How to Extend SAP Cloud for Customer - SAP On-Premise Pre-Packaged Integration Content (PI/HCI)
Document History

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<th>Document Version</th>
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<tr>
<td>1.0</td>
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1 Business Scenario

SAP offers customers the capability to seamlessly extend pre-packaged content that has been previously delivered by SAP (iFlows). Extension scenarios are common when customers want to bring new fields into the Cloud application from their on-premise of altogether extend end-end from on-premise to the Cloud.

2 Background Information

Extension scenarios should be implemented before Data loads.

3 Prerequisites

- Technical connectivity between SAP CRM and SAP Cloud for Customer and vice-versa.
- Integration Configuration settings specified in the Configuration guide for the SAP CRM, SAP middleware such as Netweaver Process Integration or HANA Cloud Integration, and Cloud Systems.
- Extending standard IDoc in SAP on-premise
- Knowledge on SAP Netweaver Process Integration (SAP PI)/SAP Hana Cloud Integration (SAP HCI)

4 Extend Interface in SAP Cloud for Customer

There are two options for extending your Cloud for Customer application,

a. Key User Tool (KUT)
b. SAP Cloud Applications Studio (SDK) previously known as Partner Development Infrastructure (PDI)

4.1.1 Extending using Key User Tool (KUT)

1. Launch Silverlight UI
2. Select the view Flexibility Change log under the work center Application and User Management. Save and close.

3. Re-launch the UI. In HTML5 mode click on the Adapt label to activate the Key User Tool (KUT) mode.

4. For this example, we will extend the Customer Account screen in SAP Cloud for Customer and add a new field Internal Customer Number.

5. Once you have opened a particular Account screen, go back to the Adapt label and click on Edit this screen option.
6. Select the UI section under which you wish to have the newly extended field appear. For this example, we will use Header.

7. Click on the tab Extension Fields below and Select the Add option.

8. Enter the details of the newly extended field, such as Field Label and Tooltip before saving your entries.
9. Make the field Visible and Save.

10. Verify the field is visible in the Header section of the Customer screen.

11. To ensure that the newly extended field is reflected in the web service for the Business Partner object, click on the entry “Field Definition”
12. Select the corresponding web service to which the extended field needs to be added. As this is a CRM Integration example, it needs to be Business Partner Replication – General Information.
13. Click on Close. Save the entries and click on Publish to push the adapted changes to the tenant.

14. Come out of the adaptation mode by going to the Adapt entry and clicking on Leave Adaptation Mode.

15. Go to Application and User Management work center → Communication Arrangements. Since we are interested in the Customer wsdl, we will go to the Business Partner Replication from External System. Under Inbound, select “Replicate Business Partner from SAP Business Suite”
16. Save the wsdl locally on your desktop. Verify the extended field is present in the wsdl.

4.1.2 Extending using SDK (PDI)

Although it is possible to use SAP Cloud Applications Studio (SDK) to create an extension field, it is only recommended when you have to introduce complex business logic along with the extension. For simple extensions, KUT is recommended over PDI. For more details on using SDK (PDI) please refer to [https://help.sap.com/sdk](https://help.sap.com/sdk).

5 Extend Mapping in Middleware

Once you have the extended the source and target interfaces, the final step is to map the extended field(s) using either SAP Netweaver PI or SAP HANA Cloud Integration.

5.1.1 Extending in SAP HANA Cloud Integration using Web UI

1. Launch SAP HANA Cloud Integration Web UI
2. Switch to Design

3. Choose the Integration Package
4. Open the iFlow project that needs to accommodate the mapping extension (Business Partner to SAP Cloud for Customer)

5. Switch to the Edit mode by selecting the Edit button from the bottom
6. Within the iflow project, select the mapping entity – in this example, `CRM_COD_BusinessPartner_Replicate` and click on the link to open the mapping.

7. In the mapping editor click on edit button to import the extended WSDL.

8. Click on the Edit icon to on the respective structure Source or Target. In our example the extension was done on the target message `BusinessPartnerSUITEBulkReplicateRequest`.

9. On the pop-up window click on the button Upload from the File System to import the extended WSDL.
10. Choose the WSDL that was downloaded from the SAP Cloud for Customer - Communicate Arrangement

11. After importing the WSDL select the message type with in the WSDL
12. Click OK to accept the change in the structure

13. Expand the nodes in the mapping editor to the extended field and which can be mapped as per the requirements.
14. Save and Deploy the iFlow

**Note**
The same principle applies for importing the on-premise wsdl as well. Ensure that the source and target wsdl’s have the same name before importing into the wsdl folder.

### 5.1.2 Extending in SAP Netweaver PI

Following are the steps required to extend the mapping in SAP Netweaver PI. These steps are also applicable if requirement is to just modify the mapping logic in the standard mapping and in such cases you can ignore the steps that show importing extended WSDL.

1. From the SAP Netweaver PI welcome page open Enterprise Services Builder

   ![Image of Enterprise Services Builder](image-url)

   **System Landscape**
   - System Landscape Directory
   - Enterprise Services Repository

2. Open the mapping that needs the extension and in the guide we are extending CRM_COD_BusinessPartner_Replicate

   ![Message Mapping](image-url)

   **Display Message Mapping**
   - Name: CRM_COD_BusinessPartner_Replicate
   - Namespace: http://xml.com/CRM/GLOBAL
   - Software Component Version: CRM0007 1.x 7.09
   - Description: Mapping for the extended business partner

3. Navigate to the Signature tab and note down the software component versions that requires extension
4. Open SLD (Systems Landscape Directory) from SAP Netweaver PI start page

5. Select the option Products under the section Software Catalogs

6. Client “New” button to create a new product

7. For Action Type select “Create a new product and version”
8. Enter the Product details as shown below

   Product Name: <The Extension product name e.g., C4CCRMEXT>
   Product Vendor: <Customer namespace e.g. example.com>
   Product Version: 1.0

9. Provide the Instance Name

10. Enter the Software Component details as shown below and click Finish

   Name : <Extension software component name e.g. C4CCRMEXT>
   Version: 1.0
11. Navigate to the SLD home screen and select Software Components from the Software Catalogs section

12. Search for the Software Component that was created in the previous step e.g. C4CCRMEXT

13. Navigate to the Dependencies tab and click on the button “Define Prerequisite Software Component Version”
14. Search for the software component that requires extensions which you noted down in one of the earlier step and click on “Define as Prerequisite Software Components”

15. Open Enterprise Service Builder and import the Software Component Version that was created for extension e.g. C4CCRMEXT. Click on Create button, select Software Component Version and click on Display button (Make sure the option Import from SLD selected)
16. Search and select the software component that you wanted to import e.g. C4CCRMEXT and click on Import button. Then click Create button to create the Software Component Version.
17. On the new Software Component version select the Language as English

18. Navigate to the SLD Information tab to verify if the underlying software components contains CRMCOD01 IC 700 and SAP BYD 2.40
19. Save the Software Component Version and it should appear on the left tree view

20. Expand the Software Component to view the Basis Objects containing the Prerequisites software component version
21. Open the External Definition that contains the BusinessPartnerSUITEBulkReplicateRequest. To find the External Definition first identify the Service Interface that is configured for this interface from the Integration Builder and from the Service Interface one can determine the External Definition that is being used.

22. Switch to the EDIT mode and import the extend WSDL from Cloud for Customer Communication Arrangement.
23. Before importing the WSDL into PI, open the WSDL in a preferred editor and comment out the Policy element child of portType element.

24. Import the WSDL using the import button and select the WSDL to be imported.
25. Save the External Definitions

26. Once saved the left tree view will show the object as modified
27. Open the message mapping present in the Software Component Version CRMCOD01 IC 700 in edit mode and refer to the new External Definition. Save the mapping.

28. Switch to the definition tab and the mapping should contain the new field which can be mapped as per the requirement.

29. The Business Partner Replicate interface has as post processing mapping CRM_COD_BusinessPartner_Replicate_PostProcessing which also needs to be extended in similar fashion.

30. Save all the changes and Activate the objects.
31. Make sure to change the Interface Determination in Integration Builder to use the interface mapping from the new software component e.g. C4CCRMEXT. In case of Java only SAP PI (AEX) installations change the Integrated Configuration to use the mapping from the new software component.

6 Appendix

6.1.1 Extending in SAP HANA Cloud Integration using Eclipse

1. View the iflow project (com.sap.scenarios.crm2cod.businesspartner.replicate) that needs to accommodate the mapping extension.
2. Within the iflow project, select the mapping entity – in this example, CRM_COD_BusinessPartner_Replicate.mmap
3. Click on the definition to view the standard mapping provided by SAP.
4. Go back to the Overview tab and proceed to import the extended interface that was previously saved on your local desktop.
5. Import the extended interface into the wsdl folder by selecting the folder `src.main.resources.wsdl`. Right click and select Import.

6. Select File System and click on Next.
7. Enter the path from where the extended interface needs to be imported and select Finish.
8. Select Yes to All.
9. Close and re-open the mapping editor to view the extended field.
**Note**

The same principle applies for importing the on-premise wsdl as well. Ensure that the source and target wsdl’s have the same name before importing into the wsdl folder.