



PUBLIC

SAP Build Process Automation

Manage Purchase Order Approval and Creation Template Configuration & User Guide

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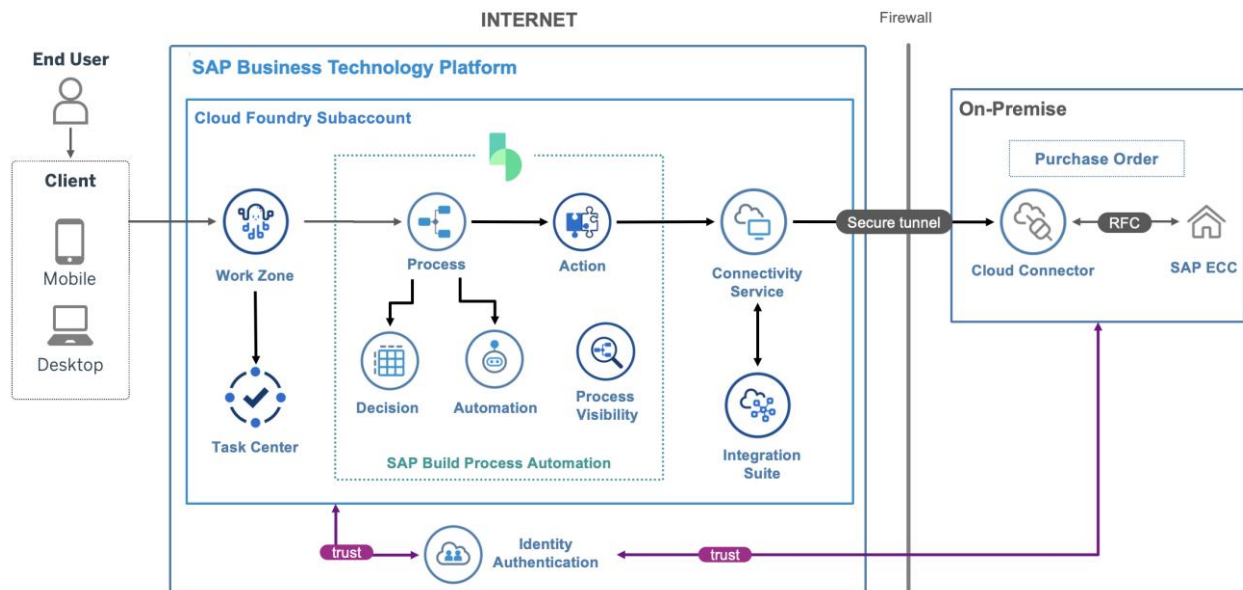
Change Log

Version	Date	Description
1.0.0	July 05 th , 2023	Document created
1.0.2	August 12 th , 2026	Updated the BAPI and Pre-requisites to include Automation

Overview

The Manage Purchase Order Approval and Creation Template enables business experts to accelerate the automation and creation of Purchase Orders in a transparent approach and provide flexibility to meet business requirements. It includes processes, decisions, automation and visibility scenario content.

When a Purchase Requisition Document number is entered, the process is triggered in SAP Build Process Automation. Based on business conditions, the approvers are dynamically assigned based on the Purchase Requisition through the help of Decision. Similar items are grouped together, and the purchase order(s) is created in the SAP ERP based on approvals performed in the process.



The following steps are included as a part of Manage Purchase Order Approval and Creation template:

- Purchase requisition document is enriched with other attributes like Company code, Tax code, Inco terms and Payment terms and groups are formed based on these attributes before being sent for approval.
- Multi-level approval based on various parameters like document type, purchasing organization, total net amount, currency, etc.
- Approvers are determined using a configurable Decisions.
- Approvers have two decision options (Approve and Reject) and based on the decision the purchase orders will be created in ECC system.
- As many numbers of groups identified, so many number of Purchase orders will be created in the ECC backend system. If there is an issue in Purchase order creation in backend, Process administrator will be determined based on the business rule and user task assigned to him/her shows error details. Further administrator can contact requester to perform changes if required.

Prerequisites

The following SAP Business Technology Platform services are required to consume the content package Manage Purchase Order Approval and Creation:

- SAP Build Process Automation to orchestrate the process.
- Unattended automation as part of SAP Build Process Automation.
- SAP Work Zone, standard edition
- SAP Cloud Identity Services - Identity Authentication
- SAP Integration Suite to consume the RFC, BAPI from SAP ECC
- SAP Connectivity service (cloud connector) to establish access to SAP ECC (EHP6 FOR SAP ERP 6.0).
- SAP Business Technology Platform, Cloud Foundry runtime

Configuration Guide

The Manage Purchase Order Approval and Creation template requires SAP Build Process Automation subscription or CPEA contract. Follow the [setup and configuration section](#).

Setup SAP Business Technology Platform Cockpit

Destination Configuration

- **Configure SAP Integration Suite Destination**

To call an integration flow, a HTTP destination is required in the SAP BTP account where the SAP Build Process Automation is subscribed.

Create a destination with name **CPI** with either Basic Authentication or OAuth2ClientCredentials.

Note: Token Service URL can be fetched from SAP BTP Cockpit - > Instances and Subscriptions - > Service Keys

Destination with Basic Authentication

Name	CPI
Type	HTTP
Proxy Type	Internet
Authentication	Basic Authentication
URL	<integration suite runtime URL>
Username	<Username>
Password	<Password>

Destination with OAuth2ClientCredentials

Name	CPI
------	-----

Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	<runtime URL>
Username	<Username>
Password	<Password>
Token Service URL	<oauth url for client credentials>

Additional Properties to Destination

Additionally, add the following properties in the destination for cloud integration

WebIDEEEnabled	true
WebIDESystem	CPI
WebIDEUsage	odata_gen

• Configure SAP ECC Destination

An RFC destination is required in the SAP BTP account where Integration capability within SAP Integration Suite is subscribed.

Refer [create a RFC destination](#) to learn more.

Note: The destination name need not be 'ECC' as seen below. If a different name is used, then the same needs to be configured in the Integration Flow.

Name	ECC or <ANYNAME> Note: You can name it as you wish but maintain the destination name in the integration flow configuration.
Type	RFC
Proxy Type	OnPremise
User	<ECC USER>
Password	<ECC PASSWORD>
Repository User	
Repository Password	
Location ID	<optional>
Additional Property	Name: jco.client.ashost Value: <abapServerHost> Name: jco.client.client Value: <client id> Name: jco.client.sysnr Value: <systemNumber>

• 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 BTP Account.

Configuring destination, see [Configure a SMTP Mail Destination](#).

- For more information refer to [Create HTTP Destinations](#) and [OAuth User Token Exchange Authentication](#).

Cloud Connector Configuration

Configure your SAP BTP account and SAP ECC system in Cloud Connector to enable secure tunnel for RFC calls. Please refer the help documentation to [configure Cloud Connector](#).

Expose the following BAPI/RFC in the SAP Cloud Connector:

- BAPI_PR_GETDETAIL
- BAPI_REQUISITION_GETDETAIL
- BAPI_PO_CREATE1
- RFC_READ_TABLE – This RFC is used in the integration flow 'Get Company Code' to fetch the Valuation Area data from T001W table and get the Company Code data from table T001K.

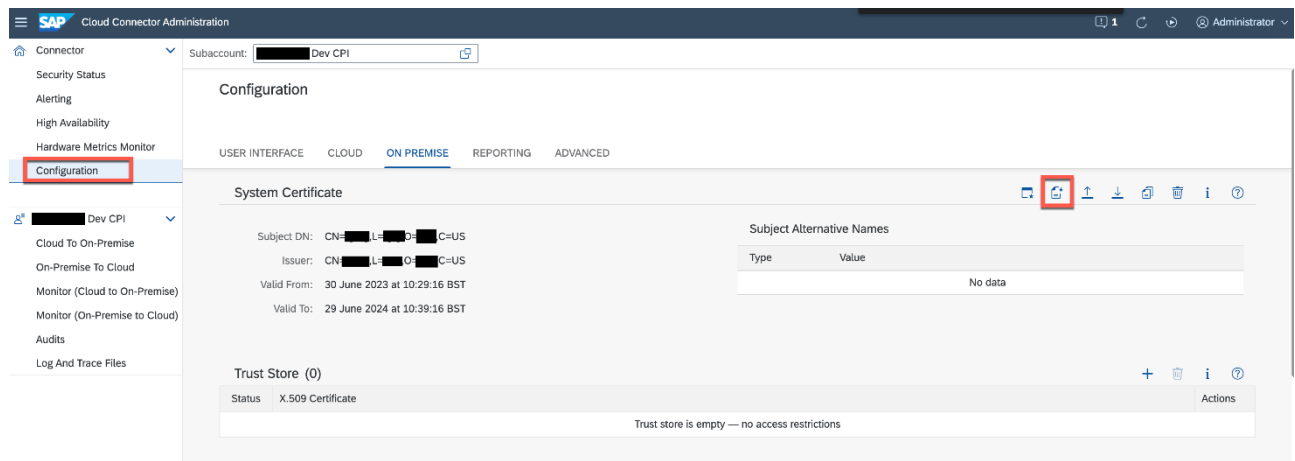
This RFC is also used in the integration flow 'Get Payment and Inco Terms from SAP ERP' to fetch the Payment Terms and Inco Terms from the table LFM1. The specific tables and fields have been fixed in the integration flows so that only required data are exposed to the cloud.

- BAPI_TRANSACTION_ROLLBACK
- BAPI_TRANSACTION_COMMIT

For implementing principal propagation from the integration flow to the SAP ECC, synchronize the IDP in SAP cloud connector, create the destination of type IDP and import the self -signed CA certificates.

The screenshot displays the SAP Cloud Connector Administration web interface. On the left, a navigation menu includes 'Connector', 'Security Status', 'Alerting', 'High Availability', 'Hardware Metrics Monitor', and 'Configuration'. Under 'Configuration', 'Cloud To On-Premise' is selected and highlighted with a red box. The main panel shows 'Cloud To On-Premise' settings for a subaccount named 'Dev CPI'. A status message indicates 'Trust configuration last updated 30 June 2023 at 10:45:00 BST'. Below this, tabs for 'ACCESS CONTROL', 'COOKIE DOMAINS', and 'PRINCIPAL PROPAGATION' are visible, with 'PRINCIPAL PROPAGATION' highlighted by a red box. The 'Trust Configuration (2)' table lists two entries:

Name	Description	Type	Trusted	Actions
Subaccount: [redacted]	JSON Web Token (JWT) key, used by the SAP UAA (XSUAA) to sign JWT access tokens. Multiple keys might be configured for the same identity zone of the subaccount. Current key hash (sha1sum): [redacted]	IDP	☒	[refresh] [info]
Subaccount: [redacted]	JSON Web Token (JWT) key, used by the SAP IAS to sign JWT access tokens. Multiple keys might be configured for the same IAS tenant, mapped to the subaccount. Current key hash (sha1sum): [redacted]	IDP	☒	[refresh] [info]



In SAP ECC, follow these steps to enable principal propagation:

1. Import Cloud Connector (SCC) System certificate in STRUSTSSO2 transaction under SSL Server Standard. This established the trust between the backend and SCC.
2. Maintain subject, issuer, cert rule parameter details in default profile – RZ10 transaction.
3. Create the rule-based mapping using sample X.509 certificate – CERTRULE transaction.
4. Restart ICM.

User Roles Configuration

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

Role Name	Purpose
ProcessAutomationDeveloper	To fully use this content package, you need to have an active user entitled to this role to use SAP Build Process Automation

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

IMPORTANT NOTE: This template content is to accelerate your solution development. You can modify this template according to your own requirements to achieve your business goals. To use this template content, you need to have basic knowledge and understanding of SAP Build Process Automation and SAP Integration Suite and its capabilities.

Setup Integration Content

This template requires Process Integration capability within SAP Integration Suite to create purchase orders and to read purchase requisition documents. An integration content package **SAP Build Process Automation Integration with SAP ERP for Purchase Order** is available in SAP Business Accelerator Hub to integrate SAP Build Process Automation with SAP ECC.

All integration models use the RFC Adapter to call the required RFC/BAPI in SAP ECC. The following Integration models are available in this package.

Cloud Integration

Edit
Export
Delete Package

Design / SAP Build Process Automation Integration with SAP ERP for Purchase Order /

SAP Build Process Automation Integration with SAP ERP for Purchase Order

This package contains integration flows to create Purchase Orders in SAP ERP from the live process content Manage Purchase Order Approval and Creation.

Vendor: SAP
Version: 1.1.0

Mode: Editable

Overview
Artifacts (5)
Documents (2)
Tags
Comments

Actions
Filter Artifacts

☐	Name	Type	Version	Actions
☐	Create Purchase Order in SAP ERP Purchase Order gets created in SAP ERP Modified	Integration Flow	1.1.0	
☐	Get Company Code from SAP ERP Query to get Company Code from SAP ERP by providing the value of Plant as input Modified	Integration Flow	1.1.0	
☐	Get Company Code from SAP ERP_Test Query to get Company Code from SAP ERP by providing the value of Plant as input Created	Integration Flow	1.1.0	
☐	Get Payment and International commercial term from SAP ERP Query to get Payment Terms and International commercial term (Inco Terms) from SAP ERP by providing the value of Vendor as input Modified	Integration Flow	1.1.0	
☐	Get Purchase Requisition from SAP ERP Read Purchase Requisition data from SAP ERP Modified	Integration Flow	1.1.0	

Import the Content package to your SAP Integration Suite account. To be able to import and deploy integration flows, you need the **AuthGroup.IntegrationDeveloper** role assigned in your user.

Import Pre-packaged Integration Content in SAP Integration Suite:

- Access your SAP Integration Suite tenant management node (<https://<cpitenant>.hana.ondemand.com/itspaces>).
 - Refer help documentation on how to get tenant management node address
- View all pre-packaged integration flow under Discover → Integration (<https://<cpitenant>.hana.ondemand.com/itspaces/shell/discover>).
- Search content package “**SAP Build Process Automation Integration with SAP ERP for Purchase Order**”
- Click to open the package
- Click **Copy** to import the integration content package to your workspace.
- Navigate to **Design** to open the imported content package.
- Open all Integration models, select **Configure** option.
 - set configured value as **RFC Destination** which was created in SAP BTP Cockpit
- Deploy the integration model

Setup SAP Build Process Automation Content

Import Content

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 Purchase Order Approval and Creation"**
- 4) Select the "Add" button to add the template into you lobby.
- 5) After successfully adding the template, navigate back to the lobby to find the "Manage Purchase Order Approval and Creation" template available for use.

Caution: Be sure to select the **Project Type as "Process Automation" in the filters** as there is another content available for Live Process category and should not be used.

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.

Configure Process

The process **"Manage PO Approval And Creation"** does not need to be explicitly configured.

Configure Forms (Optional)

This template contains multiple forms. You can update or extend the forms based on your requirements. To edit the form:

- Double click the form to open the Form Editor
- You can configure existing fields or add new layout or input fields to the form by simply dragging-and-dropping them from the side menu.

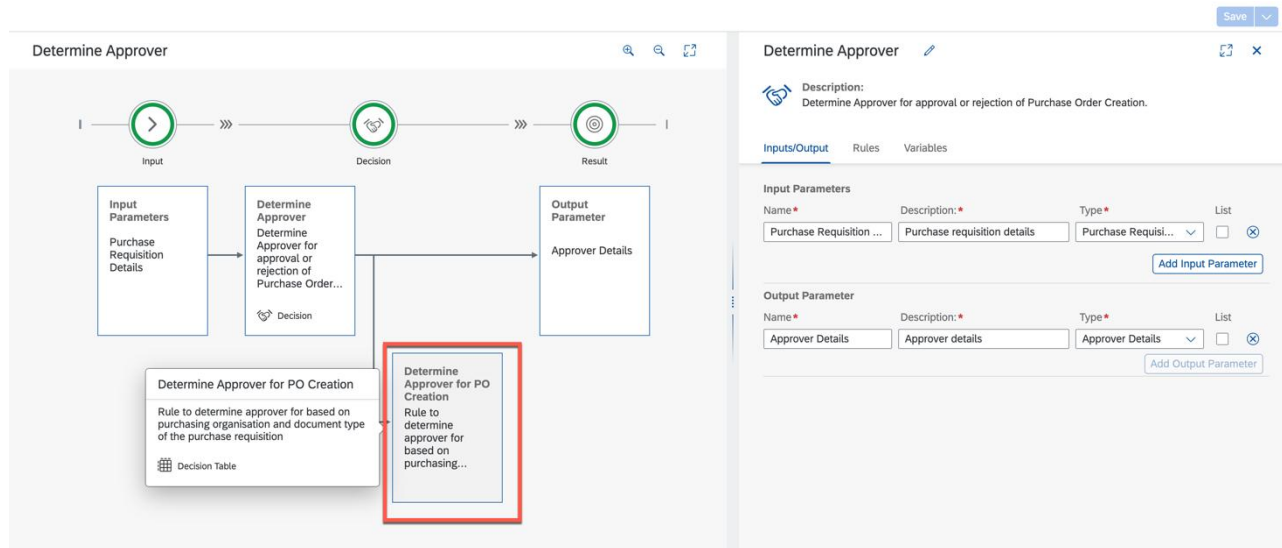
Configure Decisions

There are three decisions in this template

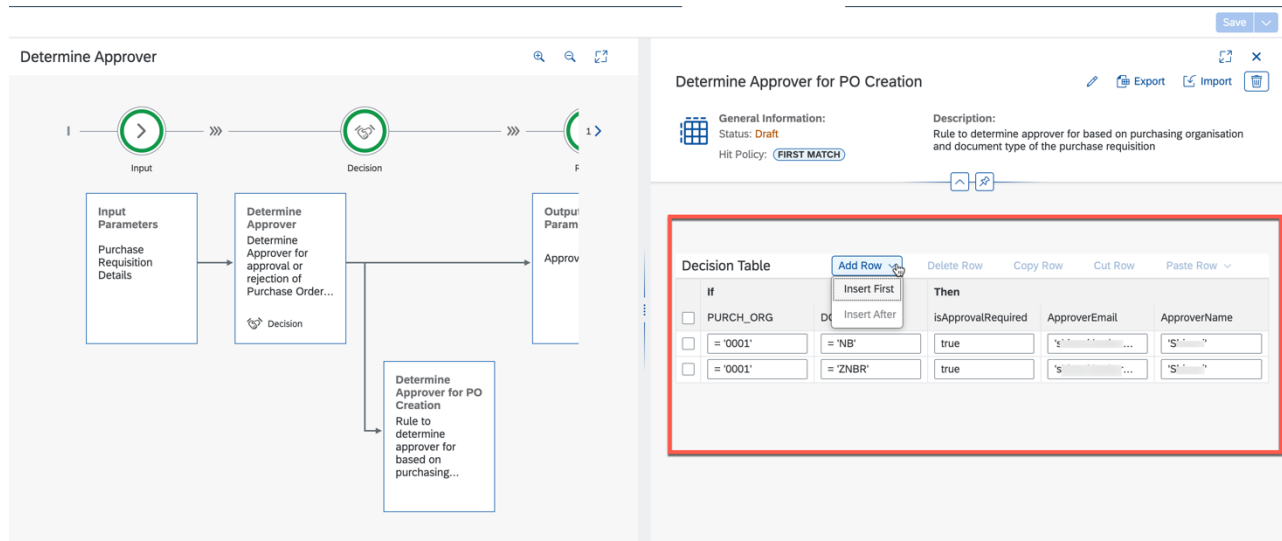
- Determine Grouping Attributes
- Determine Approvers
- Determine Admins

These decisions have to be modified for conditions and result values based on your business policies and 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 values

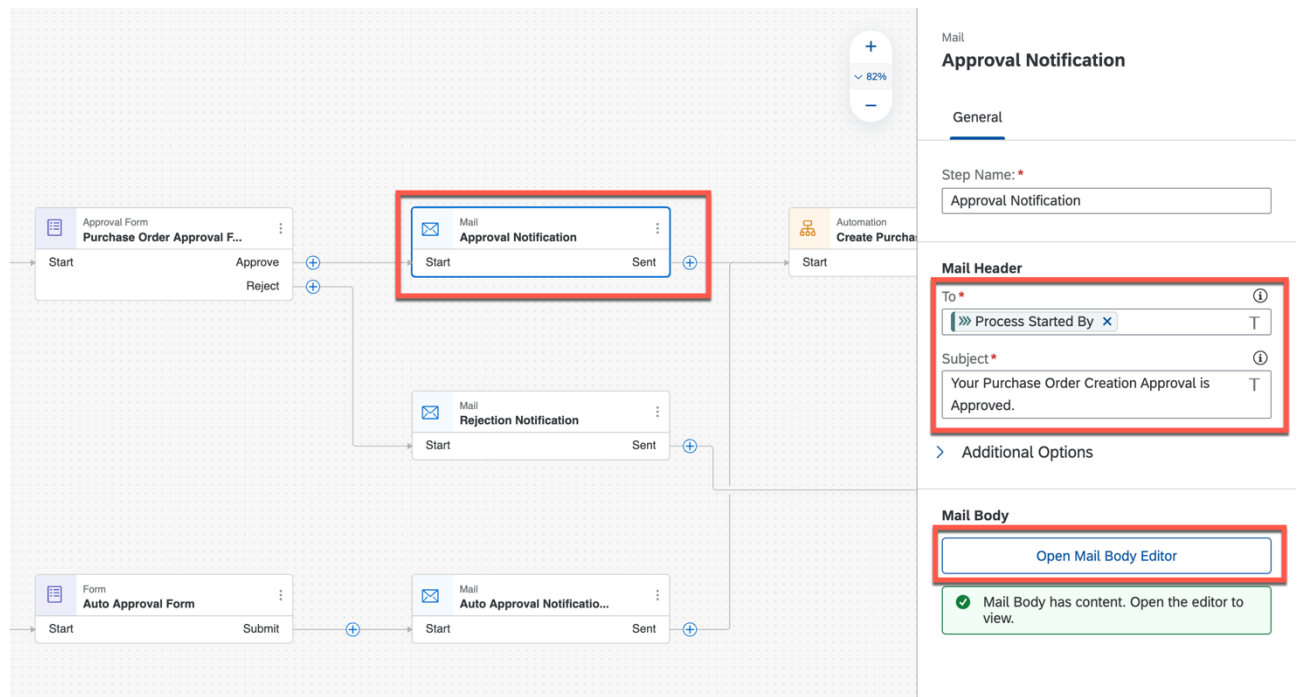


Configure Email

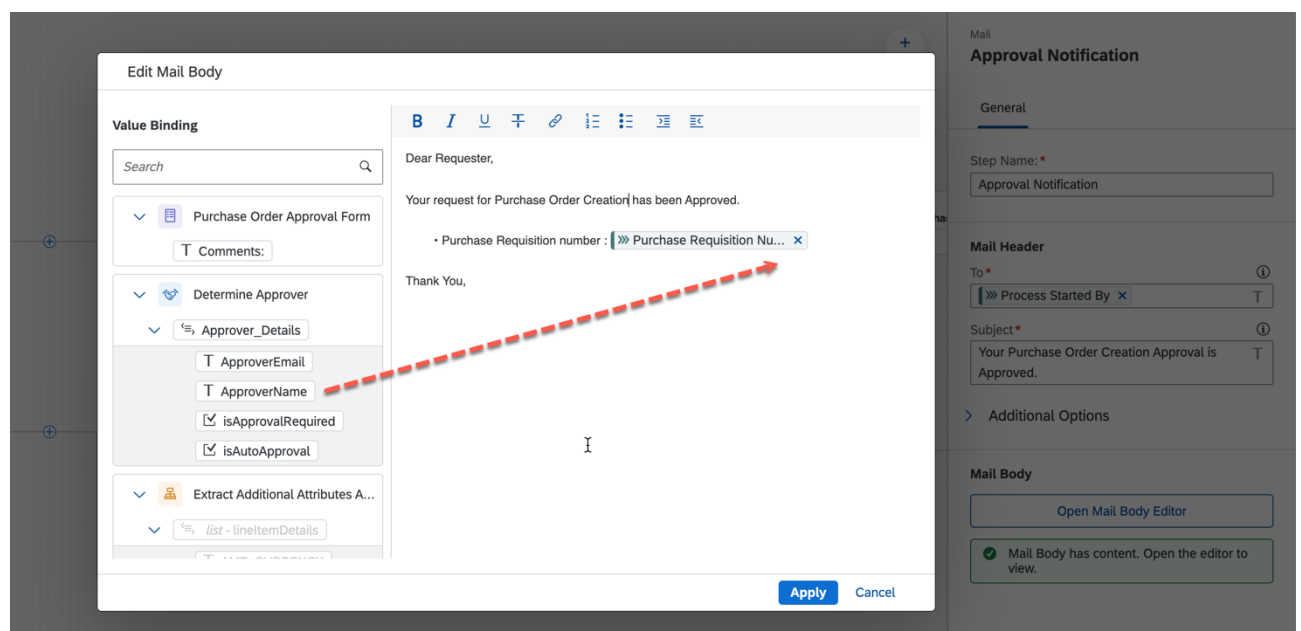
Email notifications are sent to requestor, approver and admin at different places during process execution. All the email artefacts in the process have default template body which can be changed.

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.
- 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



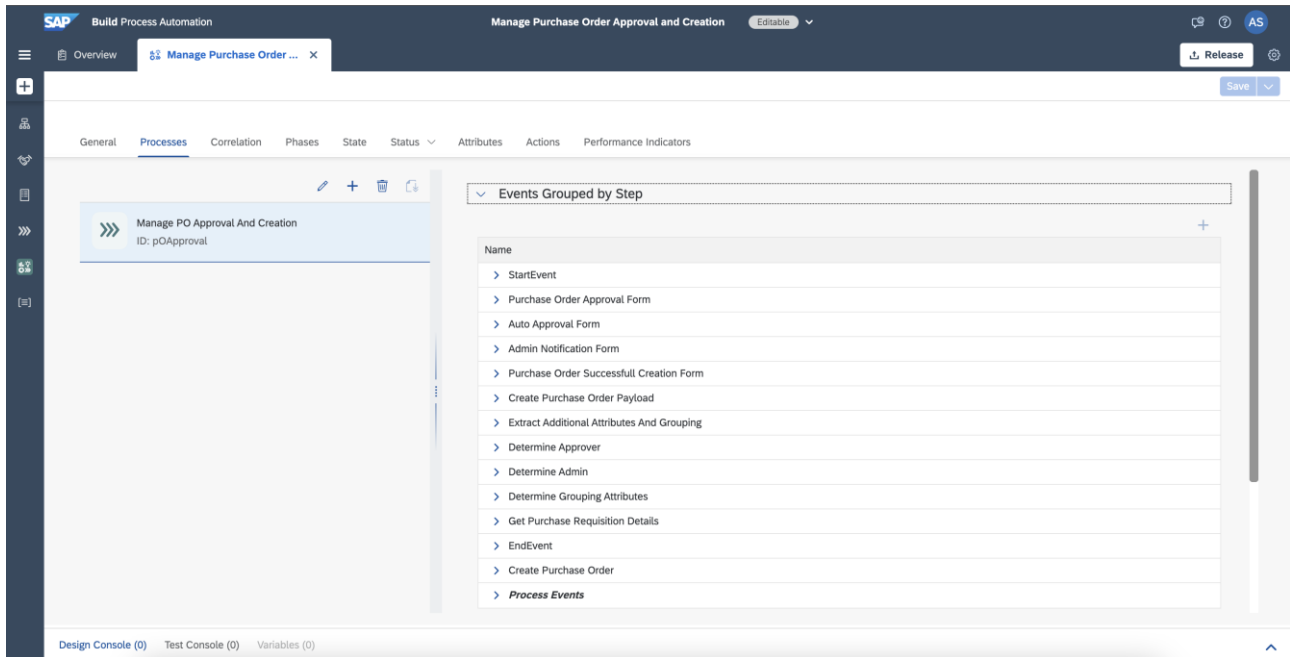
Configure Process Visibility (Optional)

This template has a pre-built dashboard with default business KPIs that can be used by the business users to track end-to-end processes in real-time. You can add more KPIs based on your business requirements.

To configure the visibility scenario:

- Open project '**Overview**' tab
- Select **Manage Purchase Order Approval and Creation** (Visibility Scenario)
- Explore and change Phases, Attributes, Performance Indicators etc. [Follow the documentation to learn how to configure process visibility scenario](#)

In case you don't have access to the process visibility workspace where you can access the newly created dashboards, please contact your IT admin.

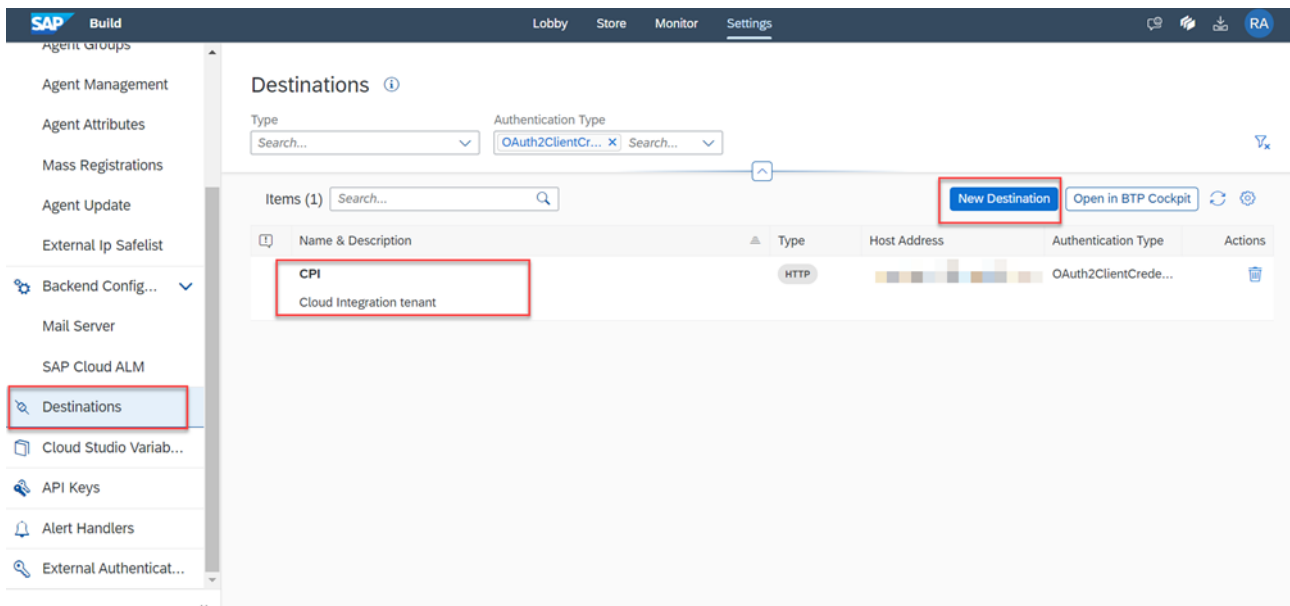


Configure Destination Settings

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

To configure destination,

- click on **Settings**
- Select **Destinations** from the left panel
- Click **New Destination**
- Select these destinations to be added
 - CPI



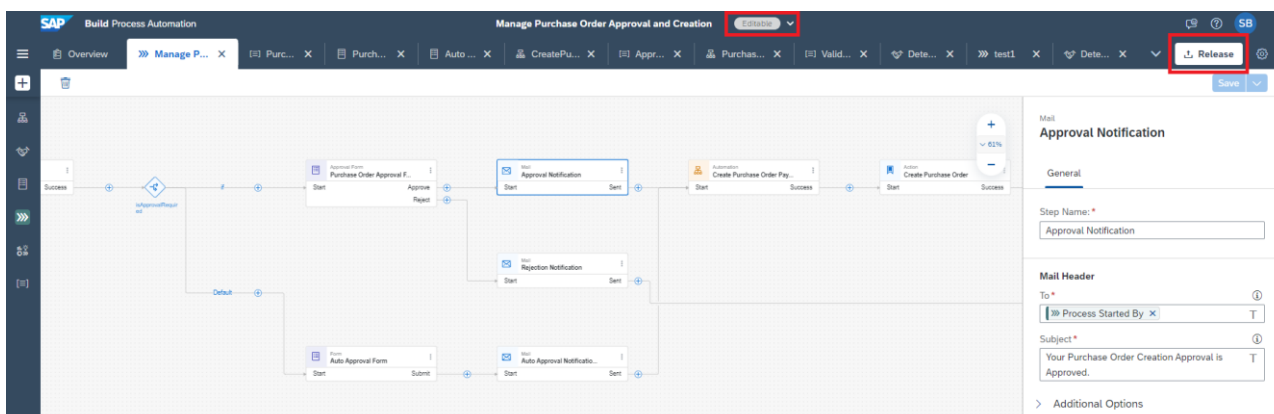
Release and Deploy Process

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'.
- The click 'Release':

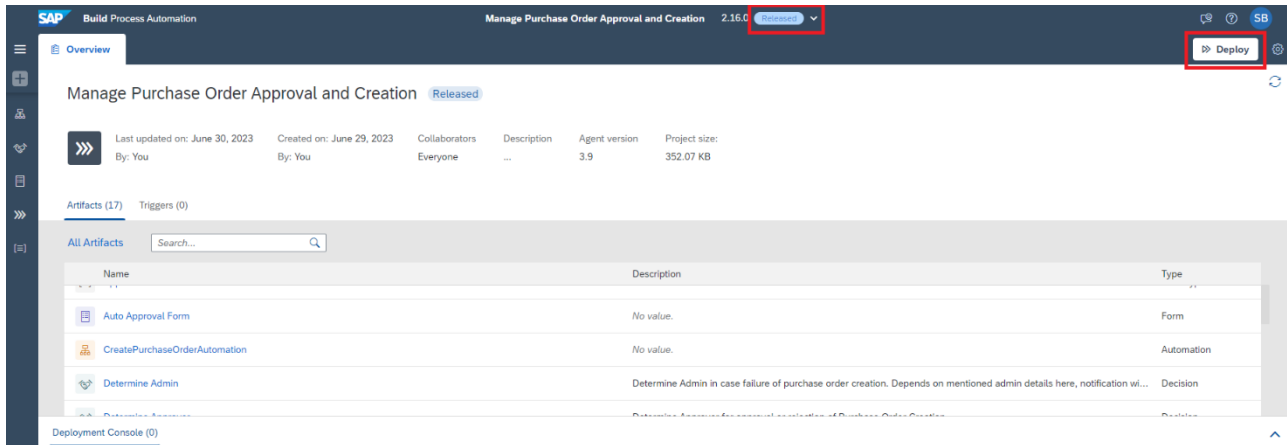


If this is the first time you've released the process, a version labelled 1.0.0 is released. For subsequent releases, you're prompted to select a version type before the process is released.

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'



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

Note: If you do not map your destination environment variable with actual SAP BTP destination during deployment, then the process will enter Erroneous state when it tries to connect to the external system

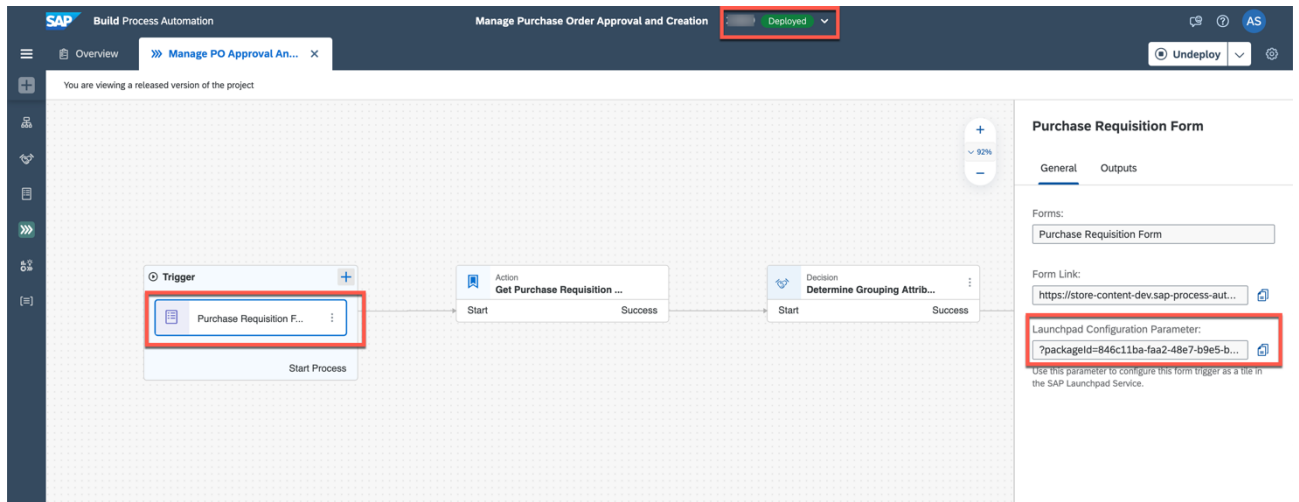
For more details about the Destination artefact, please read our [documentation](#).

Configure SAP Work Zone

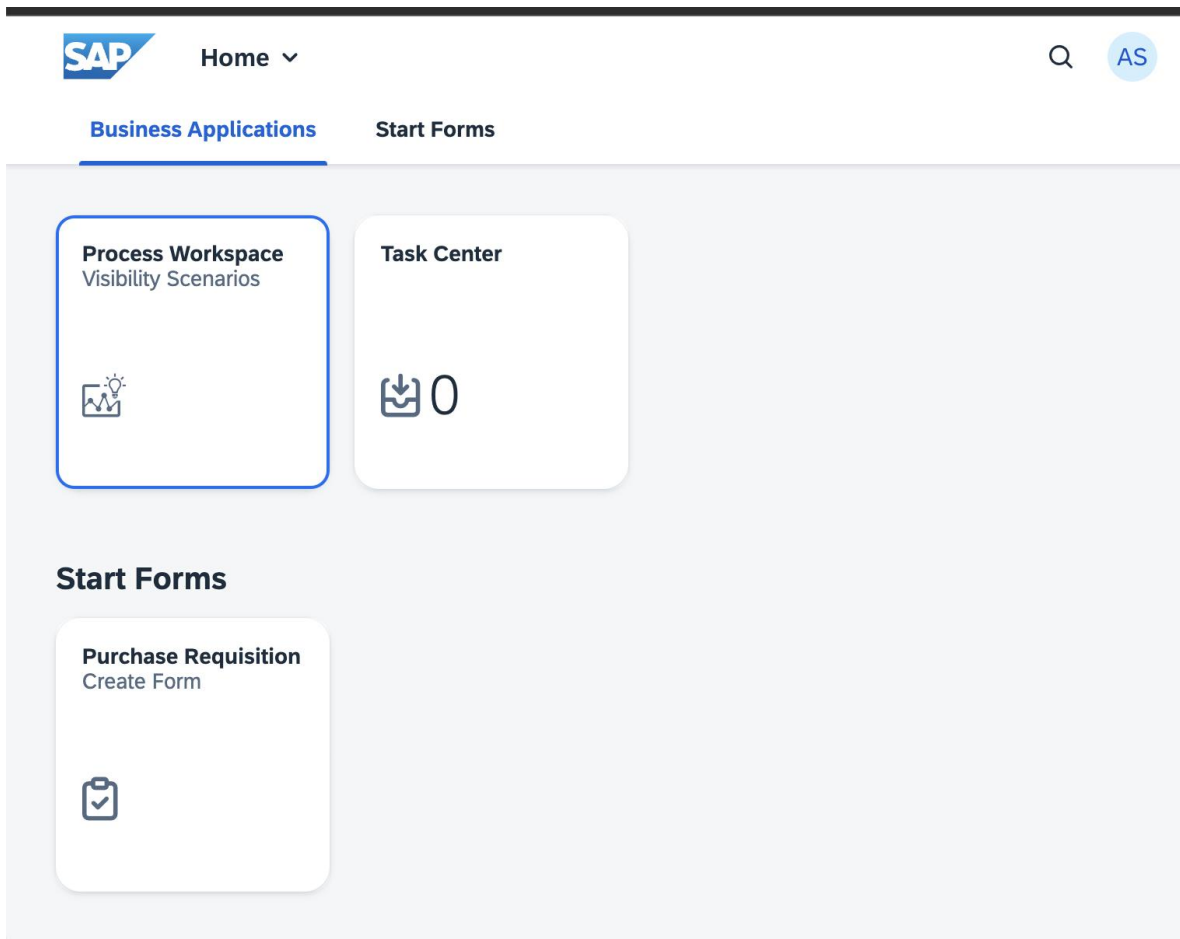
Now that the process is released and deployed, you can configure **SAP Work Zone standard or advanced edition** to give access to your business users to (a) start the process and (b) track the process and business KPIs using process visibility workspace.

To configure SAP Work Zone standard edition:

1. Open the process in **Deployed** state and select the 'Purchase Requisition Form' start form. Copy the **Launchpad Configuration Parameter** which will be used to configure the start form as a tile in the SAP Work Zone service. [Follow the documentation to configure start form in Work Zone](#)



2. Add **Process Workspace** and **Task Center** tile in **SAP Work Zone** to access the visibility dashboard. [Follow the tutorial to configure Work Zone with visibility tiles](#)



User Guide

Capabilities

This template content contains the following key artifacts:
Please refer [help documentation](#) about these different artifacts.

Icon	Type	Name	Description
	Process	Manage PO Approval And Creation	This Process is responsible for triggering the initial "Purchase Requisition Form" Form
	Action	Get Purchase Requisition Details	This action is used to get purchase requisition details for specific Purchase Requisition number.
	Decision	Determine Grouping Attributes	After Purchase requisition details received, this decision is used to determine grouping attributes.
	Automation	Extract Additional Attributes and Grouping	This automation contains actual grouping logic, which also includes additional attributes i.e., company code and payment and info terms. Similar like company code and payment and Inco terms tax code also can be customized if required.
	Decision	Determine Approver	This decision is used to determine approver, here approver details can be added.
	Form	Purchase Order Approval Form	Once approval is approved, this approval form gets trigger and specific approver mentioned in decision will receive this form in my inbox.
	Form	Auto Approval Form	If isApprovalRequired values is false then auto approval form gets trigger.
	Mail	Approval Notification	This email notification is sent to the Requester in case the request is approved.
	Mail	Rejection Notification	This email notification is sent to Requester in case the request is declined.
	Automation	Create Purchase Order Payload	This automation gets triggered to create payload for creating purchase order in the backend system.
	Action	Create Purchase Order	This action is used to create the purchase order in the backend system.
	Decision	Determine Admin	If there is any failure during creation of purchase order in the backend system, then the admin is notified. This decision determines the process admin to whom the notification will be sent.

	Form	Admin Notification Form	This form will be received by specified admin to check purchase order creation failure errors.
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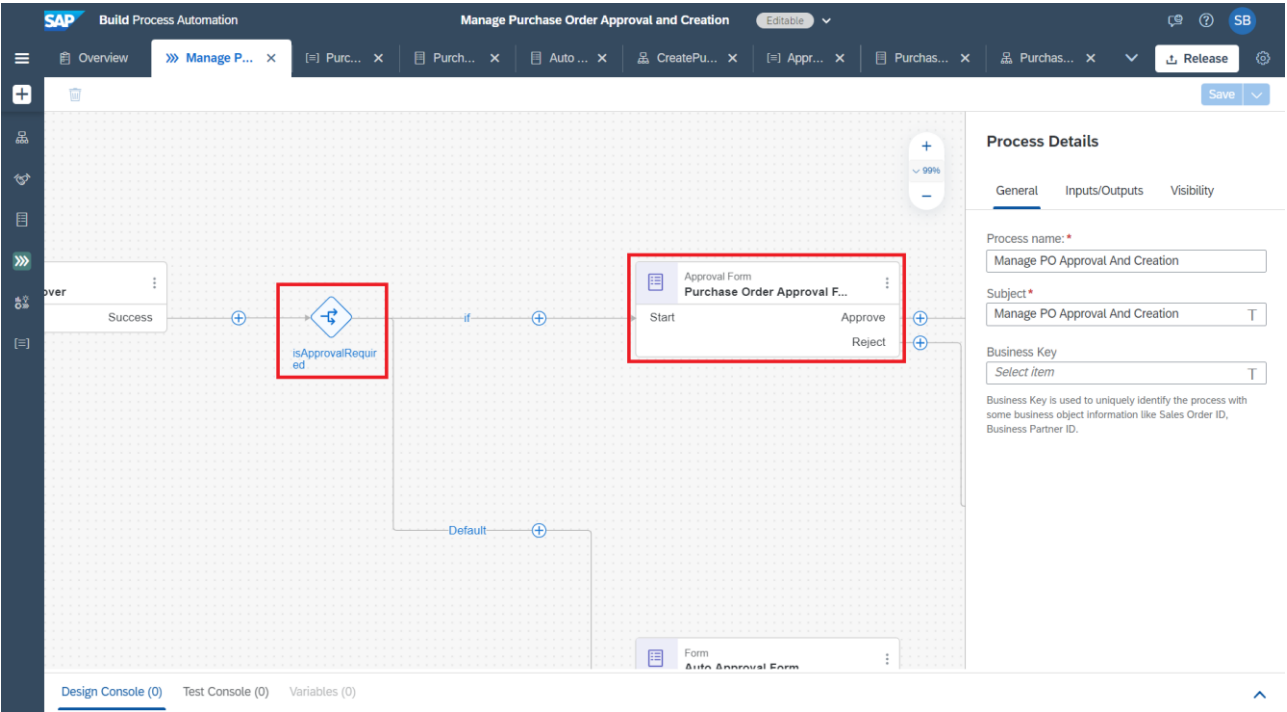
Forms

Purchase Requisition Form:

This Form is used to start/trigger the process **Manage PO Approval And Creation**. Field Purchase requisition number is added here.

Purchase Order Approval Form:

This Form gets trigger once approver is determined and *isApprovalRequired* field is true.



Auto Approval Form:

This form gets triggered if *isApprovalRequired* field is false. Similar like Purchase Order Approval Form additional layout or inputs can be to drag and drop from side menu.



The screenshot displays the SAP Build Process Automation interface for the 'Manage Purchase Order Approval and Creation' process. The 'Auto Approval Form' is being designed. The form includes a title 'Purchase Order Creation Auto Approval' and several fields: 'Created On' (Prepopulated Field), 'Created By' (Prepopulated Field), and a 'Line Items' table with columns for 'Purchasing Org', 'Net Amount', 'PO Group', and 'Quantity', all marked as 'Prepopulated Field'. A sidebar on the left contains various widget options like Headline, Paragraph, Text, Text Area, Dropdown, Choice, Checkbox, Number, Date, File, Table, and Link. A right-hand pane shows the 'Description' of the form: 'Notification send to requester for auto approval of Purchase Order Creation.' with a version number '76/1024'. The bottom status bar shows 'Design Console (0)', 'Test Console (0)', and 'Variables (0)'.

Admin Notification Form

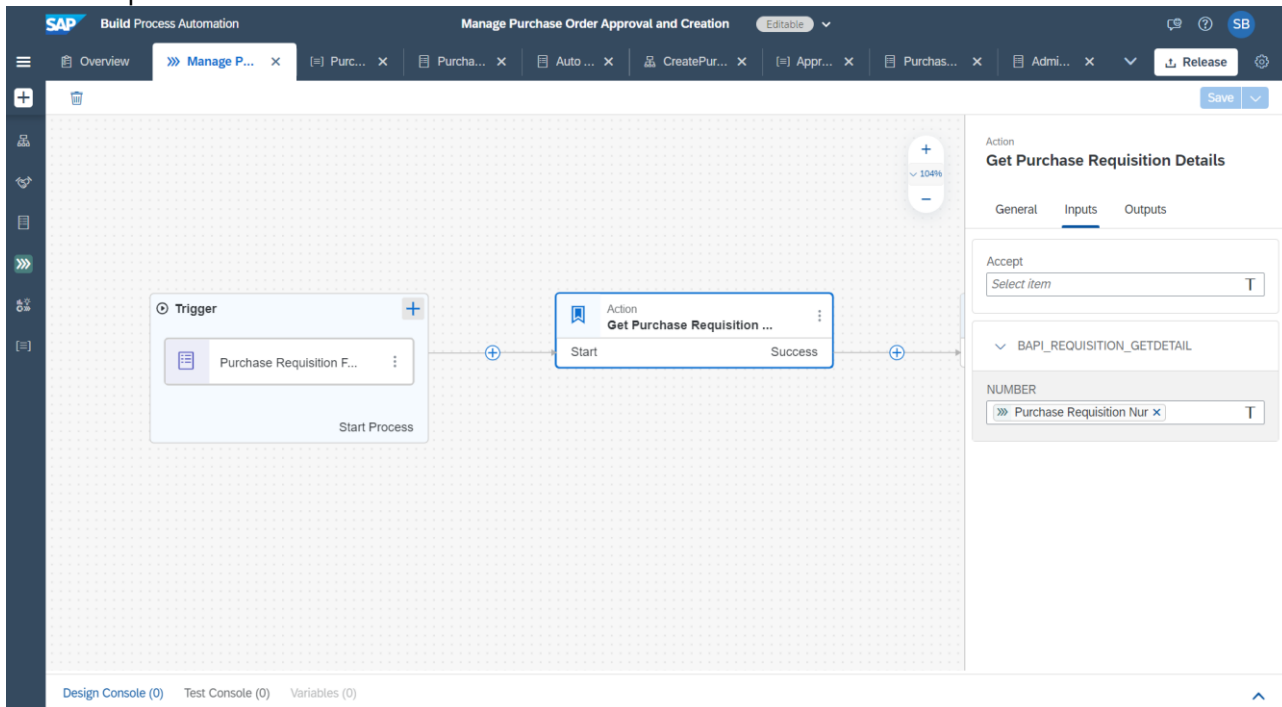
If action **Create Purchase Order** gives failure response, this form is sent as notification to process admin – which is specified in decision **Determine Admin**.

The screenshot displays the SAP Build Process Automation interface for the 'Manage Purchase Order Approval and Creation' process, showing the 'Admin Notification Form'. The form has a title 'Purchase Order Creation Failed' and a message: 'Purchase order creation has failed in the backend system. This requires resolution from your side. Please check on the items below and take necessary actions to resolve them.' It includes fields for 'Created By' (Prepopulated Field) and 'Purchase Requisition N...' (Prepopulated Field). Below these is a 'Purchase Order Details' section with a table containing columns for 'Document Type', 'Plant', 'Material', 'Net Amount', and 'PO Group'. A sidebar on the left shows the same widget options as the previous screenshot. The right-hand pane shows the 'Description': 'Form to send notification to the process admin to look into the failures' with a version number '124/1024'. The bottom status bar shows 'Design Console (0)', 'Test Console (0)', and 'Variables (0)'.

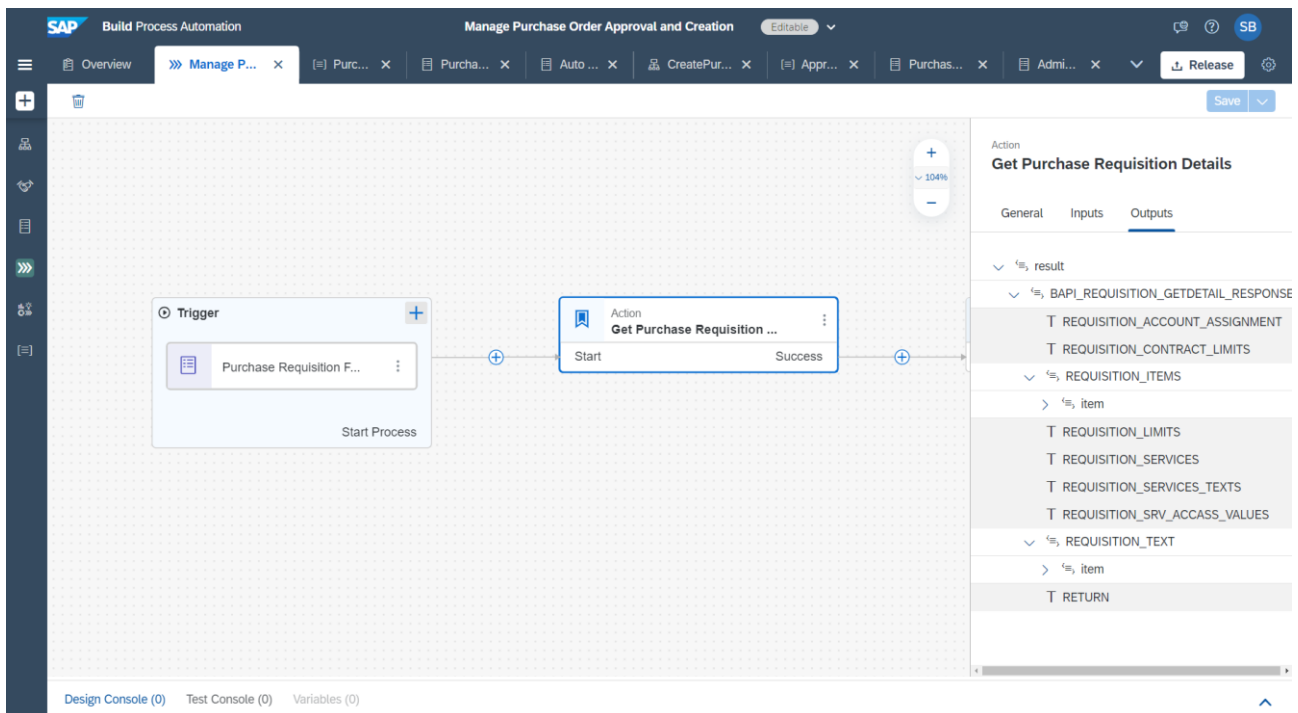
Actions

Get Purchase Requisition Details

This Action is triggered after Purchase Requisition Form. Purchase requisition number from this form can be send as input to action as shown below:



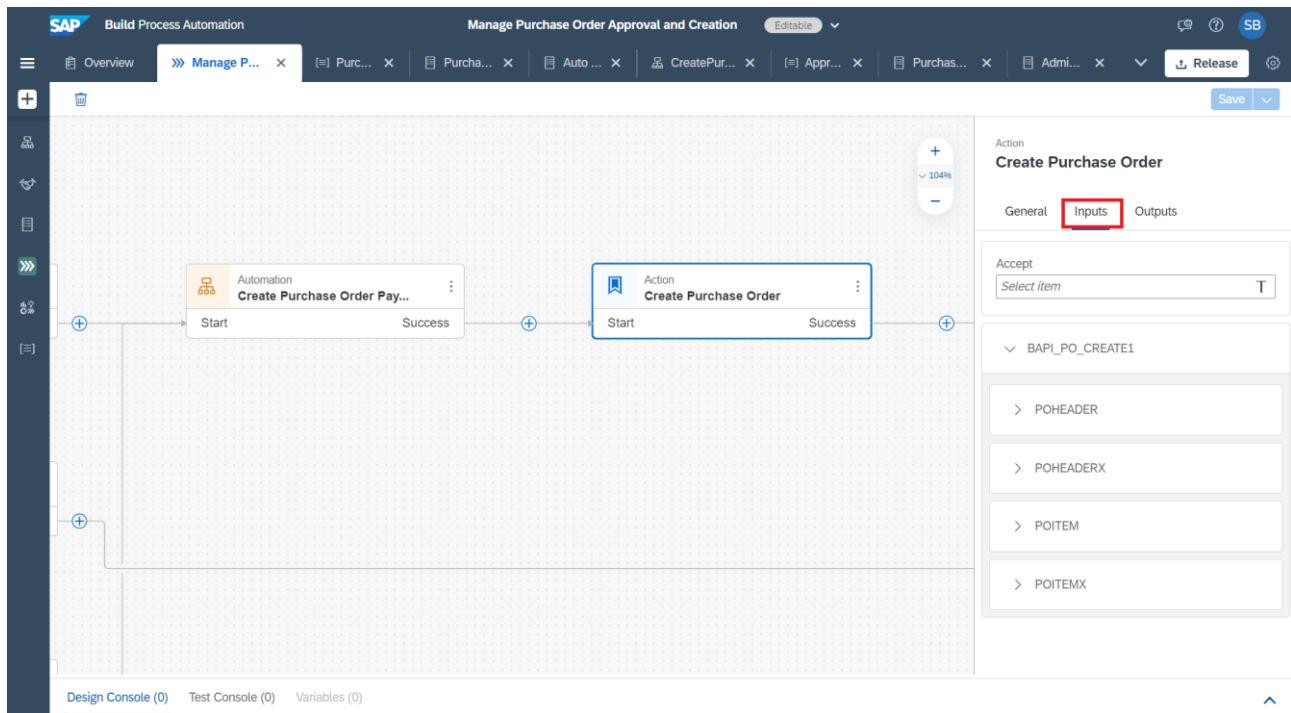
Result of this action will be seen in this format:



Note: This action will return Purchase Requisition with multiple line items. It currently does not support purchase requisition with single line item.

Create Purchase Order

This Action is used to create purchase order. Input parameters are assigned from output of automation “Create Purchase Order Payload”.

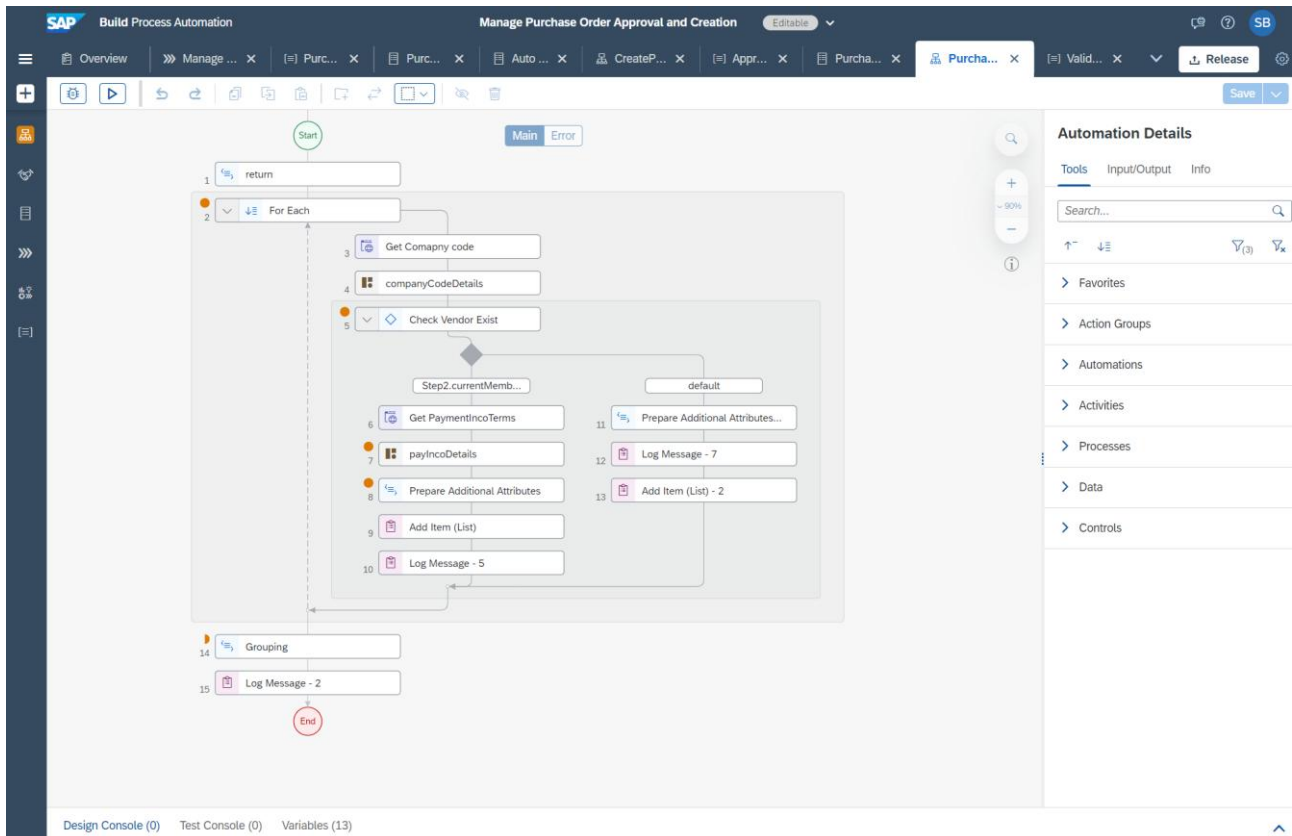


Note: In case inputs are not correctly passed, errors will be received by administrator, and he/she will contact requester to pass correct inputs for creation of Purchase order.

Automations

Extract Additional Attributes And Grouping

This automation is used extract additional attributes and perform grouping of purchase requisition line items. Below steps are used to create this automation:



- Step 2: foreach loop on *line items* details
- Step 3: This is action call to **Get company code** (additional attribute). PLANT value must be passed to fetch company code.
- Step 4: This is check if Vendor exists, then only next action call **Get PaymentIncoTerms**.
- Step 8 and 11: This step is used prepare or collect all data including additional attributes into one format.
- Step 14: This script is used to perform grouping on additional attributes.

Note: To determine the tax code, an integration flow is implemented in SAP Integration Suite with the following input and output signatures:

API Attributes	Values
Path	https://<cloudintegrationruntimeurl>/http/GetTaxCode
HTTP Method	POST
Payload sent by Process (sample data)	{ "DocumentId": "00000100009", "SupplierId": "SAL07", "Plant": "0001", "PurchasingOrganisation": "0001" }

Response Payload from integration flow	Success (Status = 200): OK "DATA": <pre>{ "item": { "TaxCode": "0001" } }</pre> Note: When Status is not 200, then it is considered a failed service call
Payload Type	Application / JSON

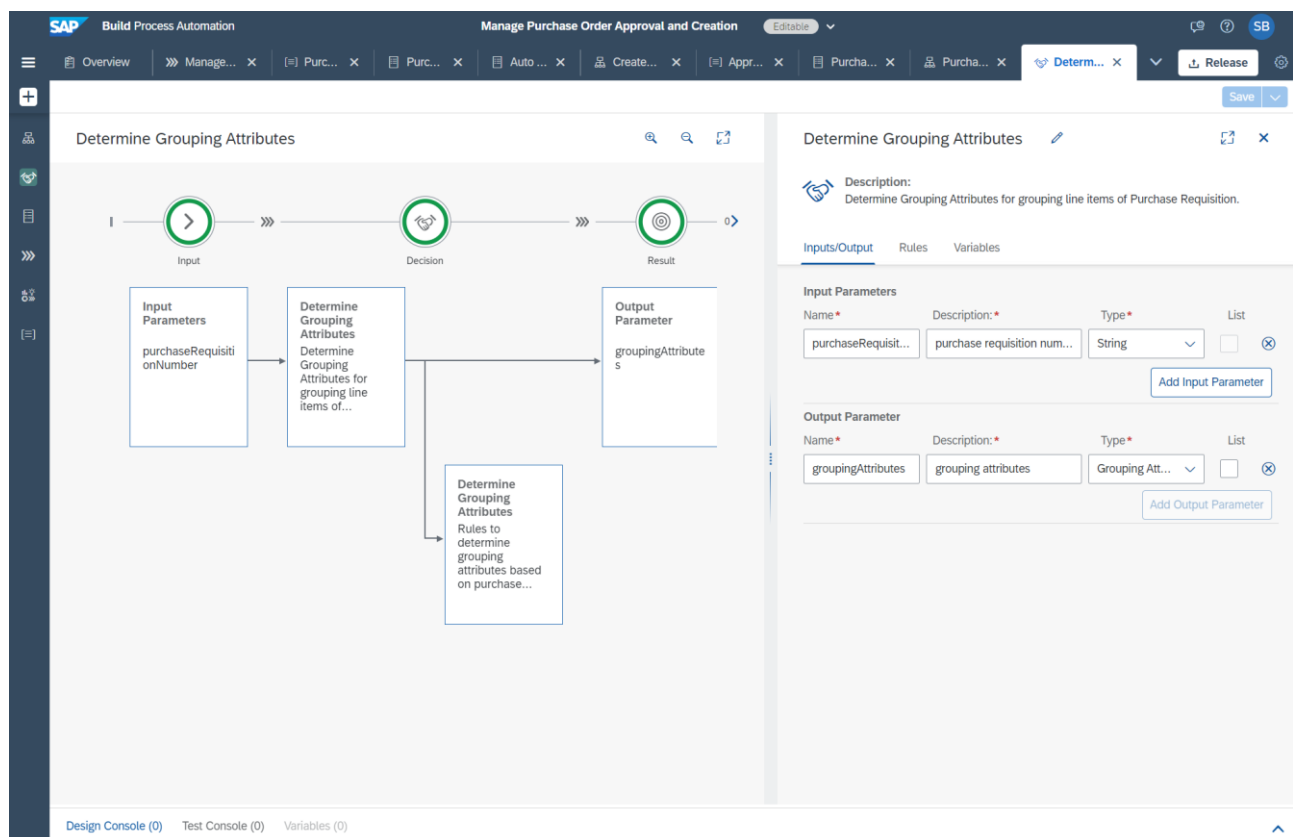
Create Purchase Order Payload

This automation is creating payload which will be used for creating purchase order.

Decisions

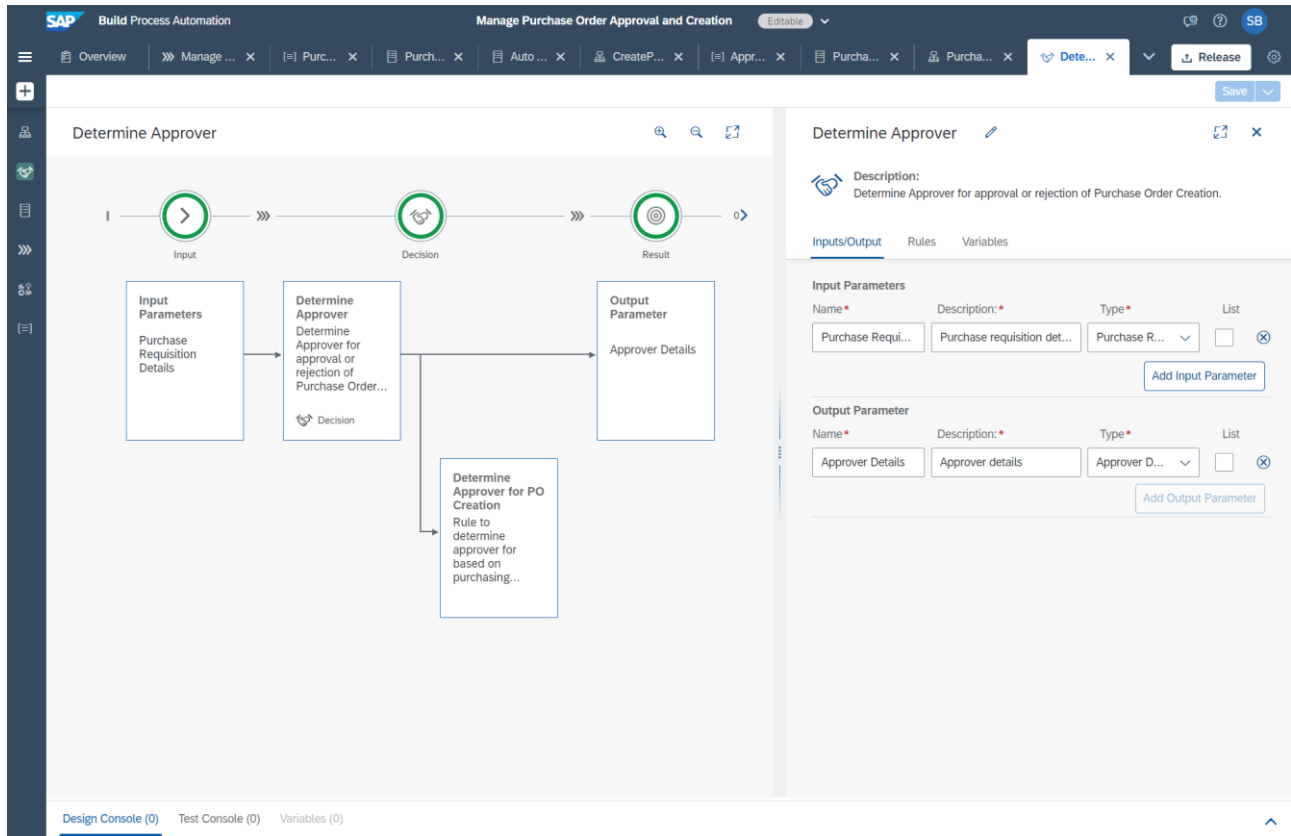
Determine Grouping Attributes

With this decision, it is possible to determine the meta information of the attributes which are relevant for grouping of line items in Purchase requisition document.



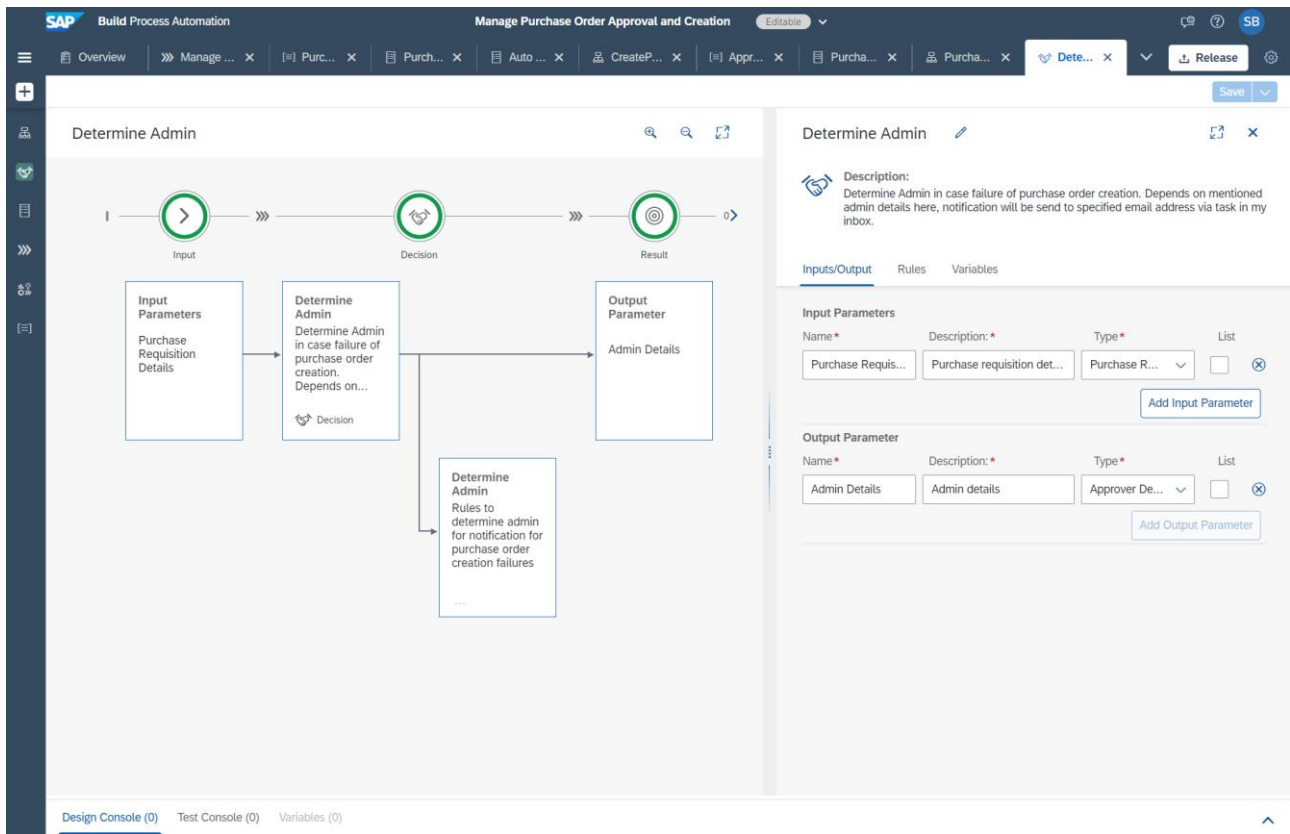
Determine Approver

This decision is used in the Approval process step to determine the potential approver(s) based on different Purchase Requisition attributes.



Determine Admin

This decision is used in the approval process step to determine the Process Administrator who must be notified to take an appropriate action if there are errors in Purchase order creation.



Email Notifications

The multiple email blocks throughout the process serve to:

- Notify the Requester via email that the request has been approved/rejected/auto approved for purchase order creation.

The image below shows how the mail is configured, in the template, to send an email to the requestor after the purchase order is successfully approved.

Mail

Approval Notification

General

Step Name: *

Approval Notification

Mail Header

To *

» Process Started By x

Subject *

Your Purchase Order Creation Approval is Approved.

> Additional Options

Mail Body

Open Mail Body Editor

Mail Body has content. Open the editor to view.

Edit Mail Body

Value Binding

Search

Purchase Order Approval ...

Comments:

Determine Approver

Approver_Details

ApproverEmail

ApproverName

IsApprovalRequired

IsAutoApproval

Extract Additional Attribute...

list - linItemDetails

Dear Requester,

Your request for Purchase Order Creation approval has been Approved.

Details:

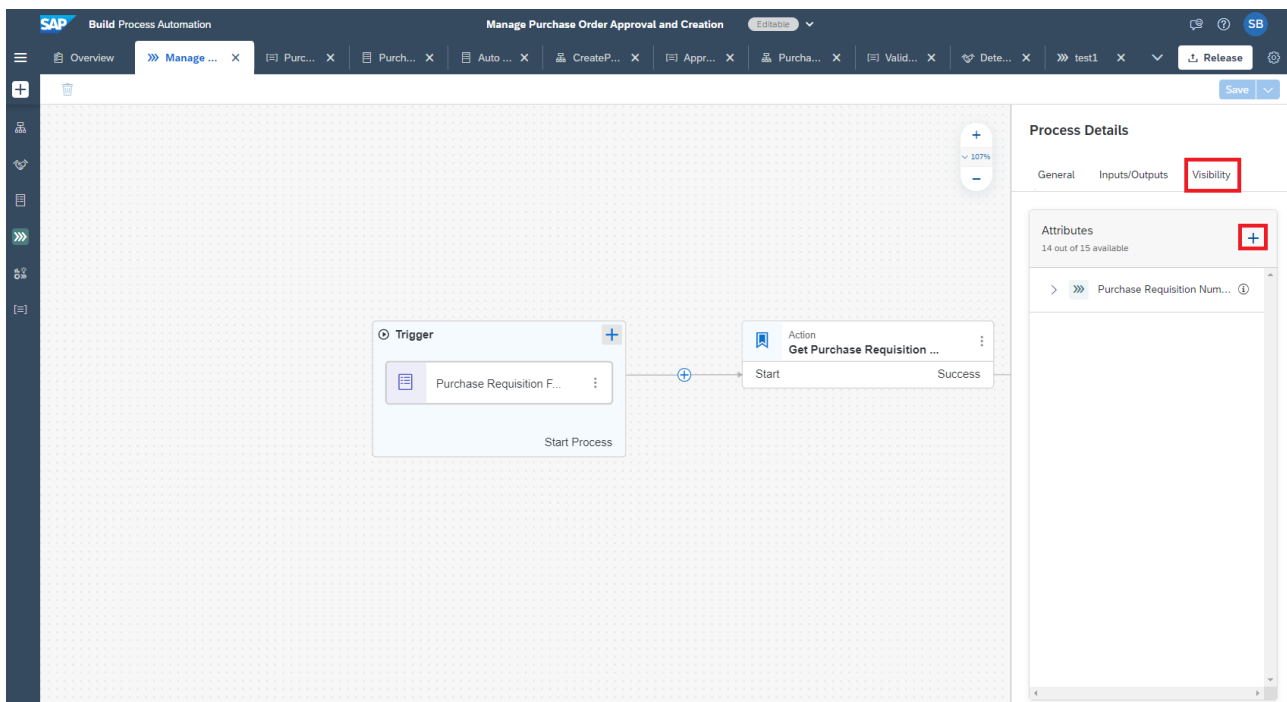
Purchase Requisition number : » Purchase Requisition Nu... x

Thank You,

Apply Cancel

Process Visibility Scenario

The visibility scenario is a dashboard which allows business users to track relevant process KPIs and statuses. A default dashboard is provided with this template, and it can be customized by selecting attributes from your process which you want to track in the process dashboard.



Support

There is no support available for the template content. If you experience general issues with SAP Build Process Automation, raise an incident via SAP Support Portal on **BPI-PA** 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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