How To Configure Integration between SAP ERP and SAP Cloud for Customer using SAP PI
## Document History

<table>
<thead>
<tr>
<th>Document Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>First official release of this guide</td>
</tr>
</tbody>
</table>
# Table of Contents

1. Business Scenario .................................................................................................................................................. 5
2. Background Information .......................................................................................................................................... 5
3. Prerequisites ............................................................................................................................................................. 5
4. Step-by-Step Procedure ........................................................................................................................................... 5
   4.1 SAP Cloud for Customer Configuration: Activate ERP Integration ............................................................. 5
   4.2 SAP Cloud for Customer Configuration: Setup Communication System .................................................. 9
   4.3 SAP Cloud for Customer Configuration: Create ID Mapping for Sales Org ............................................. 10
   4.4 SAP Cloud for Customer Configuration: Create ID Mapping for Product Category ............................... 11
   4.5 SAP Cloud for Customer Configuration: Maintain Code List Mapping .................................................... 13
   4.6 SAP Cloud for Customer Configuration: Maintain Processing Types for Integration of Opportunities .... 14
   4.7 SAP Cloud for Customer Configuration: Setup Communication Arrangements ................................. 16

   4.8 SAP ERP Configuration: Install Add-on on SAP ERP System ................................................................. 19
   4.9 SAP ERP Configuration: Implement SAP Notes on ERP .......................................................................... 24
   4.10 SAP ERP Configuration: Execute Business Configuration Set COD_BYD_ERP_INT .............................. 24
   4.11 SAP ERP Configuration: Maintain Endpoint Services for Synchronous Messages .............................. 25
   4.12 SAP ERP Configuration: Define Number Ranges for Contacts ............................................................... 26
   4.13 SAP ERP Configuration: Define Number Ranges for Customers ............................................................. 27
   4.14 SAP ERP Configuration: Adjust Security Roles to Allow Synchronous Web Service Processing ........ 28
   4.15 SAP ERP Configuration: Create Service Account for Connectivity from PI to ERP ............................. 30
   4.16 SAP ERP Configuration: Create Logical System for SAP Cloud for Customer System ...................... 31
   4.17 SAP ERP Configuration: Create Connectivity Settings for SAP Cloud for Customer ....................... 32
   4.18 SAP ERP Configuration: Maintain Requirement Routine ........................................................................ 34
   4.19 SAP ERP Configuration: Maintain Output Records .................................................................................. 36
   4.20 SAP ERP Configuration: Maintain Agent Assignment for Standard Tasks ......................................... 37
   4.21 SAP ERP Configuration: Maintain Agent Assignment in Workflow Template ..................................... 38
   4.22 SAP ERP Configuration: Activate Workflow Event Linkage ..................................................................... 40
   4.23 SAP ERP Configuration: Activate Change Pointers for IDOCs ............................................................... 40
   4.24 SAP ERP Configuration: Create Variant for Program RBDMIDOC to Create IDOCs from Change Pointers .......................................................................................................................... 42
   4.25 SAP ERP Configuration: Send IDOCs from ERP to SAP Cloud for Customer ........................................ 42
   4.26 SAP ERP Configuration: Process IDOCs Sent from Cloud for Customer .............................................. 43
   4.27 SAP ERP Configuration: Create Technical and Business System in SLD for SAP ERP ...................... 44

   4.28 SAP PI Configuration: Install PI Content on ESR using Enterprise Service Builder .............................. 47
   4.29 SAP PI Configuration: Load SAP Cloud root certificates into SAP PI Trusted CA .................................. 52
   4.30 SAP PI Configuration: Create RFC Destination Pointing to SAP ERP .................................................. 54
   4.31 SAP PI Configuration: Maintain Port Definition ....................................................................................... 55
   4.32 SAP PI Configuration: Load Metadata for IDOC Adapter ........................................................................ 55
   4.33 SAP PI Configuration: Create Technical and Business System in SLD for SAP Cloud for Customer ........ 56
   4.34 SAP PI Configuration: Open Integration Builder ...................................................................................... 60
   4.35 SAP PI Configuration: Assign Business System using Integration Builder .......................................... 61
   4.36 SAP PI Configuration: Use Integration Builder to Create the PI Scenario from an ESR Model ............... 63
   4.37 SAP PI Configuration: Assign Business Systems to each of the Components ........................................ 66
   4.38 SAP PI Configuration: Create the Communication Channels and Assign them to Sender and Receiver Business System Components ........................................................................................................... 68
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.39 SAP PI Configuration: Generate PI Configuration Objects</td>
<td>73</td>
</tr>
<tr>
<td>4.40 SAP PI Configuration: Configure ERP_IDOC_receive Communication</td>
<td>75</td>
</tr>
<tr>
<td>Channel with correct Port and RFC Destination</td>
<td></td>
</tr>
<tr>
<td>4.41 SAP PI Configuration: Adapt all Communication Channels with</td>
<td>76</td>
</tr>
<tr>
<td>Hostname, Port, User and Password or Authentication Mechanism</td>
<td></td>
</tr>
<tr>
<td>4.42 SAP PI Configuration: Activate Change List for PI Objects</td>
<td>77</td>
</tr>
<tr>
<td>4.43 SAP Cloud for Customers Configuration: Configure End Points</td>
<td>80</td>
</tr>
<tr>
<td>Communication Arrangements with Outbound Interfaces</td>
<td></td>
</tr>
</tbody>
</table>
1 Business Scenario

Historically, SAP customers have made large investments in on-premise Sales and Distribution application capabilities. The SAP SD module continues to be viable in the corporate system landscape, but many customers want to enable a fresh and intuitive user experience, increased functionality, and faster delivery of new functionality. The hybrid integration scenario is a great enabler of application delivery via the cloud, because it allows the customer to preserve the investment already made in the on-premise SAP SD module. By the utilization of iFlow solution content delivered by SAP PI, a bridge between the on-premise SAP SD module and the SAP Cloud for Customer system is established, thus allowing the customer to take advantage of the strengths of both.

2 Background Information

This document details the steps required to enable bi-directional communication between an SAP Cloud for Customer and the on-premise SAP Sales and Distribution module, using SAP PI as the on-premise middleware layer. iFlow solutions designed for SAP PI are enabled for configuration and deployment utilizing this document.

3 Prerequisites

SAP ERP
The ERP system must contain the following ABAP components:

- SAP_BASIS 700 SP18 or higher
- SAP_APPL 600 SP15 or higher

SAP PI
SAP NetWeaver PI 7.11 or higher is required. It is always recommended to install the latest support package.

SAP Cloud for Customer
Initial setup and configuration was performed in tenant, as per the SAP Cloud for Customer Administrator Guide.

The tasks described in this document should be performed by a qualified SAP Basis Administrator, with a solid conceptual understanding of SSL and certificate-based encryption concepts.

4 Step-by-Step Procedure

4.1 SAP Cloud for Customer Configuration: Activate ERP Integration

In this section, you activate SAP Cloud for Customer with SAP ERP, and specify the scope of the integration between the systems.

1. Connect to the SAP Cloud for Customers system using an Internet browser, and open the Business Configuration tab.
2. Click in All Current Projects.

3. Select the project and click on Edit Project Scope.
4. Click Next

5. Click Next, and under Communication and Information Exchange → Integration with External Application and Solutions, select Integration with SAP ERP, Integration of Master Data and Integration into Sales, Service and Marketing Processes.

6. Click Next, and under Communication and Information Exchange → Integration with External Application and Solutions → Integration with SAP ERP, select the following scenarios:

- Do you want to replicate accounts and contacts from your cloud solution to your SAP ERP solution?
- Do you want to replicate accounts and contacts from the SAP ERP application to your cloud solution?
- Do you want to replicate opportunities from your cloud solution to customer quote processing in SAP ERP?
- Do you want to replicate opportunities from your cloud solution to sales order processing in SAP ERP?
- Do you want to replicate sales quotes from your cloud solution to sales order processing in SAP ERP?
- Do you use your SAP ERP system to calculate prices for opportunity items in your cloud solution?
7. Under Communication and information Exchange \(\rightarrow\) Integration with External Application and Solutions \(\rightarrow\) Integration of Master Data, select the following scenario:

Do you want to replicate product data from an external application or solution to your cloud solution?

8. Under Communication and information Exchange \(\rightarrow\) Integration with External Application and Solutions \(\rightarrow\) Integration into Sales, Services and Marketing Processes, select the following scenario:

Do you want to create follow up documents for opportunities from your cloud solution to an external application or solution?

9. Click Next, and then Finish.
4.2 SAP Cloud for Customer Configuration: Setup Communication System

1. Under the tab Administrator, click in Communication Systems.

2. Click New to create a new communication system.

3. Enter the information about the backend ERP system. It is important to note that all the information requested on the screen below is associated with the ERP system (logical system name, SAP client, etc.) with the exception of the host, which should be the hostname of how the SAP PI system will be accessed. In addition, make sure to check the option of “SAP Business Suite”.
4. Click on Actions → Set to Active

5. Click on Save and Close.

### 4.3 SAP Cloud for Customer Configuration: Create ID Mapping for Sales Org

1. Under the context menu for the tab ADMINISTRATOR, select the option ID MAPPING FOR INTEGRATION.

2. Click on Edit ID Mapping for Integration.
3. In the “Mapping Of” field, select ERP Sales Organization and in the System Instance ID, select the communication system created in previous steps, and click Go.

4. Enter the external ID of the sales organization that will be mapped from ERP with the sales organization on Cloud for Customers.

5. Click Save

4.4 SAP Cloud for Customer Configuration: Create ID Mapping for Product Category

1. Under the context menu for the tab ADMINISTRATOR, select the option ID MAPPING FOR INTEGRATION.
2. Click on Edit ID Mapping for Integration.

3. In the “Mapping Of” field, select ERP Product Categories and in the System Instance ID field, select the communication system created in previous steps, and click Go.

4. Enter the external ID of the product category to be mapped from ERP with the product category on Cloud for Customers.

5. Click Save
4.5  SAP Cloud for Customer Configuration: Maintain Code List Mapping

1. Connect to the SAP Cloud for Customers system using an Internet browser, and open the Business Configuration tab.

2. Click in All Current Projects.

3. Select the project, and click on Open Activity List.

4.6 SAP Cloud for Customer Configuration: Maintain Processing Types for Integration of Opportunities

1. Connect to the SAP Cloud for Customers system using an Internet browser, and open the Business Configuration tab.

2. Click in All Current Projects.
3. Select the project, and click on Open Activity List.

4. Click in the Fine Tune tab.

5. The following Fine Tune activities have to be configured to define the processing type code for the different integration scenarios. One at the time, select the following fine tune activities and click Open. The following table contains standard values:

<table>
<thead>
<tr>
<th>Integration of Opportunities with Customer Quote Processing in SAP ERP</th>
<th>Processing Type</th>
<th>Text Type Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integration of Opportunities with Pricing Simulation in SAP ERP</td>
<td>TA</td>
<td>N/A</td>
</tr>
</tbody>
</table>
6. Enter the processing type and text type code (this information can be obtained from SAP ERP system in transaction VOV8)

7. Follow the same procedure for the other fine tune activities

4.7 SAP Cloud for Customer Configuration: Setup Communication Arrangements

1. Under the tab Administrator, click in Communication Arrangements.

2. Create the following communication arrangements:
   - Business Partner Replication from SAP ERP
   - Business Partner Replication to SAP ERP
   - Opportunity with Follow Up Business Transaction Document in External System
   - Opportunity with Print Preview of Sales Document in ERP
   - Opportunity with Sales Order Pricing in ERP
   - Product Replication with Sales Data from External System
   - Sales Document Query in ERP
   - Sales Quote with Sales Order in ERP

3. For example, to create the CA for Product Replication, Click in New.
4. Select the CA to be created, and click Next.

5. Select the communication system and the code list mapping, and click Next.

6. Select the protocol “Web Service” and the required authentication method. For example, in the case shown below, User ID and Password are selected.
7. Edit the password of the service account by clicking “Edit Credentials”.

8. In the case of a communication agreement that has outbound communication, configure the outbound communication.

9. Click Next and then Finish.
10. Perform the same process for the remainder of the communication arrangements.

4.8 SAP ERP Configuration: Install Add-on on SAP ERP System

Note: Remember to update the SPAM to the latest support pack prior to the installation of the Add-on.

Use transaction SAINT to install SAP Add-on CODERINT 600 and use transaction SPAM to implement the support packages in the ERP system.

1. Copy the installation package and support packages to the EPS/in directory within the “trans” directory.

2. Call transaction SAINT and load the packages from the menu Installation Package → Load Package → From Application Server.
3. Click Back

4. Click on Start to start the deployment of the Add-on.
5. Double check that the CODERINT add-on is selected and click continue.
6. Click Continue. It is possible to install the add-on together with all the support packages. Select the target support package, and click Continue.
7. Click Continue

8. Click No

9. Select the method of import and click the import button
4.9 SAP ERP Configuration: Implement SAP Notes on ERP

Add all relevant SAP notes after the implementation of the Add-on Service Pack.

4.10 SAP ERP Configuration: Execute Business Configuration Set COD_BYD_ERP_INT

1. Call transaction SCPR20 and enter the BC Set COD_BYD_ERP_INT.

2. Activate the BC Set clicking in the Activate BC Set button or press the F7 key.

3. Create a transport request that can be used for the activation in other systems.
4. Press Enter

4.11 SAP ERP Configuration: Maintain Endpoint Services for Synchronous Messages

1. Open SOAMANAGER transaction in the ERP system.

2. Click on Simplified Web Service Configuration.

3. Search for the following service SalesOrderPricingInformationQueryResponse_In.
4. Select the User Name/Password (Basic) and X.509 Client Certificate.

5. Click Save

6. Perform the previous steps for the following services:
   - SalesDocumentPrintPreviewQuery
   - SalesOrderERPBasicDataByElementsQueryResponse_In
   - CustomerQuoteERPBasicDataByElementsQueryResponse_In

4.12 SAP ERP Configuration: Define Number Ranges for Contacts

1. Call transaction SNUM, and enter the object PARTNER.
2. Click in Number Ranges.

3. Click on Change Intervals.

4. Create the intervals as shown, using a number range that is available in the system.

4.13 SAP ERP Configuration: Define Number Ranges for Customers

1. Call transaction SNUM and enter the object DEBITOR.
2. Click on Number Ranges.

3. Click on Change Intervals.

4. Create the intervals as shown as follows, using a number range that is available in the system.

4.1. SAP ERP Configuration: Adjust Security Roles to Allow Synchronous Web Service Processing

1. Call transaction PFCG

2. Enter the role SAP_SD_COD_INTEGRATION_EXT:

Role Maintenance

Role SAP_SD_COD_INTEGRATION_EXT [Edit] [Add] [Remove] [Save] [Remove]
Name Integration of CRM on Demand and SD - auth./processing sync.
View Views [Edit] [Add] [Remove] [Show Documentation] [Description]
3. Open the role for changes, and select the tab Authorizations \(\rightarrow\) Change Authorization Data.

4. Look for the security object S_SERVICE under Cross-application Authorization Objects, and change the field SRV_NAME.

5. Add the following services:
   - SALESORDERPRICINGINFORMATIONQU/SLS_SO_PR_INFO_QR_IN
   - SALESDOCUMENTPRINTPREVIEWQUERY/COD_LORD_GET_PRINT_PREVIEW
   - ECC_CUSTOMERQUOTE006QR/EXECUTE_SYNCHRONOUS
   - ECC_CUSTOMERQUOTE006QR/EXECUTE_SYNCHRONOUS

6. Get the technical name for the SALESDOCUMENTPRINTPREVIEWQUERY and make a note since we will need to assign in the following steps.

7. Click Copy
8. Add the following authorization objects with the values mentioned below, which are required for the print preview of the sales documents:

   S_SERVICE
   SRV_NAME : <Technical Name for SALESDOCUMENTPRINTPREVIEWQUERY>
   SRV_TYPE : HS
   S_RFC
   RFC_TYPE : FUGR
   RFC_NAME : ERP_LORD
   ACTVT : 16
   S_SPO_DEV
   SPODEVICE : LP01

9. Save and generate the profile.

4.15 SAP ERP Configuration: Create Service Account for Connectivity from PI to ERP

From transaction SU01, create a service account with the following two roles and the type C or B:

SAP_SD_COD_INTEGRATION
SAP_SD_COD_INTEGRATION_EXT
4.16 **SAP ERP Configuration: Create Logical System for SAP Cloud for Customer System**

1. **Open one of the communication arrangements previously created.**

2. **Select the communication arrangement and click Edit.**

3. **The logical system name is the “My System” field. Right click in the field and click Copy.**

**My Communication Data**

- **My System:** O1M100
- **Copy**
4. Call transaction BD54 on SAP ERP.

5. Create the logical system by clicking New Entries.

6. Enter the logical system name and a description.

7. Click Save

4.17 SAP ERP Configuration: Create Connectivity Settings for SAP Cloud for Customer

1. Call transaction SE38 and execute program RCOD_CREATE_CONNECTIVITY_MW.
2. Select the option On-Premise SAP NetWeaver PI.

3. Pick the logical system name that was created previously using the input help.

4. Enter the hostname, system number, user id and password required to connect to your SAP PI system.

5. If required you can change the prefix used for the creation of RFC destination and ALE ports from the Naming Proposals tab.

6. When ready, you can execute the program for the creation of the required configuration.
4.18 SAP ERP Configuration: Maintain Requirement Routine

1. Call transaction VOFM and click on menu Requirements → Output Control.

2. At the bottom of the table enter an unused number greater than 600 and assign application V1.

3. Click Save
4. Click on New Entry and click on Source Text.

5. Insert the following code, save, and activate.

```
FORM kobed_xxx.
* We only trigger the confirmation back to 'CRM on Demand'
* if the document is complete and if an opportunity document is
* referenced.
IF komkbv1-uvall EQ 'C' AND
cl_cod_oppt_confirmation=>is_relevant( komkbv1 ) = abap_true.
sy-subrc = 0.
ELSE.
sy-subrc = 4.
ENDIF.
ENDFORM.
```
4.19 SAP ERP Configuration: Maintain Output Records

1. Call transaction VV11 and use the output type COD1.

![Display Output - Condition Records SalesOn](image1)

Output Type: COD1

Opport.conf (COD)

2. From menu output conditions, select Create with template.

![Output conditions](image2)

Create with template: F7

3. Create the following entries:

![Change Condition Records (Opport.conf (COD)): Fast Change](image3)

<table>
<thead>
<tr>
<th>Sal.</th>
<th>Name</th>
<th>Function</th>
<th>Partner</th>
<th>M.</th>
<th>D.</th>
<th>L.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q7</td>
<td>Quotation</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RGO</td>
<td>Req. for Order</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQG</td>
<td>Req. for Quote</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SR</td>
<td>Standard Order</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.20 SAP ERP Configuration: Maintain Agent Assignment for Standard Tasks

1. Call transaction PFTS, enter the standard task 38000001 and choose Display.

   ![Maintain Standard task screenshot]

2. From the menu, choose Additional Data → Agent Assignment → Maintain.

   ![Additional data screenshot]

3. Select the entry Edit Customer Inquiry, and click on Attributes.

   ![Standard task: Maintain Agent Assignment screenshot]
4. In the Task dialog box select the radio button General Task, and choose Transfer.

5. Repeat the previous steps for the following tasks:

38000002
38000003
38000005

4.21 SAP ERP Configuration: Maintain Agent Assignment in Workflow Template

1. Call transaction SWDD, and enter WS38000001.
2. Double-click on Edit Customer Inquiry.

3. In the control tab, use the dropdown box to select the method to use for agent assignment, either by example by role or organization.

4. Follow the previous steps for the following tasks:
   - Create Quotation referencing Inquiry
   - Create Order referencing Inquiry
   - Display Inquiry for follow-on processing

5. Save and activate the workflow template
4.22 SAP ERP Configuration: Activate Workflow Event Linkage

1. Call transaction SWETYPV.

2. Open object type BUS2030 and the event CREATED. Choose Details, and check the Linkage Activated checkbox.

4.23 SAP ERP Configuration: Activate Change Pointers for IDOCs

1. Call transaction SALE, IDOC Interface / Application Link Enabling (ALE) ➔ Modeling and Implementing Business Processes ➔ Master Data Replication ➔ Replication of Modified Data
2. Click on Activate Change Pointers – Generally and enable the setting.

3. Click back and open the option Activate Change Pointer for Message Types, and select the active checkbox for the following message types:

<table>
<thead>
<tr>
<th>Message Type</th>
<th>Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR3MAS</td>
<td></td>
</tr>
<tr>
<td>ADRMAS</td>
<td></td>
</tr>
<tr>
<td>DEBMAS_CFS</td>
<td></td>
</tr>
<tr>
<td>MATMAS_CFS</td>
<td></td>
</tr>
</tbody>
</table>

   For example:
4.24 SAP ERP Configuration: Create Variant for Program RBDMIDOC to Create IDOCs from Change Pointers

1. In transaction SE38 create variants for program RBDMIDOC for the following message types:

<table>
<thead>
<tr>
<th>Message Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR3MAS</td>
</tr>
<tr>
<td>ADRMAS</td>
</tr>
<tr>
<td>DEBMAS_CFS</td>
</tr>
<tr>
<td>MATMAS_CFS</td>
</tr>
</tbody>
</table>

2. From transaction SM36 schedule a job that executes different steps to create the IDOCs for all the message types mentioned in the previous step.

   **Step List Overview**

<table>
<thead>
<tr>
<th>No.</th>
<th>Program name/command</th>
<th>Prog. type</th>
<th>Spool list</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RBDMIDOC</td>
<td>ABAP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>RBDMIDOC</td>
<td>ABAP</td>
<td></td>
<td>ADRMAS</td>
</tr>
</tbody>
</table>

Note: Depending on how often you want to process the outgoing messages from ERP, you can define the frequency of the job. A typical frequency setting is every 5 minutes.

4.25 SAP ERP Configuration: Send IDOCs from ERP to SAP Cloud for Customer

1. In transaction SE38 create a variant for program RSEOUT00 to process the following basic types

<table>
<thead>
<tr>
<th>Message Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR3MAS03</td>
</tr>
<tr>
<td>ADRMAS03</td>
</tr>
<tr>
<td>ORDERS05</td>
</tr>
<tr>
<td>DEBMAS06</td>
</tr>
<tr>
<td>MATMAS05</td>
</tr>
</tbody>
</table>

For example:
2. In transaction SM36 create a background job with the steps required to execute the program RSEOUT00 for the variants created in the previous step.

### Step List Overview

<table>
<thead>
<tr>
<th>No.</th>
<th>Program name/command</th>
<th>Prog. type</th>
<th>Spool list</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RSEOUT00</td>
<td>ABAP</td>
<td></td>
<td>ADR3MAS</td>
</tr>
<tr>
<td>2</td>
<td>RSEOUT00</td>
<td>ABAP</td>
<td></td>
<td>ADRMAS</td>
</tr>
</tbody>
</table>

### 4.26 SAP ERP Configuration: Process IDOCs Sent from Cloud for Customer

1. In transaction SE38 create a variant to process the following message types for program RBDAPP01:

<table>
<thead>
<tr>
<th>Message Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR3UPD</td>
</tr>
<tr>
<td>ADRUPD</td>
</tr>
<tr>
<td>DEBMAS</td>
</tr>
<tr>
<td>INQUIRY_CREATE FROMDATA2</td>
</tr>
</tbody>
</table>

Note, message type ADRUPD and ADR3UPD have to be processed first and separate from DEBMAS.
2. From transaction SM36 schedule a background job that will execute multiple instances of the program RBDAPP01 in multiple steps, see the screenshot below as an example:

![Image](example.png)

Note. Depending on how often you want to process the incoming messages to ERP, you can define the frequency of the job. A typical frequency setting is every 5 minutes.

### 4.27 SAP ERP Configuration: Create Technical and Business System in SLD for SAP ERP

1. Validate that the SAP ERP on-premise system is registered with the SLD used by the SAP PI system using transaction RZ70 in SAP ERP.

![Image](example.png)

2. Validate that the job is running clicking “Start SLD Data Collection Now”.

![Image](example.png)

3. Click in Yes.
4. Validate that the replication works.

5. Connect to the SLD to create the business systems for the SAP ERP technical system using the URL http://<hostname>:<port>/sld.

6. Click on link for Business Systems, and then in New Business Systems.
7. Select AS ABAP and click Next.

8. Enter the System, client and URL and click Next.

9. Enter the name of the business system.
10. Click Next

11. Select Application System for Business System Role and the integration server of the PI that will be used, and click finish.

4.28 SAP PI Configuration: Install PI Content on ESR using Enterprise Service Builder

Using Enterprise Service Builder on PI, install the PI content.

1. Download the corresponding software components from the SAP Marketplace from the SAP Software Download Center. The link is shown below.

   http://service.sap.com/swdc
2. Select the option Support Package and Patches → Browse our download Catalog → SAP Cloud Solutions.

3. Click the link SAP Cloud Customer ERP Integr.

SAP CLOUD SOLUTIONS (FORMERLY SAP ON-DEMAND SOLUTIONS)

- ARRA INTEGRATION SUITE
- Aruba Network Integration for SAP Business Suite
- INTEGRATION ERP / SAP SOURCING
- SAP FIO SUBSCRIPTIONS INTEGRA
- SAP HANA CLOUD INTEGRATION (SO)
- SAP HANA Cloud Integration for ISO-services
- SAP CLOUD CUSTOMER ERP INTEGR
- SAP CLOUD CUSTOMER ERP INTEGR

4. Click SAP Cloud Cust ERP Integr 2.0

SAP CLOUD SOLUTIONS (FORMERLY SAP ON-DEMAND SOLUTIONS)

SAP Cloud Solutions (formerly SAP On-Demand Solutions) → SAP CLOUD CUSTOMER ERP INTEGR

SAP CLOUD CUSTOMER ERP INTEGR

- CUSTOMER OD INTEGRATION 10M
- CUSTOMER OD INTEGRATION 1211
- SAP CLOUD CUSTOM ERP INTEGR 3.0
- SAP CLOUD CUSTOM ERP INTEGR 4.0
- SAP CLOUD CUSTOM ERP INTEGR 4.3

How To Configure Integration between SAP ERP and SAP Cloud for Customer using SAP PI
Step-by-Step Procedure © 2013 SAP AG or an SAP affiliate company. All rights reserved. 48
5. Click Comprised Software Component Versions

SAP CLOUD SOLUTIONS (FORMERLY SAP ON-DEMAND SOLUTIONS)

SAP Cloud Solutions (formerly SAP On-Demand Solutions)* SAP CLOUD CUSTOMER ERP INTEGRATION 2.0

SAP CLOUD CUSTOMER ERP INTEGRATION 2.0 (SUPPORT PACKAGES AND PATCHES)

- Comprised Software Component Versions
- Required Components of other Product Versions

6. Download the latest version of the following components:

COD_ERP_INT_IC 6.00
COD_ERP_INT 6.00
SAP BYD 2.40
BYD CRM ON DEMAND 3.0
SAP APPL 6.00
SAP APPL 6.02
SAP APPL 6.03

7. Unzip and copy the downloaded files to the <GLOBAL>\xi\repository\server\import directory of the PI system.
8. Call the PI URL to start the enterprise service builder, for example:

https://<host>:<port>/dir/start/index.jsp

9. Open the enterprise service builder by clicking in the proper link.

10. If JAVA JRE is installed, the Java Web Start Application for the ESR will open, you will have to select the usage profile, for example Unrestricted SAP Basis.
11. Once the Enterprise Service Builder is open, click in the menu Tools → Import Design Objects.

12. Select the option of Server from the dialog screen.

13. Select each of the components that need to be imported and click OK.

14. Repeat the previous steps to import the other PI Contents.

15. After all the content was imported you will see it available in the Design Object area.
4.29 SAP PI Configuration: Load SAP Cloud root certificates into SAP PI Trusted CA

1. Download the root certificates from the following URL:

   https://secure.omniroot.com/support/sureserver/rootcert.cfm

2. Open NWA on the PI system.
3. Under the tab Configuration, click on Certificates and Keys.

4. Look for the view called TrustedCAs, and select it.

5. Import the two root certificates that were downloaded using the Import Entry button under TrustedCAs.

6. Select the entry type X.509 Certificate and the location of the certificate file, and click Import.
7. Do the same for the second certificate.

![Image of certificate import screen]

8. Restart the system.

### 4.30 SAP PI Configuration: Create RFC Destination Pointing to SAP ERP

1. Call transaction SM59 and create an RFC destination to point to the ERP system of type 3.

![Image of RFC destination configuration screen]
2. Click in the Logon & Security tab and enter the user and password required to connect to ERP system, which is the service account that was created in previous steps.

4.31 SAP PI Configuration: Maintain Port Definition

Call transaction IDX1 and create a new port that use the RFC destination that was created in the previous step.

4.32 SAP PI Configuration: Load Metadata for IDOC Adapter

1. Call transaction IDX2 and create new metadata for each of the IDOC types by clicking the New icon:

- ADR3MAS03
- ADRMAS03
- ORDERS05
- DEBMAS06
- MATMAS05
- ADR3UPD01
2. Enter the IDOC type and the source port, and click continue.

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4.33 SAP PI Configuration: Create Technical and Business System in SLD for SAP Cloud for Customer

1. Connect to the SLD to create the business systems for the SAP Cloud for Customer technical system using the URL `http://<hostname>:<port>/sld`.
2. Click in Technical systems and then the New Technical System.

3. Select the option Standalone, and click Next.

4. Enter the technical System Identification and System Host Name, and click Finish.
5. Click in the Home button to return to the main page.

6. Click on Business Systems

7. Click New Business Systems
8. Select the standalone system type, and click Next.

9. Select the corresponding technical system name, and add the logical system name of the SAP Cloud for Customers systems, and click Next.

10. Enter the name of the business system, and click Next.
11. Select the corresponding Integration system of the PI system that will be used, and click Finish.

![Business System Wizard](image)

### 4.34 SAP PI Configuration: Open Integration Builder

1. Connect to Process Integration Tool using transaction sxmb_ifr, or directly to the web page with the following URL: [https://<hostname>:<port>/dir/start/index.jsp](https://<hostname>:<port>/dir/start/index.jsp)

2. Click in Integration Builder link to open it.
3. Provide your credentials and logon.

4.35 SAP PI Configuration: Assign Business System using Integration Builder

1. Within the integration builder, click in the menu Tools ➔ Assign Business Systems.
2. Click continue

3. Click Continue
4. Select the business system for SAP ERP and SAP Cloud for Customers.

5. Click Finish

6. Click Close

4.36 SAP PI Configuration: Use Integration Builder to Create the PI Scenario from an ESR Model

1. The following scenarios will be created based on ES repository models. They will be created one at the time. Each scenario has multiple connections that require communication channels to be created as follows:
2. From within the integration builder click on the menu Tools → Apply Model from ES Repository.
3. Click in the input help button to load the available modes from the ESR repository.

4. Look for the COD_ERP_MasterDataSync. Select it and click Apply.

5. Click Continue
6. Define the name of the scenario, and click Finish.

7. Click Close

4.37 SAP PI Configuration: Assign Business Systems to each of the Components

1. Assign the business systems to the scenario. Select the COD Template Cloud for customers in the Model Configurator.
2. Assign the business system using the input help button from the Business System Component for A2A tab.

3. From the Choose Communication Component screen, select “All Business Systems Components” in the communication component section. Then select the business system created for the SAP Cloud for Customer, and click Apply.

4. Assign the business system for the SAP ERP system. First, select the SAP ERP 6.0 upwards Template in the model configurator.
5. Assign the business system using the input help button from the Business System Component for A2A tab.

6. From the Choose Communication Component screen select “All Business Systems Components” in the communication component section, then select the business system created for the SAP ERP System, and click Apply.

4.38 SAP PI Configuration: Create the Communication Channels and Assign them to Sender and Receiver Business System Components

1. Configure the connections by clicking in the Configure Connection button in the Model Configurator screen.
2. In the Connections from Component Assignment tab, create the communication channels from the templates for each of the connection within the scenario. Select the communication channel field for the SAP Cloud for Customers, or in this case the Sender Business System Component.

3. Click the Create Communication Channel button.

4. In the Create Communication Channel wizard, click Continue.

5. Click Continue
6. Adjust the name of the communication channel or just accept the standard name, and click Finish.

7. Click Close

8. The communication channel for this integration scenario is created and assigned.

9. Click in the Communication Channel field of the Receiver Business System.

10. Click in the Create Communication Channel button.
11. In the Create Communication Channel wizard, click Continue.

12. Click Continue

13. Verify the name of the communication channel, and click Finish.

14. Click Close
Note. The communication channel ERP_Idod_Receive can be reused for all the connection from SAP Cloud for Customer to SAP ERP and does not have to be recreated. Select the input help button in the receiver communication channel.

Select the existing communication channel, and click Apply.

15. This connection is configured with the communication channels created. Now click in the Next Connection arrow to configure the Next Connection.

16. Repeat the previous steps for the other connections within the scenario.
4.39 SAP PI Configuration: Generate PI Configuration Objects

1. When all the communication channels are created and assigned to the connection within the scenario, create the configuration objects by clicking in the configuration objects button.

2. In the Create Configuration Objects screen, select the option Generation. In the Change List, create a new list and click Start.
3. All the objects will be generated and a generation log will be created.

After reviewing, close the generation log screen.

4. Click in Apply.

5. Save the scenario.
6. Repeat the previous steps for each of the scenarios, connections and communication channels.

### 4.40 SAP PI Configuration: Configure ERP_IDOC_receive Communication Channel with correct Port and RFC Destination

1. From the COD_ERP_BusinessDataSync scenario → Communication Channel open the communication channel ERP_Idoc_Receive.

2. Click in the change Edit button.
3. Adjust the RFC destination and port.

4. Save changes by clicking the Save button.

4.41 SAP PI Configuration: Adapt all Communication Channels with Hostname, Port, User and Password or Authentication Mechanism

1. On each of the scenarios, open all the communication channels where the receiver is the SAP Cloud for Customer.
2. Click the pencil icon to open the communication channel for edit.

![Communication Channel](image1)

3. Finally adjust all the connection parameters settings, according to the requirements.

![Communication Channel](image2)

4. Click the Save button.

![Communication Channel](image3)

### 4.42 SAP PI Configuration: Activate Change List for PI Objects

1. Click the Change Lists tab on the Integration Builder.

![Change Lists](image4)
2. Expand the change list and activate all the communication channels. They should be in the Standard Change List. Using the context menu, click Activate.

3. Some of the communication channels are within the other specific change list, Activate those communication channels first, and then the rest of the objects.
4. Click in Activate

5. Click Close
6. Activate the rest of the activation list for each of the scenarios following the steps above.

4.43 SAP Cloud for Customers Configuration: Configure End Points Communication Arrangements with Outbound Interfaces

1. Connect to the SAP Cloud for Customers system using an Internet browser, and open the Administrator tab.
2. Click in the communication arrangements link.

3. Edit the communication Arrangements with outbound interfaces, adding the correct URL for the PI web server. The following table shows an example of the URL that have to be used where we use the Business System or Business Component. For example:

<table>
<thead>
<tr>
<th>Customer Replication</th>
<th>/XISOAPAdapter/MessageServlet?channel=&lt;business system&gt;:COD_SOAP_BusinessPartnerReplication_Send</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Address Replication</td>
<td>/XISOAPAdapter/MessageServlet?channel=&lt;business system&gt;:COD_SOAP_BusinessPartnerAddress_Send</td>
</tr>
<tr>
<td>Customer Contact Replication</td>
<td>/XISOAPAdapter/MessageServlet?channel=&lt;business system&gt;:COD_SOAP_BusinessPartnerContact_Send</td>
</tr>
<tr>
<td>Opp with Follow Up</td>
<td>/XISOAPAdapter/MessageServlet?channel=&lt;business system&gt;:COD_SOAP_OpportunityWithFollowup_Send</td>
</tr>
<tr>
<td>Sales Doc Print Preview</td>
<td>/XISOAPAdapter/MessageServlet?channel=&lt;business system&gt;:COD_SOAP_SalesDocPrintPreview_Send</td>
</tr>
<tr>
<td>Product Pricing</td>
<td>/XISOAPAdapter/MessageServlet?channel=&lt;business system&gt;:COD_SOAP_SalesOrderPricing_Send</td>
</tr>
<tr>
<td>Query Sales Quote</td>
<td>/XISOAPAdapter/MessageServlet?channel=&lt;business system&gt;:COD_SOAP_QueryCustomerQuote_Send</td>
</tr>
<tr>
<td>Query Sales Order</td>
<td>/XISOAPAdapter/MessageServlet?channel=&lt;business system&gt;:COD_SOAP_QuerySalesOrder_Send</td>
</tr>
<tr>
<td>Quote to Sales Order</td>
<td>/XISOAPAdapter/MessageServlet?channel=&lt;business system&gt;:COD_SOAP_QuotetoSalesOrder_Send</td>
</tr>
</tbody>
</table>

For example, here is URL:

/XISOAPAdapter/MessageServlet?channel=:VQR_005:COD_SOAP_BusinessPartnerReplication_Send

4. Select one of the communication arrangements, and click Edit.
5. Click in the Technical Data Tab.

![Business Data and Technical Data]

6. Click in Edit Advance Settings button.

![Technical Data and Basic Settings]

7. Click in the Outbound Tab.

![Business Data and Outbound]

8. Select each of the outbound services and edit SSL port and Path.
9. Click on Save and Reactivate.

Note. You can check if there is connectivity from the cloud system to the PI system by selecting one of the outbound services and click Check Connection. This will only check connectivity with the SOAP Adapter in PI, and not the actual communication channel. If there is any problem with SSL certificates or authentication, it will show an error here.
10. Click Close and then Yes to activate the changes.