

PUBLIC

## **SAP Build Process Automation**

### **Manage Sales Orders Configuration & User Guide**



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This document contains 3 sections. Each section covers different information about this template content package.

1. **Overview:** In this section, you will get a quick overview of the use case, what high-level components are used and how the template works in nutshell. Prerequisite section provides information of different services of SAP Business Technology Platform that are required to use this template.
2. **Configuration Guide:** It contain sections which will guide you to setup your (a) SAP Business Technology Platform Account with destination, cloud connector, user roles etc. (b) Integration Content via SAP Integration Suite, (c) SAPUI5 application via SAP Business Application Studio and (c) Import and configure the template using SAP Build Process Automation design studio and (d) SAP Work Zone to access the My Inbox or Task Center and other applications.
3. **User Guide:** This section provides details about different artefacts that are used in this template like process definition, decision diagram, action project details, forms, email notifications etc. to better understand how different capabilities are used in this template.

**Note:**

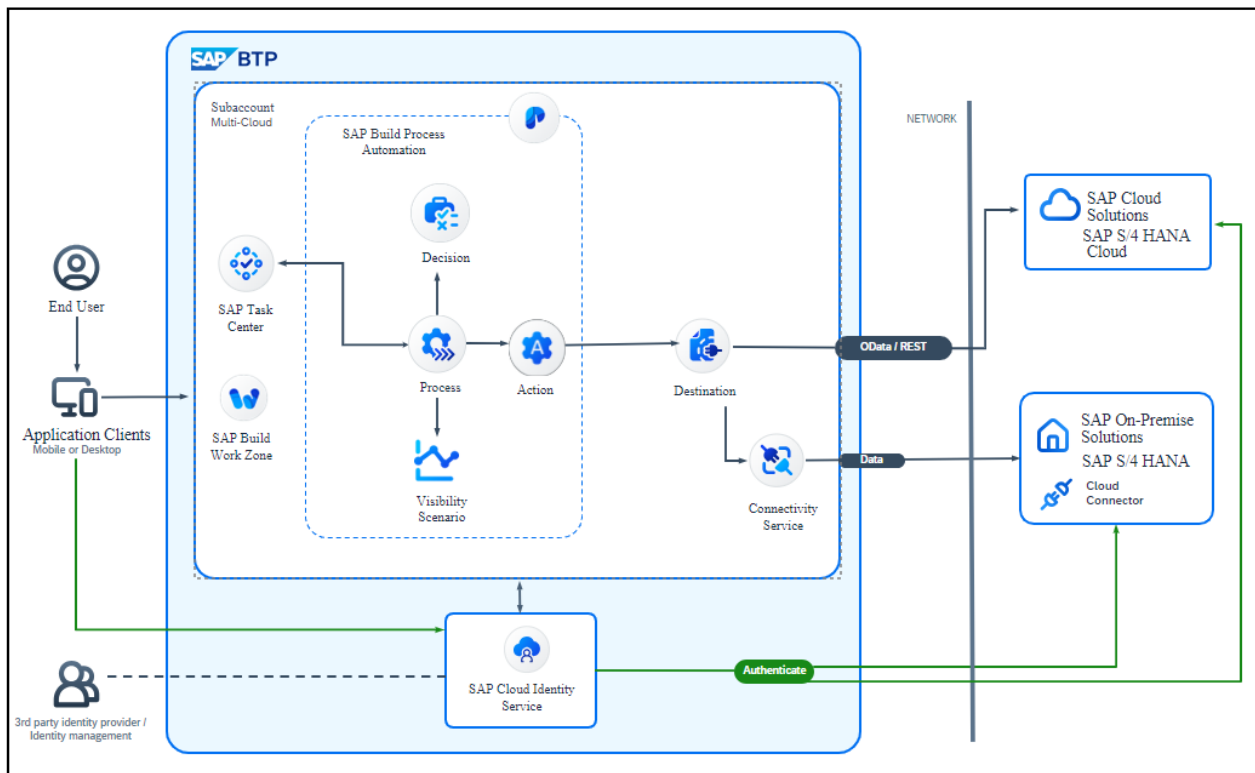
- Learning contents are published only for demo and reference purposes. We do not provide any support to learning / sample content.
- This documentation is not a detailed guide to setup SAP Business Technology Platform services. It assumes that IT admin who is setting the content is skilled with SAP Business Technology Platform environment. **Configuration section must be followed.**
- This template content is to accelerate your solution development. You must modify this template according to your requirements to achieve the desired business goal. To use this template content, you need to have basic knowledge and understanding of SAP Build Process Automation, SAP Integration Suite, and its capabilities.

## Overview

Manage Sales Orders content package for SAP S/4HANA automates sales order approvals in a flexible and transparent approach. When a sales order is created in SAP S/4HANA and is configured for external approval, a process is triggered in SAP Build Process Automation. The sales order is either released or rejected based on the approvals and validations performed in the process.

**This content package can be used with both SAP S/4HANA Cloud Private Edition (2023 onwards) and S/4HANA Cloud Public Edition (2502 onwards)**

## Process Flow Diagram



## Solution flow:

A Sales order that requires external approval will automatically trigger a process in SAP Build Process Automation. The process will do the following:

1. Validate the sales order based on decisions.
2. Based on the decisions table (e.g. net amount of Sales order) process will trigger to approvers.
3. Finally, based on the approvals, release or reject the sales order.

## Required SAP Business Technology Platform Services

The following SAP Business Technology Platform services are required to consume the **Manage Sales Orders** package:

- SAP Build Process Automation
- SAP Connectivity service
- SAP Business Application Studio
- SAP Application Runtime Service
- SAP Work Zone, standard or advanced
- SAP Cloud Identity Services - Identity Authentication (optional)

## Prerequisites

For this template to run successfully the following prerequisites are needed

- SAP Desktop Agent 3.28 or higher.

## Configuration Guide

**Manage Sales Orders** template requires SAP Build Process Automation. Follow the following setup and configuration section .

### Setup SAP S/4HANA

#### Setup Communication

To run this template, you must have a communication user, create communication arrangements between the communication user and the following communication scenarios, and assign those communication arrangements to a communication system.

Steps to create communication system and communication arrangement are available in below documentation links:

[How to Create Communication Systems | SAP Help Portal](#)

[How to Create a Communication Arrangement | SAP Help Portal](#)

[Configuration and Role Details for accessing "Communication Systems" application.](#)

[Configuration and Role Details for accessing "Communication Arrangements" application](#)

List of communication scenarios to be configured.

<b>Communication Scenario</b>	<b>Related API</b>
API_SALES_ORDER_SRV	<a href="#">SAP Business Accelerator Hub</a>
API_DIVISION_SRV	<a href="#">SAP Business Accelerator Hub</a>
API_SALESORGANIZATION_SRV	<a href="#">SAP Business Accelerator Hub</a>
API_DISTRIBUTIONCHANNEL_SRV	<a href="#">SAP Business Accelerator Hub</a>



# Setup SAP Business Technology Platform Cockpit

## Configure SAP S/4HANA Destination

Configure destination to connect to S/4HANA cloud system

Destination Property	Value
Name	<Destination Name>
Type	HTTP
URL	Example: https://-<s4system-name>-api.xxxxxxxx
Proxy Type	Internet
Authentication	Basic Authentication
Username	<Username> of the SAP S/4HANA Communication user
Password	<Password> of the SAP S/4HANA Communication user

## Configure SAP Build Process Automation Email Destination

Mail notifications are used in this template to send notifications to requestor, approver, and admin during different stages of the process. Follow the instructions to setup mail destination in your SAP Business Technology Platform Account.

- Configuring destination, see [Configure Mail Destination](#) .
- For more information refer to Create [HTTP Destinations](#) and [OAuth User Token Exchange Authentication](#).

## User Roles Configuration

To access this template, the business user will need these roles:

Role Name	Purpose
ProcessAutomationDeveloper	Standard Business User, can model and publish processes
TaskCenterAdmin	Permission to execute calls to the connector status API and monitor configured destinations and running background jobs.
ProcessAutomationParticipant	To execute (like accessing My Inbox, running the automations, etc.) this content package, you need to have this role assigned to the respective user.
ProcessAutomationAdmin	To perform process admin activities like accessing monitoring applications etc., you need to have this role assigned to the respective user.

Business_Application_Studio_Developer	Allows developers to load and develop applications using SAP Business Application Studio.
Business_Application_Studio_Administrator	Allows administrators to manage (export and delete) user data.

For more information about SAP Build Process Automation roles, see [Authorizations](#).

## Cloud Connector Configuration

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

Services/Resources that need to be exposed from SAP S/4HANA on-premises using Cloud Connector.

Resources	Protocol	Backend-Type
/sap/opu/odata/sap/API_SALES_ORDER_SRV	OData	S4/HANA
/sap/opu/odata/sap/API_DIVISION_SRV	OData	S4/HANA
/sap/opu/odata/sap/API_SALESORGANIZATION_SRV	OData	S4/HANA
/sap/opu/odata/sap/API_DISTRIBUTIONCHANNEL_SRV	OData	S4/HANA

## Configure SAP S/4HANA to push Sales Order 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 Order packages:

/sap/s4/beh/salesorder/v1/SalesOrder/Created/v1

/sap/s4/beh/salesorder/v1/SalesOrder/Changed/v1

/sap/s4/beh/salesorder/v1/SalesOrder/Deleted/v1

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

# Setup Content Package

## Import SAP Build Process Automation Content

This template can be downloaded from the [SAP Build Process Automation Store](#):

- Navigate to the Store in your SAP Build Process Automation account.
- Select the Project Type filter as “process automation.”
- In the Search bar type “Manage Sales Orders”
- Select the “Create from Template” button to add the template into your lobby.
- After successfully adding the template, navigate back to the lobby to find the “Manage Sales Orders” template available for use.

**Caution:** Be sure to select the Project Type as “Process Automation” in the filters

## Configuration & Modification

Once you have added the content to your lobby, you will find the project in your project list. Adapt the content template based on your requirements, and then release and deploy from the Lobby. In case any improvement needs to be made then follow the reference links below.

### Create Process

[Create a Business Process | SAP Help Portal](#)

### Create Forms

[Create a Form | SAP Help Portal](#)

### Create Automation

[Create an Automation | SAP Help Portal](#)

### Create Decision

[Create a Decision | SAP Help Portal](#)

### Create Process Visibility Scenario

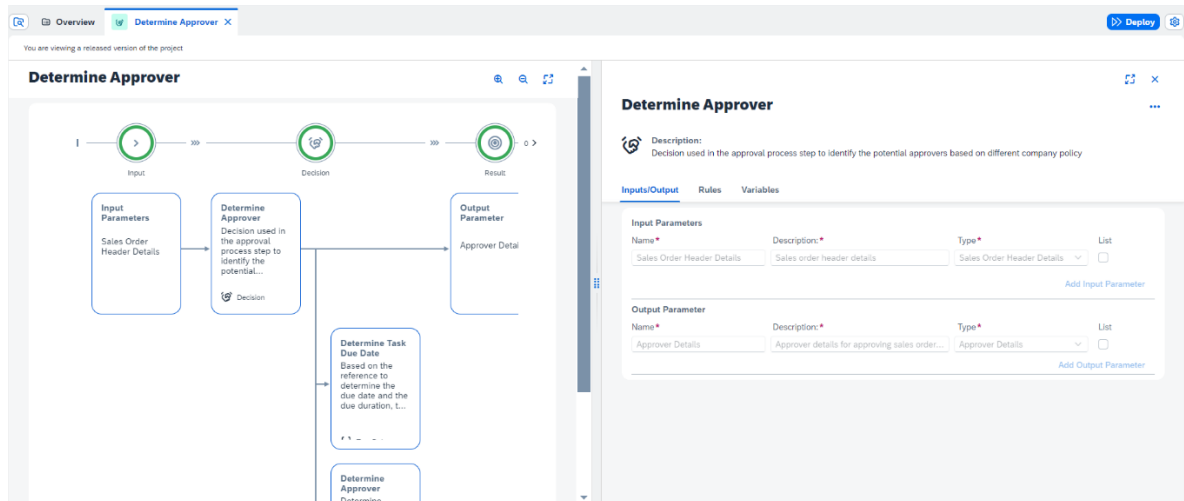
[Configure a Visibility Scenario | SAP Help Portal](#)

### Configure Decisions

We have 6 decisions in this template. We can configure the rules as per our requirements.

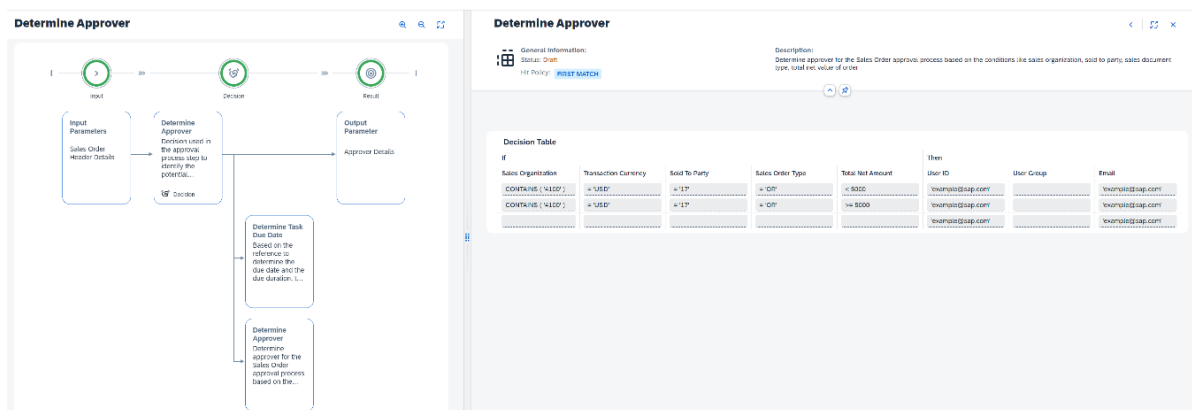
To modify the Decision:

- In process editor, double click to open the decision.
- Select the rule from the decision diagram.
- Edit the rule to add more rows or update existing value.



## 1. Determine Approver








Decision used in the approval process step to identify the potential approvers based on different company policy



## 2. Determine Process Administrator

Determine the process administrators who need to be notified to take relevant actions if the approvers are not found

## Determine Process Administrator



General Information:

Status: **Draft**

Hit Policy: **FIRST MATCH**

Description:

Determine the Process Administrators who need to be notified to take relevant actions if the approvers are not found.



Decision Table						Add Row ▾			Delete Row	Copy Row	Cut Row	Paste Row ▾
□	If					Then						
<input type="checkbox"/>	Sales Organization	Sales Order Type	Total Net Amount	Transaction Currency	Sold To Party	Admin User ID	Admin Group ID	Admin Email				
<input type="checkbox"/>	MATCHES '*'	MATCHES '*'	>= 0	MATCHES '*'	MATCHES '*'							

### 3. Approver Determination Strategy

Based on the business requirement approver can be determined by external service or decision.

## Approver Determination Strategy





General Information:

Status: **Draft**

Description:

Based on the business requirement approver can be determined by external service or decisions.



Text Rule	
▾ If	
	Sales Order Header Details.salesOrganization = '1730'
Then	
determinationStrategy:	'ExternalService' 
Else If	
<a href="#">Add Else If</a>	
▾ Else	
determinationStrategy:	'Decision' 
	<a href="#">Delete</a>

#### 4. Determine Constant Variables

Determine constant variables required in the process

**Determine Constant Variables**

General Information:  
Status: Draft  
Hit Policy: FIRST MATCH

Description:  
Determine Constant Variables required for the process.

Decision Table			Add Row	Delete Row	Copy Row	Cut Row	Paste Row
If	Then						
<input type="checkbox"/> Sales Order	True Flag	False Flag					
<input type="checkbox"/>	true	false					

#### 5. Determine External Administrator

In the approval process, a decision rule is used to identify potential approvers by evaluating factors such as order amount, department, or project type against company policies. This decision logic determines the appropriate approvers based on predefined thresholds and roles specified in the policy.

**Determine Approver**

General Information:  
Status: Draft  
Hit Policy: FIRST MATCH

Description:  
Determine approver for the Sales Order approval process based on the conditions like sales organization, sold to party, sales document type, total net value of order.

If	Then
CONTAINS (...) = 'USD' = 17 = 'OR' < 5000	'example@s...
CONTAINS (...) = 'USD' = 17 = 'OR' >= 5000	'example@s...
	'example@s...

#### 6. Sales Order Validation

For business validation of a sales order, decisions are based on key attributes such as order value, customer credit status, item availability, and compliance with discount policies. This involves checking these attributes against decisions to ensure the order meets all necessary criteria before proceeding.

## Sales Order Validation

[Export](#) [Import](#) [Refresh](#) [Close](#)



### General Information:

Status: **Draft**

Hit Policy: **FIRST MATCH**

### Description:

Decision table for business validation of sales order based on key attributes

Decision Table		Add Row ▼ Delete Row Copy Row Cut Row Paste Row ▼		
If		Then		
<input type="checkbox"/>	Sales Order Type	Total Net Amount	Status	Reason
<input type="checkbox"/>		< 0	'Failed'	'Total Net Amount cannot be negative'
<input type="checkbox"/>			'Passed'	'Header details checks out'

## Release and Deploy the Process

After configuring your process, it's time to publish, test and run it. To run a process, you must first release and deploy it.

**Release** - This locks the version of your process, meaning that no further edits can be made to that version. At this stage, the process can't be run and isn't available to participants yet.

To release a version of your process,

- First ensure that the status is listed as 'Editable'.
- Then click 'Release'.

**Manage Sales Orders** Editable

[Release](#)

**Update** Last Updated On: September 4, 2024  
**Creation** Created On: July 29, 2024  
**Bundle Size** Project Size: 438.3 KB Agent version: 3.28 Collaborators: You  
Estimated Package Size: 309.39 KB

**All Artifacts** Search...

Name	Description	Type	Last Edited	Last Edited By	Created On
Admin Details	The details of process administrators who will be notified to take action if there is any issue with the determining the approvers	Data Type	A day ago		July 31, 2024
Approve Sales Order	Approval form for approving sales order	Form	15 days ago		July 31, 2024
Approve Sales Orders	Process to determine and approve sales orders	Process	18 hours ago		July 30, 2024
Approver Details	Data type of approver details for approving sales order and due duration of approval task	Data Type	A day ago		July 30, 2024

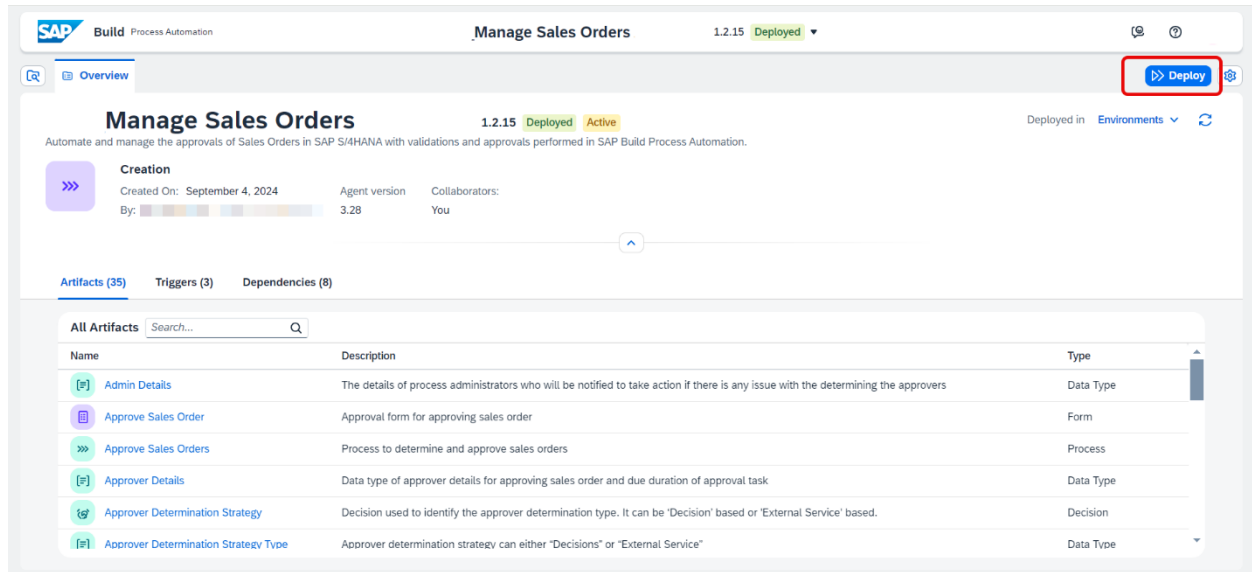
If this is the first time you've released the process, a version labelled 1.0.0 is released. For subsequent releases, you're prompted to select a version type before the process is released.

**Deploy** – This takes a released version of a process and enables it to be actively run and monitored. A deployed version of this approval process unlocks the request form, allowing participants to submit requests and the approvers to view items in their inbox.



To deploy a released version of your process,

- First ensure that the status is listed as 'Released'.
- Then click 'Deploy'.



To deploy your project, you will be prompted to provide a Destination as an environment variable. Select the destination from the drop-down and fill other environment variables as well

- **S4HANA:** Business Technology Platform destination to connect with SAP S/4HANA system.
- **ProcessAutomation\_API:** Business Technology Platform destination to connect with ProcessAutomation\_API system.

**Note:** If you do not map your destination environment variable with actual SAP Business Technology Platform destination during deployment, then the process will enter erroneous state when it tries to connect to the external system.

## User Guide

### Capabilities

This template consists of following capabilities.  
Please refer [help documentation](#) about these different artifacts.

Type	Name	Description
Automation	Convert Sales Order to String	Automation to convert sales order number to string
Automation	Find Total Net Amount	Automation to find total net amount from sales order details



Automation	Initialize Global Variables	Automation to initialize global variables
Automation	Terminate Active Process Instances	Automation to terminate active process instances post sales order deletion
Automation	Transform String to Timestamp	Automation to transform string to timestamp
Automation	Update History	Automation to update history details, like approver name and comments.
Process	Approve Sales Orders	Process to determine and approve sales orders
Process	Manage Sales Orders	Main process to Validate, Approve and Release a Sales Order
Process	Manage Sales Orders Changed	Process to listen to sales order changed event and trigger main process
Process	Manage Sales Orders Created	Process to listen to sales order created event and trigger main process
Process	Manage Sales Orders Deleted	Process to listen to sales order deleted event and terminate active process instances for that sales order
Process	Retrieve Sales Orders Details	Retrieve sales order header and item details from the given sales order
Process	Update Sales Orders	Release or reject the sales order based on the cumulative approvals.
Process	Validate Sales Orders	Validate the sales order using decisions
Form and Approval	Approve Sales Order	Approval form for approving sales order details
Form and Approval	Manual Approver Assignment Form	Approval form to assign approvers manually if they cannot be determined automatically
Visibility Scenario	Manage Sales Order Dashboard	Visibility on sales order approvals including key process performance indicators
Decision	Approver Determination Strategy	Decision used to identify the approver determination type. It can be 'Decision' based or 'External Service' based.
Decision	Determine Approver	Decision used in the approval process step to identify the potential approvers based on different company policy
Decision	Determine Constant Variables	Determine constant variables required in the process
Decision	Determine External Approver	Decision used in the approval process step to identify the potential approvers based on different company policy
Decision	Determine Process Administrator	Determine the process administrators who need to be notified to take relevant actions if the approvers are not found

Decision	Sales Order Validation	Decision for business validation of sales order based on key attributes
Data Type	Admin Details	The details of process administrators who will be notified to act if there is any issue with the determining the approvers
Data Type	Approver Details	Data type of approver details for approving sales order and due duration of approval task
Data Type	Approver Determination Strategy Type	Approver determination strategy can either "Decisions" or "External Service"
Data Type	Constant Variables	Data type for constant variables such as true and false flag required for the process
Data Type	History Details	Data type for history details like processor decision and comments
Data Type	Internal Details	Data type for internal details used within the process
Data Type	Sales Order Details	Data type for sales order details
Data Type	Sales Order Header Details	Data type for sales order header details
Data Type	Sales Order Item Details	Data type for sales order item details
Data Type	Task Decision Details	Data type for task decision details
Data Type	Validation Status	Validation status to indicate if sales order details are valid or not
Data Type	Process Instance Details	Data type containing active process instance details

## Actions

The following action projects are used in the content package:

### 1. Manage Sales Orders Division - Read Action

Method	API	API Path	Purpose
GET	API_DIVISION_SRV	/sap/opu/odata/sap/API_DIVISION_SRV/A_SalesOrganizationText	Get entity from A_DivisionText by key

### 2. Manage Sales Order Action

Method	API	API Path	Purpose
POST	API_SALES_ORDER_SRV	/sap/opu/odata/sap/API_SALES_ORDER_SRV/rejectApprovalRequest	Invoke action rejectApprovalRequest

POST	API_SALES_ORDER_SRV	/sap/opu/odata/sap/API_SALES_ORDER_SRV/releaseApprovalRequest	Invoke action releaseApprovalRequest
GET	API_SALES_ORDER_SRV	/sap/opu/odata/sap/API_SALES_ORDER_SRV/A_SalesOrder	Read sales order details
GET	API_SALES_ORDER_SRV	/sap/opu/odata/sap/API_SALES_ORDER_SRV/A_SalesOrder	Reads the header of a sales order

### 3. Manage Sales Order - Manage Active Process Instances Action

Method	API	API Path	Purpose
GET	/workflow/rest/v1	/workflow/rest/v1/workflow-instances	Retrieve all instances by query parameters
PATCH	/workflow/rest/v1	/workflow/rest/v1/workflow-instances/{workflowInstanceId}	Modifies the properties of a given workflow instance

### 4. Manage Sales Orders Read Sales Organization Action

Method	API	API Path	Purpose
GET	API_SALESORGANIZATION_SRV	/sap/opu/odata/sap/API_SALESORGANIZATION_SRV/A_SalesOrganizationText	Get entity from A_SalesOrganizationText by key

### 5. Manage Sales Orders Distribution Channel - Read Action

Method	API	API Path	Purpose
GET	API_DISTRIBUTIONCHANNEL_SRV	/sap/opu/odata/sap/API_DISTRIBUTIONCHANNEL_SRV/A_DistributionChannelText	Get entity from A_DistributionChannelText by key

## Visibility Scenario

Visibility on sales order approvals involves tracking the status of approvals and monitoring key performance indicators (KPIs) such as approval time, approval rate, and any delays. This helps assess efficiency and identify areas for improvement in the approval process.

## Support

There is no support available for template content. If you experience general issues with SAP Build Process Automation, please follow the links below:

- [Troubleshoot Support Guided Answer](#)
- [Test an Automation Help portal Article](#)
- [Test an Application Help portal Article](#)
- [Get traces Support Guided Answer](#)

If the issue persists, please raise an incident via SAP Support Portal on **BPI-PA-BPC** component.

This template can be modified using SAP Build Process Automation. For example: add decisions to determine the approver based on a certain business logic or add an action to post collected information to backend SAP system. Refer [help portal](#) for more details.

[www.sap.com](http://www.sap.com)

