

SAP CPQ

June 2022

English

## **SAP CPQ Integration with SAP S/4HANA: Basic Integration setup using SAP Cloud Integration (3ZQ)**

Configuration Guide

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Public

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Revision	Change Date	Description
0	June,2019	
1	June, 2022	

## Icons

Icon	Meaning
	Caution
	Example
	Note
	Recommendation
	Syntax

## Typographic Conventions

Type Style	Description
<i>Example text</i>	Words or characters that appear on the screen. These include field names, screen titles, pushbuttons as well as menu names, paths and options. Cross-references to other documentation.
<b>Example text</b>	Emphasized words or phrases in body text, titles of graphics and tables.
EXAMPLE TEXT	Names of elements in the system. These include report names, program names, transaction codes, table names, and individual key words of a programming language, when surrounded by body text, for example, SELECT and INCLUDE.
Example text	Screen output. This includes file and directory names and their paths, messages, source code, names of variables and parameters as well as names of installation, upgrade and database tools.
EXAMPLE TEXT	Keys on the keyboard, for example, function keys (such as F2) or the ENTER key.
<b>Example text</b>	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Pointed brackets indicate that you replace these words and characters with appropriate entries.

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# SAP CPQ Integration with SAP S/4HANA: Basic Integration setup using SAP Cloud Integration: Configuration Guide (3ZQ)

## 1 Purpose

The purpose of this document is to describe the procedure to configure the Basic Integration between SAP S/4HANA and SAP CPQ using SAP Cloud Integration (CPI).

Network Security team takes the responsibility of preparing the network environment across different systems and its security aspects.

Important:

If you have any queries or feedback on this document, please create a ticket for the CSN component SV-RDS-CFC

## 2 Preparation

### 2.1 Required Information

We recommend that the consultant performing the implementation has the following implementation and configuration knowledge:

- **SAP S/4HANA**
- **SAP Cloud Integration (CPI)**
- **SAP CPQ**
- **SAP CPS (optional)**

### 2.2 Prerequisites

Before you set up SAP CPQ Integration with SAP S/4HANA, ensure that you have:

#### 1. SAP CPQ instance.

Ensure that your SAP CPQ instance is in place before you start implementing SAP CPQ integration with SAP S/4HANA.

#### 2. SAP S/4HANA System.

Ensure that your S/4HANA system is of 1809 release and latest release.

#### 3. SAP Cloud Integration tenant.

The SAP Cloud Integration (CPI) Runtime URL is included in the SAP CPI provisioning e-mail.

URL. Example <https://<tenant>-iflmap.hana.ondemand.com>

#### 4. SAP CPS instance (optional)

Ensure that your SAP CPS instance is integrated to SAP S/4HANA system.  
And your configured products are replicated between SAP S/4HANA and SAP CPS.

## 3 Configuration

The following sections describes all the settings required for this scope item. These can be divided into below groups:

- Configuration in SAP S/4HANA
- Configuration in SAP SAP Cloud Integration (CPI)
- Configuration in SAP CPQ

### 3.1 Configuration in SAP S/4HANA

#### 3.1.1 Create User

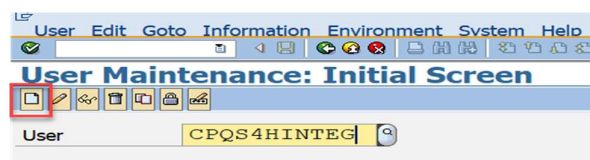
1. Access the following transaction:

Transaction Code	SU01
------------------	------

2. On the *User Maintenance: Initial screen*, enter the following values:

Field Name	Value
User	CPQS4HINTEG

3. Choose *Create*.



4. On the *Maintain User screen*, maintain the following values and Choose Save.

Address tab page

Last Name	<user name> example: CPQS4HINTEG
E-Mail	<valid E-Mail Address to send Request for Quotations and Orders>
Comm.Meth	Remote Mail

5. Logon data tab page



User Type	Communication Data
Password	<password>

### Note

Ensure the user is assigned relevant authorizations to execute Idoc, web service messaging calls like external pricing and print preview.

6. Click [Save](#).

## 3.1.2 Certificate Management in SAP S/4HANA

### Prerequisite

- The customer network environment should be prepared. The SSL should be enabled on SAP S/4HANA ABAP Server. SAP S/4HANA Server/Client Certificates should be signed by the supported CA which is trusted by SAP Cloud Solution and SAP Cloud Managed Services.
- For preparing the network environment, network security team that takes care of the customer network is responsible.
- SSL needs to be enabled on SAP ABAP server by SAP Basis Consultant.

### Note

Ensure all the certificates used are valid and are not expired.

### Note

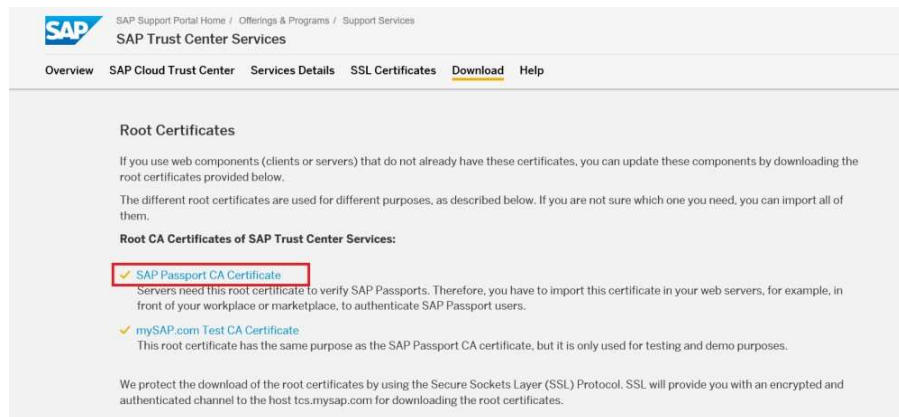
For details refer to Note 510007 - Setting up SSL on Web Application Server ABAP

For requesting signed certificates by SAP, go to <https://support.sap.com/tcs>

- There are mainly two partners in the landscape, SAP side and Customer side.
- SAP Cloud Solution certificates are signed by SAP `Passport CA` or `TC Trust Center`.

### 3.1.2.1 Download ROOT CA Certificates

1. Go to <https://support.sap.com/en/offerings-programs/support-services/trust-center-services.html> web site.
2. Navigate to [Download](#) → [Root Certificates](#),
3. Download the `SAP Passport CA Certificates` and [Save](#).



### **i** Note

Save the certificates in .cer format

4. Go to SAP Cloud Integration URL Ex: <https://xxx-tmn.hci.int.sap.hana.ondemand.com/itspaces/> and Login with admin user. Navigate using the following path.  
*Monitor* → *Keystore* under *Manage Security*



5. Download the ROOT Certificates of CPI with following names:

- *Baltimore CyberTrust Root*
- *Verizon Public SureServer CA G14-SHA2*

### **i** Note

In case of error downloading certificates, go to Internet explorer ->Tools->Internet options->content -> Certificates -> Trusted Root Certification authorities). Export the relevant certificate from the list.

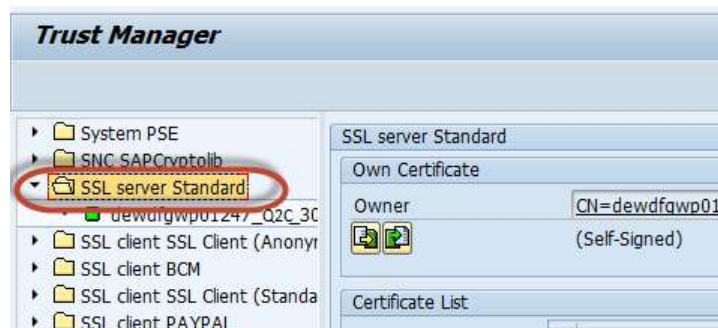
## 3.1.2.2 Maintain SSL Server Standard Trusted Cert List

1. In the SAP S/4HANA system access the following transaction:

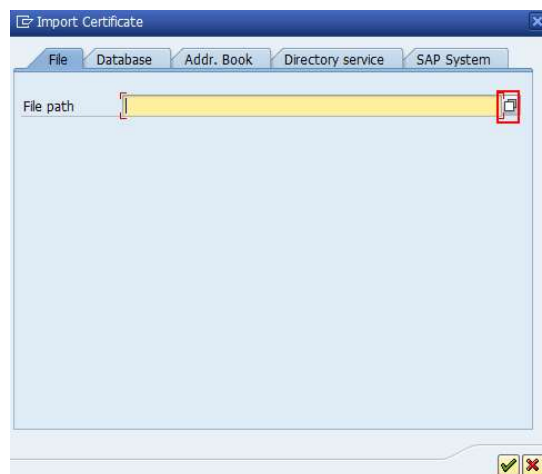
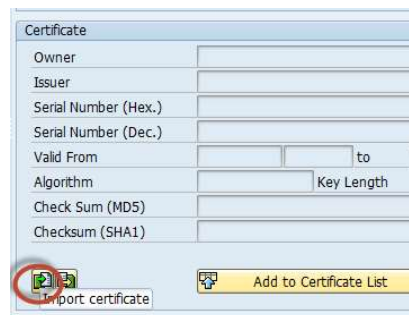
Transaction Code

STRUST

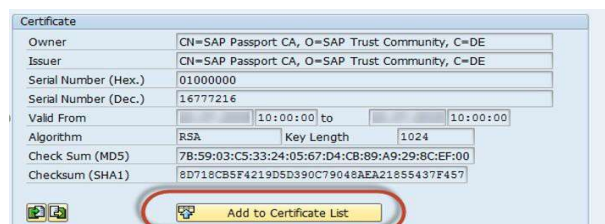
2. Double-click *SSL server standard* PSE folder.



3. In the *Certificate* area, click the *Import Certificate* button to add the SAP Passport CA.



4. Add the imported certificate to the certificate list by clicking *Add to Certificate List*.



5. Choose **Save**.



### 3.1.2.3 Maintain SSL System Client Cert and Trusted Cert List

1. Choose **SSL client SSL Client(Standard)** PSE folder



2. From Menu Path choose **Certificate→Import** to import the **SAP Passport CA** certificate
3. Switch from **Display** to **Change** mode.
4. From Menu Path choose **Edit→Add Certificate** to add the imported certificate to the chosen certification list.
5. Repeat previous 2 steps for SAP Cloud Integration Trust Root CA Certificates.
6. Choose **Save** on the standard tool bar

#### Note

In case no supported CA signed client certificates for SAP S/4HANA is available, it could be downloaded from the SAP CPI Certificate store, and then imported into SAP Trust Manager for use.

### 3.1.2.4 Export SAP S/4HANA Client Certificate

1. Expand **SSL client SSL Client (Standard)** PSE folder.
  - a. Double-click target instance in the folder.
2. Select the field **Owner**, in the **Own Certificate** section by double clicking.

SSL client SSL Client (Standard)

Own Certificate

Subject: CN=RD7, OU=SSL CLIENT, O=SAP-AG, C=DE

Certificate List

Subject
CN=RD7, OU=SSL CLIENT, O=SAP-AG, C=DE
CN=SSO CA, O=SAP-AG, C=DE
CN=GTE CyberTrust Global Root, OU="GTE CyberTrust Solutions, Inc.
CN=Server CA, OU=Server, O=SAP Trust Community, C=DE

- Click the **Export** button.

SSL client SSL Client (Standard)

Own Certificate

Subject: CN=RD7, OU=SSL CLIENT, O=SAP-AG, C=DE

Certificate List

Verl. PSE Password

Certificate

Subject: CN=RD7, OU=SSL CLIENT, O=SAP-AG, C=DE

Subject (Alt.): rfc822Name=|exchange.sap.corp

Issuer: EMAIL=|, CN=SAPNetCA, OU=SAPNet, O=SAP-AG

Serial Number (Hex.): 02:00:1B:EA

Serial Number (Dec.): 33561578

Valid From: 14:36:34 to 14:36:34

Algorithm: RSA with SHA-1 Key Length: 1024

Check Sum (MD5): 81:68:CA:78:73:A4:BF:E6:78:81:9C:07:C4:32:79:5E

Checksum (SHA1): C1:C8:9F:ED:73:63:B9:45:04:8D:2C:91:C6:2C:F3:E3:00:6A:9B:3A

Export certificate

- Save the certificate into a file with format Base64. For example, and named with S4HANAClient.cer.

S4HANAClient.cer

### 1 Note

This exported client cert should be uploaded while configuring IFlow in CPI system.

### 3.1.2.5 Mapping Cloud Connector Certificate to Integration User in SAP S/4HANA

#### Prerequisite

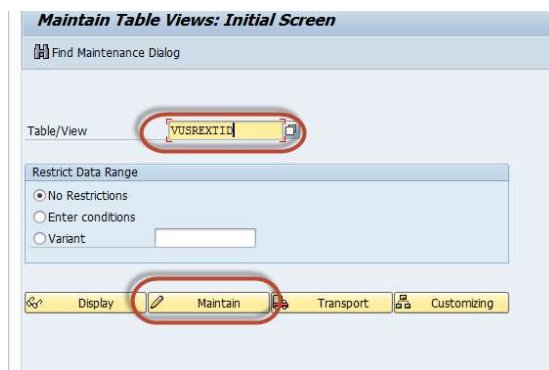
Obtain the SAP CPI client certificate from your administrator. The certificate is available when the tenant is provisioned by SAP. You can also receive it on creating an incident in the component for your respective SAP Middleware (LOD-CPI/LOD-PI).

#### Procedure

1. Access the transaction using one of the following navigation options:

Transaction Code
SM30

2. In the *Maintain Table Views* screen, enter **VUSREXTID** in the *Table/View* field.
3. Choose *Maintain*.

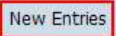








4. In the *External ID* type field, enter **DN**.



5. Choose *New Entries*.

**Change View "Assignment of External ID to Users": Overview**

External ID type  DN of Certificate (X.500)

Assignment of External ID to Users

H.. External ID	User	Act.

6. Next to the *External ID* field, choose *Import*.
7. Import the Cloud Connector certificate obtained from your administrator.










Example

*cloudconnectorclient.cer*

8. Enter the sequence number, by example 000.
9. In the *User* field, enter the technical S/4HANA user you have created in the S/4HANA system.

For example: CPQINTEG

10. Activate the user by checking the *Activated* field.

External ID type  DN of Certificate (X.500)

External ID

Seq. No.

User

Min. date

☒ Activated

Issuer

Administrative Data		Administration Data USREXTIDH	
<input type="checkbox"/> Hash value for ext. ID		Created By	
Length Ext. ID <input type="text" value="0"/>		Changed	
Created By <input type="text"/>	30.12.2014 08:51:03		00:00:00
Changed <input type="text"/>	30.12.2014 08:54:57		00:00:00

11. Click *Save*.

### 3.1.3 Release Inbound Interfaces

#### 3.1.3.1 Activate Inbound SOAP for IDoc

1. Access the following transaction:

Transaction Code

2. In the Service Path field enter /sap/bc/srt/IDoc.

**Maintain Services**

Filter for Calling ICF Hierarchy

Hierarchy Type	SERVICE
Virtual Host	
Service Path	/sap/bc/srt/IDoc
Service Name	
Reference Service	
Description	
Language	English

3. Choose **Execute**.
4. Check if the Service is Active; If not then right click the IDoc service and select **Activate Service**.

**Maintain service**

Create Host/Service External Aliases System Monitor Active

Filter Details

Virtual Host		Service Path	/sap/bc/srt/IDoc
ServiceName			
Description			
Lang.	English	Ref.Service:	

Apply Reset Fine-Tune

Virtuelle Hosts / Services	Documentation	Referenz Service
default_host	VIRTUAL DEFAULT HOST	
sap	SAP NAMESPACE; SAP IS OBLIGED NOT T...	
bc	BASIS TREE (BASIS FUNCTIONS)	
srt	SOAP Runtime	
• IDoc	Inbound SOAP for IDoc	

5. If it has been activated, it will be like below:

<p>New Sub-Element</p> <p>Display Service</p> <p>Delete Service</p> <p>Rename Service</p> <p><b>Activate Service</b></p> <p>Deactivate Service</p> <p>Test Service</p>
--

6. Otherwise you need to **Activate Service**.

### 3.1.3.2 Register Service for IDoc Inbound

1. Access the following transaction:

Transaction Code	SRTIDOC
------------------	---------

2. Select the **Register Service** radio button.
3. In the **Service Attributes** section, enter the following parameters:



Parameter	Value
URI SOAP Application	urn:sap-com:soap:runtime:application:idoc
Name of Web Service Definition	GENERIC
Call Address (ICF Path)	/sap/bc/srt/idoc

4. Choose **Execute**.

**Register Service for SOAP Runtime (No Operation/Configuration)**



☒ Register Service  
☐ Cancel Registration

Service Attributes

URI SOAP Application	urn:sap-com:soap:runtime:application:idoc
Name of Web Service Definition	GENERIC
Call Address (ICF Path)	/sap/bc/srt/idoc
Number of Virtual Host	

5. Create a new Request for this action and input the short description with meaningful value.

**LD - Prompt for Customizing request**

Transport Release/Co... 0050569F56AE1EE4A3E6EB235D013E97

Request: Short Description

**LD - Create Request**

Request: Customizing request

Short Description: TR: for the SRTIDOC register

Project: [Yellow box]

Owner: [Yellow box]

Status: New

Last changed: 29.12.2016 10:16:27

Source client: 099

Target:

Task:

User: [Yellow box]

6. Click **Ok**.

**LD - Prompt for Customizing request**

Transport Release/Co... 0050569F56AE1EE4A3E6EB235D013E97

Request: RD7K914569 Customizing request

Short Description: TR: for the SRTIDOC register

   Own Requests 

### 3.1.4 Create Business System for SAP S/4HANA

#### Purpose

This chapter describes the procedure to create a Business system that represents the SAP S/4HANA system.

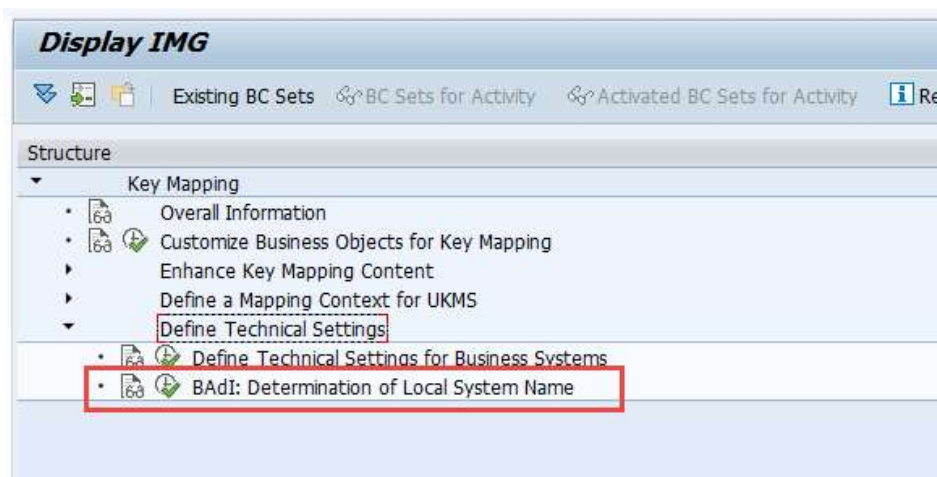
We can perform this task in following way.

## Procedure

1. Access the following transaction:

Transaction Code	IDMIMG
------------------	--------

2. Navigate to [BAId, Determination of Local System Name](#) from [Define Technical Settings](#).
3. Execute the [BAId, Determination of Local System Name](#) to create a Local Business System.



### Note

Check IMG Activity Documentation for more detail how to perform this task.

## 3.1.5 Define Logical System

### Purpose

This describes the procedure to create a logical system that represents the SAP CPQ system in SAP S/4HANA system. Logical systems are defined as cross-client systems.

### Procedure

1. Access the following transaction:

Transaction Code	BD54
------------------	------

2. Choose [New Entries](#).
3. Create a logical system that identifies the on-demand system, as given in the table below:  
following:

Field	Entry
Logical System*	<logical system name of SAP CPQ tenant> Ex: CPQINTS4H

Name	<Description> for example: SAP CPQ integration with S/4HANA.
------	--

Logical Systems	
Log.System	Name
CPQINTS4H	SAP CPQ integration with S4 HANA

4. Choose **Save**
5. Choose **Ok** to confirm the pop-up for saving the details in the transport request.

### 3.1.6 Business Partner Replication from SAP S/4HANA to SAP CPQ

#### 3.1.6.1 Configure Data Replication Framework

##### Procedure

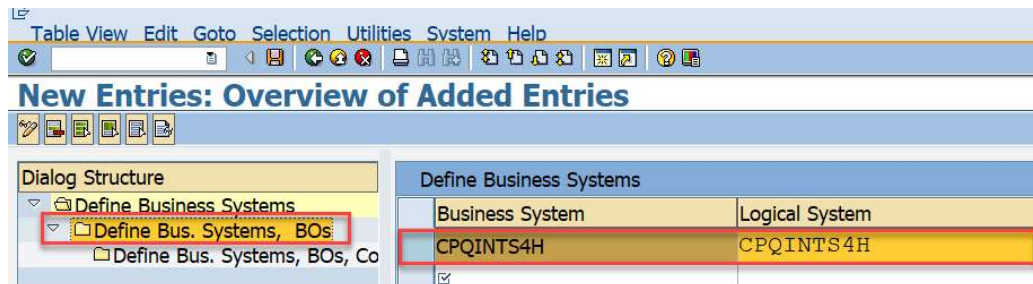
1. Open transaction DRFIMG.
2. Navigate to *Define Custom Settings for Data Replication* → *Define Technical Settings* → *Define Technical Systems for Business Systems*.

Display IMG	
Existing BC Sets   BC Sets for Activity   Activated BC	
Structure	
▼	Data Replication
•	Overall Information
▼	Define Custom Settings for Data Replication
▼	Define Technical Settings
•	Define Technical Settings for Business Systems
•	BA01: Determination of Local System Name
•	Define Replication Models
•	Define Business Object Settings
▶	Enhance Default Settings for Outbound Implementations
▶	Business Add-Ins (BAIs)

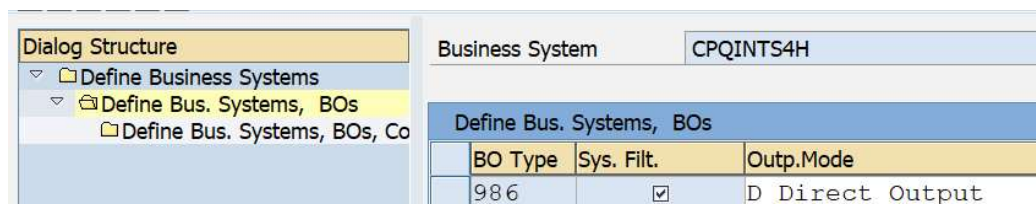
3. Choose **New Entries** to add *Business System* for SAP CPQ. Add *Business System* name as logical system and *Logical System* name using input help. Choose **Save**,

Define Business Systems	
Business System	Logical System
CPQINTS4H	CPQINTS4H

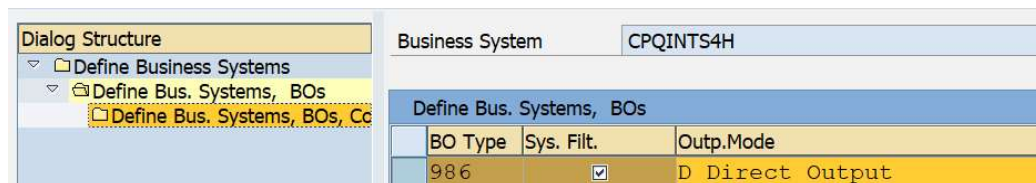
4. Select the *Business System* and double click on *Define Bus. Systems, BOs* in the Dialog structure.



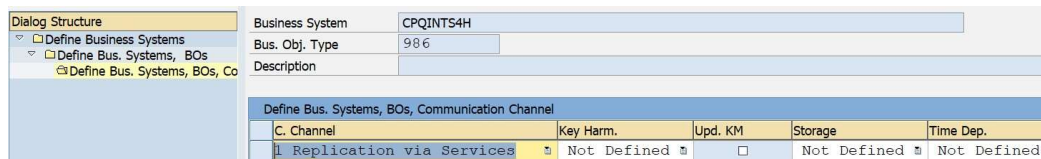
5. Choose *New Entries* and add BO Type 986 (Business Partner including relationships) using input help and check field *Sys. Filt.* In case this entry exists, skip the step.



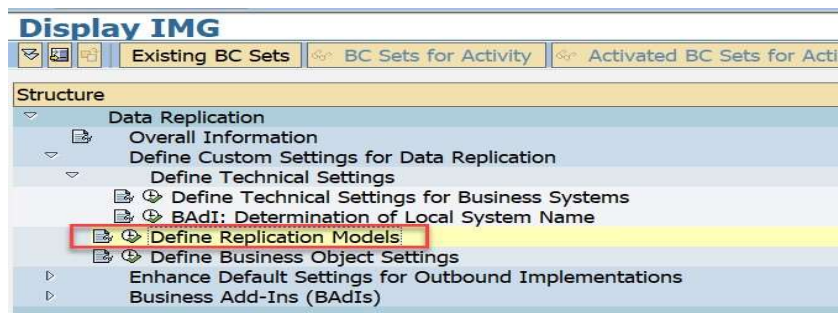
6. Select the entry BO type and double click on *Define Bus. Systems, BOs, Communication Channel* in the left dialog structure.



7. Choose *New Entries* to add the *Communication Channel* as 1 Replication via Services. In case the entry exists, skip this step.



8. Choose *Save*.
9. Navigate back.
10. Select the IMG activity *Define Replication Models*.



11. Choose **New Entries** and define **Replication Model Name** and **Description** and **Log days** as 50.

Define Replication Model				
Replication Model	Description	Log Days	Data Model	Active
CPQ_S4_INT	CPQ Integration with S4 HANA	50		<input type="checkbox"/>

12. Choose **Enter**.

13. Select the entry created and double click on **Assign Outbound Implementation**.

Dialog Structure

- Define Replication Model
  - Assign Outbound Implementation
    - Assign Target Systems for Repl. f
    - Assign Outbound Parameter
    - Assign Download Variants
    - Assign Language

Define Replication Model

Replication Model	Description
CPQ_S4_INT	CPQ Integration with S4 HANA

14. Choose **New Entries**.

15. Select **Outbound Implementation** as Outbound Impl. for BP/REL via Services (986\_3) using the input help and choose Enter.

16. Enter Sequence as 1.

SAP

Table View Edit Goto Selection Utilities System Help

New Entries: Overview of Added Entries

Dialog Structure

Replication Model CPQ\_S4\_INT CPQ Integration with S4 HANA

Outbound Implementation	Description	Sequence	Communication Channel	Filter Time
986_3	Outbound Impl. for BP/REL via Services	1	Replication via Services	2 Filter After Cha

17. Select the row added and double click on **Assign Target Systems for Repl. Model/Outb.Impl** in dialog structure.

Dialog Structure

- Define Replication Model
  - Assign Outbound Implementation
    - Assign Target Systems for Repl. Model /Outb.Impl
    - Assign Outbound Parameter
    - Assign Download Variants
    - Assign Language

Replication Model

Assign: Outbound

Outbound Impl

986\_3

☒

☒

☒

18. Choose **New Entries** and add the Business system created above using the input help.

19. Select the Business system row and double click on the node **Assign Outbound Parameter** in the dialog structure.

SAP

Table View Edit Goto Selection Utilities System Help

New Entries: Overview of Added Entries

Dialog Structure

Replication Model CPQ\_S4\_INT

Outbound Implementation 986\_3

Assign Target Systems for Repl. Model /Outb.Impl

Business System
CPQINTS4H

20. Choose **New Entries** to add the Outbound parameter PACK\_SIZE\_BULK using the input help, check field **Mandatory** and enter outbound parameter value as 20.



**New Entries: Overview of Added Entries**

Dialog Structure	Rep. Model	CPQ_S4_INT	CPQ Integration with S4 HANA
<ul style="list-style-type: none"> <li>Define Replication Model</li> <li>Assign Outbound Implementation</li> <li>Assign Target Systems for Repl. f</li> <li>Assign Outbound Parameter</li> <li>Assign Download Variants</li> <li>Assign Language</li> </ul>	Outbound Implementation	986_3	

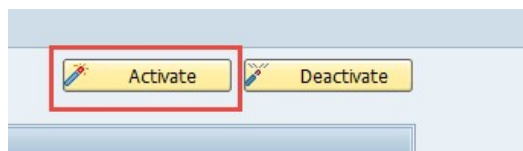
  

Outbound Parameter	Parameter Description	Mandatory	Outbound Parameter Value
PACK_SIZE_BULK	Package Size for Bulk Messages	<input checked="" type="checkbox"/>	20

### 1 Note

Outbound Parameter value for PACK\_SIZE\_BULK can be set as per most efficient package size, which will differ from system to system.

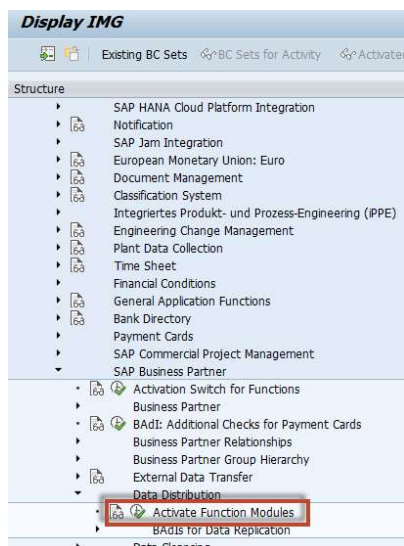
21. Choose **Save**, details will be saved in the transport request.
22. Click **Activate** to activate the replication model after selecting the folder Define Replication Model.



## 3.1.6.2 Activate Function Modules

### Procedure

1. Open transaction SPRO.
2. In IMG menu structure, navigate to **Cross-Application Components** → **SAP Business Partner** → **Data Distribution** → **Activate Function Modules**.



3. Activate the function module MDG\_BS\_BP\_OUTBOUND\_DRF by checking the field **Call** as shown below.

**Change View "Data Exchange: Activation of Function Modules": Overview**

Event	Object	Item	Function module	Call
BPOUT Busine...	BUPA Busines...	1000000	COM_BUPA_MMX_CREATE_MAIN	<input checked="" type="checkbox"/>
BPOUT Busine...	BUPA Busines...	1000000	BUPA_OUTBOUND_MAIN	<input checked="" type="checkbox"/>
BPOUT Busine...	BUPA Busines...	2000000	BUPA_CREATE_CHANGE_POINTER	<input type="checkbox"/>
BPOUT Busine...	BUPA Busines...	3000000	BUPA_OUTBOUND_ALE_MAIN	<input type="checkbox"/>
BPOUT Busine...	BUPA Busines...	5000000	MDG_BS_ECC_BP_OUTBOUND	<input checked="" type="checkbox"/>
BPOUT Busine...	BUPA Busines...	5100000	MDG_ECC_BP_OUTBOUND_CRM_DATA	<input type="checkbox"/>
BPOUT Busine...	BUPR BP Rela...	100000	UDM_OUTBOUND_ALE_REL	<input type="checkbox"/>
BPOUT Busine...	BUPR BP Rela...	1000000	COM_BUPA_MMX_CREATE_REL	<input checked="" type="checkbox"/>
BPOUT Busine...	BUPR BP Rela...	1000000	BUPA_OUTBOUND_REL	<input checked="" type="checkbox"/>
BPOUT Busine...	BUPR BP Rela...	2000000	BUPR_CREATE_CHANGE_POINTER	<input type="checkbox"/>
BPOUT Busine...	BUPR BP Rela...	3000000	BUPA_OUTBOUND_ALE_REL	<input type="checkbox"/>
BPOUT Busine...	BUPR BP Rela...	5100000	MDG_ECC_BP_REL_OUTBOUND_CRM	<input type="checkbox"/>
BPOUT Busine...	BUPX Busines...	1000000	MDS_BUPA_OUTBOUND	<input checked="" type="checkbox"/>
BPOUT Busine...	BUPX Busines...	5000001	MDG_BS_BP_OUTBOUND_DRF	<input checked="" type="checkbox"/>
CLEAR Deleti...	BUPA Busines...	1000000	COM_BUPA_MMX_CLEAR_FLAGS	<input checked="" type="checkbox"/>
CLEAR Deleti...	BUPA Busines...	1000000	BUPA_OUTBOUND_CLEAR_FLAGS	<input checked="" type="checkbox"/>

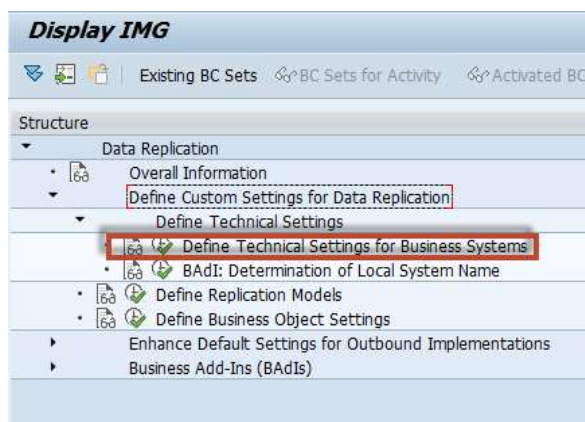
4. Choose **Save**

### 3.1.7 Material Replication from SAP S/4HANA to SAP CPQ using SOAP

#### 3.1.7.1 Configure Data Replication Framework

##### Procedure

1. Open transaction DRFIMG.
2. Navigate to *Define Custom Settings for Data Replication* → *Define Technical Settings* → *Define Technical Systems for Business Systems*.



3. Choose *New Entries* to add *Business System* for SAP CPQ. If the Business system is already created, Select *Business System* and *Logical System* name using input help. Choose **Save**,
4. Select the *Business System* and double click on *Define Bus. Systems, BOs* in the Dialog structure.

Table View Edit Goto Selection Utilities System Help

**New Entries: Overview of Added Entries**

Dialog Structure

- Define Business Systems
  - Define Bus. Systems, BOs
    - Define Bus. Systems, BOs, Co

Define Business Systems

Business System	Logical System
CPQINTS4H	CPQINTS4H

5. Choose **New Entries** and add BO Type 194 (Material) using input help and check field Sys. Filt. Select **Outp.Mode** as **Direct Output**. In case this entry exists, skip the step.

**Note**

If Output Mode is selected as Direct Output, idocs will be triggered immediately on Save. In this case, DRFOUT is not required to replicate changes to customer hierarchy. If Output Mode is selected as Pooled Output, idocs are sent using DRF change pointers and DRFOUT has to be executed or scheduled to create and send the Idoc.

Dialog Structure

- Define Business Systems
  - Define Bus. Systems, BOs
    - Define Bus. Systems, BOs, Co

Business System CPQINTS4H

Define Bus. Systems, BOs

BO Type	Sys. Filt.	Outp.Mode
194	<input checked="" type="checkbox"/>	D Direct Output

6. Select the entry BO type and double click on Define Bus. Systems, BOs, Communication Channel in the left dialog structure.

Dialog Structure

- Define Business Systems
  - Define Bus. Systems, BOs
    - Define Bus. Systems, BOs, Co

Business System CPQINTS4H

Define Bus. Systems, BOs

BO Type	Sys. Filt.	Outp.Mode
194	<input checked="" type="checkbox"/>	D Direct Output

7. Choose **New Entries** to add the **Communication Channel** as Replication via Services. In case the entry exists, skip this step.

Dialog Structure

- Define Business Systems
  - Define Bus. Systems, BOs
    - Define Bus. Systems, BOs, Co

Business System CPQINTS4H

Bus. Obj. Type 194

Description

Define Bus. Systems, BOs, Communication Channel

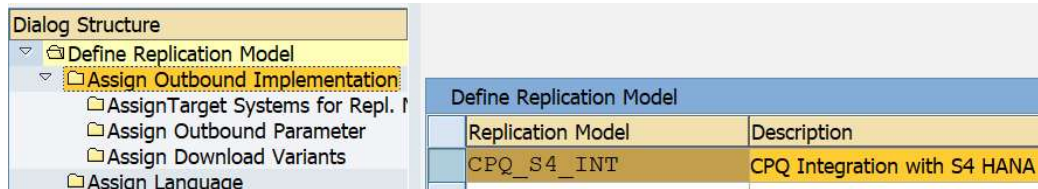
C. Channel	Key Harm.
1 Replication via Services	Not Defined

8. Choose **Save**,
9. Navigate back.
10. Select the IMG activity Define Replication Models.
11. Choose **New Entries** and define Replication Model Name and Description and Log days as 50.

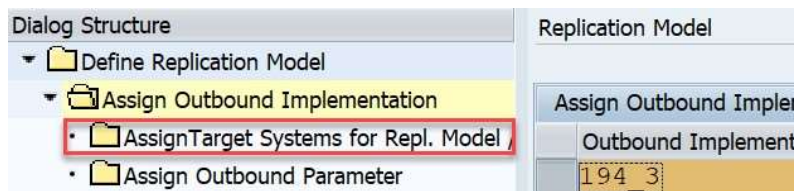
Define Replication Model				
Replication Model	Description	Log Days	Data Model	Active
CPQ_S4_INT	CPQ Integration with S4 HANA	50		<input type="checkbox"/>

12. Choose **Enter**.
13. Select the entry created and double click on **Assign Outbound Implementation**.

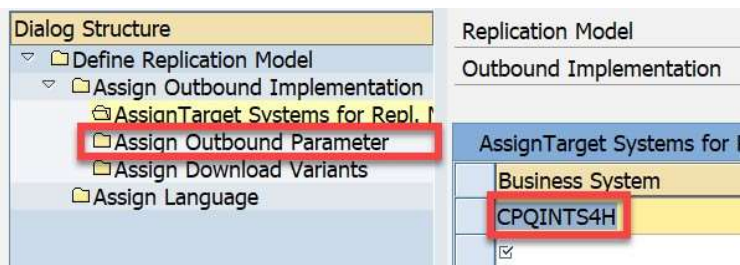




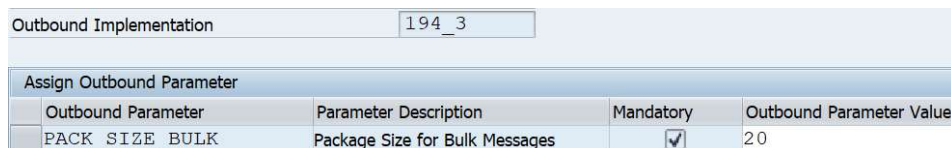
14. Choose **New Entries**.
15. Select **Outbound Implementation** as Outbound Impl. for Product via Services (194\_3) using the input help and choose Enter.
16. Select the row added and double click on **Assign Target Systems for Repl. Model/Outb.Impl** in dialog structure.



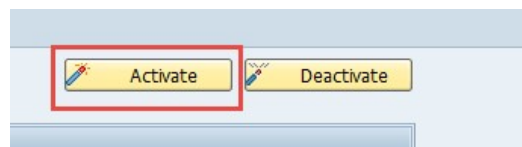
17. Choose **New Entries** and add the Business system created above using the input help.
18. Select the Business system row and double click on the node **Assign Outbound Parameter** in the dialog structure.



19. Choose **New Entries** to add the Outbound parameter PACK\_SIZE\_BULK using the input help. Enter outbound parameter value as 20 and click enter to check field **Mandatory**.



20. Choose **Save**.
21. Go back to **Define Replication Model** Screen and Select the row for Define Replication Model.
22. Click **Activate** to activate the replication model.



## 3.1.8 Configuration for Filter Values

### 3.1.8.1 Filter Code Values

#### Purpose

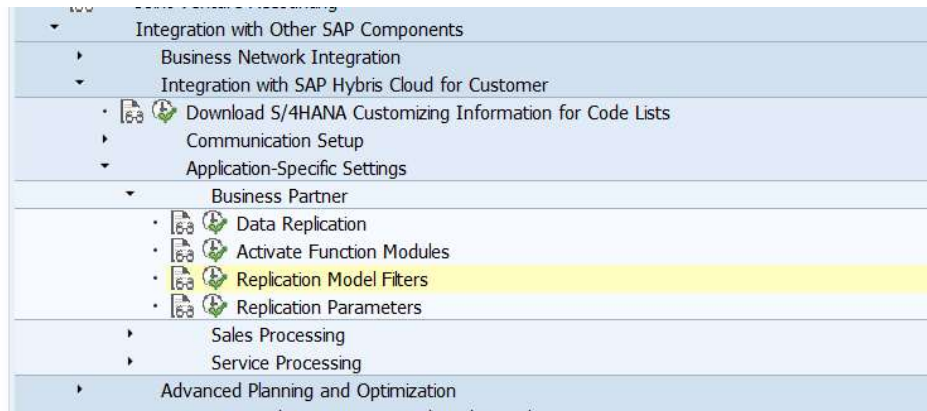
Filter objects is used to remove the S/4HANA outbound processing code values which are not supported by the receiver system. During S/4HANA inbound processing these code values are added again.

These below steps are optional and should be performed based on your requirement.

#### Procedure

1. To setup Filter Objects for Code value, navigate to below path.

<b>Transaction Code</b>	DRFF
-------------------------	------



2. Execute [Replication Model Filters](#) Activity, it will open a pop up screen.
3. Enter the Login credential for your S/4HANA system.
4. Select the relevant Replication Model and choose display. It will open a different window to [Display Filter Criteria](#).



5. Click on Edit and Choose the [Filter Criteria to Include Business Objects](#).
6. Select the BP role to be Include in your business Partner replication to SAP CPQ.  
For Example: [FLCU01](#)
7. Click on Show Segment filter and choose the Filter Object [Business Partner Role-98601](#).
8. Click on Edit and Choose the [Filter Criteria to Include Business Objects](#).
9. Select the BP role to be Include in your business Partner replication to SAP CPQ.

For Example: 'FLCU01'

**Change Filter Criteria**

Save Close Delete All Criteria

Replication Model Business Partner Replication to C4C Filter Object Business Partner Role - 98601

This filter object is not replicated, but only used to restrict segments of other objects!

Show Predefined Filters (0)

**Filter Criteria to Include Business Objects**

BP Role is FLCU01

**Filter Criteria to Exclude Business Objects**

10. Choose **Save**.

### 3.1.9 Business Configuration Set

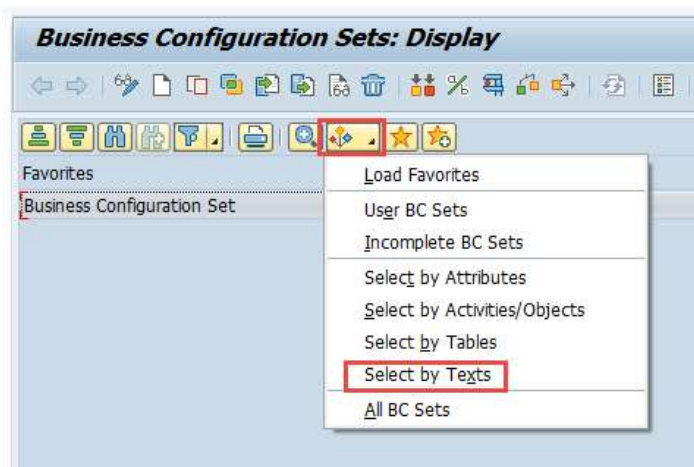
#### Purpose

Business Configuration Set C4C\_INTEGRATION\_CS and C4C\_INTEGRATION\_CC contains additional customizing setting for SAP CPQ and SAP S/4HANA integration.

BC set C4C\_INTEGRATION\_CC contains client-independent customizing entries for the ALE message types. Activate this BC set in the SAP S/4HANA client you use for cross-client customizing.

#### 3.1.9.1 Procedure to activate Client Specific BC SET

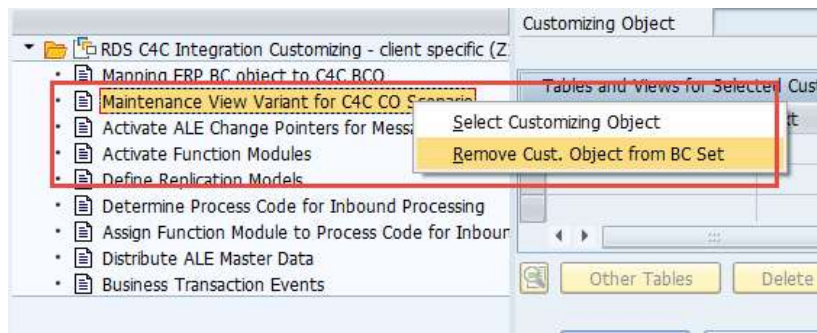
1. Open transaction SCPR3
2. Choose **New BC Set Selection** → **Select by Texts**.



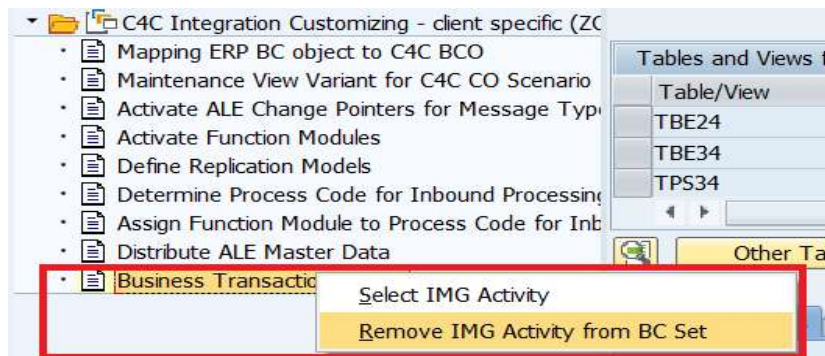
3. In the dialog box enter BC Set name C4C\_INTEGRATION\_CS and choose **Execute**.



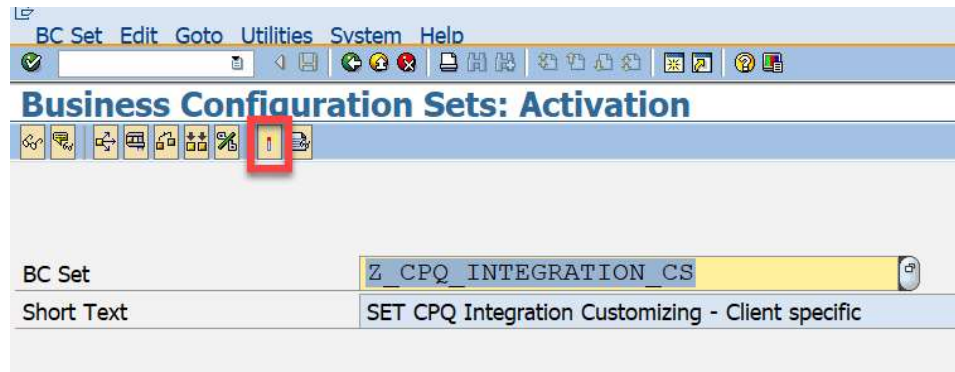
4. Double click on the BC Set ID and choose *Continue* in the *BC Set Consistency Check* pop-up window.
5. Choose *Copy BC Set*
6. In the following dialog box, enter the new *BC Set name* and *short text*. Example **z\_CPQ\_INTEGRATION\_CS** and **SET CPQ Integration Customizing - client specific**.
7. Choose *Local Object* or select a transport request if required.
8. Choose *Define Favorites*
9. Choose *Change* mode and choose *Continue* in the *BC Set Consistency Check* dialog box.
10. Right click on the node *Maintenance View Variant for C4C CO Scenario* in the structure and choose *Remove Cust. Object from BC Set*.



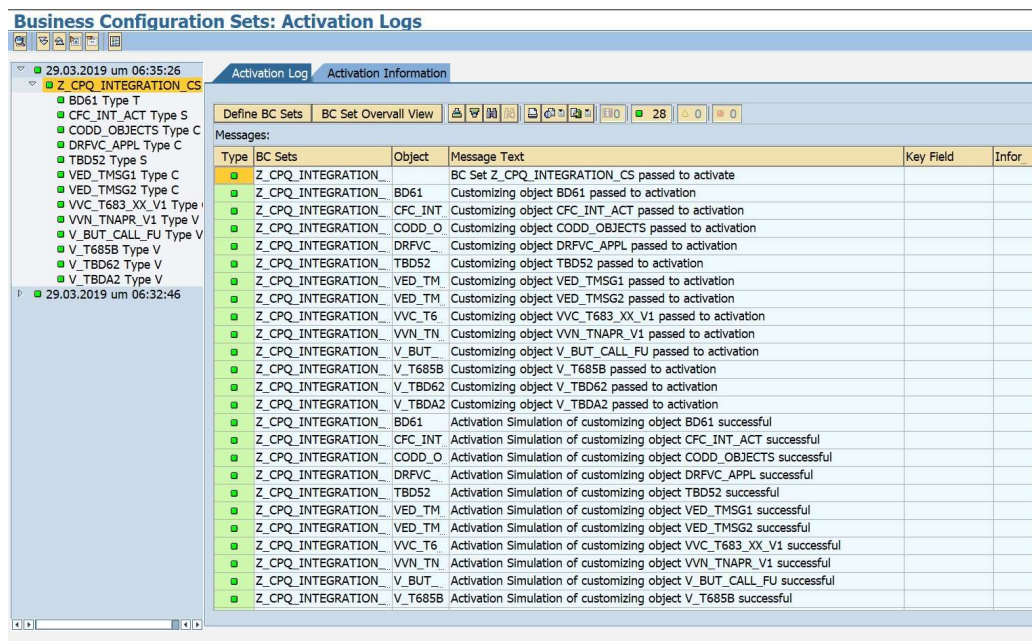
11. Right click on the node *Business Transaction Events* in the structure and choose *Remove IMG Activity from BC Set*.



12. Choose *Save*.
13. Open transaction SCPR20
14. In the field BC Set, input the BC Set Name **z\_CPQ\_INTEGRATION\_CS**.
15. Choose *Activate BC Set* (F7) on the application tool bar



16. Save it in a customizing request if there is a dialog box
17. In the next pop-up, choose *Continue Activation* with default value.



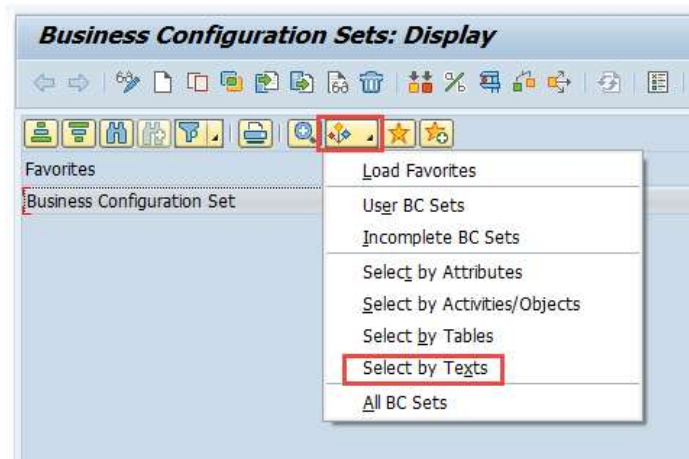
**1** Note

Ignore if there are any warning messages during the activation of the BC set.

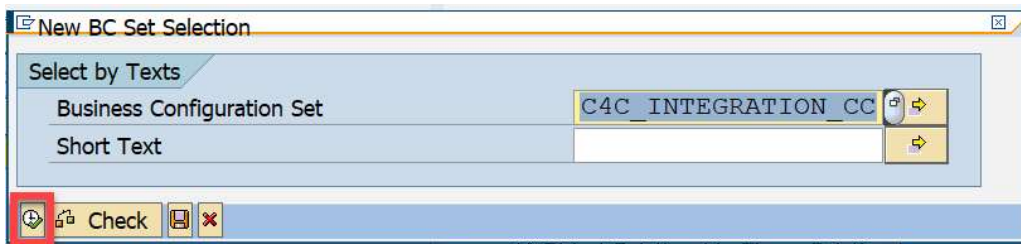
### 3.1.9.2 Procedure to Activate Cross Client BC SET

1. Open transaction SCPR3
2. Choose *New BC Set Selection* → *Select by Texts*.

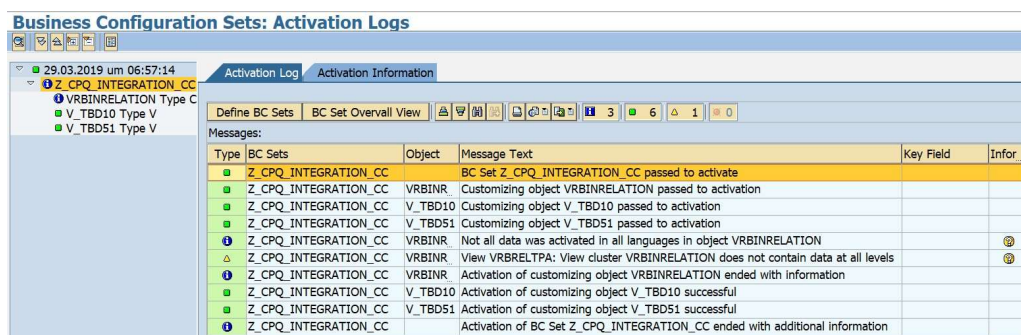
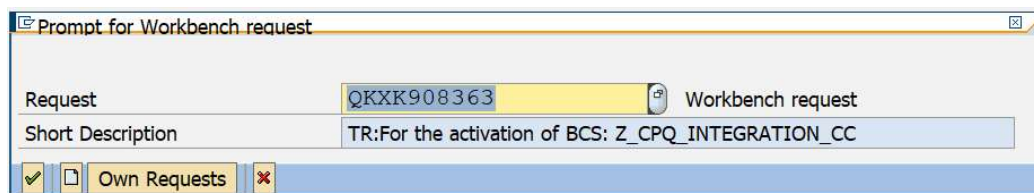




3. In the dialog box enter BC Set name C4C\_INTEGRATION\_CC and choose *Execute*.



4. Double click on the BC Set ID and choose *Continue* in the *BC Set Consistency Check* pop-up window.
5. Choose *Copy BC Set*
6. In the following dialog box, enter the new *BC Set name* and *short text*. Example **Z\_CPQ\_INTEGRATION\_CC** and **SET CPQ Integration Customizing - cross client**.
7. Choose *Local Object* or select a transport request if required.
8. Open transaction SCPR20
9. In the field *BC Set*, input the BC Set name **Z\_CPQ\_INTEGRATION\_CC**.
10. Choose *Activate BC Set (F7)* on the application tool bar, and create a new request for this.



**Note**

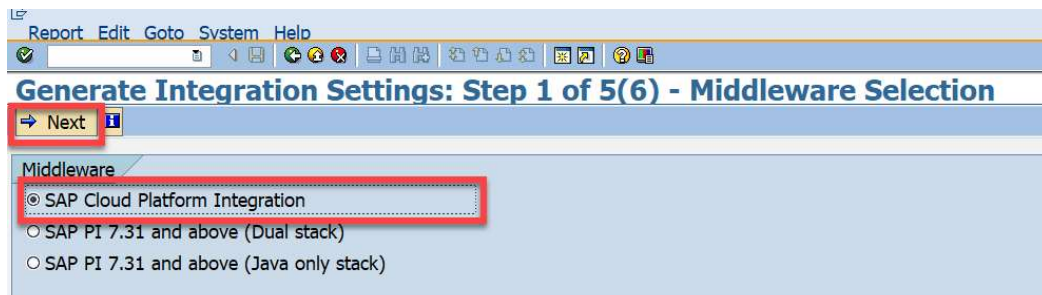
Ignore if there are any warning messages during the activation of the BC set.

### 3.1.10 Automatically Generate Integration Settings for Data Exchange

1. To Automatically Generate Connectivity settings for Data Exchange navigate using one of the following paths.

Transaction code	RCOD_CONNECTIVITY
------------------	-------------------

2. *Generate Integration Settings: Step 1:* Select *SAP SAP Cloud Integration* as the middleware and click *Next*.



3. *Generate Integration Settings: Step 2:* Select the scope of Integration exactly as scoped in the SAP CPQ Solution and choose Next.
  - Business Partners
  - Products
  - Sales Quotes
  - Pricing Conditions

Report Edit Goto System Help

**Generate Integration Settings: Step 2 of 5(6) - Scope Selection**

← Back → Next

**Scope**

**Organizational Structures**

☐ Do you want to replicate organizational structures from SAP S/4HANA to your cloud solution?

**Business Partners**

☒ Do you want to replicate accounts and contacts from SAP S/4HANA to your cloud solution?

☐ Do you want to replicate accounts and contacts from your cloud solution to SAP S/4HANA?

☐ Do you want to replicate account hierarchies from SAP S/4HANA to your cloud solution?

☐ Do you want to check and maintain end of purpose of accounts and contacts in your cloud solution?

**Employees**

☐ Do you want to replicate employees from SAP S/4HANA to your cloud solution?

**Products**

☒ Do you want to replicate products from SAP S/4HANA to your cloud solution?

☐ Do you want to replicate customer material info from SAP S/4HANA to your cloud solution?

☐ Do you want to replicate product hierarchy / material group from SAP S/4 HANA to your cloud solution?

**Sales Quotes**

☐ Do you want to replicate sales quotes from SAP S/4HANA to your cloud solution?

☐ Do you want to use SAP S/4HANA to calculate prices for sales quote items in your cloud solution?

☐ Do you want to replicate sales quotes from your cloud solution to SAP S/4HANA?

☒ Do you want to create follow-up documents for sales quotes from your cloud solution in SAP S/4HANA?

**Contracts**

☐ Do you want to replicate contracts from SAP S/4HANA to your cloud solution?

☐ Do you want to replicate contracts from your cloud solution to SAP S/4HANA?

**Pricing Conditions**

☒ Do you want to replicate pricing conditions from SAP S/4HANA to your cloud solution?

4. *Generate Integration Settings: Step 3:* Maintain the following and choose Next

Field	Entry
Logical System	Do one of the following: <ul style="list-style-type: none"> <li>Enter the logical system of the CPQ system or</li> <li>Click Create Logical System to create new logical system.</li> </ul>
Job Schedule Interval	Enter the frequency with which the inbound and outbound IDocs should be processed in the S/4HANA system.
Job User	Enter the user using which batch jobs are scheduled.



**Generate Integration Settings: Step 3 of 6 - General Settings**

Cloud for Customer System

Logical system: CPQINTS4H SAP CPQ Integration with S4 HANA Create Logical System

Note: Logical System name should be the same as the Cloud Solution Tenant ID

Batch Job Settings

Job Schedule Interval: 15 Minutes

Job User: CPQS4HINTEG

5. *Generate Integration Settings: Step 4:* Enter the connection information about the CPI system to generate the RFC destinations. Choose Next

Field	Entry
Runtime URL	Worker node URL of the SAP SAP Cloud Integration tenant (without HTTPS ://)
Proxy details (Optional)	Host name, service name, and the access details of the forward or reverse proxy?
Authentication (basic or certificate)	Either import the certificate or enter the user credentials.

**Generate Integration Settings: Step 4 of 6 - Settings for SAP CPI**

SAP Cloud Platform Integration Connection Detail

Runtime URL: ifmap.hcisb.int.sap.eu2.hana.ondemand.com

Service No.: 443

Proxy Host:

Proxy Service:

Proxy User:

Logon Procedure

☒ SSL Client Certificate

☐ Basic Authentication

SSL Client Certificate: DEFAULT SSL Client (Standard) Certificate List Import Certificate

6. In *Generate Integration Settings: Step 5 of 6-Consumer Proxy Settings* screen, enter the URL Access path for *Business Partner* and *Product Replication*. Enter the CPI system details in Connection Parameters and choose Certificate based authentication of CPI system.

### **i** Note

You can take the URL Access Path from relevant IFlow of your CPI Web UI and for that service path add /cxp and maintain against the respective service.

### Generate Integration Settings: Step 5 of 6 - Consumer Proxy Settings

[Back](#) [Next](#) [Help](#)

URL Access Path	
Business Partner	/cxf/S4/CPQ/BusinessPartnerSUITEBulkReplicateRequest_Out
Business Partner Relationship	/
Product Replication	/cxf/S4/CPQ/ProductMDMBulkReplicateRequest
Attachment Replication	/

Connection Parameters	
Logical Port	CPQ_LOGPORT
Computer Name	ifimap.hcisb.int.sap.eu2.hana.ondemand.com
URL Port	443
URL Protocol	https
Proxy Host	
Proxy Port	
Proxy User	
Proxy Password	*****

Logon Procedure

☒ SSL Client Certificate  
☐ Basic Authentication

SSL Client Certificate:  [Certificate List](#) [Import Certificate](#)

7. Choose *Next*.
8. In the *Summary* screen, select the *Generate* button to generate the configuration entities.

## Generate Integration Settings: Step 6 of 6 - Summary

← Back **Generate** ⓘ

Your S/4 HANA system information:

Logical System: QKXCLNT260 Logical system for QKX 260

Business System:

---

**Summary**

Selected middleware: SAP Cloud Platform Integration

Selected logical system: CPQINTS4H SAP CPQ integration with S4 HANA

Selected scenarios from S/4 HANA to your cloud solution:

- ☐ Organizational structures
- ☒ Accounts and contacts
- ☐ Account hierarchies
- ☐ End of purpose check
- ☐ Employees
- ☒ Products
- ☐ Customer material information
- ☐ Product hierarchy / material groups
- ☐ Sales orders
- ☐ Sales quotes
- ☐ Contracts
- ☐ Exchange rates
- ☐ Equipments and functional locations
- ☐ Measuring points and measurement documents
- ☐ Characteristics, classes and classification data
- ☒ Pricing Conditions

Selected scenarios from your cloud solution to S/4 HANA:

- ☐ Accounts and contacts
- ☐ Follow-up documents for opportunities
- ☐ Calculate prices for opportunity items
- ☒ Follow-up documents for sales quotes

9. In the confirm pop- up screen choose **Yes**



10. In the log you can check which entities were created

**Display logs**

Technical Information

Date/Time/User	Number	External ID	Object text	Subobject Text	Transaction	Program	Mode	Log number
29.03.2019 08:10:26	29	20.190.329.071....	COD_CREA_CON...		RCOD_CON...	RCOD_CREA...	Dialog proce...	0000000000007907687
Problem class Additional Information 29								

Type	Message Text	Date/Time
Report	Report was executed for logical system CPQINTS4H	29.03.2019 08:10:26
Destination	Destination CPQINTS4H_OPP_CONF of type G has been created	29.03.2019 08:10:26
Port	Port CPQINTS_08 of type 7 has been created	29.03.2019 08:10:26
Destination	Destination CPQINTS4H_PRC of type G has been created	29.03.2019 08:10:26
Port	Port CPQINTS_17 of type 7 has been created	29.03.2019 08:10:26
Partner profile	Partner profile for CPQINTS4H created	29.03.2019 08:10:26
Outbound message	Outbound message COD_OPPT_CONF has been inserted into partner profile for CPQINTS4H	29.03.2019 08:10:26
Outbound message	Outbound message COND_A has been inserted into partner profile for CPQINTS4H	29.03.2019 08:10:26
Inbound message	Inbound message SALESORDER_CREATEFROMDAT2 has been inserted into partner profile for CPQINTS4H	29.03.2019 08:10:26
Distribution model view	Distribution model view CPQINTS4H has been created	29.03.2019 08:10:27
Message	Message COD_OPPT_CONF has been inserted into distribution model view CPQINTS4H	29.03.2019 08:10:27
Message	Message COND_A has been inserted into distribution model view CPQINTS4H	29.03.2019 08:10:27
Variant	Variant CPQINTS4H_08 for report RSARFCCP has been created	29.03.2019 08:10:27
Variant	Variant CPQINTS4H_17 for report RSARFCCP has been created	29.03.2019 08:10:27
Variant	Variant CPQINTS4H_17 for report RBDMIDOC has been created	29.03.2019 08:10:27
Variant	Variant CPQINTS4H_17 for report RSEOUT00 has been created	29.03.2019 08:10:27
Job	Job C4C_CPQINTS4H_OUTBOUND has been created	29.03.2019 08:10:27
Variant	Variant CPQINTS4H_04 for report RBDMANI2 has been created	29.03.2019 08:10:27
Job	Job C4C_CPQINTS4H_INBOUND has been created	29.03.2019 08:10:27
Config.	Config. for inbound srv. ATTACHMENTFOLDERREPLICATIONRE1 already exists	29.03.2019 08:10:28
Config.	Config. for inbound srv. BUSINESSPARTNERRELATIONSHIPSU1 already exists	29.03.2019 08:10:28
Config.	Config. for inbound srv. BUSINESSPARTNERSUITEBULKREPL11 already exists	29.03.2019 08:10:28
Config.	Config. for inbound srv. COD_ERP_GET_DOC_FLOW already exists	29.03.2019 08:10:28
Config.	Config. for inbound srv. PRODUCTMDMBULKREPLICATEREQUEST already exists	29.03.2019 08:10:28
Config.	Config. for inbound srv. SALESDOCUMENTPRINTPREVIEWQUERY already exists	29.03.2019 08:10:28
Config.	Config. was created for outbound srv. CO_MDG_BP_RPLCTRQ	29.03.2019 08:10:30

### 3.1.11 Pricing Condition Filter

#### Purpose

This describes the procedure to create an IDoc filter in SAP S/4HANA system. To allow only PPR0 Pricing Condition data to flow to SAP CPQ system.

#### Procedure

1. Access the following transaction:

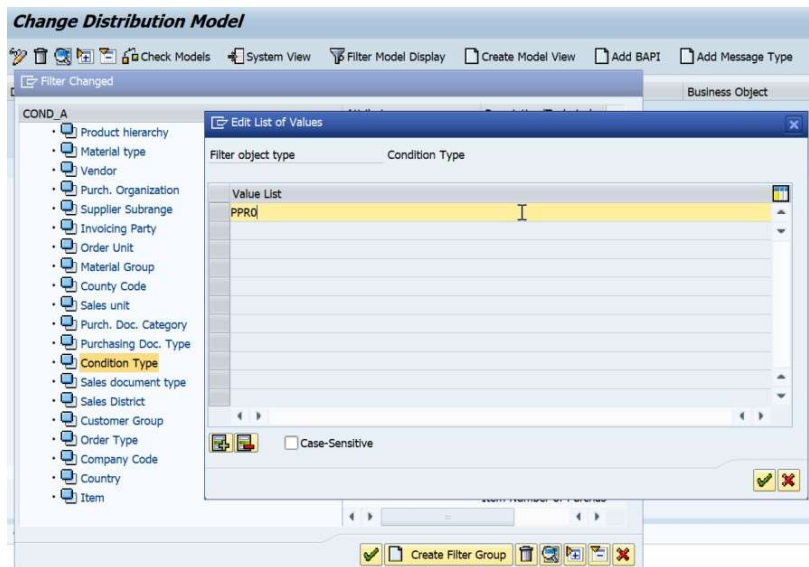
Transaction Code

BD64

2. The Distribution Model for CPQ will be created by connectivity report, Search and Expand the Distribution Model 'SAP CPQ Integration with S/4HANA'.

Cloud for Customer Integration	CPQINTS4H
Logical system for QKX 260	
SAP CPQ integration with S4 HANA	
COD_OPPT_CONF	Confirmation of Follow-On Document Creation
COND_A	Conditions: master data for price determination

3. Expand the COND\_A message type and double click on No filter set.
4. In a Change Filter popup, click on Create Filter Group button.
5. Expand the Filter Group and select the field Condition Type,
6. Click on Add button to add a value to filter field PPR0.



7. Click Ok button in popup windows and Save the Distribution Model.

## 3.2 Configuration in SAP SAP Cloud Integration



SAP provides prepackaged, generic integration content called integration flows (iFlows) for the integration of SAP CPQ with SAP S/4HANA using SAP SAP Cloud Integration(CPI).

### Prerequisites

To be able to import and deploy iFlows, you need the AuthGroup.IntegrationDeveloper role assigned in your tenant.

Upload SAP CPQ SSL Certificates in SAP SAP Cloud Integration.

### 3.2.1 How to get the SAP CPI client certificate

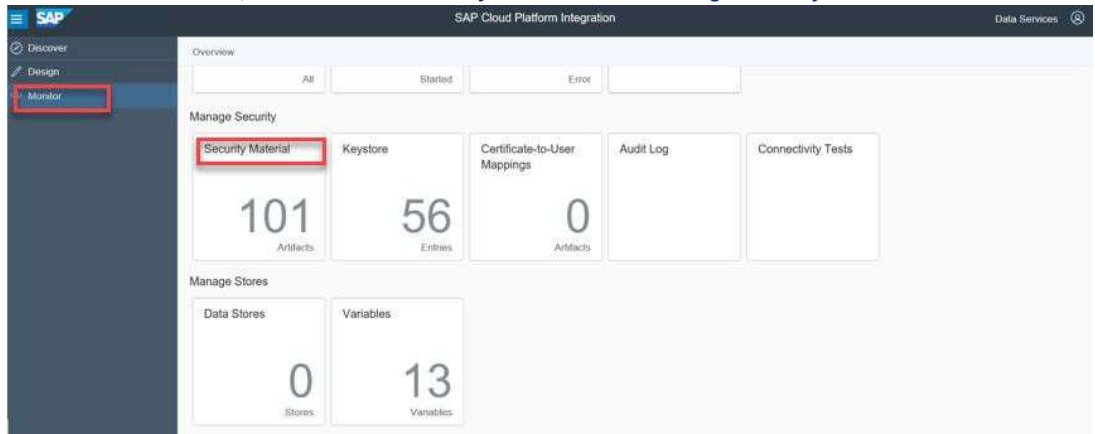
In the SAP CPI provisioning e-mail follow the link under Certificate Information. In the resulting screen choose X509 Certificate with option Binary CER. Download it to your local machine.

### 3.2.2 View prepackaged iFlows using SAP CPI Web UI

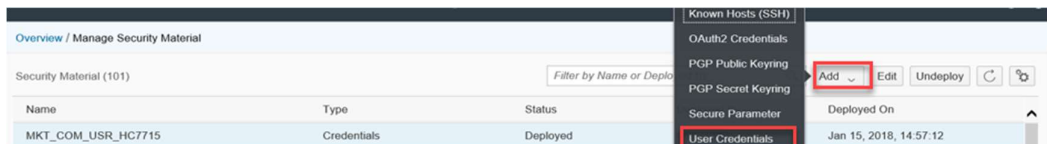
1. Access the web UI URL from the provisioning e-mail. It should be in the format: <https://<hccitenant>.hana.ondemand.com/itspaces>.
2. View all pre-packaged integration flows delivered by SAP in the *Discover* tab.
3. Click on the package SAP CPQ Integration with SAP S/4HANA
4. You can see all the artifacts for this Integration Package.

### 3.2.3 Creating User Credentials in CPI System

1. Connect to the tenant management node of the SAP CPI system with the URL <http://<tenant management node URL>/itspaces>
2. Go to the [Monitor](#) tab, then Click on [Security Material](#) under [Manage Security](#).



3. Click [Add](#) and select [User Credentials](#).



4. Enter the User detail for SAP CPQ.

Field	Value
<i>Name</i>	COM_USER_CPQ
<i>User</i>	COM_USER_CPQ#{DOMAIN of CPQ System}
<i>Password</i>	Enter the password maintained for Communication User in SAP CPQ

Add User Credentials

\*Name:

Description:

\*Type:

\*User:

Password:

Repeat Password:

[Deploy](#)   [Cancel](#)

5. Click [Deploy](#).
6. Click [Add](#) and select [User Credentials](#).

7. Enter details for user of SAP S/4HANA.

Field	Value
<i>Name</i>	CPQS4HINTEG
<i>User</i>	CPQS4HINTEG
<i>Password</i>	Enter the password of User CPQS4HINTEG

Add User Credentials

\*Name: CPQS4HINTEG

Description: CPQS4HINTEG

\*Type: User Credentials

\*User: CPQS4HINTEG

Password: .....

Repeat Password: .....|

Deploy Cancel

8. Click [Deploy](#).

**i** Note

In case you have SAP CPS Integrated with SAP S/4HANA, then

1. Click [Add](#) and select [OAuth2 Credentials](#)
2. Enter details for OAuth2 Credentials of SAP CPS.

Field	Value
<i>Name</i>	CPSSERVICE
<i>Grant Type</i>	Client Credentials
<i>Description</i>	CPSSERVICE
<i>Authentication URL</i>	Maintain CPS authentication URL e.g. <a href="https://cpsservices.authentication.eu10.hana.ondemand.com/oauth/token">https://cpsservices.authentication.eu10.hana.ondemand.com/oauth/token</a>
<i>Client ID</i>	Client ID of CPS system e.g. <a href="#">sb-cpsservices-cpscalliduscloud!t0001</a>
<i>Client Secret</i>	Enter the password of the client
<i>Client Authentication</i>	Send as Body Parameter
<i>Include Scope</i>	Should be ticked
<i>Scope</i>	Maintain the scope e.g. <a href="#">uaa.resource</a>
<i>Content Type</i>	Application/x-www-form-urlencoded

3. Click [Deploy](#).



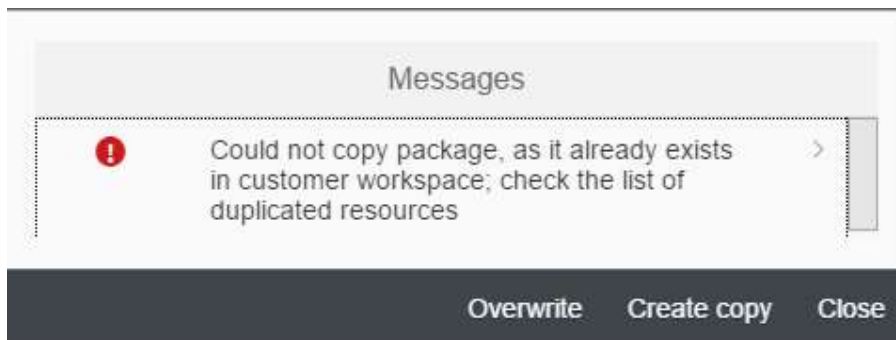
### 3.2.4 Configure and Deploy the iFlows Using Web UI



If you have re-deployed key store (system.jks) in your SAP CPI tenant, you need to re-deploy all the iFlows to avoid the caching issues or re-start them to avoid caching related issues.

#### Procedure

1. Connect to the tenant management node of the SAP CPI system with the URL `http://<tenant management node URL>/itspaces`
2. Under the *Discover* tab, Click on the package *SAP CPQ Integration with SAP S/4HANA*.
3. Choose *Copy* on the top-right corner of the package overview page.
4. If the Integration package were being created for the first time, then you would see the message 'Integration Package Created'. If not, you will see the below dialog box asking to either create a new copy of the package or to overwrite the existing integration package content. Choose *Overwrite*.



5. Select the *Design* mode to configure the iFlows.



6. Select the Integration Package copied

7. All the iFlows will be shown/ listed under the **ARTIFACTS** tab of the package

Name	Type	Version	Actions
Create Sales Quote Follow Up Document in SAP Business Suite Unmodified	Integration Flow	1.0.1	[Edit]
Replicate Business Partner from SAP Business Suite Business Partner Replication from SAP Business Suite Modified	Integration Flow	Draft	[Edit]
Replicate Material from SAP Business Suite Material Replication from SAP Business Suite Unmodified	Integration Flow	1.0.0	[Edit]
Replicate Price Condition from SAP Business Suite Price Condition Replication from SAP Business Suite Unmodified	Integration Flow	1.0.0	[Edit]
Replicate Sales Order Confirmation from SAP Business Suite Creation of Sales Quote Follow Up Document in SAP Business Suite Unmodified	Integration Flow	1.0.1	[Edit]
Value mapping for SAP CPQ Integration with SAP S/4HANA Value mapping for SAP CPQ Integration with SAP S/4HANA Unmodified	Value Mapping	0.0.0	[Edit]

8. Choose the iFlows mentioned in the table below (one after the other) by choosing **Actions** ➔ **Configure** option.
9. Configure the **sender system** (in this example S/4HANA) and **receiver system** (in this example CPQ) details as explained below:
- Choose **Sender** Tab: Choose **Authentication Method** as **Client Certificate**
  - Browse** for the certificate. See chapter: Certificate Management in SAP S/4HANA for the client Certificate.
  - Choose **Receiver** Tab: Enter the **Address** as CPQ API URL. Check section [How to find CPQ API URL](#) in appendix.
  - Choose the **Authentication** as **Basic**
  - Enter the Communication User Credential in **Credential Name**.
  - Choose **Save** and Choose **Deploy**
  - Repeat the same procedure for all the iFlows that have the same sender system as S/4HANA and Receiver System as CPQ.
10. Choose iFlow to configure the **sender system** (in this example CPQ) and **receiver system** (in this example S/4HANA) details.
- Choose **Sender** Tab: Choose **Authorization** as **User Role**.
  - Add **Address** as **/CPQ/S4/Quote2Order**.
  - Choose **Receiver** Tab: Select Receiver as **S/4HANA**.
  - Enter the **host** name as Cloud Connector URL, check section [How to setup Cloud Connector](#) or Contact your system administrator for these details.
  - Enter **Client** as the SAP S/4HANA system client. **Proxy Type** as On-Premise.
  - Choose the **Authentication** as **Basic**
  - Enter the S/4HANA User Credential in **Credential Name**.
  - Choose **More** Tab: Enter <SID>CLNT<Client> in **Recipient Partner Number**. For Example: QKXCLNT260.
  - Enter SAP<SID> in **Recipient Port**. For Example: SAPQKX.
  - Enter Logical System you have created in S/4HANA in **Sender Partner Number** and **Sender Port**. For Example: CPQINTS4H.
  - Choose **Save** and Choose **Deploy**

iFlows to be configured	
Name of the iFlow	Description of the iFlow
Create Sales Quote Follow Up Document in SAP Business Suite	Creation of Sales Quote Follow Up Document in SAP Business Suite
Replicate Business Partner from SAP Business Suite	Business Partner Replication from SAP Business Suite
Replicate Material from SAP Business Suite	Material Replication from SAP Business Suite
Replicate Price Condition from SAP Business Suite	Price Condition Replication from SAP Business Suite
Replicate Sales Order Confirmation from SAP Business Suite	Creation of Sales Quote Follow Up Document in SAP Business Suite

### Note

In case you have SAP CPS Integrated with SAP S/4HANA, And Product replication done from SAP S/4HANA to SAP CPS. You can configure the iFlow "Create Sales Quote Follow Up Document in SAP Business Suite" for receiver CPS as well to check configurable product characteristics in SAP CPS follow the below steps.

- Choose Receiver Tab: Select Receiver as [CPS](#).
- Enter the [host](#) name as SAP CPS URL or Contact your system administrator for these details.
- Enter [Proxy Type](#) as Internet and Select [Method](#) as GET.
- Choose the [Authentication](#) as [OAuth2 Client Credentials](#)
- Enter the CPS OAuth2 Credential in [Credential Name](#).

## 3.2.5 Value Mapping for CPQ integration with SAP S/4HANA

- Connect to the tenant management node of the CPI system with the url: `http://<tenant management node>/itspaces`
- Go to Design view.
- Select the Integration Package in your workspace.
- All the iFlows will be shown/ listed under the [Artifacts](#) section of the page.
- Select the iFlows with name [Value Mapping for SAP CPQ integration with SAP S4HANA](#) and choose [Actions](#) button on the right and select [Configure](#).

All the Mapping Values will be shown/ listed.

Design / SAP CPQ Integration with SAP S/4HANA / Configure Value mapping for SAP CPQ Integration with SAP S/4HANA /



Configure Value mapping for SAP CPQ Integration with SAP S/4HANA

Bi-Directional Mapping

Search

Agency	Identifier		Agency	Identifier
CPQ	AdditionalDiscountAmount	↔	S4	COND_TYPE
CPQ	AdditionalDiscountPercent	↔	S4	COND_TYPE
CPQ	PriceComponentDescription	↔	S4	COND_TYPE
S4	MATKL	↔	CPQ	ProductType
S4	LAND1	↔	CPQ	CountryAbbrev
S4	KSCHL	↔	CPQ	PriceDescription
S4	ProductTypeCode	↔	CPQ	ProductType
S4	ProductHierarchyInternalID	↔	CPQ	ProductCategoryUSEnglish
S4	RoleCode	↔	CPQ	RoleCode
S4	RegionCode	↔	CPQ	StateAbbrev

6. Map all the Value mapping fields as per below sections.

7. Choose **Save** and then **Deploy**.

### 3.2.5.1 Product Type

1. Mention the Material Group in SAP S/4HANA system in left side.
2. Enter the respective Product Type in CPQ system in right side. Maintain the Product Type created in 3.3.3.1 Maintain Product Type section.

Value Mappings		Default Values	
Value Mappings for		Search	Add
S4, MATKL	↔	CPQ, ProductType	
001	↔	Metal Processing	
002	↔	Electronics	

Usage:  
ValueMap (Source agency, Source identifier, Source value, Target agency, Target identifier) = Target value;  
Example:  
ValueMap (S4, MATKL, 001, CPQ, ProductType) = ;  
ValueMap (CPQ, ProductType, , S4, MATKL) = 001;

### 3.2.5.2 Product Category

1. Mention the Product Hierarchy in SAP S/4HANA system in left side.
2. Enter the respective Product Category in CPQ system in right side. Maintain the Product Category created in 3.3.3.2 Maintain Product Category section

Value Mappings		Default Values	
Value Mappings for		Search	Add
S4, ProductHierarchyInternalID	↔	CPQ, ProductCategoryUSEnglish	
00100	↔	Machines	
00105	↔	Vehicles	

Usage:  
ValueMap (Source agency, Source identifier, Source value, Target agency, Target identifier) = Target value;  
Example:  
ValueMap (S4, ProductHierarchyInternalID, 00100, CPQ, ProductCategoryUSEnglish) = Machines;  
ValueMap (CPQ, ProductCategoryUSEnglish, Machines, S4, ProductHierarchyInternalID) = 00100;

### 3.2.5.3 Role Code

1. Mention the Business partner role code in SAP S/4HANA system in left side.
2. Enter the respective Business partner role code in CPQ system in right side. Maintain the Business partner roles available in CPQ system Customer Role Default under Customer/ Customer Role.

Value Mappings Default Values

Value Mappings for

S4, RoleCode CPQ, RoleCode

S4, RoleCode	CPQ, RoleCode
FLCU01	BLLTO
CRM004	SHIPTO
VLCO01	ENDCUS

Usage:  
ValueMap (Source agency, Source identifier, Source value, Target agency, Target identifier) = Target value;  
Example:  
ValueMap (S4, RoleCode, FLCU01, CPQ, RoleCode) = BLLTO;  
ValueMap (CPQ, RoleCode, BLLTO, S4, RoleCode) = FLCU01;

### 3.2.5.4 Country

1. Mention the Country Code in SAP S/4HANA system on left side. You can check Country Code in S/4HANA in T005 Table.
2. Enter the respective Country Code in CPQ system in right side. Maintain the Countries Abrev3 available in CPQ system under General as Countries.

Value Mappings Default Values

Value Mappings for

S4, LAND1 CPQ, CountryAbrev

S4, LAND1	CPQ, CountryAbrev
Enter value	Enter value
DE	DEU
US	USA

Usage:  
ValueMap (Source agency, Source identifier, Source value, Target agency, Target identifier) = Target value;

### 3.2.5.5 Region

1. Mention the Region Code in SAP S/4HANA system on left side. You can check Region Code in S/4HANA in T005S Table.
2. Enter the respective Region Code in CPQ system in right side. Maintain the States Abrev2 available in CPQ system under General as States.

Value Mappings Default Values

Value Mappings for

S4, RegionCode CPQ, StateAbrev

S4, RegionCode	CPQ, StateAbrev
DE-BY	BY
US-FL	FL

Usage:  
ValueMap (Source agency, Source identifier, Source value, Target agency, Target identifier) = Target value;  
Example:  
ValueMap (S4, RegionCode, DE-BY, CPQ, StateAbrev) = BY;  
ValueMap (CPQ, StateAbrev, BY, S4, RegionCode) = DE-BY;

### 3.2.5.6 Pricing Condition

1. Mention the Pricing Condition Code in SAP S/4HANA system on left side.
2. Enter the respective Pricing Description to be used in CPQ system in right side.

Value Mappings Default Values

Value Mappings for

S4, KSCHL CPQ, PriceDescription

S4, KSCHL	CPQ, PriceDescription
PR00	Price Description


Usage:  
ValueMap (Source agency, Source identifier, Source value, Target agency, Target identifier) = Target value;  
Example:  
ValueMap (S4, KSCHL, PR00, CPQ, PriceDescription) = Price Description;  
ValueMap (CPQ, PriceDescription, Price Description, S4, KSCHL) = PR00;

## 3.3 Configuration in SAP CPQ

### 3.3.1 Define Provider settings

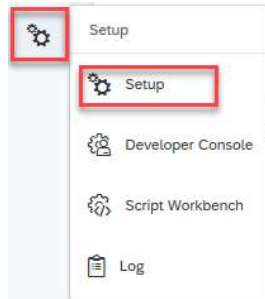
#### Procedure

1. Login to your SAP CPQ system using an Administrator User.

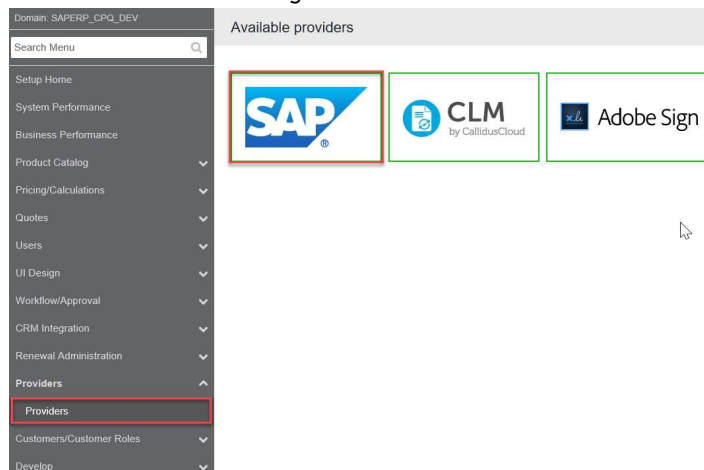


The screenshot shows the SAP CPQ login interface. At the top, the text "SAP CPQ" is displayed in blue. Below it, there are three input fields: "Username", "Password", and "Domain". The "Domain" field contains the text "SAPS4H\_CPQ\_DEV" and has a small "X" icon to its right. At the bottom of the form is a blue "Login" button.

2. Click on **SETUP** in menu bar and choose **Setup**.



3. Select **Providers** in left navigation bar and then select **SAP**.



4. Select **Integration Suite** in Available SAP Providers.
5. In Common Settings tab, Switch on **Enable Integration**.
6. Select **BasicAuth** in Authentication Mode dropdown.
7. Maintain Integration **Username** and **password** as the username and password of SAP Cloud Integration User.

Common Settings   C4C CRM Settings (Obsolete)   C4C CRM Settings   S/4 ERP Settings   SAP Commerce Cloud Settings

---

☒ Enable integration

---

Hana Cloud Platform Integration - Authentication details

Authentication mode:  
BasicAuth

Integration username:  
Integration username

Integration password:  
Integration password

8. Under General Setting, Switch on *Send customers along with quote payload*.
9. Enter the Cloud Platform URL in REST API base URL address and a postfix */http* to connect to http adapter.

General settings

☒ Send customers along with quote payload

☐ Send prices in the selected market

Dates in quote standard fields (e.g. Date Created, Date Modified...) will be converted into this time zone.  
UserZone

---

SAP Cloud Platform Integration Service API Details

REST API base URL address  
https://-iflmap.hcisb.int.sap.hana.ondemand.com/http

10. Click *Save*.
11. Navigate to S/4 ERP Settings tab, maintain the endpoint as */CPQ/S4/Quote2Order*.
12. Click *Save*.
13. Select *SAP ERP* in Available SAP Providers.
14. Select *Connect SAP ERP* as *TRUE*.
15. Click *Save*.

### 3.3.2 Create CPQ Communication User

#### Purpose

A Communication user need to be created in SAP CPQ System, which will be used in SAP Cloud Integration for basic authentication to CPQ.

#### Procedure

1. Login to your SAP CPQ system using an Administrator User.
2. Click on *SETUP* in menu bar and choose *Setup*.
3. In left navigation bar, select *Users* under *Users*.
4. Click on *Add New User* Button.
5. Enter the *First Name*, *Last Name* and *Email* Address for Communication User.
6. Enter *Username* as *COM\_USER\_CPQ* and maintain the *Initial Password*.
7. Choose *User Type* as *Sales*.



8. Select *Administrator*.
9. Select *Company* as *CallidusCloud (CALD)*.
10. Click *Save*.

### Note

Login to CPQ system using the above user and reset the password and use same password to be used in CPI at the time of Creating User Credentials.

## 3.3.3 Product Replication Setup

### 3.3.3.1 Maintain Product Types

#### Purpose

Follow below procedure to create Product Type in SAP CPQ. This Product Type is mapped to S/4HANA Material Group in SAP CPI middleware.

#### Procedure

1. Login to your SAP CPQ system using an Administrator User.
2. Click on *SETUP* in menu bar and choose *Setup*.
3. In left navigation bar, select *Product Types* under *Product Catalog*.
4. Click on *Add New* Button.
5. Maintain the *Product Type Name* and *Product Type Rank*.

Example:

Product Type	Product Type Rank
Metal Processing	10
Electronics	11

Product Types Administration » New

*Product Type Name	<input type="text" value="Metal Processing"/>
Product Type System Id	<input type="text" value="Metal_Processing_1_cpq."/>
Product Type Icon	<input type="text"/>
*Product Type Rank	<input type="text" value="10"/>
<input type="button" value="Save"/>	

6. Click *Save*.

### 3.3.3.2 Maintain Product Categories

#### Purpose

In below steps, product catalog is created, which will help user to differentiate the product based on their category. If product doesn't have any Product Category, it is considered as DRAFT. The Product Category is mapped with S/4HANA Product Hierarchy in CPI middleware.

## Procedure

1. In left navigation bar, select *Categories* under *Product Catalog*.
2. Click on *Add New* Button.
3. Maintain the Product Category by giving *Category Name*, *Category Description*, *Rank* and check the *Active* checkbox.

Example:

Category Name	Category Description	Rank	Active
Machines	Machines	10	X
Vehicles	Vehicles	11	X

Categories Administration » New

### Category Data

Parent category	<input type="text"/>	Select	Clear
*Category Name:	<input type="text" value="Machines"/>		
*System ID:	<input type="text" value="Machines_cpq -2"/>		
Category Description:	<input type="text" value="Machines"/>		
*Rank:	<input type="text" value="10"/>		
Active:	<input checked="" type="checkbox"/>		

4. Click *Save*.

## 3.3.3.3 Maintain Unit of Measurement

### Procedure

1. In left navigation bar, select *Unit of Measurement* under *Product Catalog*.
2. Click on *Add New* Button.
3. Enter the Description as *Measurement Name* and Code as *Unit of Measurement*.
4. Click on *Add New* Button.

Unit of measurement

**\*Measurement Name** Each


Measurement System Id Each\_cpq

**Add Units of Measurement**

**\*Units of Measurement** EA

Unit of Measurement System Id EA\_Each\_1\_cpq

**Add New**

Unit Of Measurement	System Id	Delete	Default	Export Conversions
EA	EA_Each_cpq		<input checked="" type="radio"/>	

**Save**

5. Click [Save](#).

## 3.3.4 Customer Replication Setup

### 3.3.4.1 Maintain Customer Role

#### Procedure

1. Login to your SAP CPQ system using an Administrator User.
2. Click on [SETUP](#) in menu bar and choose [Setup](#).
3. In left navigation bar, select [Customer Role Defaults](#) under [Customers/ Customer Roles](#).
4. Click on [Add New](#) Button.
5. Select the [User Type](#) and [Customer Role](#).

Example:

User Type	Customer Role	User Info	User's Company Info
Partner	Bill To	X	
Sales	Ship To		X

Customer Role Defaults » Edit

**\*User Type Name:** Sales ▼

---

**\*Customer Role** Ship To ▼

---

Default (Pre-populate) with User Info: ☐ i

Default (Pre-populate) with User's Company Info: ☒ i

Save

6. Click [Save](#).

### Note

Customer Role Defaults settings has a significance in maintaining the Bill To and Ship To in the Customer Info tab of the CPQ quote hence maintain this setting as the User Type used for creating the quote.

## 3.3.4.2 Maintain Customer Field Permissions

### Purpose

Business can define which fields of customer to be made mandatory and which should be read only. Below steps deals with minimum fields needed for customer replication from SAP S/4HANA system.

### Procedure

1. In left navigation bar, select [Customer Field Permissions](#) under [Customers/ Customer Roles](#).
2. Go to [Ship To](#) tab, click on the [permission](#) field and Select [Required](#) for below fields:

Fields
First Name
Company
Country

### Note

Maintain the field permissions as per your business needs, setting field permission as Required will make the field mandatory in the customer master, hence make sure that all the mandatory field values are available while business partner master data replication from S/4HANA system.

## Customer Fields Permissions

Bill To   Ship To   End User

Fields	Permissions	Advanced Permissions
First Name	Required	
Last Name	Editable	
Customer Id	Editable	
Company	Required	
Address (1)	Editable	
Address (2)	Editable	
City	Editable	
State/Province	Editable	
ZIP/Postal Code	Editable	
Country	Required	
Territory	Editable	
Phone	Editable	
Fax	Editable	
Email	Editable	
CRM Account Id	Editable	
CRM Contact Id	Editable	
Province	Editable	

Country  
Set field permission  
☐ Hidden  
☐ Read Only  
☐ Editable  
☒ Required

Save

3. Click [Save](#).
4. In similar way, the mentioned fields can be made mandatory for Bill To and End User.

## 3.3.5 Pricing/ Discounting Setup

### 3.3.5.1 Create Markets

#### Purpose

A market is created in SAP CPQ against every Sales Organization of SAP S/4HANA system. This will help in pricing determination in Sales Quote in CPQ system.

#### Procedure

1. Login to your SAP CPQ system using an Administrator User.
2. Click on [SETUP](#) in menu bar and choose [Setup](#).
3. In left navigation bar, select [Markets](#) under [Pricing/Calculations](#).
4. Click on [Add New](#) Button.
5. Enter the [Market Code](#) field as a Sales Organization of S/4HANA system.
6. Enter [Marketing Name](#), [Currency](#) and [Market Factor](#).

Example:

Market Code	Market Name	Currency	Market Factor
1710	Sales Org US	USD	1
1010	Sales Org DE	EUR	1

Markets » New

*Market Code	1710
*Market Name	Sales Org US
*Currency	<div>CAD EUR GPD USD YEN</div>
*Market Factor	1
*Is Default Market :	<input type="checkbox"/>
Company System Id	1710_cpq

Save

7. Click [Save](#).
8. In left navigation bar, select [Market Visibility](#) under [Pricing/Calculations](#).
9. Click on [Add New](#) Button.
10. Select [Market Name](#) created in above step in Step 2 Section
11. In Step 3 section enter [Visibility Condition](#) as [1](#).
12. Click [Save](#).

### 3.3.5.2 Create Pricebooks

#### Purpose

Pricing in the Sales Quote is determined based on market, pricebook and product in CPQ system. Pricebook comprises of Distribution Channel and Product entries with their respective prices.

#### Procedure

1. In left navigation bar, select [Pricebooks](#) under [Pricing/Calculations](#).
2. Under [Pricebooks](#) tab, search for the [Market Name](#) created in above steps.
3. Click on [Add New Pricebook](#) button.
4. Enter the [Pricebook name](#).
5. Enter the [Distribution Channel](#) similar to the distribution Channel of S/4HANA system against the Sales Organization. Example: 10
6. Check the [Visible to everyone](#) checkbox.

7. Click [Save](#).
8. Pricing for the products in [Entries](#) tab will be created by Pricing Replication IDoc from S/4HANA system.

### 3.3.5.3 Discounting

#### Purpose

One of the major functionalities of SAP CPQ is on the fly discounts based on products, product types, product categories, users and user types. You can setup discounting in Sales Quote in your SAP CPQ system following below procedure.

#### Procedure

1. In left navigation bar, select [Discounts/Multipliers](#) under [Pricing/Calculations](#).
2. Click on [Add New](#) button.
3. Click on [Select](#) button to maintain [USER TYPE](#) as [Sales](#) in Step 1 section.

#### **i** Note

The above selection will allow users with user type 'Sales' to give discounts in Sales Quote which we will be defining in next step. You can create any condition for discount selection with User, User Type, Product, Product Type or Category.

4. In Step 2 section, maintain multiplier as **1** for [Minimal Value](#), [Default Value](#) and [Maximum Value](#).
5. Maintain [Maximum Value](#) for Discount as **10**. It will allow your Sales User to give maximum of 10 percent discount. Above 10 percent will be subject to approval.



## Discounts/Multipliers Administration

## Step 1

Select users that will be able to edit multipliers and discounts when condition below is TRUE (equal to 1).

User:  Select Clear

USER TYPE: Sales  Select Clear

CATEGORY:  Select Clear

Product:  Select Clear

PRODUCT TYPE:  Select Clear

## Step 2

Enter minimal, default and maximum values for multiplier and discount.

	* Minimal Value	* Default Value	* Maximum Value
Multiplier:	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>
Discount:	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="10"/>
Recurring Price Multiplier:	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>
Recurring Price Discount:	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

- In Step 3 section, maintain *Condition* as **1**. You can create conditions using scripting language also.
- Click *Save*.

### 3.3.5.4 Discounting Priorities

#### Purpose

In SAP CPQ, you can provide discount to customer in Sales Quote based on User, User Type, Product, Product Type or Product Category conditions. There might come a case with two or more valid conditions. In such situation, which condition will take priority.

#### Procedure

- In left navigation bar, select *Discounting Priorities* under *Pricing/Calculations*.
- As we want Product to have highest Priority. Select *Rank* as **1**.
- Further Select *Rank* for Product Type as **2**, Category as **3**, User as **4** and User Type as **5**.

## Discounting Priorities

Field	Field Label	Rank
User Type	<input type="text" value="User Type"/>	5 <input type="button" value="v"/>
User	<input type="text" value="User"/>	4 <input type="button" value="v"/>
Category	<input type="text" value="Category"/>	3 <input type="button" value="v"/>
Product	<input type="text" value="Product"/>	1 <input type="button" value="v"/>
Product Type	<input type="text" value="Product Type"/>	2 <input type="button" value="v"/>

- Click *Save*.

### 3.3.6 Sales Quote to Order Setup

#### 3.3.6.1 Add Action for External Sales Order in ERP

##### Purpose

The Action for creating Sales Order in your ERP External System and the same need to be assigned to Sales Quote in SAP CPQ.

##### Procedure


1. In left navigation bar, select [Workflow](#) under [Workflow/Approval](#).
2. In My Quotes tab, Click on Start Status is Preparing, and End Status is Order Confirmation pending.

Workflow Actions

Switch to: [List view](#) Copy from: --Tab-- [Copy](#) Clear Workflow: [clear](#)

[My Quotes](#) [Waiting for Approval](#) [Other Quotes](#)

Expand All Close All	Preparing	Open	Customer Accepted	Customer Rejected	Awaiting Internal Approval	Approved	Rejected	Expired	Lost	Order FAILED	Order Confirmation Pending	Order Placed
Preparing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Open	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Customer Accepted	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Customer Rejected	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Awaiting Internal Approval	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Approved	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Rejected	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Expired	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lost	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Order FAILED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Order Confirmation Pending	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Order Placed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3. Click on , Scroll to the [Place order to ERP](#) Action, Click the checkbox [Selected](#).
4. Click [Save](#).
5. In a similar way configure all the below actions in workflow

Start Status	End Status	Action
Order Confirmation pending	Order Confirmation pending	Edit, Place Order to ERP, Save Quote
Order Confirmation pending	Order Placed	Order Status Update
Order Placed	Order Placed	Edit, History

Workflow Actions

Switch to: List view Copy from: --Tab-- Copy Clear Workflow: clear

My Quotes Waiting for Approval Other Quotes

Expand All Close All	Preparing ▼	Open ▼	Customer Accepted ▼	Customer Rejected ▼	Awaiting Internal Approval ▼	Approved ▼	Rejected ▼	Expired ▼	Lost ▼	Order FAILED ▼	Order Confirmation Pending ▼	Order Placed ▼
Preparing ▼	<div><div>Add Item Delete History Replicate Save Quote View Proposal</div><div>Copy Edit New Revision Request Approval Set Active</div></div>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<div>Place order to ERP <input checked="" type="checkbox"/></div>	<input checked="" type="checkbox"/>
Open ▼	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Customer Accepted ▼	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Customer Rejected ▼	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Awaiting Internal Approval ▼	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Approved ▼	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Rejected ▼	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Expired ▼	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lost ▼	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Order FAILED ▼	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Order Confirmation Pending ▼	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<div>Edit Place order to ERP Save Quote <input checked="" type="checkbox"/></div>	<div>Order Status Update <input checked="" type="checkbox"/></div>
Order Placed ▼	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<div>Edit History <input checked="" type="checkbox"/></div>

# Note

Copy the same settings from *My Quotes* to *Other Quotes* tab as well. To do this Select *Other Quotes* tab, Select *My Quotes* from the dropdown selection in the Copy from field and click on *Copy* button.

Workflow Actions

Switch to: List view Copy from: My Quotes Copy Clear Workflow: clear

My Quotes Waiting for Approval Other Quotes

Expand All Close All	Preparing	Open	Customer Accepted	Customer Rejected	Awaiting Internal Approval	Approved	Rejected	Expired	Lost	Order FAILED	Order Confirmation Pending	Order Placed
Preparing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Open	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Customer Accepted	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

- In left navigation bar, select *Workflow Permissions* under *Workflow/Approval*.
- Under Action Permissions, search for *Place order to ERP* action.
- Click on Add button (+). And Select the checkbox for User Type *Sales*.

Workflow Permissions » Edit of Place order to ERP

## Actions Permissions

Actions	User Types
Place order to ERP	
CFO	<input type="checkbox"/>
Customer	<input type="checkbox"/>
Customer Quote Acceptance	<input type="checkbox"/>
Partner	<input type="checkbox"/>
Sales	<input checked="" type="checkbox"/>
Sales Management	<input type="checkbox"/>

Save Cancel

- Click *Save*.
- In a similar way add the User Type *Sales* for all the actions like *Edit*, *Save Quote*, *Order Status Update* and *History* under Action Permissions.

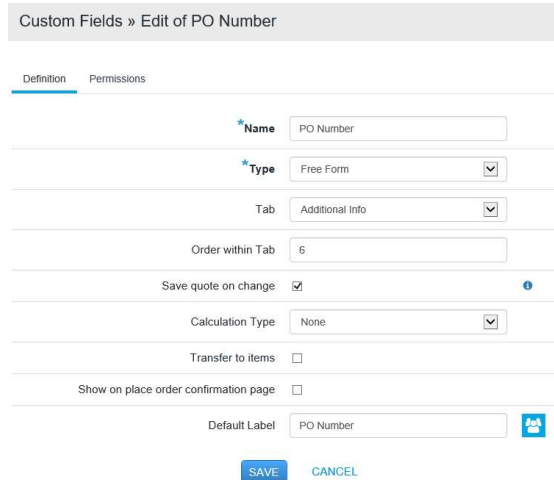
### 3.3.6.2 Create Custom field in Sales Quote

#### Purpose

Custom field is needed in SAP CPQ in Sales Quote to capture PO Number in Sales Order.

#### Procedure

1. Login to your SAP CPQ system using an Administrator User.
2. Click on **SETUP** in menu bar and choose **Setup**.
3. In left navigation bar, select **Custom Fields** under **Quotes**.
4. Click on **Add New** Button.
5. In the **Definition** tab, maintain the **Name** as **PO Number** (case sensitive).
6. Choose **Type** as **Free Form** and **Tab** as **Additional Info**.
7. Select **Save quote on change**.
8. Enter **Default Label** as **PO Number**



The screenshot shows the 'Custom Fields » Edit of PO Number' page. It has two tabs: 'Definition' (active) and 'Permissions'. The 'Definition' tab contains the following fields:

- Name:** PO Number
- Type:** Free Form (dropdown menu)
- Tab:** Additional Info (dropdown menu)
- Order within Tab:** 6
- Save quote on change:** ☒
- Calculation Type:** None (dropdown menu)
- Transfer to items:** ☐
- Show on place order confirmation page:** ☐
- Default Label:** PO Number

At the bottom right, there is a blue icon representing a group of people. At the bottom center, there are two buttons: 'SAVE' (blue) and 'CANCEL' (light blue).

9. Click **Save**.

## 3.4 Data Loading

### 3.4.1 Initial Data Load

#### Purpose

This section describes how to execute the initial data load of material, customer master and Pricing Condition data from your SAP S/4HANA system to the SAP CPQ system.

### 3.4.1.1 Business Partner (Customer Master)

1. Open transaction DRFOUT.
2. Select the *Replication Model* and *Outbound Implementation* created in S/4HANA section.
3. Choose *Replication Mode* as *Manual*, in case you want to replicate specific business partners.

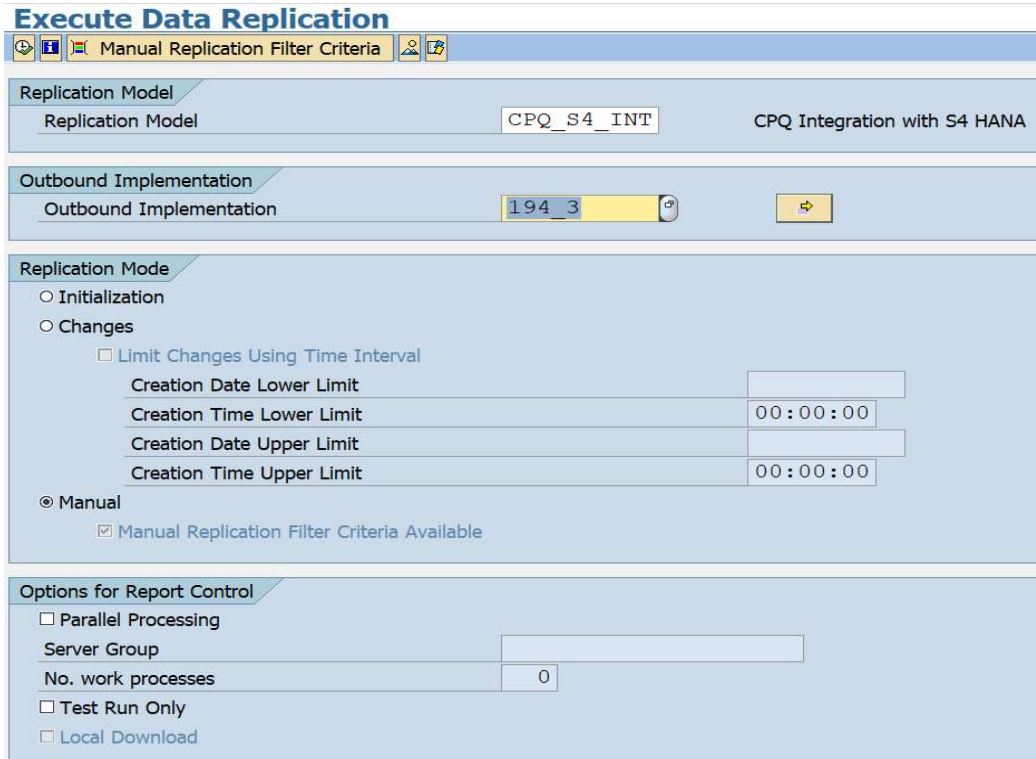
4. Click *Manual Replication Filter Criteria* in top menu.
5. Enter the Business Partner ID and choose Back.

6. Choose *Yes* in the following pop-up.

7. Choose *Execute*.

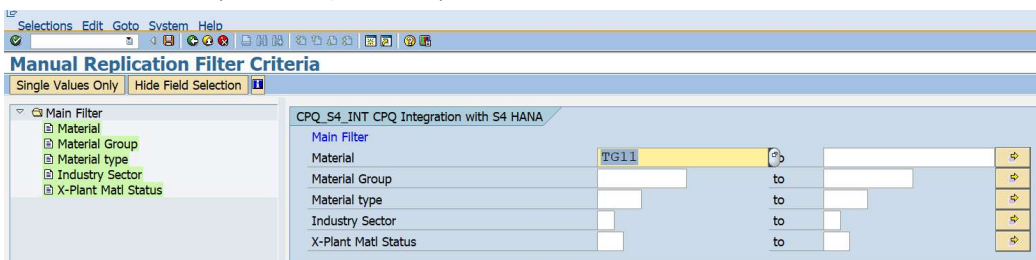
### 3.4.1.2 Product Master

1. Open transaction DRFOUT.
2. Select the *Replication Model* and *Outbound Implementation* created in S/4HANA section.
3. Choose *Replication Mode* as *Manual*, in case you want to replicate specific Material.



The screenshot shows the 'Execute Data Replication' SAP transaction. The 'Manual Replication Filter Criteria' menu item is selected. The 'Replication Model' is set to 'CPQ\_S4\_INT' (CPQ Integration with S4 HANA). The 'Outbound Implementation' is set to '194\_3'. Under 'Replication Mode', 'Manual' is selected, and 'Manual Replication Filter Criteria Available' is checked. Under 'Options for Report Control', 'Parallel Processing' is unchecked, 'Server Group' is empty, 'No. work processes' is 0, 'Test Run Only' is unchecked, and 'Local Download' is unchecked.

4. Click *Manual Replication Filter Criteria* in top menu.
5. Enter the Material (For example: TG11) and choose Back.



The screenshot shows the 'Manual Replication Filter Criteria' SAP transaction. The 'Single Values Only' tab is selected. The 'Main Filter' section shows 'Material' set to 'TG11'. The 'CPQ\_S4\_INT CPQ Integration with S4 HANA' section shows a table with columns for 'Material', 'Material Group', 'Material type', 'Industry Sector', and 'X-Plant Matl Status', each with a 'to' field and a selection icon.

6. Choose *Yes* in the following pop-up.



The screenshot shows the 'Dynamic selections' pop-up dialog. The message reads: 'The dynamic selections have changed. Continue?'. There are three buttons: 'Yes' (highlighted with a red box), 'No', and 'Cancel'.

7. Choose *Execute*.

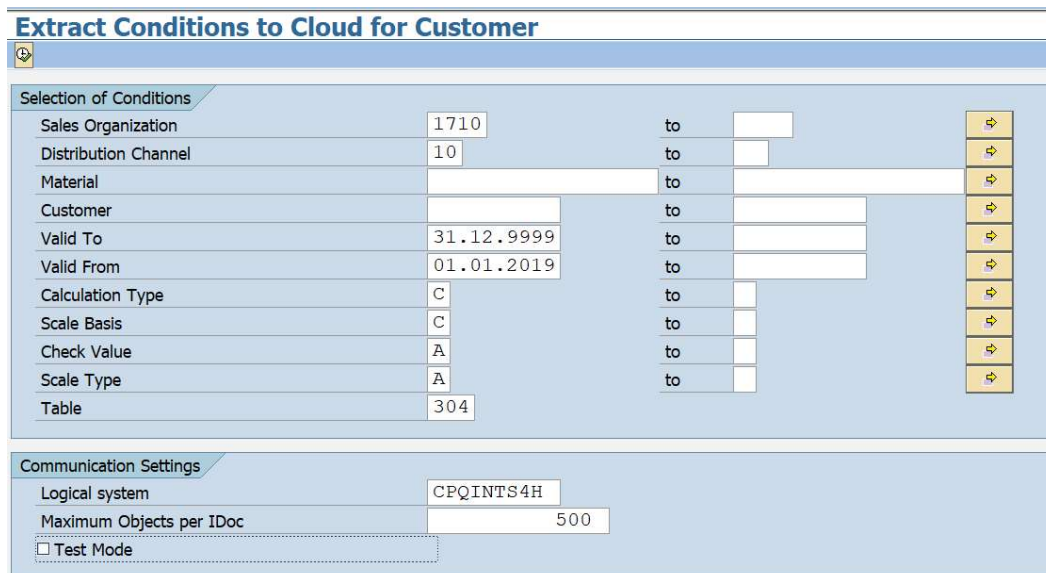
### 3.4.1.3 Product Pricing

1. Access the transaction SE38.
2. Enter the report name RCOD\_CONDITIONS\_EXTRACT and click on *Execute*.



The screenshot shows the 'ABAP Editor: Initial Screen'. At the bottom, the 'Program' field contains 'RCOD\_CONDITIONS\_EXTRACT'. To the right of this field is a magnifying glass icon and a yellow 'Create' button. Above the program field, there is a toolbar with various icons for editing, saving, and debugging. The title bar at the top reads 'ABAP Editor: Initial Screen'.

3. Enter the following details and click *Execute*:



The screenshot shows the 'Extract Conditions to Cloud for Customer' dialog box. It is divided into two sections: 'Selection of Conditions' and 'Communication Settings'.

**Selection of Conditions:**

Field	Value	to	Value
Sales Organization	1710	to	
Distribution Channel	10	to	
Material		to	
Customer		to	
Valid To	31.12.9999	to	
Valid From	01.01.2019	to	
Calculation Type	C	to	
Scale Basis	C	to	
Check Value	A	to	
Scale Type	A	to	
Table	304	to	

**Communication Settings:**

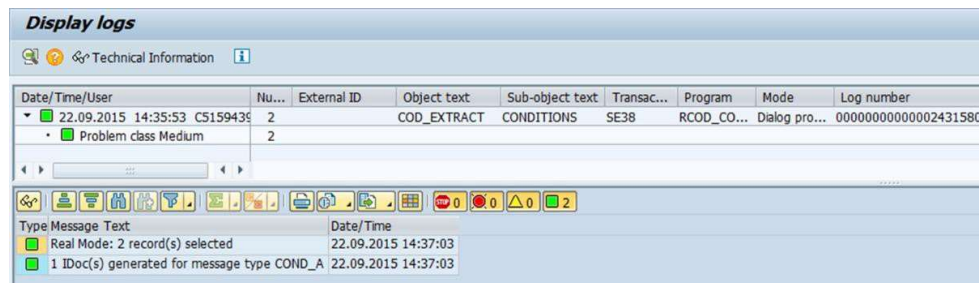
Logical system	CPQINTS4H
Maximum Objects per IDoc	500
<input type="checkbox"/> Test Mode	

4. Enter the following details:

Field	Value
Sales Organization	For example: 1000
Distribution Channel	For example: 10
Valid from	A valid date
	A valid date
Logical System	<Logical system of the SAP CPQ>
Test Mode	Unchecked
Table	304(Material with release status)

5. The condition records created with the provided data are replicated to SAP CPQ.





6. Execute the report by changing the scale type to B (retaining the other inputs) for which IDoc filtering is not maintained.

### Note

Go to Tcode BD87 in SAP S/4HANA system to process the Idoc if it is not triggered automatically.

## 4 Manual Build Steps

### 4.1 Ticket Component

Implementation Step	Component	Comment
	SV-RDS-CFC	

### 4.2 Appendix

#### 4.2.1 How to find CPQ API URL

##### Purpose

You need to have CPQ API URL, which will be used in SAP Cloud Integration system as address path to call the API's.

##### Procedure

1. Login to your SAP CPQ system using an Administrator User.
2. Click on [SETUP](#) in menu bar and choose [Setup](#).
3. On the top right corner, click on [Help](#) icon.
4. On left navigation, click on [CallidusCloud CPQ API](#).
5. Check the API Example section.
6. To access CPQ's API, use the following URLs:
  - [<application root>/wsAPI/CPQAPI.asmx](#) - this is the set of user level functions like Business Partner Replication and Sales Order Confirmation.
  - [<application root>/wsAPI/wssrv.asmx](#) - this is the set of admin level functions like Material Replication and Pricing Condition Replication.

## 4.2.2 How to setup Cloud Connector

### Purpose

You need to have Cloud Connector Virtual Host URL for SAP S/4HANA system, which will be used in SAP Cloud Integration system as address path to call the S/4HANA system.

### Procedure

1. Login to your SAP HANA Cloud Connector system using an Administrator User.
2. Select the *Account* of your SAP Cloud Integration system.
3. Click on *Access Control* to add Mapping Virtual to Internal System.
4. Click on *Add* button.
5. Select *ABAP System* in *Back-end Type* and Click *Next*.
6. Select *HTTPS* as *Protocol* and Click *Next*.
7. Enter the *Internal Host* and Click *Next*. You can find HTTPS host and port of your system in SMICM transaction Goto -> Services.

Active Services

No.	Protocol	Service Name/Port	Host Name	Keep Alive	Proc.Timeo	Actv	External	Bind
<input type="checkbox"/>	1	HTTP	50008	ldcirt7.wdf.sap.corp	300	300	✓	
<input type="checkbox"/>	2	HTTPS	44308	ldcirt7.wdf.sap.corp	300	300	✓	
<input type="checkbox"/>	3	SMTP	25008	ldcirt7.wdf.sap.corp	300	300	✓	
<input type="checkbox"/>	4	SMTP	25108	ldcirt7.wdf.sap.corp	300	300	✓	
<input type="checkbox"/>	5	SMTP	25208	ldcirt7.wdf.sap.corp	300	300	✓	
<input type="checkbox"/>	6	SMTP	25328	ldcirt7.wdf.sap.corp	300	300	✓	
<input type="checkbox"/>	7	SMTP	25708	ldcirt7.wdf.sap.corp	300	300	✓	
<input type="checkbox"/>	8	SMTP	25908	ldcirt7.wdf.sap.corp	300	300	✓	
<input type="checkbox"/>	9	SMTP	25808	ldcirt7.wdf.sap.corp	300	300	✓	
<input type="checkbox"/>	10	SMTP	25308	ldcirt7.wdf.sap.corp	300	300	✓	

8. Enter the *Internal Port* and Click *Next*.
9. Enter the *Virtual Host* which you must maintain in Cloud Platform Iflows and Click *Next*.
10. Enter the *Virtual Port* which you must maintain in Cloud Platform Iflows and Click *Next*.
11. Select *Principal Type* as *none* and Click *Next*.
12. Enter the *Description* and Click *Next*.
13. Click on *Finish* button.

**Edit System Mapping**

☐ Virtual host cannot be edited

Back-end Type: \* ABAP System

Protocol: HTTPS

Virtual Host: ldcirt7.wdf.sap.corp

Virtual Port: 443

Internal Host: \* ldcirt7.wdf.sap.corp

Internal Port: \* 44308

SAProuter:

Principal Type: None

SNC Partner Name:


Description: RT7

☐ Check availability of internal host (this may take some time)

Save Cancel

14. Select the Entry for Virtual Host Mapping created in above steps.
15. Click on *Add* in Resource Accessible and Add / as *URL Path*.

### Add Resource

 Path must not be empty

☒ Enabled

URL Path: \*

Access Policy: ☒ Path only (sub-paths are excluded)  
☐ Path and all sub-paths

Description:

16. Click [Save](#).