP\_SF10M\_ORG\_STRUC\_RPRQ\_CREATED) is triggered. To post the data from the staging area to the database, schedule the *Replicate Organizational Objects from EC to SAP ERP Org. Mgmt* (RH\_SF10M\_PROC\_ORG\_STRUC\_RPRQ) program as a regular background job that is registered on this event. This program processes the open, pending, or failed replication requests in the staging area and posts the results to the database. When doing so, it uses this field mapping that you've defined in Customizing (or, in the *Generic Object Replication with Object-Specific Processing* use case, the default field mapping provided for the default objects).

The staging object is used to decouple organizational object replication from employee master data replication. It also minimizes time delays and temporary error situations, such as when an object is locked by another session.

The following OData services are used in the replication process for the default objects:

OData Services for Default Object Types

Object Type	OData Service
Business units	FOBusinessUnit
Divisions	FODivision
Departments	FODepartment
Job classifications	FOJobCode
Positions	Position

If you add object types to the replication, the corresponding OData services are used.

For **all** objects, the replication process uses the following SOAP messages:

- getOrganisationalObjectReplicationQuery\_Out
- OrganisationalObjectReplicationNotification\_In
- OrganisationalObjectReplicationResponse\_In

#### [Statuses of Organizational Object Queries \[page 43\]](#)

Get an overview of the different statuses queries can have that are triggered by the SAP ERP HCM system to request organizational objects from Employee Central.

#### [Types of Organizational Object Queries \[page 44\]](#)

Get an overview of the different types of queries that are triggered by the SAP ERP HCM system to request organizational objects from Employee Central.

#### [Resetting Organizational Object Queries \[page 45\]](#)

In some cases it is necessary to reset the status of organizational object queries, so that the next scheduled query can run. You can also delete queries selectively.

#### [Deleting Organizational Object Queries \[page 46\]](#)

Delete queries with the type *Object-Specific Query* and the statuses *Successful* or *Failed* regularly, to clean up the query administration tables and minimize the number of records in these tables.

## Related Information

[Scheduling the Organizational Object Query as a Regular Background Job \[page 59\]](#)

[Scheduling the Database Update Programs as Regular Background Jobs \[page 60\]](#)

[Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

[Configuring Generic Object Replication with Object-Specific Processing \[page 143\]](#)

### 3.1.2.1 Statuses of Organizational Object Queries

Get an overview of the different statuses queries can have that are triggered by the SAP ERP HCM system to request organizational objects from Employee Central.

#### Statuses of Queries Triggered by the Organizational Object Query Program

Status	Meaning
<i>Sent</i>	<p>The query was triggered by the <a href="#">Create and Execute Organizational Object Replication Query</a> (RH_SF10M_ORG_OBJ_REPL_QUERY) program and sent to the middleware, but data replication hasn't started yet. If the query remains in this status, you can resend it after a five-minutes timeout has passed. You can also set the status manually to <a href="#">Failed</a> using the <a href="#">Reset Query Administration Table</a> (SF10M_RESET_QRY_ADM) transaction.</p>
<i>In Process</i>	<p>The query was accepted by the middleware, which for its part started to request data from Employee Central.</p> <p>A query that remains in the status <a href="#">In Process</a> for a longer period of time has an issue. It didn't transfer any data, for example, because the middleware wasn't able to send a confirmation. In this case, you have the following options to trigger the next query run:</p> <ul style="list-style-type: none"><li>• Set the status manually to <a href="#">Failed</a>. To reset the status, use the <a href="#">Reset Query Administration Table</a> transaction. Then wait for the next run if you've scheduled the query program to be run regularly in the background. Or trigger the query program manually again.</li><li>• Just wait three days. If the query remains in the status <a href="#">In Process</a> for three days, it is treated as if the status was set to <a href="#">Failed</a>. The next run is triggered automatically if you've scheduled the query program to be run regularly in the background. You can also trigger it manually.</li></ul>
<i>Successful</i>	<p>The requested data was transferred from Employee Central. The middleware has sent a corresponding success confirmation.</p>
<i>Failed</i>	<p>An error occurred during data replication. The middleware has sent a corresponding error confirmation.</p>

## 3.1.2.2 Types of Organizational Object Queries

Get an overview of the different types of queries that are triggered by the SAP ERP HCM system to request organizational objects from Employee Central.

### Types of Queries Triggered by the Organizational Object Query Program

Type	Meaning
<i>Last Modified Query</i>	<p>Means that the query requests all data that corresponds to your selection criteria and was changed after the last modified date. The last modified date is the time stamp of the last query that was created by the <a href="#">Create and Execute Organizational Object Replication Query</a> (RH_SF10M_ORG_OBJ_REPL_QUERY) program with the same selection variant. The program triggers this type of query when no specific objects are entered on the selection screen.</p> <p>When a change date is entered or the <a href="#">Initiate Full Load</a> checkbox is selected, the program also triggers this type of query and resets the last modified date to the change date.</p> <div><p><b>Note</b></p><p>The query shows the error message Query for EC instance &lt;Employee Central instance&gt;, EC entity &lt;Employee Central entity&gt; already sent for templ. grp &lt;transformation template group&gt; if the same Employee Central entity is used in more than one transformation template group. Make sure that you use the transformation template the Employee Central entity has been added to in only one transformation template group.</p></div>
<i>Object-Specific Query</i>	<p>The query requests data for specific organizational objects, whose IDs you entered on the selection screen of the <a href="#">Create and Execute Organizational Object Replication Query</a> program. That is, the program triggers a full load of the objects in question.</p>

### Related Information

[Creating Transformation Templates for Organizational Object Replication \[page 111\]](#)



### 3.1.2.3 Resetting Organizational Object Queries

In some cases it is necessary to reset the status of organizational object queries, so that the next scheduled query can run. You can also delete queries selectively.

#### Context

Set the query status manually to *Failed* if a query sent by the *Create and Execute Organizational Object Replication Query* (RH\_SF\_IOM\_ORG\_OBJ\_REPL\_QUERY) program remains in the *Sent* or *In Process* status for a longer period of time.

Resetting the status is necessary since the next query cannot be created before the current query has one of the statuses *Successful* or *Failed*. A query remains in the *Sent* status if it doesn't reach the middleware, for example, due to configuration issues. It remains in the *In Process* status if data can't be transferred from Employee Central. If the query remains in the *Sent* status, it can be resent after a five-minutes timeout has passed.

You can also delete single queries completely.

#### → Tip

To mass-delete queries with the type *Object-Specific Query* and one of the statuses *Successful* or *Failed*, use the *Delete Queries from Admin Tables for Organizational Objects* (RH\_SF\_IOM\_DEL\_QRY\_ADM) program.

#### Procedure

1. Go to the *Reset Query Administration Table* (SF\_IOM\_RESET\_QRY\_ADM) transaction in your SAP ERP HCM system.
2. To reset the status, select an entry with the *Sent* or *In Process* status and choose *Set Status to Failed*.

#### ⓘ Note

You can't reset the status of queries that already have the status *Successful* or *Failed*.

Since the queries are triggered and administered by the SAP ERP HCM system, you can't use the middleware to reset the query status.

3. To delete queries, select one or more entries and choose *Delete Query*.

#### ⓘ Note

In productive system environments, you should only delete queries of the *Object-Specific Query* type and only if they have one of the statuses *Successful* or *Failed*. If you delete other types of queries, the last modified date is removed. This means that the next query will trigger a full load (if you don't enter a change date in the *Select Employees with Data Changes After* section).

### 3.1.2.4 Deleting Organizational Object Queries

Delete queries with the type *Object-Specific Query* and the statuses *Successful* or *Failed* regularly, to clean up the query administration tables and minimize the number of records in these tables.

#### Context

Using the *Delete Queries from Admin Tables for Organizational Objects* (RH\_SF\_IOM\_DEL\_QRY\_ADM) program, you can mass-delete queries that were sent by the *Create and Execute Organizational Object Replication Query* (RH\_SF\_IOM\_ORG\_OBJ\_REPL\_QUERY) program. The RH\_SF\_IOM\_DEL\_QRY\_ADM program deletes entries from the following tables:

- *Administration of Organizational Object Query* (SF\_IOM\_QRY\_ADM)
- *Selection Parameters for Organizational Object Query* (SF\_IOM\_QRY\_ADM\_DT)

You cannot delete queries with the types *Last Modified Query* or with one of the statuses *Sent* or *In Process* using the RH\_SF\_IOM\_DEL\_QRY\_ADM program. If you need to delete such queries, go to the *Reset Query Administration Table* (SF\_IOM\_RESET\_QRY\_ADM) transaction.

#### Procedure

1. Schedule the *Delete Queries from Admin Tables for Organizational Objects* (RH\_SF\_IOM\_DEL\_QRY\_ADM) program to be run regularly in the background.
2. On the selection screen of the program, make the following settings:
  - *Transformation Template Group*: To delete queries sent for a specific transformation template group, select the template group. To delete all queries that have the status you select and were sent before the date you specify, leave this field empty.
  - *Query Status*: The default is to delete all queries with the statuses *Successful* and *Failed*. You can also choose to delete either only *Successful* or only *Failed* queries.
  - *Delete Before Date*: Specify a date up to which queries are to be deleted. The default is today's date. The specified date is not included.

#### ❖ Example

If you enter June 1, entries created on May 31 or earlier are included. Entries created on June 1 are not included.

- *Test Mode*: Select this checkbox to run the program in a test mode.

#### Results

If you run it in the test mode, the program displays statistical information and lists the entries to be deleted.

If you deselect the [Test Mode](#) checkbox, the program displays statistical information and deletes the entries from the tables `SFIOM_QRY_ADM` and `SFIOM_QRY_ADMDT` that suit your selection criteria.

## 3.2 Organizational Assignment Replication

Take a look at the scenario and the processing logic used in employee organizational assignment replication from Employee Central.

### [Organizational Assignments Replication Scenario \[page 47\]](#)

The employee organizational assignments supported by this scenario are reporting lines, cost centers, departments, divisions, business units, job classifications, and positions. All these assignments are processed at the same time because they are all in the same Employee Organizational Assignment message.

### [Replication Process for Organizational Assignments \[page 50\]](#)

The process that replicates organizational assignments from Employee Central to SAP ERP HCM is always triggered from the middleware, either manually by an administrator or automatically by a scheduled, periodical process.

### 3.2.1 Organizational Assignments Replication Scenario

The employee organizational assignments supported by this scenario are reporting lines, cost centers, departments, divisions, business units, job classifications, and positions. All these assignments are processed at the same time because they are all in the same Employee Organizational Assignment message.

#### Note

To be able to replicate position assignments from Employee Central to SAP ERP HCM, Position Management must be enabled for your account using the [Manage Employee Central Settings](#) admin tool in Employee Central.

The integration comes with a pre-defined integration pack that covers the full load as well as delta replication of changed entities.

## Prerequisites

Organizational assignments rely on employee master data. This means that employee master data should have been replicated from Employee Central to the SAP ERP HCM system before you replicate organizational assignments. For more information about replicating employee master data, see the *Replicating Employee Master Data from Employee Central to SAP ERP HCM* integration guide. Find the most current version of this guide at [http://help.sap.com/hr\\_ecintegration](http://help.sap.com/hr_ecintegration).

The organizational objects used for employee organizational assignments should also have been replicated from the Employee Central system to the SAP ERP HCM system before you replicate organizational assignments.

### ⓘ Note

If the employee master data and organizational objects haven't yet been replicated when you replicate the organizational assignments, the corresponding replication requests get the status *pending* in the staging area. For more information, see section [Processing and Statuses of Replication Requests \[page 54\]](#).

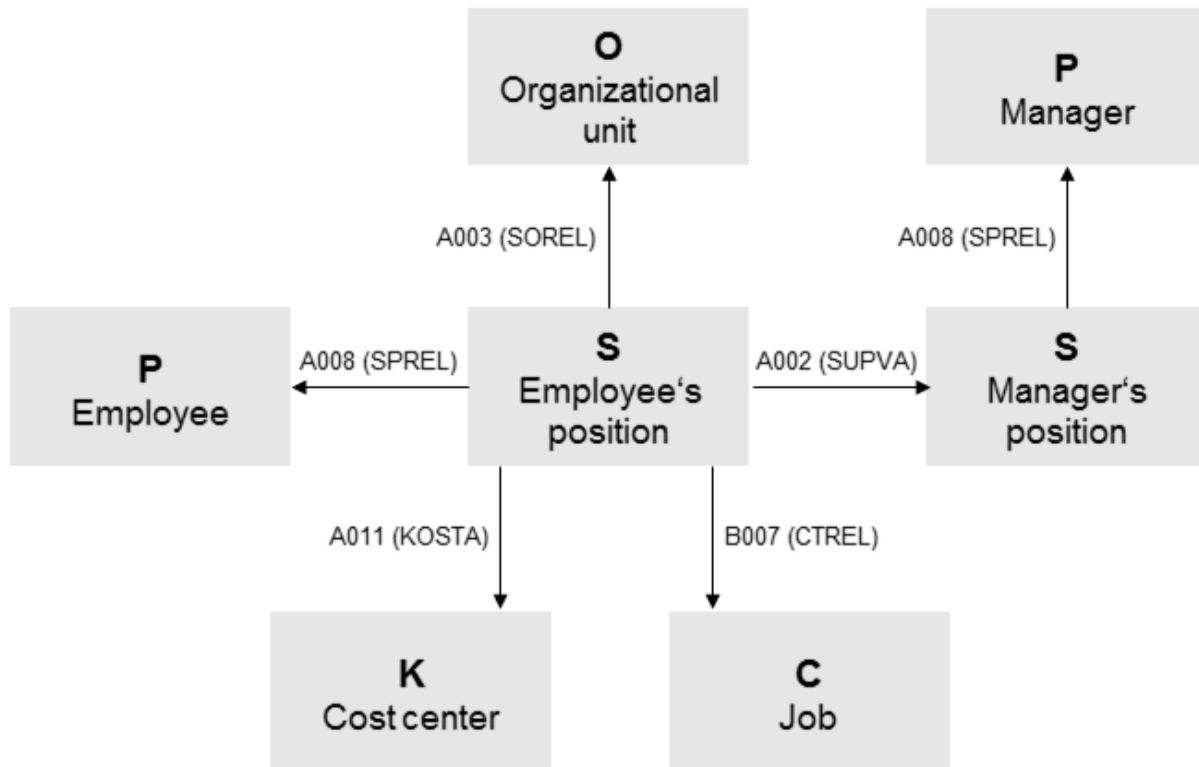
## Technical objects used by the scenario

The replication of organizational assignments from Employee Central to the SAP ERP HCM backend system uses the Compound `Employee` API in Employee Central and the inbound service interface *EmployeeOrganisationalAssignmentReplicationRequest\_In* in the SAP ERP HCM backend system.

For more information about the Compound `Employee` API, see the *Implementing the Employee Central Compound Employee API* user guide. Find the most current version of this guides at [http://help.sap.com/hr\\_ec](http://help.sap.com/hr_ec).

## Organisational assignments in SAP ERP HCM

In the SAP ERP HCM system the position (object type S) is the central object. All assignments are related to the position of an employee. By default, the position is linked to the following objects in the *Relationships* (1001) infotype:



Position Relationships

Object	Object Type	T77S0 Entry ID	Standard Relationship Name	Standard Relationship ID
Employee	P	SPREL	<i>Holder</i>	A 008
Organizational unit	O	SOREL	<i>Belongs to</i>	A 003
Job	C	CTREL	<i>Is described by</i>	B 007
Cost center	K	KOSTA	<i>Cost center assignment</i>	A 011
Manager's position	S	SUPVA	<i>Reports (line) to</i>	A 002

These relationships are read from the T77S0 table. Here you see the default entries in this table:

<b>Data Browser: Table T77S0 Select Entries</b>					<b>5</b>
Table: T77S0					
Displayed Fields: 5 of 5 Fixed Columns: 3 List Width 0250					
	MANDT	GRPID	SE MID	GSVAL	ETEXT
<input type="checkbox"/>	605	PPREL	CTREL	B007	Is described by
<input type="checkbox"/>	605	PPREL	KOSTA	A011	Cost center assignment
<input type="checkbox"/>	605	PPREL	SOREL	A003	Belongs to
<input type="checkbox"/>	605	PPREL	SPREL	A008	Holder
<input type="checkbox"/>	605	PPREL	SUPVA	A002	Reports (line) to

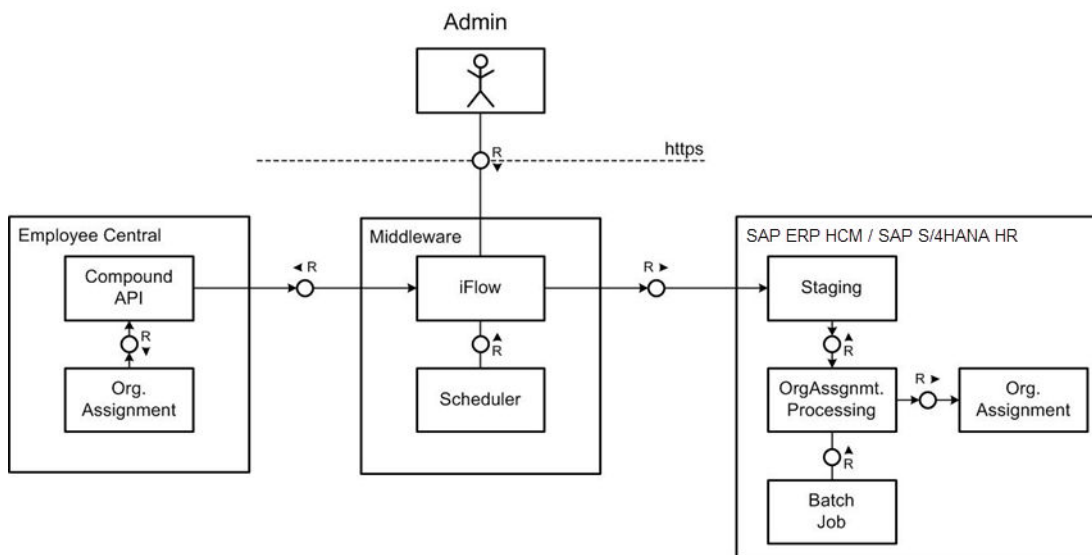
T77S0 Default Entries

But you can also use other relationships instead. In this case, the relationship names and IDs would differ from the default names and IDs listed above.

## 3.2.2 Replication Process for Organizational Assignments

The process that replicates organizational assignments from Employee Central to SAP ERP HCM is always triggered from the middleware, either manually by an administrator or automatically by a scheduled, periodical process.

Here's an overview of the process:



Replication Process Overview

On the Employee Central side, the Compound Employee API is called and extracts data according to the filter values. The data is then passed over to the SAP ERP HCM system as the SOAP message *EmployeeOrganisationalAssignmentReplicationRequest\_In* and stored in staging area tables.

The *Replicate Employee Org. Assignments from EC to SAP ERP Org. Mgmt* (RH\_SF10M\_PROC\_EE\_ORG\_ASS\_RPRQ) program is used to process the replication requests in the staging area and post the results to the database. This program should be scheduled as a background job that is registered on the SAP\_SF10M\_EE\_ORGAS\_RPPQ\_CREATED event. The event is triggered whenever replication requests are written to the staging area tables. The background job is executed asynchronously. We recommend that you also schedule a periodical job, which regularly picks up the requests that couldn't be processed yet.

The staging object is used to decouple organizational assignment replication from employee master data replication and to minimize time delays and temporary error situations, such as when an object is locked by another session or an employee has not yet been replicated.

Here's how the replication process runs:

1. To start the replication of organizational assignments, the process automatically triggers an initial load from the middleware.
2. When full replication of all assignments is finished, the middleware automatically detects this and switches over to delta replication.

#### Note

If you want to trigger a full load manually (for example, because you've changed a process parameter), set the `INITIATE_FULL_LOAD` parameter of the middleware process to **TRUE**. Note that this parameter will **not** reset itself. Reset it to **FALSE** to enable delta replication again.

3. To process the replication requests in the staging area in the SAP ERP HCM system, you schedule background jobs:
  1. Schedule a background job that is registered on the SAP\_SF10M\_EE\_ORGAS\_RPPQ\_CREATED event.
  2. Schedule a periodical background job to regularly pick up the requests that couldn't be processed yet.

## Related Information

[Scheduling the Database Update Programs as Regular Background Jobs \[page 60\]](#)

## 3.3 What SAP ERP HCM Does When Position Management Is Enabled in Employee Central

If you use Position Management in Employee Central and replicate positions and position assignments to SAP ERP HCM, the SAP ERP HCM system can reuse the position assignments from Employee Central with small changes.

If Position Management is enabled in Employee Central, an employee-position assignment is usually provided by Employee Central and reused in the SAP ERP HCM system. But since the *Position* field isn't a mandatory field in Employee Central, there can be cases in which no employee-position assignment exists. If no position assignment is replicated, the system reacts in the same way as if Position Management was disabled in Employee Central.

If an employee-position assignment is provided by Employee Central, the SAP ERP HCM system checks whether the following conditions are fulfilled:

- The position object itself must have been replicated from Employee Central so that it's available in the key mapping table in the SAP ERP HCM system.
- The position object must be valid during the complete assignment period in SAP ERP HCM.

If these conditions are fulfilled, the SAP ERP HCM system proceeds as follows:

- If no employee-position assignment exists in SAP ERP HCM yet, the system creates a new assignment.
- If the employee-position assignment is not valid during the complete assignment period, SAP ERP HCM cuts or deletes the existing assignment and creates a new assignment.
- SAP ERP HCM also cuts or deletes further assignments of an employee to other positions.

The SAP ERP HCM system also makes the following changes, depending on whether the position is a shared position or not.

## Position Is Not Shared

- SAP ERP HCM cuts or deletes existing position relationships at the full transmission start date (FTSD) if they have changes after the FTSD. New relationships are created after the FTSD.
- If the employee is also a manager and their position is changed in Employee Central, all assignments of employee positions to the manager positions are adapted accordingly.

## Position Is Shared

- SAP ERP HCM doesn't cut or delete existing position relationships at full transmission start date. The system only extends the validity period of the relationship if necessary. This is because the organizational unit, job, cost center, and manager assignments of other employees who share the same position can be longer. The period in which the organizational unit, job, cost center, and manager are associated to the position needs to be long enough to incorporate the periods of the organizational unit, job, cost center, and manager assignments of **all** position incumbents who share this position.
- If a position relationship is changed during the validity period, the changed relationship replaces the existing relationship.
- If the employee is also a manager and their position is changed in Employee Central, the assignments of employee positions to the manager position are not adapted.

### ⚠ Caution

We strongly recommend that you disable manual assignment of organizational information (such as departments, divisions, or job classifications) in Job Information. Instead, enable automatic propagation of this information from Position Management to Job Information. Otherwise, contradicting information might be replicated to SAP ERP HCM, such as in this example:

- Position POS17 is vacant in Employee Central and associated to department DEP17 in Position Management.
- Now, an employee's Job Information is updated: The employee is assigned to position POS17, but to department DEP20.



Depending on which information is replicated first, position POS17 might be related to the organizational unit corresponding to DEP17 in SAP ERP HCM. But then this data record would be overwritten, and POS17 would be assigned to another organizational unit, which corresponds to department DEP20. Or the other way round.

### 3.4 What SAP ERP HCM Does When Position Management Is Disabled in Employee Central

If you don't use Position Management in Employee Central and replicate positions and position assignments to SAP ERP HCM, the SAP ERP HCM system must react because it requires positions.

If Position Management is disabled in Employee Central, no employee-position assignment is provided by Employee Central in data replication. The SAP ERP HCM system, however, needs a position to reflect the organizational assignments of the employee. Therefore, the SAP ERP HCM system proceeds as follows:

- If no employee-position assignment exists in SAP ERP HCM, a new position and a new position assignment are created.
- If an appropriate employee-position assignment exists in SAP ERP HCM, the system reuses this position assignment.

Appropriate means:

- The employee must not be assigned to multiple different positions in overlapping time slices.
- The employee must be assigned to the position during the complete assignment period.
- The position must not be shared by several employees.
- The position itself must be valid during the complete assignment period.
- The position must not be mapped to an Employee Central position (which would mean that it was replicated from Employee Central).

Only when these conditions are fulfilled, the position assignment is considered to be appropriate. If they are not fulfilled, the SAP ERP HCM system delimits the existing employee-position assignment and creates a new position and a new employee-position assignment.

#### 📌 Note

If the SAP ERP HCM system needs to create a position, it creates a new record of the *Object* (1000) infotype and fills in the following infotype fields:

- *Plan Version* (PLVAR)
- *Start Date* (BEGDA)
- *End Date* (ENDDA)
- *Object Type* (OTYPE)
- *Object ID* (OBJID)
- *Infotype* (INFTY)
- *Planning Status* (ISTAT)
- *Language Key* (LANGU)
- *Object Abbreviation* (SHORT)  
Is filled with the text **generated**
- *Object Name* (STEXT)

Is filled with the text **Position generated for Pers.No. <PERNR>** (where <PERNR> is the employee's personnel number)

Only one infotype record is created, in the logon language of the user who triggers data replication.

## 3.5 Processing and Statuses of Replication Requests

Find out what statuses are used in the processing of replication requests for organizational data.

Status Flow of a Replication Request

Situation	Present Status	New Status	Note
A new request is stored in the staging area.		<i>Open</i>	
Processing is successful.	<i>Open</i>	<i>Successful</i>	
Processing isn't successful due to a temporary issue (such as the employee's manager or the object's parent object hasn't been replicated yet or the object couldn't be locked).	<i>Open</i>	<i>Pending</i>	For some temporary issues that might be fixed before long, the request is immediately reprocessed. If the situation hasn't changed after this retry, the system assumes that the issues won't be solved immediately and stores the request with the <i>Pending</i> status on the database.
Processing isn't successful due to a data or configuration issue (such as the employee has more than one position assigned or the employee's cost center couldn't be determined).	<i>Open</i>	<i>Failed</i>	
A request with the status <i>Pending</i> isn't processed within three days.	<i>Pending</i>	<i>Failed</i>	
There are replication requests that don't have the status <i>Successful</i> yet and a new request comes in for the same employee or organizational object.	<i>Open, Pending, or Failed</i>	<i>Outdated</i>	

### 📌 Note

For organizational objects, *Pending* or *Failed* either means that none of the infotypes to be processed for the object could be updated yet. Or it means that the *Relationships* (1001) infotype couldn't be updated yet. The system processes all infotypes other than the *Relationships* infotype first and updates them on the database. In a second step, it tries to process the *Relationships* infotype for all mapped relationships of the object and to store the relationships on the database. If the update isn't possible, for example, because the target object of a

relationship hasn't been replicated yet, it sets the replication request to the status *Pending* or *Failed* (depending on the error situation), but it retains the updates for all other infotypes.

#### → Recommendation

We recommend that you schedule a regular job to trigger the processing of replication request.

## Related Information

[Scheduling the Database Update Programs as Regular Background Jobs \[page 60\]](#)

## 3.6 Web Services Used for Organizational Data Replication

Organizational data replication from Employee Central to the SAP ERP HCM system uses different web services.

Web Services

Replication Scenario	Type	Service Interface Name	Web Service Definition Name	Proxy Name	Direction
Replicating organizational objects	Querying organizational objects* from Employee Central	getOrganisationa- lObjectReplication- Query_Out		CO_SFIOXM_ORG_ OB- JECT_REPL_QRY	SAP ERP HCM out- bound
Replicating organizational objects	Notification from Employee Central	OrganisationalOb- jectReplicationNo- tification_In	OrgObjReplNotifi- cation	II_SFIOXM_ORG_O BJ_REPL_NOTI	SAP ERP HCM in- bound
Replicating organizational objects	Response from Employee Central	OrganisationalOb- jectReplicationRes- ponse_In	OrganisationalOb- jectReplicatio	II_SFIOXM_ORG_O BJ_REPL_RSP	SAP ERP HCM in- bound
Replicating organizational assignments	Organizational assignment from Employee Central job information	EmployeeOrga- nisationAssignmentRe- plicationRequest_In	EmployeeOrgAs- signmReplRequest	II_SFIOXM_EE_OR G_ASS_REPL_REQ	SAP ERP HCM in- bound
Replicating organizational assignments	Confirmation from SAP ERP HCM to Employee Central**	EmployeeMaster- DataReplication- Confirmation_Out		CO_PAOCF_EC_EM PLOYEE_MAS- TER_DA	SAP ERP HCM out- bound

\* The default objects are: business units, divisions, departments, job classifications, and positions. Depending on the settings you make in SAP ERP HCM also other organizational objects are queried by this web service.

\*\* The employee organizational assignments message reuses the confirmation message for employee master data replication from Employee Central to SAP ERP HCM.

## Related Information

[Enabling the SAP ERP HCM Inbound Web Services to Set Up the Connection from the Middleware to SAP ERP HCM \[page 58\]](#)

[Enabling the SAP ERP HCM Outbound Web Services to Set Up the Connection from SAP ERP HCM to the Middleware \[page 182\]](#)

# 4 Configuring Organizational Data Replication in the SAP ERP HCM System

Make these settings in SAP ERP HCM to set up replication of organizational data from Employee Central.

## [Enabling the SAP ERP HCM Inbound Web Services to Set Up the Connection from the Middleware to SAP ERP HCM \[page 58\]](#)

Activate the SAP ERP HCM inbound web services used by org data integration to set up the connections for communication from the middleware to SAP ERP HCM.

## [Scheduling the Organizational Object Query as a Regular Background Job \[page 59\]](#)

Trigger queries regularly by scheduling the query program as a background job, to request organizational objects from Employee Central on an ongoing basis.

## [Scheduling the Database Update Programs as Regular Background Jobs \[page 60\]](#)

Whenever replication requests from Employee Central are written to the staging area tables in the SAP ERP HCM system, an event is triggered. Schedule the programs that process the replication requests in the staging area and post the results to the database as separate background jobs that are registered on the corresponding events.

## [Use of Integration Between Organizational Management and Personnel Administration \(PA/PD Integration\) in Data Replication from Employee Central \[page 62\]](#)

You can use integration between Organizational Management (OM) and Personnel Administration (PA), also called PA/PD integration, in your SAP ERP HCM system to synchronize organizational data between Organizational Management and Personnel Administration.

## [Generic Processing Compared to Object-Specific Processing of Organizational Objects \[page 65\]](#)

You can use a generic, configuration-based processing for all organizational objects replicated from Employee Central. Or you use an object-specific processing – but only for the default objects (business units, divisions, departments, job classifications, positions).

## [Sample Configuration for Organizational Object Replication \[page 67\]](#)

Use our sample value mapping and field mapping content as a starting point to define your own mappings for org object replication.

## [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

If you use generic object replication with generic processing, make the settings we describe here.

## [Configuration Example: Replication of a Custom Organizational Object Type from Employee Central \[page 143\]](#)

Go through this example to set up replication of a custom organizational object type from Employee Central to the SAP ERP HCM system.

## [Configuring Generic Object Replication with Object-Specific Processing \[page 143\]](#)

If you use generic object replication with object-specific processing, you only need to make the minimum settings we describe here.

## [Customizing Settings for Organizational Assignment Replication \[page 146\]](#)

To define customer-specific settings for the replication of employee organizational assignments, use the Customizing activities and Business Add-Ins (BADIs) in the integration add-on for SAP ERP HCM and SAP SuccessFactors Employee Central (PA\_SE\_IN).

## [Using the Programs for Organizational Data Replication \[page 149\]](#)

These are the programs and transactions provided by the integration add-on for SAP ERP HCM and SAP SuccessFactors Employee Central (PA\_SE\_IN) in your SAP ERP HCM system.

## 4.1 Enabling the SAP ERP HCM Inbound Web Services to Set Up the Connection from the Middleware to SAP ERP HCM

Activate the SAP ERP HCM inbound web services used by org data integration to set up the connections for communication from the middleware to SAP ERP HCM.

### Context

You activate the inbound web services for communication from the middleware to the SAP ERP HCM system by enabling the service definitions in SAP ERP HCM. For the web service names, see the related information.

### Procedure

1. Go to the [SOA Management](#) (SOAMANAGER) transaction in your SAP ERP HCM system.
2. Choose [Simplified Web Service Configuration](#).

#### Note

The [Simplified Web Service Configuration](#) tool described here is available from SAP NetWeaver 7.0 enhancement package 2 (SAP\_BASIS 702). If you're using a lower SAP NetWeaver release, you must use the [Web Service Configuration](#) tool instead. For more information, refer to [Configuring a Service Provider](#) in the SAP NetWeaver documentation for release 7.0. For a detailed how-to description of [Web Service Configuration](#) and [Simplified Web Service Configuration](#) refer to the SAP Community Network, at [ABAP Connectivity - Web Services ABAP](#) > [How to configure a Service Provider](#) and [How to configure a Service Provider \(Simplified\)](#). To find the SOA Manager documentation for your SAP NetWeaver release, go to <http://help.sap.com> and search for *working with soamanager*. Then filter the search result for your SAP NetWeaver release and support package.

3. Enter the web service definition name in the [Search Pattern](#) field and choose [Go](#).
4. In the result list, select the [User Name / Password \(Basic\)](#) checkbox for the web service definition, then choose [Save](#).

### Next Steps

You've now activated the inbound web services, but you also need to activate the outbound services. Since the endpoint URL of the corresponding middleware process is needed for enabling the outbound web services, you'll find more information about how to activate them in the middleware section.

## Related Information

[Web Services Used for Organizational Data Replication \[page 55\]](#)

[Enabling the SAP ERP HCM Outbound Web Services to Set Up the Connection from SAP ERP HCM to the Middleware \[page 182\]](#)

## 4.2 Scheduling the Organizational Object Query as a Regular Background Job

Trigger queries regularly by scheduling the query program as a background job, to request organizational objects from Employee Central on an ongoing basis.

### Prerequisites

You've defined a suitable variant or several variants for the *Create and Execute Organizational Object Replication Query* (RH\_SF10M\_ORG\_OBJ\_REPL\_QUERY) program.

### Context

The RH\_SF10M\_ORG\_OBJ\_REPL\_QUERY program creates and sends a query to replicate organizational data from SAP SuccessFactors Employee Central to the SAP ERP HCM system. Schedule this program to run regularly in the background. You can define and schedule background jobs in two ways:

- Directly from the *Define Background Job* (SM36) transaction. This option is best for users already familiar with background job scheduling.
- Using the *Job Scheduling Wizard*. This option is best for users unfamiliar with SAP background job scheduling. To use the *Job Scheduling Wizard*, choose *Job Wizard* in the *Define Background Job* transaction.

### Procedure

1. Go to the *Define Background Job* (SM36) transaction.
2. Decide on a name for the job you're defining and enter it in the *Job Name* field.
3. Select the job's priority in the *Job Class* field:
  - High priority: class A
  - Medium priority: class B
  - Low priority: class C

4. In the *Target Server* field, indicate whether to use system load balancing. For the system to use system load balancing to automatically select the most efficient application server to use at the moment, leave this field empty. To use a particular application server to run the job, enter a specific target server.
5. If spool requests generated by this job are to be sent to someone as email, specify the email address. To do so, choose *Spool List Recipient*.
6. Define when the job is to start. To do so, choose ► *Start Condition* ► *Date/Time* ►. Enter a suitable date and time and select the *Periodic Job* checkbox.
7. Define the job's steps by choosing ► *Step* ► *ABAP Program* ►. Specify the variant to be used.
8. Save the fully defined job to submit it to the background processing system.
9. Release the job so that it can run.
10. Repeat these steps for each program variant.

## Next Steps

When you need to modify, reschedule, or otherwise manipulate a job after you've scheduled it the first time, you'll manage jobs from the *Simple Job Selection* (SM37) or *Extended Job Selection* (SM37C) transactions.

For more information about background processing in SAP systems, go to <http://help.sap.com/netweaver> and search for *background processing*.

## 4.3 Scheduling the Database Update Programs as Regular Background Jobs

Whenever replication requests from Employee Central are written to the staging area tables in the SAP ERP HCM system, an event is triggered. Schedule the programs that process the replication requests in the staging area and post the results to the database as separate background jobs that are registered on the corresponding events.

### Prerequisites

You have defined a suitable variant for each program. These are the programs and the corresponding events:

Processing Programs and Events

Program	Event
<i>Replicate Organizational Objects from EC to ERP Org. Mgmt</i> (RH_SF10M_PROC_ORG_STRUC_RPRQ)	SAP_SF10M_ORG_STRUC_RPRQ_CREATED
<i>Replicate Employee Org. Assignments from EC to ERP Org. Mgmt</i> (RH_SF10M_PROC_EE_ORG_ASS_RPRQ)	SAP_SF10M_EE_ORGAS_RPPQ_CREATED

If you use generic object replication with generic processing, we recommend that you define a separate variant for each object type for the *Replicate Organizational Objects from EC to ERP Org. Mgmt*



(RH\_SF10M\_PROC\_ORG\_STRUC\_RPRQ program. One for business units, one for departments, and so on. To do this, enter the required object type, such as **03** (*Business Unit*) in the *EC Org. Object Type* field (under *Other Organizational Object*). Don't make any other settings on the program selection screen. Then save your selection as a variant. This way you can schedule multiple jobs, which can run simultaneously, to post the different object types independently of each other to the database.

## Context

You can define and schedule background jobs in two ways:

- Directly from the *Define Background Job* (SM36) transaction. This is best for users already familiar with background job scheduling.
- Using the *Job Scheduling Wizard*. This is best for users unfamiliar with SAP background job scheduling. To use the *Job Scheduling Wizard*, choose *Job Wizard* in the *Define Background Job* transaction.

Carry out the steps described below for each program:

## Procedure

1. Go to the *Define Background Job* (SM36) transaction.
2. Decide on a name for the job you are defining and enter it in the *Job Name* field.
3. Select the job's priority in the *Job Class* field:
  - High priority: class A
  - Medium priority: class B
  - Low priority: class C
4. In the *Target Server* field, indicate whether to use system load balancing. For the system to use system load balancing to automatically select the most efficient application server to use at the moment, leave this field empty. To use a particular application server to run the job, enter a specific target server.
5. If spool requests generated by this job are to be sent to someone as email, specify the email address. To do so, choose *Spool List Recipient*.
6. Define when the job is to start. To do so, choose ► *Start Condition* ► *After Event* ► and enter the event name:
  - For organizational objects: SAP\_SF10M\_ORG\_STRUC\_RPRQ\_CREATED
  - For organizational assignments: SAP\_SF10M\_EE\_ORGAS\_RPPQ\_CREATED

If you want the job to be executed only when the event was raised in a specific client of your SAP ERP HCM system, enter the client ID (such as **200**) in the *Parameter* field. If you want the job to be executed in all clients, leave the *Parameter* field empty.

Select *Periodic Job* for the job to repeat.

7. Define the job's steps by choosing ► *Step* ► *ABAP Program* ►. Specify the corresponding program and variant to be used (see above).
8. Save the fully defined job to submit it to the background processing system.
9. Release the job so that it can run.

## Next Steps

When you need to modify, reschedule, or otherwise manipulate a job after you've scheduled it the first time, you'll manage jobs from the [Simple Job Selection](#) (SM37) or [Extended Job Selection](#) (SM37C) transactions.

### → Tip

In addition to the background jobs that are registered on the events as described above, we recommend that you schedule a periodical background job for each of the database update programs, which picks up all replication requests that couldn't be processed yet. During initial load, for example, often two events follow each other in close succession. If this happens, the processing triggered by the second event might not be successful if the staging area is still locked by the processing triggered by the first event.

To process open, pending, or failed requests again, schedule a background job that runs at a time when the system load is low (for example, each night). This way, you don't need to wait until the next event is triggered that would start the next run of the database update program.

To schedule periodical background jobs, carry out the steps described above. However, in step 6, don't select an event. Instead, choose ► [Start Condition](#) ► [Date/Time](#) ►. Enter a suitable date and time and select the [Periodic Job](#) checkbox.

For more information about background processing in SAP systems, go to <http://help.sap.com/netweaver> and search for *background processing*.

## 4.4 Use of Integration Between Organizational Management and Personnel Administration (PA/PD Integration) in Data Replication from Employee Central

You can use integration between Organizational Management (OM) and Personnel Administration (PA), also called PA/PD integration, in your SAP ERP HCM system to synchronize organizational data between Organizational Management and Personnel Administration.

PA/PD integration synchronizes organizational data, such as position, job, organizational unit, or cost center, between the [Relationships](#) (1001) infotype in Organizational Management and the [Organizational Assignment](#) (0001) infotype in Personnel Administration.

The [Relationships](#) infotype stores the relationships between the employee and the position (P – S) and all other position relationships, such as position to organizational unit (S – O), position to job (S – C), or position to cost center (S – K), for Organizational Management.

The [Organizational Assignment](#) infotype stores the assigned position, job, organizational unit, and cost center of the employee for Personnel Administration.

The [Relationships](#) infotype is updated either by the replication of organizational assignments or by the replication of organizational objects from Employee Central. Replication of organizational assignments always creates the relationships between the employee and the position. If you configure your SAP ERP HCM system to exclude position relations from the organizational assignment replication, you can replicate the organizational objects together with their associations from Employee Central. If you make this setting, the other position relationships

are created by the organizational object replication. Otherwise, the replication of organizational assignments creates these relationships.

The *Organizational Assignment* infotype is updated either by PA/PD integration or – if PA/PD integration isn't enabled – by the replication of employee master data from Employee Central.

#### [What Happens in Data Replication Depending on Whether PA/PD Integration Is Enabled or Not \[page 63\]](#)

Data replication from Employee Central behaves differently depending on whether the integration between Organizational Management and Personnel Administration (PA/PD integration) is enabled or disabled in your SAP ERP HCM system.

#### [Enabling Integration Between Organizational Management and Personnel Administration in SAP ERP HCM \[page 64\]](#)

Set a T77S0 switch to enable integration between Organizational Management and Personnel Administration (PA/PD integration) in your SAP ERP HCM system.

## 4.4.1 What Happens in Data Replication Depending on Whether PA/PD Integration Is Enabled or Not

Data replication from Employee Central behaves differently depending on whether the integration between Organizational Management and Personnel Administration (PA/PD integration) is enabled or disabled in your SAP ERP HCM system.

### PA/PD Integration Is Enabled

If PA/PD integration is enabled, the *Relationships* (1001) infotype in Organizational Management and the *Organizational Assignment* (0001) infotype in Personnel Administration are kept in sync. The replication of employee master data updates all fields in the *Organizational Assignment* infotype except for the Organizational Management fields *Position* (PLANS), *Job* (STELL), *Organizational Unit* (ORGEH), and *Cost Center* (KOSTL). These fields are updated either by the organizational assignment replication or by the organizational object replication in the *Relationships* infotype. The PA/PD integration then synchronizes these fields with the corresponding fields in the *Organizational Assignment* infotype of Personnel Administration.

If the employee is a new hire, the organizational unit, the job, and the cost center in the *Organizational Assignment* infotype are left empty by the replication of employee master data. The *Position* field is filled with the default position from SAP ERP HCM customizing. The fields show their actual value once the organizational assignment or the organizational object replication has filled them in the *Relationships* infotype and the PA/PD integration has synchronized this update with the *Organizational Assignment* infotype.

#### Note

If PA/PD integration is enabled, don't map the Organizational Management fields *Position*, *Job*, *Organizational Unit*, and *Cost Center* in the transformation template group that you use for the replication of employee master data. Mappings you define for these fields in the replication of employee master data aren't considered by the replication.

Only make an exception from this rule if you use Funds Management. Funds Management requires each employee to have a valid cost center assigned at any time. To ensure that a valid cost center is replicated from

Employee Central, map the [Cost Center](#) field even if PA/PD integration is active. Add a value mapping entity to this field mapping that has the [Cost Center Keys from Mapping Table](#) value mapping type. This value mapping type ensures that the data replication uses the standard logic for determining cost centers. The sample content we provide contains a `COST_CENTER_WS` value mapping entity with the right value mapping type. You can copy the sample value mapping in the [Define Value Mapping Entities](#) Customizing activity and then use the copied value mapping entity for your field mapping. If you create your own value mapping entity, ensure that it uses the [Cost Center Keys from Mapping Table](#) value mapping type.

## PA/PD Integration Is Not Enabled

If PA/PD integration is disabled, the employee (object type P) is the only link between the data stored for Personnel Administration and for Organizational Management. The objects and the relationships aren't synchronized across the two components. There is no technical link between Personnel Administration and Organizational Management tables.

If PA/PD integration is disabled, the organizational data fields [Position](#) (PLANS), [Job](#) (STELL), [Organizational Unit](#) (ORGEH), and [Cost Center](#) (KOSTL) in the [Organizational Assignment](#) infotype are updated by the employee master data replication under the following conditions:

- You've created the elements of the organizational structure, for example, in the Personnel Administration customizing tables. For more information, refer to Customizing for Personnel Management under [► Personnel Administration ► Organizational Data ► Organizational Assignment ► Organizational Plan ► Define Organizational Units ► Define Jobs, Define Jobs and Job Types, and Define Positions](#).
- You've mapped the organizational data fields in the transformation template group that you use for employee master data replication.

## 4.4.2 Enabling Integration Between Organizational Management and Personnel Administration in SAP ERP HCM

Set a T77S0 switch to enable integration between Organizational Management and Personnel Administration (PA/PD integration) in your SAP ERP HCM system.

### Context

You can enable PA/PD integration for all employees. You can also restrict PA/PD integration to subsets of employees using the [Control: Integration of Personnel Planning and Master Data Management](#) (PLOGI) feature.

## Procedure

1. Go to customizing for Personnel Management and choose ► [Organizational Management](#) ► [Integration](#) ► [Integration with Personnel Administration](#) ► [Set up Integration with Personnel Administration](#) ►.
2. Choose [Basic Settings](#).
3. Choose [New Entries](#) and enter the following data:

Change View T77S0

Group	Sem.Abb.	Value Abbr.	Description
PLOGI	ORGA	X	Enter a user-defined description, such as: <b>Integration Switch: Organizational Assignment</b>

4. Save your entry and go back.
5. **Optional:** Choose [Participate in Integration](#) to maintain the PLOGI feature.
6. Save and transport your entries.

## 4.5 Generic Processing Compared to Object-Specific Processing of Organizational Objects

You can use a generic, configuration-based processing for all organizational objects replicated from Employee Central. Or you use an object-specific processing – but only for the default objects (business units, divisions, departments, job classifications, positions).

We recommend that you use generic processing for objects replicated from Employee Central because it includes all object types and gives you more flexibility. But if necessary, you can set the `SFSFI SPOMP` switch to indicate to your SAP ERP HCM system that it is to use object-specific processing for the default objects. To change the switch value, go to the [Define If You Use Specific Processing for Organizational Objects](#) Customizing step and enter **X** in the [Value Abbreviation](#) field of the `SFSFI SPOMP` entry. The switch influences only departments, divisions, business units, job classifications, and positions replicated from Employee Central. All other object types (such as custom objects) aren't affected.

The switch values have these meanings:

### Blank = Generic Object Replication with Generic Processing

Blank is the default switch value.

If you leave the value blank, the SAP ERP HCM system uses a generic, non-object-specific processing for departments, divisions, business units, job classifications, and positions that are replicated from Employee Central.

We recommend that you use this setting, in particular, if you haven't used organizational data replication from Employee Central to SAP ERP HCM before.

### Note

If you have already used organizational data replication before and leave this switch blank, the object-specific staging area tables can still contain replication requests with the status *Open*, *Pending*, or *Failed*. You can't use the generic processing for these requests. This approach prevents requests referring to the same object type from being processed by both, the generic and the object-specific processing. Therefore, make sure that all requests with the status *Open*, *Pending*, or *Failed* are processed or deleted **before** you switch from object-specific to generic processing.

### Tip

The replication request viewer (transaction SF10M\_VIEW\_ORG\_REQS) shows the transformation template group and the *Generic Processing* flag for requests that use the generic processing. To see these attributes, select the request and choose *Details*.

**Display Organizational Object Replication Requests**

Process Selected Requests   Delete Selected Requests   Application Log

EC Obj. Type	ERP Obj. ID	ERP Obj. Type	Creation D...	Creation T...	Last Chan...	Last Chan...	Status
Shop	50264707	Organizational unit	19.09.2016	12:28:55	19.09.2016	12:28:56	01
Shop	50265615						
Shop	50264700						
Shop	40001234						
Shop	50264706						
Shop	50264021						
Shop	50264675						
Shop	50264020						
Department							
Department							
Department							
Department							
Department							
Department							

**Details**

Group description	Cell Content
EC Source Object ID	SHOP DEMO 03
EC Source Object Type	Shop
Mapped ERP Object ID	50264707
Mapped ERP Object Type	Organizational unit
Message ID	FD5330B3B7D1476B8747DA29F555755F
Creation Date	19.09.2016
Creation Time	12:28:55
Last Change Date	19.09.2016
Last Change Time	12:28:56
Status	01
Status Text	Open
Request UUID	0050569F0BDE1ED69FCC943E0AB09956
Transformation Template Group	SHOP
Generic Processing	X

**Organizational Object Details**

EC Obj. Name	Start
shop demo 03	25.0

Template Group and Generic Processing Flag in Replication Request Viewer

The attributes help you identify the requests that need to be removed – all requests that don't have the attributes.

## X = Generic Object Replication with Object-Specific Processing

If you activate this switch by setting the value to **x**, the SAP ERP HCM system uses a specific processing for departments, divisions, business units, job classifications, and positions that are replicated from Employee Central.

### Note

You can only use object-specific processing of organizational objects if the Business Integration Builder mode is **not** enabled in your system. That is, in Customizing of the Business Integration Builder, under [Basic Settings](#) > [Maintain the Constant Values](#), there must not be an entry for [Activate BIB for EC to ERP Employee Replication](#) with the constant value set to **x**.

We only recommend setting this switch to **x** if you have already used organizational data replication from Employee Central to SAP ERP HCM and have made settings that you want continue to use. For example, if you've implemented the Business Add-Ins provided for the object-specific processing.

## 4.6 Sample Configuration for Organizational Object Replication

Use our sample value mapping and field mapping content as a starting point to define your own mappings for org object replication.

### [How to Use the Sample Value Mapping for Organizational Data \[page 67\]](#)

Use the sample value mapping entities we provide for organizational objects to easily create the value mappings you need, for example, for the relationships to other objects.

### [Using the Sample Content to Map Organizational Data Fields \[page 69\]](#)

Copy the sample content we provide for different use cases of organizational data replication from Employee Central to SAP ERP HCM and adapt it to create your own field mappings.

### 4.6.1 How to Use the Sample Value Mapping for Organizational Data

Use the sample value mapping entities we provide for organizational objects to easily create the value mappings you need, for example, for the relationships to other objects.

We provide sample value mapping entities for the default organizational objects (departments, divisions, business units, job classifications, and positions) and for the [Status of Vacancy](#) (STATUS) field of the [Vacancy](#) infotype (1007).

## 📌 Note

If you choose [Copy Sample Value Mapping](#), **all** entities that are available in the `V_ECPAO_VALENT_S` (S table) view are copied to the `V_ECPAO_VALUENTY` (C table) view in the [Define Value Mapping Entities](#) Customizing activity. This includes the value mapping entities for organizational data as well as employee data, and for both directions (replication from SAP ERP HCM to Employee Central and replication from Employee Central to SAP ERP HCM). If you only need some of the sample value mapping entities, choose [Copy Sample Value Mapping](#) and then remove all entities that you don't need from the `V_ECPAO_VALUENTY` view.

Once you've made entries in the `V_ECPAO_VALUENTY` view (either by copying or by entering them manually), you can no longer copy the sample value mapping entities. Either remove all entries from the `V_ECPAO_VALUENTY` view and copy again, or show the sample value mapping entities and use them as an example for making the entries manually.

If you want to replicate other organizational objects (including custom objects), you need to define custom value mapping entities for them.

## Use Case 1: You Replicate Only the Default Objects

1. Copy the sample value mapping entities.
2. The only value mapping entity that uses value mapping details is `VACANCY_STATUS_WS`. If you want to use it, also make entries in the [Define Value Mapping Details](#) Customizing step (`V_ECPAO_VALENTY` view). The other value mapping entities used for organizational data replication don't use any value mapping details, that's why you don't need to make any additional settings.

## Use Case 2: You Replicate the Default Plus Additional Objects

1. Copy the sample value mapping entities.
2. If necessary, create additional value mapping entities for the additional objects.

## Related Information

[Configuring Value Mapping \[page 78\]](#)



## 4.6.2 Using the Sample Content to Map Organizational Data Fields

Copy the sample content we provide for different use cases of organizational data replication from Employee Central to SAP ERP HCM and adapt it to create your own field mappings.

### Context

The sample content is available in Customizing in the SAP ERP HCM.

#### 📘 Note

The sample field and value mapping is also available in the form of an editable spreadsheet containing sheets for the different sample content versions. Download this spreadsheet from SAP Help Portal, at [http://help.sap.com/hr\\_ecintegration](http://help.sap.com/hr_ecintegration), on the *Implement* tab in the *Configuration* section.

### Procedure

1. Go to Customizing for Personnel Management and choose ► *Integration with SuccessFactors Employee Central* ► *Business Integration Builder* ► *Organizational Data Integration* ► *Define Field Mapping for Organizational Data* .
2. Create a transformation template group and select the sample content that you want to use for it.
3. Create transformation templates. You have two options:
  - You create transformation templates for all object types you want to use in your template group and assign the corresponding Employee Central entity to each template.
  - You copy the sample content to have the transformation templates for the default objects created automatically (together with the corresponding primary and secondary mapping).

#### 📘 Note

After you've copied the sample content, choose *Save* to make the primary and secondary mapping show up in the next steps.

4. Copy the sample primary and secondary (conditional) mapping.
  - If you've created your transformation templates manually in the previous step, copy the sample content for each template.
  - If you've already copied the sample content in the previous step, you don't need to copy anything in addition.
5. Adapt the copied sample content to suit your requirements. You can, for example, delete mappings you don't need, change the mapped field, or add new mappings.
6. If you want to use the mapping of the *Status of Vacancy* (STATUS) field, define value mapping details for the VACANCY\_STATUS\_WS value mapping entity. The value mapping entity itself is contained in the sample content we provide for value mapping, but the details need to be defined manually.

7. To replicate position descriptions, map a custom position description to the *Line With Length 79* (TLINE) field of the *Description* (1002) infotype:

Primary Mapping for Custom Position Description

Employee Central Field	Mapping Mode	SAP ERP HCM Info-type	SAP ERP HCM Sub-type	SAP ERP HCM Info-type Field
cust_description_defaultValue	Infotype Mapping	1002	0001	TLINE

#### Note

Field mapping for positions is different from the mapping of the other organizational objects because Employee Central supports translation of position names, but not of position descriptions. Since you can't map one Employee Central field to several SAP ERP HCM fields, it isn't possible to map, for example, the position name to both the *Object Name* (STEXT) field of the *Object* (1000) infotype and the *Line With Length 79* (TLINE) field of the *Description* (1002) infotype. You can, however, replicate a translatable position description from a custom field. Since we can't provide sample content for a custom field, the position description isn't contained in the sample content.

8. Map the languages to enable replication of language-dependent fields.

## Related Information

[Defining Transformation Template Groups, Transformation Templates, and Primary Field Mapping for Organizational Object Replication \[page 109\]](#)

[Configuring Conditional Mapping for Organizational Object Replication \[page 114\]](#)

### 4.6.2.1 Sample Content Available for Mapping Organizational Data Fields

Find out what the sample content for the different use cases of organizational data replication from Employee Central to SAP ERP HCM contains.

## Organizational Data EC to ERP: Job Info Relationships (OM\_WS\_1)

Provides basic field mappings (such as the name and description) for the default organizational objects (department, division, business unit, job classification, position) and for the organizational unit hierarchy (mapping of parent for departments and divisions).

### Note

Position relations aren't contained in this sample content. Make sure that you replicate them from Employee Central Job Information using the organizational assignment replication process.

## Organizational Data EC to ERP: Job Info Relationships and Vacancies from Position Mgmt (OM\_WS\_2)

Provides basic field mappings for the default organizational objects and for the organizational unit hierarchy.

This sample content also contains a conditional mapping for vacant positions and a mapping for the *Status of Vacancy* (STATUS) field of the *Vacancy* infotype (1007). You can use this sample content for the following scenario: If a position is vacant, position relations are replicated from Employee Central Position Management. Once the position is staffed, the position relations are created based on Employee Central Job Information using the organizational assignment replication process.

### Note

Position relations from Employee Central Job Information are only contained in this sample content when the position is vacant. When the position is staffed, the position relations are determined from Employee Central Job Information. Make sure that you replicate them from there using the organizational assignment replication process.

### Caution

We don't recommend that you use the scenario addressed by this sample content. We rather recommend that you replicate relations of positions from Employee Central Position Management (sample content OM\_WS\_3). If you use the sample content OM\_WS\_2, however, make sure that you set the `SFSFI_VCNCY` switch in the *Replicate Relations of Vacant and Staffed Positions from Different Sources* Customizing activity.

## Organizational Data EC to ERP: Position Mgmt Relationships (OM\_WS\_3)

Provides basic field mappings for the default organizational objects, for the organizational unit hierarchy, for position relations, and for position matrix relationships. Relations of positions to jobs, cost centers, organizational units, and manager positions are replicated from Employee Central Position Management.

### Caution

If you use this sample content, make sure that you prevent creation of position relations from Employee Central Job Information by the organizational assignment replication process. To do this, make appropriate settings for excluding position relations from organizational assignment replication in the *Restrict Relations Created When Replicating Organizational Assignments* Customizing activity.





## 4.7 Configuring Generic Object Replication with Generic Processing

If you use generic object replication with generic processing, make the settings we describe here.

### Prerequisites

In the *Define If You Use Specific Processing for Organizational Objects* Customizing activity, you have left the `SFSFI` `SPOMP` switch value blank to indicate that you want to use generic processing.

### Context

To define customer-specific settings, use the Customizing activities in the integration add-on for SAP ERP HCM and SAP SuccessFactors Employee Central (`PA_SE_IN`). In your SAP ERP HCM system, go to the *Customizing: Execute Project* (`SPRO`) transaction and choose *SAP Reference IMG*. In the *SAP Customizing Implementation Guide* structure, open  *Personnel Management*  *Integration with SuccessFactors Employee Central*  *Business Integration Builder* . Then make your settings within this Customizing structure.

1. [Enabling Use of New Infotype Framework for Integration Between Organizational Management and Personnel Administration \(PA/PD Integration\) \[page 74\]](#)  
Determine that the new infotype framework is to be used in PA/PD integration for organizational data that was replicated from Employee Central, to improve the performance and allow for a better message handling in the replication processes.
2. [Creating an Employee Central Instance ID \[page 75\]](#)  
Define an ID that represents your SAP SuccessFactors Employee Central configuration in the SAP ERP HCM system.
3. [Importing Metadata for Organizational Object Types \[page 76\]](#)  
Import the Employee Central metadata for all organizational object types you want to include in the replication into your SAP ERP HCM system, to be able to use it for field mapping.
4. [Configuring Value Mapping \[page 78\]](#)  
Map Employee Central field values to field values from SAP ERP HCM. Or use the information stored in the key mapping table in SAP ERP HCM for the mapping of relations to other organizational objects.
5. [Replicating Relations of Vacant and Staffed Positions from Different Sources in Employee Central \[page 82\]](#)  
If it's essential for your integration use case that relations of positions to other organizational objects are replicated from Employee Central Job Information when the position is staffed and from position management when the position is vacant, set a switch in SAP ERP HCM to prevent redundant replication of position time slices from both sources.
6. [Excluding Position Relations from Organizational Assignment Replication \[page 83\]](#)  
Prevent relations from being created in SAP ERP HCM by organizational assignment replication from Employee Central if you use generic replication of organizational objects and replicate the org objects together with their associations from Employee Central.

7. [Transferring Language-Dependent Fields \[page 85\]](#)  
Make the settings required to enable transfer of texts (such as names or descriptions of business units) between SAP ERP HCM and Employee Central.
8. [Adding Organizational Object Types to the Integration \[page 90\]](#)  
Define additional types of organizational objects in addition to the default objects, to transfer them from Employee Central to the SAP ERP HCM system.
9. [Synchronizing IDs of Organizational Objects in SAP ERP HCM and Employee Central \[page 92\]](#)  
Define that types of organizational objects, such as positions or organizational units, are to use the same IDs in Employee Central and in SAP ERP HCM so that you can easily determine which objects correspond to each other across systems.
10. [Creating Custom Employee Central Entities \[page 97\]](#)  
Define custom Employee Central entities for all organizational object types you add to the replication.
11. [Configuring the Replication of Composite Child Objects \[page 99\]](#)  
Configure replication of composite child objects together with their parent objects. Composite child objects are part of their parent objects in Employee Central. You can only replicate them together with the corresponding parent object to SAP ERP HCM.
12. [Defining Transformation Template Groups, Transformation Templates, and Primary Field Mapping for Organizational Object Replication \[page 109\]](#)  
Create a transformation template group containing transformation templates to map SAP ERP HCM fields to Employee Central fields so that the data replication process knows which information it is to extract from Employee Central and in which SAP ERP HCM fields it is to store this information.
13. [Configuring Conditional Mapping for Organizational Object Replication \[page 114\]](#)  
Define that Employee Central fields are to be mapped with SAP ERP HCM fields only when a specific condition is fulfilled – for example, the associated division of a department is to be mapped only if there's no parent department.
14. [Formatting Employee Central Fields Using Value Conversion \[page 121\]](#)  
Use generic value conversion to format the content of Employee Central fields used in organizational data replication, before the field and value mapping are processed in SAP ERP HCM. For example, replace the field value with the value from another Employee Central field, cut off parts of the content, or add a string to the field value.
15. [Configuring Filters for Organizational Data Replication \[page 136\]](#)  
Define criteria to filter organizational object replication from Employee Central to the SAP ERP HCM system. For example, to filter out time slices where objects are inactive.
16. [Configuring Values for the Status Inactive to Be Considered in the Replication \[page 140\]](#)  
To replicate objects that are inactive for their complete lifecycle from Employee Central, specify the values you use in Employee Central to indicate that an organizational object is inactive.

## Related Information

[Generic Processing Compared to Object-Specific Processing of Organizational Objects \[page 65\]](#)

## 4.7.1 Enabling Use of New Infotype Framework for Integration Between Organizational Management and Personnel Administration (PA/PD Integration)

Determine that the new infotype framework is to be used in PA/PD integration for organizational data that was replicated from Employee Central, to improve the performance and allow for a better message handling in the replication processes.

### Prerequisites

Check the minimum setup required for your systems to see which support packages (SPs) or SAP Notes must be installed in your SAP ERP HCM system to make this feature work.

#### Note

The new infotype framework doesn't support dynamic actions. But since the Business Integration Builder (BIB) uses the new infotype framework, you can't use dynamic actions in BIB-based data replication from Employee Central anyway.

### Context

If you've enabled the integration between Organizational Management and Personnel Administration (PA/PD integration) in your SAP ERP HCM system, it synchronizes organizational data between the [Relationships](#) (1001) and the [Organizational Assignment](#) (0001) infotypes. Using the new infotype framework for this synchronization improves the performance and allows for a better message handling in the replication processes. We recommend that you enable use of the new infotype framework, in particular if one of the following applies:

- You haven't replicated data from Employee Central to the SAP ERP HCM system yet and are starting to implement BIB-based integration with Employee Central.
- You already replicate data from Employee Central to the SAP ERP HCM system and don't use dynamic actions in SAP ERP HCM.
- You already replicate data from Employee Central to the SAP ERP HCM system and use dynamic actions in SAP ERP HCM. But you ensure that updates that would be triggered by a dynamic action in SAP ERP HCM are either also included in employee master data replication from Employee Central or are being made manually.

#### Example

Let's say a dynamic action would change a field in another infotype, in addition to the infotype that's being updated by employee master data replication anyway. Then you would enhance the replication by the second infotype field.

## Procedure

1. In Customizing for Personnel Management, choose ► *Integration with SuccessFactors Employee Central* ► *Business Integration Builder* ► *Organizational Data Integration* ► *Enable Use of New Infotype Framework When Processing Replicated Org. Data* ►.
2. Choose *New Entries* and enter the following data:

Change View T77S0

Group	Sem.Abbbr.	Value Abbr.	Description
<b>PLOGI</b>	<b>NITF</b>	<b>X</b>	Enter a user-defined description, such as: <b>Update Infotype 0001 Using New Infotype Framework</b>

3. Save and transport your entry.

## Next Steps

If you've implemented any Business Add-Ins (BAdIs) to enhance the replication of organizational assignments, check them after you've set the **PLOGI NITF** switch to **X**. Ensure that you use the classes provided for the new infotype framework in your BAdI implementations to prevent runtime errors.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Next task:** [Creating an Employee Central Instance ID \[page 75\]](#)

## 4.7.2 Creating an Employee Central Instance ID

Define an ID that represents your SAP SuccessFactors Employee Central configuration in the SAP ERP HCM system.

## Context

The Employee Central instance ID refers to the metadata you use in Employee Central and to basic settings for data transfer between SAP ERP HCM and Employee Central. The ID you define doesn't necessarily have to be identical with the name of your SAP SuccessFactors instance.

## Procedure

1. In Customizing for Personnel Management, choose ► [Integration with SuccessFactors Employee Central](#) ► [Business Integration Builder](#) ► [Basic Settings](#) ► [Specify Employee Central Instance ID](#) ► and enter an ID and a description for your Employee Central instance.
2. In the same Customizing structure, go to ► [Organizational Data Integration](#) ► [Define Organizational Data Settings for Employee Central Instance](#) ► and specify the default locale for your Employee Central instance.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Enabling Use of New Infotype Framework for Integration Between Organizational Management and Personnel Administration \(PA/PD Integration\) \[page 74\]](#)

**Next task:** [Importing Metadata for Organizational Object Types \[page 76\]](#)

## 4.7.3 Importing Metadata for Organizational Object Types

Import the Employee Central metadata for all organizational object types you want to include in the replication into your SAP ERP HCM system, to be able to use it for field mapping.

### Context

You need to import the metadata for default organizational object types as well as for all additional object types you define. The metadata import makes Employee Central fields available in the SAP ERP HCM system so that you can use them for field mapping and filtering.

## Procedure

1. Download the metadata that you want to import from Employee Central.
  1. Go to the Admin Center and choose the [OData API Metadata Refresh and Export](#) tool.



## OData API Metadata Refresh And Export

### Refresh Metadata

Cache:

Refresh

Export Metadata to File:

Export

### OData API Metadata Refresh and Export Tool

2. To make sure that the metadata is up to date choose [Refresh](#).
3. Choose [Export](#) for the [Export Metadata to File](#) option.
4. Store the metadata file in the XML format on a server or on your local disk.

#### ⓘ Note

API tools need to be enabled in Provisioning.

#### → Remember

As a customer, you don't have access to Provisioning. To complete tasks in Provisioning, contact your implementation partner or Account Executive. For any non-implementation tasks, contact Product Support.

2. In Customizing for Personnel Management, choose [Integration with SuccessFactors Employee Central](#) [Business Integration Builder](#) [Basic Settings](#) [Import Metadata from Employee Central](#) [Import Metadata for Web Service-Based Data Transfer from Employee Central](#) to run the [Import of Metadata from Employee Central Using XML File](#) (ECPAO\_ECTMPL\_METADATA\_WRITER) program.
3. On the selection screen of the program, specify which metadata you want to import to SAP ERP HCM and from which file you want to upload it.

#### ⓘ Note

If you don't specify a specific Employee Central entity, the metadata is imported for **all** Employee Central entities that are available and use the [Web Service Transfer](#) communication channel.

4. **Optional:** Carry out a test run of the program to check the data that will be uploaded to SAP ERP HCM.
5. Clear the [Test Run](#) checkbox and execute the program to upload the data from the Employee Central metadata file into the [EC Entity Field Mapping](#) (ECPAO\_FLD) table.

If you run the program in a test system or client with the [Test Run](#) checkbox deselected, the program asks for a transport request, to which the imported metadata will be assigned. Using this request you can transport the entries to the productive system or client.

#### ⓘ Note

The standard fields are also uploaded into the [EC Entity Field Mapping](#) table. In this table, the [Is Standard Field](#) (IS\_FLD\_STANDARD) flag is set for these fields. Since a standard mapping is defined for them, they are not available in the Customizing of the transformation template groups.

6. Check the metadata that you have imported in the [Transport Imported Metadata and Check Metadata for File-Based Data Transfer](#) Customizing activity.

#### → Tip

For details about which information about the Employee Central fields exactly is imported by the program, see the program documentation in your SAP ERP HCM system. You'll find a link to the program documentation in the documentation of the [Import Metadata for Web Service-Based Data Transfer from Employee Central](#) Customizing step.

#### ⓘ Note

Don't make any changes to the metadata in this Customizing view. Use the metadata import program to update the entries in this view.

#### ⚠ Caution

If the [EC Field Has Picklist](#) flag is set for an imported Employee Central field, you might need to assign a value mapping entity when you define a field mapping for this Employee Central field. Otherwise the data extraction program might fail.

7. You can also store entries from this view on a transport request, for example, to transport them from your SAP ERP HCM test system to your productive system. To do so, choose ► [Table View](#) ► [Transport](#) ►.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Creating an Employee Central Instance ID \[page 75\]](#)

**Next task:** [Configuring Value Mapping \[page 78\]](#)

## 4.7.4 Configuring Value Mapping

Map Employee Central field values to field values from SAP ERP HCM. Or use the information stored in the key mapping table in SAP ERP HCM for the mapping of relations to other organizational objects.

### Context

You can use value mapping in primary field mapping as well as in secondary (conditional) mapping.

## Procedure

1. Go to Customizing for Personnel Management, choose ► [Integration with SuccessFactors Employee Central](#) ► [Business Integration Builder](#) ► [Basic Settings](#) ► [Define Value Mapping](#) ► [Define Value Mapping Entities](#) ►, and select your Employee Central instance.
2. Enter an entity name and description.  
  
You use the name later when you assign the value mapping entity to the field mapping in the [Define Field Mapping for Organizational Data](#) Customizing step.
3. Choose the value mapping type:
  - To map a relation to another organizational object: [Organizational Object Keys from Mapping Table](#)
  - To map a relation to a cost center: [Cost Center Keys from Mapping Tables](#)
  - To map SAP ERP HCM field values to Employee Central field values: Choose a suitable type, depending on which type of value you want to map.
4. If you use the [Organizational Object Keys from Mapping Table](#) value mapping type, specify the type of the related object (for example, 03 for [Business Unit](#)) in the [EC Object Type](#) field.
5. If you use a value mapping type that's different from [Organizational Object Keys from Mapping Table](#) or [Cost Center Keys from Mapping Tables](#), go to the [Define Value Mapping Entities](#) Customizing step, select your value mapping entity and map SAP ERP HCM keys to Employee Central keys.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Importing Metadata for Organizational Object Types \[page 76\]](#)

**Next task:** [Replicating Relations of Vacant and Staffed Positions from Different Sources in Employee Central \[page 82\]](#)

## Related Information

[How to Use the Sample Value Mapping for Organizational Data \[page 67\]](#)

### 4.7.4.1 What Value Mapping Is Needed For

Learn more about why and when to map Employee Central field values to SAP ERP HCM field values.

## Value Mapping for Relations to Other Organizational Objects

If you map relations to other organizational objects, a value mapping entity is required to determine the type of related object and its ID.

## ❖ Example

The SAP ERP HCM system needs to know that the object type *Organizational Unit* corresponds to a business unit. And it needs to determine the ID of the specific organizational unit that is to be mapped.

For this value mapping type, no entries in the *Define Value Mapping Details* Customizing step are required.

We provide sample value mapping entities for relations of the default organizational objects (departments, divisions, business units, job classifications, and positions). You can copy the sample content and adapt it to suit your requirements.

For other, non-default organizational objects, including custom objects, no sample value mapping is available. If you want to replicate such objects and map their relations, create a value mapping entity with the *Organizational Object Keys from Mapping Table* type for each mapping of an organizational object's relation to another organizational object. To map an organizational object's relation to a cost center, use the *Cost Center Keys from Mapping Tables* value mapping type.

## Value Mapping for Vacancy Status

There's also a sample value mapping entity available for the *Status of Vacancy* (STATUS) field of the *Vacancy* infotype (1007). You can use it if your integration approach depends on implementing the following scenario:

- When a position is staffed, you replicate position relations from Employee Central **Job Information** using the **organizational assignment** replication process.
- When a position is vacant, you replicate position relations from Employee Central **Position Management** using the **organizational object** replication process. This is because replication of a vacant position from Job Information would delimit the time slices of the position relations in the SAP ERP HCM system.

We don't recommend using this "mixed" scenario. We rather recommend that you replicate all position relations from Employee Central Position Management using the organizational object replication process. In case you use the "mixed" scenario, however, make the following settings:

- If you use the *Vacancy Status* (VACANCY\_STATUS\_WS) value mapping entity, make the following entries for it in the *Define Value Mapping Details* Customizing step:

Value Mapping Details for Vacancy Status

Sequence Number	SAP ERP HCM Key	Employee Central Key
1	0 (= position is vacant)	true
2	2 (= position is staffed)	false

This is required because value mapping details aren't copied together with the value mapping entity.

- Set the `SFSFI_VCNCY` switch in the *Replicate Relations of Vacant and Staffed Positions from Different Sources* Customizing activity. Setting this switch ensures that the organizational assignment replication process considers only time slices where the position is staffed.

## 4.7.4.2 Example: Mapping IDs of Parent Business Units and Parent Divisions

Map IDs of parent business units for divisions and of parent divisions for departments from Employee Central to the corresponding organizational unit IDs from SAP ERP HCM.

### Context

You map IDs to tell the data replication that parent objects of divisions from Employee Central correspond to organizational units in SAP ERP HCM that represent business units. The parent association to be used in SAP ERP HCM is [Reports \(line\) to](#). The assigned value mapping entity tells the data replication that it's to use the key mapping from the `SFIOM_KMAP_OSI` table. The value mapping entity also defines that the IDs in the *ID of Related Object* (SOBID) field relate to business units. (And likewise for parent objects of departments.)

### Procedure

1. Go to Customizing for Personnel Management, choose [Integration with SuccessFactors Employee Central](#) [Business Integration Builder](#) [Basic Settings](#) [Define Value Mapping](#) [Define Value Mapping Entities](#), and select your Employee Central instance.
2. Copy the following sample value mapping entities:

Value Mapping Entities for Parent Business Units and Divisions

Value Mapping Entity	Value Mapping Type	EC Object Type
BUSINESS_UNIT_WS	Organizational Object Keys from Mapping Table	03 (Business Unit)
DIVISION_WS	Organizational Object Keys from Mapping Table	02 (Division)

3. Go to [Organizational Data Integration](#) [Define Field Mapping for Organizational Data](#) in the same Customizing structure and select the transformation templates that you created for the [Division](#) and the [Department](#) entities.
4. Go to [Primary Mapping](#) and copy the sample content provided there. The sample content contains the `BUSINESS_UNIT_WS` and `DIVISION_WS` value mapping entities, which are assigned to the *parent* field mapping:

Field Mapping for Divisions: Parent Business Units

Employee Central Field	SAP ERP HCM Info-type	Subtype	Infotype Field	Value Mapping Entity
parent	1001	A002	SOBID	BUSINESS_UNIT_WS

Field Mapping for Departments: Parent Division

Employee Central Field	SAP ERP HCM Info-type	Subtype	Infotype Field	Value Mapping Entity
parent	1001	A002	SOBID	DIVISION_WS

## 4.7.5 Replicating Relations of Vacant and Staffed Positions from Different Sources in Employee Central

If it's essential for your integration use case that relations of positions to other organizational objects are replicated from Employee Central Job Information when the position is staffed and from position management when the position is vacant, set a switch in SAP ERP HCM to prevent redundant replication of position time slices from both sources.

### Prerequisites

- Specify in Employee Central that the *To Be Hired* status is automatically updated for the position in Employee Central whenever an employee is assigned to the position. To do so, go to Admin Center and choose the *Position Management Settings* tool. On the *General* tab, in section '*To Be Hired*' *Status Adaptation*, select the option *Only if Planned FTE Value is Reached* for field *Reset 'To Be Hired' Status if Incumbent is Assigned to a Position*.  
For more information, see the guide [Implementing Position Management in Employee Central](#).
- Add a conditional mapping in the transformation template for *Position*. The conditional mapping must ensure that the relations of the position to other objects (such as department, parent position, cost center, or job classification) are mapped only when the position is vacant.  
We provide sample content for this setting. It's contained the *Organizational Data EC to ERP: Job Info Relationships and Vacancies from Position Mgmt (OM\_WS\_2)* use case.
- Make sure you include position relations in the organizational assignment replication process. That is, you haven't set any of the switches in the *Restrict Relations Created When Replicating Organizational Assignments* Customizing activity.

### Context

Setting the `SFSFI_VCNCY` switch is required only if your integration approach depends on implementing the following scenario:

- If a position is staffed (that is, it has an incumbent in Employee Central), the position relations are created based on Employee Central **Job Information** using the **organizational assignment** replication process.
- If a position is vacant (that is, it has the *To Be Hired* status in Employee Central), you replicate position relations from Employee Central **Position Management** using the **organizational object** replication process.

## Note

We don't recommend using this "mixed" scenario. We rather recommend that you replicate all position relations from Employee Central Position Management using the organizational object replication process. In case you use the "mixed" scenario, however, you must set the SFSFI VCNCY switch to X to ensure that the organizational object replication process only considers time slices where the position is vacant. Whereas the organizational assignment replication process is to care only about time slices where the position is staffed.

Don't use this "mixed" scenario if you've enabled replication of shared positions from Employee Central. The status of shared positions can't be automatically updated in Employee Central when an employee is assigned to the position. This results in time slices being transferred by organizational object replication as well as organizational assignment replication, thus overwriting each other.

## Procedure

1. In Customizing for Personnel Management, choose [Integration with SuccessFactors Employee Central](#) [Business Integration Builder](#) [Organizational Data Integration](#) [Replicate Relations of Vacant and Staffed Positions from Different Sources](#).
2. Set the value of the SFSFI VCNCY switch to **X**.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Configuring Value Mapping \[page 78\]](#)

**Next task:** [Excluding Position Relations from Organizational Assignment Replication \[page 83\]](#)

## 4.7.6 Excluding Position Relations from Organizational Assignment Replication

Prevent relations from being created in SAP ERP HCM by organizational assignment replication from Employee Central if you use generic replication of organizational objects and replicate the org objects together with their associations from Employee Central.

## Prerequisites

If you turn off replication of relations in the organizational assignment replication process and set up organizational object replication to include these relations instead, make sure that you enable synchronization of Job Information to position management in Employee Central. This ensures that whenever a relation is changed in Job Information in Employee Central, this change is passed on to Employee Central position management and can then be transferred from there using organizational object replication. For more information, see section [Defining "Job Information to Position" Synchronization](#) in *Implementing Position Management in Employee Central*.

## Procedure

1. Go to Customizing for Personnel Management and choose ► [Integration with SuccessFactors Employee Central](#) ► [Business Integration Builder](#) ► [Organizational Data Integration](#) ► [Restrict Relations Created When Replicating Organizational Assignments](#) ►.
2. Set the following switches as applicable:

Restrict Relations Created When Replicating Organizational Assignments

If you've set up organizational object replication to include this relation...

Set the value of this switch to **X**...

Position-Org Unit	SFSFI OANSO
Position-Job	SFSFI OANSC
Position-Manager Position	SFSFI OANSS
Position-Cost Center	SFSFI OANSK

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Replicating Relations of Vacant and Staffed Positions from Different Sources in Employee Central \[page 82\]](#)

**Next task:** [Transferring Language-Dependent Fields \[page 85\]](#)

### 4.7.6.1 Why Exclude Position Relationships from Organizational Assignment Replication

By default, relationships of positions to other organizational objects (such as business units) are considered in organizational assignment replication from Employee Central. If you use organizational object replication to transfer position relationships instead, disable replication of these relationships by organizational assignment replication so that the relationships are replicated from only one source.

You can replicate relationships of positions to other organizational objects in two ways from Employee Central:

- The default setting is that the position relationship to a specific object type is replicated from the employee's Job Information, using **organizational assignment** replication.  
Note that the relationship of an employee (object type **P** in SAP ERP HCM) to a position (object type **S**) is **always** transferred by the organizational assignment replication process. You can't exclude the employee-position relationship from organizational assignment replication. This relationship is always contained in organizational assignment replication, even if you disable replication of all other position relationships. By default, also the following relationships are contained in organizational assignment replication:
  - Position to organizational unit (object type **O**)
  - Position to job (object type **C**)



- Position to manager's position (object type s)
- Position to cost center (object type κ)

Using organizational assignment replication to transfer position relationships has one disadvantage though: SAP ERP HCM doesn't consider the relationships of a position if it doesn't have an incumbent. This means, if the position becomes vacant in Employee Central, the position relationships are delimited in SAP ERP HCM upon replication.

- You replicate the position together with its association to a specific object type from Position Management, using **organizational object** replication.  
We recommend that you include position relationships in the organizational object replication rather than in the organizational assignment replication process. Because then position relationships remain unchanged in SAP ERP HCM, regardless of whether the position has an incumbent or is vacant. If you include position relationships in the organizational object replication, disable replication of the corresponding relationships in the organizational assignment replication process.

#### Note

Once you've disabled replication of some or all of the position relationships, organizational assignment replication not only stops creating new position relationships of this type in SAP ERP HCM. It also stops updating or delimiting existing relationships that it has created before.

## 4.7.7 Transferring Language-Dependent Fields

Make the settings required to enable transfer of texts (such as names or descriptions of business units) between SAP ERP HCM and Employee Central.

### Prerequisites

You can only transfer texts for an Employee Central locale if the corresponding language pack was enabled in Provisioning for Employee Central.

#### → Remember

As a customer, you don't have access to Provisioning. To complete tasks in Provisioning, contact your implementation partner or Account Executive. For any non-implementation tasks, contact Product Support.

Employee Central supports translations for position names, but not for position descriptions. That's why you need to define a custom description field for positions if you want to replicate position descriptions for multiple languages.

### Context

To enable replication of texts in at least one language, you first map language-independent text fields. This mapping is used as a placeholder. Additionally, you map the locales you use in Employee Central to the corresponding

SAP ERP HCM languages. Based on this language mapping, the language-dependent field mappings are then automatically created and replace the placeholders when the data is extracted.

## Procedure

1. In Customizing for Personnel Management, choose ► *Integration with SuccessFactors Employee Central* ► *Business Integration Builder* ► *Organizational Data Integration* ► *Map Languages from Employee Central and ERP* ► to map Employee Central locales to SAP ERP HCM languages. Here's what you need to do there:
  - a. Define a mapping for the default locale you use in Employee Central.

### ❖ Example

If your default locale is en\_US, enter:

Mapping the Default Employee Central Locale

Employee Central Locale	SAP ERP HCM Language
en_US	EN

### 📘 Note

Make sure that you use the correct format:

- The locale identifier from Employee Central must consist of a language identifier in lowercase and a location or country/region identifier in uppercase, linked by an underscore. For example: en\_US (English, USA), en\_GB (English, UK), fr\_FR (French, France), fr\_CA (French, Canada).
- The language identifier from SAP ERP HCM must be a two-character country/region ISO code. For example: EN, FR.

If you don't define at least a language mapping for the default locale, no language-dependent data can be transferred.

### ❖ Example

Let's say you try to replicate a new department from Employee Central to SAP ERP HCM. This means that a new record of the *Object* (1000) infotype needs to be created in the SAP ERP HCM system. The *Object* infotype needs a language. To determine the language to be used, the SAP ERP HCM system reads the entries stored in the V\_ECPAO\_LOCALE. If there aren't any entries here, the system doesn't know which language to use for the infotype record. Therefore, the department can't be replicated. The corresponding replication request has the status *Pending*.

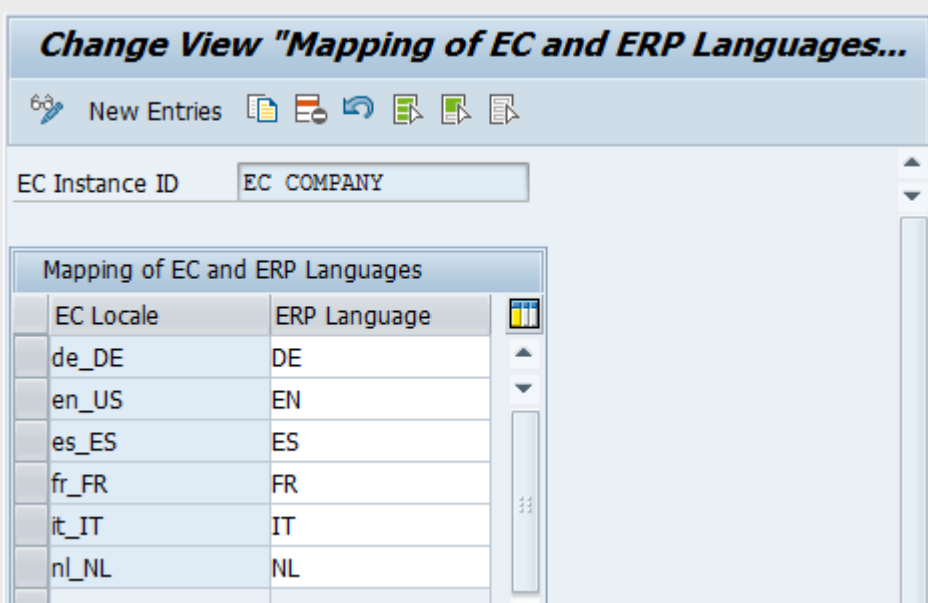
- b. Define mappings for all additional locales your Employee Central instance supports for translation of texts.

## ❖ Example

If your Employee Central instance also supports German (for Germany), Spanish (for Spain), French, Italian, and Dutch, add these entries:

Mapping Additional Employee Central Locales

Employee Central Locale	SAP ERP HCM Language
de_DE	DE
es_ES	ES
fr_FR	FR
it_IT	IT
nl_NL	NL



Example: Mapping Languages from Employee Central and SAP ERP HCM

## ⚠ Caution

If you use two locales for the same language in Employee Central (such as en\_US and en\_GB), you need to decide which of these locales you want to map to SAP ERP HCM. In SAP ERP HCM, there's only one language key you can map (in our example: EN).

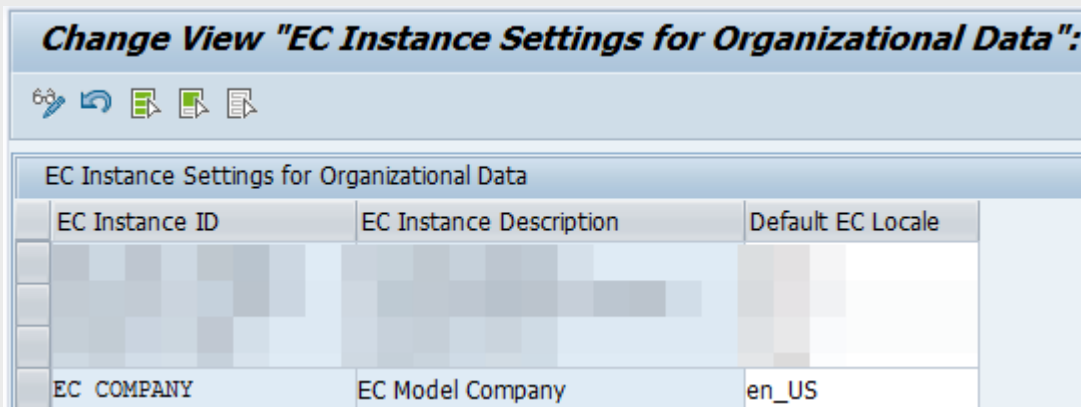
- Go to [Define Organizational Data Settings for Employee Central Instance](#) in the same Customizing structure to specify which of the mapped locales is your default Employee Central locale.

### Example

The field help in the Employee Central instance view shows the locales you've mapped in the first step:

- en\_US
- de\_DE
- es\_ES
- fr\_FR
- it\_IT
- nl\_NL

You select en\_US.



Example: Defining the Default Locale for Your Employee Central Instance

### Example

The SAP ERP HCM system uses the default locale, for example, when writing language-independent content, such as IDs, to a language-dependent infotype, such as the *Object* (1000) infotype.

### Note

If *Define Organizational Data Settings for Employee Central Instance* is your first step, the field help doesn't show any languages yet. In this case, you're redirected from here to the language mapping Customizing view and can make the settings described in step 1.

3. Go to *Define Field Mapping for Organizational Data* in the same Customizing structure and define language-independent field mappings for text fields, which are used as placeholders.

### Example

You define this placeholder mapping for department names:

Placeholder Field Mapping of Department Name

Employee Central Field	Mapping Mode	SAP ERP HCM Infotype	SAP ERP HCM Field
name_defaultValue	Infotype Mapping	Object (1000)	Object Name (STEXT)

## Note

Most organizational objects use *name\_defaultValue*, but not positions. That's why the mapping looks different for position names:

Placeholder Field Mapping of Position Name

Employee Central Field	Mapping Mode	SAP ERP HCM Infotype	SAP ERP HCM Field
externalName_defaultValue	Infotype Mapping	<i>Object</i> (1000)	<i>Object Name</i> (STEXT)

The *Use Language Mapping* checkbox is automatically selected for this field mapping.

Template Group	ORG_OBJ_WS	Organizational Data Extraction
Transf. Template	ERP_BUS	ERP Template for Business Unit
EC Entity	WS_OM_BUS	Business UnitTemplate for Web Service
EC Field Attributes		
EC Field	78	name_defaultValue
EC Field Description	name_defaultValue	
<input type="checkbox"/> Field Deleted in EC	<input checked="" type="checkbox"/> Use Lang. Mapping	
<input type="checkbox"/> Required in EC		
ERP Field Mapping		
Mapping Mode	Infotype Mapping	
Infotype		
Infotype	1000	Object
Subtype		
Infotype Field	STEXT	Object Name

Use Language Mapping Checkbox in Field Mapping

## Results

Data transfer between Employee Central and SAP ERP HCM automatically uses language-dependent field mappings instead of the placeholder mapping. There's no need to define these four mappings explicitly.

## ❖ Example

In the example we've used above, these mappings would be used:

Language-Dependent Mappings of Department Name

Employee Central Field	Mapping Mode	SAP ERP HCM Info-type	SAP ERP HCM Field	SAP ERP HCM Language
name_en_US	Infotype Mapping	<i>Object</i> (1000)	<i>Object Name</i> (STEXT)	EN
name_de_DE	Infotype Mapping	<i>Object</i> (1000)	<i>Object Name</i> (STEXT)	DE
name_es_ES	Infotype Mapping	<i>Object</i> (1000)	<i>Object Name</i> (STEXT)	ES
name_fr_FR	Infotype Mapping	<i>Object</i> (1000)	<i>Object Name</i> (STEXT)	FR
name_it_IT	Infotype Mapping	<i>Object</i> (1000)	<i>Object Name</i> (STEXT)	IT
name_nl_NL	Infotype Mapping	<i>Object</i> (1000)	<i>Object Name</i> (STEXT)	NL

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Excluding Position Relations from Organizational Assignment Replication \[page 83\]](#)

**Next task:** [Adding Organizational Object Types to the Integration \[page 90\]](#)

## 4.7.8 Adding Organizational Object Types to the Integration

Define additional types of organizational objects in addition to the default objects, to transfer them from Employee Central to the SAP ERP HCM system.

### Context

The default object types are defined by SAP:

- 01 (*Department*)
- 02 (*Division*)
- 03 (*Business Unit*)
- 04 (*Job Classification*)
- 05 (*Position*)

<b>Change View "Employee Central Organizational Object Types": Overview</b>				
New Entries				
Employee Central Organizational Object Types				
EC Type	EC Object Type Text	Ob	Object type text	
01	Department	O	Organizational unit	
02	Division	O	Organizational unit	
03	Business Unit	O	Organizational unit	
04	Job Classification	C	Job	
05	Position	S	Position	

Default Employee Central Object Types and Mapped SAP ERP HCM Object Types

If you want to add organizational object types to data replication from Employee Central to SAP ERP HCM, define entries whose ID starts with the letter X, Y, or Z.

## Procedure

1. In Customizing for Personnel Management, choose [Integration with SuccessFactors Employee Central](#) [Business Integration Builder](#) [Organizational Data Integration](#) [Define Organizational Object Types for Integration](#).
2. Add the Employee Central object types you want to transfer, and the corresponding SAP ERP HCM object types.
3. Go to [Define Additional Employee Central Entities for Organizational Data](#) in the same Customizing structure.
4. Create an Employee Central entity for each object type.
5. Add the appropriate Employee Central object type to the Employee Central entity.

For the object types defined by SAP, you can use the default Employee Central entities.

### Note

There needs to be a 1:1 relation between object types and Employee Central entities. This means that you can't define two Employee Central entities that use the same type of data transfer and have the same object type assigned (for example two web service-based Employee Central entities for the [Location](#) object type).

## Example

You make the following entry in the [Define Organizational Object Types for Integration](#) Customizing activity:

Additional Organizational Object Type for Replication

Employee Central Object Type	Description of Employee Central Object Type	SAP ERP HCM Object Type	Description of SAP ERP HCM Object Type
X1	Location	F	Location

Then you go to the [Define Additional Employee Central Entities for Organizational Data](#) Customizing activity and create the following Employee Central entities:

Custom Employee Central Entities for Location Object Type

Employee Central Entity ID	Employee Central Entity Description	Employee Central Object Type
9_CSV_LOC	Location	X1
9_WS_LOC	Location	X1

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Transferring Language-Dependent Fields \[page 85\]](#)

**Next task:** [Synchronizing IDs of Organizational Objects in SAP ERP HCM and Employee Central \[page 92\]](#)

## 4.7.9 Synchronizing IDs of Organizational Objects in SAP ERP HCM and Employee Central

Define that types of organizational objects, such as positions or organizational units, are to use the same IDs in Employee Central and in SAP ERP HCM so that you can easily determine which objects correspond to each other across systems.

### Prerequisites

You can only sync IDs between Employee Central and SAP ERP HCM if you meet the following prerequisites:

- External codes for organizational objects in Employee Central must consist of an 8-digit number. They must not be longer than eight characters and must not contain any letters. If you've already created organizational objects in Employee Central with external codes that don't fulfill this requirement, you must change these codes to 8-digit numbers from the synchronized number range.
- Before you define any number ranges, make sure that you've migrated existing organizational objects from SAP ERP HCM to Employee Central and that the key mapping table `SFIOM_XMAP_OSI` is filled for the migrated



objects. We recommend that you use the migration tools provided by us to carry out this step. For more information, refer to [Migrating Data from SAP ERP HCM to Employee Central Using Infoporter](#).

## Context

You can sync IDs between Employee Central and SAP ERP HCM if the ID transferred from Employee Central belongs to an external number range that is defined for the corresponding object type in the SAP ERP HCM system. When objects use an external number range, this means that an external number assignment is performed for them. So numbers aren't assigned by the SAP ERP HCM system automatically, but by an external system – in our case Employee Central. When using external number ranges, you can replicate the object IDs from Employee Central to the SAP ERP HCM system and use them there for the corresponding organizational objects.

## Procedure

1. Find out which external number ranges are defined in your SAP ERP HCM system for the object types you want to replicate from Employee Central and whose IDs you want to synchronize in Employee Central and SAP ERP HCM.

To do so, go to Customizing for *Organizational Management* and choose ► *Basic Settings* ► *Maintain Number Ranges* ► *Maintain Number Ranges* . If no suitable external number ranges are defined here, create them as suitable for your requirements. To do this, create an entry, then select it and choose ► *Number Range Maintenance* ► *Intervals* .

### ❖ Example

Let's say an external number range is defined for organizational units, which uses numbers between 5,000,000 and 9,999,999.

Or maybe the following number ranges are defined for all organizational object types in your SAP ERP HCM system: An external number range with numbers from 0,0000,001 to 49,999,999 and an internal number range with numbers from 50,000,000 to 99,999,999, as shown here:

**Display Number Range Intervals**

NR Object:

Subobject: \$\$\$\$ = all objects

No.	From number	To number	Current number	Ext	
EX	00000001	49999999		<input checked="" type="checkbox"/>	= external no. range
IN	50000000	99999999	50161949	<input type="checkbox"/>	= internal no. range

Example: Number Ranges Defined for All Organizational Object Types in SAP ERP HCM

2. In Employee Central, define the same number ranges for the organizational objects that correspond to the SAP ERP HCM object types. Here's how to do this:

- a. Using the [Manage Sequence](#) admin tool, create a suitable [Sequence](#) object.

The sequence holds the lower boundary of the number range, such as 5,000,000, the step size, such as 1, and the current value, such as 5,000,009.

**Manage Data**

Search :

**Sequence: ORG\_REPL\_OSI\_NO\_RANGE (ORG\_REPL\_OSI\_NO\_RANGE)**

\* externalCode:

\* externalName:

\* start:

\* step:

current: 5,000,009

Example: Sequence for Business Units, Divisions, Departments

- b. Using the [Manage Data](#) admin tool, create a [MessageDefinition](#) object.

The message definition will show an error message, such as *The number range for external code of this object type is exhausted. Please contact your administrator.*, when the upper boundary of the number range defined by the sequence is reached. Its date type is [string](#).

Search :

**MessageDefinition: ORG\_REPL\_OSI\_NO\_RANGE (ORG\_REPL\_OSI\_NO\_RANGE)**

\* text  ⓘ

\* externalCode

\* externalName

\* status

**parameterDefinitions**

* dataType	* externalCode	* externalName	* status
<input type="button" value="String"/>	<input type="text" value="Click or focus to edit"/>	<input type="text" value="Click or focus to edit"/>	<input type="button" value="Active"/>

**Example: Message Definition for the Sequence**

- c. Using the [Configure Object Definitions](#) admin tool, change the visibility of the [externalCode](#) field for all entities that are to use the sequence to [Read Only](#).

This prevents unauthorized users from manually entering or changing the external code of the corresponding object. Search for the corresponding object type, such as [Business Unit](#), then choose [Take Action](#) [Make Correction](#). In the details of the [externalCode](#) field, change the [Visibility](#) parameter to [Read Only](#).

If you want specific users to be able to edit the [externalCode](#) field nevertheless, create a separate permission role, which defines field level override for the [externalCode](#) field of the corresponding object type, and assign it to these users. This requires [Security](#) [Secured](#) to be set to [Yes](#) in the object definition.

If you want to check whether the object is in [Create](#) or [Update](#) mode, add an additional field, such as [isNewObject](#), to the object definition. The type is [Boolean](#), the default value is [Yes](#), and the visibility is [Read Only](#).

- d. Using the [Configure Business Rules](#) admin tool, create a business rule of type [onSave](#), which will use the next number of the sequence each time a new entity of the corresponding object type is created as shown here:

```

IF OrgObject is in Create mode THEN
  IF the defined range is not exhausted THEN
    INCREASE the current value of the sequence
    SET externalCode = current value of sequence
  ELSE
    RAISE error message
  END IF
END IF

```

**ORG\_REPL\_OSI\_NO\_RANGE (ORG\_REPL\_OSI\_NO\_RANGE)**

Basic Information		Parameters	
<b>Start Date</b>	01/01/1900	<b>Name</b>	Object
<b>Rule Type</b>	onSave (onSave)	<b>Context</b>	System Context
<b>Description</b>	Using a Sequence to set the External Code of Business Unit, Division and Department Objects		

[Collapse All](#) | [Expand All](#)

---

**If**

**Then**

[Add Else If](#)

---

**Else If**

Applies standard rounding to the value entered.

**Value:**

Select  where...

**Precision:**

(Optional) **Threshold:**

---

**Then**

Generate text based on string template

**Template:**

**Number:**

Get next value from a sequence object

**Sequence:**

[Add Else If](#)

---

**Else**

**Message:**  **Severity:**  **Associate Message To:**

The number range for external code of this object type is exhausted. Please contact your administrator

### Example: Business Rule for Using the Sequence

To use the same sequence for multiple object types, create a rule for each object type and make sure that all rules reference the same sequence and have the same upper boundary value defined.

#### → Tip

If the *onSave* rule type isn't available in your SAP SuccessFactors instance yet, create it. To do this, go to Admin Center and choose the *Configure Object Definitions* tool. In *Search*: choose *Picklist* and *Rule Type*, then add an entry for *onSave*. For more information, refer to [Implementing Business Rules in SAP SuccessFactors](#)






- e. Using the [Configure Object Definitions](#) admin tool, assign this business rule to all entities that are to use the number range.

Search for the corresponding object type, such as [Business Unit](#), then add the rule you've created in the [saveRules](#) section in the object definition.

#### Example

Organizational units from SAP ERP HCM correspond to departments, divisions, and business units in Employee Central. That's why you need to define a common number range for departments, divisions, and business units in Employee Central, as shown in the example above.

For the second example, you would define a common number range in Employee Central for all organizational object types that you want to include in data replication. This number range must use numbers from 0,0000,001 to 49,999,999. (The internal number range 50,000,000 to 99,999,999 is used, for example, when an organizational object is created using the [Organization and Staffing Change](#) (PPOME) transaction in the SAP ERP HCM system.)

3. In Customizing for Personnel Management, choose  [Integration with SuccessFactors Employee Central](#)  [Business Integration Builder](#)  [Organizational Data Integration](#)  [Define Organizational Object Types Whose IDs Are to Be Synchronized with EC](#) , select your Employee Central company ID, and enter all object types that are to use the same IDs in Employee Central and in SAP ERP HCM.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Adding Organizational Object Types to the Integration \[page 90\]](#)

**Next task:** [Creating Custom Employee Central Entities \[page 97\]](#)

## 4.7.10 Creating Custom Employee Central Entities

Define custom Employee Central entities for all organizational object types you add to the replication.

### Context

An Employee Central entity represents an object type from Employee Central in the SAP ERP HCM system. This includes self-contained objects, such as [Business Unit](#) or [Position](#), and composite child objects such as [Matrix Relationship For Position](#). The Employee Central entity provides all Employee Central fields of the corresponding object type that are available for field mapping.

We provide default Employee Central entities for the default object types (business units, divisions, departments, job classifications, and positions) and for the composite child object [Matrix Relationship For Position](#). For all additional object types that you've defined in the [Define Organizational Object Types for Integration](#) Customizing step and for other composite child objects you want to include in the replication, you need to create custom entities.

## Procedure

1. In Customizing for Personnel Management, choose ► [Integration with SuccessFactors Employee Central](#) ► [Business Integration Builder](#) ► [Organizational Data Integration](#) ► [Define Additional Employee Central Entities for Organizational Data](#) and enter a unique entity ID and a description. The ID has to be in the customer namespace, which means that it has to start with a number (0\* – 9\*). You can enter any description.
2. Define the basic settings.
  - a. Enter the entity name from Employee Central.

Use the exact name of the corresponding entity in Employee Central. You can find the name in the Admin Center, using the [OData API Data Dictionary](#) tool.
  - b. Specify the Employee Central object type from the [Define Organizational Object Types for Integration](#) Customizing step.

If you define an Employee Central entity for a composite child object, make sure that you select the object type of the parent object here.
  - c. To define that you want to use the entity for web service-based data transfer, select the [Web Service Transfer](#) communication channel.
  - d. If you want to be able to assign your Employee Central entity to several transformation templates, select the [Multiple Use](#) checkbox.
  - e. Specify whether the Employee Central entity is effective-dated.
3. Define the standard Employee Central fields.
  - a. Specify the Employee Central field (such as [externalCode](#)) in which the code or ID of the entity is stored. This input is mandatory because SAP ERP HCM needs this information to store it in the [Object ID](#) (OBJID) field.
  - b. Specify the Employee Central field (such as [effectiveStartDate](#)) in which the start date of the entity is stored. This input is mandatory because SAP ERP HCM needs this information to store it in the [Start Date](#) (BEGDA) field.
  - c. Specify the Employee Central field (such as [effectiveEndDate](#)) in which the end date of the entity is stored. This input is mandatory because SAP ERP HCM needs this information to store it in the [End Date](#) (ENDDA) field.

You don't need to fill in the standard Employee Central fields if you define an Employee Central entity for a composite child object. They aren't required for composite child objects. Composite child objects aren't self-contained objects. The replication uses the corresponding fields from the parent object.
4. For Employee Central entities corresponding to composite child objects, define the parent-child configuration.
  - a. Leave the upsert sequence number empty. It isn't required for composite child objects.
  - b. In the [Dependent Entity](#) field, select the Employee Central entity that corresponds to the parent object of the composite child object.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Synchronizing IDs of Organizational Objects in SAP ERP HCM and Employee Central \[page 92\]](#)

**Next task:** [Configuring the Replication of Composite Child Objects \[page 99\]](#)

## 4.7.11 Configuring the Replication of Composite Child Objects

Configure replication of composite child objects together with their parent objects. Composite child objects are part of their parent objects in Employee Central. You can only replicate them together with the corresponding parent object to SAP ERP HCM.

### Procedure

1. Go to Customizing for Personnel Management and choose ► [Integration with SuccessFactors Employee Central](#) ► [Business Integration Builder](#) ►.
2. Go to ► [Organizational Data Integration](#) ► [Define Additional Employee Central Entities for Organizational Data](#) ► and define a custom Employee Central entity for the composite child object. Select the Employee Central entity that corresponds to the parent object as the dependent entity for it.

The *EC Org. Obj. Type* field for the child entity must have the same value as entered in the corresponding field for the parent Employee Central entity.

You don't need to fill in the standard Employee Central fields (such as *Object ID in EC*). They aren't required for composite child objects. Composite child objects these aren't self-contained objects. The replication uses the corresponding fields from the parent object.

3. Go to ► [Basic Settings](#) ► [Import Metadata from Employee Central](#) ► [Import Metadata for Web Service-Based Data Transfer from Employee Central](#) ► and import the metadata of the parent and the composite child object from Employee Central. Importing the metadata makes the fields of both parent and child object and the association between the parent and the child object available for field mapping.

#### → Tip

Whenever you add a new composite child to a parent object in Employee Central for which you've set up replication to the SAP ERP HCM system, update the metadata of the parent object in SAP ERP HCM. Else the relation between parent and child isn't present in the SAP ERP HCM system.

4. Go to ► [Organizational Data Integration](#) ► [Define Field Mapping for Organizational Data](#) ►, define a transformation template for the composite child object and ensure that it's in the same template group as the transformation template of the parent object.
5. Define the primary mapping in the transformation template – and if applicable also secondary mapping and conversion rules.

#### [Replication of Composite Child Objects: Concepts and Limitations \[page 100\]](#)

Before starting to set up replication of composite child objects from Employee Central, please familiarize yourself with the basic principles and the limitations of this type of replication.

#### [Example: Configuring the Replication of Matrix Relationship for Positions \[page 101\]](#)

Go through this example to set up replication of a matrix relationships child object for positions to the SAP ERP HCM system.

#### [Example: Configuring the Replication of Cost Distribution for Positions \[page 104\]](#)

Go through this example to set up replication of a cost distribution child object for positions to a table infotype in SAP ERP HCM.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Creating Custom Employee Central Entities \[page 97\]](#)

**Next task:** [Defining Transformation Template Groups, Transformation Templates, and Primary Field Mapping for Organizational Object Replication \[page 109\]](#)

## 4.7.11.1 Replication of Composite Child Objects: Concepts and Limitations

Before starting to set up replication of composite child objects from Employee Central, please familiarize yourself with the basic principles and the limitations of this type of replication.

What you should know about replication of composite child objects to begin with:

- *One to Many* relationships between parent and composite child objects are supported. For example, a *Position* object having multiple *Matrix Relationship For Position* child objects. Or time constraint 3 relations (where any number of valid records of an infotype can exist at any one time).
- A separate Employee Central entity is required for each object – for the parent and each composite child.
- A separate transformation template is required for each object – for the parent and each composite child. All transformation templates belonging together must be in one template group and must all be set to *Active*. A template group cannot contain transformation templates only for child objects. It must always have a template for the parent object – even if this template doesn't have any mappings defined.
- In contrast to field mapping for self-contained objects (using *Valid When* associations in Employee Central), you can't map any composite child fields in the transformation template of the parent object. All child fields need to be mapped in the transformation template of the corresponding composite child object. Nevertheless, the mappings always refer to the parent object, because SAP ERP HCM considers the parent and all of its composite child objects to be one and the same object.
- When setting up primary mapping, secondary mapping, and conversion rules, you can only use the fields of the corresponding object.
- The *Create and Execute Organizational Object Replication Query* (RH\_SF10M\_ORG\_OBJ\_REPL\_QUERY) program only queries the **parent** object from Employee Central. Together with the parent, it queries the **fields** of the composite child. But the composite child **object** itself is not queried separately.

### ⚠ Restriction

Note that the following isn't included in the current scope:

- Hierarchies, such as a parent having a composite child object, which again has a composite child, are currently not supported.
- You can't define a secondary mapping across parent and child objects. You can't fill, for example, a field of the parent object depending on the value contained in a field of the child object.
- You can't define conversion rules across parent and child objects. You can't use, for example, a field of the parent object when defining a conversion rule for the child object.
- You can't use fields of composite child objects for filtering.



## 4.7.11.2 Example: Configuring the Replication of Matrix Relationship for Positions

Go through this example to set up replication of a matrix relationships child object for positions to the SAP ERP HCM system.

### Context

Here's our example: You want to replicate the relationships of an employee's position to a *Matrix Manager* and a *Head of Administration* position to the *Relationships* (1001) infotype in the SAP ERP HCM system. For the *Matrix Manager* relation, you want to use the default subtype *Is subordinate to* (A005). For the *Head of Administration* relation, the custom subtype *Is administrated by* (AHOA).

Employee Central uses the *Matrix Relationship For Position* object to define this type of relationships. *Matrix Relationship For Position* is a composite child of the *Position* object.

The following fields of the *Matrix Relationship For Position* object are important:

- *matrixRelationshipType*  
Has a picklist with, among others, the following values we use in our example:
  - matrix (*Matrix Manager*)
  - admin (*Head of Administration*)
- *relatedPosition*  
Links the matrix position to the parent position.

Watch this how-to video about how to set up replication of position matrix relationships:

#### Note

We're interested in your feedback. Please tell us whether you like the video, using the *Feedback* feature in a guide section containing a video. You can also leave a comment if you want. Your feedback is completely anonymous.

Here are the configuration steps in detail:

### Procedure

1. In Customizing for Personnel Management, choose ► *Integration with SuccessFactors Employee Central* ► *Business Integration Builder* ►.
2. Go to ► *Basic Settings* ► *Import Metadata from Employee Central* ► *Import Metadata for Web Service-Based Data Transfer from Employee Central* ► and import the metadata of *Position* and *Matrix Relationship For Position*.

- Go to ► [Organizational Data Integration](#) ► [Define Field Mapping for Organizational Data](#) ►, where you've already created a template group `OrgObjectReplication` that contains the `ERP_WS_OM_POS` transformation template for the *Position* object.

Within this template group, you now create another transformation template, `ERP_POS_MAT`, for the *Matrix Relationship For Position* object and select the `WS_OM_PMR` default Employee Central entity for it. A field mapping for `ERP_WS_OM_POS` is already in place. You define the following primary and secondary mapping for the `ERP_POS_MAT` template – or copy it from the sample content [Organizational Data EC to ERP: Position Mgmt Relationships](#) (`OM_WS_3`):

- Primary mapping:

Primary Mapping of Child Template

Employee Central Field	Linking Field	Value Mapping Entity
<i>relatedPosition</i> (= link to the parent position in the <i>Matrix Relationship For Position</i> object in Employee Central)	<i>type</i> (= matrix relationship type from Employee Central)	<code>POSITION_WS</code> (defines that the key mapping from the <code>SFIOM_KMAP_OSI</code> table is to be used to determine the keys of the related positions)

- Secondary mapping:

Secondary Mapping of Child Template

Type (= Linking Field from Primary Mapping)	Infotype	Subtype	Infotype Field
matrix (= Employee Central picklist value <i>Matrix Manager</i> )	1001 (= <i>Relationships</i> )	A005 (= default subtype <i>Is subordinate to</i> )	SOBID (= <i>ID of Related Object</i> )
admin (= Employee Central picklist value <i>Head of Administration</i> )	1001 (= <i>Relationships</i> )	AHOA (= custom subtype <i>Is administrated by</i> )	SOBID (= <i>ID of Related Object</i> )

## Results

In our example, you replicate a position from Employee Central that has the following matrix relationships:

Position Matrix Relationships

Type	Related Position
<i>Matrix Manager</i> (matrix)	<i>Matrix Manager Position</i> (29753659864789)
<i>Head of Administration</i> (admin)	<i>Admin Position</i> (89345627349234)

Then the relevant part of the web service payload looks like this:

#### Sample Code

```
<Fields>
  <NavigationFieldName>positionMatrixRelationship</NavigationFieldName>
  <NavigationReferenceID>1</NavigationReferenceID>
  <FieldName>matrixRelationshipType</FieldName>
  <Value>matrix</Value>
</Fields>
<Fields>
  <NavigationFieldName>positionMatrixRelationship</NavigationFieldName>
  <NavigationReferenceID>1</NavigationReferenceID>
  <FieldName>relatedPosition</FieldName>
  <Value>29753659864789</Value>
</Fields>
<Fields>
  <NavigationFieldName>positionMatrixRelationship</NavigationFieldName>
  <NavigationReferenceID>2</NavigationReferenceID>
  <FieldName>matrixRelationshipType</FieldName>
  <Value>admin</Value>
</Fields>
<Fields>
  <NavigationFieldName>positionMatrixRelationship</NavigationFieldName>
  <NavigationReferenceID>2</NavigationReferenceID>
  <FieldName>relatedPosition</FieldName>
  <Value>89345627349234</Value>
</Fields>
```

And the [Relationships](#) infotype of the position in SAP ERP HCM has these records:

Records of Relationships Infotype

Relationship Type	Relationship	Relationship	Type of Related Object	ID of Related Object	Object Abbreviation
A (= bottom up)	005	<i>Is subordinate to</i>	S (= <i>Position</i> )	50081140 (SAP ERP HCM ID, mapped to the Employee Central ID 29753659864789 in the key mapping table)	MatrixPos
A (= bottom up)	HOA	<i>Is administrated by</i>	S (= <i>Position</i> )	50081134 (SAP ERP HCM ID, mapped to the Employee Central ID 89345627349234 in the key mapping table)	AdminPos

## 4.7.11.3 Example: Configuring the Replication of Cost Distribution for Positions

Go through this example to set up replication of a cost distribution child object for positions to a table infotype in SAP ERP HCM.

### Context

Here's our example: You want to replicate cost distribution of an employee's position to several cost centers to the *Cost Distribution* (1018) infotype of the position in the SAP ERP HCM system. *Cost Distribution* is a table infotype. That is, it consists of a table listing every cost center that isn't the leading cost center and to which costs are to be distributed.

You've migrated cost centers from SAP ERP HCM. That is, cost center IDs in Employee Central are concatenated from the controlling area and the cost center ID. For example: US010000045492, where US01 is the controlling area and 45492 is the cost center ID.

In Employee Central, you've created a *Cost Distribution for Position* custom object and associated it as a composite child object to the *Position* object.

The following fields are required for the *Cost Distribution for Position* object in this example:

- *cust\_CostCenter*  
Defines the cost center to which costs are distributed
- *cust\_Percentage*  
Defines the percentage of costs to be distributed to this cost center
- *cust\_DummyField*  
Is an empty field that you use only for generic value conversion. It's required because you want to split the concatenated cost center IDs in SAP ERP HCM. But you can't map the *cust\_CostCenter* field twice, that's why you copy the value from the *cust\_CostCenter* field to the *cust\_DummyField* using a conversion rule.

#### Note

Instead of creating a dummy field for this purpose, you could also use any other field of the *Cost Distribution for Position* object, as long as it isn't mapped in SAP ERP HCM.

Watch this how-to video about how to set up replication of cost distribution for positions:

#### Note

We're interested in your feedback. Please tell us whether you like the video, using the *Feedback* feature in a guide section containing a video. You can also leave a comment if you want. Your feedback is completely anonymous.

Here are the configuration steps in detail:

## Procedure

1. In Customizing for Personnel Management, choose ► [Integration with SuccessFactors Employee Central](#) ► [Business Integration Builder](#) ►.
2. Go to ► [Organizational Data Integration](#) ► [Define Additional Employee Central Entities for Organizational Data](#) ►, create the custom Employee Central entity 0\_COST\_DIS, and make the following settings for it:
  - **Entity Name in EC:** Enter **cust\_CostDistribution**
  - **EC Org. Obj. Type:** Select **05** (*Position* – the object type of the parent object)
  - **Communication Channel:** Select **Web Service Transfer**
  - **Dependent Entity:** Select **WS\_OM\_POS** (which is the default Employee Central entity we provide for the *Position* object).

Leave the other fields empty.

3. Go to ► [Basic Settings](#) ► [Import Metadata from Employee Central](#) ► [Import Metadata for Web Service-Based Data Transfer from Employee Central](#) ► and import the metadata of *Position* and *Cost Distribution for Position*.
4. Go to ► [Organizational Data Integration](#) ► [Define Field Mapping for Organizational Data](#) ►, where you've already created a template group `OrgObjectReplication` that contains the `ERP_WS_OM_POS` transformation template for the *Position* object.

Within this template group, you now create another transformation template, `ERP_COST_DIS`, and select the `0_COST_DIS` Employee Central entity for it. A field mapping for `ERP_WS_OM_POS` is already in place. You define the following primary mapping and generic value conversion for the `ERP_COST_DIS` template:

- Primary mapping:

Primary Mapping of Child Template

Employee Central Field	Mapping Mode	Infotype	Subtype	Infotype Field
<a href="#">cust_CostCenter</a>	Infotype Mapping	1018		KOSTL (Cost Center)
<a href="#">cust_Percentage</a>	Infotype Mapping	1018		PROZT (Weighting Percentage)
<a href="#">cust_DummyField</a>	Infotype Mapping	1018		KOKRS (Controlling Area)

- Generic value conversion:

Value Conversion for cust\_CostCenter

Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Employee Central Field	I/O Indicator	Comment	Example: Field Value Before Conversion Rule	Example: Field Value After Conversion Rule
1	Edit using pattern	____- _____			EC to ERP	Inserts a hyphen (-) after the first four characters of the cost center ID	DE01000 0045492 US01000 0045492	DE01-00 0004549 2 US01-00 0004549 2
2	Split after string/character	-			EC to ERP	Splits the cost center ID after the hyphen	DE01-00 0004549 2 US01-00 0004549 2	0000045 492 0000045 492
3	Replace using patterns with string/EC field	^0+			EC to ERP	Replaces the leading zeros with a string or with the value from the field defined in <a href="#">EC Field</a> . Since no string or field is defined for replacement, the leading zeros are just cut off.	0000045 492 0000045 492	45492 45492

# Value Conversion for cust\_DummyField

Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Employee Central Field	I/O Indicator	Comment	Example:	Example:
							Field Value Before Conversion Rule	Field Value After Conversion Rule
1	Replace string/EC field			84 (= <i>cust_CostCenter</i> )	EC to ERP	Replaces the field value (which doesn't exist in this case since <i>cust_DummyField</i> is empty), with the value from the <i>cust_CostCenter</i> field	Empty	DE01000 0045492 US01000 0045492
2	Edit using pattern	____ - _____			EC to ERP	Inserts a hyphen (-) after the first four characters of the cost center ID	DE01000 0045492 US01000 0045492	DE01-00 00045492 US01-00 00045492
3	Split before string/character	-			EC to ERP	Splits the cost center ID before the hyphen	DE01-00 00045492 US01-00 00045492	DE01 US01

## Results

In our example, you replicate a position from Employee Central for which costs are to be distributed between the following cost centers:

Cost Distribution for Position

Cost Center	Weighting Percentage	Dummy Field
Sales DE (DE010000045492)	40	
Sales US (US010000045492)	60	

Then the relevant part of the web service payload looks like this:

### Sample Code

```
<Fields>
  <NavigationFieldName>cust_CostDistribution</NavigationFieldName>
  <NavigationReferenceID>1</NavigationReferenceID>
  <FieldName>cust_CostCenter</FieldName>
  <Value>DE010000045492</Value>
</Fields>
<Fields>
  <NavigationFieldName>cust_CostDistribution</NavigationFieldName>
  <NavigationReferenceID>1</NavigationReferenceID>
  <FieldName>cust_Percentage</FieldName>
  <Value>40</Value>
</Fields>
<Fields>
  <NavigationFieldName>cust_CostDistribution</NavigationFieldName>
  <NavigationReferenceID>2</NavigationReferenceID>
  <FieldName>cust_CostCenter</FieldName>
  <Value>US010000045492</Value>
</Fields>
<Fields>
  <NavigationFieldName>cust_CostDistribution</NavigationFieldName>
  <NavigationReferenceID>2</NavigationReferenceID>
  <FieldName>cust_Percentage</FieldName>
  <Value>60</Value>
</Fields>
```

### Note

Only cost center and percentage are visible here. The dummy field isn't visible because it's empty. The payload only contains fields that are filled.

And the *Cost Distribution* infotype of the position in SAP ERP HCM has these records:

Records of Cost Distribution Infotype

Controlling Area	Cost Center ID	Cost Center Name	Weighting Percentage
DE01	45492	Sales DE	40
US01	45492	Sales US	60



## 4.7.12 Defining Transformation Template Groups, Transformation Templates, and Primary Field Mapping for Organizational Object Replication

Create a transformation template group containing transformation templates to map SAP ERP HCM fields to Employee Central fields so that the data replication process knows which information it is to extract from Employee Central and in which SAP ERP HCM fields it is to store this information.

[Creating Transformation Template Groups for Organizational Object Replication \[page 109\]](#)

Create at least one transformation template group. The template group bundles transformation templates for different object types, which contain the field mappings that you want to use.

[Creating Transformation Templates for Organizational Object Replication \[page 111\]](#)

Create at least one transformation template for your transformation template group. The transformation template contains the field mappings that you want to use in the replication of a specific object type from Employee Central.

[Configuring Primary Field Mapping for Organizational Object Replication \[page 112\]](#)

Map the Employee Central fields provided by the Employee Central entity to SAP ERP HCM fields, to enable the data replication process to extract the information you need from Employee Central and transfer it to the appropriate SAP ERP HCM fields.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Configuring the Replication of Composite Child Objects \[page 99\]](#)

**Next task:** [Configuring Conditional Mapping for Organizational Object Replication \[page 114\]](#)

### Related Information

[Using the Sample Content to Map Organizational Data Fields \[page 69\]](#)

### 4.7.12.1 Creating Transformation Template Groups for Organizational Object Replication

Create at least one transformation template group. The template group bundles transformation templates for different object types, which contain the field mappings that you want to use.

### Prerequisites

You've defined the Employee Central instance you use for organizational object replication.

## Context

You can create one template group if you want to replicate all object types together, or several template groups if you want to replicate the object types separately.

This example shows one template group that comprises all default object types:

Transformation Template Group		ORG_OBJ_WS	Organizational Data Extraction	
Transformation Template				
	Transformation Template	Description	EC Entity	Is Active
	ERP_BUS	Template for Business Unit	WS_OM_BUS	<input checked="" type="checkbox"/>
	ERP_DEP	Template for Department	WS_OM_DEP	<input checked="" type="checkbox"/>
	ERP_DIV	Template for Division	WS_OM_DIV	<input checked="" type="checkbox"/>
	ERP_JOB	Template for Job	WS_OM_JOB	<input checked="" type="checkbox"/>
	ERP_POS	Template for Position	WS_OM_POS	<input checked="" type="checkbox"/>

Example: Template Group for Business Units, Divisions, Departments, Job Classifications, Positions

The transformation template group is the entity that you specify on the selection screen of the [Create and Execute Organizational Object Replication Query](#) (RH\_SF10M\_ORG\_OBJ\_REPL\_QUERY) program. From the template group, the program determines all information it needs to extract data from Employee Central fields and map it to SAP ERP HCM fields.

## Procedure

1. Go to Customizing for Personnel Management and choose [Integration with SuccessFactors Employee Central](#) [Business Integration Builder](#) [Organizational Data Integration](#) [Define Field Mapping for Organizational Data](#).
2. Go to [Transformation Template Group](#) and choose [New Entries](#).
3. Enter an ID and a name for your template group.
4. Select your Employee Central instance.
5. Choose the communication channel that you want to use for your template group.
6. Select the sample content that you want to use for your template group.

We provide sample content for the default organizational objects (departments, divisions, business units, job classifications, positions).

7. Don't define an earliest transfer date for your template group.

The earliest transfer date isn't used for organizational object replication from Employee Central to SAP ERP HCM. Organizational object replication uses the full transmission start date instead, which you enter on the selection screen of the query program.

8. Don't choose the [Enable for Delta Replication](#) checkbox.

The [Enable for Delta Replication](#) checkbox is only relevant for organizational data replication **to** Employee Central. Organizational data replication **from** Employee Central to SAP ERP HCM uses a different approach for delta replication.

9. Save your entries.

## Next Steps

As the next step, define at least one transformation template for your template group.

### 4.7.12.2 Creating Transformation Templates for Organizational Object Replication

Create at least one transformation template for your transformation template group. The transformation template contains the field mappings that you want to use in the replication of a specific object type from Employee Central.

## Prerequisites

- You've created the transformation template group that you want to use for organizational object replication.
- If you create the transformation template for a custom object type, you must have created a custom Employee Central entity for this object type.

## Context

The transformation template is the SAP ERP HCM counterpart of the Employee Central entity. It groups fields from SAP ERP HCM that can be mapped to Employee Central fields.

## Procedure

1. Go to Customizing for Personnel Management and choose [Integration with SuccessFactors Employee Central](#) [Business Integration Builder](#) [Organizational Data Integration](#) [Define Field Mapping for Organizational Data](#).
2. Select your transformation template group and go to [Transformation Template](#).
3. If you want to have the transformation templates for the default Employee Central entities created automatically, choose [Copy Sample Content](#) and then [Save](#). By saving, you make the sample mappings show up in the [Primary Mapping](#) and [Secondary Mapping](#) views.  
  
If you don't want to use the sample content, skip this step.
4. Choose [New Entries](#) to create a transformation template manually.
5. Enter an ID and a name.

Transformation templates aren't self-contained objects. They only exist within a transformation template group. We recommend that you use the same name for transformation templates created within different template groups if they refer to the same entity. For example, if you create two template groups that both have a transformation template for *Department*, use the same template ID (such as `ERP_DEP`) in both template groups.

6. Select the *Is Active* checkbox.
7. Select the Employee Central entity.

Adding the Employee Central entity enables you to choose the Employee Central fields of the corresponding object type, which you've imported as metadata from Employee Central, and map them to SAP ERP HCM fields. If you create a transformation template for one of the default object types, make sure that you assign the default Employee Central entity provided for the corresponding object type. For all other transformation templates, use the custom Employee Central entity that you've created before.

#### Note

Use the same Employee Central entity (or rather the same transformation template the Employee Central entity has been added to) in only one transformation template group. Or else, queries of the *Last Modified Query* type run into an error. The error message is: Query for EC instance <Employee Central instance>, EC entity <Employee Central entity> already sent for templ. grp <transformation template group>

8. Press `Enter` to populate the *Communication Channel*, *Entity Name in EC*, and *Effective Dated* fields. These fields are automatically filled in with information that comes from the Employee Central entity you've selected.
9. Save your entries.
10. Repeat this procedure starting with step 4 to create more transformation templates. Create a template for each object type that you want to include in the replication.

## Next Steps

As the next step, define the primary field mapping in the transformation templates.

### 4.7.12.3 Configuring Primary Field Mapping for Organizational Object Replication

Map the Employee Central fields provided by the Employee Central entity to SAP ERP HCM fields, to enable the data replication process to extract the information your need from Employee Central and transfer it to the appropriate SAP ERP HCM fields.

## Prerequisites

You've created the transformation template that you want to use for replication of a specific object type.

## Context

The SAP ERP HCM system uses the field mappings you define when posting the replicated data from the staging area to the database.

## Procedure

1. Go to Customizing for Personnel Management and choose ► [Integration with SuccessFactors Employee Central](#) ► [Business Integration Builder](#) ► [Organizational Data Integration](#) ► [Define Field Mapping for Organizational Data](#) .
2. Select your transformation template and go to [Primary Mapping](#).
3. If you want to have the field mappings for the default Employee Central entities created automatically and haven't copied the sample content when defining the transformation template, choose [Copy Sample Content](#). The sample content includes primary mappings as well as secondary mappings (if available).

### → Tip

You can also choose [Show Sample Primary Mapping](#) first to check which mappings are available.

If you don't want to use the sample content, skip this step.

4. Choose [New Entries](#) to create a field mapping manually.
5. Select the Employee Central field that you want to map.

You can choose from the fields provided by the Employee Central entity that's assigned to the transformation template.

6. Select the mapping mode [Infotype Mapping](#).

The other mapping modes are only relevant for organizational data replication **to** Employee Central.

7. Select the SAP ERP HCM infotype, the subtype if applicable, and the infotype field to be mapped.

### ⓘ Note

The [Object Name](#) (STEXT) field of the [Object](#) (1000) infotype is a required field that must be mapped. If you don't create a mapping for this field or remove it from the copied sample content, you're shown a warning message in the view cluster and can't run the [Create and Execute Organizational Object Replication Query](#) (RH\_SF10M\_ORG\_OBJ\_REPL\_QUERY) program.

Also define a mapping for the [Object Abbreviation](#) (SHORT) field. By default, the external object ID from Employee Central is mapped to the [Object Abbreviation](#) field. For new objects whose external ID consists of digits only, the SAP ERP HCM system adds the prefix EC\_ before the ID when writing it to the [Object Abbreviation](#) field. Adding the prefix prevents that follow-on HR processes break because they can't handle object abbreviations that contain only digits. But we still recommend that you map the [Object Abbreviation](#) to a more suitable Employee Central field.

8. If you want to use conditional mapping for a field, select the Employee Central field the conditional mapping is to be based on as the linking field.

If you define a linking field, choose the [Infotype Mapping](#) mapping mode, but don't select any infotype, subtype, or infotype field.

9. Select a value mapping entity if you want to map the Employee Central field values to field values from SAP ERP HCM. Or if you want to use the information stored in the key mapping table in SAP ERP HCM for the mapping of relations to other organizational objects.

If you map associations to other organizational objects (for example, the association of a department to a division) a value mapping entity is required. Because for associations to organizational objects (default objects, such as departments, divisions, or business units, as well as custom objects that you replicate from Employee Central), the data replication process only knows the **Employee Central** object types and IDs. That's why it needs to determine the corresponding **SAP ERP HCM** object types and IDs from the key mapping table `SFIOM_KMAP_OSI`. To enable determination of the mapped SAP ERP HCM object types and IDs from this table, assign a value mapping entity with the value mapping type [Organizational Object Keys from Mapping Table](#) to the field mapping you define to map the association to another organizational object.

Cost centers aren't replicated from Employee Central. They already exist in the SAP ERP HCM system. The SAP ERP HCM IDs of mapped cost centers are determined from different key mapping tables: `PAOCFEC_KMAPCOSC` and `ODFIN_MAP_KOSTL`. To enable determination of the mapped SAP ERP HCM IDs from these tables, assign a value mapping entity with the value mapping type [Cost Center Keys from Mapping Tables](#) to the field mapping you define to map the association to a cost center.

## Next Steps

As the next step, you can define a conditional mapping for your transformation template or format specific Employee Central fields using value conversion if necessary. You can also define filters for your transformation template group.

When you've defined the field mapping and replicated organizational data based on this mapping, make sure that you trigger a full load each time you **change** the field mapping.

## 4.7.13 Configuring Conditional Mapping for Organizational Object Replication

Define that Employee Central fields are to be mapped with SAP ERP HCM fields only when a specific condition is fulfilled – for example, the associated division of a department is to be mapped only if there's no parent department.

## Context

An easy way to define a conditional mapping for the default organizational objects is to copy the sample content we provide and adapt it to your requirements. The sample content contains conditional mapping for departments and divisions. You can copy the sample content either from the [Transformation Template](#) view or from the [Primary Mapping](#) view.

## Procedure

1. Go to Customizing for Personnel Management and choose ► [Integration with SuccessFactors Employee Central](#) ► [Business Integration Builder](#) ► [Organizational Data Integration](#) ► [Define Field Mapping for Organizational Data](#) .
2. In the [Primary Mapping](#) view of a field that is to use conditional mapping, choose the [Infotype Mapping](#) mapping mode. Don't enter any infotype or infotype field.
3. Specify the Employee Central field the conditional mapping is to be based on as the linking field.

### Note

Generic value conversion is processed before secondary mapping. If you define conversion rules for a field that's used as a linking field for secondary mapping, the secondary mapping doesn't use the value that was originally stored in this field. Instead, the secondary mapping is based on the value that is changed by the conversion rules.

4. Go to the [Secondary Mapping](#) view.
5. Enter the value of the linking field in the first column. This entry represents the *If* condition.

You can enter any values, for example:

- ' ' or ' ' (two single quotes with or without a space in between)  
This entry means *is blank* or *is empty* – you can also just leave the field empty.
- <>' ' or <>' ' (a left and a right angle bracket, followed by two single quotes with or without a space in between)  
This entry means *is not initial* or *contains a value*.
- **true**
- **false**

6. Specify the infotype, subtype, and infotype field that are to be mapped if the condition is fulfilled.

### Note

If you enter a value mapping entity here, this entity is used instead of the value mapping entity assigned in primary mapping. If no value mapping entity is assigned here, the one from primary mapping is used.

#### [Mapping Division Relationship of Department Only If No Parent Department Exists \[page 116\]](#)

Go through this example to define that when a department doesn't have a parent department, the relationship to the parent division is to be used. You use conditional mapping to make this setting.

#### [Example: Creating the Relationship of a Position to Other Objects Only If the Position Is Vacant Using Conditional Mapping \[page 117\]](#)

Define that if a position is vacant, its relationships to other objects are to be determined from Employee Central Position Management rather than from the employee's Job Information, as is the default for staffed positions.

#### [Defining Sequence of Departments If Multiple Departments on the Same Structure Level Are Replicated \[page 119\]](#)

Go through this example to map the priority of a department's relationship to the parent department using conditional mapping. This mapping defines the sequence in which departments are displayed in the SAP ERP HCM system if several departments on the same hierarchical level of a structure are replicated from Employee Central.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Defining Transformation Template Groups, Transformation Templates, and Primary Field Mapping for Organizational Object Replication \[page 109\]](#)

**Next task:** [Formatting Employee Central Fields Using Value Conversion \[page 121\]](#)

## Related Information

[Using the Sample Content to Map Organizational Data Fields \[page 69\]](#)

### 4.7.13.1 Mapping Division Relationship of Department Only If No Parent Department Exists

Go through this example to define that when a department doesn't have a parent department, the relationship to the parent division is to be used. You use conditional mapping to make this setting.

## Prerequisites

If you want to use the sample content we provide, the transformation template group that you use for replication of organizational objects from Employee Central must have the OM\_WS\_1, OM\_WS\_2, or OM\_WS\_3 sample content assigned.

## Context

You can use the sample content to copy this conditional mapping. Find more information here if you want to create this mapping (or similar mappings) manually.

## Procedure

1. Select the transformation template that you use for *Department* in the *Define Field Mapping for Organizational Data* customizing activity.
2. Choose *Primary Mapping*.
3. Create the following field mapping.



Employee Central Field	Mapping Mode	SAP ERP HCM Infotype	Subtype	Infotype Field	Linking Field for Secondary Mapping
<a href="#">cust_toDivision/externalCode</a>	Infotype Mapping				<a href="#">Parent Department</a>

4. Select the entry and choose [Secondary Mapping](#).

5. Leave the first column blank or enter ' '.

This entry means: "If the [Parent Department](#) field of a department is empty, then map the [cust\\_toDivision/externalCode](#) field to ..."

6. In the same row, enter the infotype **1001**, the subtype **A002**, and the infotype field **SOBID**.

This setting means: "If the [Parent Department](#) field of a department is empty, then map the [cust\\_toDivision/externalCode](#) field of the department to the [ID of Related Object](#) (SOBID) field of the [Relationships](#) (1001) infotype using the [Reports \(line\) to](#) (A002) relationship. If the [Parent Department](#) field is filled, don't map the [cust\\_toDivision/externalCode](#) field of the department."

## Next Steps

In the same way, you can also make corresponding settings for divisions so that the parent business unit is used if no parent division exists. This mapping is also contained in the OM\_WS\_1, OM\_WS\_2, and OM\_WS\_3 sample content.

### 4.7.13.2 Example: Creating the Relationship of a Position to Other Objects Only If the Position Is Vacant Using Conditional Mapping

Define that if a position is vacant, its relationships to other objects are to be determined from Employee Central Position Management rather than from the employee's Job Information, as is the default for staffed positions.

## Context

This conditional mapping is contained in the sample content we provide. It's the [Organizational Data EC to ERP: Job Info Relationships and Vacancies from Position Mgmt](#) (OM\_WS\_2) use case. You can use this conditional mapping for the following scenario:

- If a position is staffed (that is, it has an incumbent in Employee Central), the position relationships are created based on Employee Central **Job Information** using the **organizational assignment** replication process. This requires that you haven't added any of the following constants in the [Maintain Constant Values for Data Replication from EC](#) customizing activity:
  - [EC to ERP: Omit Position-Job Rel. in Non-Config. Org Assignm](#)

- [EC to ERP: Omit Pos.-Cost C. Rel. in Non-Config. Org Assignm](#)
- [EC to ERP: Omit Pos.-Org Unit Rel. in Non-Config. OrgAssignm](#)
- [EC to ERP: Omit Pos.-Manager Rel. in Non-Config. Org Assignm](#)
- If a position is vacant (that is, it has the [To Be Hired](#) status in Employee Central), you replicate position relationships from Employee Central **Position Management** using the **organizational object** replication process. This requires that you've set up a conditional mapping for organizational object replication, so that it checks whether the position is vacant.

### Note

We don't recommend using this "mixed" scenario. We rather recommend that you replicate all position relationships from Employee Central Position Management using the organizational object replication process.

## Procedure

1. Select the transformation template that you use for [Position](#) in the [Define Field Mapping for Organizational Data](#) customizing activity.
2. Choose [Primary Mapping](#).
3. Select the [parentPosition/code](#) Employee Central field and the [Infotype Mapping](#) mapping mode. Don't enter any infotype or infotype field.
4. Select [Vacant](#) as the linking field.
5. Choose [Secondary Mapping](#) and add the following entry..

Vacant	SAP ERP HCM Infotype	SAP ERP HCM Subtype	SAP ERP HCM Infotype Field
TRUE	1001	A002	SOBID

This entry means: "If the [Vacant](#) field of a position is set to [true](#), then map the [parentPosition/code](#) field of the position to the [ID of Related Object](#) (SOBID) field of the [Relationships](#) (1001) infotype using the [Reports \(line\) to](#) (A002) relationship. If the [Vacant](#) field isn't set to [true](#), don't map the [parentPosition/code](#) field of the position."

## Results

The integration now checks whether the position is vacant. If this is the case, the organizational object replication process is used to replicate the position relationship to the parent position from Employee Central Position Management.

## Next Steps

Repeat the steps to set up the same conditional mapping for the position relationships to other organizational objects. For the default objects, use the following fields in primary mapping of the *Position* template. The linking field is always the *Vacant* field.

- *costCenter*
- *department*
- *jobCode*

Go to Customizing for the Business Integration Builder and choose ► *Data Replication from Employee Central* ► *Basic Settings* ► *Maintain Constant Values for Data Replication from EC* ►, add the *EC to ERP: Pos. Relations: Vacant/Staffed fr. Diff. Sources* constant, and set its value to **x**.

### 4.7.13.3 Defining Sequence of Departments If Multiple Departments on the Same Structure Level Are Replicated

Go through this example to map the priority of a department's relationship to the parent department using conditional mapping. This mapping defines the sequence in which departments are displayed in the SAP ERP HCM system if several departments on the same hierarchical level of a structure are replicated from Employee Central.

## Prerequisites

Using conditional mapping for this example only works if you map multiple fields for a relationship to **one** parent object.

## Context

A specific relationship is stored as a subtype of the *Relationships* (1001) infotype. You can't map two different fields for the same subtype of an infotype. So, to map another field – in addition to the *ID of Related Object* (SOBID) field – of a specific relationship, use conditional mapping.

If you want to map multiple fields for the same relationship to **multiple** parent objects, don't use this approach. Instead, create a composite child object and define the primary and secondary mapping for the composite child object.

#### ❁ Example

A department has multiple positions assigned. You want to map the *ID of Related Object* (SOBID) and the *Priority* (PRIOX) field for the relationship to each position. That's why you define a composite child object for *Position* and add it to the *Department* parent object. Then you carry out the steps shown in the example for the *Position* child object. That is, you map the SOBID field for the relationship to the parent department in

primary mapping of the transformation template of the *Position* child object. And you map the `PRIOR` field for the relationship to the parent department in secondary mapping.

Using a composite child object has the advantage that you need to define the primary and secondary mapping only once. It's reused for each composite child object you define in Employee Central for the parent object and replicate to SAP ERP HCM.

## Procedure

1. Select the transformation template that you use for *Department* in the *Define Field Mapping for Organizational Data* customizing activity.
2. Choose *Primary Mapping*.
3. Create the following field mapping.

Employee Central Field	Mapping Mode	SAP ERP HCM		Infotype Field	Linking Field for Secondary Mapping	Comment
Infotype	Subtype					
Parent Department	Infotype Mapping	1001 (= <i>Relationships</i> )	A002 (= <i>Reports (line to)</i> )	SOBID (= <i>ID of Related Object</i> )		This defines the relationship of the department (in SAP ERP HCM: the organizational unit) to the parent department (in SAP ERP HCM: the parent organizational unit)
<Field holding the priority value> (select a field that indicates the priority of the association in Employee Central)	Infotype Mapping				Parent Department	This is the hook for the secondary mapping. In this case, the linking field tells the SAP ERP HCM system, to which association the secondary mapping belongs.

4. Select the second entry and choose *Secondary Mapping*.
5. Create the following entry.

ID of Related Object	SAP ERP HCM Info-type	Subtype	Infotype Field	Comment
<>"	1001 (= <i>Relationships</i> )	A002 (= <i>Reports (line) to</i> )	PRIOX (= <i>Priority</i> )	This means: "If the <i>ID of Related Object</i> field is not initial/contains a value, then map the <Field holding the priority value> of the department to the <i>Priority</i> (PRIOX) field of the <i>Relationships</i> (1001) infotype using the <i>Reports (line) to</i> (A002) relationship."

## 4.7.14 Formatting Employee Central Fields Using Value Conversion

Use generic value conversion to format the content of Employee Central fields used in organizational data replication, before the field and value mapping are processed in SAP ERP HCM. For example, replace the field value with the value from another Employee Central field, cut off parts of the content, or add a string to the field value.

### Context

Value conversion enables you to format the value of an Employee Central field by maintaining a sequence of supported operations. The conversion supports a set of arithmetic and string operations. You can define the sequence at which the different value conversion operations are to be executed.

The Employee Central field is replicated to the corresponding SAP ERP HCM infotype field after the formatting according to the value conversion you defined has been applied.

#### 📘 Note

Generic value conversion is processed before secondary (conditional) mapping. This means, if you define conversion rules for a field that's used as a linking field for secondary mapping, secondary mapping doesn't use the value that was originally stored in this field. Instead, secondary mapping is based on the value that is changed by the conversion rules.

## Procedure

1. Go to Customizing for Personnel Management and choose [Integration with SuccessFactors Employee Central](#) [Business Integration Builder](#) [Organizational Data Integration](#) [Define Field Mapping for Organizational Data](#) [Primary Mapping](#).

2. Map an Employee Central to an SAP ERP HCM field, using the [Infotype Mapping](#) mapping mode.

The Employee Central field doesn't have to be a field you actually use in data replication. It can also be a "dummy" field you just use for value conversion. This "dummy" field doesn't need to have a value in Employee Central. It can also be empty and then filled in the SAP ERP HCM system by a conversion rule.

### Note

You can't define a value conversion for language-dependent Employee Central fields. Language-dependent fields are currently not supported.

3. Select your entry, go to the [Generic Value Conversion](#) view in the same Customizing activity, and make the following entries:

Field	Description
<a href="#">Seq. No.</a>	If you define multiple conversion rules for the same field, they are carried out in the order defined by the sequence number.
<a href="#">Conversion Rule</a>	Select the conversion rule you want to use. For more information see the detailed description below.
<a href="#">Parameter 1</a>	<b>Optional:</b> First parameter to be used in the rule. Which parameter needs to be filled in and how it is used depends on the rule you have selected.
<a href="#">Parameter 2</a>	<b>Optional:</b> Second parameter to be used in the rule. Which parameter needs to be filled in and how it is used depends on the rule you have selected.
<a href="#">EC Field</a>	<b>Optional:</b> Employee Central field to be used in the rule. Whether the <a href="#">EC Field</a> parameter is used depends on the rule you have selected.
<a href="#">I/O Indicator</a>	Choose the direction <a href="#">EC to ERP</a> .

To specify a space character as the only or the leading character in one of the parameters, enter `<nbs>`.

In the parameter fields, you can only enter Employee Central fields. You will not be able to directly use an SAP ERP HCM infotype field as a parameter in the value conversion rules. In case you need to perform some operations based on an infotype field, you will have to first map another Employee Central field of the same transformation template to the infotype field and then use this new Employee Central field as a parameter in the value conversion. Both Employee Central field values are then transferred from Employee Central.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Configuring Conditional Mapping for Organizational Object Replication \[page 114\]](#)

**Next task:** [Configuring Filters for Organizational Data Replication \[page 136\]](#)

## 4.7.14.1 Available Conversion Rules

You can choose from various conversion rules to format the content of Employee Central fields you replicate to SAP ERP HCM.

### Multiply with a Number

Parameter 1	Parameter 2	EC Field	Description
Value to be multiplied with			Multiply with a constant value.

### Replace Using Patterns with String or Employee Central Field

Parameter 1	Parameter 2	EC Field	Description
Pattern (any standard regular expression)	String	ID of Employee Central field	Replace the characters in the field value that match the pattern entered in <i>Parameter 1</i> with a string or with the value from the field defined in <i>EC Field</i> .

#### ❖ Example

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Result
Custom&StringPart1-StringPart2	1	Replace using patterns with string or Employee Central field	&	/	Custom/StringPart1-StringPart2

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Result
	2	Replace using patterns with string or Employee Central field	–	\	Custom/StringPart1\ StringPart2
	3	Replace using patterns with string or Employee Central field	Part	<nbsp>	Custom/String 1\ String 2

### → Tip

For more information on regular expressions, see ► [ABAP - By Theme](#) ► [Process Internal Data](#) ► [Byte String and Character String](#) ► [Regular Expressions](#) in the ABAP keyword documentation. To access the ABAP keyword documentation, position the cursor on an ABAP statement for which you need help and choose F1. To test a regular expression, use the [Regular Expressions](#) (DEMO\_REGEX\_TOY) program.

## Append String or Employee Central Field

Parameter 1	Parameter 2	EC Field	Description
String or character to be used as separator	String	ID of Employee Central field	Concatenate the field value with a string or with the value from the field defined in <a href="#">EC Field</a> , suffixing the value, separated by the characters entered in <a href="#">Parameter 1</a>

### ❖ Example

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	EC Field	Result
ABCD	1	Append string or Employee Central field		1 2 3 4		ABCD1234
	2	Append string or Employee Central field	–	Test		ABCD1234– Test



Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	EC Field	Result
	3	Append string or Employee Central field	/		10	ABCD1234-Test/string1

**Note**

Assuming that the value of the Employee Central field 10 is *string1*.

## Adjust String to Length

Parameter 1	Parameter 2	EC Field	Description
Length to be adjusted to	Filler characters to be used		Adjust the Employee Central field value to a fixed length. In case the value is shorter than what's entered in <i>Parameter 1</i> , fill it up with the characters defined by <i>Parameter 2</i> . In case the value is longer, cut off characters at the end.

### Example

Value Is Shorter Than Defined Field Length

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Result
US	1	Adjust string to length	4	X	USXX

Value Is Longer Than Defined Field Length

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Result
US011234567890	1	Adjust string to length	4	X	US01

## Prepend String or Employee Central Field

Parameter 1	Parameter 2	EC Field	Description
String or character to be used as separator	String	ID of Employee Central field	Concatenate the field value with a string or with the value from the field defined in <a href="#">EC Field</a> , prefixing the value, separated by the characters entered in <a href="#">Parameter 1</a>

### ❖ Example

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Result
ABCD	1	Prepend string or Employee Central field	–	Test	Test -ABCD

## Replace with String or Employee Central Field

Parameter 1	Parameter 2	EC Field	Description
	String	ID of Employee Central field	Replace the Employee Central field value, regardless of the content, with a string or with the value from the field defined in <a href="#">EC Field</a> .

## ⓘ Note

Using this conversion rule, you can store the value of an Employee Central field as a duplicated entry in a second infotype field. To duplicate a field, map a "dummy" Employee Central field to the second infotype field and replace its value with the value from the Employee Central field that you want to duplicate.

## 🔗 Example

Replace with String

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Result
ABCD	1	Replace with constant or Employee Central field		Test	Test

Replace with Employee Central Field

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	EC Field	Result
ABCD	1	Replace with constant or Employee Central field			12	XYZ

## ⓘ Note

Assuming that the value of the Employee Central field 12 is **XYZ**.

## Split Before String or Character

Parameter 1	Parameter 2	EC Field	Description
String or character to be used for splitting			Split at the first occurrence of the string or character entered in <b>Parameter 1</b> and cut off what comes after this string or character.

### Example

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Result
ABCD-Test	1	Split before string or character	-		ABCD

## Split After String or Character

Parameter 1	Parameter 2	EC Field	Description
String or character to be used for splitting			Split at the first occurrence of the string or character entered in <a href="#">Parameter 1</a> and cut off what comes before this string or character.

### Note

You can use this conversion rule to cut off parts of the field value at the **beginning** of a field (since [Adjust string to length](#) cuts off at the **end** only). Use [Edit using pattern](#) first to insert a character after which you can split the value. In the example below, this means that you would first insert a hyphen in ABCDTest, to get ABCD-Test.

### Example

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Result
ABCD-Test-1234	1	Split after string or character	-		Test

## Edit Using Pattern

Parameter 1	Parameter 2	EC Field	Description
Mask			Insert characters or strings at specific positions of the field value using a mask, such as ____-____/____, where each underscore represents a character of the incoming string. The final output string then shows the additional characters from the mask.

### ❖ Example

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Result
AABBCCDD	1	Edit using pattern	__: __/ __+__		AA : BB / CC+DD

## Check and Replace

Parameter 1	Parameter 2	EC Field	Description
String to be compared with	String to be used for replacement	ID of the Employee Central field to be used for comparison	Replace the value of an Employee Central field with a string, but only if it is the same as the value of another field from the same Employee Central entity.

### ❖ Example

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	EC Field	Result
ABCD	1	Check and replace	true	TEST	10	TEST

#### 📌 Note


Assuming that the Employee Central field 10 is Boolean.

## 4.7.14.2 Sample Scenarios with Multiple Conversion Rules

See two examples of how you can define a sequence of different conversion rules.

### Cut Off Before Blank, Cut Off at the End, Append Value from an Employee Central Field, and Prepend String

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	EC Field	Result
AA-BB/ CC Test_string	1	Split before string or character	<nbsp>			AA-BB/CC
	2	Replace using patterns with string or Employee Central field	/CC\$			AA-BB

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	EC Field	Result
	3	Append string or Employee Central field	+		10	AA-BB+string1
<div>  <b>Note</b>            Assuming that the value of the Employee Central field 10 is <i>string1</i>.         </div>						
	4	Prepend string or Employee Central field	/	Constant		Constant/AA-BB+string1

## Insert Hyphen, Cut Off Before Hyphen, and Append String

Employee Central Field Value	Sequence Number	Conversion Rule	Parameter 1	Parameter 2	EC Field	Result
US01123456789	1	Edit using pattern	_____ - _____			US01-123456789
	2	Split after string or character	-			123456789
	3	Append string or Employee Central field	x			123456789x

### 4.7.14.3 Mapping One Employee Central Field to Two SAP ERP HCM Fields Using Value Conversion

Use value conversion to map an Employee Central field to two or more SAP ERP HCM fields.

#### Context

By default, if you've mapped an Employee Central field to an SAP ERP HCM field either in primary or in secondary mapping of a transformation template, you can't use the same Employee Central field in a primary or secondary mapping with another SAP ERP HCM field in the same transformation template. Use value conversion to map the same Employee Central field to two or more SAP ERP HCM fields.

#### ❖ Example

Let's say you want to map the Employee Central field `field1` to two SAP ERP HCM fields: `FIELD1` and `FIELD2`.

#### Procedure

1. Go to Customizing for Personnel Management and choose [Integration with SuccessFactors Employee Central](#) [Business Integration Builder](#) [Organizational Data Integration](#) [Define Field Mapping for Organizational Data](#), then select the relevant transformation template group and template.
2. Go to the [Primary Mapping](#) view and define a mapping between the Employee Central field and one of the two SAP ERP HCM fields, as usual.

In our example, map `field1` to `FIELD1`.

3. Stay in the [Primary Mapping](#) view define another mapping between a "dummy" Employee Central field and the second SAP ERP HCM field.

The "dummy" field can be any Employee Central field that is available in the Employee Central entity linked to the transformation template and that isn't used in any other mapping within this transformation template. This second mapping is used to pass on the value of the Employee Central field you mapped in the previous step to the second SAP ERP HCM field.

In our example, map the Employee Central field `field10` (which isn't used for another mapping in this transformation template) to `FIELD2`.

4. Select the mapping from the previous step, go to the [Generic Value Conversion](#) view, and add the following entry here:

Conversion Rule

Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Employee Central Field	I/O Indicator
1	Replace with string/EC field			field1	EC to ERP



This rule replaces whatever value is contained in the Employee Central field you mapped in the previous step (`field10`) with the value contained in the `field1` field. So that the value of the `field1` field is used in the mapping you created in the previous step.

5. To map the same Employee Central field to more SAP ERP HCM fields, repeat the third and fourth step for each mapping.

In case no more "dummy" Employee Central fields are available, you can edit the metadata of the corresponding Employee Central entity. Go to ► [Business Integration Builder](#) ► [Basic Settings](#) ► [Import Metadata from Employee Central](#) ► [Transport Imported Metadata and Check Metadata for File-Based Data Transfer](#) ► and add new Employee Central fields manually.

#### 4.7.14.4 Example: Defaulting the Percentage That a Department Is Assigned to the Parent Department Using Value Conversion

In this example, you replicate departments from Employee Central and want to default the weighting percentage of the relationship to the parent department with the value 100, to indicate that a department is assigned 100% to this parent department.

### Context

A specific relationship is stored as a subtype of the [Relationships](#) (1001) infotype. You can't map two different fields for the same subtype of an infotype. So, to map another field – in addition to the [ID of Related Object](#) (`SOBID`) field – of a specific relationship, use conditional mapping. Then use value conversion to store a value in this additional field.

### Procedure

1. In Customizing, go to ► [Personnel Management](#) ► [Integration with SuccessFactors Employee Central](#) ► [Business Integration Builder](#) ► [Organizational Data Integration](#) ► [Define Field Mapping for Organizational Data](#) ► and select the transformation template group and template you use for the department entity.
2. In the [Primary Mapping](#) view, define the following mappings:

## Primary Mapping

Employee Central Field	Mapping Mode	SAP ERP HCM Infotype	Subtype	Infotype Field	Linking Field for Secondary Mapping	Comment
Parent Department	Infotype Mapping	1001 (= Relationships)	A002 (= Reports (line to))	SOBID (= ID of Related Object)		This defines the relationship of the department (in SAP ERP HCM: the organizational unit) to the parent department (in SAP ERP HCM: the parent organizational unit)
<Field to be used for secondary mapping> (select any field for which you can ensure that it always has a field value and which is not yet otherwise mapped)	Infotype Mapping				Parent Department	This is the hook for the secondary mapping and the value conversion. In this case, the linking field tells the SAP ERP HCM system, to which association the secondary mapping belongs.

- Select the second entry and go the [Secondary Mapping](#) view. Define the following entry here:

## Secondary Mapping

ID of Related Object	SAP ERP HCM Info-type	Subtype	Infotype Field	Comment
<>"	1001 (= <i>Relationships</i> )	A002 (= <i>Reports (line) to</i> )	PROZT (= <i>Weighting Percentage</i> )	This means: "If the <i>ID of Related Object</i> field is not initial/contains a value, then map the <Field to be used for secondary mapping> of the department to the <i>Weighting Percentage</i> (PROZT) field of the <i>Relationships</i> (1001) infotype using the <i>Reports (line) to</i> (A002) relationship."

- Go to the *Generic Value Conversion* view and add the following entry here:

### Conversion Rule

Sequence Number	Conversion Rule	Parameter 1	Parameter 2	Employee Central Field	I/O Indicator	Comment
1	Replace with string/EC field		100		EC to ERP	This replaces whatever value is contained in the <Field to be used for secondary mapping> of the department with 100. Since this field is mapped to the PROZT field of the relationship from the department to the parent department, the weighting percentage of this relationship will be defaulted with 100.

## 4.7.15 Configuring Filters for Organizational Data Replication

Define criteria to filter organizational object replication from Employee Central to the SAP ERP HCM system. For example, to filter out time slices where objects are inactive.

### Context

The filters you define are used by the *Create and Execute Organizational Object Replication Query* (RH\_SF10M\_ORG\_OBJ\_REPL\_QUERY) program.

### Procedure

1. Go to Customizing for Personnel Management and choose ► *Integration with SuccessFactors Employee Central* ► *Business Integration Builder* ► *Organizational Data Integration* ► *Define Filters for Organizational Object Replication* .
2. Define the filter:
  - a. Choose the template group on which your filtering is to be based.
  - b. Choose an Employee Central entity that is available in this template group.
  - c. Choose an Employee Central field that is available for filtering from the Employee Central entity.

#### Note

You can choose from all filterable fields, except for *externalCode* fields, navigation fields, and fields of the *datetime* or *datetimeoffset* type.

- d. Choose the filter mode you want to use:
  - Filtering on data record level  
This filter mode means that only those data records of an object are replicated that fulfill your filter criteria. Data records that don't fulfill the criteria aren't replicated.

#### Example

To filter for all active data records, define a filter for the status field that uses the *Filter on Data Record Level* filter mode. The filter criterion would be **A** (Active).

You can't define more than two filters on data record level.

- Filtering on object level  
This filter mode means that **all** data records of an object are replicated if at least **one** record of the object fulfills your filter criteria.

#### Example

To filter for all positions that belong to a specific company, define a filter for the company field that uses the *Filter on Object Level* filter mode. A filter criterion could be, for example, the **US01** company.

You can't define more than one filter on object level.

3. Define the filter criteria for your filter. You can define one criterion or several criteria. Here's what you need to define for each criterion:
  - a. Enter a unique number. You can enter any number here. The number is needed to differentiate between several entries you make for the same filter.
  - b. Choose the operator you want to use. Currently only one operator is available: *Equal: Single Value*. This means you can specify exactly one filter value.
  - c. Enter the field value for which you want to filter. For each filter criterion, you can specify one filter value only. You can't use any operators or characters such as the comma or the inverted comma. To define more filter values, add more filter criteria.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Formatting Employee Central Fields Using Value Conversion \[page 121\]](#)

**Next task:** [Configuring Values for the Status Inactive to Be Considered in the Replication \[page 140\]](#)

## 4.7.15.1 Filtering Out Data Records When the Object Is Inactive

To prevent inactive data records of organizational objects from being replicated from Employee Central, filter the replication for active records.

### Prerequisites

Filtering for active data records only works if the *MDF Version History* field of the corresponding object definition in Employee Central is set to either *Delete History* or *Complete History*. Only then creating an inactive record for the object or changing an active record to inactive triggers the replication to SAP ERP HCM. To check this setting, use the *Configure Object Definitions* tool in the Admin Center in Employee Central.

For more information, refer to [Basic Configurations in Object Definition](#) in *Implementing the Metadata Framework (MDF)*.

If you want to filter the replication for active data records, you must configure the filter also for the default objects (business units, divisions, departments, job classifications, and positions). For these objects, we provide sample content that you can copy and adapt to suit your requirements.

### Context

If you don't create a filter for active data records, all records of an object are replicated, regardless of their status. Since the SAP ERP HCM system doesn't have a status field for organizational objects, it considers the objects to be active in all data records.

If you create a filter for active data records, the middleware ensures that only those records are replicated in which the objects are active. The SAP ERP HCM system then creates and delimits the records accordingly. But objects that are inactive for their complete lifecycle aren't replicated. The SAP ERP HCM system isn't able to consider these objects, for example, by deleting or delimiting them, depending on their start date. If you want to replicate also objects that are inactive for their complete lifecycle from Employee Central, don't create a filter for active data records. Instead, configure the values for the status *Inactive* to be considered in the replication.

## Procedure

1. Go to Customizing for Personnel Management and choose [Integration with SuccessFactors Employee Central](#) [Business Integration Builder](#) [Organizational Data Integration](#) [Define Filters for Organizational Object Replication](#).

2. To use the sample content for the default objects, choose [Copy Sample Content](#) and select the transformation template group for which you want to define the filtering.

The sample content is copied for all transformation templates that are available in the selected template group. Once you've defined a filtering for this template group (either by copying or by entering them manually), you can no longer copy the sample content. Either remove all entries and copy again, or show the sample content and use it as an example for defining your filtering manually.

3. For all other objects (or if you want to create filters manually) define filters on data record level for the status field.

Example of Filter (For Default Object)

Employee Central Instance	Template Group	Employee Central Entity	Employee Central Field
EC_INSTANCE	ORG_OBJ_WS ( <i>Organizational Objects</i> )	WS_OM_BUS ( <i>Business Unit</i> )	2 ( <i>status</i> )

4. Define the filter criterion for each filter, using the operator [Equal: Single Value](#) and the field value that stands for *Active*.

Example of Filter Criterion

Record Number	Operator	Field Value
1	Equal: Single Value	A

## Related Information

[Active and Inactive Objects and Data Records in Employee Central Compared to SAP ERP HCM \[page 196\]](#)  
[Configuring Values for the Status Inactive to Be Considered in the Replication \[page 140\]](#)

## 4.7.15.2 Example: Filtering for the Company of a Position

Filter replication of positions for the company the position belongs to.

### Procedure

1. Go to Customizing for Personnel Management and choose ► [Integration with SuccessFactors Employee Central](#) ► [Business Integration Builder](#) ► [Organizational Data Integration](#) ► [Define Filters for Organizational Object Replication](#) ►.

2. Define the following filter:

Filter for Company of Position

Employee Central Entity	Employee Central Field	Filter Mode
WS_OM_POS	company	Filter on Object Level

3. Define the following criteria for this filter:

Filter Criteria for Company of Position

Record Number	Operator	Field Value
1	Equal: Single Value	DE01
2	Equal: Single Value	US01

### Results

Only positions that belong to either company DE01 or company US01 are replicated to the SAP ERP HCM system. All data records of these positions are replicated, regardless of whether a single record has the company DE01 or US01 assigned or not.

## 4.7.16 Configuring Values for the Status Inactive to Be Considered in the Replication

To replicate objects that are inactive for their complete lifecycle from Employee Central, specify the values you use in Employee Central to indicate that an organizational object is inactive.

### Context

The SAP ERP HCM system doesn't have a status field for organizational objects. By default, it considers all replicated time slices of an object to be active, regardless of whether they're active or inactive in Employee Central.

If you specify the *Inactive* status values an object can have in Employee Central in the SAP ERP HCM system, all time slices are replicated. Inactive time slices are filtered out in SAP ERP HCM, considering the values you entered. The replication of all time slices enables the SAP ERP HCM system to process objects that are inactive for their complete lifecycle.

#### Note

Make the settings we describe here only if you have use cases such as the following:

A new organizational object, such as a position, is created for a new hire in Employee Central and replicated to the SAP ERP HCM system. But the employee doesn't show up to start work. Therefore, the position is set to *Inactive* in Employee Central, using the status value *I*. You want the replication to delete or delimit the position in the SAP ERP HCM system. That's why you enter the status value *I*. The inactive position is then replicated from Employee Central. The position is deleted or delimited in the SAP ERP HCM system, depending on its start date.

#### → Tip

You can also create a filter for active time slices, to have inactive time slices being filtered out by the middleware. This filter no longer applies if you make the settings we describe here. We recommend deleting it in this case.

### Procedure

1. Go to Customizing for Personnel Management and choose ► *Integration with SuccessFactors Employee Central* ► *Business Integration Builder* ► *Organizational Data Integration* ► *Specify Values for Status Inactive to Be Considered in the Replication* ►.
2. Select the transformation template group that you use for the replication of organizational objects from Employee Central.
3. Select the Employee Central entity of the object type (for example, the *Position* entity).
4. Select the field that holds the object status in Employee Central.
5. Enter the status values that stand for *Inactive* in Employee Central.



[Processing of Inactive Objects or Inactive Data Records of Objects Replicated from Employee Central When Values for Inactive Status Are Configured in SAP ERP HCM \[page 141\]](#)

How the SAP ERP HCM processes inactive organizational objects and records of objects if you've configured the values for the inactive status that are to be considered in the replication.

**Task overview:** [Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

**Previous task:** [Configuring Filters for Organizational Data Replication \[page 136\]](#)

## Related Information

[Active and Inactive Objects and Data Records in Employee Central Compared to SAP ERP HCM \[page 196\]](#)

[Filtering Out Data Records When the Object Is Inactive \[page 137\]](#)

### 4.7.16.1 Processing of Inactive Objects or Inactive Data Records of Objects Replicated from Employee Central When Values for Inactive Status Are Configured in SAP ERP HCM

How the SAP ERP HCM processes inactive organizational objects and records of objects if you've configured the values for the inactive status that are to be considered in the replication.

If you've configured the SAP ERP HCM system to consider the values that Employee Central uses for the inactive status, all objects and data records are replicated, regardless of their status. The SAP ERP HCM system processes the inactive objects and records depending on the individual situation.

#### Entire Object Is Inactive and Has Never Been Replicated

The object is inactive throughout its lifecycle in Employee Central. It hasn't been replicated yet.

When the data is replicated from Employee Central for the first time, the SAP ERP HCM system doesn't create the object.

#### Entire Object with Start Date After the FTSD Is Inactive and Has Been Replicated Before

The object is inactive throughout its lifecycle in Employee Central. It was replicated to the SAP ERP HCM system before. The replication also created relationships for the object in SAP ERP HCM. The start date of the object is after the full transmission start date (FTSD) you defined for the replication of organizational objects.

When the updated data is replicated from Employee Central, the SAP ERP HCM system deletes the object and all its relationships.

## Entire Object with Start Date Before the FTSD Is Inactive and Has Been Replicated Before

The object is inactive throughout its lifecycle in Employee Central. It was replicated to the SAP ERP HCM system. The replication also created relationships for the object in SAP ERP HCM. The start date of the object is before the FTSD.

When the updated data is replicated from Employee Central, the SAP ERP HCM system delimits the object and its relationships on the FTSD.

## Entire Object Is Inactive and Has Been Replicated Before, Relationships for the Object Were Created Manually in SAP ERP HCM

The object is inactive throughout its lifecycle in Employee Central. It was replicated to the SAP ERP HCM system before. The replication created relationships for the object in SAP ERP HCM. In addition, relationships for the object have been created manually in the SAP ERP HCM system.

When the updated data is replicated from Employee Central, the SAP ERP HCM system sets the replication request to status *Pending* and raises the following message:

*<Employee Central object type> <Employee Central object name> (<ERP object ID>) can't be deleted because relations to other objects exist*

Example: *Position POS68 (50631843) can't be deleted because relations to other objects exist*

If you're shown this message because additional relationships were created in SAP ERP HCM, delete them manually in the *Relationships* (1001) infotype. Then process the replication request again.

### Note

The message is also raised if the replication of employee organizational assignments from Employee Central hasn't run yet. In this case, the object possibly still has relationships in the SAP ERP HCM system. For example, because the employee is still assigned to the object in SAP ERP HCM, although the assignment has been deleted in Employee Central. In this case, replicate the updated organizational assignments from Employee Central and then process the replication request again.

## Object Is Partially Inactive and Has Been Replicated Before

The object has at least one record in which it is active in Employee Central. But in another record at the beginning, at the end, or in the middle of its lifecycle it is inactive. It was replicated to the SAP ERP HCM system before.

When the updated data is replicated from Employee Central, the SAP ERP HCM system reacts as follows:

- If the inactive record is at the beginning, SAP ERP HCM removes this record and moves the object start date to the start date of the first active record.
- If the inactive record is at the end, SAP ERP HCM removes this record and delimits the object on the end date of the last active record.
- If the inactive record is in the middle and the time constraint allows for gaps, SAP ERP HCM retains the gap between active records in the middle of the object lifecycle. The time constraint of the [Object](#) (1000) infotype, however, doesn't allow for a gap between active records. Therefore, the gap that exists in Employee Central between the active records is closed in the SAP ERP HCM system. SAP ERP HCM considers the object as active for all replicated records.

## 4.8 Configuration Example: Replication of a Custom Organizational Object Type from Employee Central

Go through this example to set up replication of a custom organizational object type from Employee Central to the SAP ERP HCM system.

## 4.9 Configuring Generic Object Replication with Object-Specific Processing

If you use generic object replication with object-specific processing, you only need to make the minimum settings we describe here.

### Prerequisites

In the [Define If You Use Specific Processing for Organizational Objects](#) Customizing activity, you have set the `SFSFI` `SPOMP` switch value to **x** to indicate that you want to use object-specific processing.

#### Note

You can only use object-specific processing of organizational objects if the Business Integration Builder mode is **not** enabled in your system. That is, in Customizing of the Business Integration Builder, under [Basic Settings](#) [Maintain the Constant Values](#), there must not be an entry for [Activate BIB for EC to ERP Employee Replication](#) with the constant value set to **x**.

## Context

### Note

The minimum settings only apply to the default objects (business units, divisions, departments, job classifications, positions). If you replicate additional organizational objects, you need to make all Customizing settings for these additional objects that we've described for the *Generic Object Replication with Generic Processing* use case.

To define customer-specific settings, use the Customizing activities in the integration add-on for SAP ERP HCM and SAP SuccessFactors Employee Central (PA\_SE\_IN). In your SAP ERP HCM system, go to the *Customizing: Execute Project* (SPRO) transaction and choose *SAP Reference IMG*. In the *SAP Customizing Implementation Guide* structure, open ► *Personnel Management* ► *Integration with SuccessFactors Employee Central* ► *Business Integration Builder* ►. Then make the following settings in this Customizing structure.

## Procedure

### 1. Specify Employee Central Instance ID

In this Customizing activity, you define an ID, which represents your SAP SuccessFactors Employee Central configuration in the SAP ERP HCM system and refers to the metadata you use in Employee Central and to basic settings for data transfer between SAP ERP HCM and Employee Central.

### Note

The ID you define here doesn't necessarily have to be identical with the name of your SAP SuccessFactors instance.

### 2. Import Metadata for Web Service-Based Data Transfer from Employee Central

In this Customizing activity, you import the Employee Central metadata for **all** organizational object types you want to include in the replication. This refers to the default organizational object types as well as to all additional object types you define. The metadata import makes Employee Central fields available in the SAP ERP HCM system so that you can use them for field mappings and filtering.

### 3. Define Additional Employee Central Entities for Organizational Data

In this Customizing activity, you can check the default Employee Central entities that are provided for organizational object replication.

An Employee Central entity represents an entity from Employee Central (such as *Business Unit* or *Position*) in the SAP ERP HCM system. It provides all Employee Central fields of the corresponding entity that are available for field mapping.

Default Employee Central entities are provided for the default object types (business units, divisions, departments, job classifications, and positions). There's no need to define any custom Employee Central entities if you use generic object replication with object-specific processing.

### 4. Define Field Mapping for Organizational Data

In this Customizing activity, you create transformation template groups and assign a transformation template or a set of transformation templates to each template group.

## Note

Don't define a cutoff date for your template group. The cutoff date isn't used for organizational data replication from Employee Central to SAP ERP HCM. We use the full transmission start date instead.

Don't choose the [Enable for Delta Replication](#) checkbox either. Organizational data replication from Employee Central to SAP ERP HCM uses a different approach for delta replication.

The transformation template is the SAP ERP HCM counterpart of the Employee Central entity. It groups fields from SAP ERP HCM that can be mapped to Employee Central fields. You can create one template group if you want to replicate all object types together, or several template groups if you want to replicate the object types separately.

This example shows one template group that comprises all object types:

Transformation Template Group		ORG_OBJ_WS	Organizational Data Extraction	
Transformation Template				
	Transformation Template	Description	EC Entity	Is Active
	ERP_BUS	Template for Business Unit	WS_OM_BUS	<input checked="" type="checkbox"/>
	ERP_DEP	Template for Department	WS_OM_DEP	<input checked="" type="checkbox"/>
	ERP_DIV	Template for Division	WS_OM_DIV	<input checked="" type="checkbox"/>
	ERP_JOB	Template for Job	WS_OM_JOB	<input checked="" type="checkbox"/>
	ERP_POS	Template for Position	WS_OM_POS	<input checked="" type="checkbox"/>

Example: Template Group for Business Units, Divisions, Departments, Job Classifications, Positions

Each transformation template needs to have the default Employee Central entity assigned that is provided for the corresponding object type.

Template Group	ORG_OBJ_WS	Organizational Data Extraction
Transf. Template	ERP_BUS	Template for Business Unit

Transformation Template	
<input checked="" type="checkbox"/> Is Active	
<input type="checkbox"/> Don't Merge Records	
EC Integration Services	
EC Entity	WS_OM_BUS Business UnitTemplate for Web Service
Communication Channel	Web Service Transfer
Entity Name in EC	FOBusinessUnit
<input checked="" type="checkbox"/> Effective Dated	

Example: Details of Business Units Template

This is all you need to do in the Customizing activity. Since the SAP ERP HCM system uses a default field mapping when posting the replicated data from the staging area to the database, you don't need to make any settings in the [Primary Mapping](#) or [Secondary Mapping](#) views. For more information about the default field mapping, refer to the sections linked below.

## 5. [Define Filters for Organizational Object Replication](#)

In this Customizing activity, you define criteria for filtering the organizational object replication from Employee Central to the SAP ERP HCM system. The filters you define here are used by the [Create and Execute Organizational Object Replication Query](#) (RH\_SF10M\_ORG\_OBJ\_REPL\_QUERY) program.

## Related Information

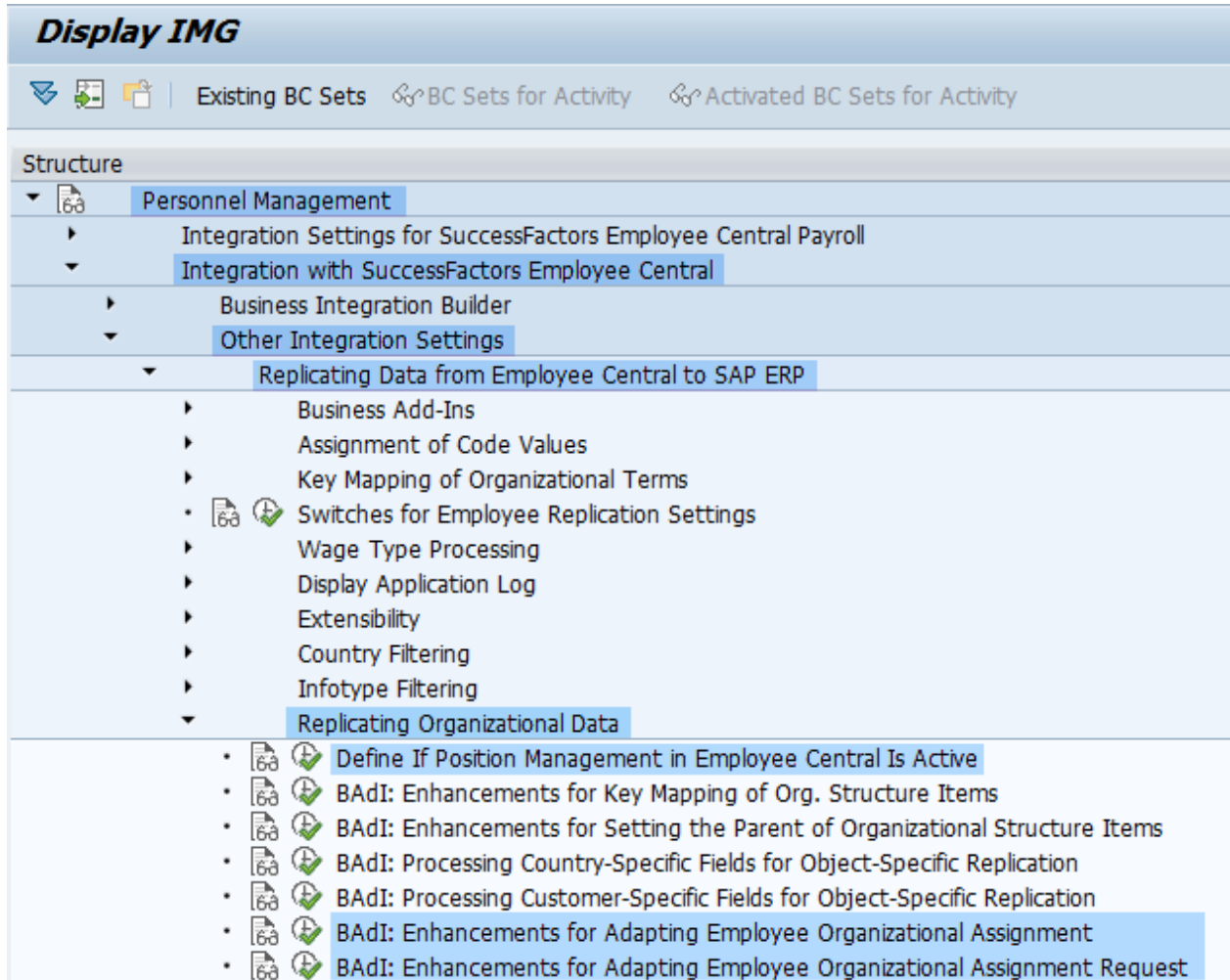
[Generic Processing Compared to Object-Specific Processing of Organizational Objects \[page 65\]](#)

## 4.10 Customizing Settings for Organizational Assignment Replication

To define customer-specific settings for the replication of employee organizational assignments, use the Customizing activities and Business Add-Ins (BAdIs) in the integration add-on for SAP ERP HCM and SAP SuccessFactors Employee Central (PA\_SE\_IN).

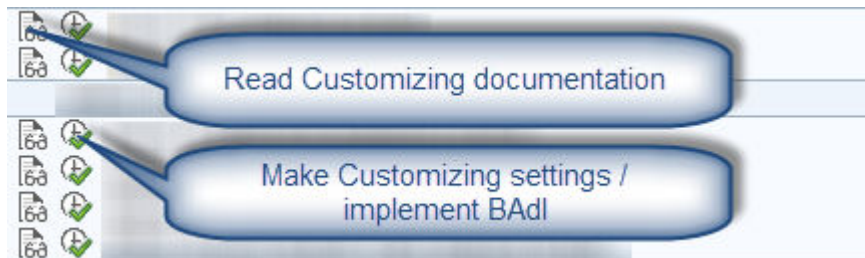
In your SAP ERP HCM system, go to the [Customizing: Execute Project](#) (SPRO) transaction and choose [SAP Reference IMG](#). In the [SAP Customizing Implementation Guide](#) structure, open ► [Personnel Management](#)

› Integration with SuccessFactors Employee Central › Other Integration Settings › Replicating Data from SuccessFactors to SAP ERP › Replicating Organizational Data »:



Overview of Customizing Structure

In the Customizing structure, you can find detailed information for each Customizing activity and BAdI:



Details of Customizing Structure

The following Customizing activities are available for organizational assignments replication:

This Customizing activity ...	Includes this Customizing object ...	And is used for this purpose ...
<a href="#">Define If Position Management in Employee Central Is Active</a>	View variant V_T77S0_SFSEFI_PMACT	Set the SFSEFI_PMACT switch to specify if Position Management is enabled in your Employee Central instance
<a href="#">BAdI: Enhancements for Adapting Employee Organizational Assignment</a>	BAdI definition EX_SF10M_ADAPT_EE_ORG_ASSGNMNT	Adapt the standard organizational assignments replicated from Employee Central to the SAP ERP HCM system to suit your specific requirements.
<a href="#">BAdI: Enhancements for Adapting Employee Organizational Assignment Request</a>	BAdI definition EX_SF10M_ADAPT_EE_ORG_ASS_REQ	Adapt the standard organizational assignment requests used to replicate organizational assignments from Employee Central, before they're processed in the SAP ERP HCM system.

#### [Enabling Creation of the Confirmation Message \[page 148\]](#)

Enable creation of confirmations for data replication from Employee Central to SAP ERP HCM to ensure that the Employee Central Data Replication Monitor is updated the current replication status.

## 4.10.1 Enabling Creation of the Confirmation Message

Enable creation of confirmations for data replication from Employee Central to SAP ERP HCM to ensure that the Employee Central Data Replication Monitor is updated the current replication status.

### Context

Confirmations are being sent by the SAP ERP HCM system to Employee Central for employee master data, employee organizational assignment, and employee time data replication, to update the Data Replication Monitor with the replication status. You need to enable them in your SAP ERP HCM system.

### Procedure

1. Go to the [Maintain Table Views](#) (SM30) transaction in your SAP ERP HCM system.
2. Enter **V\_T77S0** in the [Table/View](#) field and choose [Maintain](#) (or [Edit](#)).
3. Choose [New Entries](#) and enter the following data:
  - [Group](#): **YSFEC**
  - [Sem.abbrev](#) (Semantical Abbreviation): **YRESP**
  - [Value abbrev](#) (Value Abbreviation): **X**



4. Save your entries.

## 4.11 Using the Programs for Organizational Data Replication

These are the programs and transactions provided by the integration add-on for SAP ERP HCM and SAP SuccessFactors Employee Central (PA\_SE\_IN) in your SAP ERP HCM system.

Programs and Transaction Codes for Organizational Data Replication

For this replication scenario ...	And this action ...	This program is used ...	Which you can access using this transaction code ...
Organizational objects	Create and send query to replicate data for organizational objects from Employee Central	<a href="#">Create and Execute Organizational Object Replication Query</a> (RH_SF10M_ORG_OBJ_REPL_QUERY)	
Organizational objects	Reset the status to <a href="#">Failed</a> if the query remains in the <a href="#">Sent</a> status for a longer period of time	<a href="#">Reset Query Administration Table</a> (RH_SF10M_RESET_QRY_ADM)	SF10M_RESET_QRY_ADM
Organizational objects	Process replication requests in the staging area and post the results to the database	<a href="#">Replicate Organizational Objects from EC to SAP ERP Org. Mgmt</a> (RH_SF10M_PROC_ORG_STRUC_RPRQ)	SF10M_PROC_ORG_OBJ
Organizational objects	Display replication requests	<a href="#">Display Organizational Object Replication Requests</a> (RH_SF10M_VIEW_ORG_STRUC_RPRQ)	SF10M_VIEW_ORG_REQS
Organizational objects	Delete replication requests	<a href="#">Delete Organizational Object Replication Requests</a> (RH_SF10M_DEL_ORG_STRUC_RPRQ)	
Organizational assignments	Process replication requests in the staging area and post the results to the database	<a href="#">Replicate Employee Org. Assignments from EC to SAP ERP Org. Mgmt</a> (RH_SF10M_PROC_EE_ORG_ASS_RPRQ)	SF10M_PROC_ORG_ASS
Organizational assignments	Display replication requests	<a href="#">Display Employee Org. Assignment Replication Requests</a> (RH_SF10M_VIEW_EE_ORG_ASS_RPRQ)	SF10M_VIEW_REQUESTS
Organizational assignments	Delete replication requests	<a href="#">Delete Employee Org. Assignment Replication Requests</a> RH_SF10M_DEL_EE_ORG_ASS_RPRQ	

For this replication scenario ...	And this action ...	This program is used ...	Which you can access using this transaction code ...
Organizational assignments	Check the replicated assignments for a specific employee	<i>Display Employee Organizational Assignment Replications</i> (RH_SF10M_CHECK_EE_ORG_ASS)	SF10M_CHK_EE_ORG_ASS

# 5 Middleware Setup

Set up SAP Cloud Integration as the middleware, to use it in integration between Employee Central and the SAP ERP HCM system.

## Note

For more information about which versions of the middleware content provided for this integration are still supported and which have been deprecated, refer to SAP Note [2684991](#).

## Caution

You are only allowed to configure the content as described in this guide. If you make modifications not described in this guide, SAP will not provide support for the modified content.

The middleware content described in this guide is meant for use in SAP Cloud Integration. You are not allowed to deploy it in an on-premise SAP Process Orchestration system. For more information, see SAP Note [2428801](#).

### [Middleware Content for Organizational Data Replication \[page 152\]](#)

Get an overview of the integration content that's available in SAP Cloud Integration for replicating organizational data from Employee Central to SAP ERP HCM.

### [Prerequisites for Using SAP Cloud Integration \[page 155\]](#)

Before you start configuring SAP Cloud Integration for organizational data replication from Employee Central to SAP ERP HCM, make sure that the prerequisites listed below are fulfilled.

### [Configuring SAP Cloud Integration for Organizational Data Replication \[page 156\]](#)

Some configuration steps are required to set up the integration flows for organizational data replication.

### [Monitoring in SAP Cloud Integration \[page 185\]](#)

Use the monitoring features of SAP Cloud Integration to check whether any issues occurred in your middleware processes.

### [Field Mapping in the Middleware \[page 185\]](#)

Organizational assignment replication from Employee Central to SAP ERP HCM uses field mapping in the middleware.

### [Reporting Middleware Issues \[page 189\]](#)

Report a case if you have issues that you can't solve using the monitoring in SAP Cloud Integration, providing information about the process run.

## 5.1 Middleware Content for Organizational Data Replication

Get an overview of the integration content that's available in SAP Cloud Integration for replicating organizational data from Employee Central to SAP ERP HCM.

Replication of organizational data from Employee Central uses the following integration packages and integration flows:

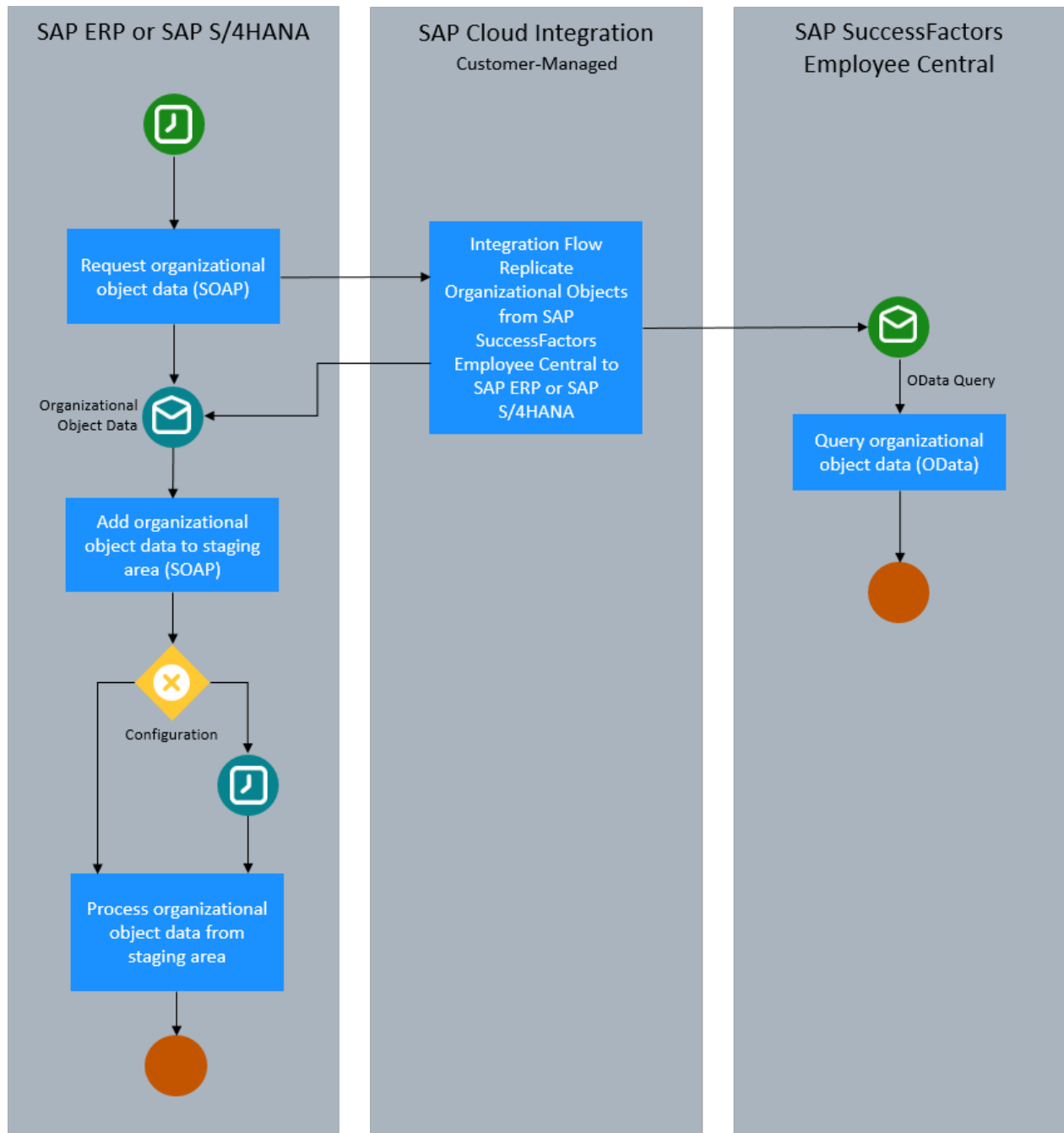
Integration Package	Contained Integration Flows
<i>SAP SuccessFactors Employee Central Integration with SAP ERP or SAP S/4HANA: Organizational Data</i>	<i>Replicate Organizational Objects from SAP SuccessFactors Employee Central to SAP ERP or SAP S/4HANA</i>  <i>Replicate Organizational Assignments from SAP SuccessFactors Employee Central to SAP ERP or SAP S/4HANA</i>
<i>SAP ERP or SAP S/4HANA Integration with SAP SuccessFactors Employee Central: Confirmation v2</i>	<i>Send Confirmations from SAP ERP or SAP S/4HANA to SAP SuccessFactors Employee Central</i>

### Note

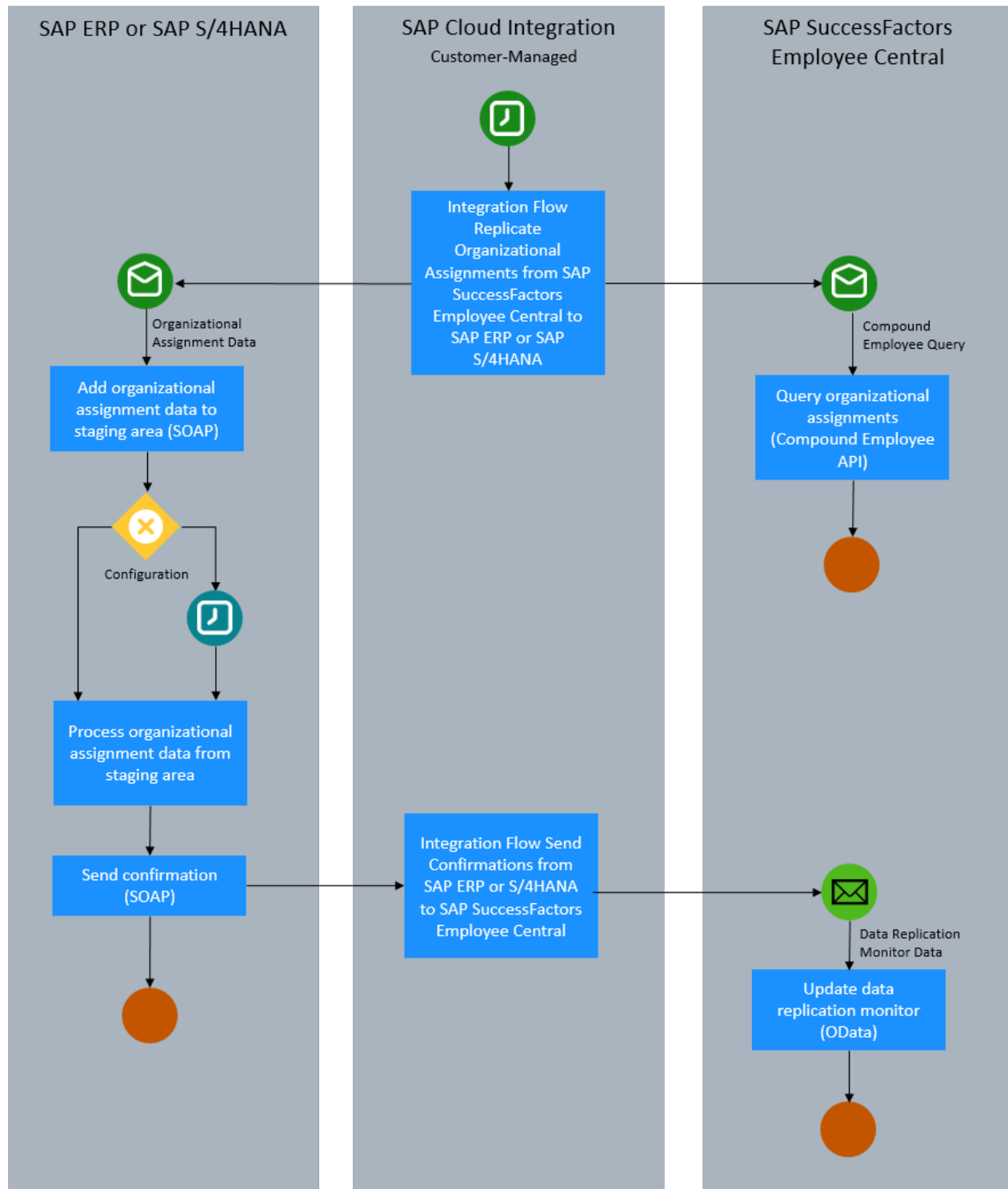
The integration flow for the confirmation message is the same for employee master data replication and employee organizational assignment replication. Since we recommend that you set up the confirmation message for employee master data replication, you don't need to set it up again for organizational assignment replication.

In case you haven't set up the confirmation message yet, refer to [Configuring the Employee Confirmation Message](#) in the guide *Replicating Employee Master Data from Employee Central to SAP ERP HCM Using SAP Cloud Integration as the Middleware (For Implementation Started Before Q2 2017)*.

Here are graphical overviews of how the integration flows work and how the systems interact with each other.



Replication of Organizational Objects from Employee Central



Replication of Organizational Assignments from Employee Central and Confirmation

## 5.2 Prerequisites for Using SAP Cloud Integration

Before you start configuring SAP Cloud Integration for organizational data replication from Employee Central to SAP ERP HCM, make sure that the prerequisites listed below are fulfilled.

Some basic things need to be in place before you can set up the integration flows in SAP Cloud Integration. For more information about the basic setup, refer to [Initial Setup](#).

- You have been provided with an SAP Cloud Integration account.
- You have access to the web-based SAP Cloud Integration tools.  
For details refer to [Tool Access](#).
- You have access to the runtime node.  
For details refer to [Runtime in Detail](#).
- You have an SAP Cloud Integration communication user, which enables the customer system for authentication based on user credentials. SAP Community Network (SCN) users are used for this purpose.  
For details, refer to the SAP Cloud Integration notification email you've received from SAP and to [Creating a User for Cloud Integration, Neo Environment](#).

In addition make sure that the following prerequisites regarding object definitions in Employee Central are fulfilled:

- The start date of these entities must be stored either in the [startDate](#) or in the [effectiveStartDate](#) field.
- The end date of these entities must be stored either in the [endDate](#) or in the [effectiveEndDate](#) field.
- The code of these entities must be stored either in the [code](#) or in the [externalCode](#) field.
- The association between division and business unit must be named [cust\\_toBusinessUnit](#).
- The association between department and division must be named [cust\\_toDivision](#).

Additional settings are also required if you want to replicate shared positions from Employee Central to the SAP ERP HCM system.

### Note

The integration flow for the confirmation message is the same for employee master data replication and employee organizational assignment replication. Since we recommend that you set up the confirmation message for employee master data replication, you don't need to set it up again for organizational assignment replication.

In case you haven't set up the confirmation message yet, refer to [Configuring the Employee Confirmation Message](#) in the guide *Replicating Employee Master Data from Employee Central to SAP ERP HCM Using SAP Cloud Integration as the Middleware (For Implementation Started Before Q2 2017)*.

## Related Information

[Replication of Shared Positions from Employee Central \[page 28\]](#)

## 5.3 Configuring SAP Cloud Integration for Organizational Data Replication

Some configuration steps are required to set up the integration flows for organizational data replication.

Configuring the integration scenario for organizational object replication from Employee Central to SAP ERP HCM means that you set up two integration flows:

- [Replicate Organizational Objects from SAP SuccessFactors Employee Central to SAP ERP or SAP S4HANA](#)  
This integration flow is triggered by the SAP ERP HCM system. It reads data from Employee Central and sends it to SAP ERP HCM.
- [Replicate Organizational Assignments from SAP SuccessFactors Employee Central to SAP ERP or SAP S4HANA](#)  
This integration flow is scheduled in the middleware. It reads data from Employee Central and sends it to SAP ERP HCM.

### Note

The integration flow for the confirmation message is the same for employee master data replication and employee organizational assignment replication. Since we recommend that you set up the confirmation message for employee master data replication, you don't need to set it up again for organizational assignment replication.

In case you haven't set up the confirmation message yet, refer to [Configuring the Employee Confirmation Message](#) in the guide *Replicating Employee Master Data from Employee Central to SAP ERP HCM Using SAP Cloud Integration as the Middleware (For Implementation Started Before Q2 2017)*.

Please go through the following steps to set up the integration flow:

1. [Configuring Certificates and Permissions \[page 157\]](#)  
Configure certificates and permissions to enable a secure connection between your SAP ERP HCM system and SAP Cloud Integration.
2. [Configuring Credentials for Communication Between SAP Cloud Integration and the Integrated Systems \[page 158\]](#)  
Create and deploy the credentials for the technical integration users. SAP Cloud Integration needs the credentials for communication with SAP SuccessFactors Employee Central and with SAP ERP HCM.
3. [How to Find the Endpoint URLs \[page 159\]](#)  
Find the URLs you need to enter so that senders and receivers of the integration flows know which system they are to address.
4. [Copying, Configuring, and Deploying the Integration Content \[page 163\]](#)  
Copy, configure, and deploy the integration content provided for organizational data replication from Employee Central to SAP ERP HCM.
5. [Enabling the SAP ERP HCM Outbound Web Services to Set Up the Connection from SAP ERP HCM to the Middleware \[page 182\]](#)  
Activate the SAP ERP HCM outbound web service used by this integration to set up the connections for communication from the SAP ERP HCM system to SAP Cloud Integration.



## 5.3.1 Configuring Certificates and Permissions

Configure certificates and permissions to enable a secure connection between your SAP ERP HCM system and SAP Cloud Integration.

### Context

Even if you use basic authentication for your integration, certificates are needed to enable a secure HTTPS communication between SAP ERP HCM and SAP Cloud Integration. For more information, refer to [Connecting a Customer System to Cloud Integration](#). The SAP Cloud Integration user must also have the required permissions.

### Procedure

1. Add the root certificate from SAP Cloud Integration in the [Trust Manager](#) (STRUST) transaction in your SAP ERP HCM system, for connections initiated by the SAP ERP HCM system to SAP Cloud Integration.

For more information, refer to [Trust Manager](#).

2. Add the root certificate from SAP ERP HCM in the [Keystore](#) in your SAP Cloud Integration tenant, for connections initiated by SAP Cloud Integration to the SAP ERP HCM system.

For more information, refer to:

- [Creating PSEs and Maintaining the PSE Infrastructure](#) and [Exporting the AS ABAP's Public-Key Certificate](#) for the SAP ERP HCM system
  - [Uploading a Certificate](#) for SAP Cloud Integration
3. Make sure that the SAP Cloud Integration user that is used to trigger calls from outside the middleware to SAP Cloud Integration has the necessary permission for sending messages.

For more information, refer to [Persona](#) for the Cloud Foundry Environment or [Persona](#) for the Neo Environment.

**Task overview:** [Configuring SAP Cloud Integration for Organizational Data Replication \[page 156\]](#)

**Next task:** [Configuring Credentials for Communication Between SAP Cloud Integration and the Integrated Systems \[page 158\]](#)

## 5.3.2 Configuring Credentials for Communication Between SAP Cloud Integration and the Integrated Systems

Create and deploy the credentials for the technical integration users. SAP Cloud Integration needs the credentials for communication with SAP SuccessFactors Employee Central and with SAP ERP HCM.

### Prerequisites

Determine the SAP SuccessFactors credentials for the API user you want to use for the integration. The user must have the permission to call the SAP SuccessFactors `CompoundEmployee` and `OData` APIs.

Determine the SAP ERP HCM credentials for the user that you want to use for the integration.

### Context

For more information about credentials artifacts and other security material in SAP Cloud Integration, refer to [Managing Security Material](#).

### Procedure

1. Go to the SAP Cloud Integration Web UI and choose [Operations View](#) from the top-level menu on the left.
2. Choose [Manage Security](#) [Security Material](#).
3. To create a credentials artifact for the communication between SAP Cloud Integration and Employee Central, choose [Create](#) and select a credentials type.
  - If you want to use the [Basic](#) authentication type for Employee Central receivers, select [User Credentials](#) and deploy a credentials artifact with the following attributes:

Credentials Artifact with Type SuccessFactors

Field Name	User Action and Values
Name	Enter any name.
Type	Select <a href="#">SuccessFactors</a> .
User	Enter the name of the SAP SuccessFactors API user.
Password	Enter the password of the SAP SuccessFactors API user.
Company ID	Enter the name of your SAP SuccessFactors Employee Central instance.

- If you want to use the [OAuth2 SAML Bearer Assertion](#) authentication type for Employee Central receivers, select [OAuth2 SAML Bearer Assertion](#) and deploy a corresponding credentials artifact.  
For more information, refer to [Deploying an OAuth2 SAML Bearer Assertion](#).

4. To create a credentials artifact for the communication between SAP Cloud Integration and SAP ERP HCM, select [User Credentials](#) again.
5. Deploy a credentials artifact with the following attributes:

Credentials Artifact with Type User Credentials for SAP ERP HCM

Field Name	User Action and Values
Name	Enter any name.
Type	Select <a href="#">User Credentials</a> .
User	Enter the name of the SAP ERP HCM integration user.
Password	Enter the password of the SAP ERP HCM integration user.

## Next Steps

You enter the names given to these credentials artifacts when you configure the integration flows.

**Task overview:** [Configuring SAP Cloud Integration for Organizational Data Replication \[page 156\]](#)

**Previous task:** [Configuring Certificates and Permissions \[page 157\]](#)

**Next:** [How to Find the Endpoint URLs \[page 159\]](#)

## 5.3.3 How to Find the Endpoint URLs

Find the URLs you need to enter so that senders and receivers of the integration flows know which system they are to address.

[Finding the URL for Communication from the Middleware to SAP ERP HCM \[page 160\]](#)

Determine the endpoint URL for SAP ERP HCM that you need to enter in the middleware.

[Finding the URL for Communication from SAP ERP HCM to the Middleware \[page 161\]](#)

Determine the endpoint URL for the middleware that you need to enter in SAP ERP HCM.

[Finding the URL for Communication from the Middleware to Employee Central \[page 162\]](#)

Determine the endpoint URL for Employee Central that you need to enter in the middleware.

**Parent topic:** [Configuring SAP Cloud Integration for Organizational Data Replication \[page 156\]](#)

**Previous task:** [Configuring Credentials for Communication Between SAP Cloud Integration and the Integrated Systems \[page 158\]](#)

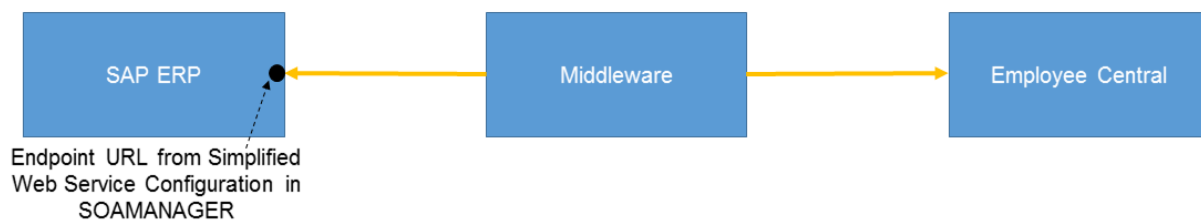
**Next task:** [Copying, Configuring, and Deploying the Integration Content \[page 163\]](#)

### 5.3.3.1 Finding the URL for Communication from the Middleware to SAP ERP HCM

Determine the endpoint URL for SAP ERP HCM that you need to enter in the middleware.

#### Context

The integration flows for organizational data replication need to know the endpoint URL that they are to call in the SAP ERP HCM system.



Endpoint URL in the SAP ERP HCM System

#### Procedure

1. Go to the SOAMANAGER transaction in your SAP ERP HCM system.
2. Choose *Simplified Web Service Configuration*.

##### Note

The *Simplified Web Service Configuration* tool described here is available from SAP NetWeaver 7.0 enhancement package 2 (SAP\_BASIS 702). If you're using a lower SAP NetWeaver release, you must use the *Web Service Configuration* tool instead. For more information, refer to [Configuring a Service Provider](#) in the SAP NetWeaver documentation for release 7.0. For a detailed how-to description of *Web Service Configuration* and *Simplified Web Service Configuration* refer to the SAP Community Network, at [ABAP Connectivity - Web Services ABAP > How to configure a Service Provider](#) and [How to configure a Service Provider \(Simplified\)](#). To find the SOA Manager documentation for your SAP NetWeaver release, go to <http://help.sap.com> and search for *working with soamanager*. Then filter the search result for your SAP NetWeaver release and support package.

3. Search for the following service definitions:
  - EMPLOYEEORGASSIGNMREPLREQUEST
  - ORGANISATIONALOBJECTREPLICATIO
  - ORGOBJREPLNOTIFICATION
4. For each service definition, choose *Show Details* to find the access URL in the *Configuration Details* section of the details popup.

## Details of Provider Configuration



### Details of the Service Definition

Internal Name: EMPLOYEEORGASSIGNMREPLREQUEST  
External Name: EmployeeOrganisationalAssignmentReplicationRequest\_In  
External Namespace: <http://sap.com/xi/PASEIN>  
Description: Replication Request of Organisational Assignment of Employees

### WSDL URLs

With WS Policy: <http://localhost:8080/sap-com-10013/sap/bc/srt/scs/sap/employeeorgassignmreplrequest?sap-client=100>  
Without WS Policy: <http://localhost:8080/sap-com-10013/sap/bc/srt/scs/sap/employeeorgassignmreplrequest?sap-client=100>

### Configuration Details

Configuration Name: 0050569F165A1EE4BFC1DCC16400096F  
Access URL: <http://localhost:8080/sap-com-10013/sap/bc/srt/scs/sap/employeeorgassignmreplrequest?sap-client=100>  
Last Change User: SCHEERER  
Last Change Date: 19.05.2015  
Last Change Time: 12:07:47

OK

Example: Access URL for Organizational Assignment Replication

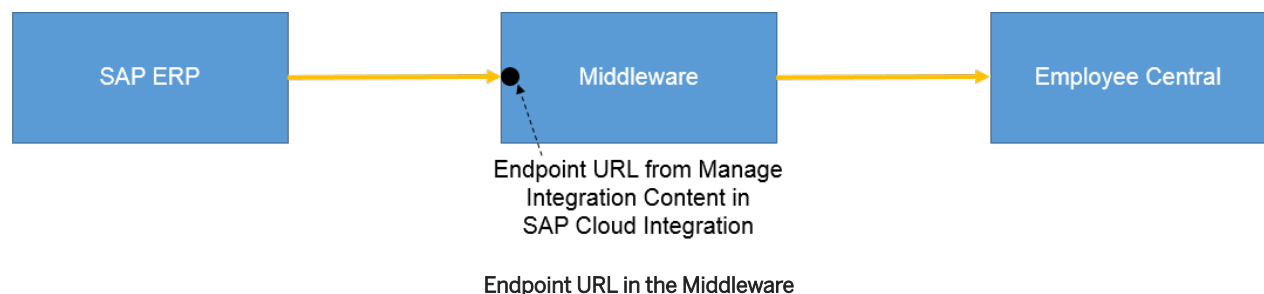
5. Copy the URL and use it for the configuration of the corresponding integration flow in the middleware.

## 5.3.3.2 Finding the URL for Communication from SAP ERP HCM to the Middleware

Determine the endpoint URL for the middleware that you need to enter in SAP ERP HCM.

### Context

Since SAP ERP HCM triggers the replication, it needs to know the specific endpoint URL for each integration flow instance it is to call in the middleware.



## Procedure

1. Go to [Manage Integration Content](#) in SAP Cloud Integration.
2. Copy the URL shown in the [Endpoints](#) section.

For more information see [Managing Integration Content](#).

The URL looks like this: `https://<runtime URL of your SAP Cloud Integration environment>/cxf/<sender address>`

### Note

The sender address part is the suffix you enter in the [Address](#) field of the sender in SAP Cloud Integration when setting up the corresponding integration flow. For example: `EC_to_ERP_Generic_Object_Query`

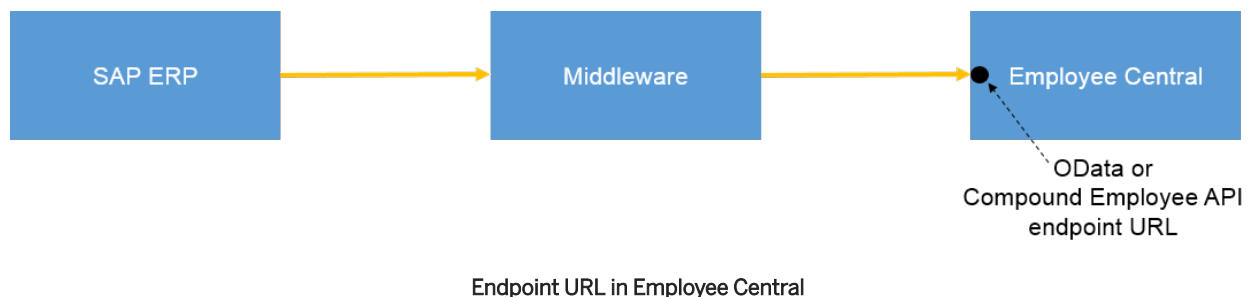
To get the complete endpoint URL, configure and deploy the integration flow first, then copy the URL from [Manage Integration Content](#).

## 5.3.3.3 Finding the URL for Communication from the Middleware to Employee Central

Determine the endpoint URL for Employee Central that you need to enter in the middleware.

## Context

To be able to trigger calls to Employee Central, the middleware needs to know the Compound Employee API endpoint URL it is to call there. Organizational object replication uses the Employee Central OData API. Organizational assignment replication uses the Compound Employee API.



## Procedure

1. Check which is your data center.
2. When setting up the integration flow, choose [Select](#) next to the [Address](#) field to add the base URL of your SAP SuccessFactors system, depending on your data center.

## 5.3.4 Copying, Configuring, and Deploying the Integration Content

Copy, configure, and deploy the integration content provided for organizational data replication from Employee Central to SAP ERP HCM.

### Context

You use the SAP Cloud Integration Web UI to access and manage integrations configured in SAP Cloud Integration. For more information, refer to [Developing Integration Content with SAP Cloud Integration](#).

### Procedure

1. Go to the SAP Cloud Integration tenant for which you want to set up the integration content.
2. Browse the content catalog to find the *SAP SuccessFactors Employee Central Integration with SAP ERP or SAP S/4HANA: Organizational Data* integration package.
3. Copy the content of the integration package to your workspace to be able to configure and deploy it.
4. Set up the integration flows.

### Results

You now have a running service in SAP Cloud Integration that is ready to be called and exposing an endpoint using a specific URL.

### Next Steps

Test all your connections and run the integration.

[Configuring the Integration Flow for Organizational Object Replication \[page 164\]](#)

Configure the sender, the receivers, and the externalized parameters of the integration flow we provide for replication of organizational objects from Employee Central.

[Configuring the Integration Flow for Organizational Assignment Replication \[page 170\]](#)

Configure the receivers and the externalized parameters of the integration flow we provide for replication of organizational assignments from Employee Central.

[Scheduling the Integration Flow for Organizational Assignment Replication \[page 181\]](#)

Set up when and how often SAP Cloud Integration triggers the integration flow for organizational assignment replication from Employee Central to SAP ERP HCM.

**Task overview:** [Configuring SAP Cloud Integration for Organizational Data Replication \[page 156\]](#)

**Previous:** [How to Find the Endpoint URLs \[page 159\]](#)

**Next task:** [Enabling the SAP ERP HCM Outbound Web Services to Set Up the Connection from SAP ERP HCM to the Middleware \[page 182\]](#)

## 5.3.4.1 Configuring the Integration Flow for Organizational Object Replication

Configure the sender, the receivers, and the externalized parameters of the integration flow we provide for replication of organizational objects from Employee Central.

### Context

You make the following settings for the *Replicate Organizational Objects from SAP SuccessFactors Employee Central to SAP ERP or SAP S4HANA* integration flow.

### Procedure

1. On the first tab, configure the sender, *SAP\_ERP\_OUT*:

Sender Configuration

Field	What to Enter
<i>Sender</i>	Choose <i>SAP_ERP_OUT</i> .
<i>Adapter Type</i>	Choose <i>SOAP</i> (no other entries are possible). For more information, refer to <a href="#">SOAP (SAP RM) Adapter</a> .
<i>Address</i>	Enter a suffix, such as <i>/EC_to_ERP_Generic_Object_Query</i> , which is added to the service endpoint URL (the access URL for communication from SAP ERP HCM to the middleware). The suffix must be unique for each process instance. It is used to uniquely address this specific process instance.



Field	What to Enter
<i>Authorization</i>	Choose either <i>User Role</i> or <i>Client Certificate</i> . <div> <b>Note</b> <p>If you choose <i>User Role</i>, you must select the <i>User ID / Password</i> authentication option when you enable the SAP ERP HCM outbound web services. If you choose <i>Client Certificate</i> here, you must select the <i>X.509 SSL Client Certificate</i> authentication option when you enable the outbound web services.</p> </div>
<i>User Role</i> (only in case <i>User Role</i> is selected for <i>Authorization</i> )	Select the role that you've configured.  For more information, refer to <a href="#">Connection Setup for Inbound Communication - Integration Flow Endpoints</a> .
<i>Certificate</i> (only in case <i>Client Certificate</i> is selected for <i>Authorization</i> )	Browse to upload the certificate.  For more information, refer to <a href="#">Client Certificate Authentication (Inbound). Neo Environment</a> .

- On the second tab, configure the *SFSF\_EC* receiver:

#### SFSF\_EC Receiver Configuration

Field	What to Enter
<i>Receiver</i>	Choose <i>SFSF_EC</i> .
<i>Adapter Type</i>	Choose <i>SuccessFactors</i> (no other entries are possible).  For more information, refer to <a href="#">SuccessFactors OData V2 Adapter</a> .
<i>Address</i>	Choose <i>Select</i> to add the base URL of your SAP SuccessFactors system, depending on your data center. <div> <b>Restriction</b> <p>We don't support IP addresses in URLs as part of our reference architecture. Use domain names instead. If you think you have a special case that requires IP addresses instead of domain names, contact Product Support.</p> </div>
<i>Page Size</i>	Default is 400. Only change if you're facing timeouts. In that case, try a smaller page size.
<i>Authentication Type</i>	Choose <i>Basic Authentication</i> (no other entries are possible).  For more information, refer to <a href="#">Basic Authentication</a> .

Field	What to Enter
<i>Authentication</i>	Choose either <i>Basic</i> or <i>OAuth2 SAML Bearer Assertion</i> .
<i>Credential Name</i>	<p>If you've selected <i>Basic</i> for <i>Authentication</i>: Enter the name of the credentials artifact with the type <i>SuccessFactors</i> that you created before.</p> <p>If you've selected <i>OAuth2 SAML Bearer Assertion</i> for <i>Authentication</i>: Enter the name of the credentials artifact with the type <i>OAuth2 SAML Bearer Assertion</i> that you created before.</p>

- Configure the *SAP\_ERP\_IN* receiver on the same tab:

#### SAP\_ERP\_IN Receiver Configuration

Field	What to Enter
<i>Receiver</i>	Choose <i>SAP_ERP_IN</i> .
<i>Adapter Type</i>	<p>Choose <i>SOAP</i> (no other entries are possible).</p> <p>For more information, refer to <i>SOAP (SAP RM) Adapter</i>.</p>
<i>Address</i>	<p>Enter the endpoint URL of the SAP ERP HCM inbound web service for replication of organizational objects.</p> <p>If you don't use SAP Cloud Connector, the URL must start with <code>https://</code>.</p> <p>If you use SAP Cloud Connector, the URL must start with <code>http://</code>. For more information about using SAP Cloud Connector, refer to <i>Outbound: SAP Cloud Connector</i>.</p>
<i>Proxy Type</i>	<p>If you don't use SAP Cloud Connector, choose <i>Internet</i>.</p> <p>If you use SAP Cloud Connector, choose <i>On-Premise</i>.</p>
<i>Location ID</i> (only in case <i>On-Premise</i> is selected for <i>Proxy Type</i> )	<p>To connect to a cloud connector instance associated with your account, enter the location ID that you defined for this instance in the destination configuration on the cloud side. Or else enter <code>\${header.headername}</code> to dynamically read the value from a header.</p> <p>The location ID identifies the location of this cloud connector for a specific account. It is used as routing information. Thus, it's possible to connect multiple cloud connectors to a single account. If you don't specify any value for <i>Location ID</i>, the default is used, which is representing the behavior of previous cloud connector versions. The location ID must be unique per account and must be an identifier that can be used in a URI.</p>

Field	What to Enter
<i>Authentication</i>	<p>In case <i>Internet</i> is selected for <i>Proxy Type</i>: Choose either <i>Basic</i> or <i>Client Certificate</i>. Don't use the other options.</p> <p>In case <i>On-Premise</i> is selected for <i>Proxy Type</i>: Choose either <i>Basic</i> or <i>Principal Propagation</i>. Don't use the other options. For more information about principal propagation, see <a href="#">Setting Up Principal Propagation (Example Scenario)</a>.</p>
<i>Credential Name</i> (only in case <i>Basic</i> is selected for <i>Authentication</i> )	<p>Enter the name of the credentials artifact with the type <i>User Credentials</i> that you created before.</p> <p>For more information, refer to <a href="#">Basic Authentication</a>.</p>
<i>Private Key Alias</i> (only in case <i>Client Certificate</i> is selected for <i>Authentication</i> )	<p>Upload the appropriate certificate and enter it in the <i>Private Key Alias</i> field.</p> <p>For more information, refer to <a href="#">Client Certificate Authentication (Outbound)</a>.</p>
<i>Timeout (in ms)</i>	Use the default value. Only change this value if you're facing issues. In that case, try a higher number.
<i>Allow Chunking</i>	By default, this parameter is set to <i>true</i> . This setting is supported by all HTTP 1.1 servers. If you use an HTTP server that doesn't support chunking and therefore face connection issues, set this parameter to <i>false</i> .

- Configure the *SAP\_ERP\_Notification\_IN* receiver on the same tab:

#### SAP\_ERP\_Notification\_IN Receiver Configuration

Field	What to Enter
<i>Receiver</i>	Choose <i>SAP_ERP_Notification_IN</i> .
<i>Adapter Type</i>	<p>Choose <i>SOAP</i> (no other entries are possible).</p> <p>For more information, refer to <a href="#">SOAP (SAP RM) Adapter</a>.</p>
<i>Address</i>	<p>Enter the URL to the notification service for organizational object replication in your SAP ERP HCM system.</p> <p>If you don't use SAP Cloud Connector, the URL must start with <code>https://</code>.</p> <p>If you use SAP Cloud Connector, the URL must start with <code>http://</code>. For more information about using SAP Cloud Connector, refer to <a href="#">Outbound: SAP Cloud Connector</a>.</p>
<i>Proxy Type</i>	<p>If you don't use SAP Cloud Connector, choose <i>Internet</i>.</p> <p>If you use SAP Cloud Connector, choose <i>On-Premise</i>.</p>

Field	What to Enter
<i>Location ID</i> (only in case <i>On-Premise</i> is selected for <i>Proxy Type</i> )	<p>To connect to a cloud connector instance associated with your account, enter the location ID that you defined for this instance in the destination configuration on the cloud side. Or else enter <code>\${header.headername}</code> to dynamically read the value from a header.</p> <p>The location ID identifies the location of this cloud connector for a specific account. It is used as routing information. Thus, it's possible to connect multiple cloud connectors to a single account. If you don't specify any value for <i>Location ID</i>, the default is used, which is representing the behavior of previous cloud connector versions. The location ID must be unique per account and must be an identifier that can be used in a URI.</p>
<i>Authentication</i>	<p>In case <i>Internet</i> is selected for <i>Proxy Type</i>: Choose either <i>Basic</i> or <i>Client Certificate</i>. Don't use the other options.</p> <p>In case <i>On-Premise</i> is selected for <i>Proxy Type</i>: Choose either <i>Basic</i> or <i>Principal Propagation</i>. Don't use the other options. For more information about principal propagation, see <a href="#">Setting Up Principal Propagation (Example Scenario)</a>.</p>
<i>Credential Name</i> (only in case <i>Basic</i> is selected for <i>Authentication</i> )	<p>Enter the name of the credentials artifact. It's the artifact of the <i>Default</i> type that you've created when setting up the communication between SAP Cloud Integration and the other systems.</p> <p>For more information, refer to <a href="#">Basic Authentication</a>.</p>
<i>Private Key Alias</i> (only in case <i>Client Certificate</i> is selected for <i>Authentication</i> )	<p>Upload the appropriate certificate and enter it in the <i>Private Key Alias</i> field.</p> <p>For more information, refer to <a href="#">Client Certificate Authentication (Outbound)</a>.</p>
<i>Timeout (in ms)</i>	<p>Use the default value. Only change this value if you're facing issues. In that case, try a higher number.</p>
<i>Allow Chunking</i>	<p>By default, this parameter is set to <i>true</i>. This setting is supported by all HTTP 1.1 servers. If you use an HTTP server that doesn't support chunking and therefore face connection issues, set this parameter to <i>false</i>.</p>

- Make the same settings for the *SAP\_ERP\_Exception\_Notification\_IN* receiver as for the *SAP\_ERP\_Notification\_IN* receiver.
- On the last tab, configure the process parameters:

Field	What to Enter
<a href="#">ENABLE_PAYLOAD_LOGGING</a>	<p>Enter <b>TRUE</b> to transfer extended information to the process log in the middleware to be able to analyze issues more easily. You can also reset the parameter to <b>FALSE</b> again if you no longer need the extended log.</p> <div> <p><b>⚠ Caution</b></p> <p>For data protection reasons, enable the extended log for troubleshooting purposes only. Make sure that you disable the parameter again afterwards.</p> <p>If you enable the extended log, the complete message payload containing all data that is to be transferred is stored in the log. Make sure that you configure permissions in a way that only authorized persons can view the payload in the log. Also ensure that you're compliant with the data protection and privacy regulations so that your data gets the highest level of protection.</p> <p>For more information, refer to:</p> <ul style="list-style-type: none"> <li>• <a href="#">Data Protection and Privacy</a></li> <li>• <a href="#">Identity and Access Management</a> and <a href="#">Persona</a> for the Cloud Foundry Environment</li> <li>• <a href="#">Managing Users and Role Assignments</a> and <a href="#">Persona</a> for the Neo Environment</li> </ul> </div>
<a href="#">SAP_CC_LOCATION_ID</a>	<p>If you want to connect multiple SAP Cloud Connectors to a single account in SAP Cloud Integration, for communication with multiple SAP ERP HCM systems, enter the location ID you've defined when setting up your Cloud Connectors. This ID makes sure that all connections of this integration flow instance with a specific SAP ERP HCM system use the same SAP Cloud Connector.</p> <p>For more information, refer to <a href="#">Using SAP Cloud Connector with Cloud Integration Adapters</a>.</p>

## Related Information

[Configuring Credentials for Communication Between SAP Cloud Integration and the Integrated Systems \[page 158\]](#)

[Enabling the SAP ERP HCM Outbound Web Services to Set Up the Connection from SAP ERP HCM to the Middleware \[page 182\]](#)

## 5.3.4.2 Configuring the Integration Flow for Organizational Assignment Replication

Configure the receivers and the externalized parameters of the integration flow we provide for replication of organizational assignments from Employee Central.

### Context

You make the following settings for the *Replicate Organizational Assignments from SAP SuccessFactors Employee Central to SAP ERP or SAP S4HANA* integration flow.

### Procedure

1. On the first tab, schedule the process start as shown in the next section.
2. On the second tab, configure the *SAP\_ERP* receiver:

SAP\_ERP Receiver Configuration

Field	What to Enter
<i>Receiver</i>	Choose <i>SAP_ERP</i> .
<i>Adapter Type</i>	Choose <i>SOAP</i> (no other entries are possible). For more information, refer to <a href="#">SOAP (SAP RM) Adapter</a> .
<i>Address</i>	Enter the endpoint URL of the SAP ERP HCM inbound web service for replication of employee organizational assignments.  If you don't use SAP Cloud Connector, the URL must start with <code>https://</code> .  If you use SAP Cloud Connector, the URL must start with <code>http://</code> . For more information about using SAP Cloud Connector, refer to <a href="#">Outbound: SAP Cloud Connector</a> .
<i>Proxy Type</i>	If you don't use SAP Cloud Connector, choose <i>Internet</i> .  If you use SAP Cloud Connector, choose <i>On-Premise</i> .

Field	What to Enter
<i>Location ID</i> (only in case <i>On-Premise</i> is selected for <i>Proxy Type</i> )	<p>To connect to a cloud connector instance associated with your account, enter the location ID that you defined for this instance in the destination configuration on the cloud side. Or else enter <code>\${header.headername}</code> to dynamically read the value from a header.</p> <p>The location ID identifies the location of this cloud connector for a specific account. It's used as routing information. Thus, it's possible to connect multiple cloud connectors to a single account. If you don't specify any value for <i>Location ID</i>, the default is used, which is representing the behavior of previous cloud connector versions. The location ID must be unique per account and must be an identifier that can be used in a URI.</p>
<i>Authentication</i>	<p>In case <i>Internet</i> is selected for <i>Proxy Type</i>: Choose either <i>Basic</i> or <i>Client Certificate</i>. Don't use the other options.</p> <p>In case <i>On-Premise</i> is selected for <i>Proxy Type</i>: Choose either <i>Basic</i> or <i>Principal Propagation</i>. Don't use the other options. For more information about principal propagation, see <a href="#">Setting Up Principal Propagation (Example Scenario)</a>.</p>
<i>Credential Name</i> (only in case <i>Basic</i> is selected for <i>Authentication</i> )	<p>Enter the name of the credentials artifact with the type <i>User Credentials</i> that you created before.</p> <p>For more information, see <a href="#">Basic Authentication</a>.</p>
<i>Private Key Alias</i> (only in case <i>Client Certificate</i> is selected for <i>Authentication</i> )	<p>Upload the appropriate certificate and enter it in the <i>Private Key Alias</i> field.</p> <p>For more information, see <a href="#">Client Certificate Authentication (Outbound)</a>.</p>
<i>Timeout (in ms)</i>	Use the default value. Only change this value if you're facing issues. In that case, try a higher number.
<i>Allow Chunking</i>	By default, this checkbox is selected. This setting is supported by all HTTP 1.1 servers. If you use an HTTP server that doesn't support chunking and therefore face connection issues, deselect this checkbox.

### 3. Configure the *SFSF\_EC* receiver on the same tab:

#### SFSF\_EC Receiver Configuration

Field	What to Enter
<i>Receiver</i>	Choose <i>SFSF_EC</i> .

Field	What to Enter
<i>Adapter Type</i>	Choose <a href="#">SuccessFactors</a> (no other entries are possible).  For more information, refer to <a href="#">SuccessFactors OData V2 Adapter</a> .
<i>Address</i>	Choose <a href="#">Select</a> to add the base URL of your SAP SuccessFactors system, depending on your data center.  <div> <b>⚠ Restriction</b>            We don't support IP addresses in URLs as part of our reference architecture. Use domain names instead. If you think you have a special case that requires IP addresses instead of domain names, contact Product Support.         </div>
<i>Page Size</i>	We recommend entering <b>400</b> to replicate organizational assignments of 400 employees at a time. Only change this value if you're facing issues. In that case, try a smaller page size.
<i>Authentication Type</i>	Choose <a href="#">Basic Authentication</a> (no other entries are possible).  For more information, see <a href="#">Basic Authentication</a> .
<i>Authentication</i>	Choose either <a href="#">Basic</a> or <a href="#">OAuth2 SAML Bearer Assertion</a> .
<i>Credential Name</i>	If you've selected <a href="#">Basic</a> for <a href="#">Authentication</a> : Enter the name of the credentials artifact with the type <a href="#">SuccessFactors</a> that you created before.  If you've selected <a href="#">OAuth2 SAML Bearer Assertion</a> for <a href="#">Authentication</a> : Enter the name of the credentials artifact with the type <a href="#">OAuth2 SAML Bearer Assertion</a> that you created before.

4. On the last tab, configure the process parameters:

Process Parameters

Field	What to Enter
<i>COMPANIES</i>	If you only want to transfer organizational assignments for employees who belong to selected companies, enter the companies (which are represented by legal entities in Employee Central). If you enter several companies, separate them by commas. For example, enter: <b>US01,DE01,AT01</b> .



## Field

## What to Enter

### *CONTINGENT\_WORKERS*

Using this parameter you can indicate whether you want to replicate organizational assignments of employees or contingent workers. Enter **1** to exclude contingent workers from replication. Enter **2** to replicate only contingent workers. Enter **3** to replicate both employees and contingent workers.

### *COUNTRIES*

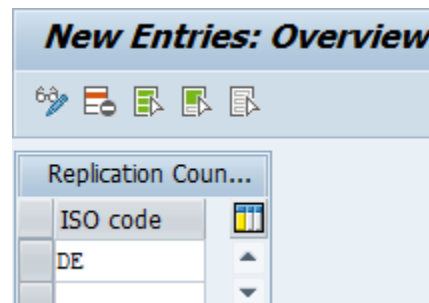
Using this parameter you can restrict the replication of employee organizational assignments to the same countries/regions to which you also restrict the replication of employee master data.

#### ❖ Example

You have an SAP ERP HCM system in place for a specific country/region such as Germany. That's why you want to replicate employee master data and organizational assignments of employees located in Germany to this system, but prevent the replication of all other employees and their organizational assignments.

To use this option:

1. Check in your SAP ERP HCM system, to which country/region or countries/regions you have restricted the replication of employee master data. To do so, in Customizing for *Personnel Management* choose  
▶ *Integration with SuccessFactors Employee Central*  
▶ *Other Integration Settings* ▶ *Replicating Data from Employee Central to SAP ERP* ▶ *Country Filtering*  
▶ *Restrict Employee Master Data Replication to Certain Countries* ▶.



**Example: Restrict Employee Master Data Replication to Germany**

2. Enter the same country/region ISO code or codes in this parameter. If you enter several codes, they must be separated by commas.

## Field

## What to Enter

### *EMPLOYEE\_CLASSES*

If you want to filter the replication of organizational assignments using the employee class from the employee's Job Information as a filter criterion, enter the employee class ID or IDs here. If you enter several IDs, they must be separated by commas. Leave blank if you want to replicate all organizational assignments.

#### ❖ Example

To filter for organizational assignments of employees with the employee classes *Employee*, *Consultant*, or *Contractor*, enter **M,C,R** (with or without blanks).

### *ENABLE\_ASSOCIATED\_EMPLOYEE\_INFORMATION*

Enter **TRUE** to transfer information about all associated employees entered in the employee's Job Information in Employee Central, including the employee's supervisor/manager.

This additional information enables the SAP ERP HCM system to check whether the associated manager's data can be processed in this specific system or must be filtered out. Transferring additional information is useful if the assigned managers don't exist in this specific SAP ERP HCM system. For example, because they're located in a different country/region than the employee and this country/region's data isn't replicated to SAP ERP HCM. Filtering out these manager associations prevents the respective replication requests from remaining in the *Pending* status in the SAP ERP HCM system.

### *ENABLE\_NOTIFICATION*

Enter **FALSE** to prevent notifications from being sent to Employee Central. The flag doesn't reset itself. Reset it to **TRUE** to enable notifications again.

#### ⓘ Note

If you enter **FALSE**, the Employee Central Data Replication Monitor is updated only with the confirmations sent by the SAP ERP HCM system.

## Field

## What to Enter

`ENABLE_PAYLOAD_LOGGING`

Enter **TRUE** to transfer extended information to the process log in the middleware to be able to analyze issues more easily. You can also reset the parameter to **FALSE** again if you no longer need the extended log.

### ⚠ Caution

For data protection reasons, enable the extended log for troubleshooting purposes only. Make sure that you disable the parameter again afterwards.

If you enable the extended log, the complete message payload containing all data that is to be transferred is stored in the log. Make sure that you configure permissions in a way that only authorized persons can view the payload in the log. Also ensure that you're compliant with the data protection and privacy regulations so that your data gets the highest level of protection.

For more information, refer to:

- [Data Protection and Privacy](#)
- [Identity and Access Management](#) and [Persona](#) for the Cloud Foundry Environment
- [Managing Users and Role Assignments](#) and [Persona](#) for the Neo Environment

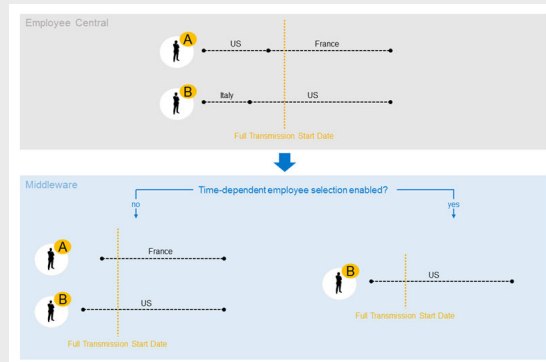
## Field

## What to Enter

*ENABLE\_TIME\_DEPENDENT\_EMPLOYEE\_SELECTION*

Enter **TRUE** to apply the full transmission start date (FTSD) to the *COMPANIES*, *COUNTRIES*, and *EMPLOYEE\_CLASS* filters. Here's an example of what this means for the *COUNTRIES* filter:

### Example



### Time-Dependent Employee Selection

Employee A used to be located in the US and moved to France in May 2015. You replicate organizational assignments for US-based employees from Employee Central to a specific SAP ERP HCM system, using July 1, 2015 as the FTSD. When the new time-dependent filtering is applied, employee A's data isn't selected by the middleware because on July 1, 2015 this employee is no longer based in the US. Without time-dependent filtering, employee A is selected by the middleware because they used to be based in the US at one point in time.

*FULL\_TRANSMISSION\_START\_DATE*

Enter the date from which employee organizational assignment replication from Employee Central to the SAP ERP HCM system is to begin.

### Note

If you've already set a full transmission start date (FTSD) and replicated data, we recommend that you don't move the FTSD to an earlier date. If you do so nevertheless, make sure that you trigger a full load manually to include all relevant data into the replication. The full load isn't triggered automatically.

## Field

## What to Enter

*IGNORE\_JOB\_INFO\_EMPLSTATUSES*

If you want to prevent Job Information records with specific employment statuses from being replicated, enter the status ID or IDs here. If you enter several IDs, they must be separated by commas. If you enter an employment status, the middleware filters out all Job Information records in which this status is set. In SAP ERP HCM this means that existing associations are delimited.

Leave blank if you want to replicate all organizational assignments, independent of the employment status.

### ❖ Example

Using this parameter you can have the position assignment ended in SAP ERP HCM for employees who are terminated in Employee Central. To achieve this, enter **T**. The terminated employees are assigned the default position in Personnel Management in SAP ERP HCM. In Organizational Management, no more assignments exist for terminated employees. If an employee is rehired later, they're assigned a "real" position again from the rehire date. The employee's organizational assignment then shows a gap between the termination and the rehire date.

### 📌 Note

Make sure that you filter out records when an employee is inactive in Employee Central by listing all relevant employment statuses, such as *Terminated*. What exactly the statuses are called depends on how you've set up your picklists in Employee Central. For more information, refer to [Picklist Configuration for Employee Status and Job Relationship Type](#) in *Implementing Employee Central Core*. Otherwise, the replication of employee organizational assignments fails if an organizational assignment record is transferred in which the employee is inactive.

Field	What to Enter
<i>INITIATE_FULL_LOAD</i>	<p>Enter <b>TRUE</b> to trigger a complete replication of all organizational assignments.</p> <div> <p><b>Note</b></p> <p>Don't set this flag to <b>TRUE</b> for the first replication you carry out. The first replication is automatically handled as a full load.</p> <p>The flag doesn't reset itself. Reset it to <b>FALSE</b> to enable delta replication again.</p> </div> <div> <p><b>Caution</b></p> <p>Make sure that you initiate a full load each time you've changed a process parameter and when you move the full transmission start date to an earlier date.</p> </div>

## Field

## What to Enter

### *MATCHING\_EMPLOYMENTS\_ONLY*

The default is **FALSE**. Enter **TRUE** to only transfer employments whose company and country/region assignment matches the company and country/region filters you defined using the **COMPANIES** and **COUNTRIES** parameters.

Employees can have multiple employments because their country/region or company assignment changed. If you enter **TRUE** here, only the employments that are relevant for the company or companies and country/region or countries/regions you specified are considered in data replication. If you enter **FALSE**, all employments are considered.

If you enter **TRUE**, also *Global Information* within the employee's *Personal Information* is filtered based on the country/region or countries/regions you specified. If you specified a company or companies, the country/region of the company is used to determine the relevant information from *Global Information*. Only the information that's relevant for the applicable country/region or countries/regions is considered.

### ❖ Example

Let's say you replicate only data that's relevant for Germany to a specific target system. That is, you entered the company territory code for Germany in the **COUNTRIES** parameter. Your full transmission start date (FTSD) is January 1, 2020. An employee moved from Germany to the US on February 1, 2020. That is, in the period after FTSD, this employee has two employments, the previous one in Germany and the current one in the US.

If you enter **TRUE**, only the employment for Germany is replicated. The current, US employment isn't. If the employee has US-specific and Germany-specific information stored in *Global Information*, only the Germany-specific information is considered.

If you enter **FALSE**, both employments and all data that's stored in *Global Information* are replicated.

### 📘 Note

The filtering for matching employments only works if you create new employments when transferring employees between companies and countries/regions.

Field	What to Enter
<i>REPLICATION_TARGET_SYSTEM</i>	Enter the external code of the generic object instance for the replication target system in Employee Central that you've created for the replication of employee master data from Employee Central. For more information, see <a href="#">Create the Replication Target System Object</a> .
<i>SAP_CC_LOCATION_ID</i>	<p>If you want to connect multiple SAP Cloud Connectors to a single account in SAP Cloud Integration, for communication with multiple SAP ERP HCM systems, enter the location ID you've defined when setting up your Cloud Connectors. This ID makes sure that all connections of this integration flow instance with a specific SAP ERP HCM system use the same SAP Cloud Connector.</p> <p>For more information, see <a href="#">Using SAP Cloud Connector with Cloud Integration Adapters</a>.</p>
<i>USE_EXTERNAL_COST_CENTER_ID</i>	<p>Enter <b>TRUE</b> to replicate the key from the <i>External Object ID</i> field of the cost center in Employee Central when transferring cost center assignments. Replicating <i>External Object ID</i> makes sense if you replicate the cost centers themselves from SAP ERP HCM and have set the <i>USE_EXTERNAL_COST_CENTER</i> parameter of the cost center integration flow to <b>TRUE</b>. Because then the <i>External Object ID</i> field of the cost center in Employee Central is filled with the cost center key from SAP ERP HCM. In this case, we recommend to also set the <i>USE_EXTERNAL_COST_CENTER_ID</i> parameter of the current (organizational assignment) integration flow to <b>TRUE</b> so that organizational assignment replication also uses the SAP ERP HCM key.</p> <div> <p><b>Note</b></p> <p>A prerequisite for using the <i>External Object ID</i> field is that cost center keys are unique.</p> </div> <p>Enter <b>FALSE</b> if you want to replicate the key from the <i>Code</i> field of the cost center in Employee Central.</p> <p>For details about cost center assignment, see the related information.</p>

## Related Information

[What Is the Full Transmission Start Date? \[page 18\]](#)  
[Cost Center Assignment \[page 212\]](#)



[Configuring Credentials for Communication Between SAP Cloud Integration and the Integrated Systems \[page 158\]](#)

[Enabling the SAP ERP HCM Outbound Web Services to Set Up the Connection from SAP ERP HCM to the Middleware \[page 182\]](#)

### 5.3.4.3 Scheduling the Integration Flow for Organizational Assignment Replication

Set up when and how often SAP Cloud Integration triggers the integration flow for organizational assignment replication from Employee Central to SAP ERP HCM.

#### Context

The *Replicate Organizational Assignments from SAP SuccessFactors Employee Central to SAP ERP or SAP S4HANA* integration flow needs to be scheduled in the middleware since it is not triggered by the SAP ERP HCM system.

The *Replicate Organizational Objects from SAP SuccessFactors Employee Central to SAP ERP or SAP S4HANA* integration flow doesn't need to be scheduled in the middleware since it is triggered by a regular background job from the SAP ERP HCM system.

#### Procedure

1. In the integration flow configuration, choose the *Timer* tab.
2. Choose *Schedule to Recur* and make the required time settings.

##### Note

If organizational assignments are replicated for the first time, the process automatically triggers a full load. When full replication of all assignments is finished, the integration automatically switches over to delta replication. But you can still trigger a full load manually (for example, because you've changed a process parameter). To do this, set the `INITIATE_FULL_LOAD` parameter of the process to **TRUE**. Note that this parameter will **not** reset itself. Reset it to **FALSE** to enable delta replication again.

#### Related Information

[Scheduling the Organizational Object Query as a Regular Background Job \[page 59\]](#)

## 5.3.5 Enabling the SAP ERP HCM Outbound Web Services to Set Up the Connection from SAP ERP HCM to the Middleware

Activate the SAP ERP HCM outbound web service used by this integration to set up the connections for communication from the SAP ERP HCM system to SAP Cloud Integration.

### Context

Organizational data replication reads data from SAP SuccessFactors Employee Central and sends it to SAP ERP HCM after transformation. The *Replicate Organizational Assignments from SAP SuccessFactors Employee Central to SAP ERP or SAP S4HANA* integration flow is scheduled in the middleware. The *Replicate Organizational Objects from SAP SuccessFactors Employee Central to SAP ERP or SAP S4HANA* integration flow is scheduled in the SAP ERP HCM system: For this integration flow, you need to set up a consumer proxy in the SAP ERP HCM system, which redirects a query to the service endpoint URL in the middleware.

### Procedure

1. Copy the URL used for the communication from SAP ERP HCM to the middleware from *Manage Integration Content* in SAP Cloud Integration.

#### Note

The URL looks like this: `https://<runtime URL of your SAP Cloud Integration environment>/cxf/<sender address>`

The sender address part is the suffix you enter in the *Address* field of the sender in SAP Cloud Integration when setting up the corresponding integration flow. For example: `EC_to_ERP_Generic_Object_Query`

To get the complete endpoint URL, configure and deploy the integration flow first, then copy the URL from *Manage Integration Content*.

2. Go to the *SOA Management* (SOAMANAGER) transaction in your SAP ERP HCM system and choose *Web Service Configuration*.
3. Search for the `CO_SFIOXM_ORG_OBJECT_REPL_QRY` consumer proxy and select the corresponding entry in the search result.
4. Choose **Create** **Manual Configuration** and create a new logical port.
5. Select either the *User ID / Password* or the *X.509 SSL Client Certificate* authentication option.

#### Note

If you select the *User ID / Password* authentication option, the SAP Cloud Integration administrator must choose *User Role* when configuring authorizations for the ERP sender in the corresponding integration flow.

If you select the [X.509 SSL Client Certificate](#) authentication option, there are different options depending on whether you use SAP Cloud Integration in the Cloud Foundry or the Neo environment:

- In the Cloud Foundry environment, the SAP Cloud Integration administrator must choose [Client Certificate](#) when configuring authorizations for the ERP sender in the integration flow.
- In the Neo environment, the SAP Cloud Integration administrator can choose [Client Certificate](#) or [User Role](#) when configuring authorizations for the ERP sender in the integration flow. If the administrator selects the [User Role](#) authorization, a certificate-to-user mapping is required in addition. For more information, refer to [Setting Up Inbound HTTP Connections \(with Certificate-to-User Mapping\), Neo Environment](#).

6. If you've selected [User ID / Password](#), enter the user ID and password of your SAP Cloud Integration communication user. If you've selected [X.509 SSL Client Certificate](#), select an SSL Client Personal Security Environment (PSE).

For more information, refer to [Creating PSEs and Maintaining the PSE Infrastructure](#) in the SAP NetWeaver documentation.

7. Configure the transport settings.

Transport Settings

Setting	What to Enter
<b>URL access path settings</b>	
URL components	Select this radio button.
Protocol	Select <a href="#">HTTPS</a> .
Host	Enter the <code>&lt;runtime URL of your SAP Cloud Integration environment&gt;</code> part of the URL that you've copied in the first step.
Port	Enter the port number of your SAP Cloud Integration environment. If you haven't set up a specific port, enter <b>443</b> (the default port for HTTPS).
Path	Enter the <code>/cxf/&lt;sender address&gt;</code> part of the URL you've copied, such as: <code>/cxf/EC_to_ERP_Generic_Object_Query</code> .
Logon language	Select <a href="#">Language of User Context</a> .
<b>Proxy settings</b>	
Name of proxy host	If you use a proxy, enter <b>proxy</b> . If not, leave this field empty.
Port number of proxy host	If you use a proxy, enter the port number, such as <b>8080</b> . If not, leave this field empty.
User name for proxy access	If applicable, enter your proxy user

Setting	What to Enter
Password of proxy user	If applicable, enter the password of your proxy user
<b>Transport binding settings</b>	
Make local call	Select <i>No Call in Local System</i> .
Transport binding type	Select <i>SOAP 1.1</i> .
Maximum wait for WS consumer	Select <i>0</i> .
Optimized XML transfer	Select <i>None</i> .
Compress HTTP message	Select <i>Inactive</i> .
Compress response	Select <i>True</i> .

8. Configure the SOAP protocol.

Protocol Configuration

Setting	What to Enter
Reliable messaging protocol	Select <i>SAP RM</i>
Message ID protocol	Select <i>Suppress ID Transfer</i>
Data transfer scope	Select <i>Enhanced Data Transfer</i>
Transfer protocol	Select <i>Transfer via SOAP Header</i>

9. Leave the other fields empty and finish the *Web Service Configuration* setup.

**Note**

You don't need to make any entries in the *Identifiable Business Context* and *Operation Settings* steps.

10. To set your new logical port as default port, select the entry and choose *Set Log. Port Default*.

11. Test outbound connectivity from SAP ERP HCM to SAP Cloud Integration.

- a. Press the *Ping Web Service* button.

You'll get an *HTTP ERROR 405*. Don't worry, from a technical point of view everything is fine. You get this error message because the Ping can't fill the business content of the web service.

- b. If you get this or a similar error message when you start the Ping web service, you're most probably missing one or more certificates: *SRT Framework exception: Service Ping ERROR: Error when calling SOAP Runtime functions: SRT: Processing error in Internet Communication Framework: ("ICF Error when receiving the response: ICM\_HTTP\_SSL\_ERROR")*

This error message is generated at technical handshake between SAP ERP HCM and the middleware systems, at the level of the Internet Communication Framework (ICF).

**Task overview:** [Configuring SAP Cloud Integration for Organizational Data Replication \[page 156\]](#)

**Previous task:** [Copying, Configuring, and Deploying the Integration Content \[page 163\]](#)

## Related Information

[Web Services Used for Organizational Data Replication \[page 55\]](#)

[How to Find the Endpoint URLs \[page 159\]](#)

[Enabling the SAP ERP HCM Inbound Web Services to Set Up the Connection from the Middleware to SAP ERP HCM \[page 58\]](#)

## 5.4 Monitoring in SAP Cloud Integration

Use the monitoring features of SAP Cloud Integration to check whether any issues occurred in your middleware processes.

SAP Cloud Integration provides a web-based monitoring UI that allows you to check the status of messages and integration content artifacts for a tenant cluster. For more information, see [Monitoring](#).

Use the log ID that you find in the monitoring to find the log of a specific process that didn't run successfully and to filter the log for detailed information.

## 5.5 Field Mapping in the Middleware

Organizational assignment replication from Employee Central to SAP ERP HCM uses field mapping in the middleware.

Organizational object replication from Employee Central uses a generic message. That's why no field mapping exists for this process in the middleware. Field mapping for this replication is done in the SAP ERP HCM system.

[Middleware Mapping: Organizational Assignments \[page 186\]](#)

Take a look at the field mapping between the `CompoundEmployee` API structure from Employee Central and the web service structure from SAP ERP HCM, which is used by the middleware when replicating organizational assignments.

## Related Information

[Configuring Generic Object Replication with Generic Processing \[page 72\]](#)

## 5.5.1 Middleware Mapping: Organizational Assignments

Take a look at the field mapping between the Compound Employee API structure from Employee Central and the web service structure from SAP ERP HCM, which is used by the middleware when replicating organizational assignments.

Middleware Field Mapping for Organizational Assignments

Compound Employee API Structure Node	Compound Employee API Structure Attribute	Web Service Node	Web Service Attribute
person	person_id	Employee	EmployeeID
	person_id_external		EmployeeIDExternal
employment_info	employment_ID	OrganisationalAssignment	EmploymentID
job_info	start_date	OrganisationalAssignment- ment.ValidityPeriod	StartDate
job_info	end_date		EndDate
job_info	department	OrganisationalAssignment	DepartmentID
	division		DivisionID
	business_unit		BusinessUnitID
	job_code		JobID
	position		PositionID
	company		CompanyID
	company_territory_code		CountryCode
	cost_center		CostCenterID
job_info	manager_person_id	OrganisationalAssignment- ment.Manager	EmployeeID*
	manager_id		EmployeeIDExternal
	manager_employment_id		EmploymentID
job_info	custom_date# / custom_long# / custom_double# / custom_string#	SourceDataModelExtension- Fields***	ElementName (from attribute name)
			ElementValue (from content)
job_relation	start_date	JobRelation.ValidityPeriod	StartDate
	end_date		EndDate
job_relation	relationship_type	JobRelation	Type

Compound Employee API Structure Node	Compound Employee API Structure Attribute	Web Service Node	Web Service Attribute
	user_id		RelatedUserID
employment_info	employment_ID	JobRelation	EmploymentID
associated_employee_infor- mation**	person_id	AssociatedEmployeeInforma- tion	EmployeeID
associated_employee_infor- mation	person_id_external	AssociatedEmployeeInforma- tion	EmployeeIDExternal
associated_employee_em- ployment_information	employment_id	AssociatedEmployeeInforma- tion.AssociatedEmployeeJo- bInformation	EmploymentID
associated_employee_em- ployment_information	user_id	AssociatedEmployeeInforma- tion.AssociatedEmployeeJo- bInformation	UserID
associated_employee_job_in- formation	company	AssociatedEmployeeInforma- tion.AssociatedEmployeeJo- bInformation	CompanyID
associated_employee_job_in- formation	company_territory_code	AssociatedEmployeeInforma- tion.AssociatedEmployeeJo- bInformation	CountryCode
associated_employee_job_in- formation	start_date	AssociatedEmployeeInforma- tion.AssociatedEmployeeJo- bInformation.ValidityPeriod	StartDate
associated_employee_job_in- formation	end_date	AssociatedEmployeeInforma- tion.AssociatedEmployeeJo- bInformation.ValidityPeriod	EndDate

## Legend

#: Replace with a number

\*: In contrast to *Manager.EmployeeID*, the *Manager.CompanyID* node is **not** mapped using the Compound Employee API structure node and attribute.

That's why the personnel number of the employee's manager is determined in the SAP ERP HCM system. We recommend that you enable replication of associated employee information in the middleware. The additional information which is then transferred enables the SAP ERP HCM system to determine the personnel number of the

employee's manager unambiguously. If you don't enable replication of associated employee information, the SAP ERP HCM system uses the following fallback logic:

It reads the key mapping from the `ECPAO_EE_KMAP` table to identify the manager's personnel number. If only one personnel number is found, this is used. If several entries are found, the SAP ERP HCM system filters out all entries whose validity starts after the start of the employee's organizational assignment. In case there are still several personnel numbers left, the system uses the latest personnel number that was valid at the start of the employee's organizational assignment. If the system can't determine a personnel number for the manager, it issues an error message.

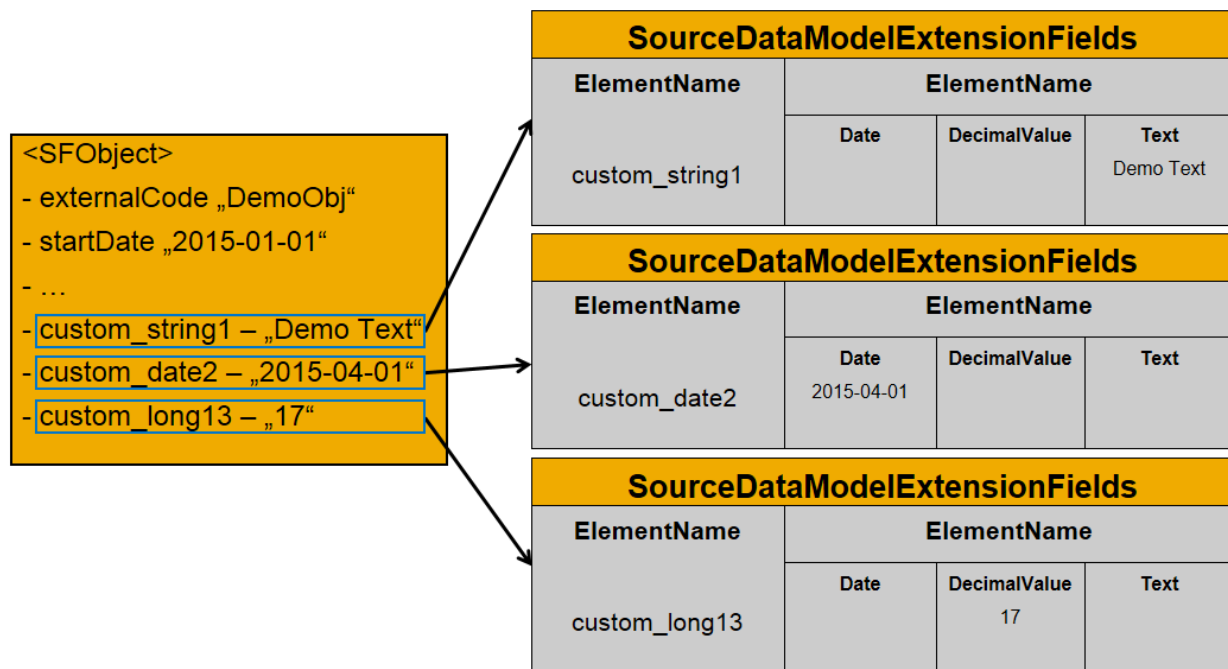
\*\*: All *associated\_employee\_information* nodes are only filled if you enable replication of associated employee information in the middleware. We recommend to do so to enable the SAP ERP HCM system to determine the personnel number of the employee's manager unambiguously.

\*\*\*: Note the following information regarding custom fields:

- In the *ElementValue* structure there are three fields: *Date*, *DecimalValue*, and *Text*. Only one of these is filled, depending on the Employee Central source field.
- To map custom fields from Employee Central to SAP ERP HCM fields, you must implement the *Enhancements for Processing Customer-Specific Fields* (`EX_SF10M_PROC_CUSTOMER_FIELDS`) BAdI in the SAP ERP HCM system.

## Custom fields example

This graphic shows an example of how the content of the Employee Central custom fields is filled into the *SourceDataModelExtensionFields* node:



How SourceDataModelExtensionFields Node Is Filled



## Related Information

[Manager Determination in the SAP ERP HCM System \[page 210\]](#)

[Configuring the Integration Flow for Organizational Assignment Replication \[page 170\]](#)

## 5.6 Reporting Middleware Issues

Report a case if you have issues that you can't solve using the monitoring in SAP Cloud Integration, providing information about the process run.

### Context

If you face an issue with your SAP Cloud Integration-based integration scenario and want to report a case, enable the extended log to ensure that the data that's needed for analyzing the issue is written to the log.

#### ⚠ Caution


For data protection reasons, enable the extended log for troubleshooting purposes only. Make sure that you disable the parameter again afterwards.

If you enable the extended log, the complete message payload containing all data that is to be transferred is stored in the log. Make sure that you configure permissions in a way that only authorized persons can view the payload in the log. Also ensure that you're compliant with the data protection and privacy regulations so that your data gets the highest level of protection.


For more information, refer to:

- [Data Protection and Privacy](#)
- [Identity and Access Management](#) and [Persona](#) for the Cloud Foundry Environment
- [Managing Users and Role Assignments](#) and [Persona](#) for the Neo Environment

### Procedure

1. Set the [ENABLE\\_PAYLOAD\\_LOGGING](#) parameter to **TRUE** in the configuration of the integration flow.
2. Run the integration.
3. Go to [Create a Support Case](#)  and report a case for the LOD-SF-INT-CPI component.
4. Add the log ID from the payload to the case so that the support team can find the log easily.

## Next Steps

For the required information that you should add in your case, refer to the SAP Knowledge Base Article (KBA) [2763716](#) .

# 6 Business Logic, Mapping Information, and Extensibility

Find more information about general concepts, the business logic, field mapping in the SAP ERP HCM system, and the extensibility of the replication in the next sections.

## [Useful Information \[page 191\]](#)

Take a look at some common concepts that are used throughout all the integration scenarios in organizational data replication.

## [Business Logic of Organizational Data Replication \[page 197\]](#)

Take a look at the business logic of the various organizational objects and employee organizational assignments replicated from Employee Central.

## [Field Mapping Between Employee Central and SAP ERP HCM \[page 214\]](#)

See how Employee Central fields are mapped to SAP ERP HCM fields in organizational data replication.

## [Extensibility of the Replication \[page 224\]](#)

You can use Business Add-Ins (BADIs) in the SAP ERP HCM system to make extensions to some of the replication processes.

## 6.1 Useful Information

Take a look at some common concepts that are used throughout all the integration scenarios in organizational data replication.

### [Employee Central Is Your Leading System \[page 192\]](#)

Employee Central is the system of records for employees, organizational structure items (such as departments, business units, divisions), other organizational objects (such as job classifications, positions), and reporting lines.

### [How Does Data Extraction Work? \[page 193\]](#)

Data extraction is triggered either by the SAP ERP HCM system or by the middleware through a scheduled job.

### [Last Modified Date \[page 194\]](#)

The last modified date is stored as a reference time stamp for the next execution of the replication.

### [Staging \[page 195\]](#)

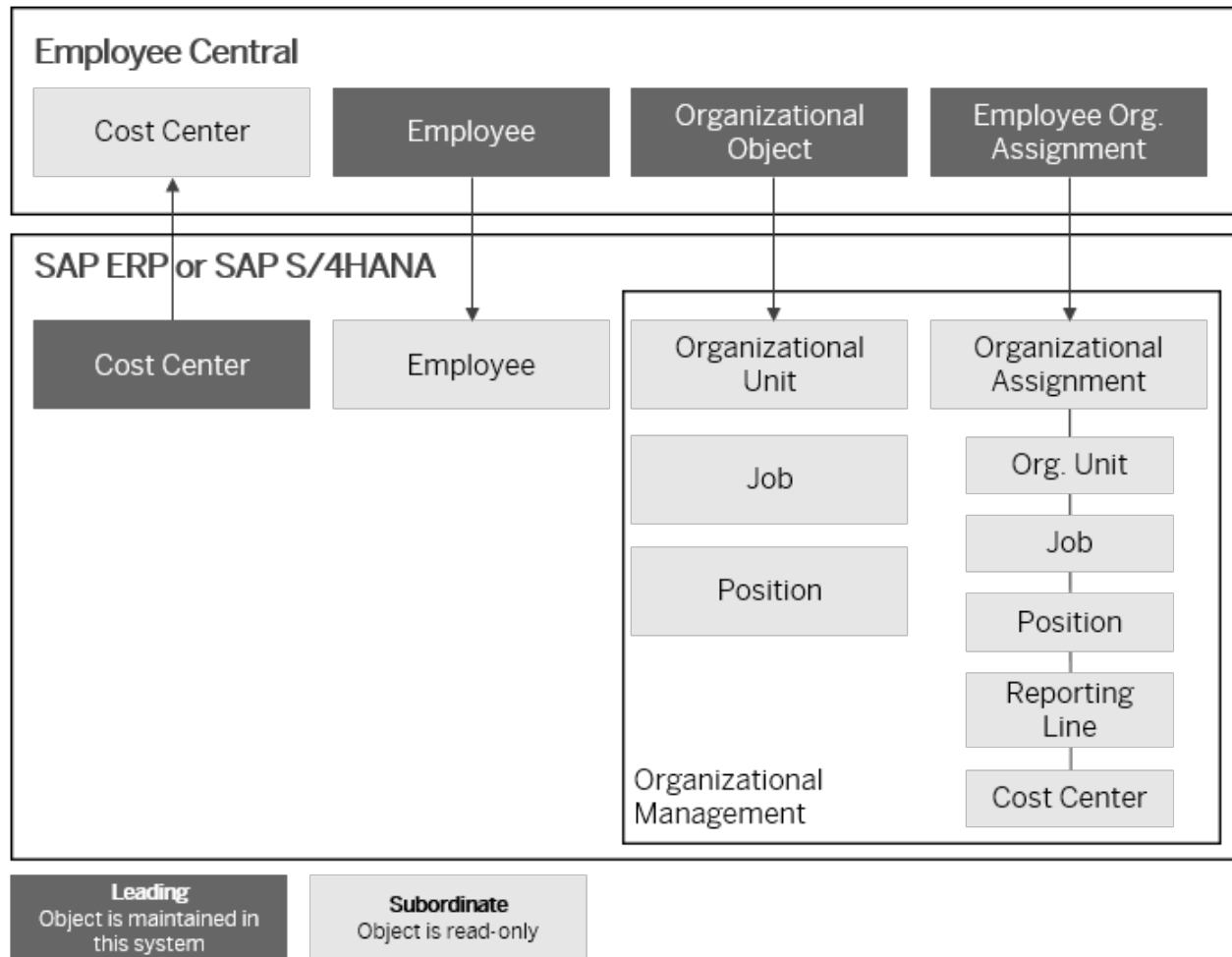
The staging area in the SAP ERP HCM system decouples organizational data replication from other replication scenarios such as the employee master data replication.

### [Active and Inactive Objects and Data Records in Employee Central Compared to SAP ERP HCM \[page 196\]](#)

Employee Central and SAP ERP HCM handle active and inactive objects and data records in different ways.

## 6.1.1 Employee Central Is Your Leading System

Employee Central is the system of records for employees, organizational structure items (such as departments, business units, divisions), other organizational objects (such as job classifications, positions), and reporting lines.



### Systems of Record

Changes made to organizational data in Employee Central are replicated to the SAP ERP HCM system using middleware processes. This integration scenario is described in the current guide.

Employee master data replication isn't covered by this guide. For more information about this integration scenario, see the *Replicating Employee Master Data from Employee Central to SAP ERP HCM* implementation guide. Find the most current version of this guide at [http://help.sap.com/hr\\_ecintegration](http://help.sap.com/hr_ecintegration).

Cost centers are replicated from SAP ERP HCM to Employee Central because cost centers are created and maintained in the Financials system. For more information about this integration scenario, see the *Replicating Cost Centers from SAP ERP HCM to SAP ERP to Employee Central* implementation guide. Find the most current version of this guide at [http://help.sap.com/hr\\_ecintegration](http://help.sap.com/hr_ecintegration).

## 6.1.2 How Does Data Extraction Work?

Data extraction is triggered either by the SAP ERP HCM system or by the middleware through a scheduled job.

Depending on the replication scenario, various Application Programm Interfaces (APIs) are used:

### Organizational Objects

The following OData APIs are used to retrieve data from Employee Central:

OData APIs for Organizational Objects

Object Type	OData API	Type of Data
Department	FODepartment	Generic object data
Division	FODivision	Generic object data
Business unit	FOBusinessUnit	Generic object data
Job classification	FOJobClass	Generic object data
Position	Position	Generic object data

### Organizational Assignments

The Employee Central Compound Employee API is used to retrieve [Job Information](#) data.

This is an example of an employee's organizational assignments in the Employee Central [Job Information](#):

**Geoff Hill (ghill)** Production Director

ME EMPLOYEE... COMPENSATION PAYROLL BENEFITS TALENT PROFILE

**Organizational Information**

**Position Information**

Effective as of: Feb 28, 2017

Position	Production Director (50014345)	Time In Position	7 Years 8 Months 28 Days
Position Entry Date	Oct 01, 2014		

**Organization Information**

Company	BestRun Company (1710)	Location	New Brunswick (1710-2009)
Business Unit	Products (PRODS)	Timezone	America/New_York (GMT-04:00)
Division	Manufacturing (MANU)	Cost Center	BestRun Research & Development (US10_RDGEN)
Department	Production US (50150011)		

Show Less

**Job Information**

**Job Information**

Effective as of: Feb 28, 2017

Employee Status	Active	Standard Weekly Hours	40
Job Classification	Management & Planning (50070999)	Working Days Per Week	5
Job Title	Production Director	FTE	1
Pay Grade	Salary Grade 11 (GR-11)	Is Fulltime Employee	Yes
Regular/Temporary	Regular	Notes	-
		Employee Class	Active

**Example: Organizational Assignments in Job Information**

This employee has a position, business unit, cost center, manager, and job classification assignment, but no division and department assignment.

### Note

Hiring a new employee in the Employee Central system results in two replication messages: one for the employee data replication and another one for replicating the employee's organizational assignment. Both messages are sent and processed independently from each other.

## 6.1.3 Last Modified Date

The last modified date is stored as a reference time stamp for the next execution of the replication.

It is not visible as a process parameter. If you run any replication processes for the first time, all data is extracted and the newest timestamp of the extracted objects is stored. With the next replication run this timestamp is used as a lower limit: only records that have a newer timestamp are considered as *changed* – and replicated.

Most processes have a flag to initiate a full load. This resets the last modified date to January 1, 2000 so that again all data is extracted that was changed after this date.

## 6.1.4 Staging

The staging area in the SAP ERP HCM system decouples organizational data replication from other replication scenarios such as the employee master data replication.

It is used to resolve internal dependencies between child and parent objects and their sequencing and to minimize time delays and temporary error situations, such as when an object is locked by another session.

Every replication scenario leverages a staging object. This object is important for performance reasons. These are the two staging areas used by organizational data replication:

### Staging area for organizational objects

Depending on your use case, replication requests for organizational objects are stored in different tables in the SAP ERP HCM system.

#### Generic object replication with generic processing

Replication requests are stored in these tables:

- SFIOM\_GENRQ\_HD
- SFIOM\_GENRQ\_DP
- SFIOM\_GENRQ\_DFLD

For generic object replication with generic processing, locking of the staging area is done by object type. That is, while a specific object type, such as *Business Unit*, is being posted to the database, all *Business Unit*-related requests are locked. Meaning, for example, that you can't post any *Business Unit* requests manually from the staging area at this point in time. But the other object types, such as *Department*, aren't affected by this lock. You could post a *Department* request manually to the database, even while posting of *Business Unit* requests is currently running in the background.

We recommend that you schedule multiple parallel jobs to post the different object types independently of each other to the database. Then SAP ERP HCM first tries to lock the staging area for the object type affected by the first job. If it can lock the staging area, it posts all requests for the corresponding object type and then unlocks the staging area again for this object type. If a job for a different object type starts to run in parallel, requests for this object type are being posted at the same time. In case SAP ERP HCM cannot lock the staging area for a specific object type, it adds a warning message the application log..

#### Generic object replication with object-specific processing

Replication requests are stored in the main table SFIOM\_RPRQ\_OSI and the following additional tables:

- SFIOM\_RPRQ\_OSIDT
- SFIOM\_RPRQ\_OSXT
- SFIOM\_RPRQ\_TEXT
- SFIOM\_RPRQ\_OSCXT

## Staging area for organizational assignments

Replication requests for employee organizational assignments are stored in a staging area in the SAP ERP HCM system using the main table `SFIOM_RPRQ_EE` and the following additional tables:

- `SFIOM_RPRQ_EOAXT`
- `SFIOM_RPRQ_JOBRS`
- `SFIOM_RPRQ_ORGAS`

### → Tip

We recommend cleaning up the staging area tables regularly to minimize the number of records in these tables. That is, deleting replication requests that were processed in the SAP ERP HCM system and are no longer needed. Use the following programs to do this:

- [\*Delete Organizational Object Replication Requests\*](#) (`RH_SFIOM_DEL_ORG_STRUC_RPRQ`)
- [\*Delete Employee Org. Assignment Replication Requests\*](#) (`RH_SFIOM_DEL_EE_ORG_ASS_RPRQ`)

Schedule these programs to be run in the background.

## Related Information

[Replication Request Monitor for Organizational Data Replication \[page 239\]](#)

[Replication Request Viewers for Organizational Data Replication \[page 247\]](#)

[Scheduling the Database Update Programs as Regular Background Jobs \[page 60\]](#)

## 6.1.5 Active and Inactive Objects and Data Records in Employee Central Compared to SAP ERP HCM

Employee Central and SAP ERP HCM handle active and inactive objects and data records in different ways.

In Employee Central, organizational objects such as business units or positions can have the status *Active* or *Inactive*. You can deactivate an object and reactivate it later.

The SAP ERP HCM system doesn't have a *Status* field for organizational objects. By default, it considers all objects that are replicated from Employee Central to be active in all records, regardless of whether they're active or inactive in Employee Central. The time constraint of the *Object* (1000) infotype doesn't allow for gaps between records. Therefore, a data record in which an object is inactive between records in which it is active in Employee Central isn't considered in the SAP ERP HCM system. SAP ERP HCM can't create an infotype record with the status *Inactive* between infotype records in which the status is *Active*. It considers the object as active for all replicated records.

Objects that are inactive throughout their complete lifecycle in Employee Central (meaning, they don't have any data records in which they're active) aren't replicated to the SAP ERP HCM system at all by default.

You have the following options to handle active and inactive objects and data records in the replication:

- You can create a filter for active records that's considered in the middleware.



If you create a filter for active records, the middleware ensures that only those records are replicated in which the objects are active. The SAP ERP HCM system then creates and delimits the records accordingly. Filtering out inactive records has the advantage that less data is transferred from Employee Central to SAP ERP HCM. Objects that are inactive throughout their lifecycle aren't replicated however. The SAP ERP HCM system isn't able to consider these objects, for example, by deleting or delimiting them, depending on their start date.

- You can specify the values you use in Employee Central to indicate that an organizational object is inactive. If you configure the values that Employee Central uses for the inactive status, the replication considers **all** objects and data records, regardless of their status. Inactive records are then filtered out in the SAP ERP HCM system, considering the values you specified. The replication of all records enables the SAP ERP HCM system to process objects that are inactive throughout their lifecycle. If you make these settings, they override the filtering for active records described in the first option, if you've configured them.

## Related Information

[Filtering Out Data Records When the Object Is Inactive \[page 137\]](#)

[Configuring Values for the Status Inactive to Be Considered in the Replication \[page 140\]](#)

## 6.2 Business Logic of Organizational Data Replication

Take a look at the business logic of the various organizational objects and employee organizational assignments replicated from Employee Central.

[Parent-Child Relationships Between Organizational Objects \[page 198\]](#)

Relationships can be either between self-contained parent and child objects (building an organizational structure hierarchy), or between parent and composite child objects (where the child object can't exist outside of the parent object).

[Business Units, Divisions, Departments \[page 203\]](#)

Business units, divisions, and departments in Employee Central are transferred as organizational units in the SAP ERP HCM system.

[Job Classifications \[page 204\]](#)

Job classifications in Employee Central are transformed into job objects (object type C) in the SAP ERP HCM system.

[Positions \[page 206\]](#)

Positions in Employee Central are transformed into position objects (object type S) in the SAP ERP HCM system.

[Business Unit/Division/Department Assignment \[page 207\]](#)

The organizational structure item (business unit, division, department) assignment of an employee is stored in the employee's Job Information in Employee Central. Whenever this assignment is changed, it is transferred to SAP ERP HCM.

[Job Classification Assignment \[page 208\]](#)

The job classification assignment of an employee is stored in the employee's Job Information in Employee Central. Whenever this assignment is changed, it is transferred to SAP ERP HCM.

#### [Position Assignment \[page 208\]](#)

The position assignment of an employee is stored in the employee's Job Information in Employee Central. Whenever this assignment is changed, it is transferred to SAP ERP HCM.

#### [Reporting Line Assignment \[page 208\]](#)

Employee Central and SAP ERP HCM use different approaches for assigning supervisors (managers) to employees.

#### [Cost Center Assignment \[page 212\]](#)

Some things to pay attention to when you replicate cost center assignments from Employee Central.

## 6.2.1 Parent-Child Relationships Between Organizational Objects

Relationships can be either between self-contained parent and child objects (building an organizational structure hierarchy), or between parent and composite child objects (where the child object can't exist outside of the parent object).

#### [Organizational Structure Hierarchies in Employee Central Compared to SAP ERP HCM \[page 198\]](#)

Self-contained objects such as business units, divisions, and departments can build hierarchies in Employee Central, which correspond to organizational unit hierarchies in SAP ERP HCM.

#### [How Parent Objects and Composite Child Objects from Employee Central Are Replicated to SAP ERP HCM \[page 202\]](#)

Composite child objects are part of their parent objects in Employee Central and can be replicated together with the corresponding parent object to SAP ERP HCM.

### 6.2.1.1 Organizational Structure Hierarchies in Employee Central Compared to SAP ERP HCM

Self-contained objects such as business units, divisions, and departments can build hierarchies in Employee Central, which correspond to organizational unit hierarchies in SAP ERP HCM.

## Organizational Structure Hierarchy in Employee Central





Employee Central uses reference associations (valid-when associations) to build an organizational structure hierarchy. This means that both, the referencing (parent) and the referenced (child) object can exist separately without each other.

Here are some examples of department hierarchies in Employee Central.


#### Example 1: Department with Parent Department and Division Assigned

The department *Chief Learning Office* has a parent department, *Global Human Resources*, and a division, *Corporate Services*, assigned.


## Department: Chief Learning Office (50007727)

Start Date *	2016-01-01
Code *	50007727
Name	Chief Learning Office 
Description	Chief Learning Office 
Status *	Active
Head of Department	Elizabeth Wall (ewall)
Parent Department	Global Human Resources (50007726) 
Cost Center	BestRun Executive Board (US10_M2) 

### Division

Corporate Services (CORP\_SVCS) 

### Legal Entity




BestRun Company (1710) 

Department with Parent Department and Division in Employee Central


### Example 2: Department with Division Assigned

The department *Office of the CEO* has a division, *Executive Office* assigned. It doesn't have a parent department.


## Department: Office of the CEO (5000140)

Start Date \* 1990-01-01  
Code \* 5000140  
Name Office of the CEO   
Description Office of the CEO   
Status \* Active  
Head of Department  
Parent Department  
Cost Center Executive Board (10000\_M1) 

### Division

Executive Office (EXEC) 

### Legal Entity

BestRun (10000) 

Department with Division in Employee Central

#### Note

When assigning a parent department to a department, a parent division to a division, or a parent business unit to a business unit in Employee Central, ensure that you don't select the object itself as the parent object. Or else, the corresponding replication request fails if you try to replicate the object, and you're shown the following error message: <Object type> <object ID>: The assigned parent object will cause a cyclic dependency

## Organizational Structure Hierarchy in SAP ERP HCM

SAP ERP HCM doesn't have separate object types for departments, divisions, or business units. It uses the same object type, *Organizational Unit* for all these levels.

Here's an example of an organizational unit hierarchy in SAP ERP HCM. The organizational unit *Department DE010001* has a parent organizational unit, *Division DE01* assigned. *Division DE01* again has a parent organizational unit, *Test Business*, assigned.

Staff assignments (structure)	Chief	Workflow
<input type="checkbox"/> <b>Test Business</b>		
<input type="checkbox"/> <b>Division DE01</b>		
<input type="checkbox"/> <b>Department DE010001</b>		
<input type="checkbox"/> >  Position generated for Pers.No. 00093538		
<input type="checkbox"/> >  Position generated for Pers.No. 00093537		
<input type="checkbox"/> >  Position generated for Pers.No. 00121677		
<input type="checkbox"/> >  Position generated for Pers.No. 00092728		
<input type="checkbox"/> >  Position generated for Pers.No. 00092736		

Details for Organizational unit Test Business
 Increase Detail Area

**Basic data**
Account assignment
Org. data
Address
Cost distribution
Working time
Quota Planning

Organizational unit: ACE\_IND

Test Business

Valid On: 18.07.2022

Organizational unit: DE01

Division DE01

Valid On: 18.07.2022

Organizational unit: DE010001

Department DE010001

Valid On: 18.07.2022

Organizational Unit Hierarchy in SAP ERP HCM

## Mapping of Organizational Structures from Employee Central and SAP ERP HCM

The parent department information in Employee Central is used to build a hierarchy of organizational units in SAP ERP HCM. When the hierarchy from the first Employee Central example is replicated, the organizational unit *Chief Learning Office* reports to the organizational unit *Global Human Resources* in SAP ERP HCM.

If no parent information is available, the system uses the next-level association. Depending on how you've configured the primary and the conditional mapping, this can, for example, mean divisions for departments and business units for divisions. When the hierarchy from the second Employee Central example is replicated, the organizational unit *Office of the CEO* then reports to the organizational unit *Executive Office* in SAP ERP HCM.

In Employee Central, a department can report to multiple divisions and a division can report to multiple business units. Time constraints in the SAP ERP HCM system, however, don't allow for an organizational unit to have multiple parents. This means that in SAP ERP HCM only one association to one of the parents is created. To prevent inconsistencies, we recommend that you only create associations in Employee Central that can be replicated to the SAP ERP HCM system.

### ❖ Example

Let's say, a department in Employee Central reports to divisions US\_CA\_1 and US\_CA\_2. But in SAP ERP HCM, the organizational unit corresponding to the department can only report to one other organizational unit, which corresponds to one of the related divisions. This is because the *Reports (line)* (A002) subtype of the *Relationship* (1001) infotype doesn't have time constraint 3. That is, it doesn't allow for multiple records for the same object to exist at the same period of time.

This means that only one of the related divisions from Employee Central can be stored in the SAP ERP HCM system. The system sorts the external codes of the related divisions alphabetically and stores the association of the department to the first division (US\_CA\_1 in our case). For the other related division (US\_CA\_2), it raises the message *Time constraint of 1001 A002 doesn't allow for entry US\_CA\_2 from EC field Reports To*.

## Related Information

[Configuring Conditional Mapping for Organizational Object Replication \[page 114\]](#)

### 6.2.1.2 How Parent Objects and Composite Child Objects from Employee Central Are Replicated to SAP ERP HCM

Composite child objects are part of their parent objects in Employee Central and can be replicated together with the corresponding parent object to SAP ERP HCM.

A composite object doesn't have its own lifecycle. This means that the composite child object can't exist outside of the parent object in Employee Central.

#### ❖ Example

The *Matrix Relationship For Position* object is a composite child of the *Position* object in Employee Central. The matrix relationship of a position can't exist without the position itself.

You can replicate composite child objects together with their parent objects to SAP ERP HCM.

#### ❖ Example

You can replicate the relationships of an employee's position to a *Matrix Manager* and a *Head of Administration* position to the *Relationships* (1001) infotype of the position in the SAP ERP HCM system.

#### ⚠ Restriction

Note that the following isn't included in the current scope:

- Hierarchies, such as a parent having a composite child object, which again has a composite child, are currently not supported.
- You can't define a secondary mapping across parent and child objects. You can't fill, for example, a field of the parent object depending on the value contained in a field of the child object.
- You can't define conversion rules across parent and child objects. You can't use, for example, a field of the parent object when defining a conversion rule for the child object.
- You can't use fields of composite child objects for filtering.

## Related Information

[Configuring the Replication of Composite Child Objects \[page 99\]](#)

## 6.2.2 Business Units, Divisions, Departments

Business units, divisions, and departments in Employee Central are transferred as organizational units in the SAP ERP HCM system.

### How to Keep Existing Organizational Units in the SAP ERP HCM Backend System

If no key mapping is maintained in the SAP ERP HCM system in the key mapping table (`SFIOM_KMAP_OSI`), new organizational units are created during the initial full load from Employee Central (and also during delta replication when you create new business units, divisions, or departments in Employee Central). If you want to keep your existing organizational units in the SAP ERP HCM system and you want to use them in Employee Central as well, you should create the Employee Central entities with the same IDs (external codes) as they have in SAP ERP HCM (`HRP1000-OBJID`). Note that in this case you need to maintain the key mapping table **before** you run the initial load.

To fill the key mapping table in advance, you can use data migration from SAP ERP HCM to Employee Central. For more information, refer to the *Migrating Data from SAP ERP HCM to Employee Central Using Infoporter* integration guide. Find the most current version of this guide at [http://help.sap.com/hr\\_ecintegration](http://help.sap.com/hr_ecintegration). If you don't want to use the data migration scenario, create a custom program to fill the key mapping table.

If you now run the initial load, all existing objects are updated according to the full transmission start date you have chosen.

### Use Cases

- **Creating organizational structure items**  
Whenever you create a business unit, division, or department, the new object is extracted from Employee Central and sent over to the SAP ERP HCM system. If no key mapping is in place for this item, a new organizational unit is created and a new entry is written to the key mapping table.

#### Note

You can synchronize IDs of organizational objects in SAP ERP HCM and Employee Central. That is, you can define that types of organizational objects, such as organizational units, should use the same IDs in Employee Central and in SAP ERP HCM. Note that this requires some prerequisites to be fulfilled, such as that you can only use external codes for organizational objects that consist of an 8-digit number. See the related section in this guide for more information.

- **Changing organizational structure items**  
Whenever you change a business unit, division, or department, the changed object is extracted from Employee Central and sent over to the SAP ERP HCM system. While this message is being processed, key mapping is checked. The SAP ERP HCM ID is derived from the key mapping and the corresponding organizational unit is updated accordingly.
- **Deleting organizational structure items**

Deletions of organizational structure items in Employee Central aren't replicated to SAP ERP HCM. You have the following options to handle active and inactive organizational structure items and time slices in the replication:

- You can create a filter for active time slices that's considered in the middleware.  
If you don't create such a filter, all time slices of organizational structure items are replicated, regardless of their status. Since the SAP ERP HCM system doesn't have a status field for organizational structure items, it considers the organizational structure items to be active in all time slices.  
If you create a filter for active time slices, the middleware ensures that only those time slices are replicated in which the organizational structure items are active. The SAP ERP HCM system then creates and delimits the time slices accordingly. But organizational structure items that are inactive for their complete lifecycle aren't replicated. The SAP ERP HCM system isn't able to consider these organizational structure items, for example, by deleting or delimiting them, depending on their start date.
- You can specify the values you use in Employee Central to indicate that an organizational structure item is inactive.  
If you specify values for the *Inactive* status, the replication considers **all** organizational structure items and time slices, regardless of their status. Inactive time slices are then filtered out in the SAP ERP HCM system, considering the values you specified. The replication of all time slices enables the SAP ERP HCM system to process organizational structure items that are inactive for their complete lifecycle. If you make these settings, they overrule the filtering for active time slices you might have defined for the middleware.  
If you use this option, we recommend setting organizational structure items that are no longer relevant to *Inactive* in Employee Central.

#### ⓘ Note

The length of organizational unit titles is restricted to 40 characters in the SAP ERP HCM system. If you use longer titles in Employee Central, the titles are truncated when you replicate business units, divisions, or departments to SAP ERP HCM. To prevent the truncation, we recommend that you restrict the title length in Employee Central to 40 characters.

## Related Information

[Active and Inactive Objects and Data Records in Employee Central Compared to SAP ERP HCM \[page 196\]](#)  
[Synchronizing IDs of Organizational Objects in SAP ERP HCM and Employee Central \[page 92\]](#)

## 6.2.3 Job Classifications

Job classifications in Employee Central are transformed into job objects (object type C) in the SAP ERP HCM system.

All changes are effective-dated and processed accordingly in SAP ERP HCM.

## How to Keep Existing Jobs in the SAP ERP HCM Backend System

If no key mapping is maintained in the SAP ERP HCM backend system in the key mapping table (SF10M\_KMAP\_OSI), new jobs are created during the initial full load from Employee Central (and also during delta



replication when you create new job classifications in Employee Central). If you want to keep your existing jobs in the SAP ERP HCM system and you want to use them in Employee Central as well, you should create the Employee Central entities with the same IDs (external codes) as they have in SAP ERP HCM (HRP1000-OBJID). Note that in this case you need to maintain the key mapping table **before** you run the initial load.

To fill the key mapping table in advance, you can use data migration from SAP ERP HCM to Employee Central. For more information, see the *Migrating Data from SAP ERP HCM to Employee Central Using Infoporter* integration guide. Find the most current version of this guide at [http://help.sap.com/hr\\_ecintegration](http://help.sap.com/hr_ecintegration). If you don't want to use the data migration scenario, create a custom program to fill the key mapping table.

If you now run the initial load, all existing objects are updated according to the full transmission start date you have chosen.

## Use Cases

- **Creating job classifications**  
Whenever you create a job classification, the new object is extracted from Employee Central and sent over to the SAP ERP HCM backend system. If no key mapping is in place for this item, a new job is created and a new entry is written to the key mapping table.
- **Changing job classifications**  
Whenever you change a job classification, the change is extracted from Employee Central and sent over to the SAP ERP HCM backend system. While this message is being processed, key mapping is checked. The SAP ERP HCM ID is derived from the key mapping and the corresponding job object is updated accordingly.
- **Deleting job classifications**  
Deletions of job classifications in Employee Central aren't replicated to SAP ERP HCM. You have the following options to handle active and inactive job classifications and time slices in the replication:
  - You can create a filter for active time slices that's considered in the middleware.  
If you don't create such a filter, all time slices of job classifications are replicated, regardless of their status. Since the SAP ERP HCM system doesn't have a status field for job classifications, it considers the job classifications to be active in all time slices.  
If you create a filter for active time slices, the middleware ensures that only those time slices are replicated in which the job classifications are active. The SAP ERP HCM system then creates and delimits the time slices accordingly. But job classifications that are inactive for their complete lifecycle aren't replicated. The SAP ERP HCM system isn't able to consider these job classifications, for example, by deleting or delimiting them, depending on their start date.
  - You can specify the values you use in Employee Central to indicate that a job classification is inactive.  
If you specify values for the *Inactive* status, the replication considers **all** job classifications and time slices, regardless of their status. Inactive time slices are then filtered out in the SAP ERP HCM system, considering the values you specified. The replication of all time slices enables the SAP ERP HCM system to process job classifications that are inactive for their complete lifecycle. If you make these settings, they overrule the filtering for active time slices you might have defined for the middleware.  
If you use this option, we recommend setting job classifications that are no longer relevant to *Inactive* in Employee Central.

### Note

The length of job titles is restricted to 40 characters in the SAP ERP HCM system. If you use longer titles in Employee Central, the titles are truncated when you replicate job classifications to SAP ERP HCM. To prevent the truncation, we recommend that you restrict the title length in Employee Central to 40 characters.

## Related Information

[Active and Inactive Objects and Data Records in Employee Central Compared to SAP ERP HCM \[page 196\]](#)

### 6.2.4 Positions

Positions in Employee Central are transformed into position objects (object type S) in the SAP ERP HCM system.

All changes are effective-dated and processed accordingly in SAP ERP HCM.

#### How to Keep Existing Positions in the SAP ERP HCM Backend System

If no key mapping is maintained in the SAP ERP HCM backend system in the key mapping table (`SFIOM_KMAP_OSI`), new positions are created during the initial full load from Employee Central (and also during delta replication when you create new positions in Employee Central). If you want to keep your existing positions in the SAP ERP HCM system and you want to use them in Employee Central as well, you should create the Employee Central entities with the same IDs (external codes) as they have in SAP ERP HCM (`HRP1000-OBJID`). Note that in this case you need to maintain the key mapping table **before** you run the initial load.

To fill the key mapping table in advance, you can use data migration from SAP ERP HCM to Employee Central. For more information, see the *Migrating Data from SAP ERP HCM to Employee Central Using Infoporter* integration guide. Find the most current version of this guide at [http://help.sap.com/hr\\_ecintegration](http://help.sap.com/hr_ecintegration). If you don't want to use the data migration scenario, create a custom program to fill the key mapping table.

If you now run the initial load, all existing objects are updated according to the full transmission start date you have chosen.

#### Use Cases

- **Creating positions**  
Whenever you create a position, the new object is extracted from Employee Central and sent over to the SAP ERP HCM backend system. If no key mapping is in place for this item, a new position is created and a new entry is written to the key mapping table.
- **Changing positions**  
Whenever you change a position, the change is extracted from Employee Central and sent over to the SAP ERP HCM backend system. While this message is being processed, key mapping is checked. The SAP ERP HCM ID is derived from the key mapping and the corresponding position object is updated accordingly.
- **Deleting positions**  
Deletions of positions in Employee Central aren't replicated to SAP ERP HCM. You have the following options to handle active and inactive positions and time slices in the replication:
  - You can create a filter for active time slices that's considered in the middleware.  
If you don't create such a filter, all time slices of positions are replicated, regardless of their status. Since the SAP ERP HCM system doesn't have a status field for positions, it considers the positions to be active in all time slices.

If you create a filter for active time slices, the middleware ensures that only those time slices are replicated in which the positions are active. The SAP ERP HCM system then creates and delimits the time slices accordingly. But positions that are inactive for their complete lifecycle aren't replicated. The SAP ERP HCM system isn't able to consider these positions, for example, by deleting or delimiting them, depending on their start date.

- You can specify the values you use in Employee Central to indicate that a position is inactive. If you specify values for the *Inactive* status, the replication considers **all** positions and time slices, regardless of their status. Inactive time slices are then filtered out in the SAP ERP HCM system, considering the values you specified. The replication of all time slices enables the SAP ERP HCM system to process positions that are inactive for their complete lifecycle. If you make these settings, they overrule the filtering for active time slices you might have defined for the middleware. If you use this option, we recommend setting positions that are no longer relevant to *Inactive* in Employee Central.
- Replicating shared positions  
Some prerequisites need to be fulfilled if you want to replicate shared positions from Employee Central to the SAP ERP HCM system.

#### 📘 Note

The length of position titles is restricted to 40 characters in the SAP ERP HCM system. If you use longer titles in Employee Central, the titles are truncated when you replicate position to SAP ERP HCM. To prevent the truncation, we recommend that you restrict the title length in Employee Central to 40 characters.

## Related Information

[Active and Inactive Objects and Data Records in Employee Central Compared to SAP ERP HCM \[page 196\]](#)  
[Replication of Shared Positions from Employee Central \[page 28\]](#)

## 6.2.5 Business Unit/Division/Department Assignment

The organizational structure item (business unit, division, department) assignment of an employee is stored in the employee's Job Information in Employee Central. Whenever this assignment is changed, it is transferred to SAP ERP HCM.

All changes are effective dated and associations in SAP ERP HCM are adapted accordingly. Organizational structure items from Employee Central map to organizational units (object type O) in SAP ERP HCM. There is a mapping table (SF10M\_KMAP\_OSI) in SAP ERP HCM that maps the Employee Central organizational structure item IDs to their counterparts in SAP ERP HCM. This key mapping is created whenever an organizational structure item is replicated to SAP ERP HCM. You can also maintain the key mapping table manually.

#### 📘 Note

An alternative to manual mapping in the SF10M\_KMAP\_OSI table is the BAdI *Enhancements for Key Mapping of Organizational Structure Items* (EX\_SF10M\_KEY\_MAP\_ENH\_ORG\_STRUC, enhancement spot ES\_SF10M\_PROCESSING). With this BAdI, you can set up rules regulating how Employee Central organizational structure items are to be mapped to SAP ERP HCM organizational units.

In SAP ERP HCM, the organizational unit is linked to the position of an employee through the *Belongs to / Incorporates* (A/B 003) relationship in the *Relationships* (1001) infotype.

## 6.2.6 Job Classification Assignment

The job classification assignment of an employee is stored in the employee's Job Information in Employee Central. Whenever this assignment is changed, it is transferred to SAP ERP HCM.

All changes are effective dated and associations in SAP ERP HCM are adapted accordingly. Job classifications from Employee Central map to jobs (object type C) in SAP ERP HCM. There is a mapping table in SAP ERP HCM (`SFIOM_KMAP_OSI`) that maps the Employee Central job classification ID to the job ID in SAP ERP HCM. This key mapping is created whenever a job is replicated to SAP ERP HCM. You can also maintain the key mapping table manually.

In SAP ERP HCM, the job is linked to the position of an employee through the *Describes / Is described by* (A/B 007) relationship in the *Relationships* (1001) infotype.

## 6.2.7 Position Assignment

The position assignment of an employee is stored in the employee's Job Information in Employee Central. Whenever this assignment is changed, it is transferred to SAP ERP HCM.

All changes are effective dated and associations in SAP ERP HCM are adapted accordingly. Positions from Employee Central map to positions (object type S) in SAP ERP HCM. There is a mapping table in SAP ERP HCM (`SFIOM_KMAP_OSI`) that maps the Employee Central position ID to the position ID in SAP ERP HCM. This key mapping is created whenever a position is replicated to SAP ERP HCM. You can also maintain the key mapping table manually.

## Related Information

[Organizational Assignments Replication Scenario \[page 47\]](#)

## 6.2.8 Reporting Line Assignment

Employee Central and SAP ERP HCM use different approaches for assigning supervisors (managers) to employees.

In Employee Central, a supervisor (manager) is assigned to an employee in the employee's Job Information. The supervisor that is assigned to the employee's department or position is only a default and may differ from employee to employee. Therefore, supervisor assignments in departments and positions are not considered for the replication.

In SAP ERP HCM, managers are usually determined by the leading (chief) position of an organizational unit. All employees assigned to one organizational unit derive the holder of the leading position as manager.

Organizational data replication from Employee Central to SAP ERP HCM by default creates a direct relation between the position of a manager and the position of the managed employee in SAP ERP HCM. The two positions are linked with the [Reports \(line\) to / Is line supervisor of](#) (A/B 002) relationship in the [Relationships](#) (1001) infotype.

The SAP ERP HCM concept of leading or chief positions is **not** supported by default.

- You can use generic replication of organizational objects to replicate custom chief positions and the chief position relation from Employee Central. You'll find step-by-step description in a later section of this guide.
- You can implement the [Enhancements for Adapting Employee Organizational Assignment](#) (EX\_SF10M\_ADAPT\_EE\_ORG\_ASSGNMNT) Business Add-In (BAI) to create new and update existing relations between the organizational unit of the employee and the custom chief position. In your BAI implementation, you can create [Manages...](#) (A012) relationships between departments, divisions, or business units and chief positions that are replicated as custom fields from Employee Central. A corresponding sample implementation is available for this BAI. You'll find the BAI in the Customizing structure in the SAP ERP HCM system.

A prerequisite for the reporting line replication is that the managers themselves have been replicated to the SAP ERP HCM system and have a valid position assignment.

If your workflows in the SAP ERP HCM system are based on the standard role resolution function modules they will not be affected by the reporting line replication, because in the first iteration they always try to get the directly linked positions. Only in case that there are no directly linked positions, the leading positions are considered. If you have custom-specific coding in place, make sure to check if your coding supports this approach. If not, use SAP function module `SWX_GET_MANAGER` as a source for further information.

## Use cases

- Change of manager assignment  
When a new manager is assigned to an employee, the new assignment is transferred to the SAP ERP HCM system. In the SAP ERP HCM system the existing position-position relation is delimited accordingly, and the position of the employee is associated with the position of the new manager.
- Retirement or termination of manager  
If a manager retires or is terminated, Employee Central assigns this retired/terminated manager's manager as an interim manager to all direct reports of the retired/terminated manager. Technically, this is a change of a manager assignment and handled in the same way.

## Related Information

[Enhancing Organizational Assignments Replicated from Employee Central \[page 226\]](#)

## 6.2.8.1 Manager Determination in the SAP ERP HCM System

Here's how the personnel number of an employee's manager is determined in the SAP ERP HCM system.

### How the SAP ERP HCM system determines an employee's manager

This can happen in different ways, depending whether you enable replication of associated employee information in the middleware or not.

#### Associated employee information is enabled

If you enable replication of associated employee information, the SAP ERP HCM system uses the additional information that's transferred to determine the personnel number of the employee's manager unambiguously.

##### Note

We recommend enabling replication of associated employee information.

#### Associated employee information isn't enabled

If you don't enable replication of associated employee information, the SAP ERP HCM system uses the following logic:

It reads the key mapping from the `ECPAO_EE_KMAP` table to identify the manager's personnel number. If only one personnel number is found, this personnel number is used. If several entries are found, the SAP ERP HCM system filters out all entries whose validity starts after the start of the employee's organizational assignment. In case there are still several personnel numbers left, the system uses the latest personnel number that was valid at the start of the employee's organizational assignment. If the system can't determine a personnel number for the manager, it issues an error message.

### What happens if a manager's data isn't replicated to the same SAP ERP HCM system as the employee's data

#### Example

Let's say an employee is located in Germany, his or her manager is based in the US. You replicate the data of Germany-based employees to a specific SAP ERP HCM system (target system 1) and the data of US employees to another SAP ERP HCM system (target system 2). This means that the employee's manager isn't replicated to the system that holds the employee's data (target system 1). By consequence, neither the employee-manager relationship nor the employee's other relationships, such as job, position, or organizational unit assignments, can be created in target system 1 by default (meaning if you neither enable replication of associated employee information nor implement the [Enhancements for Adapting Employee Organizational Assignment Request](#) BAdI).

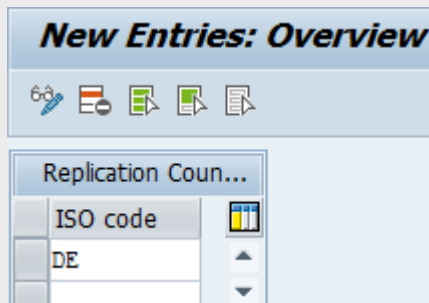
Again, there are different ways to handle this situation, depending whether you enable replication of associated employee information in the middleware or not.

## Associated employee information is enabled

If you enable replication of associated employee information, the additional information that's transferred enables the SAP ERP HCM system to filter out manager assignments if the assigned managers don't exist in the SAP ERP HCM system. Then the other relationships are created even if there's no manager assignment for the employee.

### Note

To check which countries/regions are valid, the SAP ERP HCM system uses the information you have entered in Customizing for *Personnel Management*, under ► *Integration with SuccessFactors Employee Central* ► *Other Integration Settings* ► *Replicating Data from Employee Central to SAP ERP* ► *Country Filtering* ► *Restrict Employee Master Data Replication to Certain Countries* ►. Make sure that the correct country/region or countries/regions are specified here, as shown in this example:



Restrict Employee Master Data Replication to Germany

### → Tip

You can use the *Enhancements for Adapting Employee Organizational Assignment Request* (EX\_SF10M\_ADAPT\_EE\_ORG\_ASS\_REQ) BAdI to define a customer-specific processing of employee-manager assignments contained in the replication request. This is useful if you don't want to just remove these manager assignments, but handle them in a specific way. Find this BAdI in the Customizing structure in the SAP ERP HCM system.

## Associated employee information isn't enabled

If you don't enable replication of associated employee information, you can use the EX\_SF10M\_ADAPT\_EE\_ORG\_ASS\_REQ BAdI to delete employee-manager assignments from replication requests. Then the other relationships are created even if there's no manager assignment for the employee.

## Related Information

[Configuring the Integration Flow for Organizational Assignment Replication \[page 170\]](#)

## 6.2.9 Cost Center Assignment

Some things to pay attention to when you replicate cost center assignments from Employee Central.

### Synchronizing the Mapping of Cost Center Keys Across the Replication Processes

The replication of organizational objects and organizational assignments from Employee Central must use the same logic to determine the cost center. The organizational assignment replication uses a default logic that works out of the box. If you need to map the cost center for organizational object replication, you must make the following settings to ensure that the same logic is used:

1. In the transformation template group you use for the replication of organizational objects, map the [Cost Center](#) Employee Central field in the transformation template for [Position](#). Map it to the SAP ERP HCM field [ID of Related Object](#) (SOBID) in the [Relationships](#) (1001) infotype, with the [Master Cost Center](#) (A011) subtype.
2. Add a value mapping entity to this field mapping that has the [Cost Center Keys from Mapping Table](#) value mapping type. This value mapping type ensures that the data replication uses the standard logic for determining cost centers.

The sample content we provide contains a `COST_CENTER_WS` value mapping entity with the right value mapping type. You can copy the sample value mapping and then use the copied value mapping entity for your field mapping. If you create your own value mapping entity, ensure that it uses the [Cost Center Keys from Mapping Table](#) value mapping type.

### Recommendation: Use Concatenation of 4-Character Controlling Area Keys with 10-Character Cost Center Keys

To ensure a correct handling of cost center keys in the replication, we recommend that you use cost center keys in Employee Central that are concatenated from the 4-character controlling area key and the 10-character cost center key used in SAP ERP HCM. You can have the controlling area and the cost center key concatenated by migrating the cost centers from SAP ERP HCM to Employee Central. The replication of cost centers from Employee Central to SAP ERP HCM then cuts the concatenated string, using 4 characters as the controlling area key and 10 characters as the cost center key.

If you make these settings, the assignment of cost centers in the replication doesn't require the cost center keys to be entered in the mapping tables. However, keys that don't fulfill these requirements must be entered in one of the following tables:

- `ODFIN_MAP_KOSTL` (software component `ODTFINCC`)
- `PAOCFEC_KMAPCOSC` (software component `PA_SE_IN`)

#### 📌 Note

We recommend that you use the `PAOCFEC_KMAPCOSC` table rather than the `ODFIN_MAP_KOSTL` table. To define the key mapping for cost centers in the `PAOCFEC_KMAPCOSC` table, go to Customizing for Personnel Management and choose ► [Integration with SuccessFactors Employee Central](#) ► [Other Integration Settings](#)



To enable the concatenation of controlling area and cost center keys, turn on the use of the external cost center ID for the migration as well as the replication processes you use. The exact name of the parameter is different in the different versions.

### ❖ Example

In the [Replicate Cost Centers from SAP ERP or SAP S4HANA to SAP SuccessFactors Employee Central](#) integration flow for SAP Cloud Integration, the parameter is called `USE_EXTERNAL_COST_CENTER`.

In the [Replicate Organizational Assignments from SAP SuccessFactors Employee Central to SAP ERP or SAP S4HANA](#) integration flow for SAP Cloud Integration, the parameter is called `USE_EXTERNAL_COST_CENTER_ID`.

## Standard Logic for Determining Cost Centers

The replication of cost center assignments from Employee Central uses the following standard logic:

1. The SAP ERP HCM system first checks whether a mapping is defined for the key transferred from Employee Central in the `ODFIN_MAP_KOSTL` table. If it doesn't find a mapping there, it checks the `PAOCFEC_KMAPCOSC` table. If a mapping is defined in one of these tables, SAP ERP HCM uses the key from this mapping when posting the cost center assignment.
2. If no mapping is defined in the mapping tables, the replication checks whether the concatenated string transferred from Employee Central is 14 characters long. If this is the case and the first 4 characters are a valid controlling area key, it cuts off the first 4 characters and uses them as the controlling area key. The rest of the string is used as the cost center key.
3. If no mapping is defined in the mapping tables and the cost center key being transferred is longer than 14 characters, the replication of the cost center assignment fails.

## Related Information

[Configuring the Integration Flow for Cost Center Replication](#)

[Configuring the Integration Flow for Organizational Assignment Replication \[page 170\]](#)

## 6.3 Field Mapping Between Employee Central and SAP ERP HCM

See how Employee Central fields are mapped to SAP ERP HCM fields in organizational data replication.

### Organizational Objects

If you use generic object replication with **object-specific** processing, the integration uses default field mappings, which are stored in the SAP ERP HCM infotypes and tables listed below.

If you use generic object replication with **generic** processing, the field mapping depends on the settings you make in Customizing.

### Organizational Assignments

The integration uses default field mappings, which are stored in the SAP ERP HCM infotypes and tables listed below.

#### Infotypes and Infotype Tables

- *Object* (1000) infotype  
HRP1000 table
- *Relationships* (1001) infotype  
HRP1001 table
- *Description* (1002) infotype  
HRP1002 and HRT1002 tables

#### Mapping Tables

- *Organizational Structure Item Key Mapping* (SF10M\_KMAP\_OSI)  
Maps the keys of Employee Central organizational objects (such as business units or job classifications) to the corresponding keys of SAP ERP HCM organizational objects (such as organizational units or jobs). This key mapping is created whenever an organizational object is replicated from Employee Central.
- *Employee Key Mapping* (ECPAO\_EE\_KMAP)  
Maps an employee's unique identifiers from the SAP ERP HCM system and from Employee Central. The table is updated after each replication run.
- *Cost Center Key Mapping* (PAOCFEC\_KMAPCOSC)  
Maps Employee Central cost center keys to the cost center keys in the SAP ERP HCM system. To map cost center keys, go to Customizing for Personnel Management and choose ► [Integration with SuccessFactors Employee Central](#) ► [Other Integration Settings](#) ► [Replicating Data from Employee Central to SAP ERP](#) ► [Key Mapping of Organizational Terms](#) ► [Assign Cost Center Keys](#) ►.
- *Company Code Key Mapping* (PAOCFEC\_KMAPCOMC)  
Maps Employee Central company code keys to the company code keys in the SAP ERP HCM system. Mapping entries are required if company keys in Employee Central are longer than 4 characters. To map company

keys, go to Customizing for Personnel Management and choose ► [Integration with SuccessFactors Employee Central](#) ► [Other Integration Settings](#) ► [Replicating Data from Employee Central to SAP ERP](#) ► [Key Mapping of Organizational Terms](#) ► [Assign Company Code Keys](#) ►.

[Business Unit, Division, and Department Field Mapping for Generic Object Replication with Object-Specific Processing \[page 215\]](#)

For business units, divisions, and departments, these fields are mapped by default between Employee Central and SAP ERP HCM if you use **object-specific** processing.

[Job Classification Field Mapping for Generic Object Replication with Object-Specific Processing \[page 217\]](#)

For job classifications, these fields are mapped by default between Employee Central and SAP ERP HCM if you use **object-specific** processing.

[Position Field Mapping for Generic Object Replication with Object-Specific Processing \[page 218\]](#)

For positions, these fields are mapped by default between Employee Central and SAP ERP HCM if you use **object-specific** processing.

[Organizational Assignment Field Mapping \[page 219\]](#)

Take a look at the employee organizational assignment fields that are mapped by default between Employee Central and SAP ERP HCM.

## 6.3.1 Business Unit, Division, and Department Field Mapping for Generic Object Replication with Object-Specific Processing

For business units, divisions, and departments, these fields are mapped by default between Employee Central and SAP ERP HCM if you use **object-specific** processing.

### Note

If you use generic object replication with generic processing, there is no default field mapping. The mapping depends on the settings you make in Customizing.

Default Field Mapping for Generic Replication of Business Units, Divisions, and Departments with Object-Specific Processing

Field in Employee Central	Mapping in SAP ERP HCM
<a href="#">Code</a> (of department / division / business unit)	OBJID field in HRP1000 table: object ID of department / division / business unit*
	OTYPE field in HRP1000 table: entry <a href="#">O</a>
StartDate ( <a href="#">Effective as of</a> )	BEGDA field in HRP1000 table
EndDate	ENDDA field in HRP1000 table

Field in Employee Central	Mapping in SAP ERP HCM
<i>Name</i>	<p>If you haven't set the ECERPORG_NN parameter of the process for replicating departments, divisions, and business units to <b>X</b>:</p> <ul style="list-style-type: none"> <li>• <b>STEXT</b> field in HRP1000 table: name</li> <li>• <b>LANGU</b> field in HRP1000 table: SAP ERP HCM log-on language (SY-LANGU)</li> </ul>
<i>Parent</i> (of department / division)**	<p>O-O relation in HRP1001 table:</p> <ul style="list-style-type: none"> <li>• <b>OTYPE</b> field: entry <i>O</i></li> <li>• <b>OBJID</b> field: object ID of department / division / business unit***</li> <li>• <b>RSIGN</b> field: entry <i>A</i></li> <li>• <b>RELAT</b> field: entry <i>002</i></li> <li>• <b>SCLAS</b> field: entry <i>O</i></li> <li>• <b>SOBID</b> field: object ID of parent object*</li> </ul>
<p>Custom fields:</p> <ul style="list-style-type: none"> <li>• <i>Custom Long</i></li> <li>• <i>Custom Double</i></li> <li>• <i>Custom Date</i></li> <li>• <i>Custom String</i></li> </ul>	<p>No standard field mapping provided; implement EX_SF10M_PROC_CUSTOMER_FIELDS BAdI to map these fields</p>
Name (name is translatable)	<p><b>LANGU</b> field in HRP1000 table: language code</p> <p><b>STEXT</b> field in HRP1000 table: LanguageDependentName</p>
Description (description is translatable)	<p><b>LANGU</b> field in HRP1002 table: language code</p> <p><b>TLINE</b> field in HRT1002 table: LanguageDependentDescription</p>

\* The *Name* field is kept in the message for compatibility reasons.

\*\* The logic to fill the parent type is implemented in the middleware. The process works as follows:

- If a department has a parent department, the parent department is written to the *Parent* field
- If a department doesn't have a parent department, but has a division assigned, the assigned division is written to the *Parent* field
- If a division has a parent division, the parent division is written to the *Parent* field
- If a division doesn't have a parent division, but has a business unit assigned, the assigned business unit is written to the *Parent* field

Business units can't have a parent.

\*\*\* The object ID (**OBJID**) of departments, divisions, and business units is retrieved from the key mapping table (**SF10M\_KMAP\_OSI**) using:

- **OSI\_ID** = DepartmentCode / DivisionCode / BusinessUnitCode
- **OSI\_TYPE\_CODE** = 01 / 02 / 03

## Related Information

[Organizational Object Replication – Scenario and Use Cases \[page 37\]](#)

[Defining Transformation Template Groups, Transformation Templates, and Primary Field Mapping for Organizational Object Replication \[page 109\]](#)

### 6.3.2 Job Classification Field Mapping for Generic Object Replication with Object-Specific Processing

For job classifications, these fields are mapped by default between Employee Central and SAP ERP HCM if you use **object-specific** processing.

#### Note

If you use generic object replication with generic processing, there is no default field mapping. The mapping depends on the settings you make in Customizing.

Default Field Mapping for Generic Replication of Job Classifications with Object-Specific Processing

Field in Employee Central	Mapping in SAP ERP HCM
<i>Job Code</i>	OBJID field in HRP1000 table: object ID of job* OTYPE field in HRP1000 table: entry C
StartDate ( <i>Effective as of</i> )	BEGDA field in HRP1000 table
EndDate	ENDDA field in HRP1000 table
<i>Job Title</i> (job title is translatable)	LANGU field in HRP1000 table: language code STEXT field in HRP1000 table: job title
<i>Description</i> (description is translatable)	LANGU field in HRP1002 table: language code TLINE field in HRT1002 table: job description
Custom fields: <ul style="list-style-type: none"><li><i>Custom Long</i></li><li><i>Custom Double</i></li><li><i>Custom Date</i></li><li><i>Custom String</i> (custom strings are translatable)</li></ul>	No standard field mapping provided; implement EX_SF10M_PROC_CUSTOMER_FIELDS BAdI to map these fields
Country/region-specific fields	No standard field mapping provided; implement EX_SF10M_PROC_COUNTRY_FIELDS BAdI to map these fields

\* The object ID (OBJID) of jobs is retrieved from the key mapping table (SF10M\_KMAP\_OSI) using:

- OSI\_ID = JobCode

- `OSI_TYPE_CODE = 04`

## Related Information

[Organizational Object Replication – Scenario and Use Cases \[page 37\]](#)

[Defining Transformation Template Groups, Transformation Templates, and Primary Field Mapping for Organizational Object Replication \[page 109\]](#)

### 6.3.3 Position Field Mapping for Generic Object Replication with Object-Specific Processing

For positions, these fields are mapped by default between Employee Central and SAP ERP HCM if you use **object-specific** processing.

#### Note

If you use generic object replication with generic processing, there is no default field mapping. The mapping depends on the settings you make in Customizing.

Default Field Mapping for Generic Replication of Positions with Object-Specific Processing

Field in Employee Central	Mapping in SAP ERP HCM
<i>Code</i>	OBJID field in HRP1000 table: object ID of position* OTYPE field in HRP1000 table: entry <i>S</i>
StartDate ( <i>Effective as of</i> )	BEGDA field in HRP1000 table
EndDate	ENDDA field in HRP1000 table
externalName ( <i>Position Name</i> – name is translatable)	LANGU field in HRP1000 table: language code STEXT field in HRP1000 table: position title
	LANGU field in HRP1002 table: language code TLINE field in HRT1002 table: position title
Custom fields**: <ul style="list-style-type: none"> <li>• <i>Custom Decimal</i></li> <li>• <i>Custom Date</i></li> <li>• <i>Custom String</i> (custom strings are translatable)</li> </ul>	No standard field mapping provided; implement EX_SF10M_PROC_CUSTOMER_FIELDS BAdI to map these fields

\* The object ID (OBJID) of jobs is retrieved from the key mapping table (SF10M\_KMAP\_OSI) using:

- `OSI_ID = PositionCode`
- `OSI_TYPE_CODE = 05`

\*\* The custom fields in Employee Central need to follow a naming convention.

## Related Information

[Organizational Object Replication – Scenario and Use Cases \[page 37\]](#)

[Defining Transformation Template Groups, Transformation Templates, and Primary Field Mapping for Organizational Object Replication \[page 109\]](#)

### 6.3.4 Organizational Assignment Field Mapping

Take a look at the employee organizational assignment fields that are mapped by default between Employee Central and SAP ERP HCM.

#### ❖ Example

Here you can see the organizational assignment fields ...

## ... in Employee Central

**Job Information** History

**Effective as of Jan 1, 2014**

**Position Information**

No data for Position Information available or you do not have the necessary permission.

**Organizational Information**

Company **SbS DE Company 02 (SBD2)**

Business Unit **SbS DE Business Unit 02 (SBD2)**

Division

Department

Location **SbS DE Loc. 02 BA0001 (SBD20001)**

Timezone **No Selection**

Cost Center

**Job Information**

Employee Status **Active**

Supervisor **No Manager**

Job Classification **Job Code DE\_01 (Comm. Employee) (DE\_01)**

Job Title **Job Code DE\_01 (Comm. Employee)**

Local Job Title

Pay Grade

Regular/Temporary **No Selection**

Standard Weekly Hours **40**

Working Days Per Week **5**

FTE **1**

Is Fulltime Employee **Yes**

Employee Type **No Selection**

Notes

Employee Class **Employee**

Employment Type **Salaried employees Germany (DU)**

Is Shift Employee **No**

Shift Code

Shift Rate **0**

Shift Percent **0**

Is Cross Border Worker **No**

Competition Clause **No**

Sideline Job Allowed **No**

Probationary Period End Date

Country **Germany**

Sick Pay Supplement **No Selection**

Job Entry Date **01/01/2014**

Time In Job **1 Years 0 Months 7 Days**

Pay Scale Group

Pay Scale Level

Attachment

Notice Period Start Date

Custom String 1

Custom Date 1

Custom Long 1

Custom Double 1

## ... in the service interface in SAP ERP HCM

**Service Interface (Inbound)** EmployeeOrganisationalAssignm...

**Properties** **External View** **Internal View** **Used Objects** **Configuration**

ESR Name

**portType EmployeeOrganisationalAssignmentReplicationRequest\_In**

**Operations**

**EmployeeOrganisationalAssignmentReplicationRequest\_In**

**PartInput input**

**EmployeeOrganisationalAssignmentReplicationRequest**

**MessageHeader**

**EmplOrgAssignmReplReq**

- FullTransmissionStartDate**
- AssociatedEmployeeInformationIndicator**
- Employee**
  - EmployeeID**
  - EmployeeIDExternal**
  - DepartmentRelevanceIndicator**
  - OrganisationalAssignment**
    - ValidityPeriod**
      - EmploymentID**
      - CompanyID**
      - CountryCode**
    - Manager**
      - EmployeeID**
      - EmploymentID**
      - CompanyID**
      - EmployeeIDExternal**
    - CostCentreID**
    - DepartmentID**
    - DivisionID**
    - BusinessUnitID**
    - JobID**
    - PositionID**
    - SourceDataModelExtensionFields**
      - ElementName**
      - ElementValue**
- JobRelation**
  - ValidityPeriod**
    - StartDate**
    - EndDate**
  - Type**
  - RelatedUserID**
  - EmploymentID**
- AssociatedEmployeeInformation**
  - EmployeeID**
  - EmployeeIDExternal**
  - AssociatedEmployeeJobInformation**

**Exceptions**



And here's how the fields are mapped:

#### Default Field Mapping for Employee Organizational Assignments

Field in Employee Central	Field in SAP ERP HCM Service Interface	Target Field in SAP ERP HCM
EmployeeID	<i>Employee-EmployeeID</i>	OBJID field in HRP1001 table: personnel number (PERNR)*
PersonID	<i>Employee-EmployeeIDExternal</i>	OTYPE field in HRP1001 table: entry <i>P</i>
EmploymentID	<i>OrganisationalAssignment-EmploymentID</i>	
<i>Job Information: Company</i>	<i>OrganisationalAssignment-CompanyID</i>	
<i>Job Information: Country Code</i>	<i>OrganisationalAssignment-CountryCode</i>	
<i>Job Information: StartDate (Effective as of)</i>	<i>OrganisationalAssignment-ValidityPeriod-StartDate</i>	BEGDA field in HRP1001 table
<i>Job Information: EndDate</i>	<i>OrganisationalAssignment-ValidityPeriod-EndDate</i>	ENDDA field in HRP1001 table
<i>Job Information: Supervisor</i>	<i>OrganisationalAssignment-Manager-EmployeeID</i>	S-S relation in HRP1001 table: <ul style="list-style-type: none"> <li>OTYPE field: entry <i>S</i></li> <li>OBJID field: ID of employee's position (position of PERNR)</li> <li>RSIGN field: entry <i>A</i></li> <li>RELAT field: entry <i>002</i></li> <li>SCLAS field: entry <i>S</i></li> <li>SOBID field: ID of manager's position</li> </ul>
<i>Job Information: Primary Cost Center</i>	<i>OrganisationalAssignment-CostCentreID</i>	S-K relation in HRP1001 table: <ul style="list-style-type: none"> <li>OTYPE field: entry <i>S</i></li> <li>OBJID field: ID of employee's position (position of PERNR)</li> <li>RSIGN field: entry <i>A</i></li> <li>RELAT field: entry <i>011</i></li> <li>SCLAS field: entry <i>K</i></li> <li>SOBID field: ID of cost center**</li> </ul>

Field in Employee Central	Field in SAP ERP HCM Service Interface	Target Field in SAP ERP HCM
<i>Job Information: Department</i>	<i>OrganisationalAssignment-DepartmentID</i>	<p>S-O relation in HRP1001 table:</p> <ul style="list-style-type: none"> <li>• OTYPE field: entry <i>S</i></li> <li>• OBJID field: ID of employee's position (position of PERNR)</li> <li>• RSIGN field: entry <i>A</i></li> <li>• RELAT field: entry <i>003</i></li> <li>• SCLAS field: entry <i>O</i></li> <li>• SOBID field: ID of department***</li> </ul>
<i>Job Information: Division</i>	<i>OrganisationalAssignment-DivisionID</i>	<p>S-O relation in HRP1001 table:</p> <ul style="list-style-type: none"> <li>• OTYPE field: entry <i>S</i></li> <li>• OBJID field: ID of employee's position (position of PERNR)</li> <li>• RSIGN field: entry <i>A</i></li> <li>• RELAT field: entry <i>003</i></li> <li>• SCLAS field: entry <i>O</i></li> <li>• SOBID field: ID of division***</li> </ul>
<i>Job Information: Business Unit</i>	<i>OrganisationalAssignment-BusinessUnitID</i>	<p>S-O relation in HRP1001 table:</p> <ul style="list-style-type: none"> <li>• OTYPE field: entry <i>S</i></li> <li>• OBJID field: ID of employee's position (position of PERNR)</li> <li>• RSIGN field: entry <i>A</i></li> <li>• RELAT field: entry <i>003</i></li> <li>• SCLAS field: entry <i>O</i></li> <li>• SOBID field: ID of business unit***</li> </ul>
<i>Job Information: Job Classification</i>	<i>OrganisationalAssignment-JobID</i>	<p>S-C relation in HRP1001 table:</p> <ul style="list-style-type: none"> <li>• OTYPE field: entry <i>S</i></li> <li>• OBJID field: ID of employee's position (position of PERNR)</li> <li>• RSIGN field: entry <i>B</i></li> <li>• RELAT field: entry <i>007</i></li> <li>• SCLAS field: entry <i>C</i></li> <li>• SOBID field: ID of job***</li> </ul>
<i>Job Information: Position</i>	<i>OrganisationalAssignment-PositionID</i>	<p>S-P relation in HRP1001 table:</p> <ul style="list-style-type: none"> <li>• OTYPE field: entry <i>S</i></li> <li>• OBJID field: ID of position***</li> <li>• RSIGN field: entry <i>A</i></li> <li>• RELAT field: entry <i>008</i></li> <li>• SCLAS field: entry <i>P</i></li> <li>• SOBID field: ID of employee (PERNR)*</li> </ul>

Field in Employee Central	Field in SAP ERP HCM Service Interface	Target Field in SAP ERP HCM
<i>Job Information:</i> custom fields: <ul style="list-style-type: none"> <li><i>Custom Long</i></li> <li><i>Custom Double</i></li> <li><i>Custom Date</i></li> <li><i>Custom String</i></li> </ul>	<i>SourceDataModelExtensionFields-ElementName:</i> field name  <i>SourceDataModelExtensionFields-ElementValue-DecimalValue/-Date/-Text:</i> field content	No standard field mapping provided; implement EX_SF10M_PROC_CUSTOMER_FIELDS BAdI to map these fields
<i>Job Relation: Start Date</i>	<i>JobRelation-ValidityPeriod-StartDate</i>	No standard field mapping provided; implement EX_SF10M_ADAPT_EE_ORG_ASSGNMNT BAdI, for example, using the CL_SF10M_MATRIX_MANAGER_IMPL implementation example class, to map these fields
<i>Job Relation: End Date</i>	<i>JobRelation-ValidityPeriod-EndDate</i>	
<i>Job Relation: Relationship Type</i>	<i>JobRelation-Type</i>	
<i>Job Relation: Name</i>	<i>JobRelation-RelatedUserID</i>	
EmploymentID****	<i>JobRelation-EmploymentID</i>	
<i>Associated Employee:</i> Employee ID	<i>AssociatedEmployeeInformation-EmployeeID****</i>	No specific mapping to database fields. The system evaluates this information when posting other fields to the database. It's used, for example, to identify the personnel numbers of the employees' managers and to evaluate their country/region assignment in SAP ERP HCM
<i>Associated Employee:</i> PersonID	<i>AssociatedEmployeeInformation-EmployeeIDExternal</i>	
<i>Associated Employee: Job Information : StartDate (Effective as of)</i>	<i>AssociatedEmployeeInformation-ValidityInformation-StartDate</i>	
<i>Associated Employee: Job Information : EndDate</i>	<i>AssociatedEmployeeInformation-ValidityInformation-EndDate</i>	
<i>Associated Employee:</i> EmploymentID	<i>AssociatedEmployeeInformation-EmploymentID</i>	
<i>Associated Employee:</i> UserID	<i>AssociatedEmployeeInformation-UserID</i>	
<i>Associated Employee: Job Information : Company</i>	<i>AssociatedEmployeeInformation-CompanyID</i>	
<i>Associated Employee: Company Territory Code</i>	<i>AssociatedEmployeeInformation-CountryCode</i>	

\*: The first step is to determine the employee's personnel number (PERNR) from the ECPAO\_EE\_KMAP table using:

- EMPLOYEE\_ID: EmployeeID
- EMPLOYMENT\_ID: EmploymentID
- BUKRS: CompanyID

- `EMPLOYEE_ID_EXT`: PersonID

\*\* : The cost center ID is determined from the `PAOCFEC_KMAPCOSC` table

\*\*\* : The IDs of department, division, business unit, job, and position are determined from the `SFIOM_KMAP_OSI` table using the corresponding `OSI_TYPE_CODE`

\*\*\*\* : This is the EmploymentID that you find in the third row of this table. Since this ID is needed for the update in the SAP ERP HCM system, but the *Job Relations* entity doesn't provide it, it's copied from the *EmploymentID* field listed above.

\*\*\*\*\* : All *AssociatedEmployeeInformation* fields are only filled if you enable replication of associated employee information in the middleware. We recommend doing so to enable the SAP ERP HCM system to determine the personnel number of the employee's manager unambiguously.

### Note

If an employee has a department, division, and business unit assigned in Employee Central, the SAP ERP HCM system reacts as follows:

- If a department is assigned, this department is used as the relevant organizational unit. It doesn't matter if the employee also has a division and/or a business unit assigned.
- If no department is available, but a division is assigned, this division is used as the relevant organizational unit. It doesn't matter if the employee also has a business unit assigned.
- If no department and no division is available, but a business unit is assigned to the employee, this business unit is used as the relevant organizational unit.

## Related Information

[Manager Determination in the SAP ERP HCM System \[page 210\]](#)

[Configuring the Integration Flow for Organizational Assignment Replication \[page 170\]](#)

## 6.4 Extensibility of the Replication

You can use Business Add-Ins (BADIs) in the SAP ERP HCM system to make extensions to some of the replication processes.

The following BADIs are available:

- *Enhancements for Processing Customer-Specific Fields* (`EX_SF10M_PROC_CUSTOMER_FIELDS`)
- *Enhancements for Adapting Employee Organizational Assignment Request* (`EX_SF10M_ADAPT_EE_ORG_ASS_REQ`)
- *Enhancements for Adapting Employee Organizational Assignment* (`EX_SF10M_ADAPT_EE_ORG_ASSGNMNT`)

For details about the BADIs, refer to the BADI documentation in the SAP ERP HCM system, which you can find in Customizing. The sections below explain in more detail how you can use the BADIs.

[Replicating Custom Fields and Custom Texts of Organizational Objects \[page 225\]](#)

Replicate custom fields of business units, divisions, departments, job classifications, and positions from Employee Central to SAP ERP HCM or change the default content of text fields.

[Enhancing Organizational Assignments Replicated from Employee Central \[page 226\]](#)

You can adapt the standard organizational assignments written to the SAP ERP HCM system by default if you have specific requirements such as adding content from custom fields.

## 6.4.1 Replicating Custom Fields and Custom Texts of Organizational Objects

Replicate custom fields of business units, divisions, departments, job classifications, and positions from Employee Central to SAP ERP HCM or change the default content of text fields.

### Context

If you use object-specific processing for the default org objects, you can extend the replication from Employee Central by adding custom fields. You can also change the default content of the text fields *Object Name* (TEXT) and *Object Abbreviation* (SHORT), which are stored in the *Object* (1000) infotype, for all languages that are replicated from Employee Central to SAP ERP HCM. For example, if you have created a custom field in Employee Central that contains a specific short text, you can replicate this text to the *Object Abbreviation* field instead of the object ID of the corresponding object. You can also remove texts from the replication that you don't need in SAP ERP HCM. This way you can prevent texts for certain languages from being stored in the SAP ERP HCM system. Note that you can't add additional entries for specific languages or change the validity of objects to be created.

#### Note

The steps described in this section are only relevant if you use generic object replication with **object-specific processing**. If you use generic object replication with **generic processing**, there's no need to implement any BADs to replicate custom fields. You can map custom fields in Customizing, the same way you map standard Employee Central fields.

### Procedure

1. Create the custom field in Employee Central.
2. The field is replicated to SAP ERP HCM using the middleware.
3. In SAP ERP HCM, implement the *Enhancements for Processing Customer-Specific Fields* (EX\_SF10M\_PROC\_CUSTOMER\_FIELDS) Business Add-In (BADI) to process the field.

## 6.4.2 Enhancing Organizational Assignments Replicated from Employee Central

You can adapt the standard organizational assignments written to the SAP ERP HCM system by default if you have specific requirements such as adding content from custom fields.

[Using Business Add-Ins to Enhance Organizational Assignment Replication \[page 226\]](#)

Look at how you can use the Business Add-Ins (BADIs) provided for organizational assignment replication.

[Replicating Matrix Manager Assignments \[page 228\]](#)

Use a sample implementation of the *Enhancements for Adapting Employee Organization Assignment* (EX\_SF10M\_ADAPT\_EE\_ORG\_ASSGNMNT) Business Add-In (BAdI) to set up the replication of matrix manager assignments from the *Job Relationships* block in Employee Central to the SAP ERP HCM system.

[Replicating Employees and Managers to Different SAP ERP HCM Systems \[page 229\]](#)

You can adjust the replication if organizational assignments are replicated from Employee Central to different SAP ERP HCM systems. For example, if a manager's data is not replicated to the same SAP ERP HCM system as the employee's data.

[Chief Positions in Organizational Data Integration Between Employee Central and SAP ERP HCM \[page 230\]](#)

How to support the SAP ERP HCM concept of chief positions when integrating Employee Central and SAP ERP HCM.

### Related Information

[Manager Determination in the SAP ERP HCM System \[page 210\]](#)

### 6.4.2.1 Using Business Add-Ins to Enhance Organizational Assignment Replication

Look at how you can use the Business Add-Ins (BADIs) provided for organizational assignment replication.

#### Context

You can either change the organizational assignments as such, or change organizational assignment requests before they're processed in the SAP ERP HCM system.

#### ⚠ Caution

The BAdI methods must not execute any database operations (such as *Insert*, *Cut*, or *Delete*) on the relationships affected by organizational assignment replication (such as employee-position or position-job).

## Changing Organizational Assignments (BAdI *Enhancements for Adapting Employee Organizational Assignment*)

You can change organizational assignments replicated from in the SAP ERP HCM system, before they're written to the database.

### ❁ Example

You could add a custom staffing percentage, which you transfer from a corresponding custom field in Employee Central, to the employee-position relation in the SAP ERP HCM system. You could also create a new employee relation to an assembly line, which you transfer from a corresponding custom field in .

In detail, you can ...

- ... change the standard relationships of positions to positions, cost centers, organizational units, and jobs. For example, you can use another relationship than *Belongs to* (A003) for assigning positions to organizational units.
- ... change the content of objects. For example, you can replace the standard cost center ID with a country/region-specific cost center ID.
- ... prevent relations from being created. For example, if you use the chief position concept in SAP ERP HCM, you might want to stop position-position relations from being created. To do so, you can delete the corresponding relations from the table that is contained in the changing parameter of this method.
- ... create relationships to objects assigned in the employee's Job Relation, such as an assembly line, which aren't supported by the standard replication of organizational assignments from to SAP ERP HCM.
- ... ignore existing relations between employees and positions when replicating organizational assignments from to SAP ERP HCM. This is relevant if employees have SAP ERP HCM positions assigned in addition to their Employee Central position assignment. By default, the SAP ERP HCM positions are deleted or delimited when the new employee-position relation from Employee Central is transferred to the SAP ERP HCM system, since employees usually only have one position assigned. If you don't want to change the additional position assignments in the SAP ERP HCM system, you can delete the corresponding relations from the table that is contained in the changing parameter of this method.
- ... adapt non-key fields (such as the weighting percentage) of employee-position relations when replicating organizational assignments from Employee Central to SAP ERP HCM.

## Changing Organizational Assignment Requests (BAdI *Enhancements for Adapting Employee Organizational Assignment Request*)

You can change organizational assignment requests before they're processed in the SAP ERP HCM system.

You can change or delete organizational assignments in the request to create different organizational assignments or no assignments at all. You can also change or delete job relationships.

### ❁ Example

You could use this BAdI to define a customer-specific processing of employee-manager assignments contained in the replication request if the assigned managers don't exist in this specific SAP ERP HCM system. Let's say you've enabled the middleware to replicate information about associated employees who are stored in the employee's Job Information in . Associated employees also include the employee's manager. This means that by default the SAP ERP HCM system uses this information to filter out manager assignments if the assigned managers don't exist in the SAP ERP HCM system, for example, because they're located in a different country/region than the employee and this country/region's data isn't replicated to SAP ERP HCM. If you don't want to just remove these manager assignments, but handle them in a specific way, you can do so using this BAdI.

### → Tip

The individual full transmission start date (FTSD) stored for employees in the *PERNR-Specific Full Transmission Start Date* (PAOCFEC\_PN\_FTSD) table isn't applied to employee organizational assignments by default. Use this BAdI to set the individual FTSD for organizational assignments.

## Procedure

1. To change organizational assignments, implement the *Enhancements for Adapting Employee Organizational Assignment* (EX\_SF10M\_ADAPT\_EE\_ORG\_ASSGNMNT) BAdI in SAP ERP HCM.

Some example implementation classes, such as the *Example Implementation for Matrix Manager* (CL\_SF10M\_MATRIX\_MANAGER\_IMPL) class, are provided for this BAdI.

2. To change organizational assignment requests, implement the *Enhancements for Adapting Employee Organizational Assignment Request* (EX\_SF10M\_ADAPT\_EE\_ORG\_ASS\_REQ) Business Add-In (BAdI) in SAP ERP HCM.

## 6.4.2.2 Replicating Matrix Manager Assignments

Use a sample implementation of the *Enhancements for Adapting Employee Organization Assignment* (EX\_SF10M\_ADAPT\_EE\_ORG\_ASSGNMNT) Business Add-In (BAdI) to set up the replication of matrix manager assignments from the *Job Relationships* block in Employee Central to the SAP ERP HCM system.

## Procedure

1. Enhance the SAP ERP HCM system.
  - a. Create an implementation of the *Enhancements for Adapting Employee Organization Assignment* BAdI.
  - b. In your BAdI implementation, carry out these steps:
    - Create a class attribute that references the sample implementation (that is, the CL\_SF10M\_MATRIX\_MANAGER\_IMPL implementation example class).
    - Call the SET\_MATRIX\_MANAGER\_RELAT\_TYPE method of the sample implementation to define the direction and type of the relationship from the employee's position to the matrix manager's position.
    - Call the CREATE\_OBJECT\_RELATION method of the sample implementation to create and update matrix manager relations.
2. Create the matrix manager relation in Employee Central.
  - a. Add a job relationship in the employee's employment information. To do so, choose ► *Take Action* ► *Change Job and Compensation Info* ►, then select *Job Relationships*.
  - b. Select the *Matrix Manager* relationship type and enter the manager name.



## 6.4.2.3 Replicating Employees and Managers to Different SAP ERP HCM Systems

You can adjust the replication if organizational assignments are replicated from Employee Central to different SAP ERP HCM systems. For example, if a manager's data is not replicated to the same SAP ERP HCM system as the employee's data.

### Context

#### ❖ Example

Let's say an employee is located in Germany, his or her manager is based in the US. You replicate the data of German-based employees to a specific SAP ERP HCM system (target system 1) and the data of US employees to another SAP ERP HCM system (target system 2). This means the manager's personnel number (`PERNR`) isn't available in target system 1. By default neither the employee-manager relationship nor the employee's other relationships (such as job, position, or organizational unit assignments) can be created in target system 1 in this case.

In a situation like this you can use a custom logic to determine the manager.

### Procedure

Implement the [Enhancements for Adapting Employee Organizational Assignment Request](#) (`EX_SF10M_ADAPT_EE_ORG_ASS_REQ`) Business Add-In (BAI) in SAP ERP HCM. You can implement this BAI in different ways, for example:

- You use a custom field in the employee's job information in Employee Central to determine that the manager belongs to a different SAP ERP HCM system than the employee.
- You create the employee-manager relationship based on the manager's user ID – instead of the personnel number – in SAP ERP HCM. To do so, you can use, for example, the manager's `person_id_external` from Employee Central.
- You use other information such as a custom table in the SAP ERP HCM system to determine the employee-manager relationship. In the custom table you can use, for example, the manager's `person_id_external` from Employee Central.
- You use job relationships such as the substitute or local manager in Employee Central to determine the employee-manager relationship.
- If you don't need the employee-manager assignments, you can delete them from the corresponding replication requests. The requests then get the status `Successful`, and the other relationships can be created although there is no manager assignment for the employee. To do this, you just need to clear the `MANAG_EE_ID` and `MANAG_EMPLOYM_ID` fields in the current organizational assignment request.

## 6.4.2.4 Chief Positions in Organizational Data Integration Between Employee Central and SAP ERP HCM

How to support the SAP ERP HCM concept of chief positions when integrating Employee Central and SAP ERP HCM.

The chief position relationship used by SAP ERP HCM is the [Manages... / Is managed by...](#) (012) relationship between a manager's position (object type S) and an organizational unit (object type O). All employees assigned to the organizational unit derive the holder of the related position as manager. This chief position concept, however, isn't supported by Employee Central. The concept used by Employee Central corresponds to the [Reports \(line\) to / Is line supervisor of](#) (002) relationship between a manager's and an employee's position in SAP ERP HCM. That's why you need to make some adjustments if you want to use the chief position concept in Employee Central integration. You use generic replication of organizational objects to do so.

### Note

The [Reports \(line\) to / Is line supervisor of](#) (002) relationship is transferred by the organizational assignment replication process to the SAP ERP HCM system. If you don't disable this replication, this relationship is still written in SAP ERP HCM even if you set up replication of the [Manages... / Is managed by...](#) (012) relationship as described here. If you want to disable replication of the [Reports \(line\) to / Is line supervisor of](#) (002) relationship, you can do so using the [Don't Create Position to Manager Position Relation](#) (SFSFI OANSS) switch. Set this switch in Customizing, under ► [Personnel Management](#) ► [Integration with SuccessFactors Employee Central](#) ► [Business Integration Builder](#) ► [Organizational Data Integration](#) ► [Restrict Relations Created When Replicating Organizational Assignments](#) ►.

We're using a department as an example (which is represented by an organizational unit in SAP ERP HCM).

1. [Adding and Downloading Chief Position Custom Field in Employee Central \[page 230\]](#)  
Add a chief position custom field to the object definition in Employee Central and download the metadata of the changed object definition.
2. [Configuring Chief Positions When Replicating Data from Employee Central to SAP ERP HCM \[page 232\]](#)  
Make the necessary settings to use chief positions when replicating data from Employee Central to SAP ERP HCM.

### 6.4.2.4.1 Adding and Downloading Chief Position Custom Field in Employee Central

Add a chief position custom field to the object definition in Employee Central and download the metadata of the changed object definition.

### Context

We use the [Department](#) object definition as an example.

## Procedure

1. In SAP SuccessFactors, log on to your Employee Central company.
2. Go to the Admin Center and choose the [Configure Object Definitions](#) tool.
3. In the first [Search](#) field, choose [Object Definition](#).
4. In the second [Search](#) field, choose [Department](#).
5. Choose ► [Take Action](#) ► [Make Correction](#) ►.
6. Scroll down to add a custom chief position field.
7. In the [Data TypeGeneric Object](#), then choose [Details](#).
8. In the [Valid Values Source](#) field, select **Position**.
9. Choose [Done](#) and save the changed object definition.
10. Download the metadata of the changed object definition using the [OData API Metadata Refresh and Export](#) admin tool.

## Results

Your custom field is available for upload to the SAP ERP HCM.

## Next Steps

Configure chief position in SAP ERP HCM for data replication from Employee Central.

**Task overview:** [Chief Positions in Organizational Data Integration Between Employee Central and SAP ERP HCM \[page 230\]](#)

**Next task:** [Configuring Chief Positions When Replicating Data from Employee Central to SAP ERP HCM \[page 232\]](#)

## 6.4.2.4.2 Configuring Chief Positions When Replicating Data from Employee Central to SAP ERP HCM

Make the necessary settings to use chief positions when replicating data from Employee Central to SAP ERP HCM.

### Prerequisites

You've made the following settings in SAP ERP HCM Customizing, under [Personnel Management](#) [Integration with SuccessFactors Employee Central](#) [Business Integration Builder](#) [Basic Settings](#):

- Go to [Import Metadata from Employee Central](#) [Import Metadata for Web Service-Based Data Transfer from Employee Central](#). Select your Employee Central instance and the Employee Central entity (in our case WS\_OM\_DEP for [Department](#)). Import the metadata of the changed object definition you downloaded from Employee Central before.
- Go to [Define Value Mapping](#) [Define Value Mapping Entities](#) and select your Employee Central instance. Check whether a value mapping entity for [Position](#) is available for this Employee Central instance, which has the value mapping type [Organizational Object Keys from Mapping Table](#) and the object type 05 ([Position](#)) assigned. The sample value mapping we provide contains a POSITION\_WS value mapping entity, which you can use for this purpose.

If you migrated organizational data to Employee Central, including chief position relationships, make sure that you use the same chief position relationship in data replication from Employee Central to SAP ERP HCM.

### Procedure

- In SAP ERP HCM, map the fields you need for replication from Employee Central in the transformation template you use for the [Department](#) object type.
  - Go to Customizing for Personnel Management and choose [Integration with SuccessFactors Employee Central](#) [Business Integration Builder](#) [Organizational Data Integration](#) [Define Field Mapping for Organizational Data](#).
  - Select the transformation template group that you've created for replication of organizational data from Employee Central.
  - Select the transformation template you've created for [Department](#).
  - Select [Primary Mapping](#) and map the chief position custom field and the department name as shown here:

Field Mappings for Department Template

Employee Central Field	Mapping Mode	SAP ERP HCM Infotype	Subtype	Infotype Field	Value Mapping Entity
cust_chief_position	Infotype Mapping	1001	B012	SOBID	WS_POSITION

Employee Central Field	Mapping Mode	SAP ERP HCM Infotype	Subtype	Infotype Field	Value Mapping Entity
name_default-Value	Infotype Mapping	1000	–	STEXT	–

2. In Employee Central, create a department that has a chief position assigned.
  - a. In SAP SuccessFactors, log on to the Employee Central company that corresponds to the Employee Central you've made your Customizing settings for in SAP ERP HCM.
  - b. Go to the Admin Center and choose the [Manage Data](#) tool.
  - c. In the [Create New](#) field, choose [Department](#).
  - d. Fill in the following fields:
    - [Code](#): You can enter any ID.
    - [Name](#): You can enter any name.
    - [Description](#): You can enter any description.
    - [Chief Position](#): Select a position that you replicated to SAP ERP HCM before.
  - e. Save your department.
3. Replicate the data from Employee Central to SAP ERP HCM.
  - a. In SAP ERP HCM, go to the [ABAP: Program Execution](#) (SA38) transaction and execute the [Create and Execute Organizational Object Replication Query](#) (RH\_SF10M\_ORG\_OBJ\_REPL\_QUERY) program
  - b. On the selection screen of the program, fill in the following fields:
    - [Transformation Template Group](#): Select the transformation template group that contains the [Department](#) template.
    - [Full Transmission Start Date](#): Enter the date from which data transfer from Employee Central is to begin.
    - [EC Org. Object Type](#) and [EC Org. Object ID](#): Select **01** ([Department](#)) and enter the ID of your department, which you've noted down in a previous step
    - Don't select the [Initiate Full Load](#) checkbox.
  - c. Execute the program.  
You're shown a success message.
  - d. Go to the Replication Request Monitor or the Replication Request Viewer.
  - e. Select the entry with the external code of the department that you created in Employee Central and process it manually.  
You're shown a success message.
4. Check the replication result.
  - a. In SAP ERP HCM, go to the [Organization and Staffing Change](#) (PPOME) transaction and search for your department (remember that it's an organizational unit in SAP ERP HCM).
  - b. Check whether the chief position you assigned in Employee Central is shown in the [Chief](#) column.

**Task overview:** [Chief Positions in Organizational Data Integration Between Employee Central and SAP ERP HCM](#) [page 230]

**Previous task:** [Adding and Downloading Chief Position Custom Field in Employee Central](#) [page 230]

## Related Information

[Replication Request Viewers for Organizational Data Replication \[page 247\]](#)

[Processing Replication Requests Manually to Directly Store Updates in SAP ERP HCM \[page 245\]](#)

# 7 You're done! What's Next?

You've set up organizational data replication from Employee Central – now go through the follow-up steps.

## [Monitoring of Organizational Data Replication from Employee Central \[page 235\]](#)

Find out about the tools that are available for monitoring organizational data replication from Employee Central to the SAP ERP HCM system.

## [Optimizing the Performance of This Integration \[page 253\]](#)

Here are some best practices to help you improve the performance of organizational object and organizational assignments replication.

## 7.1 Monitoring of Organizational Data Replication from Employee Central

Find out about the tools that are available for monitoring organizational data replication from Employee Central to the SAP ERP HCM system.

The table shows an overview of the monitoring tools.

Monitoring Tools for Organizational Data Integration

In this system...	Use this tool...	To monitor...	And here's how to find this tool...
SAP ERP HCM	Web Service Utilities	Incoming SOAP messages	Transaction SRUTIL or SXMB_MONI
SAP ERP HCM	Application Log	Creation of inbound message and storage of replication requests in the staging area	Transaction SLG1

In this system...	Use this tool...	To monitor...	And here's how to find this tool...
SAP ERP HCM	Replication Request Monitor  <div>  <b>Note</b>            You can use the Replication Request Monitor in SAP ERP HCM as well as in Employee Central. To use it in Employee Central, add the Web Dynpro application to the SAP SuccessFactors user interface using the <a href="#">Configure Custom Navigation</a> admin tool.         </div>	Replication requests for organizational objects (when using generic object replication) and for organizational assignments	Web Dynpro application SFIUI_A_REPL_REQ_MONITOR
SAP ERP HCM	Replication Request Viewer for Organizational Assignments	Replication requests for organizational assignments in the staging area	Transaction SF10M_VIEW_REQUESTS
SAP ERP HCM	Replication Request Viewer for Organizational Objects	Replication requests for organizational objects in the staging area	Transaction SF10M_VIEW_ORG_REQS
Employee Central	Replication Request Monitor  <div>  <b>Note</b>            You can use the Replication Request Monitor in SAP ERP HCM as well as in Employee Central. To use it in Employee Central, add the Web Dynpro application to the SAP SuccessFactors user interface using the <a href="#">Configure Custom Navigation</a> admin tool.         </div>	Replication requests for organizational objects (when using generic object replication) and for organizational assignments	Web Dynpro application SFIUI_A_REPL_REQ_MONITOR
Employee Central	Data Replication Monitor	Employee organizational assignment replication	<a href="#">Admin Alerts</a> tile on the home page or in the Admin Center, <a href="#">Data Replication Monitor for SAP ERP Integration</a> tool in the Admin Center



In this system...	Use this tool...	To monitor...	And here's how to find this tool...
Employee Central	SFAPI Audit Log	Employee Central CompoundEmployee API calls for organizational assignment data	<a href="#">SFAPI Audit Log</a> tool in the Admin Center
Employee Central	OData API Audit Log	OData API organizational object data	<a href="#">OData API Audit Log</a> tool in the Admin Center
SAP Cloud Integration	Web-Based Monitoring	Process execution in the middleware	To launch the web-based monitoring application, access the URL provided by SAP in a web browser

## 7.1.1 Monitoring Tools in the SAP ERP HCM System

Various monitoring tools are available in SAP ERP HCM for checking data replication results.

### [Analyzing SOAP Messages with Web Service Utilities \[page 237\]](#)

Use Web Service Utilities to monitor incoming SOAP messages in the SAP ERP HCM system.

### [Analyzing the Application Log \[page 238\]](#)

Using the application log you can analyze the incoming messages for organizational data replication from Employee Central in your SAP ERP HCM system.

### [Replication Request Monitor for Organizational Data Replication \[page 239\]](#)

Using the Replication Request Monitor, you can access the staging area for organizational data in SAP ERP HCM to check statuses, analyze errors, or process requests manually.

### [Replication Request Viewers for Organizational Data Replication \[page 247\]](#)

Using the Replication Request Viewers, you can access the staging areas for organizational data in SAP ERP HCM to check statuses or process requests manually.

### 7.1.1.1 Analyzing SOAP Messages with Web Service Utilities

Use Web Service Utilities to monitor incoming SOAP messages in the SAP ERP HCM system.

#### Context

Web Service Utilities (transaction SRTUTIL) in SAP ERP HCM offers an [Error Log](#) and a [Message Monitor](#) tool, which you can use, for example, to analyze errors in incoming SOAP messages or check the content of messages.

### 📘 Note

For more information about the tool, see [Web Service Logging and Tracing](#) in the SAP NetWeaver documentation.

Depending on your system configuration, the SRTUTIL transaction might not be available. If it's not, use the [Integration Engine: Monitoring](#) (SXMB\_MONI) transaction instead.

## Procedure

1. Choose [Error Log](#) to see information about all errors happening during the processing in the SOAP runtime.
2. Double-click an error message to see more details.
3. Choose [Original XML](#) to display the error message in the XML format.
4. Go back and choose [Message Monitor](#) to get an overview of all received messages along with their content.
5. Select the messages you want to see.
  - You can, for example, specify the execution time in the [Timestamp From](#) and [Timestamp To](#) fields on the [Standard Selection](#) tab.
  - You can also filter for messages related to a specific interface by entering the interface in the [Interface Name](#) field for the receiver.
  - Or you filter for messages with a specific message ID.
6. Double-click a message to see the content that was transferred from Employee Central.
7. Choose [Original XML](#) to display the content in the XML format.

## 7.1.1.2 Analyzing the Application Log

Using the application log you can analyze the incoming messages for organizational data replication from Employee Central in your SAP ERP HCM system.

## Context

An application log is written when the incoming messages are processed and stored as replication requests in the staging area, as well as when the entries in the staging area are being processed. Here's how to check these messages.

### 📘 Note

You can also display the application log for selected replication requests from the replication request viewers.

## Procedure

1. Go to the [Analyze Application Log](#) (SLG1) transaction.
2. Enter the **PAOC\_SFI\_OM** object and one of the following subobjects:
  - **REPL\_REQ\_PROCESSING** for the log created by the replication to the SAP ERP HCM system
  - **REPL\_REQ\_PROXY** for the log created when processing the inbound message in SAP ERP HCM
3. Make additional selections as suits your requirements and choose [Execute](#).

### 7.1.1.3 Replication Request Monitor for Organizational Data Replication

Using the Replication Request Monitor, you can access the staging area for organizational data in SAP ERP HCM to check statuses, analyze errors, or process requests manually.

The Replication Request Monitor (SFIUI\_A\_REPL\_REQ\_MONITOR) is a Web Dynpro application that allows you to check replication requests for organizational objects and organizational assignments in all details, analyze error message issued by the replication from Employee Central, and process replication requests manually.

The SFIUI\_A\_REPL\_REQ\_MONITOR Web Dynpro application is assigned to the role menu of the SAP\_HR\_SFIOM\_PROCESSING role in SAP ERP HCM. You can also add it to the SAP SuccessFactors user interface using the [Configure Custom Navigation](#) admin tool in Employee Central. This tool allows you to add hyperlinks to various locations in the SAP SuccessFactors UI, enabling users to navigate from that location to the specified URL. The URL you need to add is: `<protocol><host name>/sap/bc/webdynpro/sap/sfiui_a_repl_req_monitor`.

For more information about the tool, refer to [Managing Custom Navigation Links](#).

#### [Selecting Replication Requests for Monitoring \[page 240\]](#)

Select the replication requests that you want to check in the Replication Request Monitor by time frame, ID, or status.

#### [Sorting and Filtering to Show Replication Requests You're Interested In \[page 241\]](#)

Adjust the results list in the Replication Request Monitor so that only the requests you want to monitor right now are shown.

#### [Creating a Personalized View for the Results List \[page 242\]](#)

Adjust the results list in the Replication Request Monitor according to your personal preferences, for example, to remove columns you're not interested in.

#### [Viewing Data Records, Job Information, and Messages for a Replication Request \[page 242\]](#)

Review data records contained in a request for organizational object replication or Job Information assignments contained in a request for organizational assignment replication, to find out what data was replicated. And check whether any messages occurred.

#### [Viewing Mapped Object IDs, Message IDs, and Other Technical Details for a Replication Request \[page 244\]](#)

Review details about a replication request in the Replication Request Monitor, such as what Employee Central and SAP ERP HCM IDs are mapped, what full transmission start date and transformation template are used, and so on.

#### [Exporting the Results List \[page 245\]](#)

Export the results list from the Replication Request Monitor to work on it offline or share it with someone else.

#### [Processing Replication Requests Manually to Directly Store Updates in SAP ERP HCM \[page 245\]](#)

Post selected requests from the Replication Request Monitor manually on the database if you want to store the contained updates immediately, without waiting for the next scheduled run of the database update program.


#### [Example: Checking Why the Parent Division Is Missing for a Department \[page 246\]](#)

Go through this example to see how you can use the Replication Request Monitor when a replication request wasn't successful because the associated object is missing.

## 7.1.1.3.1 Selecting Replication Requests for Monitoring

Select the replication requests that you want to check in the Replication Request Monitor by time frame, ID, or status.

### Procedure

1. Select a time frame. By default requests are shown for the past week. Available time frames are:
  - Past hour
  - Past 24 hours
  - Past week
  - Past 4 weeks
  - All
2. Select a status or multiple statuses. By default, failed, open, and pending requests are shown. To select multiple statuses, choose  (*Advanced Options*). Available statuses are:
  - 01 = *Open*
  - 02 = *Pending*
  - 03 = *Successful*
  - 04 = *Failed*
  - 05 = *Outdated*
  - 06 = *Redundant*
3. Select organizational objects by object type or ID or select organizational assignments by employee ID or personnel number.
4. Choose *Apply*.

## Results

All replication requests that match your selection criteria are shown in the results list on the [Organizational Object Replication](#) tab or the [Organizational Assignment Replication](#) tab.

## Next Steps

Next, adjust the results list so that only the requests you want to monitor right now are shown.

### 7.1.1.3.2      **Sorting and Filtering to Show Replication Requests You're Interested In**

Adjust the results list in the Replication Request Monitor so that only the requests you want to monitor right now are shown.

## Prerequisites

You've selected replication requests so that the results list is shown.

## Procedure

1. Select the header of a column to sort the entries in ascending or descending order.
2. Select the column header again to filter for one of the entries or to define your own filter.

## Next Steps

Next, personalize the results list according to your preferences, for example, to remove columns you're not interested in.


### 7.1.1.3.3 Creating a Personalized View for the Results List

Adjust the results list in the Replication Request Monitor according to your personal preferences, for example, to remove columns you're not interested in.

#### Prerequisites

You've selected replication requests so that the results list is shown.

#### Procedure

1. Choose  ([Open Settings Dialog](#)) to personalize the results list. For example:
  - Add or remove columns
  - Change the default order of columns
  - Sort columns by default
  - Filter columns by default
2. Save your settings as a personalized view to reuse them.

#### Next Steps

Next, check the time slices, job information, and messages for a replication request.

### 7.1.1.3.4 Viewing Data Records, Job Information, and Messages for a Replication Request

Review data records contained in a request for organizational object replication or Job Information assignments contained in a request for organizational assignment replication, to find out what data was replicated. And check whether any messages occurred.

#### Prerequisites

- You've selected replication requests so that the results list is shown.
- You've sorted, filtered, and personalized the results list if desired so that only the requests you want to monitor right now are shown.

## Procedure

1. Choose [Show Details](#) for a replication request in the results list to view the data records replicated for the selected object or the Job Information assignments for the selected employee, and also the message log.  
If an employee's master data wasn't replicated yet from Employee Central, no employee name is shown. In this case, searching for the employee name in the [ERP Personnel Number](#) field in the selection criteria doesn't produce any results either.

2. Choose [Show Details](#) for a record shown in the [Details for <Organizational Object>](#) section to view the fields and field values replicated from Employee Central to SAP ERP HCM.

You're shown, for example, the external code, the title (in all languages included in the replication), or the parent object of an object replicated from Employee Central.

3. Choose [Show Details](#) for an assignment shown in the [Job Information Assignments](#) section to view the job info replicated from Employee Central and the corresponding fields in SAP ERP HCM.

You're shown, for example, the supervisor, company, business unit, position, or job classification assigned in Employee Central and the corresponding manager, company code, organizational unit, position, or job assigned in SAP ERP HCM.

4. Choose [Show Details](#) for an assignment shown in the [Additional Assignments](#) section to view Job Relationship assignments, such as a matrix manager relation.

[Additional Assignments](#) is only displayed for employees that have additional Job Relationship assignments and only if you've enabled replication of associated employee information in the middleware (for organizational object replication) or the SAP ERP HCM system (for employee master data and organizational assignment replication).

5. If an error occurred, the related messages are shown.

The [Message Log](#) section shows the messages stored for the selected replication request in the [Analyze Application Log](#) (SLG1) transaction of the SAP ERP HCM system.

## Next Steps

Next, view mapped object IDs, message IDs, and other technical details for a replication request.

## Related Information

[Configuring the Integration Flow for Organizational Assignment Replication \[page 170\]](#)

## 7.1.1.3.5 Viewing Mapped Object IDs, Message IDs, and Other Technical Details for a Replication Request

Review details about a replication request in the Replication Request Monitor, such as what Employee Central and SAP ERP HCM IDs are mapped, what full transmission start date and transformation template are used, and so on.

### Prerequisites

You've chosen [Show Details](#) for a data record shown in the [Details for <Organizational Object>](#) section or for an assignment shown in the [Details for Employee \(<Employee ID>\)](#) section.

### Context

You can view the following detailed information for a replication request:

- The ID of the object replicated from Employee Central and the mapped object ID from the SAP ERP HCM system
- The ID of the employee replicated from Employee Central and the mapped personnel number from the SAP ERP HCM system
- The ID of the web service message used to replicate this specific object or employee
- The status, creation date, and last change date of the replication request
- The unique ID of the replication request
- The full transmission start date (FTSD) used by the replication
- The transformation template group used in the replication
- Whether the generic, configuration-based or the object-specific processing of organizational objects was used in SAP ERP HCM
- Whether [Enforce Update](#) was set in employee master data replication
- Whether [Is No-Show](#) was set for a record

### Procedure

Choose [Show Technical Details](#) at the bottom of the screen.



### 7.1.1.3.6 Exporting the Results List

Export the results list from the Replication Request Monitor to work on it offline or share it with someone else.

#### Prerequisites

- You've selected replication requests so that the results list is shown.
- You've sorted, filtered, and personalized the results list if desired so that only the requests you want to monitor right now are shown.

#### Procedure

Choose ► [Export](#) ► [Export to Microsoft Excel](#) ► to download the list.

#### Results

The export option downloads the plain list, without adding any details or links.

### 7.1.1.3.7 Processing Replication Requests Manually to Directly Store Updates in SAP ERP HCM

Post selected requests from the Replication Request Monitor manually on the database if you want to store the contained updates immediately, without waiting for the next scheduled run of the database update program.

#### Prerequisites

- You've selected replication requests so that the results list is shown.
- You've sorted, filtered, and personalized the results list if desired so that only the requests you want to monitor right now are shown.

#### Procedure

Select a request or multiple requests and choose [Process Requests](#).

## Results

The Replication Request Monitor runs the following database update programs directly, without asking for confirmation:

- *Replicate Organizational Objects from EC to ERP Org. Mgmt* (RH\_SF10M\_PROC\_ORG\_STRUC\_RPRQ) for organizational object requests
- *Replicate Employee Org. Assignments from EC to ERP Org. Mgmt* (RH\_SF10M\_PROC\_EE\_ORG\_ASS\_RPRQ) for organizational assignment requests

Processed replication requests disappear from the results list in the Replication Request Monitor.

## Related Information

[Scheduling the Database Update Programs as Regular Background Jobs \[page 60\]](#)

### 7.1.1.3.8 Example: Checking Why the Parent Division Is Missing for a Department

Go through this example to see how you can use the Replication Request Monitor when a replication request wasn't successful because the associated object is missing.

## Procedure

1. Check which replication requests weren't successful since yesterday.
  - a. Go to the [Selection Criteria](#) section.
  - b. Choose the selection period [Last 24 Hours](#).
  - c. Choose the statuses [Failed](#) and [Pending](#).
  - d. If needed, restrict the selection to the Employee Central object type you want to monitor, such as [Department](#).
2. From the result list, show the details for a specific object, such as [Department 2](#), to check which error occurred.

You're shown this error message: FODepartment DEP\_2: Target object DIV\_11 for relationship A002 does not exist

3. Check for the target object mentioned in the error message.
  - a. Go back to the [Selection Criteria](#) section.
  - b. Choose the selection period [All](#).
  - c. Restrict the selection to the target object ID, DIV\_11.

The Replication Request Monitor doesn't show any result for your selection – apparently division [Division 011](#) (DIV\_011) wasn't replicated yet.

4. Go to the Admin Center in SAP SuccessFactors, open the *Manage Data* admin tool, and check *Department 2*.  
*Department 2* has associations to two divisions: *Division 011* and *Division 012*
5. Trigger replication of organizational objects from Employee Central to SAP ERP HCM again.
6. Go back to the Replication Request Monitor, select the entry for *Division 011*, and choose *Process Requests* to post the result to the database.
7. Select the entry for *Department 2* and choose *Process Requests*.
8. Check the details for *Department 2* again – this time, no error is shown.

### 7.1.1.4 Replication Request Viewers for Organizational Data Replication

Using the Replication Request Viewers, you can access the staging areas for organizational data in SAP ERP HCM to check statuses or process requests manually.

#### Organizational Objects

Replication requests for organizational objects are stored in a staging area in the SAP ERP HCM system. To view the requests, go to the *Display Organizational Object Replication Requests* (SF10M\_VIEW\_ORG\_REQS) transaction.

Display Organizational Object Replication Requests									
Process Selected Requests		Delete Selected Requests		Application Log					
EC Obj. ID	EC Obj. Type	ERP Obj. ID	ERP Obj. Type	Creation D...	Creation ...	Last Chan...	Last Chan...	Status	Status Text
50005010	Job Classification	50005010	Job	27.03.2015	06:55:56	27.03.2015	06:56:04	01	Open
50005330	Job Classification	50005330	Job					01	Open
50005885	Job Classification	50005885	Job					01	Open
50006435	Job Classification	50006435	Job					01	Open
50006438	Job Classification	50006438	Job					01	Open
50006338	Department	50006338	Organizational unit		06:46:40		06:46:47	01	Open
50006358	Position	50006358	Position		06:40:56		06:41:05	01	Open
50005399	Position	50005399	Position	26.03.2015	06:26:02	26.03.2015	06:26:10	01	Open
50005859	Position	50005859	Position					01	Open
50006508	Position	50006508	Position					01	Open
50005047	Department	50005047	Organizational unit	24.03.2015	12:52:45	24.03.2015	12:52:49	01	Open
50005150	Department	50005150	Organizational unit					01	Open
50005196	Department	50005196	Organizational unit					01	Open
50005197	Department	50005197	Organizational unit					01	Open
50005198	Department	50005198	Organizational unit					01	Open

Organizational Object Details						
EC Obj. Name	Start Date	End Date	Description	Parent EC ...	Parent EC Obj. ID	Parent Org...
	31.12.2013	31.12.9999		Division	AE01	50005149

Replication Request Viewer for Organizational Objects

## Organizational Assignments

Replication requests for employee organizational assignments are stored in a staging area in the SAP ERP HCM system. To view the requests, go to the [Display Employee Org. Assignment Replication Requests](#) (SF10M\_VIEW\_REQUESTS) transaction.

Display Employee Org. Assignment Replication Requests								
Process Selected Requests			Delete Selected Requests			Application Log		
Ext. Empl. ID	Employee ID	Creation Date	Creation Time	Last Change Date	Last Change Time	Status Code	Status Text	
02012289	42948	18.04.2016	01:11:23	18.04.2016	01:11:23	01	Open	
02012290	42949					01	Open	
02012291	42950					01	Open	
02012292	42951					01	Open	
02012293	42952					01	Open	
02012294	42953					01	Open	
02012295	42954					01	Open	
02012296	42955					01	Open	
02012297	42956					01	Open	
02012298	42957					01	Open	
02012299	42958					01	Open	
02012300	42959					01	Open	
02012301	42960					01	Open	
02012302	42961					01	Open	
02012303	42962					01	Open	

Organizational Assignments								
Employment ID	Start date	End Date	Personnel Number	Employee Name	Company ID	Company Code	Man. Employee ID	Man. Empl. Ma
41140	01.01.2015	31.12.9999	12687		US01	US01		

Replication Request Viewer for Organizational Assignments

## Using the Replication Request Viewers

By default, in both transactions replication requests with the status *Open*, *Pending*, or *Failed* are displayed. You can change the selection by pushing **F9**.

You can trigger the database update manually for selected requests by choosing *Process Selected Requests*.

From both transactions you can go to the *Analyze Application Log* (SLG1) transaction and check the messages issued for the selected replication requests.

## Related Information

[Processing and Statuses of Replication Requests \[page 54\]](#)

## 7.1.2 Monitoring Tools in Employee Central

Various monitoring tools are available in Employee Central for checking data replication results.

[Replication Request Monitor for Organizational Data Replication \[page 250\]](#)

Using the Replication Request Monitor, you can access the staging area for organizational data in SAP ERP HCM to check statuses, analyze errors, or process requests manually.

[Employee Central Data Replication Monitor \[page 250\]](#)

Employee Central provides an admin tool for monitoring data replication to the SAP ERP HCM system.

[Analyzing API Calls with the SFAPI Audit Log \[page 251\]](#)

Use the SFAPI Audit Log to monitor API calls to Employee Central.

[Analyzing API Calls with the OData API Audit Log \[page 251\]](#)

Use the OData API Audit Log to monitor OData API calls to Employee Central.

## 7.1.2.1 Replication Request Monitor for Organizational Data Replication

Using the Replication Request Monitor, you can access the staging area for organizational data in SAP ERP HCM to check statuses, analyze errors, or process requests manually.

The Replication Request Monitor (SFIUI\_A\_REPL\_REQ\_MONITOR) is a Web Dynpro application that allows you to check replication requests for organizational objects and organizational assignments in all details, analyze error message issued by the replication from Employee Central, and process replication requests manually.

The SFIUI\_A\_REPL\_REQ\_MONITOR Web Dynpro application is assigned to the role menu of the SAP\_HR\_SF10M\_PROCESSING role in SAP ERP HCM. You can also add it to the SAP SuccessFactors user interface using the [Configure Custom Navigation](#) admin tool in Employee Central. This tool allows you to add hyperlinks to various locations in the SAP SuccessFactors UI, enabling users to navigate from that location to the specified URL. The URL you need to add is: `<protocol><host name>/sap/bc/webdynpro/sap/sfiui_a_repl_req_monitor`.

For more information about the tool, refer to [Managing Custom Navigation Links](#).

## 7.1.2.2 Employee Central Data Replication Monitor

Employee Central provides an admin tool for monitoring data replication to the SAP ERP HCM system.

The integration processes update the status in the Employee Central Data Replication Monitor by sending notifications and confirmations. Use the Data Replication Monitor to check the replication status, view alerts, and analyze error messages related to data replication from Employee Central to SAP ERP HCM.

## Related Information

[Data Replication Monitor](#)

### 7.1.2.3 Analyzing API Calls with the SFAPI Audit Log

Use the SFAPI Audit Log to monitor API calls to Employee Central.

#### Context

The Employee Central `CompoundEmployee` API used by this integration is an employee-specific version of the SOAP-based SAP SuccessFactors API (SFAPI). It's provided specifically for extracting employee data (including organizational assignments) out of Employee Central. You can monitor the SFAPI using the SFAPI Audit Log.

The SFAPI Audit Log is intended to help with support and debugging of API usage. You can use it, for example, to share information with Product Support to help resolve API-related support issues. The tool allows you to download data from individual calls, which you could then send to Product Support.

#### Procedure

1. Go to the Admin Center and choose the [SFAPI Audit Log](#) tool.

The Audit Log page shows the last 10,000 API calls to this system.

2. Select the button under the [SOAP](#) or [HTTP](#) columns in the log table to view the payload information for each call.

#### Related Information

[SFAPI Integration Tools](#)

### 7.1.2.4 Analyzing API Calls with the OData API Audit Log

Use the OData API Audit Log to monitor OData API calls to Employee Central.

#### Context

You can filter, display, and download the transaction history of OData APIs using the OData API Audit Log tool. In the context of organizational data replication, OData APIs are used to retrieve data for generic objects from Employee Central.

## Procedure

1. Go to the Admin Center and choose the [OData API Audit Log](#) tool.

The Audit Log shows the last 10,000 OData calls to this system.

2. Select the button under the [HTTP](#) or [REST](#) columns in the log table to view the payload information for each call.

Log ID	Login ID	Session ID	Request ID	Status	OData API Call	Entity	HTTP	REST	Request Time	Response (ms)
1790021	sbsadmin	47076A1F45500FD93C34C9A6B7102DB8.DC13 1429603424886	QACANDSFAP101	Success	Query	FOBusinessUnit	...	...	2015-04-21 08:03:44.71	235
1790022	sbsadmin	C2A4FD35EC18EA0807AA3C19482E0F50.DC131429603426078	QACANDSFAP101	Success	Query	FOBusinessUnit	...	...	2015-04-21 08:03:45.913	211
1790023	sbsadmin	CF8FD86BC559EB380A40AC47D6F5AEC.DC11429603429861	3QACANDSFAP101	Success	Query	FODivision	...	...	2015-04-21 08:03:49.696	221
1790024	sbsadmin	EB1B561313CED8A970BA1655244D01F8.DC13 1429603430806	QACANDSFAP101	Success	Query	FODivision	...	...	2015-04-21 08:03:50.647	211

Example: OData API Audit Log Table

3. Use the [Request ID](#) column in the log table to display the request ID for each recorded OData API call.

You can use request IDs as search criteria when needed.

## Related Information

[Enabling API Audit Logs](#)

## 7.1.3 Monitoring Tools in the Middleware

Take a look at the monitoring tools available for your middleware.

[Monitoring in SAP Cloud Integration \[page 252\]](#)

Use the monitoring features of SAP Cloud Integration to check whether any issues occurred in your middleware processes.

### 7.1.3.1 Monitoring in SAP Cloud Integration

Use the monitoring features of SAP Cloud Integration to check whether any issues occurred in your middleware processes.

SAP Cloud Integration provides a web-based monitoring UI that allows you to check the status of messages and integration content artifacts for a tenant cluster. For more information, see [Monitoring](#).

Use the log ID that you find in the monitoring to find the log of a specific process that didn't run successfully and to filter the log for detailed information.



## 7.2 Optimizing the Performance of This Integration

Here are some best practices to help you improve the performance of organizational object and organizational assignments replication.

### General Recommendations

Check your firewall and proxy for restrictions on the maximum package size. If necessary, adjust the firewall and proxy settings or the package size according to your integration.

Deactivate integration processes that you no longer use.

By the latest when you switch from your development and test environment to your production environment, disable all integrations that you have set up for development and testing purposes. Trigger them only on demand.

Check whether an integration really needs to run 24/7. For some data types it might be sufficient to replicate only from time to time. You can increase the time interval for the affected processes to replicate this data less frequently.

If an error occurs during the integration, stop the scheduler. It does not make sense to continue a replication that constantly generates error messages. Running the replication merely overloads the logs and makes error analysis more difficult.

[Optimizing the Performance of Organizational Object Replication \[page 253\]](#)

Here are some best practices to help you improve the performance of organizational object replication.

[Optimizing the Performance of Organizational Assignment Replication \[page 254\]](#)

Here are some best practices to help you improve the performance of organizational assignment replication.

### 7.2.1 Optimizing the Performance of Organizational Object Replication

Here are some best practices to help you improve the performance of organizational object replication.

Organizational object replication is triggered by SAP ERP HCM. The SAP ERP HCM system initiates a process in the middleware that requests data from Employee Central and sends it back to SAP ERP HCM.

### Parallelization

You could parallelize organizational object replication by triggering the integration process multiple times from the SAP ERP HCM system and defining appropriate selection parameters to make sure that each of these process instances transfers a different set of data. But since the middleware sends the data asynchronously to SAP ERP HCM, rather the SAP ERP HCM system than the middleware is the limiting factor. This means, parallelization

wouldn't improve the performance significantly. That's why we don't recommend that you parallelize organizational object replication processes.

## Scheduling

We don't recommend trying to achieve a real-time integration by using very short replication cycles (such as replicating every minute).

If you use multiple Employee Central-SAP ERP HCM integrations, we recommend to schedule them with the same interval, but with different timelines to avoid multiple replication processes running at the same point in time.

Define the schedule per entity, based on how frequently changes are being made in Employee Central.

## Set-Up of the SAP ERP HCM System

We recommend that you use as few transformation template groups as possible. Combine as many entities as possible in one template group and use the filtering to differentiate between them if required. This setup reduces the number of subsequent queries being sent by the SAP ERP HCM system.

## Logging

We recommend that you disable payload logging in the middleware. Only enable payload logging if an issue occurs in organizational object replication, to be able to analyze the problem.

## 7.2.2 Optimizing the Performance of Organizational Assignment Replication

Here are some best practices to help you improve the performance of organizational assignment replication.

Organizational assignment replication is scheduled in the middleware. The middleware requests data from Employee Central and sends it to SAP ERP HCM.

## Parallelization

You could parallelize organizational assignment replication by deploying the integration process multiple times in the middleware and defining appropriate selection parameters to make sure that each of these process instances transfers a different set of data. But since the middleware sends the data asynchronously to SAP ERP HCM, rather the SAP ERP HCM system than the middleware is the limiting factor. This means, parallelization wouldn't improve

the performance significantly. That's why we don't recommend that you parallelize organizational assignment replication processes.

## Package Size

We recommend that you use the default setting of 400 configured in the middleware. If you want to change the package size, we recommend not to send very small packages since this will generate a lot of inbound calls to your SAP ERP HCM system. This may interfere with the processing queue, thus impacting the performance.

## Scheduling

We don't recommend trying to achieve a real-time integration by using very short replication cycles (such as replicating every minute).

If you use multiple Employee Central-SAP ERP HCM integrations, we recommend to schedule them with the same interval, but with different timelines to avoid multiple replication processes running at the same point in time.

## Server-Side Paging

Organizational assignment replication uses the `Compound_Employee` API to request data from Employee Central. The API uses server-side paging to optimize the performance if large amounts of data need to be read. That's why we do not recommend that you have server-side paging disabled in SAP SuccessFactors Provisioning.

### → Remember

As a customer, you don't have access to Provisioning. To complete tasks in Provisioning, contact your implementation partner or Account Executive. For any non-implementation tasks, contact Product Support.

## Notification, Confirmation and Logging

You can disable notifications and confirmations being sent from SAP ERP HCM to Employee Central during initial load. You can turn notifications and confirmations back on when initial load is finished and you switch to delta replication. To turn notifications off, use the `Enable_Notification` parameter in the middleware process. To turn confirmations off, leave the value of the `YSFEC / YRESP` switch in table `T77S0` blank. Even with confirmations being disabled, you can analyze errors occurring during initial load using the application log in the SAP ERP HCM system.

We recommend that you disable payload logging in the middleware. Only enable payload logging if an issue occurs in organizational assignment replication, to be able to analyze the problem.

## Related Information

[Enabling Creation of the Confirmation Message \[page 148\]](#)

# Change History

Learn about changes to the documentation for Replicating Organizational Data from SAP SuccessFactors Employee Central to SAP ERP HCM in recent releases.

## 1H 2024 - Present

Type of Change	Description	More Info
None	We did not update this document.	

## 2H 2023



Type of Change	Description	More Info
Changed	We have moved the Change History to the end of the guide.	<a href="#">Introduction to Organizational Data Replication [page 6]</a>
Changed	<p>We've removed the following versions of the SAP_BASIS software component from the required components:</p> <ul style="list-style-type: none"><li>• 710 with SP15 or a higher SP</li><li>• 711 with SP10 or a higher SP</li><li>• 730 with SP03 or a higher SP</li></ul> <p>These versions are no longer supported. For more information, refer to SAP Note <a href="#">1648480</a>.</p>	<a href="#">Checking the Minimum Setup Required for Your Systems [page 11]</a>
Added	In the configuration of the SAP ERP HCM outbound web services, we've added information about which settings are available in the corresponding integration flow for which authentication option, depending on whether you use SAP Cloud Integration in the Cloud Foundry or the Neo environment.	<a href="#">Enabling the SAP ERP HCM Outbound Web Services to Set Up the Connection from SAP ERP HCM to the Middleware [page 182]</a>

# Important Disclaimers and Legal Information

## Hyperlinks

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

About the icons:

- Links with the icon  : You are entering a Web site that is not hosted by SAP. By using such links, you agree (unless expressly stated otherwise in your agreements with SAP) to this:
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