SAP CPQ Quote 2.0 Integration with SAP S/4HANA
Sales Order Integration Guide

English

Typographic Conventions

Type Style	Description
Example	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Textual cross-references to other documents.
Example	Emphasized words or expressions.
EXAMPLE	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
Example	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
Example	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE	Keys on the keyboard, for example, F2 or ENTER.

Document History

Revision	Date	Change
1.0	2021-07-15	Initial Version
1.1	2022-06-14	First Revision – Rebranding Changes

Table of Contents

1. Purpose

This document describes the steps to configure the basic Integration between SAP CPQ and S/4 HANA using SAP Cloud Integration.

SAP CPQ can be integrated with S/4HANA to provide a workflow for users to automatically create a S/4 HANA Sales Order whenever a SAP CPQ quote is sent to S/4HANA. The follow-up documents are created inside S/4 HANA automatically. This integration only works with the Quote 2.0 engine in SAP CPQ.

The iFlow is triggered by the “Place Order” event when user chooses Place Order action in SAP CPQ Quote, i.e. when the user finishes the quote process and sends the final quote to the backend which would create a Sales Order. SAP Variant Configuration and Pricing is used as default mechanism for configuring and pricing subscription products in CPQ. If the quote item is configurable, the quote data from SAP CPQ and the configuration data from SAP Variant Configuration and Pricing are combined and sent to S/4 HANA. Otherwise, only the standard product information and pricing details are transferred to S/4 HANA. Products that have not been replicated from S/4 HANA, but created directly in SAP CPQ, are ignored in iflow, which creates S/4 Sales order from CPQ Quote.

> **Note**
>
> The setup instructions in this guide only describes the basic authentication. Nevertheless, certificate-based authentication might also be possible, depending on the system preconditions.

2. System Requirements

The system requirements for a successful configuration:

- S/4 HANA On Prem – minimum version 2020 FPS01 release
- SAP Cloud Integration
- SAP CPQ
- SAP Variant Configuration and Pricing

3. Prerequisites

There are some general prerequisites that need to be fulfilled so that users could integrate SAP CPQ and S/4 Sales Order

- Contact the Network Security team in order to prepare the network environment across different systems and to set its security aspects.
- Quote 2.0 should be enabled in the SAP CPQ tenant.

  Note

  It is important to note that this integration is not supported on Quote 1.0.
- The application parameter “Allowed origins for the CORS filter” needs to be configured in SAP CPQ. When one or more domains are entered in this field, only the API calls originating from those domains are allowed.
- To integrate SAP CPQ with other applications, if the parameter is not set to *, it is necessary to fill out the field with both the URL of your tenant, and the URLs of the integrated applications to enable API communication. Values are separated with a “;”.
- SAP CPQ and S/4 HANA need to be synchronized in terms of product (material) master and markets via SAP Cloud Integration. Products that have not been replicated from S/4 HANA, but created directly in SAP CPQ, are not replicated in iflow which creates S/4 Solution Quote from CPQ Quote. Therefore, you must set up at least the products and business partner replication from S/4 HANA to SAP CPQ.

  Note

  Markets are not replicated so they need to be created manually.
- It is important to have an integration tenant in all four systems.
  - SAP CPQ instance
  - SAP S/4 HANA
  - SAP-SAP Cloud Integration tenant: the SAP Cloud Integration Runtime URL is included in the SAP Cloud Integration provisioning mail. For example: `https://<YourTenant>-iflmap.hana.ondemand.com`
  - SAP Variant Configuration and Pricing instance: ensure that your SAP Variant Configuration and Pricing instance is integrated with SAP S/4 HANA and that configured products are replicated between the two systems

4. Configuration in SAP CPQ

This chapter describes the configuration that needs to be done in SAP CPQ system to integrate it with SAP S/4 HANA.

4.1. Create Communication User

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

Procedure

1. Log on to the SAP CPQ system using an Administrator User.
2. Choose *Setup* in the left menu bar and choose *Setup.*
3. In left navigation bar, select *Users* under *Users*.
4. Choose *Add New User*.
5. Enter the *First Name*, *Last Name* and *Email* for Communication User under *General* tab.
6. Enter *Username*, for example **<COM_USER_SAP CPQINT>**.
7. Enable Set temporary password and enter *Temporary password* and *Retype temporary password*.
8. Choose *User Type*, for example as **<Sales>**.
9. Set the *Administrator* flag.
10. Select *Company*, for example as **<CallidusCloud (CALD)>.**
11. Choose *Save*.

Note: After creating the user, the communication user will receive 2 E-Mails: One for the SAP CPQ user registration and one for the SAP CPQ password creation. Login to SAP CPQ system using the above username and reset the password and same password is to be used in SAP Cloud Integration at the time of Creating User Credentials.

4.2. Enable the Integration with SAP Cloud Integration

Procedure

1. Login to your SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup*.
3. Select *Providers* under *Providers* in left navigation bar.
4. From the *Available Providers*, select *SAP* tile.
5. From the *Available SAP Providers*, select *SAP Integration Suite tile*.
6. In Common Settings tab, *turn on Enable Integration*.

7. Select *BasicAuth* in Authentication Mode dropdown and maintain the credentials of the SAP Cloud Integration User. (*Integration username* and *Integration password*)
8. Under *General Setting*, turn on *Send customers along with quote payload*.
9. Enter the Cloud Platform URL in *REST API base URL* address and a suffix /http to connect to http adapter.
10. Choose *Save*.

4.3. Enable the Integration with SAP ERP

To manage the pricing procedures, enable the SAP ERP integration in SAP CPQ.

Procedure

1. Login to your SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup*.
3. Select *Providers* under *Providers* in left navigation bar.
4. From the *Available Providers*, select *SAP* tile.
5. From the *Available SAP Providers*, select *SAP ERP* tile.
6. Turn on *Enable Integration* toggle.
7. Choose *Save*.

4.4. Enable the Integration with VC

The integration with SAP Variant Configuration and Pricing is to be enabled as described in the documentation.

4.5. Add Subscription to Event

Procedure

1. Login to your SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup*.
3. Select *Subscription to Events* under *Providers* in left navigation bar.
4. Choose *Add new Subscription to Event* button.
5. Enter name, for example `<Name of the Subscription to event>` in *Name* field.
6. Enter a short description, for example `<A short description>` in *Description.*
7. Enter the endpoint URL, for example `<endpoint URL of the iFlow Replicate Quote 2.0 from SAP CPQ to S/4HANA (CPI endpoint URL)>` in *Webhook URL* field.
8. Select `POST` under *Webhook HTTP method.*

9. Select `QuoteEvent` under *Event name*.
10. Select *Quote Event* as `OnPlaceOrder`.
11. Select *Authentication type* as `Basic`.
12. Enter for example, `<Username of SAP Cloud Integration user>` in *Username* field.
13. Enter for example, `<Password of the SAP Cloud Integration User>` in *Password* field.
14. Choose *Save*.

4.6. Pricing Setup

In both SAP S/4HANA and SAP CPQ, pricing and configuration are handled by separate services. Consequently, SAP S/4HANA products in SAP CPQ can leverage this versatility and combine the pricing and configuration from the two systems or maintain them both in only one system. In SAP CPQ, these products can have the Standard SAP CPQ configuration type, or the Variant configuration type, in which case configuration is handled by SAP Variant Configuration and Pricing. In addition, the available pricing types are Pricebook Lookup and Custom Pricing, which are standard SAP CPQ features, as well as Variant Pricing, in case pricing is handled by SAP Variant configuration and Pricing.

If you are using SAP CPQ as a centralized location for maintaining prices, you can either maintain prices in Pricebooks or use custom pricing. However, the default configuration and pricing mechanism for SAP S/4 HANA products in SAP CPQ is SAP Variant Configuration and Pricing, in which case products have the Variant configuration type and Variant Pricing selected.

Below are supported configuration and pricing scenarios:

	Configuration: SAP CPQ (configuration type: Standard)	Configuration: SAP Variant Configuration and Pricing (configuration type: Variant)
Pricing: SAP CPQ (pricing type: Custom Pricing/Pricebook Lookup)	Supported	Supported
Pricing: SAP Variant Configuration and Pricing (pricing type: Variant pricing)	Not Supported (except for subscription products)	Supported (Default)

When SAP CPQ is used as the configuration engine, one of the standard SAP CPQ pricing types should be used. This is because SAP CPQ configuration doesn't have a concept of variant conditions and variant condition keys, and consequently, if SAP CPQ configuration is selected, configuration-related surcharges can't be calculated in SAP Variant Configuration and Pricing. In this scenario, SAP Variant Configuration and Pricing can only return the base price, which functions only if product doesn't have surcharges related to product attribute selection.

If there are pricing conditions on the product and you want to send the prices from the SAP CPQ quote to SAP S/4HANA when an order is placed, you need to define pricing procedure mappings in SAP CPQ.

4.6.1 Create Markets

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

Procedure

1. Login to your SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup*.
3. In left navigation bar, select *Markets* under *Pricing/Calculations*.
4. Choose *Add new* button.
5. Enter for example, **<Sales Organization of SAP S/4 HANA system>** in *Market Code* field.
6. Enter for example, **<Sales Org US>** in *Market Name* field.
7. Select for example, **<USD>** as *Currency*.
8. Enter *Market Factor* field as **1**.
9. Choose *Save*.
10. In left Navigation bar, select *Market Visibility* under *Pricing/Calculations*.
11. Choose *Add New* button.
12. Select for example, **<Sales Org US>** (Market Name created above) under *Market Name* in *Step 2* section.
13. In Step 3 section, enter *Visibility Condition* as **1**.
14. Choose *Save*.

Note

you can check the Sales Organizations and the assigned currencies in the SAP S/4 HANA system under SPRO ➔ *SAP Reference IMG* ➔ *Enterprise Structure* ➔ *Definition* ➔ *Sales and Distribution* ➔ *Define, copy, delete, check sales organization*

4.6.2 Discounting

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 Quote in your SAP CPQ system following below procedure. This chapter is optional.

Procedure

1. Login to SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup.*
3. In left navigation bar, select *Discounts* under *Pricing/Calculations.*
4. Choose *Add New* button.
5. Choose *Select* button to maintain *USER TYPE* as `Sales` under *Step 1* section

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. Any condition for discount selection with User, User Type, Product, Product Type or Category can be created.

6. Maintain *Maximum Value* for *Discount* as `10`. It will allow Sales User to give maximum of 10 percent discount. Above 10 percent discount will be subject to approval.
7. Under *Step 3* section, enter *Condition* as `1`. Conditions can also be created using scripting languages.
8. Choose *Save*.

4.6.3 Discounting Priorities

In SAP CPQ, discount to customers can be provided in Quote based on User, User Type, Product, Product Type or Product Category conditions. There might be a case with two or more valid conditions. Priority of the conditions is maintained as below. This chapter is optional.

Procedure

1. Login to SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup.*
3. In left navigation bar, select *Discounting Priorities* under *Pricing/Calculations*.
4. Select *Rank* as `1` for *Product* to have highest priority.
5. Further select Rank for *Product Type* as `2`, *Category* as `3`, *User* as `4` and *User Type* as `5`.
6. Choose *Save*.

4.6.4 Pricing Procedure Mapping

SAP CPQ administrators can map pricing conditions from pricing procedures in SAP S/4 HANA to quote item or header fields in SAP CPQ. That way, the prices from SAP CPQ are sent to the back-end system when an order is placed.

Pricing procedures exist in the back-end system, but they need to be specified manually in SAP CPQ for which steps from the link are to be followed.

4.7. Configure Workflow in SAP CPQ

The default status of the quote is Preparing and changes to Order Placed when the Place Order action is executed. In that moment CPQ publishes event and Cloud Platform creates Sales Order in S/4HANA. To support errors that might occur in quote data replication process, Cloud Platform implements error handling logic which requires additional workflow settings in CPQ. The error handling requires the setup of additional quote status as an interim status between Preparing and Order Placed.

From status Preparing, the status should change to Order Confirmation Pending if the Place Order action is executed. From Order Confirmation Pending, there are two options:

1. If SAP S/4 HANA returns an error, the quote goes to status Order Failed. From here, by executing the Place Order action, the user can go back to status Order Confirmation Pending. This status allows to make necessary adjustments and execute Place Order action again
2. If SAP S/4 HANA does not return an error, the quote goes to status Order Placed.

When the SAP ERP integration is enabled in SAP CPQ, the system will automatically make the following adjustments in the Workflow created.

- Order Confirmation Pending and Order Placed statuses have been created in the system, if they were not available before.
- The Order Status Update action has been set up to lead from the Order Confirmation Pending status to Order Placed when the SAP ERP integration is enabled.

Procedure:

1. Login to SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup*.
3. In left navigation bar, select *Workflow* under *Workflow/Approval*.
4. In the *My Quotes* tab, in the grid, Left side, vertical statuses are start statuses and Horizontal, top statuses are target statuses.
5. Find the crossing of *Preparing* in vertical column and *Order Confirmation Pending* in horizontal row and Select it. Scroll to action *Place Order* and select the checkbox in *Selected* column.
6. Choose *Save*.

(This means once, an order is placed, the quote status changes from Preparing to Order Confirmation Pending)

7. Find the crossing of *Order Confirmation Pending* in vertical column and *Order Placed* in horizontal row and select it. Scroll to action *Order Status Update* and select the checkbox in *Selected* column.
8. Choose *Save*.
9. Find the crossing of *Order Failed* in vertical column and *Order Confirmation Pending* in horizontal row and select it. Scroll to action *Place Order* and select the checkbox in *Selected* column.
10. Choose *Save*.

SAP CPQ Quote is sent via SAP Cloud Integration to SAP S/4 HANA. The success or error message from SAP S/4 HANA are received synchronously and sent back to SAP CPQ via SAP Cloud Integration. Errors which are returned from SAP S/4 HANA are stored in SAP CPQ quote header with a generic error text. A detailed error description is visible for administrators in the SAP CPQ log. The reason for this is that error messages are returned from SAP S/4 HANA in the language the user used for integration.

4.7.1 Enable Workflow Actions and Permissions

The action for creating Sales Order in SAP S/4 HANA needs to be enabled in SAP CPQ.

Procedure

1. Login to SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup*.
3. In left navigation bar, select *Workflow* under *Workflow/Approval*.
4. In *My Quotes* tab, find the crossing of *Preparing* in vertical column and *Order Confirmation Pending* in horizontal row and Choose it. Scroll to action *Place Order* and select the checkbox in *Selected* column.
5. Choose *Save*.
6. Find the crossing of *Order Confirmation Pending* in vertical column and *Order Confirmation Pending* in horizontal row and Choose it. Scroll to actions *Edit, Place Order, Save Quote* and select the checkboxes in *Selected* column.
7. Choose *Save*.
8. Find the crossing of *Order Placed* in vertical column and *Order Placed* in horizontal row and select it. Scroll to actions *Edit, History* and select the checkboxes in *Selected* column.
9. Choose *Save*.

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

- Enable the workflow permission as below
  - In left navigation bar, select *Workflow Permissions* under *Workflow/Approval*.
  - Under *Action Permissions*, search for *Place Order* action.

- Choose Add button (+), Select the checkbox for the User type *Sales*.
- Choose *Save*.
- In the same way add the User Type *Sales* for all the actions like *Edit*, *History*, *Order Status Update* and *Save Quote* under *Action Permissions*.

4.8. Partner Functions

4.8.1 Create Partner Function

To create partner functions in SAP CPQ, follow this procedure.

Partner Functions that are supported in the integration between SAP CPQ and SAP S/4HANA are:

- Sold-To Party (mandatory)
- Ship-To Party
- Bill-To Party
- Payer Party
- Contact Person

4.8.2 Set Sold-To Party to Mandatory

The automatic partner determination for the Sold-To Party in SAP S/4HANA exclusively works during quote creation, not during quote update. Sold-To Party is of particular importance as it explicitly specifies the quote recipient and is thus mandatory for the creation of a Sales Order.

By design, SAP S/4HANA does not perform the automatic partner determination if this field is empty or updated. Therefore, if the quote does not have a Sold-To Party assigned when the Order Placed action is first placed, there would be no possibility to obtain an error-free Sales Order by assigning a Sold-To Party to the quote and send an update by executing the Place Order action again.

To avoid this error, it is important to set (at least) Sold-To Party partner function as mandatory in the SAP CPQ Setup.

Procedure:

1. Login to SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup*.
3. In left navigation bar, select *Required Fields by Workflow Action* under *Workflow/Approval*.
4. The table shows field names on vertical and Actions on horizontal axis.
5. Check the crossing of *Sold-to party* and *Place Order*.

6. Choose *Save*.

As the Sold-To Party is mandatory, it is useful to display this Partner Function by default for new quote.

1. Login to SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup*.
3. In left navigation bar, select *Partner Functions* under *Quotes*
4. Choose *Edit* for *Sold-to party* function.
5. Turn on the *Show by default on new quotes* toggle.
6. Choose *Save*.

4.8.3 Partner Functions in CPQ quote

The SAP S/4HANA can only deal with one value per Partner Function. Therefore, the SAP CPQ system must not send more than one Business Partner for each Partner Function.

Procedure

1. Login to SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup*.
3. In left navigation bar, select *Partner Functions* under *Quotes*
4. Choose *Edit* for *Sold- to party, Ship-to party, Bill-to party and Payer* partner functions as they should be transferred to SAP S/4HANA Sales Order.
5. Turn on the *Can be used only once on quote* toggle for each partner function.
6. Choose *Save*.

4.9. Create Business Partners

To create business partner in SAP CPQ follow procedure on link,

> **Note**
>
> In SAP CPQ, ID displayed in the field Partner ID on business partner should match the business partner in SAP S/4 HANA. Business partner in SAP CPQ should match busines partner in SAP S/4 HANA.

4.10. Product Replication Setup

4.10.1 Products: Types and Configuration

The SAP CPQ-SAP S/4 HANA integration supports simple and configurable products. Products are mastered in SAP S/4 HANA and they arrive via SAP Cloud Integration to SAP CPQ as simple products. If more complex configuration is needed, SAP CPQ or SAP Variant Configuration and Pricing Service attributes are addedto the simple products. When configured items are sent to SAP S/4 HANA, a separate subscription for each item is created.

Products are replicated from SAP S/4 HANA into SAP CPQ using the ImportMaterialsFromERP SOAP API.
The following are the product details that arrive to SAP CPQ from SAP S/4 HANA via the SAP Cloud Integration:

- name
- system ID
- product type
- part number
- unit of measure
- category

If SAP Variant Configuration is used for product configuration, the attributes (VC characteristics) are synchronized from SAP Variant Configuration to SAP CPQ via knowledge base synchronization.

4.10.2 Maintain Product Types

Follow the below procedure to create Product Type in SAP CPQ. This Product Type is mapped from S/4 HANA Material Group (S/4 field: MARA-MATKL) in SAP Cloud Integration middleware. If during product replication a product type does not exist in CPQ, the product is not replicated, and an error is raised. You have to replicate the product manually, after you maintained the product type in CPQ.

Procedure

1. Login to SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup*.
3. In left navigation bar, select *Product Types* under *Product Catalog*.
4. Choose *Add New* button.

5. Maintain *Product Type Name* for example as **<Metal Processing>** and *Product Type Rank*, for example **<10>.**
6. Choose Save.
7. Choose *Add New* button.
8. Maintain *Product Type Name* for example, **<Electronics>** and *Product Type Rank* for example **<11>.**
9. Choose Save.

4.10.3 Maintain Products Categories

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 cannot be replicated. The Product Category is mapped with SAP S/4 HANA Product Hierarchy in SAP Cloud Integration middleware using a value mapping.

Note: As the category field is mandatory in SAP CPQ product, make sure that the hierarchy is maintained for the SAP S/4 HANA product (field MARA-PRDHA).

Procedure

1. Login to SAP CPQ system using an Administrator User.
2. Choose Setup in left menu bar and choose Setup.
3. In left navigation bar, select Categories under Product Catalog.
4. Choose Add New button.
5. Maintain the Product Category by giving Category Name for example, **<Machines>,** Category Description for example, **<Machines>,** Rank for example, **<10>** and check the Active checkbox.
6. Choose Save.
7. Choose Add New button.
8. Maintain the Product Category by giving Category Name for example, **<Vehicles>,** Category Description for example, **<Vehicles>,** Rank for example, **<11>** and check the Active checkbox.
9. Choose Save.

4.11. Enable Quote and Item Comments

Users of SAP CPQ and SAP S/4HANA have the possibility to exchange comments, both global quote level comments and item level comments. To make this possible for users, you need to make the fields visible on the quote and to give users the editing permissions.

4.11.1 Make the Fields Editable on Quotes

Procedure:

1. Login to your SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup*.
3. Select *Fields, Calculations, Layout* under *Quotes* in left navigation bar.
4. Go to *Field Editability* tab.
5. Under *Select Permission Group*, expand for example, **<User Types>** and select for example, **<Sales>.**
6. Under *Select Quote Status* select for example, **<Preparing>**
7. Check the checkboxes under *Selected fields are editable*.

   (The above steps are followed to delimit which users have the rights to post comments by selecting their company, permission group, etc. and then selecting in which quote status is the comment editable.

   For example,

   - *User Description* – item-level comment, should be selected for both main and line items.
   - *Cart Comment* – global quote-level comment)
8. Choose Save.

4.11.2 Make the Fields Visible on Quotes

Procedure

1. Login to your SAP CPQ system using an Administrator User.
2. Choose *Setup* in left menu bar and choose *Setup*.
3. Select *Fields, Calculations, Layout* under *Quotes* in left navigation bar.
4. Go to *Layout Permissions* tab.
5. Under *Select Permission Group*, expand for example, **<User Types>** and select for example, **<Sales>.**
6. Under *Select Layout Items* select for example, **<Columns>** or for example, **<Sections>** or any subcategories under each of them.

   (The above steps are done to delimit, to which users are the fields visible by selecting their company, permission group, etc)
7. Choose *Save.*

5. SAP S/4 HANA Configuration

5.1. Important Notes

Following notes should be implemented in S/4 before proceeding:

- 3015231
- 3016807
- 3013330
- 3014472
- 3014920
- 3048492

5.2. Create User

Procedure:

1. Access the following transaction

Transaction code	**SU01**

2. In the *User Maintenance: Initial Screen*, enter the following values

Field Name	Value
User	**<CPQS4HINTEG>**

3. Select *Create*.
4. In the *Maintain Users* Screen, navigate to *Address* tab

Last Name	for example: **<CPQS4HINTEG>**
E-Mail Address	**valid E-Mail Address to send Request for Quotations and Orders**
Method	Select *Remote Mail* from the drop down

5. In the *Logon Data*, enter the following values:

User Type	Select **Communications Data** from the drop down

Password	**<password>**

Note

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

5. Choose *Save*.

5.3. Define Logical System

This chapter 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. In the *Change View "Logical Systems": Overview* , Choose *New Entries:*

Field Name	Value
User	**<CPQS4HINTEG>**

3. Create a logical system that identifies the on-demand system, as given in the table below

Logical System	for example: **<CPQINTS4H>**
Name	for example: **<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.

5.4. Business Partner Replication via SAP Master Data Integration

The Business Partner Replication can either be triggered directly from SAP S/4HANA to CPQ or via SAP Master Data Integration. Both scenarios can make use of the same iFlow in SAP Cloud Integration as the inbound Business Partner object has the same structure. However, the settings in SAP S/4HANA determine if the Business Partner is replicated directly from SAP S/4HANA to CPQ or from SAP S/4HANA via SAP MDI to CPQ.

Find the detailed description about the required steps under this link:
https://help.sap.com/viewer/246fb358c1c7413289c03b8c72734209/1.6/en-US/3e0b477a09454e68ae2beda7b9654ec6.html

NOTE:

Business Partner Replication can be done via SAP Master Data Management as well. If such is the case, the same procedure explained below is also applicable for SAP Master Data management.

5.4.1 Activate Function Modules

This step might be already done if you used the direct business partner integration before.

1. Access the transaction using the following navigation path:

Transaction code	BUPA_CALL_FU
SAP IMG Path	Cross-Application Components ➔ SAP Business Partner ➔ Data Distribution ➔ Activate Function Modules.

2. In the *Change View Data Exchange: Activation of Function Modules": Overview* maintain the following values to activate the function module

Event	Object	Item	Function Module	Call
Business Partner	Business Partner and BP Relationship	5000001	MDG_BS_BP_OUTBOUND_DRF	X

3. Choose *Save*.

5.4.2 Configure Data Replication Framework

1. Access the transaction using the following navigation path:

Transaction code	DRFIMG
SAP IMG Path	Cross Application Component ➔ Processes and Tools for Enterprise Applications ➔ Master Data Governance ➔ Central Governance ➔ Data Replication ➔ Define Custom Settings for Data Replication ➔ Define Technical Settings➔ Define Technical Systems for Business Systems

2. In the "Define Business Systems": Overview choose *Create New Entries* and maintain the following values.

Business System	Logical System	RFC Destination	Logical File Path	Download to PS	Unicode	Unicode Code Page
CPQINTS4H	CPQINTS4H					0

3. Choose the newly created business system and choose *Define Bus.Systems, Bos:*
4. On the Screen *Define Bus.Systems, Bos: Overview*, choose *Create New Entries*:

BO Type	Sys.Filt.	Outp.Mode
986	<Selected>	D Direct Output

5. Choose the newly created BO Type and choose *Define Bus. Systems, Bos, Communication Channel*:
6. In the *Define Bus. Systems, Bos, Communication Channel:Overview* , choose *Create New Entries*:

C.Channel	Key Harm.	Upd.KM	Storage	Time Dep.	Cr Templte	Ch Templte
1 Replication Via Services	Not Defined		Not Defined	Not Defined		

7. Choose Save.

5.4.3 Create Replication Model

1. Access the transaction using the following navigation path:

Transaction code	**DRFIMG**
IMG Path	*Define Custom Settings for Data Replication* ➔ *Define Replication Models*

2. In the *Define Replication Model:Overview*, choose *New Entries*:

Replication Model	Description	Log Days	Active
MDBP_SRVC	BP Service on Cloud Platform		X

3. Choose Save.
4. Choose the created Replication Model and choose Assign Outbound Implementation in the left navigation
5. In the *Assign Outbound Implementation:Overview* , choose *New Entries:*

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

6. Choose the newly created outbound Implementation and choose *Assign Target Systems for Repl. Model/Outb.Impl.* in the left navigation.
7. In the *Assign Target Systems for Repl. Model/Outb.Impl.: overview,* choose *New Entries*:

Business System
MDBP_SRVC

8. Choose the newly created *Business System* and choose *Assign Outbound Parameter* in the left navigation,
9. In the *Assign Outbound Parameter: Overview*, choose *New entries*:

Parameter Description	Mandatory	Outbound Parameter Value	Value Description
PACK_SIZE_BULK	Package Size for Bulk Messages	<selected>	20

Note

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

10. Choose *Save*.
11. Navigate to the Define Replication Model: Overview Screen and choose Replication Model *MDBP_SRVC*.
12. Choose Activate.

5.4.4 Settings in SAP Cloud Platform

1. Access SAP Cloud Platform and select the correct subaccount.
2. Select *Service Instances* and create / adjust a Master Data Integration Service.

   This will later need the Credentials from this Service Instance for the Webservice Configuration. Client ID will be the User and Client Secret will be the password.
3. Go to *Destinations* and create a new destination for the Business Partner integration in the subaccount

Name	The name should have BPOUTBOUND as suffix as MDI will check for this suffix and sends out data to these systems,for example, **<CPQ_BPOUTBOUND>**
Type	**HTTP**
URL	Endpoint URL of the Business Partner Integration iFlow in SAP Cloud Integration, for example, **<https://<CPI URL>/cxf/scpmasterdata/bpreplicationtocpq>**
Proxy Type	**Internet**
Authentication	**Basic**
User	Credentials of the SAP Cloud Integration Communication User

After making these settings, choose save. Then add the additional Property **MDOCONSUMER=true**:

Then check if the connection is working by choosing the "*Check Connection*" button.

4. Make sure that the subaccount is connected in the Cloud Connector.

5.4.5 Create Distribution Model

1. Log on to the MDI MDO UI to create Distribution Model
2. Choose *Manage Distribution Model* tile:
3. Enter the following values:

Field	Value
Model Name	**CPQ_BP**
Description	**Replicate Business Partner to CPQ**
Business Object Type	**Business Partner (147)**
Package Size	**20**
Continuous Distribution	**Yes** (alternative: define a recurrence pattern)
Provider	**MDO-Provider** (choose the value from the help)
Consumer	Choose the destination from the Cloud Platform, for example, **<CPQ_OUTBOUND>**
Object Selection / Include	Set *BusinessPartner.Status* equals to **02**. This means that when a new business partner is created in MDI, it will first be sent to S/4 HANA and activated there. Afterwards, it will be sent to SAP CPQ. Otherwise, the system would send the business partner to both S/4HANA and SAP CPQ after creation.

5.5. Product Replication from SAP S/4HANA to SAP CPQ using SOAP

5.5.1 Configure Data Replication Framework

Procedure:

1. Access the transaction using the following navigation path:

Transaction code	**DRFIMG**
IMG Path	*Define Custom Settings for Data Replication* ➔ *Define Technical Settings*➔ *Define Technical Systems for Business Systems*

2. In the *Change View Define Business Systems: Overview* choose *New Entries*:

Business System	Logical System	RFC Destination	Logical File Path	Download to PS	Unicode	Unicode Code Page
CPQINTS4H	CPQINTS4H					0

3. Choose the *Business System* and choose *Define Bus.Systems, Bos* in the left navigation.
4. In the *Change View Define* Bus.Systems, Bos: Overview, choose *New Entries*:

BO Type	Sys.Filt.	Outp.Mode
194	<Selected>	D Direct Output

Note

If Output Mode is selected as Direct Output, product data distribution will be triggered immediately on Save. In this case, DRFOUT is not required to replicate changes. If Output Mode is selected as Pooled Output, data is distributed using DRF change pointers and DRFOUT has to be executed or scheduled to create and send the data.

5. Choose the *BO Type* and choose *Define Bus. Systems, Bos, Communication Channel:* in the left navigation
6. In the *Change View Define Bus. Systems, Bos, Communication Channel:Overview ,* choose *New Entries*:

C.Channel	Key Harm.	Upd.KM	Storage	Time Dep.	Cr Templte	Ch Templte	
1 Replication Via Services	Not Defined		Not Defined	Not Defined			

7. Choose *Save*.

5.5.2 Configure Replication Models

1. Access the transaction using the following navigation path:

Transaction code	**DRFIMG**
IMG Path	*Define Custom Settings for Data Replication* ➔ *Define Replication Models*

2. In the *Define Replication Model:Overview* , Choose *New Entries*:

Replication Model	Description	Log Days	Active
CPQ_S4_INT	CPQ Integration with S4/HANA	50	<Selected>

3. Choose *Save*.
4. Choose the replication model and choose *Assign Outbound Implementation* in the left navigation.
5. In the *Assign Outbound Implementation:Overview* , choose *New Entries*:

Outbound implementation	Description	Sequence	Communication Channel	Filter Time
194_3	Outbound Impl. for Product via Services		1 Replication via Services	2 Filter After Change Analysis

6. Choose the new outbound implementation and choose *Assign Target Systems for Repl. Model/Outb.Impl*. in the left navigation.
7. In *the Assign Target Systems for Repl. Model/Outb.Impl.: overview* ,Choose choose *New Entries*:

Business System
CPQINTS4H

8. Choose the new *Business System* and choose *Assign Outbound Parameter* in the left navigation.
9. In the *Assign Outbound Parameter: Overview*, choose *New entries*:

Outbound Parameter	Parameter Description	Mandatory	Outbound Parameter Value	Value Description
PACK_SIZE_BULK	Package Size for Bulk Messages	<selected>	20	

Note

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

10. Choose *Save*.
11. Navigate to the *Define Replication Model: Overview*.
12. Choose the replication model *CPQ_S4_INT* and choose *Activate*.

5.5.3 Configuration for Filter Values

Purpose:

The SAP CPQ integration only supports sales and subscriptions products. Therefore, you have to create a DRF filter for the product replication, so that only these kinds of products are replicated.

If you use several distribution chains (Sales Organization and Distribution Channel) for your products, you have to do the following, because in SAP CPQ only one distribution chain can be used:

Set a filter value in DRF on the distribution chain you want to use for the integration

If you do not use a filter, the first distribution chain is used, i.e. the attributes for contract terms are taken from this distribution chain

Note

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

Procedure:

1. Access the transaction using the following navigation path:

Transaction code	DRFF

2. Select the replication model for products and choose *Create*.
3. Define the S/4 Product Types that are relevant for replication.
4. Filters can also be added on the distribution chain.
5. Select Segment filter for *sales - MDM_SALE_F* and enter the *Sales Organization* and *Distribution Channel*.
6. Choose *Save*.

5.5.4 Automatically Generate Integration Settings for Data Exchange

1. Access the transaction using the following navigation path:

Transaction code	RCOD_CONNECTIVITY

Note

This transaction mainly creates following settings:

- Connection to SAP Cloud Integration
- Endpoints for all selected web services
- Periodic batch jobs needed for integration
- Logical ports for outbound web services

2. In the *Generate Integration Settings Step 1 of 5 (6) – Middleware Selection* screen, choose *SAP Cloud Integration* and Choose *Next*.

3. In the *Generate Integration Settings Step 2 of 5 (6) – Scope Selection*:
   3.1. In the *Business Partners* section, select *Do you want to replicate accounts and Contacts from SAP S/4 HANA to your cloud Solution?*.
   3.2. In the *Products section,* select *Do you want to replicate products from SAP S/4 HANA to your cloud solution?*

4. Choose Next.

5. In the *Generate Integration Settings Step 3 of 5 (6) – General Settings,* maintain the below settings and choose *Next*::

Field	Entry
Logical System	Do one of the following: Enter the logical system of the SAP CPQ system or Choose *Create Logical System* to create new logical system.
Job Schedule Interval	Enter the frequency with which the inbound and outbound IDocs should be processed in the SAP S/4HANA system, for example `<15 min>`
Job User	Enter the user using which batch jobs are scheduled.

6. Choose *Next*.
7. On the *Generate Integration Settings Step 4 of 5 (6) – Settings for SAP CPI* maintain the below settings and choose *Next*:

Field	Entry
Runtime URL	Worker node URL of the 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.

8. In the *Generate Integration Settings Step 5 of (6) – Consumer Proxy Settings* screen maintain the below settings and choose *Next*:

Field	Entry
URL Access Path	
Business Partner Replication	`/cxf/S4/CPQ/BusinessPartnerSUITEBulkReplicateRequest_Out`

Field	Entry
Business Partner Relationship Replication:	/cxf/S4/CPQ/ReplicateBusinessPartnerRelationship
Product Replication:	/cxf/S4/CPQ/ProductMDMBulkReplicateRequest_Out
Connection Parameters:	
Logical Port	CPQ_LOGPORT
Computer Name	
URL Port	443
URL Protocol	https
Proxy Password	
Logon Procedure	
SSL Client Certificate	X

9. Choose *Next*.
10. In the *Generate Integration Settings: Step 6 of 6 -Summary* screen, choose *Generate*.
11. Choose *Yes* to confirm the pop up.

> **Note**
>
> You could check the created entities in log.

5.6. Settings in SOAMANAGER

5.6.1 Port for Products

1. Access the transaction using the following navigation path:

Transaction code	SOAMANAGER

2. Choose *Web Service Configuration* in the browser.
3. In the *Web Service Configuration* page, under *Design Time Object Search* enter the following details.

Field	Entry
Object Type	**Consumer Proxy**
Object Name	Contains endpoint of the corresponding iFlow, for example **<ProductMDMBulkReplicateRequest_Out>**

4. Choose the search result *CO_MDM_PRD_BULK_REPL_REQ_OUT*.
5. In the *Configurations*, check if the *Creation Type* is *Manually Created*.
6. In the *Define Logical Ports* add the *Authentication* as below and ensure the port is active.

Field	Entry
Authentication Method	**Username/Password (Basic)**
User:	Enter a user, for example **<ABCD>**
Password	Enter a password, for example **<XYZ>**

Actions	Logical Port	State	Logical Port is Default	Description	Creation Type
	CPQ_LOGPORT	Active			Manually created

5.6.2 Port for Business Partners

5.6.2.1 Direct Integration from SAP S/4 HANA to SAP CPQ

1. Access the transaction using the following navigation path:

Transaction code	**SOAMANAGER**

2. Choose *Web Service Configuration* in the browser.
3. In the *Web Service Configuration* page, under *Design Time Object Search* enter the following details.

Field	Entry
Object Type	**Consumer Proxy**

Field	Entry
Object Name	Contains endpoint of the corresponding iFlow, for example `<BusinessPartnerSUITEBulkReplicateRequest_Out>`

4. Choose the search result *CO_MDG_BP_RPLCTRQ* .
5. In the *Configurations*, check if the *Creation Type* is *Manually Created*.
6. In the *Define Logical Ports* add the *Authentication* as below and ensure the port is active.

Field	Entry
Authentication Method	`Username/Password (Basic)`
User	Enter a user, for example `<ABCD>`
Password	Enter a password, for example `<XYZ>`

Actions	Logical Port	State	Logical Port is Default	Description	Creation Type
	CLOUD_MD_SERVICE	Active	true	Business Partner Service on SAP Cloud Platform	Manually created
	CPQ_LOGPORT	Active			Manually created

5.6.2.2 Integration from SAP S/4 HANA to SAP CPQ via SAP MDI

1. Access the transaction using the following navigation path:

Transaction code	**SOAMANAGER**

2. Choose *Web Service Configuration* in the browser.
3. In the *Web Service Configuration* page, under *Design Time Object Search* enter the following details.

Field	Entry
Object Type	`Consumer Proxy`
Object Name	Contains endpoint of the corresponding iFlow, for example `<BusinessPartnerSUITEBulkReplicateRequest_Out>`

4. Choose the search result *CO_MDG_BP_RPLCTRQ* .
5. In the *Configurations*, check if the *Creation Type* is *Manually Created*.
6. In the *Define Logical Ports* add the *Authentication* as below and ensure the port is active.

Field	Entry
Authentication Method	**Username/Password (Basic)**
User	Enter a user, for example **<ABCD>**
Password	Enter a password, for example **<XYZ>**

Create the new port manually. Choose Create ➔ Manual Configuration. Enter a name for the logical port, e.g. CLOUD_MD_SERVICE.

Consumer Security

Authentication level	Basic
Authentication Settings	User ID / Password
User ID / Password	Enter the User Name and the Password from the Service Key in the Cloud Platform

Messaging

RM Protocol	SAP RM
Message ID Protocol	SAP Message ID
Data Transfer scope	Basic Data Transfer
Transfer Protocol	Transfer via SOAP header

Transport Settings

URL Access Path	Radion Button: Complete URL
URL	URL of the Master Data Integration Service from the Cloud Platform
Logon Language	Language of User Context
Make Local Call	No Call in Local System
Transport Binding Protocol	SOAP 1.1
Maximum Wait for WS Consumer	0

Make sure the port is active and that pinging the port is successful:

Actions	Logical Port	State	Logical Port is Default	Description	Creation Type
	CLOUD_MD_SERVICE	Active	true	Business Partner Service on SAP Cloud Platform	Manually created

	CPQ_LOGPORT	Active			Manually created

5.7. Configurations for Product Master Data

5.7.1 Product Master Data

For the integration the product master must follow following rules:

- Product group (MARA-MATKL) is used for the mapping to SAP CPQ product type
- Product hierarchy (MARA-PRDHA) is used for mapping to SAP CPQ product category. As this is mandatory in SAP CPQ the same as to be defined as a mandatory field in S/4 HANA product master. Additionally, a value mapping in CPI must be maintained.
- Several billing cycles for the same product in SAP CPQ can be used, in that case a billing cycle determination rule should be used in the S/4 HANA product. Additional billing cycle can be set in the S/4 HANA product which is then used as default in the SAP CPQ product

5.7.2 Product Bundle

Product bundles defined in S/4 HANA are not replicated to CPQ and should not be used for this integration scenario, i.e. do not replicate such bundle products. A bundle product can be defined directly in CPQ. Therefore, a root product must be created in S/4 HANA which is used as the root product for this bundle. This root product can either be a subscription product or a dummy product. Dummy product will not create any follow-up documents in S/4 HANA and it is used only for the bundling purpose. For such a dummy product a specific item category and item category group should be assigned as described in later section.

5.7.3 Product Type

A product type that has the product hierarchy as mandatory field should be created.

The product type (MARA-MTART) is used in CPI value mapping to distinguish between sales and subscription products.

5.7.4 Define Product Group

The Product Group (MARA-MATKL) in SAP S/4HANA are mapped to Product Types in SAP CPQ. In SAP CPQ the product type is used to see intermediate sums based on product types. This allows to distinguish between:

- Cloud Subscriptions
- HEC Subscriptions
- Printers
- Laptops and Desktops

1. Access the transaction using the following navigation path:

Transaction code	OMSF

2. In the *Change view "Material Groups": Overview screen*, create or choose the entries for material groups:

Matl Group	Material Group Desc.	AGrp	Default unit of wt/DUW	Description 2 for the Material Group
BUND	Bundle Product			
HAWA	Trading Goods			
NLAG	Non-stocks materials			
NLAG-CTR	Non-st contract mat			
SUBS	Subscription Product			

3. Choose *Save*.

5.7.5 Define Product Hierarchy

The S/4 HANA Product Hierarchy (MARA-PRDHA) is mapped to any of the SAP CPQ Product Categories:

- Bundle Offerings
- Subscriptions Only
- Add On's

1. Access the transaction using the following navigation path:

Transaction code	OVSV
SAP IMG Path	SPRO ➔ Logistics - General ➔ Material Master ➔ Settings for Key Fields ➔ Data Relevant to Sales and Distribution ➔ Define Product Hierarchies

2. Choose *Maintenance: Prod.Hier.*. and create *New Entries*:

3. Choose *Save*.

Product Hierarchy	Level.no.	Description
00003	1	HAWA
00004	1	SUBS
00005	1	BUND
00006	1	NLAG

5.8. Pricing

5.8.1. Condition Types

Note

If SAP Variant Configuration and Pricing is not used, condition types can be defined without access sequence. These condition types must then be assigned in SAP CPQ to the CPQ item prices.

If CPS is used for pricing, then you must add condition function BASE to condition type for base price. For example, PSMB and condition function VARC to condition type for variant condition for example, VASE.

The following condition types are only an example on how monthly or yearly fees / surcharges can be assigned in pricing procedure. Create those condition types which are relevant as per the requirements. Adjust the pricing procedure mentioned in next chapter accordingly with the required condition types.

1. Access the transaction using the following navigation path:

Transaction code	**SPRO**
SAP IMG menu	Sales and Distribution ➔ Basic Functions ➔ Pricing ➔ Pricing Control ➔ Define Condition Types

2. Choose *Set Condition Types for Pricing*
3. In the *Change View :Conditions: Condition Types:" Overview*, choose *New Entries* and maintain the following condition types.

Field	Value
Condition Type	ZMM3
Text	Man Surcharge Monthl
Control Data 1	
Condition Class:	A (Discount or surcharge)
Calculation Type:	M (Quantity- Monthly Price)
Dat.Rec.Source:	Condition Technique (SAP S/4 HANA)
Changes which can be made	
Manual entries:	C (Manual entry has priority)
Item Condition:	X
Delete:	X
Amount/Percent:	X
Quantity Relation:	X
Value:	X
Master Data	
Delete from DB:	Do not delete (set the deletion flag only)
Scales	
Scale Base Type:	C (Quality scale)
Text Determination	
TextDeterminationProcedure:	01 Price
Text ID:	0001 (Internal comment)
Condition Type	ZMSC
Text	Manual Surcharge
Control Data 1	
Condition Class:	A (Discount or surcharge)
Calculation Type:	C (Quantity)

Dat.Rec.Source:	Condition Technique (SAP S/4 HANA)
Changes which can be made	
Manual entries:	C (Manual entry has priority)
Item Condition:	X
Delete:	X
Amount/Percent:	X
Quantity Relation:	X
Value:	X
Master Data	
Delete from DB:	Do not delete (set the deletion flag only)
Scales	
Scale Base Type:	C (Quality scale)
Text Determination	
TextDeterminationProcedure:	01 Price
Text ID:	0001 (Internal comment)
Condition Type	ZSMB
Text	Manual Surcharge
Control Data 1	
Condition Class:	B (Prices)
Calculation Type:	M (Quantity- Monthly Price)
Dat.Rec.Source:	Condition Technique (SAP S/4 HANA)
Changes which can be made	
Manual entries:	C (Manual entry has priority)
Item Condition:	X
Delete:	X

Amount/Percent:	X
Quantity Relation:	X
Value:	X
Master Data	
Delete from DB:	Do not delete (set the deletion flag only)
Scales	
Scale Base Type:	C (Quality scale)
Text Determination	
TextDeterminationProcedure:	01 Price
Text ID:	0001 (Internal comment)
Condition Type	ZSYB
Text	Man. Yearly Subs Fee
Control Data 1	
Condition Class:	B (Prices)
Calculation Type:	N (Quantity – Year Price)
Dat.Rec.Source:	Condition Technique (SAP S/4 HANA)
Changes which can be made	
Manual entries:	C (Manual entry has priority)
Item Condition:	X
Delete:	X
Amount/Percent:	X
Master Data	
Delete from DB:	Do not delete (set the deletion flag only)
Scales	
Scale Base Type:	C (Quality scale)
Scale Type	B (To Scale)
Scale Unit	YR

Text Determination	
TextDeterminationProcedure:	01 Price
Text ID:	0001 (Internal comment)
Condition Type	ZYMS
Text	Man Surcharge Yearly
Control Data 1	
Condition Class:	A (Discount or surcharge)
Calculation Type:	N (Quantity – Year Price)
Dat.Rec.Source:	Condition Technique (SAP S/4 HANA)
Changes which can be made	
Manual entries:	C (Manual entry has priority)
Item Condition:	X
Delete:	X
Amount/Percent:	X
Quantity Relation:	X
Value:	X
Master Data	
Delete from DB:	Do not delete (set the deletion flag only)
Scales	
Scale Base Type:	C (Quality scale)
Text Determination	
TextDeterminationProcedure:	01 Price
Text ID:	0001 (Internal comment)
Condition Type	ZYSF
Text	Yearly Subscr Fee
Control Data 1	

Condition Class:	B (Prices)
Calculation Type:	N (Quantity – Year Price)
Condition Function	Base
Dat.Rec.Source:	Condition Technique (SAP S/4 HANA)
Changes which can be made	
Manual entries:	C (Manual entry has priority)
Item Condition:	X
Delete:	X
Amount/Percent:	X
Master Data	
Delete from DB:	Do not delete (set the deletion flag only)
Scales	
Scale Base Type:	C (Quality scale)
Scale Type	B (To scale)
Scale Unit	MON
Text Determination	
TextDeterminationProcedure:	01 Price
Text ID:	0001 (Internal comment)
Condition Type	ZYVA
Text	Yearly Variant Price
Control Data 1	
Condition Class:	A (Discount or surcharge)
Calculation Type:	N (Quantity – Year Price)
Condition Function	VARC
Dat.Rec.Source:	Condition Technique (SAP S/4 HANA)
Changes which can be made	

Manual entries:	C (Manual entry has priority)
Item Condition:	X
Delete:	X
Amount/Percent:	X
Quantity Relation:	X
Value:	X
Master Data	
Delete from DB:	Do not delete (set the deletion flag only)
Scales	
Scale Base Type:	C (Quality scale)
Control Data 2	
Used for Var.Config	X
Text Determination	
TextDeterminationProcedure:	01 Price
Text ID:	0001 (Internal comment)

5.8.2. Define Pricing Procedure

Define a pricing procedure with the required condition types mentioned in the above chapter and assign it to the Solution quotation and Subscription contract. User defined pricing procedure is required to define monthly and yearly prices and cumulated discounts.

1. Access the transaction using the following navigation path:

Transaction code	**SPRO**
SAP IMG menu	Sales and Distribution ➔ Basic Functions ➔ Pricing ➔ Pricing Control ➔ Define And Assign Pricing Procedures

2. Choose the activity *Set Pricing Procedure*.

3. Choose *New Entries*

Field	Value
Procedure	For example **< ZSQSAPCPQ>**
Description	For example **<Solution Quote from SAP CPQ>**

4. Choose the new pricing procedure and navigate to *Procedures - Control data*, in the left navigation.
5. In the *Change view: Procedures – Control Data": Overview* , choose *New Entries.*

Step	Counter	Condition Type	Description	From Step	To Step	Manual Only	Required	Relevant for Account Determination	Print Type	Subtotal	Requirement	Alt.Calc.Cndn Amount	Alt.Cnd n Base Value	Account Key	Accurals
20	0	PPR0	Price								2			ERL	
30	0	PSPB	Bundle Price								2			ERL	
35	0	VA00	Variant Price								2			ERL	
40	0	ZMSC	Manual Surcharge								2			ERL	
50	0	PMP0	Manual Price			X					2			ERL	
100	0		One-Time Payment Net						a	1		2			
107	0	DAI1	Accntng Ind. (Abs.)						a		2			ERS	
108	0	DAI2	Accounting Ind. (%)	100					a		2			ERS	
120	0	DPG1	Cust. Grp / Material						a		2			ERS	
190	0	DPG4	Customer/Mat.Pr.Grp						a		2			ERS	
200	0	DRV1	Fixed Amount 1			X			a		2			ERS	
210	0		Sum One-Time Surch./ Discounts	101	209										
400	0	PSI1	Price f.Srv.Cntr.Itm								2			ERL	
410	0	PSMB	Monthly Subscr Fee								2			ERL	
420	0	VASE	Variant Price								2			ERL	

425	0	ZMMS	Man Surcharge Monthl								2			ERL	
430	0	ZYSF	Yearly Subscr Fee								2			ERL	
440	0	ZYVA	Yearly Variant Price								2			ERL	
445	0	ZYMS	Man Surcharge Yearly								2			ERL	
450	0	ZSMB	Man. Month. Subs Fee			X					2			ERL	
460	0	ZSYB	Man. Yearly Subs Fee			X					2			ERL	
500	0		Periodic Payment Net	400	499					2		2			
510	0	DSI1	Man. Srv.Cntr. Surch			X			a		2			ERL	
511	0	DSI2	Man. Srv. Surch. (%)	500		X			a		2			ERL	
515	0	DSP1	Service Profile						a		2			ERL	
516	0	DSP2	Response Profile						a		2			ERL	
520	0	DPD1	Percentage Discount	500					a		2			ERS	
530	0		Sum Periodic Surch./	501	529										

			Discounts												
600	0		Net Value						a	3		2			
750	0	UTXJ	Tax Jurisdict.Code	600			X				84			MWS	
751	0	AR1	A/R Sales Tax 1	600					B					MW1	
752	0	AR2	A/R Sales Tax 2	600					B					MW2	
753	0	AR3	A/R Sales Tax 3	600					B					MW3	
754	0	AR4	A/R Sales Tax 4	600					B					MW4	
799	0	DRD1	Rounding Off 1								13	16	4	ERS	
802	0	EK02	Calculated costs			X				B					
805	0		Gross Value							9		4			

6. To create pricing procedure for Subscription Contract,Choose *New Entries*:

Field	Value
Procedure	For example < ZSCSAPCPQ >
Description	For example < Subscription Contract SAP CPQ >

7. On the *Procedures – Control data: Overview screen*, check or create the following Procedure steps:

Step	Counter	Condition Type	Description	From Step	To Step	Manual Only	Required	Relevant for Account Determination	Print Type	Subtotal	Requirement	Alt. Calc.Cndn Amount	Alt. Cndn Base Value	Account Key	ccurls								
20	0	PSPB	Bundle Price														2		ERL				
25	0	VA00	Variant Price														2		ERL				
30	0	PSMB	Monthly Subscr Fee														2		ERL				
40	0	VASE	Variant Price														2		ERL				
41	0	ZMMS	Man Surcharge Monthl														2		ERL				
42	0	ZYSF	Yearly Subscr Fee														2		ERL				
43	0	ZYVA	Yearly Variant Price														2		ERL				
44	0	ZYMS	Man Surcharge Yearly														2		ERL				
50	0	PSLC	Lock Fee														2		ERL				
100	0		Gross													a	1		2				

120	0	DPG1	Cust. Grp / Material							a		2		ERS	
130	0	DCM1	Customer/ Material							a		2		ERS	
160	0	DM01	Material							a		2		ERS	
170	0	DPD1	Percentage Discount	100						a		2		ERS	
400	0		Sum Surcharges/Discounts	101	399										
600	0		Net Value 1							a	2		2		
750	0	UTXJ	Tax Jurisdict.Code	600								84		MWS	
751	0	AR1	A/R Sales Tax 1	600		X				A				MW1	
752	0	AR2	A/R Sales Tax 2	600		X				A				MW2	
753	0	AR3	A/R Sales Tax 3	600		X				A				MW3	
754	0	AR4	A/R Sales Tax 4	600		X				A				MW4	

799	0	DRD1	Rounding Off 1									13	16	ERS	
800	0		Total Value								A		4		
805	0		Gross Value								9		4		
810	0	DCD1	Cash Discount 1									9			
820	0	GRWR	Statistical value	600							C	8			
830	0	PCIP	Internal Price								B	4			
850	0		Profit Margin									4	11		

5.8.3. Pricing Procedure Determination

You specify how the system determines pricing procedures for solution quotation and subscription contract every time you create a document. This activity needs to be done individually according to the setup of the organizational structure, which is different in every installation.

1. Access the transaction using the following navigation path:

Transaction code	**SPRO**
SAP IMG menu	Sales and Distribution ➔ Basic Functions ➔ Pricing à Pricing Control ➔ Define And Assign Pricing Procedures

2. Choose *Set Pricing Procedure Determination.*
3. In the *Change View :Det. Of Pricing Procedure in Sales Docs.:" Overview*, choose *New Entries,* to maintain the pricing procedure determination:

Sales Organization	Distribution Channel	Division	Doc.Pricing.Proc	Cust.Pricing.Pric	Pricing Procedure	Pricing Procedure	Condition Type for Fast Entry

2020	10	10	A	1	ZSQCPQ	Solution Quote from CP	
2020	10	10	S2	1	ZSQCPQ	Solution Quote from CP	
2020	10	10	S5	1	ZSCCPQ	Subscription Contract	

4. Choose *Save*

5.9 SOAMANAGER Configuration for Sales Order

5.9.1 Create Profile

This is to define the security settings and access to the API. Basically any user with the rights to create / change / delete Sales Orders will be able to use the API in On-Premise.
Differently from the Cloud Communication Arrangements, no specific user is created in SOAMANAGER.

1. Open Transaction SOAMANAGER in the source system.
2. Choose **`Local View`** in the *Mode* dropdown
3. Navigate to *Technical Administration* and choose *Profiles.*
4. Choose *Create Profile.*
5. In the *General Section*, enter *Name* for example as **`<BP_SALESORDER_CPQ>.`**
6. Enter *Profile Description* for example as, **`<Sales order A2A API for CPQ Integration>.`**
7. Select *Old Profile Mode*.
8. Choose *Next*.
9. In the Security section, choose *Authentication Method* as *UserID/Password.*
10. Select *Secured Communication* under *Transport Security.*
11. Choose **`IBC Determination Type`** as **`No IBC Determination.`**
12. Choose *Next* and choose *Finish* in the *Transport Settings* section.
13. Choose *Yes* on the pop up to activate the profile immediately.

5.9.2 Create a Provider System

In comparison with the Cloud Communication Arrangement, this is the Communication System.

In this specific point, the configuration here relates only as the real 'Provider' System, where in this step, only the Outbound Services will be included to this system.

Important remark: the system name used here is the one you need to use in your Inbound Request

1. Navigate to *Technical Administration*. choose *Provider Systems* and create a provider system
2. Choose *Create Special* and then *Create Third Part System*.
3. In the *General* section, enter *Name* for example as **< CPQ_SALES_A2A_API>.**
4. Enter *Description* for example as **< CPQ integration for sales order replication>.**
5. Choose the *Profile Name* created in the above step for example as **< BP_SALESORDER_CPQ>.**
6. Choose *Next*.
7. In the *Services Search Settings* section, enter *User for WSIL* for example as **< CPQINTS4>.**
8. Enter the *Password* for WSIL.
9. Choose *Finish* and do not activate the Provider System yet.
10.

    Note: The user here is needed only to access the service metadata in the system. The user needed when calling the request URL can be any user with enough authorizations in the S/4hana System.

1. Finish but don't activate it yet
2. Edit the Provider System -> WSDL assignments
3. Upload the Outbound Message's WSDL files: these files must be adjusted in order to have the Communication Receiver as an end receiving point. Sample files are provided below:

SDSLS_ESR_SALES_ORDER_NOTIF.WSDL

SDSLS_ESR_SO_BULK_CONF_O_V2.WSDL

SDSLS_ESR_SO_BULK_ERR_LOG_O.WSDL

Example of what should be changed/added in the WSDL file:

```
</wsdl:types>        <<<<<<<<< starting here
 <wsdl:message name="SalesOrderBulkConfirmation_V2">
  <wsdl:part name="SalesOrderBulkConfirmation_V2" element="tns:SalesOrderBulkConfirmation_V2"/>
 </wsdl:message>
 <wsdl:portType name="SalesOrderBulkConfirmation_Out_V2">
  <wsdl:documentation>
   <sapdoc:sapdoc xmlns:sapdoc="urn:sap:esi:documentation">
    <sapdoc:docitem applicationComponent="SD-SLS"/>
   </sapdoc:sapdoc>
  </wsdl:documentation>
  <wsdl:operation name="SalesOrderBulkConfirmation_Out_V2">
   <wsdl:input message="tns:SalesOrderBulkConfirmation_V2"/>
  </wsdl:operation>
 </wsdl:portType>
 <wsdl:binding name="binding" type="tns:SalesOrderBulkConfirmation_Out_V2">
  <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
  <wsdl:operation name="SalesOrderBulkConfirmation_Out_V2">
   <soap:operation soapAction="http://sap.com/xi/SD-
SLS/SalesOrderBulkConfirmation_Out_V2/SalesOrderBulkConfirmation_V2" style="document"/>
  </wsdl:operation>
 </wsdl:binding>
 <wsdl:service name="service">
  <wsdl:port name="binding" binding="tns:binding">
   <soap:address
location="https://communicationscenario.cfapps.eu10.hana.ondemand.com/api/soap"/>
  </wsdl:port>
 </wsdl:service>
</wsdl:definitions>
```

4. Next, Next, Confirm, Save and Activate

5.9.3 Create Logon Data

This Logon Data relates only to the Endpoint or Receiver System login data. If you have another ERP system receiving the data, the logon data for this system should be the one informed in this step.

1. Navigate to *Service Administration* and choose *Logon Data Management*.
2. Choose *Create*.
3. In the *General* section, enter *Logon Data Name* for example as `< CPQ_CPI_V0506>.`
4. Enter *Description* as `< CPQ integration for sales order replication>.`
5. Choose *Next*.
6. In the *Credentials section,* choose *Authentication Method* as *User/Password or X.509.*
7. Enter User Credentials for example: if you use the SAP Cloud integration then enter P/S User.

8. Choose *Finish* and *Activate* Logon data.

5.9.4 Create the Local Integration Scenario Configuration

In this point, everything will be tied up together. In comparison with Cloud systems, this is where the Communication Arrangement is created.
In this step, the Inbound and Outbound services will be linked, together with the security profile and end-point logon data.

1. Navigate to *Service Administration* and choose *Local Integration Scenario Configuration.*
2. Choose *Create*.
3. In the *General* section, enter Name for example as <CPQ_SALES_A2A_API>.
4. Enter *Description* for example as <CPQ Integration for sales order replication>.
5. Choose *Next*.
6. In the *Service Definitions* section, Choose *Add* and add the inbound service SalesOrderBulkRequest_In.
7. Select the added Service profile and choose Assign Profiles. Select the Service Profile created above for example as <BP_SALESORDER_CPQ>.
8. Choose *Next*.
9. In the *Service Groups* section,

Add the 3 service groups starting with SDSLS_A2A. Like this, all 3 available Outbound Messages (Confirmation V2, Error Log and Notification) will be active for this scenario.
Note: This is the only point where it is possible to decide if you want or not to activate a specific Outbound Message.

10. Select the added service groups and choose *Assign IBC reference*

1. Assign IBC Reference = the Provider System which you have already created
2. Choose your *logon data*
3. *Finish* and *Activate*
4. Go to *Service Administration* -> *Pending Tasks*
5. Switch to *expert* mode
6. Filter by Business Scenario entering the Name of the Integration Scenario created before.
7. Then choose Process List.

Logical Ports for all services in the service group will be created.

5.9.5 Finding the right URL for this service

1. The easiest and most accurate way to find out the right URL is going to transaction SICF.

2. Search for *sales*bulk*.

3. From the result, right click the last line and select option "Test Service" this will take you to a browser window where the full link will be displayed.

4. This means, the URL in this system is:

   https://ldcix2d.wdf.sap.corp:44300/sap/bc/srt/pm/sap/salesorderbulkrequest_in/703/local/sdsls_a2a_profile/1/binding_ salesorderbulkrequest_in _sdsls_a2a_profile_l?MessageId={{$guid}}

5.9.6 Last and very important step - AIF Content Activation

Note: Not performing this step will result in the error "Class XYZ is not a Proxy Class" in SRT_MONI.

1. Execute transaction /AIF/SETUP once without Test Mode. This will enable AIF for usage in onPremise.
2. Execute transaction /AIF/CONTENT_EXTRACT and inform scenario SAP_COM_0288. This will extract the AIF Content for the A2A API Inbound and Outbound messages.
   This step is necessary to create a link between the SRT Webservices and AIF.

6 SAP Cloud Integration Configuration

Before the iFlow can be used, it must be copied to the local environment and configured. During this configuration, the iFlow is adapted to the integration environment by providing system details of the sending and receiving system.

6.1 Creating User Credentials in SAP Cloud Integration System

Procedure

1. Login to Log on to the tenant management node of the SAP Cloud Integration system with the URL `http://<tenant management node URL>/itspaces`.
2. Choose *Monitor* from left navigation bar.
3. Navigate to *Manage Security* section and *choose Security Material*.
4. Choose *Create* and select *User Credentials.*
5. Enter the following details for user of SAP CPQ.

Field	Value
Name	For Example, `<COM_USER_CPQINT>`
Type	`User Credentials`
User	Communication user maintained in CPQ # Domain of SAP CPQ system. For example, `<COM_USER_CPQINT#SAPIEE_OP_TEST>`
Password	Enter the password maintained for the communication user in SAP CPQ system.

6. Choose *Deploy*.
7. Choose *Create* and select *User Credentials.*
8. Enter the following details for user of SAP S/4HANA

Field Name	Value
Name	For Example, `<CPQS4HINTEG>`
Type	`User Credentials`
User	For example, `<CPQS4HINTEG>`
Password	Enter the password of user CPQS4HINTEG

9. Choose *Deploy*.

6.2 View Prepackaged iFlows using SAP Cloud Integration Web UI

To import and deploy integration flows, AuthGroup.IntegrationDeveloper role is to be assigned in the tenant.
Upload SAP CPQ SSL Certificates in SAP Cloud Platform.

Procedure

1. Access the SAP Cloud Integration Web UI from the provisioning e-mail. It should be in the format: http://<tenant management node URL>/itspaces
2. On the *Discover* tab, you should be able to view all pre-packaged integration flows delivered by SAP.
3. Choose the package *SAP CPQ - Quote 2.0 Integration with SAP S/4HANA Sales Order*
4. . All the artifacts of this package will be displayed when *Artifacts* is selected.

6.3 Configure and Deploy the iFlow using SAP Cloud Integration Web UI (Replication from SAP CPQ to SAP S/4HANA)

Procedure

1. Connect to the tenant management node of the SAP Cloud Integration system with the URL: http://<tenant management node URL>/itspaces.
2. On the *Discover* tab, select the package for example, *SAP CPQ - Quote 2.0 Integration with SAP S/4HANA Sales Order* Choose *Artifacts* to view all the iFlows related to this integration package.
3. Choose *Copy* on the right top corner to copy it to design area.

   Note

   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*

4. Select the *Design* mode in left navigation bar.
5. Package is now visible in the design area and can be configured.

6.4 Configuration of the iFlow “Replicate Quote 2.0 from SAP CPQ to SAP S/4HANA Sales Order”

Procedure

1. Select the Integration Package copied.
2. Choose *Artifacts* tab of the package to view list of iFlows.
3. Choose the *Actions* symbol beside the iFlow, for example, `< Replicate Quote 2.0 from SAP CPQ to SAP S/4HANA Sales Order>.`
4. Choose *Configure*.
5. The configuration is explained in the following topics. Configuration of the sender system (In this case, SAP CPQ) and the receiver system (In this case, SAP S/4HANA) and additional information.
6. Choose *Save* after completing configuration in a tab.
7. Choose *Deploy* after completion of whole configuration.

6.4.1 Sender Tab

Field Name	Value
Sender	`SAP_CPQ`
Adapter Type	`HTTPS`
Address	iFlow endpoint. For example, `</CPQInboundQuote_SalesOrder>`

6.4.2 Receiver Tab

The receivers can be configured individually by choosing from the receiver dropdown

Field Name	Value
Receiver	`Quote2OrderPostProcessingExit`
Adapter Type	`Process Direct`
Address	endpoint of the extension iFlow
Receiver	• `SAP_CPQ_QuotesAPI` • `SAP_CPQ_QuoteItemsCountAPI` • `S4_CPQ_1924` • `SAP_CPQ_QuoteItemsAPI`
Adapter Type	`HTTP`
SAP CPQ Host	URL of the SAP CPQ Host
Credential Name	User Credentials created for CPQ. For example, `<COM_USER_CPQINT>`
Timeout (in ms)	Time until Connection Timeout, default Value is `60 000`

Field Name	Value
Receiver	**SAP_S4HANA**
Adapter Type	**SOAP**
S4_Host	Logical Port of the SAP S/4HANA system. For example, **<abc:443>**
S4_Host_Path	URL that was retrieved from SOAMANAGER". There are 2 options of finding the URL: Open Transaction SICF. Enter SalesOrderBulkRequest_In as the Service Name and expand the folders. Check the URL path under SOAMAGER > Web Service Configuration > Search for Service Definition SALESORDERBULKREQUEST_IN > Transport Settings The whole path should resemble: http://<yourHostname>:<port>/sap/bc/srt/pm/sap/salesorderbulkrequest_in/<clientNumber>/local/<yourProfileName>/1/binding_t_https_a_http_salesorderbulkrequest_in<yourProfileName>_1?sap-client=<clientNumber> From the total path, select the section that is printed in bold in the previous example: /<clientNumber>/local/<yourProfileName>/1/binding_t_https_a_http_salesorderbulkrequest_in<yourProfileName>_1
Authentication	**Basic**
Credential Name	User Credentials created for SAP S/4 HANA. For example, **<CPQS4HINTEG>**
Timeout (in ms)	Time until Connection Timeout, default Value is **60 000**

6.4.3 More Tab

Field Name	Value
Type	`All Parameters`
Connection Timeout	Time until Connection Timeout in ms, default Value is `60 000`
Document Type	Sales Order document type in S/4HANA
Enable Log	Default value is `False`
Extension Implemented	Only configure this receiver if you intend to modify the standard mapping through your own iFlow. Default value is `False`
S4 Item Increment Interval	S/4HANA has another numbering interval than CPQ. The items in the Sales Order might do not have subsequent numbering as in CPQ (1,2,3 etc.) but can also be 10,20,30 etc. In this case, the value would be `10` You can check this parameter in the Customizing under *SPRO* > *Sales and Distribution* > *Sales* > *Sales Documents* > *Sales Document Header* > *Define Sales Document Type*
S4_Language	**EN**
Sender Business System	Name of the Provider System that was created in S4 in the SOAMANAGER transaction, for example **,<CPIHybrid2021>.** This ID is important to identify the correct recipient system for the Sales Order Confirmation.
ShiptoPartyKey	Key of the Ship to Party role in SAP S/4HANA, For example, **<SH>**
SoldtoPartyKey	Key of the Sold to Party role in SAP S/4HANA, For example, **<SP>**

6.4.4 Deployment

1. Choose *Deploy* after all the above configurations are done.
2. Choose *Monitor* from the left navigation bar.
3. Choose *All* from *Manage Integration Content*.
4. Check if the deployment was successful. The status should be started and an endpoint URL is displayed.

6.5 Configuration for iFlow “Replicate Sales Order Status from SAP S/4HANA to SAP CPQ Quote 2.0”

Procedure

1. Select the Integration Package copied.
2. Choose *Artifacts* tab of the package to view list of iFlows.
3. Choose the *Actions* symbol beside the iFlow, for example, **<Replicate Sales Order status from SAP S/4HANA to SAP CPQ Quote 2.0>.**
4. Choose *Configure*.

5. The configuration is explained in the following topics. Configuration of the sender system (In this case, SAP CPQ) and the receiver system (In this case, SAP S/4HANA) and additional information.
6. Choose *Save* after completing configuration in a tab.
7. Choose *Deploy* after completion of whole configuration.

6.5.1 Sender Tab

Field Name	Value
Sender	`Sender`
Adapter Type	`SOAP`
Address	iFlow endpoint

6.5.2 Receiver Tab

Field Name	Value
Receiver	• `CPQ_ErrorMessage_1923` • `CPQ_Message_1924`
Adapter Type	`HTTP`
CPQ Host	URL of the SAP CPQ Host
Credential Name	User Credentials created for CPQ. For example, `<COM_USER_CPQINT>`

6.5.3 Deployment

5. Choose *Deploy* after all the above configurations are done.
6. Choose *Monitor* from the left navigation bar.
7. Choose *All* from *Manage Integration Content*.
8. Check if the deployment was successful. The status should be started and an endpoint URL is displayed.

6.6 Configuration for iFlow “Replicate Product from SAP S/4HANA”

Procedure

1. Select the Integration Package copied.
2. Choose *Artifacts* tab of the package to view list of iFlows.
3. Choose the *Actions* symbol beside the iFlow, for example, *<Replicate Product from SAP S4HANA>.*
4. Choose *Configure*.
5. The configuration is explained in the following topics. Configuration of the sender system (In this case, SAP S/4HANA) and the receiver system (In this case, SAP CPQ) and additional information.
6. Choose *Save* after completing configuration in a tab.
7. Choose *Deploy* after completion of whole configuration.

6.6.1 Sender Tab

Field Name	Value
Sender	`S4HANA`
Adapter Type	`SOAP`
Address	iFlow endpoint, For example, `</S4/CPQ/ProductReplicateRequest_Out>`
Authorization	`User Role`
User Role	`ESBMessaging.send`

6.6.2 Receiver Tab

The receivers can be configured individually by choosing from the receiver dropdown.

Field Name	Value
Receiver	`CPQ`
Adapter Type	`SOAP`
Address	For example, `<https://<SAP CPQ Host>/wsAPI/wssrv.asmx>`, www.webcomcpq.com is the SAP CPQ Host
SAP CPQ Host	For example, `<www.webcomcpq.com>`, without http protocol in front
Proxy Type	`Internet`
Authentication	`Basic`
Credential Name	User Credentials created for SAP S/4 HANA. For example, `<CPQS4HINTEG>`
Timeout in ms	`60000`
Allow Chunking	Selected

Field Name	Value
Receiver	`MaterialReplicationPostExit`
Adapter Type	`Process Direct`
Address	Endpoint URL. For example,`</S4/CPQ/ProductReplicateRequest_Out_PostExit>`

6.6.3 More Tab

Field Name	Value
Type	Select `All Parameters` from the dropdown
EnableLog	Set `true` to enable log files, `false` to disable logs. Default value is `false`
Extension Implemented	By using an extension, it is possible to call a customer-specific iFlow in the Extension subprocess. Default value is `false`

6.7 Configuration for iFlow "Replicate Business Partner from SAP Master Data Integration"

Procedure

1. Select the Integration Package copied.
2. Choose *Artifacts* tab of the package to view list of iFlows.
3. Choose the *Actions* symbol beside the iFlow, for example, `<Replicate Business Partners from SAP Master Data Integration>`.
4. Choose *Configure*.
5. The configuration is explained in the following topics. Configuration of the sender system (In this case, SAP S/4HANA) and the receiver system (In this case, SAP CPQ) and additional information.
6. Choose *Save* after completing configuration in a tab.
7. Choose *Deploy* after completion of whole configuration.

6.7.1 Receiver Tab

The receivers can be configured individually by choosing from the receiver dropdown.

Field Name	Value
Receiver	`CPQ`
Adapter Type	`HTTP`
Address	CPQ API for creating new Business Partner.For example, `<https://<SAP CPQ Host>/api/businesspartner/v1/businesspartner>` for the API Endpoint `/api/businesspartner/v1/businesspartner`
SAP CPQ Host	For example, `<www.webcomcpq.com>`

Field Name	Value
Receiver	`BusinessPartnerReplicationProcessingExit`
Adapter Type	`Process Direct`
Address	Endpoint URL. For example, `</S4/CPQ/ BusinessPartnerReplicate_PostExit >`

6.7.2 More Tab

Field Name	Value
Type	Select `All Parameters` from the dropdown
CPQCredentials	User Credentials created for CPQ. For example, `<COM_USER_CPQINT>`
Post Processing Extensions Implemented	By using an extension, it is possible to call a customer-specific iFlow in the Extension subprocess. Default value is `false`

6.8 Value Mapping for SAP CPQ integration with SAP S/4HANA

Procedure

1. Select the Integration Package copied.
2. Choose *Artifacts* tab of the package to view list of iFlows.
3. Choose the *Actions* symbol beside the iFlow, for example, `<Value Mapping for SAP CPQ integration with SAP S/4HANA>`.
4. Choose *Configure*.
5. The configuration is explained in the following topics. Configuration of the sender system (In this case, SAP S/4HANA) and the receiver system (In this case, SAP CPQ) and additional information.
6. Choose *Save* after completing configuration in a tab.

> **Note**
>
> The identifiers in the value mapping must be identical to the names that are mentioned in the following chapters, including capitalization. As these identifiers are used to call the value mapping inside the iFlow, deviations would lead to iFlow failure as the value mapping would not be accessible if the respective identifier cannot be found.

6.8.1 Product Category

1. In the *Bi-Directional Mapping*, create a new mapping by selecting *Add*.
2. Enter *Agency* as **S4** and *Identifier* as **ProductHierarchyInternalID** in the left side and **CPQ** as *Agency* and *Identifier* as **ProductCategoryUSEnglish** in the right side.
3. Mention the Product Hierarchy in SAP S/4HANA system in left column *S4, ProductHierarchyInternalID*. Innovation
4. Enter the respective Product Category in SAP CPQ system in right column *CPQ, ProductCategoryUSEnglish*.

Note: As the category field is mandatory in SAP CPQ, make sure that the hierarchy is maintained for the SAP S/4HANA product (field MARA-PRDHA).

6.8.2 Country

1. In the *Bi-Directional Mapping*, create a new mapping by selecting *Add.*
2. Enter *Agency* as **S4** and *Identifier* as **CountryCode** in the left side and **CPQ** as *Agency* and *Identifier* as **CountryAbbrev** in the right side.
3. Mention the Country Code in SAP S/4HANA system in left column *S4, CountryCode*. You can check Country Code in SAP S/4HANA in T005 Table.
4. Enter the respective Country Code in SAP CPQ system in right column *CPQ, CountryAbbrev*

6.8.3 Region

1. In the *Bi-Directional Mapping*, create a new mapping by selecting *Add.*
2. Enter *Agency* as **S4** and *Identifier* as **RegionCode** in the left side and **CPQ** as *Agency* and *Identifier* as **StateAbbrev** in the right side.
3. Mention the Region Code in SAP S/4HANA system in left column *S4, RegionCode*. You can check Region Code in SAP S/4HANA in T005S Table.
4. Enter the respective Region Code in SAP CPQ system in right column *CPQ, StateAbbrev*

6.8.4 Is Subscription

1. In the *Bi-Directional Mapping*, create a new mapping by selecting *Add.*
2. Enter *Agency* as **S4** and *Identifier* as **ProductTypeCode** in the left side and **CPQ** as *Agency* and *Identifier* as **IsSubscription** in the right side.
3. Mention Material Types for Subscriptions in SAP S/4HANA system on the left column *S4, ProductTypeCode*.
4. For all Subscriptions, set the value of IsSubscription to true on the right column – *CPQ, IsSubscription*

6.8.5 Time Zone

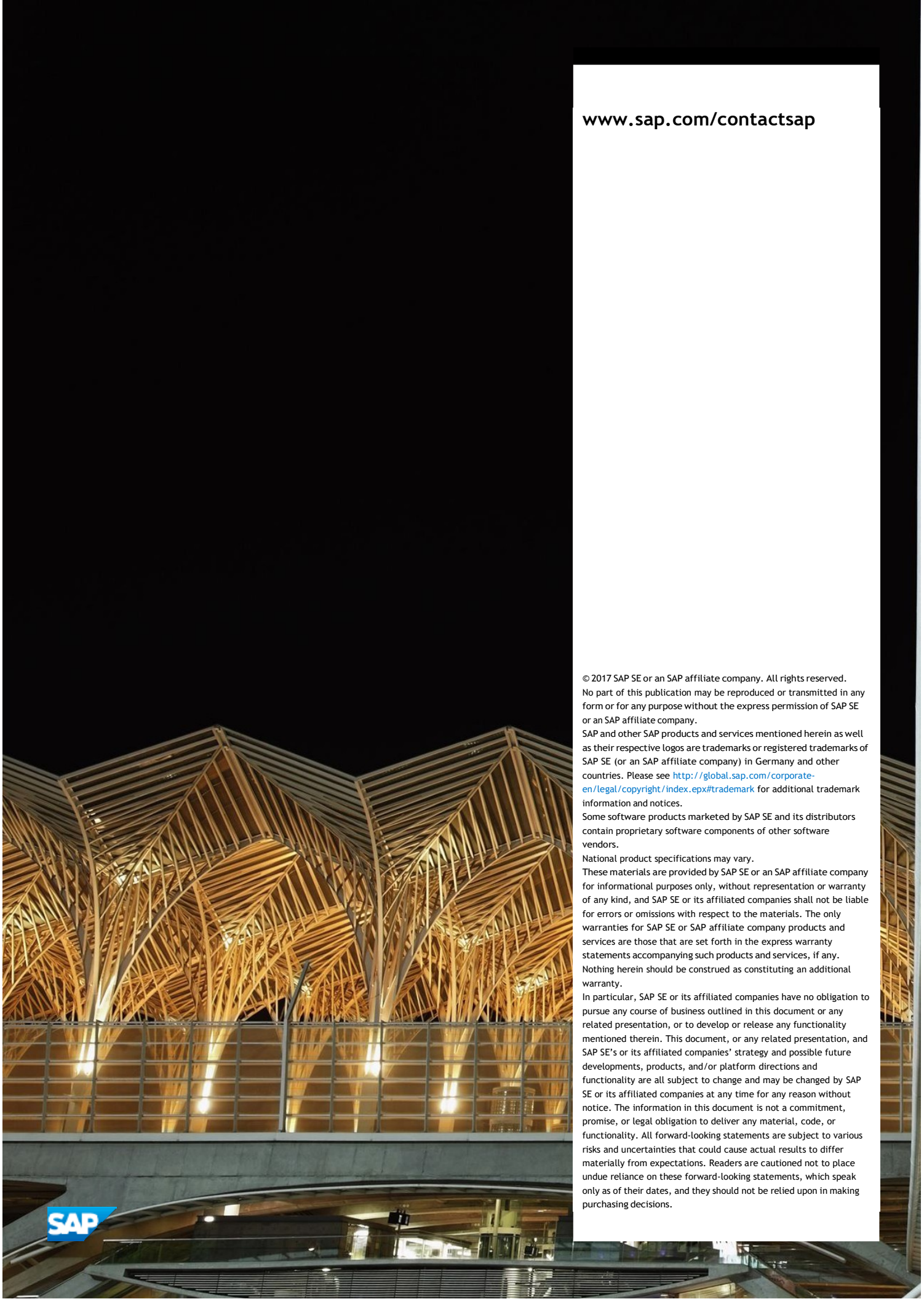
1. In the *Bi-Directional Mapping*, create a new mapping by selecting *Add.*
2. Enter *Agency* as **S4** and *Identifier* as **TimeZoneCode** in the left side and **CPQ** as *Agency* and *Identifier* as **TimeZone** in the right side.
3. Mention the Time Zones for Subscriptions in SAP S/4HANA system on the left column, *S4, TimeZoneCode*. You find the Time Zone definitions in the Customizing under SPRO > SAP Customization Implementation Guide > SAP NetWeaver > General Settings > Time Zones > Maintain Time Zones.
4. Enter the respective Country Code in SAP CPQ system in right column, *CPQ, TimeZone.*

6.8.6 Primary Industry

1. In the *Bi-Directional Mapping*, create a new mapping by selecting *Add.*
2. Enter *Agency* as **S4** and *Identifier* as **IndustrialSectorCode** in the left side and **CPQ** as *Agency* and *Identifier* as **PrimaryIndustry** in the right side.
3. Mention the Industrial Sector Code for Subscriptions in SAP S/4HANA system on the left column, *S4, IndustrialSectorCode*. You can check Industrial Sector Code in SAP S/4HANA in TB038B Table.
4. Enter the respective Primary Industry value in SAP CPQ system in right column *CPQ, PrimaryIndustry*

6.8.7 Form of Address

1. In the *Bi-Directional Mapping*, create a new mapping by selecting *Add.*
2. Enter *Agency* as **S4** and *Identifier* as **FormOfAddressCode** in the left side and **CPQ** as *Agency* and *Identifier* as **FormOfAddress** in the right side.
3. Mention the Form of Address Code for Subscriptions in SAP S/4HANA system on the left column, *S4, FormOfAddressCode*. You can check Form of Address Code in SAP S/4HANA in TSAD3 Table.
4. Enter the respective Form of Address value in SAP CPQ system in right column *CPQ, FormOfAddress*



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