

PUBLIC

SAP Build Process Automation

Manage Credit Memo Requests 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 quick overview of the use case, what are 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) Import and configure the template using SAP Build Process Automation design studio
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.

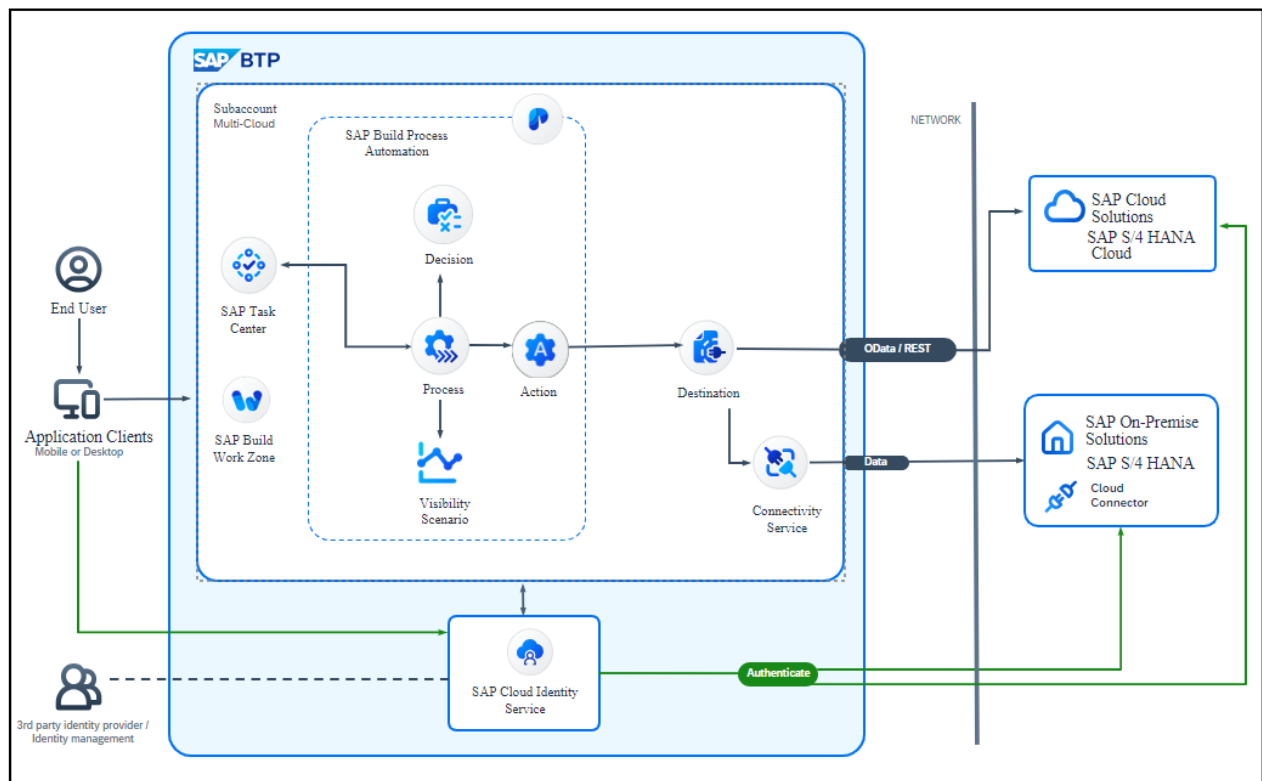
Overview

This document provides technical information about what needs to be configured to make the package - Manage Credit Memo Requests Approval run. The main audience of this document are technical IT Administrators or Developers.

Features:

- New variant of the process can be created using the pre-delivered process steps in a no-code / low-code approach
- Out-of-the-box visibility into key process performance indicator
- Plug and Play with SAP S/4HANA without any additional development
- Automatic email notification to parties involved
- Decisions provides flexibility in determining approvers strategy and approvers
- Custom validation on sales order attributes using decisions.

Process Flow Diagram



Steps :

1. The process is triggered when a credit memo is created/changed or deleted in SAP S/4 HANA via Event Mesh.
2. Credit Memo header and item details are retrieved using credit memo request number.
3. The retrieved details are validated based on custom validation checks define in decisions.
4. Approver is determined using decisions and he receives a task to action in My Inbox - either to approve or reject the credit memo request.
5. Approved credit memo requests are set to status released in SAP S/4 HANA, whereas rejected or invalid credit memo requests are set to status rejected in SAP S/4 HANA.

Required SAP Business Technology Platform Services

The following SAP Business Technology Platform services are required to consume the **Manage Credit Memo Requests**:

- SAP Build Process Automation
- SAP Connectivity service
- 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 prerequisites are needed

- SAP Desktop Agent 3.28 or higher.

Configuration Guide

Manage Credit Memo Requests template requires SAP Build Process Automation subscription. Follow the [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.

Communication Scenario	Related API
Credit Memo Request (A2X)	Overview Credit Memo Request (A2X) SAP Business Accelerator Hub
Division - Read	Overview Division - Read SAP Business Accelerator Hub
Distribution Channel - Read	Overview Distribution Channel - Read SAP Business Accelerator Hub
Sales Organization - Read	Overview Sales Organization - Read SAP Business Accelerator Hub

Setup Business Technology Platform Cockpit

Configure SAP S/4HANA Destination

Configure destination to connect to S/4HANA cloud system

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

Name: *

Type:

Description:

URL: *

Proxy Type:

Authentication:

User: *

Password:

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

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 MyInbox, 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.
SAP_BR_RETURNS_REFUND_CLERK	Role needed in SAP S/4 HANA for Returns and refund clerk
SAP_BR_INTERNAL_SALES_REP	Role needed in SAP S/4 HANA for Internal Sales Representative
SAP_BR_INVOICING_SPEC_CINV	Role needed in SAP S/4 HANA for Invoicing Specialist (Convergent Invoicing)

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_CREDIT_MEMO_REQUEST_SRV	OData	S4/HANA
/sap/opu/odata/sap/API_DIVISION_SRV/A_DivisionText	OData	S4/HANA

/sap/opu/odata/sap/API_SALESORGANIZATION_SRV/A_SalesOrganizationText	OData	S4/HANA
/sap/opu/odata/sap/API_DISTRIBUTIONCHANNEL_SRV/A_DistributionChannelText	OData	S4/HANA

Configure SAP S/4HANA to push Credit Memo Request 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 Credit Memo Request package:

/sap/s4/beh/creditmemorequest/v1/CreditMemoRequest/Created/v1

/sap/s4/beh/creditmemorequest/v1/CreditMemoRequest/Changed/v1

/sap/s4/beh/creditmemorequest/v1/CreditMemoRequest/Deleted/v1

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

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

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

Configure Decisions

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

1. Determine Process Administration

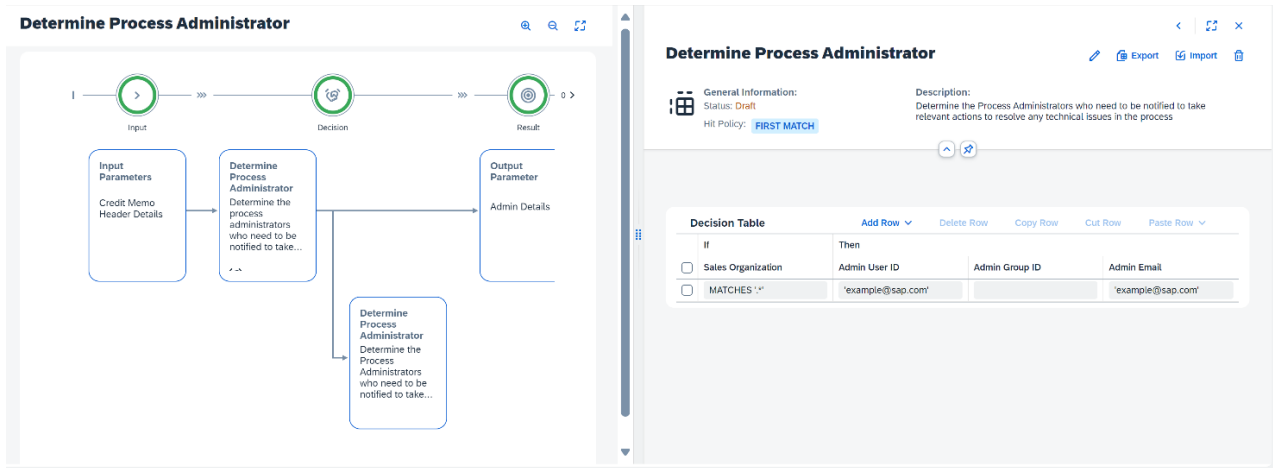
This decision determines which Process Administrators must be informed to take the appropriate action to fix any technical problems with the process.

To modify the decision:

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

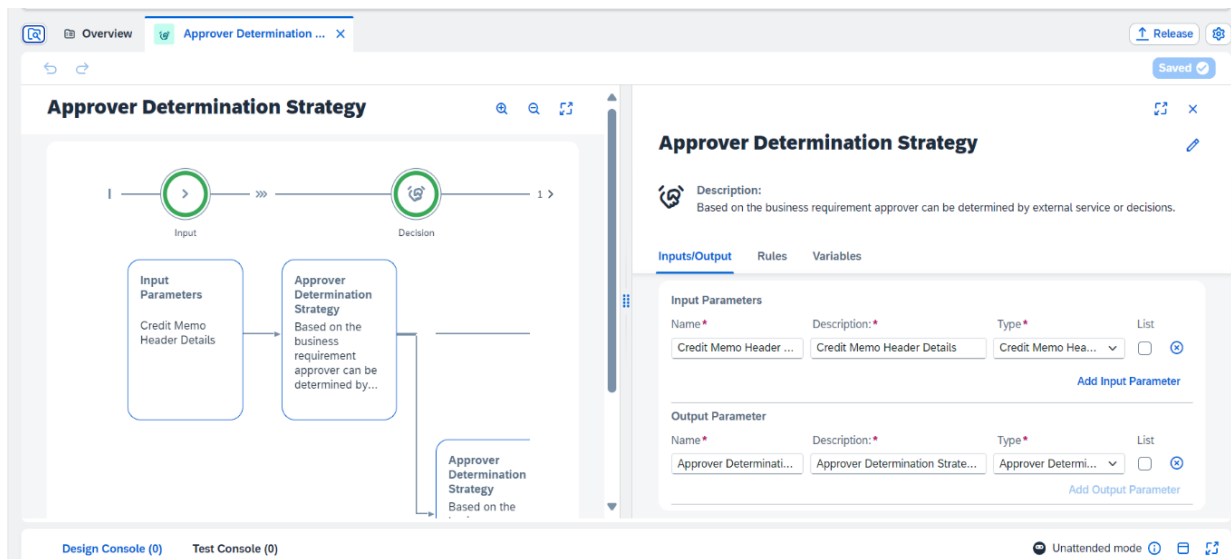
The screenshot displays the SAP Process Editor interface for the 'Determine Process Administrator' decision. On the left, a decision diagram shows an 'Input' node (Credit Memo Header Details) leading to a 'Decision' node (Determine Process Administrator). The decision node is expanded to show its configuration. On the right, the configuration panel is visible, featuring a description: 'Determine the Process Administrators who need to be notified to take relevant actions to resolve any technical issues in the process'. Below the description, there are tabs for 'Inputs/Output', 'Rules', and 'Variables'. The 'Inputs/Output' tab is active, showing an 'Input Parameters' section with one parameter: 'Credit Memo Header Details' (Description: Credit Memo Header Details, Type: Credit Memo He...). Below this is an 'Output Parameter' section with one parameter: 'Admin Details' (Description: Admin Details, Type: Admin Details). The interface includes a 'Design Console' and 'Test Console' at the bottom, and a 'Saved' button in the top right corner.

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



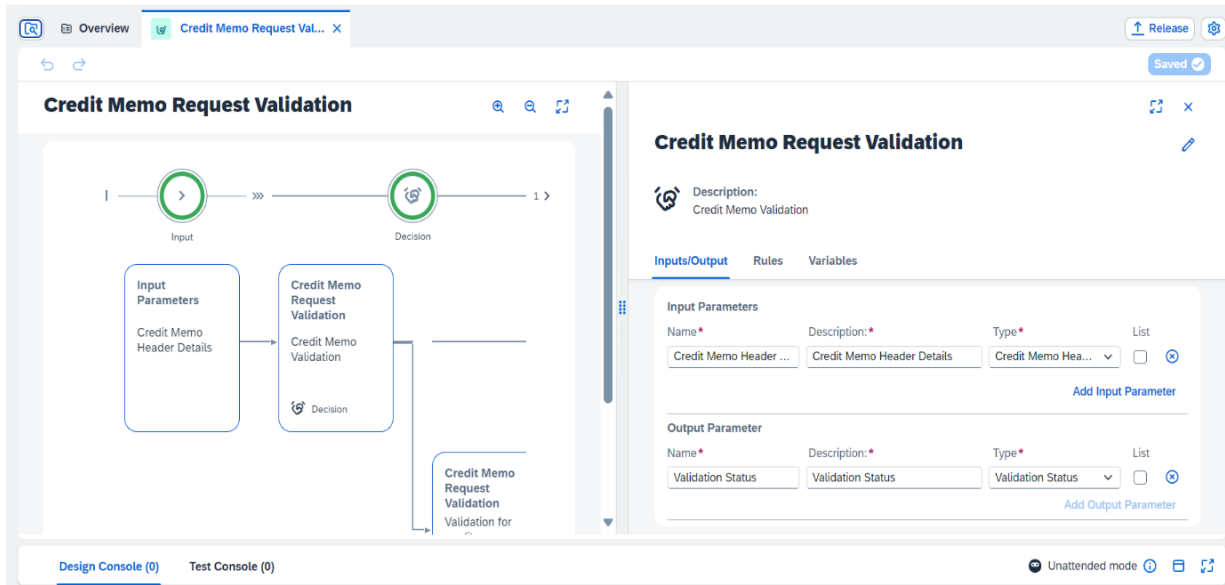
2. Approver Determination Strategy

This decision used to determine the Approver choices or external services can be based on the business requirements.



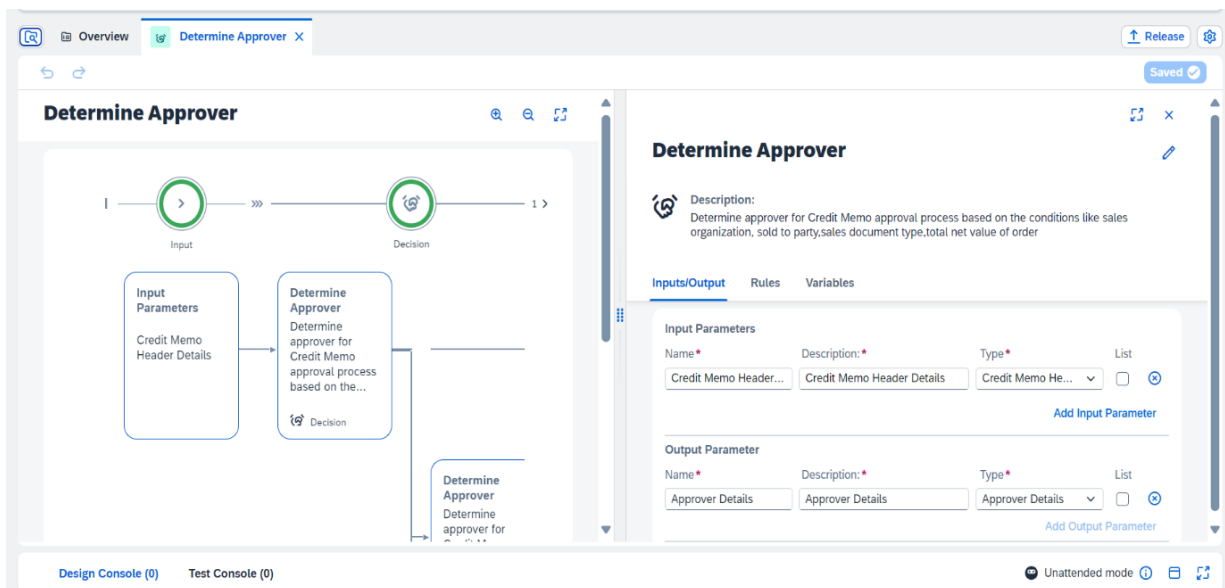
3. Credit Memo Request Validation

This decision used to determine the Validation for Credit Memo Request and Status based on requirements.



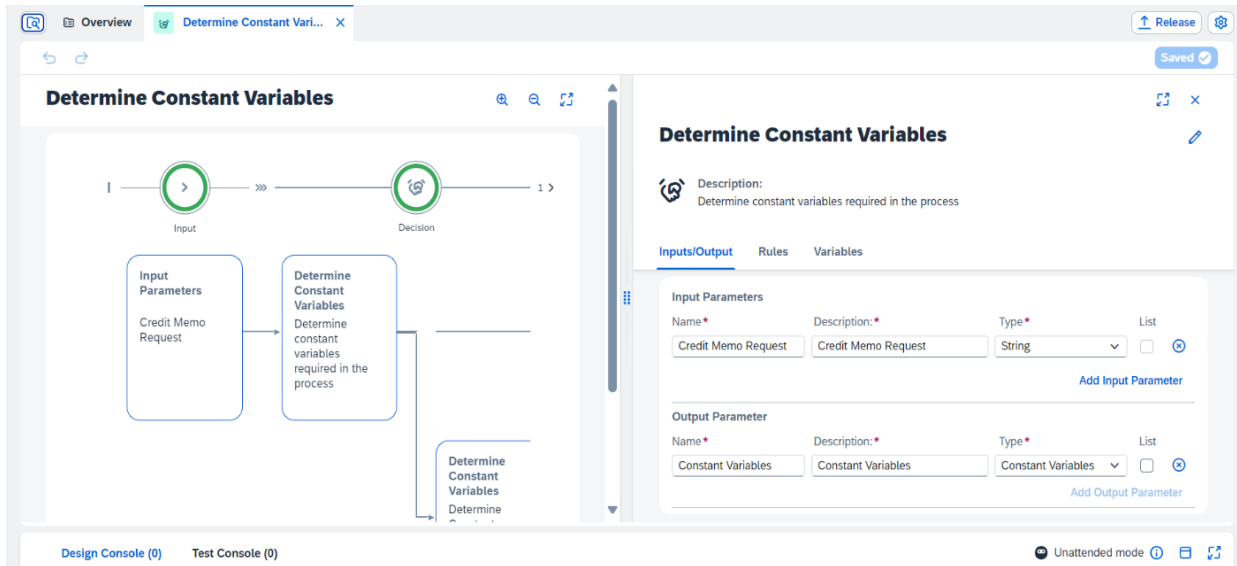
4. Determine Approver

This decision used to determine the approver for the credit memo approval procedure by considering factors such as the order's total net value, sales organization, sold to party, and kind of sales document.



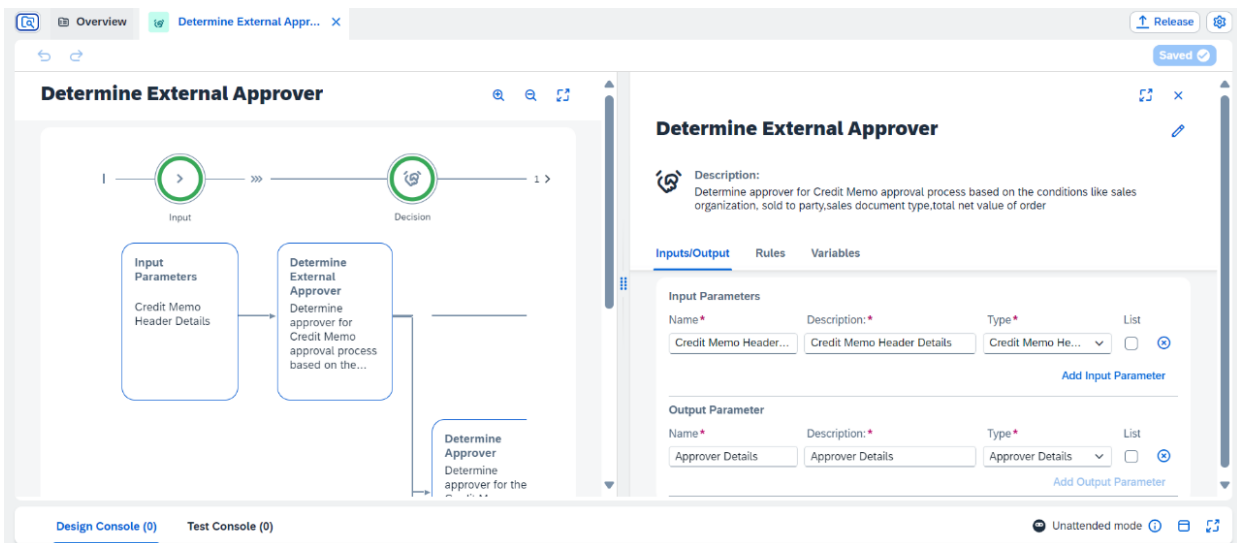
5. Determine Constant Variables

This decision used to determine constant variable the constant variable for the process.



6. Determine External Approver

This decision used to determine approver for credit memo approval process based on the conditions like sales organization, sold to party, sales document type, total net value of order.



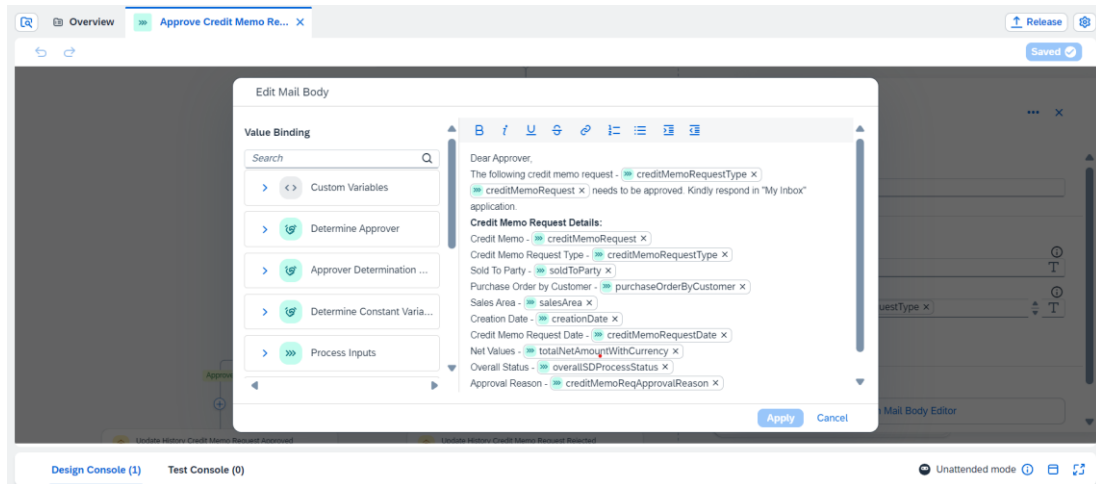
Configure Email

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

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'.



- 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](#)

Release and Deploy the Process

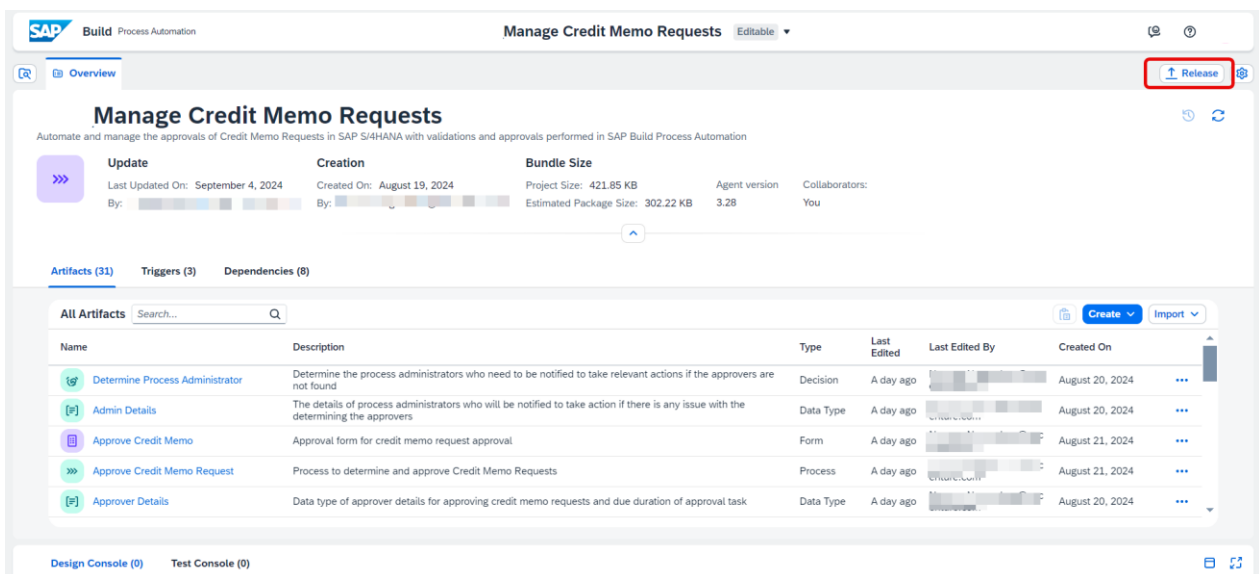
After configuring your process, it's time to publish, test and run it. To run a process, you must first release and deploy it.

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'.



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**'.

The screenshot shows the SAP Build Process Automation interface for a project named 'Manage Credit Memo Requests' (version 1.0.28). The status is 'Released'. A 'Deploy' button is highlighted with a red box. Below the header, there is a 'Creation' section showing the process was created on September 4, 2024, by an agent version 3.28, with collaborators 'You'. A table of artifacts is displayed below, with columns for Name, Description, and Type.

Name	Description	Type
Determine Process Administrator	Determine the process administrators who need to be notified to take relevant actions if the approvers are not found	Decision
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
Approve Credit Memo	Approval form for credit memo request approval	Form
Approve Credit Memo Request	Process to determine and approve Credit Memo Requests	Process
Approver Details	Data type of approver details for approving credit memo requests and due duration of approval task	Data Type
Approver Determination Strategy	Decision used to identify the approver determination type. It can be 'Decision' based or 'External Service' based.	Decision
Approver Determination Strategy Type	Approver determination strategy can either "Decisions" or "External Service"	Data Type

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:** Destination to SAP Business Technology Platform process automation instance. When a credit memo is deleted, this destination is used for terminating the running processes.

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.

Setup Content Package

Import SAP Build Process Automation content

Standard automation packages released by SAP will be available at the [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 "process automation."
3. In the Search bar type "**Manage Credit Memo Requests**".

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 Memo Requests**” template available for use.

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

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	Convert Credit Memo Request to String	Automation to convert sales order number to a string format by extracting key data fields and formatting them into a structured text representation.
Automation	Initialize Global Variables	Automation to initialize global variables by setting predefined values or configurations at the start of a program or script.
Automation	Terminate Active Process Instance	Automation to terminate active process instances post sales order deletion
Automation	Update History	Automate the update of history details by programmatically appending or modifying historical records with new information or changes.
Data type	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	Approver Details	Data type of approver details for approving credit memo requests 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	Credit Memo Header Details	Data type for credit memo header details
Data type	Credit Memo Item Details	Data type for credit memo item details

Data type	History Details	Data type for history details like processor decision and comments
Data type	Task Decision Details	Data type for task decision details
Data type	Validation Status	Validation status to indicate if credit memo request details are valid or not
Data type	Process Instance Details	Data type containing active process instance details
Decision	Determine Process Administrator	Determine the process administrators who need to be notified to take relevant actions if the approvers are not found
Decision	Approver Determination Strategy	Decision used to identify the approver determination type. It can be 'Decision' based or 'External Service' based.
Decision	Credit Memo Request Validation	Decision for business validation of credit memo based on key attributes
Decision	Determine Approver	Determine approver for credit memo approval process based on the conditions like sales organization, sold to party, sales document type, total net value of order
Decision	Determine Constant Variables	Determine constant variables such as true and false flag required for the process.
Decision	Determine External Approver	Determine approver for credit memo approval process based on the conditions like sales organization, sold to party, sales document type, total net value of order
Form	Approve Credit Memo	An approval form for a credit memo captures required details and authorizations needed to approve and process the credit memo.
Form	Manual Approver Assignment Form	A manual approval form for credit memo approval is a physical or digital document where authorized personnel review, sign, and approve the credit memo manually.
Process	Approve Credit Memo Request	Process to determine and approve Credit Memo Requests
Process	Manage Credit Memo Requests	Main process to Validate, Approve and Release a Credit Memo Request
Process	Manage Credit Memo Requests Changed	Process to listen to credit memo changed event and trigger main process
Process	Manage Credit Memo Requests Created	Process to listen to credit memo created event and trigger main process
Process	Manage Credit Memo Requests Deleted	Process to listen to credit memo deleted event and terminate active process instances for that credit memo
Process	Retrieve Credit Memo Request	Retrieve credit memo request header and item details from the given credit memo request number

Process	Update Credit Memo	Process to update credit memo with released or rejected status
Process	Validate Credit Memo Request	Validate the credit memo request details using decisions
Visibility Scenario	Credit Memo Requests Dashboards	Visibility on credit memo request approvals including key process performance indicators

Actions

Manage Credit Memo Requests - Distribution Channel Read Action

Method	Path	API Name	Purpose
GET	/sap/opu/odata/sap/API_DISTRIBUTIONCHANNEL_SRV/A_DistributionChannelText(DistributionChannel='{DistributionChannel}',Language='{Language}')	API_DISTRIBUTIONCHANNEL_SRV	The service contains the distribution channel and distribution channel text nodes.

Manage Credit Memo Requests Action

Method	Path	API Name	Purpose
POST	/sap/opu/odata/sap/API_CREDIT_MEMO_REQUEST_SRV/rejectApprovalRequest	API_CREDIT_MEMO_REQUEST_SRV	Invoke action rejectApprovalRequest command initiates the process to deny or cancel a pending approval request.
POST	/sap/opu/odata/sap/API_CREDIT_MEMO_REQUEST_SRV/releaseApprovalRequest	API_CREDIT_MEMO_REQUEST_SRV	Invoke action release approval request command triggers the process to approve or finalize a previously pending approval request.
GET	/sap/opu/odata/sap/API_CREDIT_MEMO_REQUEST_SRV/A_CreditMemoRequest('{CreditMemoRequest}')	API_CREDIT_MEMO_REQUEST_SRV	Reads the header data of a specific credit memo request. Consumers must pass the credit memo request ID (key field).

Manage Credit Memo Requests - Division Read Action

Method	Path	API Name	Purpose
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GET	/sap/opu/odata/sap/ API_DIVISION_SRV /A_DivisionText(Division='{Division '},Language='{Language}')	API_DIVISION_SRV	The service contains division and division text nodes.
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Manage Credit Memo Requests - Read Sales Organization Action

Method	Path	API Name	Purpose
GET	/sap/opu/odata/sap/API_SALES ORGANIZATION_SRV/ A_SalesOrganizationText	API_SALESORGANIZATIO N_SRV	Get entity from A_SalesOrganizationText by key

Manage Credit Memo Requests - Terminate Active Processes Action

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

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