

PUBLIC

SAP Build Process Automation

Manage Credit Block on Sales Order Configuration and 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 are the high-level components 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 contains sections which will guide you to setup your (a) SAP Business Technology Platform Account with destination, cloud connector, user roles etc. (b) SAPUI5 application via SAP Business Application Studio and (c) Import and configure the template using SAP Build Process Automation design studio and
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

This document provides technical information about what needs to be configured to make the package Manage Credit Block on Sales Order run. The main audience of this document are technical IT Administrators or Developers.

This content package enables sales and distribution experts in organizations to accelerate the digitalization of their credit blocked sales order approval process transparently and provide flexibility to meet business requirements. It includes process, a user interface for approvals, decisions, and process visibility dashboard, enabling customers to flexibly configure process variants in a low-code / no-code approach.

The Manage Credit Block on Sales Order package enables business experts to configure and flexibly choose process variants depending on attributes like info sales organization, distribution channel, division, total net amount, transaction currency, etc. Once the package is configured, if a sales order is blocked for credit in SAP S/4HANA (on-premise/Cloud) a pre-configured process variant is automatically triggered. Based on the outcome of the approval process, the sales order is either released for credit or rejected in SAP S/4HANA.

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

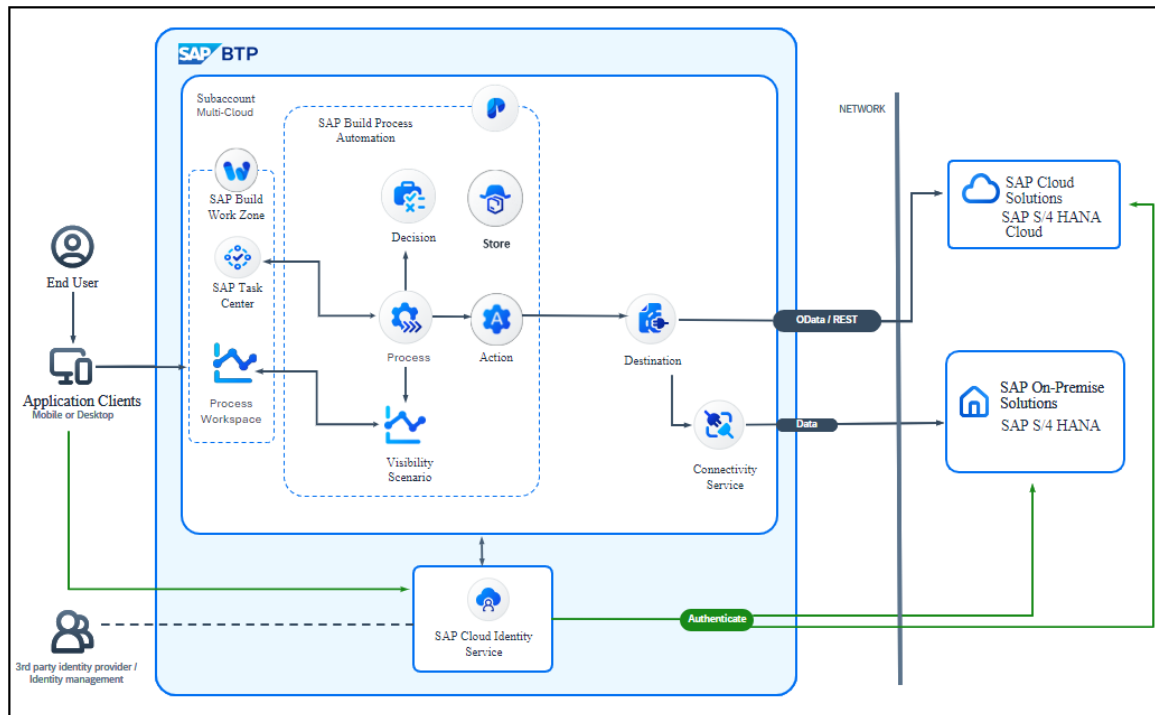
Features:

- Credit Blocked Sales Order is validated using decisions before sent for approval.
- Configure multi-level approval based on various parameters like order type, sales organization, order amount, currency, SD document reason, sold-to-party, etc.
- Approvers are determined using a configurable decision.



- Approvers are automatically notified via email about the task assignment.
- Approvers have two decision options (Approve and Reject) and based on the decision, the credit block on the sales order shall be either released or rejected in SAP S/4HANA (on-premise or cloud)

Process Flow Diagram



Solution flow :

1. Validate a sales order based on sales organization, distribution channel, division, total net amount, transaction currency, etc.
2. If the validation did not pass, then requester will be informed and stops any further processing.
3. Upon successful validation the sales document is sent for approval process.
4. If the approver is not determined, admin will be notified via email to assign approvers
5. The approver is notified via email about the approval task.
6. Based on the result of the approval step, credit blocked sales order in SAP S/4HANA can be released or rejected.

Note: The process can be triggered via an event mesh. In this package the process is triggered using payload.

Required SAP Business Technology Platform Services

The following SAP Business Technology Platform services are required to consume the **Manage Credit Block on Sales Order**:

- SAP Build Process Automation
- SAP Connectivity service
- SAP Business Application Studio

- SAP Application Runtime Service
- SAP Work Zone, standard or advanced
- SAP Event Mesh
- SAP Cloud Identity Services - Identity Authentication (optional)

Prerequisites

For this template to run successfully the following prerequisite is needed

- SAP Desktop Agent 3.28 or higher.
- Get Access to BTP account.
- Need valid SAP S/4HANA user.

Configuration Guide

Manage Credit Block on Sales Order template requires SAP Build Process Automation subscription and Destination Setup for SAP Build Process Automation. Follow the [setup and configuration section](#).

Setup SAP S/4HANA

Setup Communication

NOTE: This Section is needed only if you are connecting to SAP S/4HANA Cloud

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.

Communication Scenario	Related API
Sales Document with Credit Block -Read, Check, Release, Reject	Overview Sales Document with Credit Block - Read, Check, Release, Reject (A2X) SAP Business Accelerator Hub

Setup Business Technology Platform Cockpit

Configure SAP Build Process Automation Destination

To Access the SAP Build process Automation, you can configure the destination. Please create destination accordingly

Destination Property	Value
Name	sap_process_automation_service
Type	HTTP
URL	<" endpoints"."api">
Client ID	<"uaa"."clientid">
Client Secret	<"uaa"."clientsecret">
Token Service URL	<"uaa"."url">/oauth/token
Proxy Type Internet	Internet
Authentication	OAuth2ClientCredentials

Add the property **sap.processautomation.enabled** as **true** to view the destination in the SAP Build Process Automation tenant. Please refer [help document](#) for more details.

Configure SAP S/4HANA Destination

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

Destination Property	Value
Name	<Name>
Type	HTTP
URL	<SAP S/4HANA endpoint> Example: https://<s4system-name>-api.xxxxxxxx
Proxy Type Internet	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, [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 Collection Name	Purpose
TaskCenterAdmin	Permission to execute calls to the Connector Status API and monitor configured destinations and running background jobs.
Process Automation Developer	Standard Business User, can model and publish processes
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_Administrator	Allows administrators to manage (export and delete) user data.
Business_Application_Studio_Developer	Allows developers to load and develop applications using SAP Business Application Studio.

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

Cloud Connector Configuration

For SAP S/4HANA on-premise 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-premise using Cloud Connector.

Resources	Protocol	Backend-Type
/sap/opu/odata/sap/API_SLS_DOC_WITH_CREDIT_BLOCK/RejectCreditBlock	OData	SAP S/4HANA
/sap/opu/odata/sap/API_SLS_DOC_WITH_CREDIT_BLOCK/ReleaseCreditBlock	OData	SAP S/4HANA

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 Manage Credit Block on Sales Order package:

/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 billing block status change, delivery block status change and deletion of 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

Standard automation packages released by SAP will be available at the Store. To know more about the store visit [SAP Build Process Automation Store](#)

This template can be downloaded from the Store:

1. Navigate to the Store in your SAP Build Process Automation account.
2. Select the Project Type filter as “Business Process.”
3. In the Search bar type “**Manage Credit Block on Sales Order**”
4. Select the “Create from Template” button to add the template into your lobby.
5. After successfully adding the template, navigate back to the lobby to find the “**Manage Credit Block on Sales Order**” template available for use.

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

Import and deploy TASK UI application

The content package requires the SAP UI5 user interface which is available in Manage Credit Block on Sales Order Process content package. Below are details of Task UI application

TASK UI Application - CreditBlockedSalesOrder_S4-ui

Following steps can be followed to utilize the SAP UI5 application provided with this process package:

- Download the SAPUI5 application Task UI from the imported store project.
- Open Business Application Studio and import the previously downloaded SAPUI5 project.
- Build SAPUI5 project using mta.yaml file & the generated project (generated mtar file will be available in the mta_archieves folder) file can be deployed.

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.

Configure Decisions

There are 7 decisions in this template. We can configure as required.

1. Business Validation for Sales Order

This decision is for business validation of sales order based on key attributes. To modify the decision:

- In process editor, double click to open the decision.
- Select the rule from the decision diagram.

The screenshot displays the SAP Business Process Manager (BPM) interface. On the left, a process diagram shows a flow from an 'Input' node to a 'Decision' node, and finally to a 'Result' node. The 'Decision' node is expanded to show a rule diagram with three paths: 'Input Parameters' (Credit Blocked Sales Order), 'Business validation for Sales Order' (Decision for business validation of sales order based on key...), and 'Sales Order Validation' (Maintain additional business validation. For example, exclu...). The 'Business validation for Sales Order' rule is selected, and its configuration is shown in the right-hand pane. The configuration pane includes a description, input parameters, and output parameters.

Business validation for Sales Order

Description: Decision for business validation of sales order based on key attributes.

Inputs/Output Rules Variables

Input Parameters

Name *	Description: *	Type *	List
Credit Blocked Sales Order	Contains all the relevant information abo...	Credit Blocked Sales Order	<input type="checkbox"/>

[Add Input Parameter](#)

Output Parameter

Name *	Description: *	Type *	List
Validation Result	Result of Sales Order validation. 'True' if ...	Validation Result	<input type="checkbox"/>

[Add Output Parameter](#)

- Edit the rule to add more rows or update existing value.

The screenshot displays the SAP Business Process Manager interface for a decision named 'Sales Order Validation'. On the left, the design view shows a flow from an 'Input' (Credit Blocked Sales Order) to a 'Decision' (Business validation for Sales Order) and finally to a 'Result' (Validation Res). A sub-process 'Sales Order Validation' is also shown. On the right, the configuration view shows the decision's general information, including its status as 'Draft' and a 'FIRST MATCH' hit policy. Below this is a 'Decision Table' with the following content:

Decision Table					Then	
If					Validation Mes...	Is Valid
<input type="checkbox"/>	Credit Blocked...	Credit Blocked...	Credit Blocked...	Credit Blocked...		
<input type="checkbox"/>	= '1730'	MATCHES '...'	MATCHES '...'	> 0	'You can not...	'false'
<input type="checkbox"/>	MATCHES '...'	MATCHES '...'	MATCHES '...'	> 0	'Success'	'true'

2. Determine Approver Determination Strategy

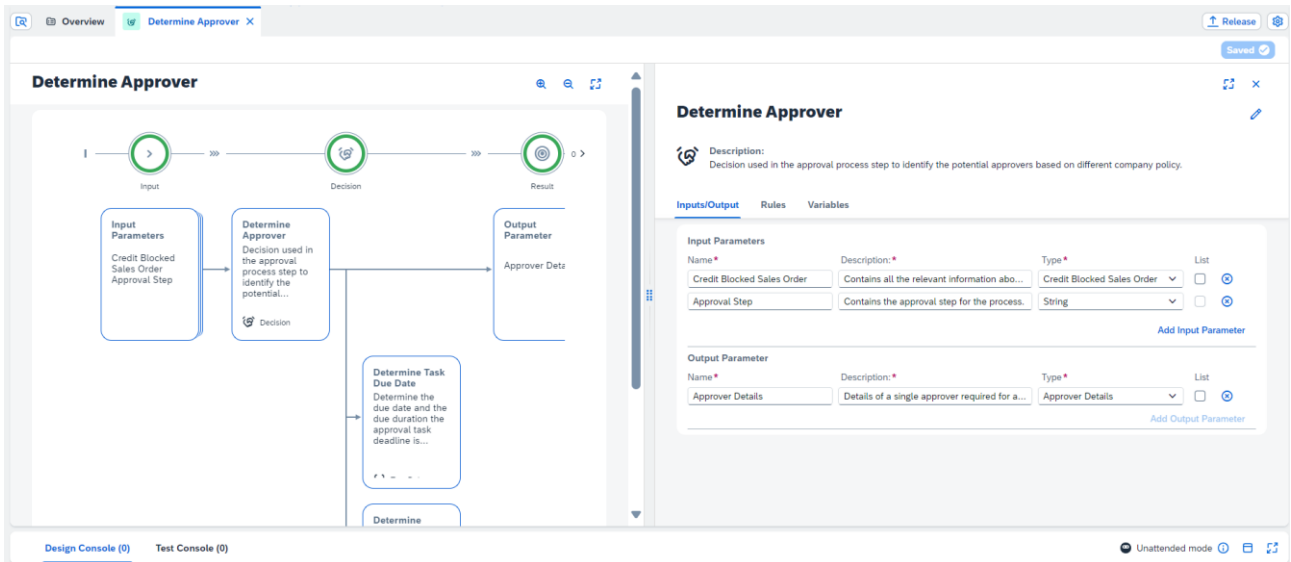
Decision used to identify the approver determination type. It can be 'Decision' based, or 'External Service' based.

The screenshot displays the SAP Business Process Manager interface for a decision named 'Determine Approver Determination Strategy'. On the left, the design view shows a flow from an 'Input' (Credit Blocked Sales Order) to a 'Decision' (Determine Approver Determination Strategy) and finally to a 'Result' (Approver Determination Strategy). On the right, the configuration view shows the decision's description and its inputs/outputs. The 'Inputs/Output' section is as follows:

Inputs/Output			
Input Parameters			
Name*	Description:*	Type*	List
Credit Blocked Sales Order	Contains all the relevant information abo...	Credit Blocked Sales Order	<input type="checkbox"/>
Add Input Parameter			
Output Parameter			
Name*	Description:*	Type*	List
Approver Determination Strat...	Approver Determination Strategy	String	<input type="checkbox"/>
Add Output Parameter			

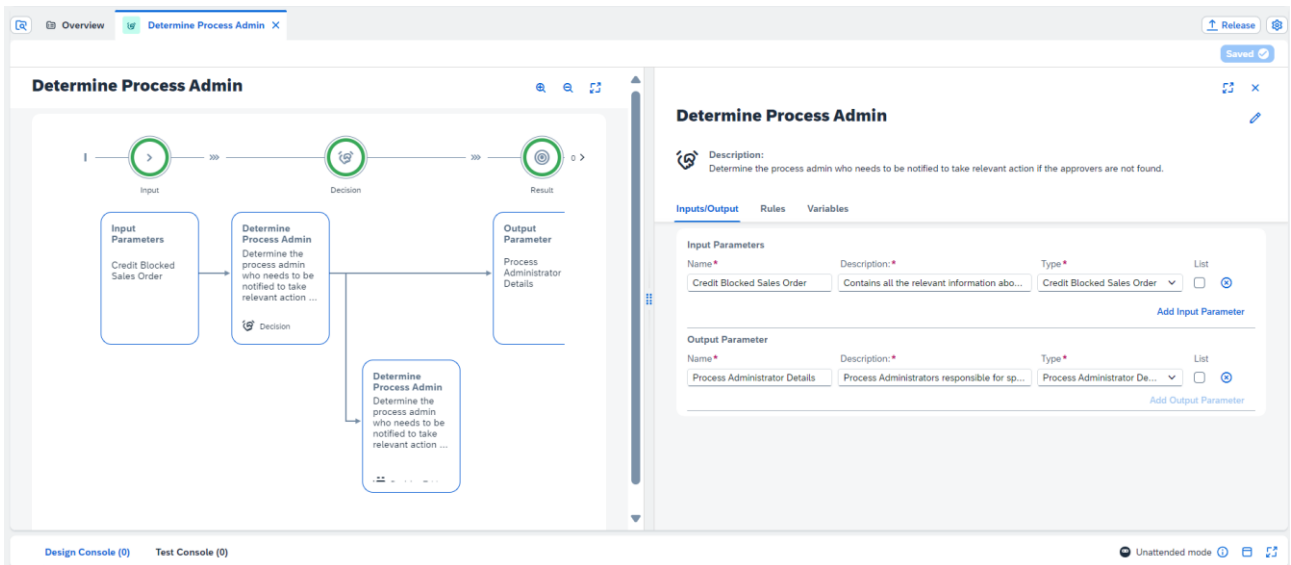
3. Determine Approver

This decision is used in the approval process step to identify the potential approvers based on different company policy.



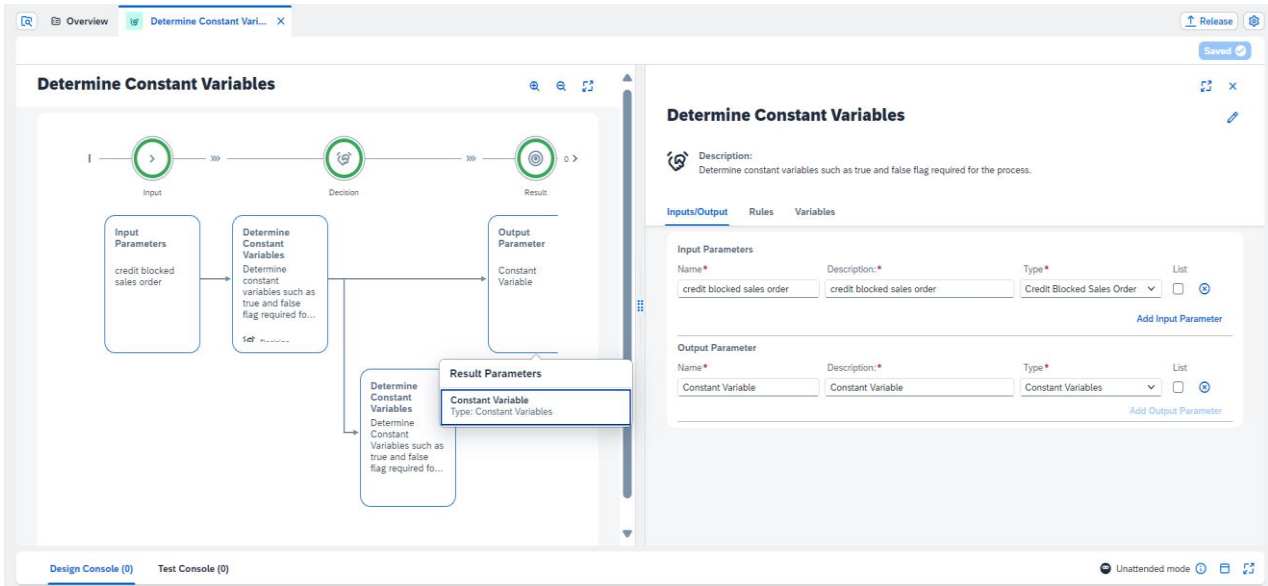
4. Determine Process Admin

This decision is used in the process admin who needs to be notified to take relevant action if the approvers are not found.



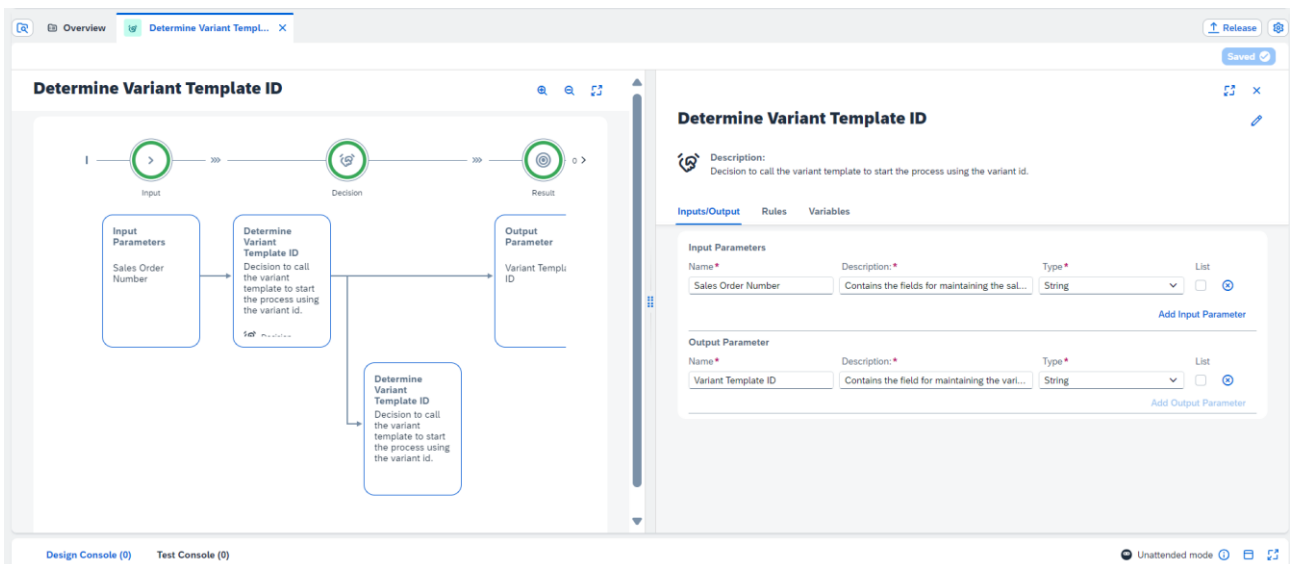
5. Determine Constant Variables

This decision is used to determine constant variables such as true and false flag required for the process.



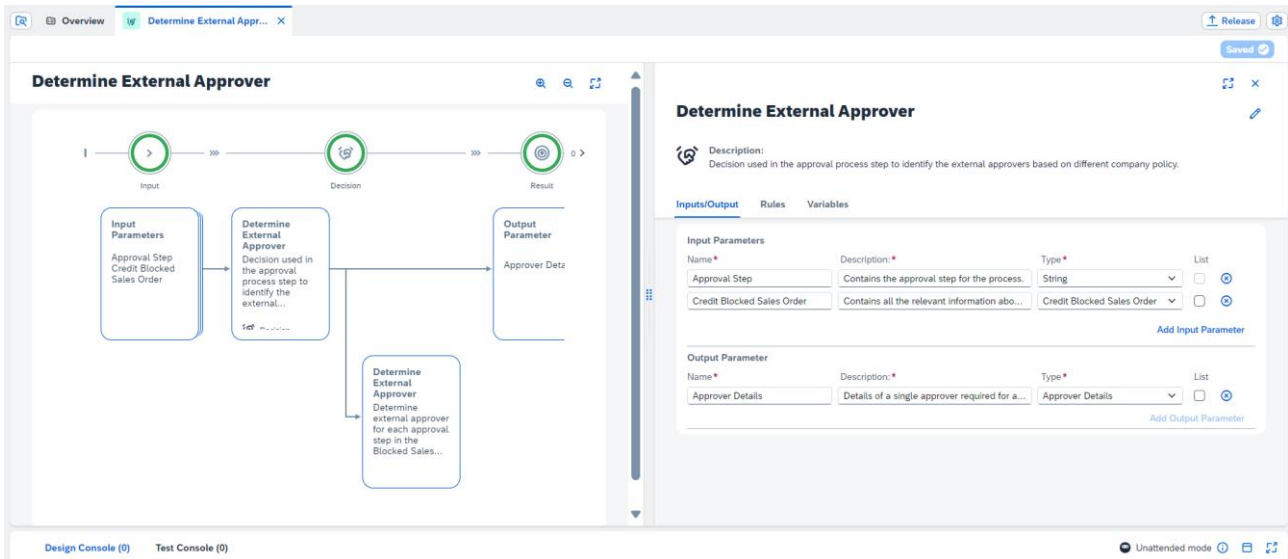
6. Determine Variant Template ID

This decision is used to call the variant template to start the process using the variant id.



7. Determine External Approver

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



Configure Email

Email notifications are sent to the approver at different places during process and task execution. All the email artefacts in the process have default template body which can be modified.

To update the email body content, do the following:

- Select the mail artefact in the process.
- From the **Settings** in the right-side panel, check the **mail header** to confirm the **To** field (or email recipients) and the **Subject**. You can adjust the subject and recipient, if needed.
- You may also add someone in **CC**.
- Click to Open '**Mail Body Editor**'.

Mail Body

Dear Approver,
 The following sales order needs to be approved. Kindly respond in "My Inbox" application `salesDocumenttype` `salesOrganization`

Sales Order Details -

- Sales Document: `salesDocument`
- SD Document Category: `sddocumentCategory`
- Sales Document Type: `salesDocumenttype`
- Sales Organization: `salesOrganization`
- Distribution Channel: `distributionChannel`
- Organization Division: `organizationDivision`
- Sales Office: `salesOffice`
- Sales Group: `salesGroup`
- Created By User: `createdByuser`
- Creation Date: `creationDate`
- Last Changed by User: `lastchangedByuser`
- Last Change Date: `lastChangedit`
- Sold To Party: `soldToparty`
- Total Net Amount: `totalNetvalue`
- Transaction Currency: `transactionCurrency`
- Customer Credit Account: `customerCreditaccount`
- Released Credit Amount:
- Credit Block Release Date: `creditblockReleasedate`

Close

- The mail editor allows you to write and adjust text according to your needs. You can also reuse information that has been collected during the process. If you want to use additional process context data, you can simply drag the fields from the left menu to the editor on the right.

For more information on email configuration and text, refer to this [link](#)

In case any further extension needs to be made then follow the reference links below.

Create & Configure Process

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

Create & Configure Forms

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

Create & Configure Automation

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

Create & Configure Decision

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

Create & Configure Process Visibility Scenario

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

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**'.

For more information please visit : <https://help.sap.com/docs/build-process-automation/sap-build-process-automation/releasing-project>

Note: 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.

Import Destination

Actual destinations that are created in SAP BTP cockpit will be required when you deploy the process. This destination will be mapped to the destination environment variables during deployment.

To configure destination,



- Click on **Control Tower**.
- Select **Destinations** from the right panel.
- Click **Add**

Select the destinations created in the setup section to be added.

For more information and screen shots, please refer to the below link: [Manage Destinations](#)

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**'.

For more information and screen shots, please refer to the below link: [Deploy Project](#)

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_Destination**: Business Technology Platform destination to connect with SAP S/4HANA system. As shown in SAP S/4 Hana destination set-up-section.
- **ProcessAutomation_Destination**: Business Technology Platform destination to connect with ProcessAutomation_API.

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 Guides

Capabilities

The following are the capabilities of this template:

For detailed information about different artifacts, please refer [help documentation](#)

Type	Name	Description
Automation	Initialize Payload	Automation to format date from string to standard format and to update status messages based on input.
Automation	Terminate Active Process Instance	Automation to terminate the active process Instance.
Automation	Update History	Automation to determine the decisions, approved, rejected, etc. and then updates a

		history table with details such as the user, role, action, decision, and any comments provided.
Automation	Create Payload for Sales Order Release and Reject	Automation to create the payload for sales order rejection and sales order release.
Decision	Business Validation for Sales Order	Decision for business validation of sales order based on key attributes.
Decision	Determine Approver	Decision used in the approval process step to identify the potential approvers based on different company policy.
Decision	Determine Approver Determination Strategy.	Decision used to identify the approver determination type. It can be 'Decision' based, or 'External Service' based.
Decision	Determine Process Admin	Determine the process admin who needs to be notified to take relevant action if the approvers are not found.
Decision	Determine Constant Variables	Determine constant variables such as true and false flag required for the approval process.
Decision	Determine Variant Template ID	Decision to call the variant template to start the process using the variant id.
Decision	Determine External Approver	Decision used in the approval process step to identify the external approvers based on different company policy.
Form	Approver Assignment	Admin form for process administrator to assign task owner.
Form	Update Credit for The Sales Order	Form to get the update credit details for the sales order items.
Form	Update Credit Limit Details	Form to get the details for the sales order items.
Process	Approve Credit Check	Process to determine and approver credit block on sales order.
Process	Default Variant	Process to create a default variant and add the sub flows in order.
Process	Initialization	Process to get the credit blocked sales documents details and sales order item details.
Process	Manage Credit Block on Sales order Variant Template	Main process to create a variant and add the steps and configure the inputs.
Process	Manage Sales Order Changed	Process to listen to sales order changed event and triggers main process.
Process	Manage Sales Order Deleted.	Process listens to sales order deleted event and terminate active process instances for that sales order.
Process	Manage Sales Order Created.	Process to listens to sales order created event and trigger main process.

Process	Update Credit Limit	Release or rejects the credit block on sales orders based on the outcome of the approval process which in turn is based on the Credit limit has been updated in SAP S/4HANA or not.
Process	Update Sales Order Credit Limit	Release or reject the credit block for a specific sales document in SAP S/4HANA based on the outcome of the approval process.
Process	Validate Sales Order Credit	Process for validating the credit blocked sales order using the decision and set the validation message.
Data type	Approver Details	Data type of approver details for approving sales order and due duration of approval task
Data Type	Constant Variables	Data type for constant variables such as true and false flag used to assign the history details.
Data type	Credit Blocked Sales Order	Data type for maintaining credit blocked sales order details.
Data type	Credit Blocked Sales Order Item Details	Data type for maintaining credit blocked sales order item details and header details.
Data type	History Details	Data type for maintaining the fields for the history details like processor decision and comment.
Data type	Process Administrator Details	Data type for maintaining the fields for process administrator details.
Data type	Process Instance Details	Data type containing active process instance details.
Data type	Status	Data type for maintaining the status details for the approval process.
Data type	UI Task Details	Data type used for checking the status of the task in the approval process whether it is approved or rejected.
Data type	Validation Result	Data type for maintaining the fields such as validation message and is valid to check the business validation for sales order.

Actions

Manage Credit Block on SO - Get Blocked Sales Order Action

This action allows you to manage credit blocked sales documents and associated reject reasons, sending a success message with the document number upon checking, releasing, or rejecting.

Method	API	API Path	Purpose
GET	API_SLS_DOC_WITH_CREDIT_BLOCK	/sap/opu/odata/sap/API_SLS_DOC_WITH_CREDIT_BLOCK /A_CreditBlockedSalesDocument	Reads data of all credit blocked sales documents in the system

Manage Credit Block on Sales Order - Get Sales Order Action

This action allows you to get the sales order details and sales order header details from a specific sales order number.

Method	API	API Path	Purpose
GET	API_SALES_ORDER_SRV	/sap/opu/odata/sap/API_SALES_ORDER_SRV/A_SalesOrder('{SalesOrder}')/_Item	Reads all item data of a specific sales order. Consumers must pass the sales order ID (key field).
GET	API_SALES_ORDER_SRV	/sap/opu/odata/sap/API_SALES_ORDER_SRV/A_SalesOrder('{SalesOrder}')	Reads the header data of a specific sales order. Consumers must pass the sales order ID (key field).

Manage Credit Block on SO - Terminate Active Processes Action

This action allows you to use the workflow capability of SAP Build Process Automation. With the API, you can, for example, start new workflow instances, and terminate the existing active task.

Method	API	API Path	Purpose
GET	/workflow/rest/v1	/public/workflow/rest/v1/workflow-instances	This operation fetches workflow instances based on given parameters, showing all RUNNING or ERRONEOUS instances if none are specified, and is only available to users with the ProcessAutomationAdmin role.
PATCH	/workflow/rest/v1	/public/workflow/rest	This operation changes a workflow instance's status to CANCELED, which finalizes it, or to SUSPENDED, which temporarily pauses processing for that specific instance.

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 Process Automation. For example: add decision 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.

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