

Oracle® Cloud

Export Employee Records from Workday to SAP



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Preface

This document describes how to install, configure, and run this recipe in Oracle Integration 3.

Topics:

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Related Resources

For more information, see these Oracle resources:

- Oracle Integration documentation on the Oracle Help Center.
- Oracle Cloud at <http://cloud.oracle.com>.

Conventions

The following text conventions are used in this document.

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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About This Recipe

Use this recipe to create Workday employee records in SAP.



Note:

This recipe is available as **Workday — SAP | Export Employees** in Oracle Integration. Oracle provides this recipe as a sample only. The recipe is meant only for guidance, and is not warranted to be error-free. No support is provided for this recipe.

Overview

This recipe exports Workday employee records to SAP, according to a schedule specified in Oracle Integration.

To use this recipe, you must install the recipe and configure the connections and other resources within the recipe. Subsequently, you can activate and run the integration flow of the recipe manually or specify an execution schedule for it. When triggered, the integration flow reads the employee records from the Workday instance and exports them to SAP.

While running the recipe, you can configure the integration flow to read Workday employee records created after a specified time, thereby picking up only the new or required employee records in each run. Basic data such as first name, last name, employee type, nationality, hire date, and so on are synchronized between Workday and SAP.

System and Access Requirements

- Oracle Integration, Version 21.4.3.0.0 or higher
- Workday
- An account on Workday with the Administrator role
- SAP
- An account on SAP with the Administrator role

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Before You Install the Recipe

You must perform the following configuration tasks on your Workday and SAP instances in order to successfully connect to these external systems using Oracle Integration and export employee records from Workday to SAP.

Configure Workday

To access Workday using Oracle Integration and export employees, you must perform certain configuration tasks on your Workday instance.

For general configuration tasks, see Prerequisites for Creating a Connection.

In addition, you must create an Enterprise Interface Builder (EIB) report to import and export Workday data in bulk. And, before you create an EIB report, you must create a custom report with calculated fields and business objects.

1. Create calculated fields.
 - a. In the quick find box, search for **Create Calculated Fields** task.
 - b. In the pop-up window, enter the **Field name**. For example: `CF_hired_updated`. Also, select the **Business Object** as **Worker**, and **Function** as **Evaluate Expression**.
 - c. Click **OK**. You are redirected to **Create Calculated Field - Evaluate Expression** page.
 - d. Under Calculation, select the **Field Type** as **Text** and **Default Value** as **Empty String**.
 - e. In the Condition column, create the following calculated fields:
 - **CF_SAP_is_updated?**

And/OR	Field	Calculated Field Details	Operator	Comparison Type	Comparison Value
And	CF_Legal_name_change1	Business Object: Worker Source Field: Worker History Related Business Object: Action Event Condition: CF_legal_change1. See step 9 . Sort Field: Effective Date Sort Direction: Descending (Z to A) Instance to be Returned: First Occurrence Function: Extract Single Instance	is not empty	NA	NA

And/Or	Field	Calculated Field Details	Operator	Comparison Type	Comparison Value
Or	CF_new_events	Business Object: Worker Source Field: Worker History Related Business Object: Action Event Condition: CF_effective date range. See step g . Fields To Aggregate: Business Process Event Function: True or False	is not empty	NA	NA

- CF_SAP_hired?

And/Or	Field	Calculated Fields Details	Operator	Comparison Type	Comparison Value
And	Hire Date	NA	greater than or equal to	Value from another field	Prompt-Start Date
And	CF_legal_change1	Business Object: Worker Source Field: Worker History Related Business Object: Action Event Condition: CF_legal_change1. See step g . Sort Field: Effective Date Sort Direction: Descending (Z to A) Instance to be Returned: First Occurrence Function: True or False	is empty	NA	NA
And	CF_new_events	Business Object: Worker Source Field: Worker History Related Business Object: Action Event Condition: CF_effective change. See step g . Fields To Aggregate: Business Process Event Function: True or False	is empty	NA	NA

- f. In the **Return Value If Condition is True** column, create the following calculated fields.

Calculated Field	Details
CF_sap_updated	Business Object: Worker Text Constant: UPDATED
CF_sap_hired	Business Object: Worker Text Constant: HIRED

- g. Also, configure the following calculated fields with the following details.

- **CF_SAP_Integration_Status**

Calculated Field	Details
CF_SAP_Integration_Status	Field Name: CF_SAP_Integration_Status Business Object: Worker Calculation: Lookup Related Value: Lookup Field: Worker Additional Data Related Business Object: Worker Custom Data Snapshot Return Value: SAP_Integration_Status

- **CF_legal_change1**

And/Or	Field	Operator	Comparison Type	Comparison Value
And	Business Process Type	in the selection list	Value specified in this filter	Legal Name Change
And	Status	greater than or equal to	Value specified in this filter	Successfully Completed
And	Effective Date	greater than or equal to	Value from another field	Prompt - Start Date

- **CF_effective change**

And/Or	Field	Calculated Field Details	Operator	Comparison Type	Comparison Value
And	Business Process Definition	Business Object: Action Event Function: True or False	in the selection list	Value specified in this filter	<ul style="list-style-type: none"> - Change Job (Default Definition) - Change Job for Global Modern Services - Change Job for IT Services Group - Change Job for Sales - Change Organization Assignments for Worker (Default Definition) - Change Organization Assignments for Worker for Field Sales - North America Group - Change Organization Assignments for Worker for Global Modern Services - Change Organization Assignments for Worker for Marketing - Change Organization Assignments for Workers by Organization (Default Definition) - Change Organization Assignments for Workers by Organization for Global Modern Services - Contact Change (Default Definition) - Move Worker (Supervisory) (Default Definition) - Move Worker (Supervisory) for Global Modern Services - Move Workers (By Organization) (Default Definition) - Move Workers (By Organization) for

And/O r	Field	Calculated Field Details	Operator	Comparis on Type	Comparison Value
					Global Modern Services
					– Move Workers (Supervisory) (Default Definition)
					– Move Workers (Supervisory) for Global Modern Services
					– Personal Information Change (Default Definition)
					– Personal Information Change for Global Modern Services
					– Switch Primary Job (Default Definition)
					– Switch Primary Job for Global Modern Services
					– Title Change (Default Definition)
					– Title Change for Global Modern Services
					– Work Contact Change (Default Definition)
And	Status	Business Object: Action Event Function: True or False	equal to	Value specified in this filter	Successfully Completed
And	Effective Date	Business Object: Action Event Function: True or False	greater than or equal to	Value from another field	Prompt - Start Date

 **Note:**

Business process names mentioned in the tables above are subject to change based on the Workday instance configuration. You need to select business processes according to your configuration.

2. Create a custom report.
 - a. Log in to the Workday instance.
 - b. In the quick find box, search for **Create custom report**.

- c. In the Create Custom Report window:
 - i. Enter the **Report Name**. For example:
Workday_To_SAP_ERP_Worker_Report.
 - ii. Select the **Report Type** as **Advanced**.
 - iii. Check the **Enable As Web Service** box.
 - iv. Uncheck the **Optimized for Performance** box.
 - v. Select the **Data Source** as **Active and Terminated Workers**.
 - vi. Click **OK**. You are redirected to Edit Custom Report page.
 - vii. Under the **Columns** tab, add the **Fields** and **Custom Fields** required for the Workday employee details along with the calculated fields with the relevant **Business Object**.

Business Object	Fields	Column Heading Override XML Alias
Worker	Employee ID	VWorker_ID o r k e r - I D
Worker	Worker Type	VWorker_Type o r k e r - T y p e

Business Object	Fields	Column Heading Override XML Alias
Worker	Employee Type	Employee_Type Employee Type
Worker	Contingent Worker Type	Contingent_Worker_Sub Type Contingent Worker Type

Business Object	Fields	Column Heading Override XML Alias
Worker	Hire Date	Hire_Date i r e - D a t e
Worker	Termination Date - All	EEnd_Date n d - D a t e
Worker	First Name	FFirst_Name i r s t - N a m e
Worker	Last Name	LLast_Name a s t - N a m e

Business Object	Fields	Column Heading Override XML Alias
Worker	Gender	Gender e n d e r
Worker	Date of Birth	Birth_Date i r t h - D a t e
Worker	Primary Nationality (Locale Sensitive)	Nationality a t t i o n a l i t y
Display Language	User Language Code	Language a n g u a g e

Business Object	Fields	Column Heading Override XML Alias
Worker	Country of Birth	CCountry_of_Birth o u n t r y - o f - B i r t h
Location Address - Country	Alpha-2 Code	CCountry o u n t r y
Worker	Job Profile	JJob_Profile o b - P r o f i l e

Business Object	Fields	Column Heading Override XML Alias
Company	Reference ID	CCompany_Org_ID o m p a n y - O r g - I D
Region	Reference ID	RRegion_Org_ID e g i o n - O r g - I D

Business Object	Fields	Column Heading Override XML Alias
Location	Reference ID	LLocation_Org_ID o c c a t i o n - O r g - I D
Supervisory Organization	Reference ID	SSupervisory_Org_ID u p e r v i s o r y - O r g - I D

Business Object	Fields	Column Heading Override XML Alias
Cost Center	Reference ID	CCostCenter_Org_ID o s t C e n t e r - O r g - I D
Worker	Position Time Type	PPosition_Time_Type o s i t i o n - T i m e - T y p e

Business Object	Fields	Column Heading Override XML Alias
Worker	CF_hired_updated	Action Condition
Worker	Position ID	Position_ID Position ID
Worker	Pay Group	Pay_Group Group ID
Worker Additional Data	SAP_Integration_Status	NSAP_Integration_Status A
Worker Additional Data	SAP_Personnel_Number	NSAP_Personnel_Number A

- d. Click **OK**.
- e. After creating custom reports, on the **Sort** tab, you can specify how the report results should be sorted.
- f. On the **Filter** tab, add the fields required for the employee details along with the calculated fields and the relevant business object.

And/Or	Fields	Operator	Comparison Type	Comparison Value
And	Terminated (based on report date)	equal to	Value specified in this filter	NA
And	Hire Date	greater than or equal to	Prompt the user for the value	Starting Prompt
Or	CF_Legal_name_change1	is not empty	NA	NA
Or	CF_new_events	is not empty	NA	NA
Or	CF_SAP_Integration_Status	equal to	Value specified in this filter	CreateFailed
Or	CF_SAP_Integration_Status	equal to	Value specified in this filter	UpdateFailed

- g. In the Prompts section, check the **Populate Undefined Prompt Defaults** box.

 **Note:**

The data source **Active and Terminated Workers** uses built-in prompts such as **Start Date**, **End Date**, and so on. Based on the report you have chosen, Workday prompts you to fill in specific reporting criteria.

3. Create an EIB report.
 - a. Log in to the Workday instance.
 - b. In the quick find box, search for **Create EIB** task.
 - c. In the Create EIB window, enter a name, choose **Outbound**, and click **OK**.
 - d. In **General Settings**, enter comments and then click **Next**.
 - e. Under the **Get Data** tab, select the **Data Source Type** as **Custom Report**.
 - f. Select the **Custom Report** as **Workday_To_SAP_ERP_Worker_Report**, then click **Next**.
 - g. Under the **Transform** tab, select the **Transformation Type** as **New Custom Report Transformation**, then click **Next**.
 - h. Under the **Deliver** tab, perform the following steps.
 - i. Select the **Delivery Method** as **Workday Attachment**.
 - ii. Enter the **File Name** with the relevant file extension. For example, `output.csv`.
 - iii. Specify the **Document Retention Policy (in Days)** as **should be less than 180**, and then click **Next**.
 - iv. In the **Details** section, select the **MIME Type** as **CSV**.
 - v. Click **Next**.
 - i. In the **Review and Submit** tab, verify the details, then click **OK**.
 - j. Once you create the EIB report, the View Integration System window appears. In the top-left corner, click the ellipsis next to the EIB task name, choose **Enterprise Interface**, and then select **Configure Transformation**.

- k. In the Configure Transformation window, update the report transformation details, click **OK**, and then click **Done**.
- l. In the View Integration System window, in the top-left corner, click the ellipsis next to the EIB task name, choose **Integration**, and then select **Launch/Schedule**.
- m. In the **Launch/Schedule Integration** pop-up, select the **Run Frequency** as **Run Now**, and then click **OK**.
- n. In the Schedule an Integration window, specify the **Start Date** and **Hire Date**, and then click **OK**.

The EIB report is generated.

Configure SAP

To access SAP using Oracle Integration and import employees, you must perform certain configuration tasks on your SAP instance.

For general configuration tasks, see Prerequisites for Creating a Connection.

In addition, you must perform the following configurations that are specific to this recipe.

1. Configure SAP Inbound parameters for the `HRMD_A` message type using `WE20`. See SAP Inbound Communication.
2. Create a function module using `SE37`.

Note:

Before creating a function module, ensure that you meet the following prerequisites:

- You have access to an SAP system based on either SAP Netweaver or ABAP platform.
- You have installed the SAP GUI on your local system.
- You have authorization to access `SE37`.
- You have the developer key for the SAP system based on Netweaver.
- You have created the ABAP Function Group.

You must create a Function Group **ZFG1**, save it in a package **ZNUMBER**, and activate the Function Group.

- a. After you have met the prerequisites, go to the transaction `SE37` (ABAP Function Modules). Enter `SE37` in the command field and press Enter.
- b. In the **Function Module** field, enter the name of the function module (for example, `NUMBER_GET_NEXT`), then click **Create**.

 **Note:**

Most SAP ABAP artifacts need to start with a “Z” or “Y”.

- c. In the Copy Function Module window, copy the Function Module name, NUMBER_GET_NEXT to ZNUMBER_GET_NEXT, and enter the Function Group name as ZFG1, then click **Copy**.
- d. Activate the Function Module (**ZNUMBER_GET_NEXT**) and click **Test**.
- e. In the initial screen of the Test Function Module, enter the following values and click **Execute**.

Import Parameters	Value
NR_RANGE_NR	02
OBJECT	RP_PREL
QUANTITY	000000000000000000000001
SUBOBJECT	none
TOYEAR	none
IGNORE_BUFFER	none

- f. In the result screen of the Test Function Module, select **Number Details**, and get the next NUMBER.

3

Install and Configure the Recipe

On your Oracle Integration instance, install the recipe to deploy and configure the integration and associated resources.

1. On the Oracle Integration Home page, in the **Use a recipe/accelerator** section, click **View all**.
2. Find the recipe you want to install.

3. Hover over the recipe, then click **Install** .

A message confirms that the recipe was successfully installed, and the recipe card shows **INSTALLED**.

4. Hover over the recipe again, and click **Configure**  to configure the resources of the recipe.

The project workspace opens, displaying all the resources of the recipe. Configure the following resources before you activate and run the recipe.

Configure the Oracle Workday Connection

1. In the Connections section, click the connection name.
2. In the Properties section, enter the following details:


Field	Information to Enter
Host Name	Enter the Workday host name. For example: <code>https://wd2-impl-services1.workday.com</code>
Tenant Name	Enter the tenant's name of the account created for Oracle Integration on Workday. See Configure Workday .

3. In the Security section, enter the following details:

Field	Information to Enter
Security Policy	Select Workday Username Token Policy .
Workday Integration User	Enter the username of the account created for Oracle Integration on Workday. See Configure Workday .
Password	Enter the password of the account created for Oracle Integration on Workday.

4. Click **Save**. If prompted, click **Save** again.
5. Click **Test** to ensure that your connection is successfully configured. In the resulting dialog, click **Test** again.


A message confirms if your test is successful.

6. To return to the project workspace, click **Go back** .

Configure the Oracle SAP Connection

1. In the Connections section, click the connection name.
2. In the Properties section, upload the adapter inbound properties file. See JCO Connection Properties Files.
3. In the Security section, enter the following details:

Field	Information to Enter
Username	Enter the username to connect to the SAP instance. See Configure SAP .
Password	Enter the password to connect to the SAP instance.


4. In the Access type section, select an agent group for accessing the service hosted on your premises behind the firewall.
 - a. Select **Connectivity agent** and click **Associate agent group**.
 - b. In the resulting window, select an agent group and click **Use**.
5. Click **Save**. If prompted, click **Save** again.
6. Click **Test** to ensure that your connection is successfully configured. In the resulting dialog, click **Test** again.
A message confirms if your test is successful.
7. To return to the project workspace, click **Go back** .

Configure the Lookup Tables

The recipe contains the following lookup tables. Edit them as necessary.

- **WORKDAY_SAP_COUNTRY_CODE**: Use this lookup to map Country Codes between Workday and SAP.
- **WORKDAY_SAP_PERSONNEL_SUBAREA**: Use this lookup to map Location Org Code in Workday to Personnel Subarea in SAP.
- **WORKDAY_SAP_PERSONNEL_AREA**: Use this lookup to map Region Org Code in Workday to Personnel Area in SAP.
- **WORKDAY_SAP_EMPLOYEE_SUBGROUP**: Use this lookup to map Worker Subtype in Workday to Employee Subgroup in SAP.
- **WORKDAY_SAP_GENDER**: Use this lookup to map Genders between Workday and SAP.
- **WORKDAY_SAP_LANGUAGE**: Use this lookup to map Languages between Workday and SAP.
- **WORKDAY_SAP_EMPLOYEE_GROUP**: Use this lookup to map Worker Type in Workday to Employee Group in SAP.
- **WORKDAY_SAP_EMPLOYEE_PROPERTIES**: Use this lookup to store the properties configured for this recipe as shown in the following table.

Property	Description	Value
WorkdayReportName	Name of the Workday EIB report.	EIB_Workday_To_SAP_ERP_Worker_Report
Client	SAP Client Id	800
SenderPort	SAP port created for Oracle Integration	A000000072
SenderPartnerNumber	SAP partner profile created for Oracle Integration	OIC_SAP_WD
PlanVersion	SAP plan version	1
ObjectType	SAP object type for employee	P
AssignmentObjectType	SAP assignment object type	S
NumberRangeNumber	SAP number range number for employee personnel number (PERNR)	2
NumberRangeObject	SAP number range object for employee personnel number (PERNR)	RP_PREL
IdocStatusDelimiter	Delimiter for SAP EDIDS table query result	
EndDate	SAP default end date	99991231
HiringActionType	SAP action type for employee hiring action	1
HiringActionReason	SAP reason for action for employee hiring action	6
CompanyCode	SAP company code	1000
OrganizationalKey	SAP organizational key	1000
OrganizationalUnit	SAP organizational unit	1000
AdministratorGroup	SAP administrator group	1000
ControllingArea	SAP controlling area	1000
NameFormatIndicator	SAP name format indicator	0
FormOfAddress	SAP form of address	1

1. In the Configuration Editor, click **Lookups** to view the lookup tables in the recipe. Click the name of the lookup table to edit.
2. In the **Value** column, enter or map the appropriate values for the properties.
3. Click **Save**. If prompted, click **Save** again.
4. To return to the Configuration Editor, click **Go back** .

4

Activate and Run the Recipe

After you've configured the connections and other resources, you can activate and run the recipe.

1. In the project workspace, click **Activate**. In the Activate project panel, with the default project label selected, choose an appropriate tracing option, then click **Activate**.

A message confirms that the integration has been activated. Refresh the page to view the updated status of the integration.

2. Update the following property values for the integration flow. You can update the integration properties only after activating this flow. For the procedure to update the integration properties, see Steps 7 and 9 in *Override Design-Time Properties in an Integration*.

Integration Property	Description
<code>workdayWaitMinutes</code>	Time to wait in minutes for the Workday EIB report to complete.
<code>dvmDefaultValue</code>	Default value for DVM lookups.
<code>emailSubjectFailure</code>	Subject of the email notification sent whenever importing the employee records from Workday to SAP is unsuccessful.
<code>workdayTimeZoneDuration</code>	Difference in time zone between Oracle Integration and Workday in <code>dayTimeDuration</code> format. For example: -PT8H or PT8H.
<code>emailFrom</code>	Sender email address from which notifications are sent.
<code>retryLimit</code>	Number of retries when an invoke fails.
<code>emailSubjectSuccess</code>	Subject of the email notification sent whenever importing the employee records from Workday to SAP is successful.

3. Run the recipe.
 - a. In the Integrations section of the project workspace, click **Actions** ... on the integration flow, then select **Run**.
 - b. On the Configure and run page, click **Run**.

You've now successfully submitted the integration for execution. The recipe now exports employee records from Workday to SAP.

 **Note:**

You can also schedule this integration to run at a date, time, and frequency of your choosing. See *Define the Integration Schedule*.

4. Monitor the running of the integration flow in Oracle Integration.
 - a. In the project workspace, click **Observe**. You'll see the integration flow being triggered and running successfully.

