

Payroll Posting from SAP SuccessFactors Employee Central  
to SAP S/4HANA or SAP ERP  
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# Payroll Posting from SAP SuccessFactors Employee Central to SAP S/4HANA or SAP ERP



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# Table of Contents

<b>1</b>	<b>Requirements.....</b>	<b>3</b>
<b>2</b>	<b>Scope .....</b>	<b>4</b>
<b>3</b>	<b>Technical Design .....</b>	<b>5</b>
3.1	Configuration .....	5
3.1.1	SAP ECP Configurations .....	5
3.1.2	SAP ECC Configurations .....	8
3.2	ABAP Code.....	8
3.3	Cloud Integration Middleware .....	11
3.3.1	Integration Flow -Prechecks for Payroll Posting.....	11
3.3.2	External Parameters .....	11
3.3.3	Scripting.....	12
3.3.4	End Point Configuration SOAP Sender- ECP.....	12
3.3.5	Integration Flow- Replicate Payroll Data.....	13
3.3.6	External Parameters .....	13
3.3.7	Scripting.....	13
3.3.8	End Point Configuration .....	13

# 1 Requirements

The Payroll and Finance Integration process will result in posting of payroll results from SAP SuccessFactors Employee Central Payroll (SAP ECP) to the ECC system. This helps Finance to tag employee costs to correct cost centers and GL Accounts (Expense, Balance Sheet, and Vendor), remit payments to various agencies, and reconcile data between Employee Central Payroll and FI.

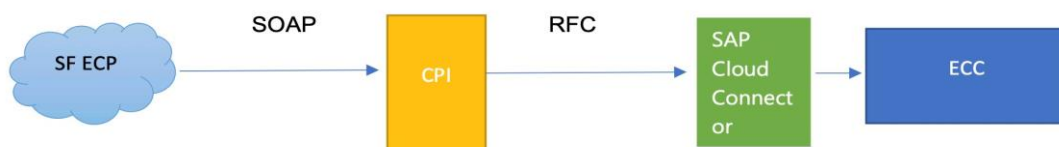
## 2 Scope

When documents are created, the system uses BAPIs to read data synchronously. The BAPIs will be exposed as web-services in SAP ERP.

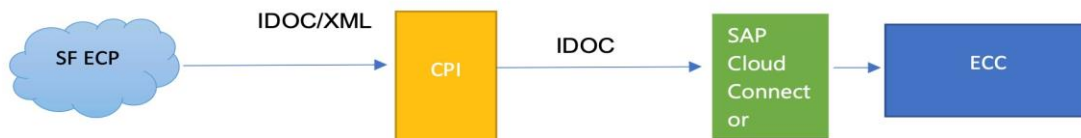
The following occurs when the document posting is initiated:

1. Document data is checked against accounting data via synchronous BAPIs.
2. The ALE layer is used to transfer each document asynchronously to the receiving system.

Payroll Check



Payroll Posting



## 3 Technical Design

### 3.1 Configuration

#### 3.1.1 SAP ECP Configurations

SOAMANAGER

1. Activate the SAP ECP outbound web services-

Accounting Employee Expenses -CO\_HRPP\_WSBAPI\_ACC\_EMPLOYEE\_EX



Web Service Configuration (CA0;100) Help Back

Details of Consumer Proxy: CO\_HRPP\_WSBAPI\_ACC\_EMPLOYEE\_EX

Overview Configurations Details

Define Logical Ports

Create Set Log.Port Default Activate Deactivate Delete

Actions	Logical Port	State	Logical Port is Default	Description	Creation Type
  	LP_EMPCHECK	Active	true	Logical Port for Employee Exp Check	Manually created

Accounting Employee Payables CO\_HRPP\_WSBAPI\_ACC\_EMPLOYEE\_PA


Web Service Configuration (CA0;100) Help Back

Details of Consumer Proxy: CO\_HRPP\_WSBAPI\_ACC\_EMPLOYEE\_PA

Overview Configurations Details

Define Logical Ports

Create Set Log.Port Default Activate Deactivate Delete

Actions	Logical Port	State	Logical Port is Default	Description	Creation Type
  	LP_PAYCHECK	Active	true	Logical Port for Employee Pay Check	Manually created

Accounting Employee Receivable -CO\_HRPP\_WSBAPI\_ACC\_EMPLOYEE\_RE



Web Service Configuration (CA0;100) Help Back

Details of Consumer Proxy: CO\_HRPP\_WSBAPI\_ACC\_EMPLOYEE\_RE

Overview Configurations Details

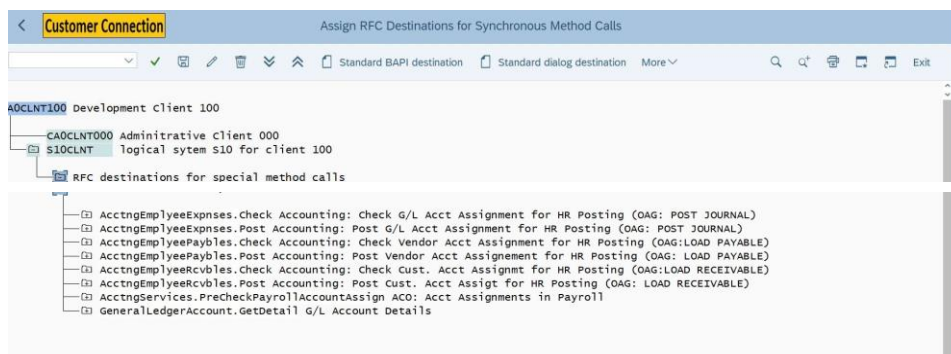
Define Logical Ports

Create Set Log.Port Default Activate Deactivate Delete

Actions	Logical Port	State	Logical Port is Default	Description	Creation Type
  	LP_RECCEK	Active	true	Logical Port for Employee Rec Check	Manually created

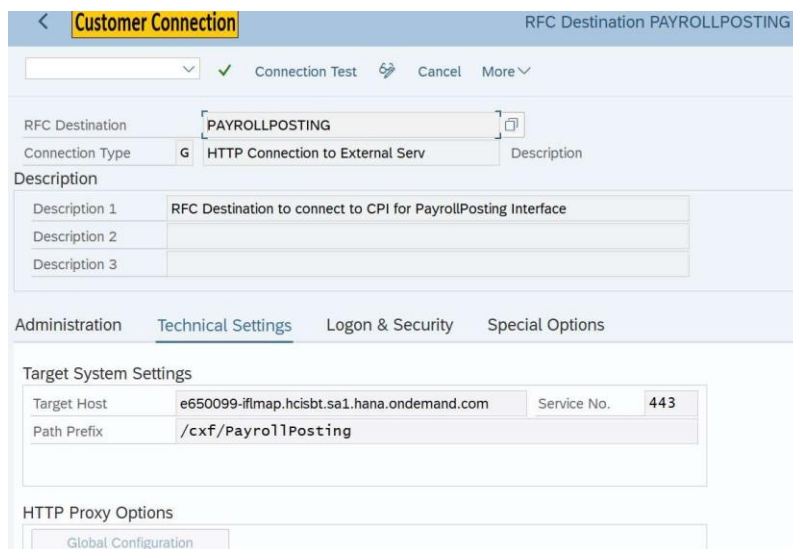
## 2. Assign RFC Destination for Synchronous Method Call

Go to transaction SALE-Special Method Destination



Below is configuration for Posting document from ECP to ECC-

## 3. RFC Destination Configuration



The end point of the integration flow (Cloud Integration) will be maintained in this transaction as seen in the screenshot below.

## 4. Outbound Port Configuration

**Customer Connection** Ports in IDoc processing

▼ Ports

- Transactional RFC
- File
- CPI-C
- ABAP-PI
- XML File
- XML HTTP
- CPI\_PAYROL** ECP to

Port: **CPI\_PAYROL**

Description: **ECP to S4HANA PayrollPosting**

RFC destination: **PAYROLLPOSTING**

Content Type

☐ Text/XML

☒ Application/x-sap.idoc

HTTP Version

☒ Version 1.0

☐ Version 1.1

☒ SOAP Protocol

Port Options

Description	Value
No Initial Values for DATS, TIMS, NUMC for Alignment	<input type="checkbox"/>

## 5. Outbound Partner Profile

Partner No. **S10CLNT** logical system S10 for client 100

Partn.Type **LS** Logical system

Post processing: permitted agent Classification Telephony

Ty. **US** User

Agent **INT\_CPI** INT\_CPI

Lang. **EN** English

Outbound parmtrs.

Partner Role	Message Type	Message vari...	MessageFunc...	Test	Receiver port	I...
<input type="radio"/>	ACC_EMPLOYEE_EXP			<input type="checkbox"/>	CPI_PAYRO.	
<input type="radio"/>	ACC_EMPLOYEE_PAY			<input type="checkbox"/>	CPI_PAYRO.	

Outbound parmtrs.

Partner Role	Message Type	Message vari...	MessageFunc...	Test	Receiver port	I...
<input type="radio"/>	ACC_EMPLOYEE_REC			<input type="checkbox"/>	CPI_PAYRO.	

## 6. Distribution Model Configuration

Customer Connection	
Display Distribution Model	
<input type="text"/> <input type="button" value="Check Models"/> <input type="button" value="System View"/> <input type="button" value="Filter Model Display"/> <input type="button" value="Cancel"/> <input type="button" value="More"/>	
Distribution Model	Description/Technical Name
CRM Scenarios	CRMSZ
Customizing Data Synchronization	CONTRLDATA
Example of MM contract distribution (filtering at header level)	MM-PUR1
Example of MM contract distribution (filtering at item level)	MM-PUR2
Example of distributing test settings	QM-CONTR
HR <-> FI Scenario	HRFICOULI
Internet Scenarios	INTERNET
Logical system for S10 client 100	S10CLNT100
Development Client 100	CA0CLNT100
logical system S10 for client 100	S10CLNT
GeneralLedgerAccount.GetDetail	G/L Account Details
AcctngEmployeeExpnses.Check	Accounting: Check G/L Acct Assignment for HR Posting (OAG: POST JOURNAL)
AcctngEmployeeExpnses.Post	Accounting: Post G/L Acct Assignment for HR Posting (OAG: POST JOURNAL)
AcctngEmployeeRcvbles.Check	Accounting: Check Cust. Acct Assignment for HR Posting (OAG: LOAD RECEIVABL)
AcctngEmployeeRcvbles.Post	Accounting: Post Cust. Acct Assgnt for HR Posting (OAG: LOAD RECEIVABLE)
AcctngEmployeePaybles.Check	Accounting: Check Vendor Acct Assignment for HR Posting (OAG: LOAD PAYABL)
AcctngEmployeePaybles.Post	Accounting: Post Vendor Acct Assignment for HR Posting (OAG: LOAD PAYAB)

## 3.1.2 SAP ECC Configurations

### Inbound Parameter Profile

Inbound				
Partner Role	Message Type	Message variant	Function	Test
<input type="radio"/>	ACC_EMPLOYEE_EXP			<input type="checkbox"/>
<input type="radio"/>	ACC_EMPLOYEE_PAY			<input type="checkbox"/>
<input type="radio"/>	ACC_EMPLOYEE_REC			<input type="checkbox"/>

## 3.2 ABAP Code

An enhancement has been implemented to execute payroll posting checks in SAP ERP FICO system and update the response back in the ECP system.

### In SAP ECP system:

- Implicit enhancement ZEIMP\_HR\_PAYROLL has been created in function module BAPI\_ACC\_EMPLOYEE\_EXP\_CHECK.
  - Create reference object of class CO\_HRPP\_WSBAPI\_ACC\_EMPLOYEE\_EX and pass logical port name as 'LP\_EMPCHECK'.
  - Call method BAPI\_ACC\_EMPLOYEE\_EXP\_CHECK using above reference object and pass all the function module parameters to input parameter.



This will call synchronous proxy and will return result in output parameter.

- Pass return result from output parameter to function module's return parameter.
- If any SOAP exception or error comes, error message 'Z\_HCM\_MSGCLASS' number '167' is issued.
- Call return statement. Because check will be performed in SAP ECC system only

Function module		BAPI_ACC_EMPLOYEE_EXP_CHECK	Active
Attributes	Import	Export	Changing   Tables   Exceptions <u>Source code</u>

```

11 DATA: ls_in TYPE hrpp_wsbapi_acc_employee_exp_1.
12 DATA: ls_out TYPE hrpp_wsbapi_acc_employee_exp_c.
13
14 DATA: ls_bapiacgl04 TYPE bapiacgl04.
15 DATA: ls_bapiactx01 TYPE bapiactx01.
16 DATA: ls_bapiaccr04 TYPE bapiaccr04.
17 DATA: ls_bapiRET2 TYPE bapiRET2.
18 DATA: ls_bapiactr00 TYPE bapiactr00.
19 DATA: ls_bapiaccrpo TYPE bapiaccrpo.
20 DATA: ls_bapiextc TYPE bapiextc.
21
22 DATA: ls_accountgl TYPE LINE OF hrpp_wsbapiacgl04_tab.
23 DATA: ls_accounttax TYPE LINE OF hrpp_wsbapiactx01_tab.
24 DATA: ls_currencyamount TYPE LINE OF hrpp_wsbapiaccr04_tab.
25 DATA: ls_extension1 TYPE LINE OF hrpp_wsbapiextc_tab.
26 DATA: ls_return TYPE LINE OF hrpp_wsbapiRET2_tab.
27 DATA: ls_travel TYPE LINE OF hrpp_wsbapiactr00_tab.
28 DATA: ls_travelamount TYPE LINE OF hrpp_wsbapiaccrpo_tab.
29
30
31 TRY.
32     CREATE OBJECT lo_exp_check
33     EXPORTING
34         logical_port_name = 'LP_EMPCHECK'.
35

```

- Implicit enhancement ZEIMP\_HR\_PAYROLL has been created in function module BAPI\_ACC\_EMPLOYEE\_PAY\_CHECK.
  - Create reference object of class CO\_HRPP\_WSBAPI\_ACC\_EMPLOYEE\_PA and pass logical port name as 'LP\_PAYCHECK'.
  - Call method BAPI\_ACC\_EMPLOYEE\_PAY\_CHECK using above reference object and pass all the function module parameters to input parameter.
  - This will call synchronous proxy and will return result in output parameter.
  - Pass return result from output parameter to function module's return parameter.
  - If any SOAP exception or error comes, error message 'Z\_HCM\_MSGCLASS' number '167' is issued.
  - Call return statement. Because check will be performed in SAP ECC system only.

Function module		BAPI_ACC_EMPLOYEE_PAY_CHECK		Active	
Attributes	Import	Export	Changing	Tables	Exceptions
Source code					
16	DATA: ls_accounttax_class	TYPE LINE OF	hrpp_wstable_of_bapiactx01-item.		
17	DATA: ls_currencyamount_class	TYPE LINE OF	hrpp_wstable_of_bapiaccr04-item.		
18	DATA: ls_extension1_class	TYPE LINE OF	hrpp_wstable_of_bapiextc-item.		
19	DATA: ls_return_class	TYPE LINE OF	hrpp_wstable_of_bapiet2-item.		
20	DATA: ls_travel_class	TYPE LINE OF	hrpp_wstable_of_bapiactr00-item.		
21	DATA: ls_travelamount_class	TYPE LINE OF	hrpp_wstable_of_bapiaccrpo-item.		
22					
23					
24	DATA: ls_accountpayable_bapi	LIKE	bapiacap06.		
25	DATA: ls_accountgl_bapi	LIKE	bapiacgl06.		
26	DATA: ls_accounttax_bapi	LIKE	bapiactx01.		
27	DATA: ls_currencyamount_bapi	LIKE	bapiaccr04.		
28	DATA: ls_return_bapi	LIKE	bapiet2.		
29	DATA: ls_travel_bapi	LIKE	bapiactr00.		
30	DATA: ls_travelamount_bapi	LIKE	bapiaccrpo.		
31	DATA: ls_extension1_bapi	LIKE	bapiextc.		
32					
33					
34					
35					
36	TRY.				
37	CREATE OBJECT lo_exp_check				
38	EXPORTING				
39	logical_port_name = 'LP_PAYCHECK'.				
40					

- Implicit enhancement ZEIMP\_HR\_PAYROLL has been created in function module BAPI\_ACC\_EMPLOYEE\_REC\_CHECK.
  - o Create reference object of class CO\_HRPP\_WSBAP\_ACC\_EMPLOYEE\_PA and pass logical port name as 'LP\_REC\_CHECK'.
  - o Call method BAPI\_ACC\_EMPLOYEE\_REC\_CHECK using above reference object and pass all the function module parameters to input parameter.
  - o This will call synchronous proxy and will return result in output parameter.
  - o Pass return result from output parameter to function module's return parameter.
  - o If any SOAP exception or error comes, error message 'Z\_HCM\_MSGCLASS' number '167' is issued.
  - o Call return statement. Because check will be performed in SAP ECC system only.

Function module		BAPI_ACC_EMPLOYEE_REC_CHECK		Active	
Attributes	Import	Export	Changing	Tables	Exceptions
Source code					
13					
14	DATA: ls_ACCOUNTRECEIVABLE_bapi	LIKE	BAPICAR05.		
15	DATA: ls_accountgl_bapi	LIKE	BAPICGL05.		
16	DATA: ls_accounttax_bapi	LIKE	bapiactx01.		
17	DATA: ls_currencyamount_bapi	LIKE	bapiaccr04.		
18	DATA: ls_return_bapi	LIKE	bapiet2.		
19	DATA: ls_travel_bapi	LIKE	bapiactr00.		
20	DATA: ls_travelamount_bapi	LIKE	bapiaccrpo.		
21	DATA: ls_extension1_bapi	LIKE	bapiextc.		
22					
23	DATA: ls_accountgl_class	TYPE LINE OF	HRPP_WSTABLE_OF_BAPICGL05-item.		
24	DATA: ls_ACCOUNTRECEIVABLE_class	TYPE LINE OF	HRPP_WSTABLE_OF_BAPICAR05-item.		
25	DATA: ls_accounttax_class	TYPE LINE OF	hrpp_wstable_of_bapiactx01-item.		
26	DATA: ls_currencyamount_class	TYPE LINE OF	hrpp_wstable_of_bapiaccr04-item.		
27	DATA: ls_extension1_class	TYPE LINE OF	hrpp_wstable_of_bapiextc-item.		
28	DATA: ls_return_class	TYPE LINE OF	hrpp_wstable_of_bapiet2-item.		
29	DATA: ls_travel_class	TYPE LINE OF	hrpp_wstable_of_bapiactr00-item.		
30	DATA: ls_travelamount_class	TYPE LINE OF	hrpp_wstable_of_bapiaccrpo-item.		
31					
32					
33	TRY.				
34	CREATE OBJECT lo_exp_check				
35	EXPORTING				
36	logical_port_name = 'LP_REC_CHECK'.				
37					

See the ABAP code in the following files in the folder:

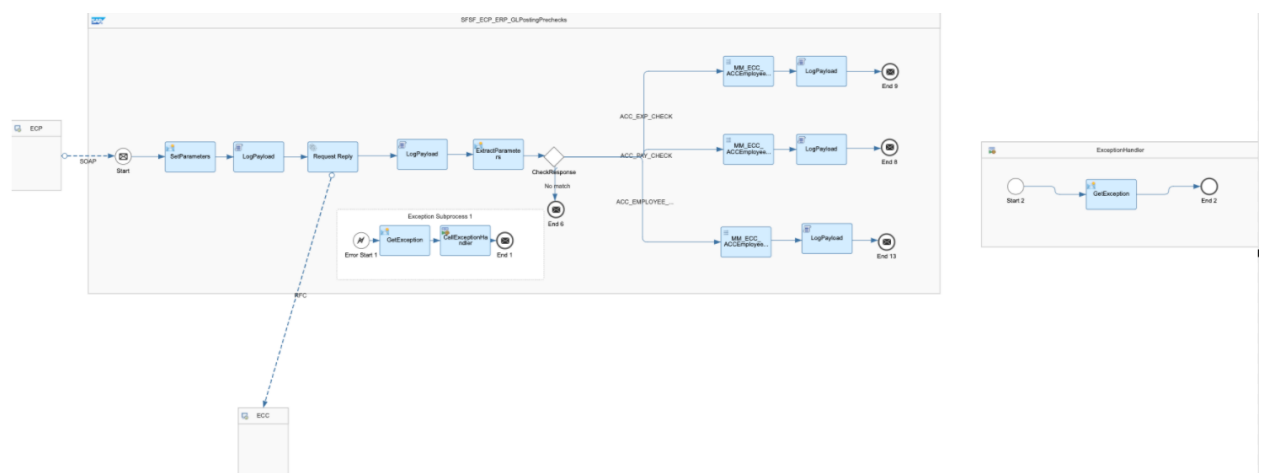
- BAPI\_ACC\_EMPLOYEE\_REC\_CHECK.txt
- BAPI\_ACC\_EMPLOYEE\_EXP\_CHECK.txt
- BAPI\_ACC\_EMPLOYEE\_PAY\_CHECK.txt

### 3.3 Cloud Integration Middleware

The Cloud Integration middleware is used to connect from SAP ECP to SAP ECC system and below are two integration flows that are used for this integration.

#### 3.3.1 Integration Flow -Prechecks for Payroll Posting

This flow is used to do posting check from SAP ECP to SAP ECC system:



#### 3.3.2 External Parameters

Name	Value	Description of Parameter
ECP		
Address	<Relative End Point address>	<Mention any URL>
ECC		
Destination	<Enter RFC Destination Configured in Cloud Platform>	<Name of Destination>

### 3.3.3 Scripting

logger.groovy is used to log the payload.

### 3.3.4 End Point Configuration SOAP Sender- ECP

The screenshot displays the 'SOAP' configuration window with the 'Connection' tab selected. The 'CONNECTION DETAILS' section includes the following fields:

- Address:** /AccountEmployeePayableChecks
- Service Definition:** Manual (dropdown)
- Use WS-Addressing:** ☐
- Message Exchange Pattern:** Request-Reply (dropdown)
- Authorization:** User Role (dropdown)
- User Role:** ESBMessaging.send

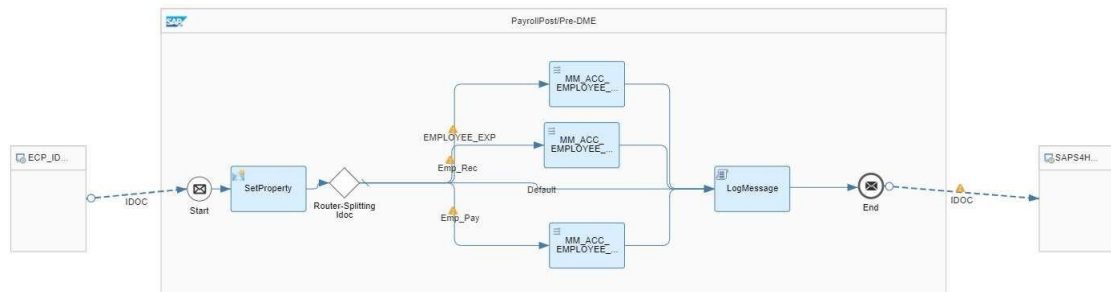
RFC Receiver - ECC

The screenshot displays the 'RFC' configuration window with the 'Connection' tab selected. The 'CONNECTION DETAILS' section includes the following fields:

- Destination:** S10
- Send Confirm Transaction:** ☐
- Create New Connection:** ☐

### 3.3.5 Integration Flow- Replicate Payroll Data

Once posting check is successful, the IDoc will be triggered from SAP ECP to SAP ECC system.



### 3.3.6 External Parameters

Name	Value	Description of Parameter
ECP_IDOC		
Address	<Relative End Point address>	<Mention any URL>
SAPS4HANA_IDOC		
Address	<Enter address of S4HANA system>	http://<servername>:<port>/sap/bc/srt/idoc?sap-client=100
Proxy Type		
Credentials	<Credentials for S4>	<Name of Credentials>

### 3.3.7 Scripting

logger.groovy is used to log the payload.

### 3.3.8 End Point Configuration

SOAP Sender- ECP\_IDOC

IDOC

General

Connection

Conditions

CONNECTION DETAILS

Address:

/PayrollPosting

Authorization:

User Role

User Role:

ESBMessaging.send

## IDOC Receiver- SAPS4HANA\_IDOC

IDOC

General

Connection

CONNECTION DETAILS

Address:

http://<servername>:<port>/sap/bc/srt/idoc?sap-client

Proxy Type:

On-Premise

Location ID:

<Define Value>

IDoc Content Type:

Application/x-sap.idoc

Authentication:

Basic

Credential Name:

SAPS4

Timeout (in ms):

300000

Compress Message:

☐