

SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

# Integration Guide

SAP S/4HANA Integration with SAP Build Process Automation for Sales Quotation

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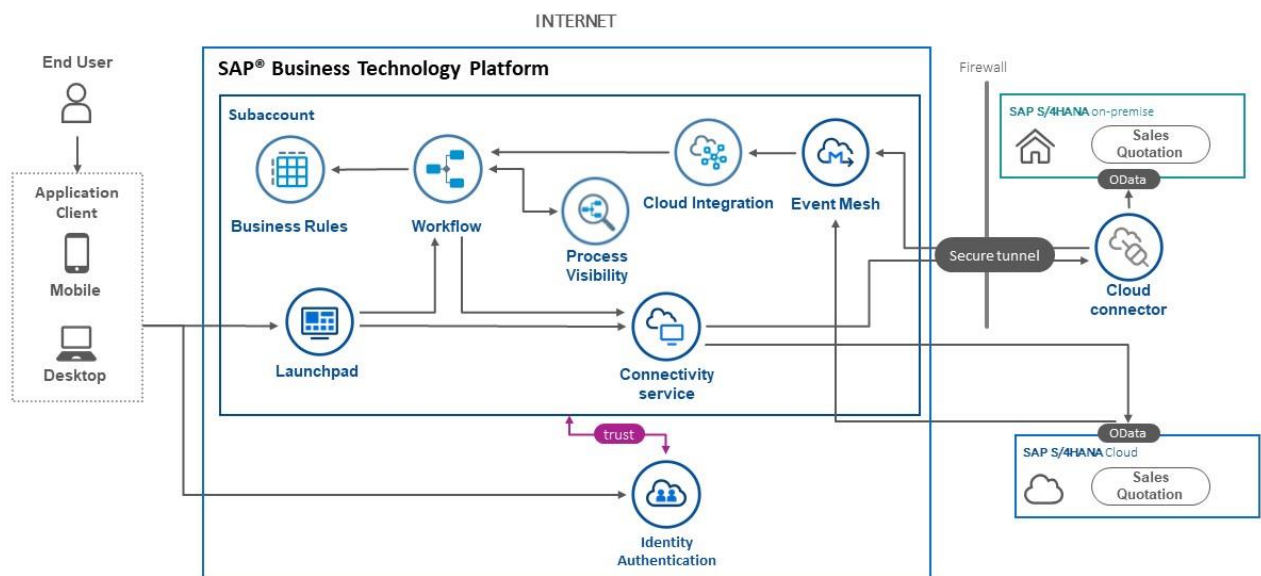
# Overview

This document provides information about configuration steps to setup the integration content to consume the live process content package **Manage Sales Quotations**. The primary audience of this document is integration administrators and developers.

The Manage Sales Quotations content package for SAP S/4HANA (on-premise and cloud) enables to automate sales quotation approvals in a flexible and transparent way. Salient features of this content packages are:

- Plug and Play with SAP S/4HANA (on-premise and cloud) without any additional development.
- Pre-configured process steps to create new variants.
- New Process variants can be configured in a low-code, no-code approach.
- Add additional approvers before the releasing or rejecting sales quotation in SAP S/4HANA.
- Agent/approver determination using Business Rules or external service.
- Flexibility in determining process variants based on business conditions.
- Perform additional business validation of Sales Quotations using business rules capability of SAP Build Process Automation or SAP Workflow Management.
- Pre-built integration content to push Sales Quotation lifecycle events on to Process Visibility Service through the Event Mesh configuration.
- Out-of-the-box visibility into key process performance indicators.

## SAP S/4HANA – Manage Sales Quotation Approvals



# Required SAP Business Technology Platform Services

The live process content packages **Manage Sales Quotations** is intended to be used for SAP S/4HANA (on-premise and cloud) and requires the following services in SAP BTP:

- SAP Build Process Automation or SAP Workflow Management to orchestrate the process.
- SAP Integration Suite to push Sales Quotation lifecycle events on to Process Visibility Service. Sales Quotation lifecycle events are pushed from SAP S/4HANA to Business Technology Platform through the Event Mesh configuration
- SAP Connectivity service (cloud connector) to establish access to SAP S/4HANA on-premise.
- SAP Cloud Portal service or SAP Launchpad service to access the apps that are involved in the process.
- SAP Cloud Identity Services - Identity Authentication (optional).
- SAP Business Application Studio to modify/deploy the SAPUI5 applications.
- SAP BTP, Cloud Foundry runtime.

# Setup and Configuration

This section will explain how to setup the integration content that is required for the workflow content packages for managing Sales Quotation.

## Configure SAP S/4HANA Communication User

In order to call the APIs related to Sales Quotation, the following communication scenarios shall be enabled for the communication user.

### SAP\_COM\_0118

Inbound Services consumed:

/sap/opu/odata/sap/API\_SALES\_QUOTATION\_SRV

### SAP\_COM\_0087

Inbound Services consumed:

/sap/opu/odata/sap/API\_DIVISION\_SRV

/sap/opu/odata/sap/API\_DISTRIBUTIONCHANNEL\_SRV

/sap/opu/odata/sap/API\_SALESORGANIZATION\_SRV

Configure SAP S/4HANA to push Sales **Quotation Events to SAP Event Mesh**

SAP Event Mesh can receive events from SAP S/4HANA (on-premise/cloud). Use the following blogs to perform the necessary configuration.

### SAP S/4HANA on-premise

<https://blogs.sap.com/2019/09/16/sap-enterprise-messaging-for-s4hana-on-premises/>

### SAP S/4HANA cloud

<https://blogs.sap.com/2020/08/19/sap-s-4hana-cloud-enterprise-event-enablement-whats-new-with-cloud-2008/>

The following business events are required for the Sales Quotation packages:

1. /sap/s4/beh/salesquotation/v1/SalesQuotation/Created/v1
2. /sap/s4/beh/salesquotation/v1/SalesQuotation/Changed/v1
3. /sap/s4/beh/salesquotation/v1/SalesQuotation/Deleted/v1

Note: At the end of this configuration, you will have the sales quotation events from SAP S/4HANA (on-premise or cloud) available in the queue created using SAP Event Mesh.

## Configure SAP S/4HANA Destination

Configure a HTTP destination to connect with SAP S/4HANA on-premise or SAP S/4HANA Cloud, refer to documentation [here](#) for the same. The below is a destination configuration for for SAP S/4HANA Cloud.

Name	S4HANA
Type	HTTP
Proxy Type	Internet
User	<COMMUNICATION_ USER>
Password	<COMMUNICATION_PASSWORD>
Authentication	BasicAuthentication
URL	<OData URL of SAP S/4HANA System>
Additional Properties	sap-client: <client number>

## [Optional] Configure Cloud Connector

For SAP S/4HANA on-premise landscape, configure cloud connector to enable secure tunnel to SAP BTP tenant. Please refer the help documentation to [configure Cloud Connector](#).

## Configure Event Mesh

You need to maintain 2 queues which will call the respective Integration Flows. Go to the Event Mesh Cockpit and open the message client. Create the following queues. For each queue, under 'Actions' click on 'Queue Subscriptions' and add the Subscribed Topic names

Queue 1: Assign

Queue Name (Suggested)	Subscribed Topic Name	Endpoint (Webhook URL)
CXT-CREATE-QUOTATION	<namespace>/ce/sap/s4/beh/salesquotation/v1/SalesQuotation/Created/v1	https://<iflow-url>/http/processSalesQuotationCreatedEvent
CXT-CHANGE-DEL-QUOTATION	<namespace>/ce/sap/s4/beh/salesquotation/v1/SalesQuotation/Changed/v1 <namespace>/ce/sap/s4/beh/salesquotation/v1/SalesQuotation/Deleted/v1	https://<iflow-url>/http/processSalesQuotationChangeDeleteEvent

Create webhooks per queue

Subscription Name (Suggested)	Queue Name	Webhook URL	Handshake Status
QUOTATION-CREATE-EVENT	<namespace>/CXT-CHANGE-DEL-QUOTATION	https://<iflow-url>/http/processSalesQuotationCreatedEvent	Exempted
QUOTATION-CHANGE-DEL-EVENTS	<namespace>CXT-CREATE-QUOTATION	https://<iflow-url>/http/processSalesQuotationChangeDeleteEvent	Exempted

Ensure to choose right authentication type (Basic Authentication/oAuth2ClientCredentials) and provide relevant details. Once you create the Webhook, select Actions and then Trigger Handshake.

Note: At the end of this configuration, you will have the sales quotation request events from SAP S/4HANA (on-premise or cloud) available in the queue created using SAP Event Mesh.

## Import, configure and deploy cloud integration content

This workflow content requires the cloud integration to process the sales quotation in SAP S/4HANA. The integration content package **SAP S/4HANA Integration with SAP Build Process Automation for Sales Quotation** is available in SAP API Business hub to integrate SAP Build Process Automation or SAP Workflow Management with SAP S/4HANA. Integration models use OData APIs to integrate with SAP S/4HANA. The following integration models are available in this package.

1. Push Sales Quotation Created Event
2. Push Sales Quotation Change and Deleted Events

Import the integration package to your SAP Cloud Integration tenant. To be able to import and deploy integration flows, you need the role AuthGroup.IntegrationDeveloper (in Neo environment) or PI\_Integration\_Developer (in cloud foundry environment) assigned in your tenant.

### Import pre-packaged Integration content in SAP Integration Suite

- Access your SAP Integration Suite tenant management node (<https://<integrationtenant>/itspaces>).
- View all pre-packaged integration flow under Discover->Integration. (<https://<integrationtenant>/itspaces/shell/discover>)
- Search content package “**SAP S/4HANA Integration with SAP Build Process Automation for Sales Quotation**”.
- Click on the package SAP S/4HANA Integration with SAP Build Process Automation for Sales Quotation.

- Click Copy to import the Integration content package to your workspace.
- Navigate to the *Monitor* view (<https://<integrationtenant>/itspaces/shell/monitoring>) to setup the security materials required for the package.
- Deploy the following credentials using the *Security Material* app.
  - **VISIBILITY** – (OAuth2 Client Credentials) To push sales quotation events to process visibility capability of SAP Build Process Automation or SAP Workflow Management. ([help documentation to determine the service configuration parameters](#))

The screenshot shows the 'Edit OAuth2 Credentials' dialog box. The fields are as follows:

- Name: \* VISIBILITY
- Grant Type: Client Credentials
- Description: To push events to process visibility
- Token Service URL: \* https://
- Client ID: \*
- Client Secret: \*
- Client Authentication: Send as Request Header
- Include Scope:

Buttons: Deploy, Cancel

- **Workflow** – (OAuth2 Client Credentials) To start the approval workflows in SAP Build Process Automation or SAP Workflow Management ([help documentation to determine the service configuration parameters](#)). Make sure that the workflow service instance was created with the following scopes - WORKFLOW\_INSTANCE\_GET, WORKFLOW\_INSTANCE\_START, WORKFLOW\_INSTANCE\_CANCEL.

The screenshot shows the 'Edit OAuth2 Credentials' dialog box. The fields are as follows:

- Name: \* Workflow
- Grant Type: Client Credentials
- Description: To start workflow in SAP Workflow Management
- Token Service URL: \* https://
- Client ID: \* sb-
- Client Secret: \*
- Client Authentication: Send as Request Header
- Include Scope:

Buttons: Deploy, Cancel

Note: While using SAP Build Process Automation the credentials for both visibility and workflow are the same. There shall be only one credentials deployed and used for both the APIs.



- **SAP S/4HANA** – (User Credentials) To call the sales quotation APIs in SAP S/4HANA. Make sure that the user has the relevant communication scenarios as mentioned in section Configure SAP S/4HANA Communication User.

Note: The credential names can be different from what is mentioned above. Make sure that you configure the appropriate credential names in the integration flow's HTTP adapter configuration.

### HTTP Adapter Configuration

- Open the integration model *Push Sales Quotation Created Event*.
- Click **Configure** button, choose the appropriate receivers (workflow, process visibility or SAP S/4HANA) and set their respective API endpoint and credential names. Based on the services consumed, the API endpoints will be different.

For SAP Build Process Automation, the workflow APIs could be of format <https://<api-gateway-url>/public/workflow>, while the workflow APIs in SAP workflow management could be of format <https://<api.workflow>/workflow-service>

Similarly, For SAP Build Process Automation, the visibility APIs could be of format <https://<api-gateway-url>/public/visibility/runtime>, while the workflow APIs in SAP workflow management could be of format <http://<bpmpv-runtime-url>/pv-service>

The screenshot shows the configuration for a workflow API in SAP Build Process Automation. It includes a dropdown for the Receiver (GET\_SAP\_WorkflowService), a dropdown for the Adapter Type (HTTP), and several text input fields for the Address, workflowManagement\_url, and Credential Name (ProcessAutomation).

Figure 1: Configure workflow API for SAP Build Process Automation

The screenshot shows the configuration for a workflow API in SAP Workflow Management. It includes a dropdown for the Receiver (GET\_SAP\_WorkflowService), a dropdown for the Adapter Type (HTTP), and several text input fields for the Address, workflowManagement\_url, and Credential Name (Workflow).

Figure 2: Configure workflow API for SAP Workflow Management

Receiver More

Receiver: SAP\_ProcessVisibilityService

Adapter Type: HTTP

Connection

Address: {{processVisibility\_url}}/rest/v1/data-acquisition/data

processVisibility\_url: https://bpmpruntime.cfapps.sap.hana.ondemand.com/pv-service

Credential Name: VISIBILITY

Figure 3: Configure Visibility API for SAP Workflow Management

Receiver More

Receiver: SAP\_ProcessVisibilityService

Adapter Type: HTTP

Connection

Address: {{processVisibility\_url}}/rest/v1/data-acquisition/data

processVisibility\_url: https://spa-api-gateway-...hana.ondemand.com/public/visibility/runtime

Credential Name: ProcessAutomation

Figure 4: Configure Visibility API for SAP Build Process Automation

- Go to the **More** tab and configure additional parameters:

**SalesQuotationApprovalReasons** – This parameter is relevant when using Manage Sales Quotations workflow package to enable external approvals for the Sales Quotation. Maintain a list of ‘comma-separated’ Sales Quotation Approval Reasons as configured in SAP S/4HANA, which requires an approval workflow in SAP BTP.

Configure "Push Sales Quotation Created Event"

Receiver **More**

Type: All Parameters

SalesQuotationApprovalRe... : ZBTP,ZCLO

- Save and Deploy the integration model.
- Similarly, configure the *Push Sales Quotation Change and Deleted Events* integration model and deploy them.