



PUBLIC

SAP Build Process Automation

Mass Automation of Accrual Posting Configuration and User Guide

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Change Log

Version	Date	Description
1.0.0	October 3, 2023	Document Created

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 BTP that are required to use this template.

2. Configuration Guide: It contain sections which will guide you to setup your (a) SAP BTP Account with destination, cloud connector, user roles etc., (b) Import and configure the template using SAP Build Process Automation design studio and (c) 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.

Notes:

- This documentation is not a detailed guide to setup SAP BTP services. It assumes that IT admin who is setting the content is skilled with SAP BTP environment. Configuration section has to be mandatorily followed to import and configure the template.
- 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 and its capabilities.

Overview

This document provides information about setting up the SAP Business Technology Platform account to consume the SAP Build Process Automation **Mass Automation of Accrual Posting Template**. The main audience of this document are technical IT/system administrators.

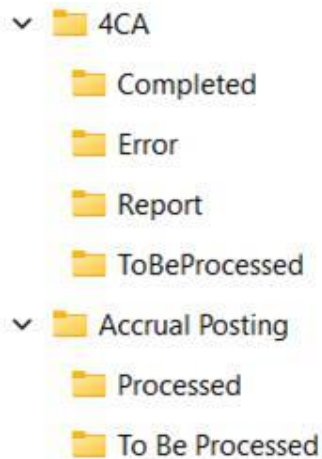
Automation facilitates the Mass Automation of Accrual Posting.

Features:

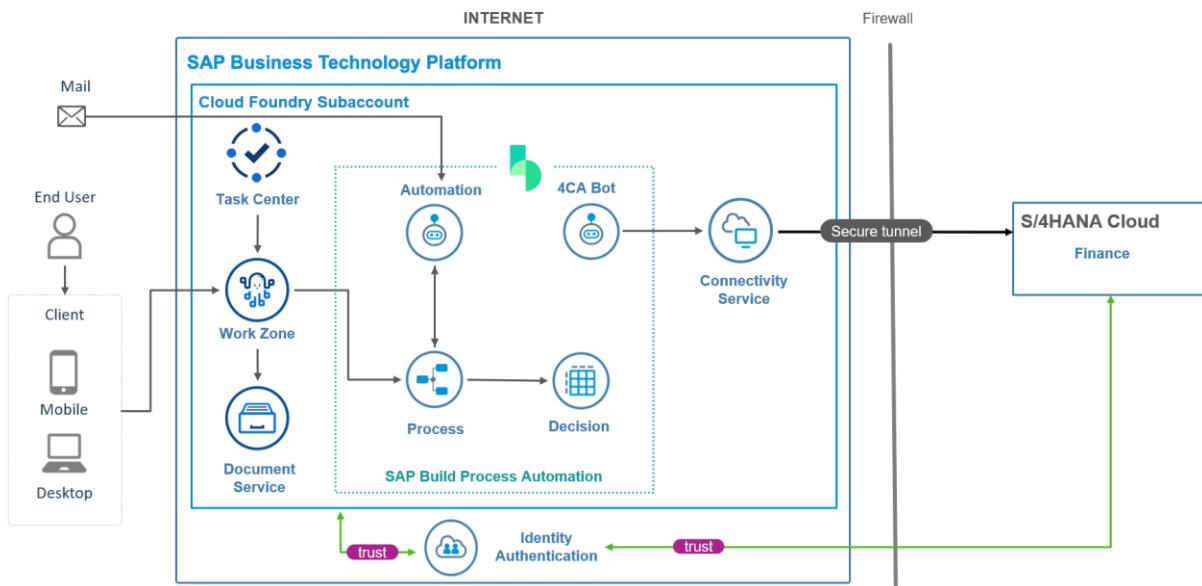
- User manually enters the accrual details in the Mass Accrual Posting Input template and either places them in the predefined folder or mails the template to a predefined mailbox.
- Bot triggers and pick the filled template from predefined folder or from predefined mailbox.
- Based on the Approver Determination criteria, the Accrual Postings will be split into separate tasks for Approval.
- Based upon the Company Code and Cost Center/WBS Element. Approver is maintained.
- Upon receipt of Approval, the approved Accrual Postings will be directly sent to 4CA Bot for further processing.
- Accrual Postings from different approval tasks will not be consolidated back into a single excel before sending it for processing by 4CA Bot.
- For approved accrual entries 4CA Bot will be responsible for processing and posting in the SAP system.
- Upon processing the user will be notified.

The following steps are included as a part of Mass Automation of Accrual Posting template and provide a brief overview about the process flow & features of Mass Automation of Accrual Posting template:

- This package provides Input Excel template as the file artifact "**Accrual Posting - Input Template.xlsx**"
- The 4CA Automation will upload the data in "**Master Template - Automated Upload of Manual Entries via API.xlsm**" which is placed as File Artifact and it will be saved in a predefined folder as required by 4CA Bot.
- The Folder structure looks like:



Process Flow Diagram



Steps:

1. Users send mail with Input Excel Template as an attachment to a predefined mailbox or places the same in a predefined folder.
2. Automation reads the input excel template from a predefined folder or from Outlook Mailbox
3. Automation fetches the approver details from Decision Table.
4. Approvers receive Task UI for Accrual posting approval.
5. Once Approved, Automation converts the Accrual Posting data into 4CA Input Excel Template format.
6. Automation saves the Input Excel Template of 4CA BOT in a predefined folder as required by the 4CA Bot for further processing (i.e., for posting the Accrual Posting data in SAP S/4HANA).

Prerequisites

The following SAP Business Technology Platform services are required to consume the content package Mass Automation of Accrual Posting:

- SAP Build Process Automation to orchestrate the process.
- SAP Cloud Identity Services - Identity Authentication (Optional)
- SAP Connectivity service to establish access to SAP S/4HANA
- SAP Business Technology Platform, Cloud Foundry runtime
- SAP Work Zone, standard or advanced edition for accessing My Inbox and Process Visibility workspaces.

Other Prerequisites

For this template to run successfully the following other prerequisites are needed

- SAP Desktop Agent 3.17 or higher
- Outlook mailbox configured on the system where the automations will run in order to send mails with attachments.
- 4CA Bot must be configured which is already available in [SAP Build Store](#)

Note:

- This package is designed only to work with the provided folder structure & input template file structures. DO NOT CHANGE any column properties and structure.
- If any changes done in the input template structure, related process & automation implementation also need to be updated to handle those changes
- You can decide and give the path and folders for the following:
 1. AccrualPostingBaseFolderPath - Base folder path for Accrual Posting
 2. BaseFolder4CA - Base Folder for 4CA Bot
 3. DMSFolderPath - Folder Path of DMS
 4. EmailFolderProcessed - Email folder for processed mails
 5. EmailFolderToBeProcessed - Email Folder for Mails to be processed.
- The input template is placed as file artifact "**Accrual Posting - Input Template.xlsx**".
- The input excel has 3 sheet 'Field List', 'Accruals' and 'Expense Accounts'.

	A	B	C	D	E	F	G	H	I	J
1	Template: Accrual Posting									
2										
3	Bot Scope ID : XXX									
4										
5										
6										
7	Text	Text	Text	Text	Text	Text	Text	Text	Text	
8	Key	Accrual Details								
9	ID*	Expense Description*	Expense Type*	Expense Account*	Expense Amount*	Currency*	Company Code*	Cost Center*	WBS Element*	
10										
11										
12										

In the Accruals sheet the data will be filled manually by user.

In Field List sheet, mandatory fields details are updated. Please fill mandatory fields and upload input template. If mandatory fields are not filled, then Automation will throw errors.

Configuration Guide

Mass Automation of Accrual Posting template requires SAP Build Process Automation subscription or CPEA contract. Follow the [setup and configuration section](#)

Setup Business Technology Platform Cockpit

Destination Configuration

Mass Automated Accrual Posting template does not use any APIs to connect to SAP S/4HANA, however the subsequent Bot to be executed for posting data in SAP S/4HANA the 4CA Bot should be configured as per the pre-requisites documented for 4CA Bot.

Follow the below steps to read Service Key details:

1. In BTP, choose "Services" and go to "Instances and subscriptions" section.
2. Choose "Instances" tab and select document management service instance to view the Service keys.
3. View service key in Form/JSON format for required details for Destination configuration.

Destination Property	Value
Name	<Name>
Type	HTTP
URL	<document management service endpoint> Example: <a href="https://api-sdm-di.cfapps.eu10.hana.ondemand.com/browser/<repository_id>">https://api-sdm-di.cfapps.eu10.hana.ondemand.com/browser/<repository_id>
Proxy Type	Internet
Authentication	OAuth2ClientCredentials Authentication
Client ID	<Client ID> of the Communication User

Client Secret	<Client Secret> of the Communication User
Token Service URL	<Token Service URL>/oauth/token (from the service key)

Note: Add the following additional properties to the destination.

Destination Additional Property	Value
endpoints	<endpoints> from the service key
html5-apps-repo	<html5-apps-repo> from the service key
saasregistryenabled	True
sap.cloud.service	com.sap.ecm.reuse
sap.processautomation.enabled	True
Uri	<uri> from the service key

Configure SAP Document Management Service

In this template, the Input Template document for Mass Automation of Accrual Posting and any supporting documents can be uploaded in the approval form which are then made available as attachments for review and approval to the respective participants. To upload the document from the form, you will need SAP Document Management Service or equivalent CMIS repository and a corresponding destination in SAP BTP to connect to the repository.

- Follow the instructions to configure [SAP Document Management Service for Attachments](#)
- Add service instance and service key (follow [this](#)) and repository (follow [this](#)) to Configure the Destination
- Configuring destination, refer [Configure SAP Document Management Service Destination](#)

Note: The destination needs to be created with **sap_process_automation_document_store** name.

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](#).

User Roles Configuration

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

Role Collection Name	Purpose
Process Automation Developer	To fully use this content package, you need to have an active user entitled to this role to use SAP Build Process Automation
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 application etc., you need to have this role assigned to the respective user.

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

Setup Communication

This template does not use any SAP S/4HANA API, however the subsequent Bot to be executed for posting data in SAP S/4HANA i.e. the 4CA Bot requires that 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
Finance - Posting Integration(SAP_COM_0002)	Overview Journal Entry - Post (Synchronous) SAP Business Accelerator Hub

Setup Build Process Automation

Standard automation packages released by SAP will be available at the [SAP Build Store](#)

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 “**Mass Automation of Accrual Posting**”
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 “Mass Automation of Accrual Posting” 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 enhancement needs to do then follow the reference links below.

Create an Automation

<https://help.sap.com/docs/build-process-automation/sap-build-process-automation/create-automation-process-automation>

Create a Business Process

<https://help.sap.com/docs/build-process-automation/sap-build-process-automation/create-business-process>

Create a Forms

<https://help.sap.com/docs/build-process-automation/sap-build-process-automation/create-form>

Create a Decision

<https://help.sap.com/docs/build-process-automation/sap-build-process-automation/create-decision>

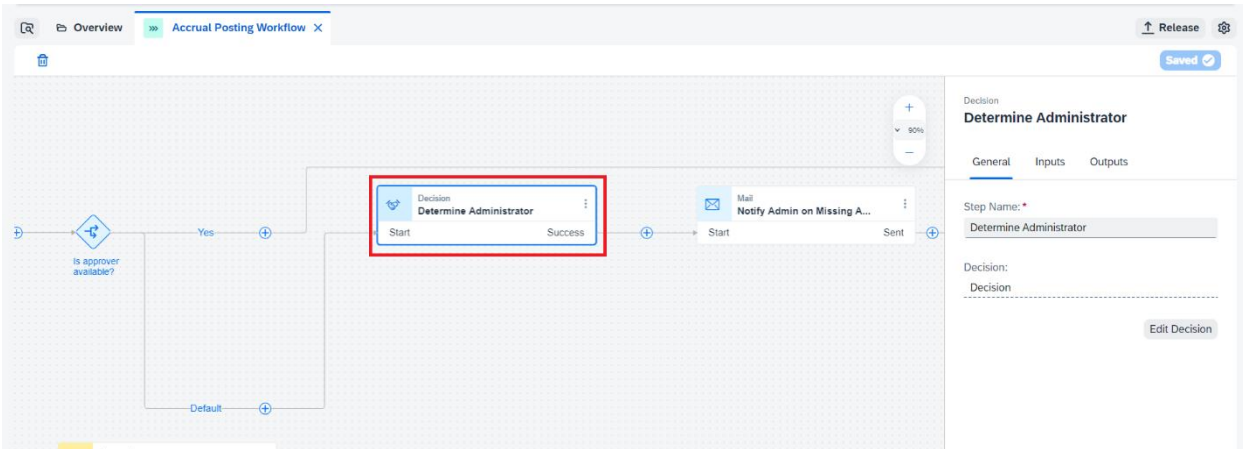
Create a Datatype

<https://help.sap.com/docs/build-process-automation/sap-build-process-automation/create-data-type-process-automation>

Configure Decisions

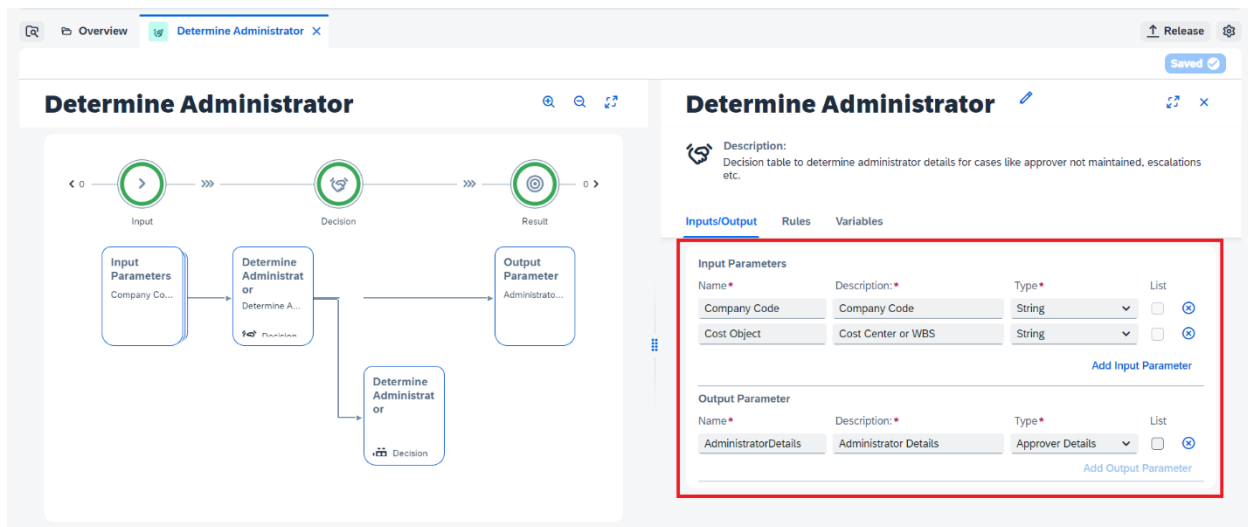
We have four decisions in this template. You can configure those decisions as per your requirements.

- 1) **Determine Administrator** -This decision is used to determine administrator details for cases like approver not maintained, escalations etc.

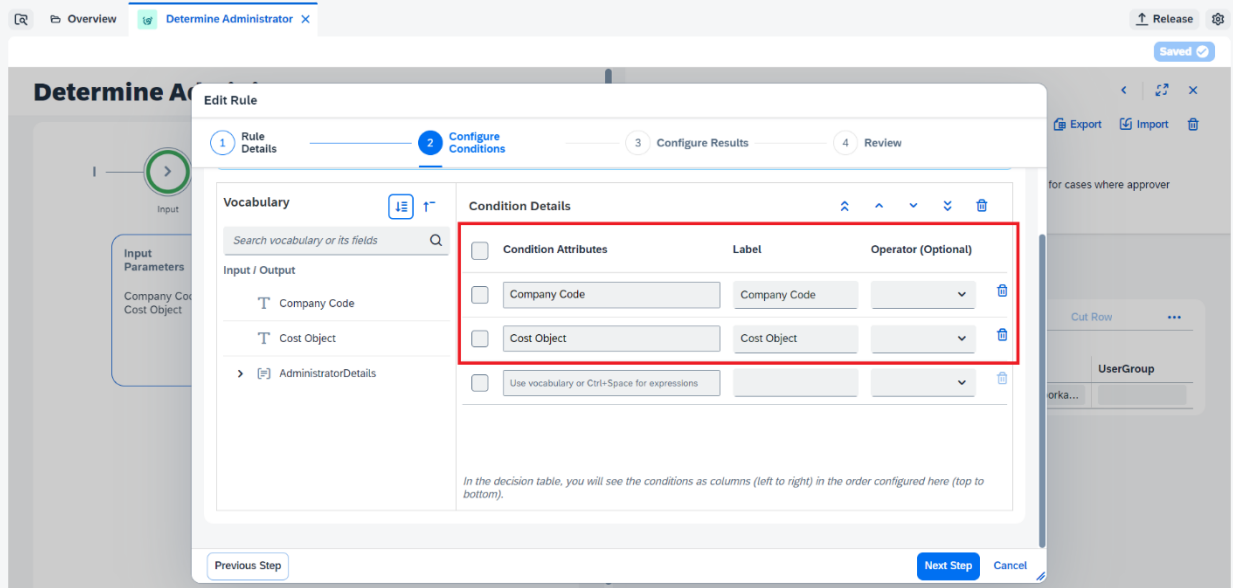


These decisions must be modified for conditions and result values based on your business policies and requirements. To modify the decision:

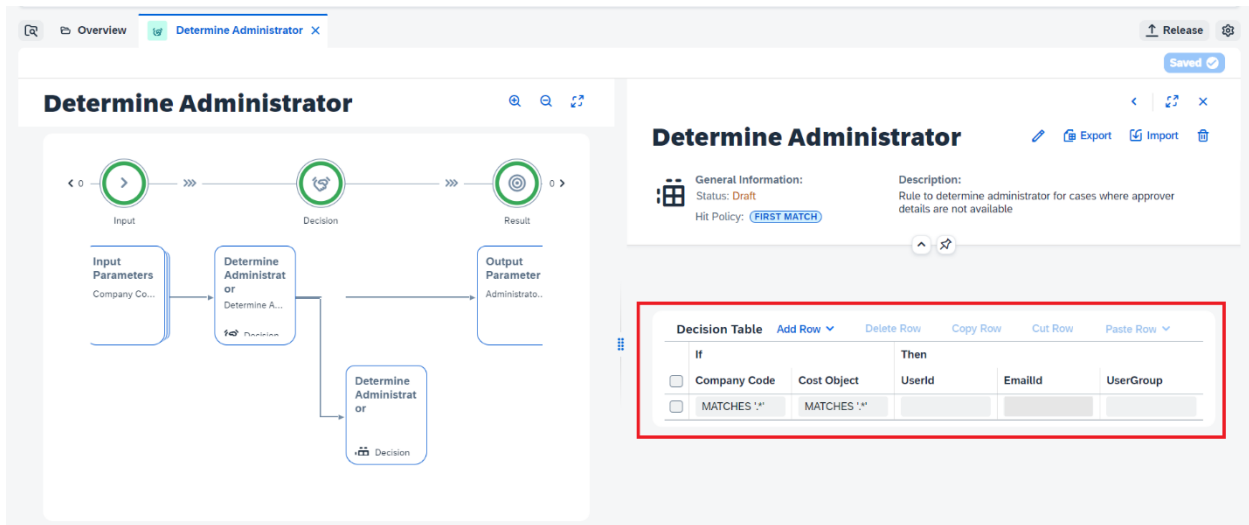
- In process editor, double click to open the Decision.
- Select the rule from the decision diagram.



The attributes used in the decision rule can be selected as per requirement.

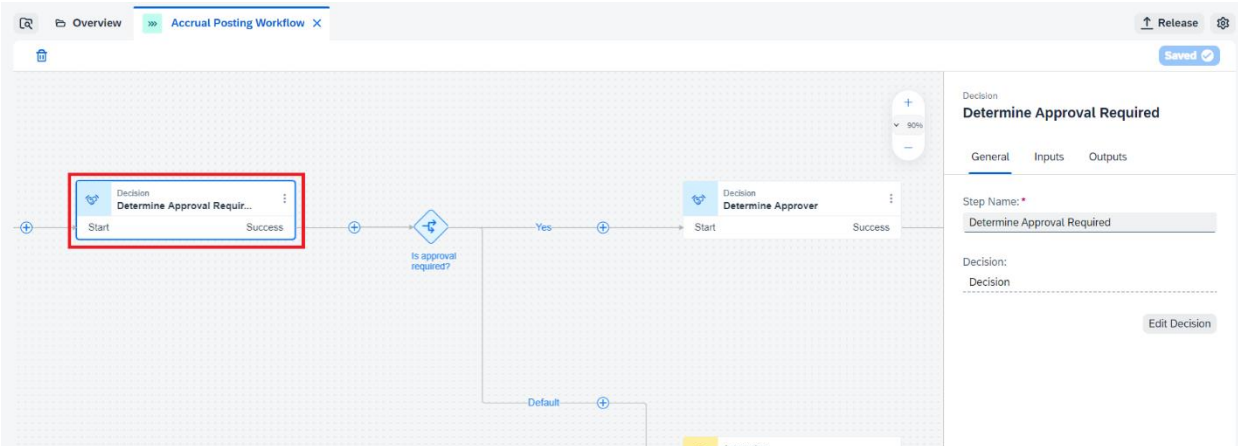


- Edit the rule to add more rows or update existing values.



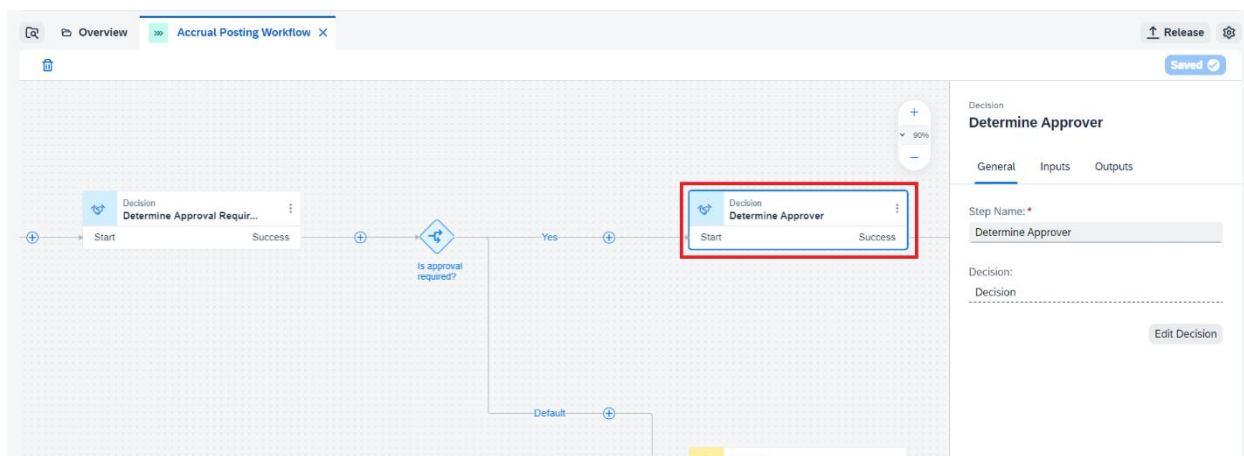
- Determine Approval Required** - This decision is used to determine whether the approval is required or not for Accrual Posting.

This decision can be selected from process as shown below:



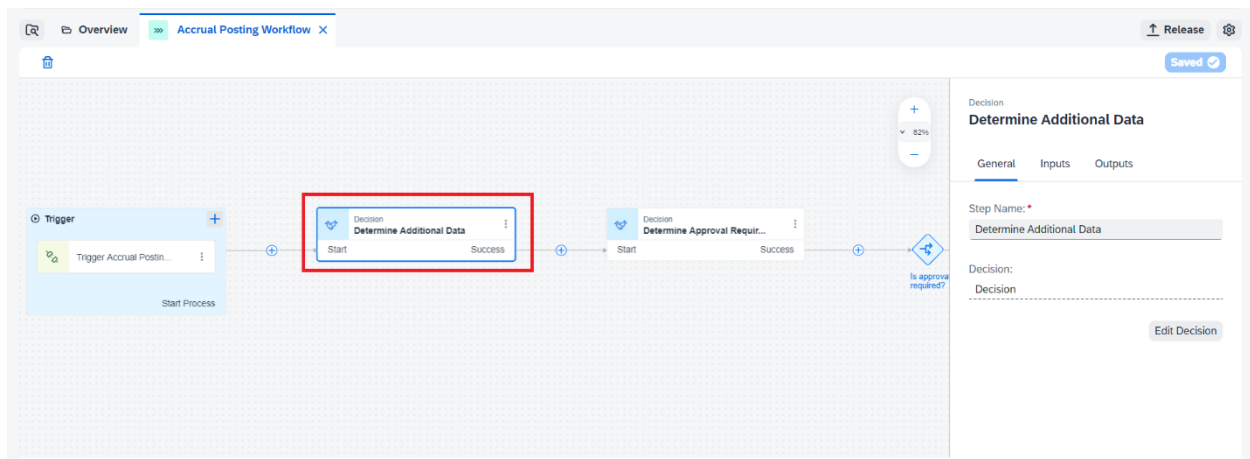
These decisions must be modified for conditions and result values based on your business policies and requirements. To modify this decision, follow similar steps as those mentioned for Decision **Determine Administrator**.

- 3) **Determine Approver** - This decision is used to determine the approver email address where the approval task will be sent.
This decision can be selected from process as shown below:



These decisions must be modified for conditions and result values based on your business policies and requirements. To modify this decision, follow similar steps as those mentioned for Decision **Determine Administrator**.

- 4) **Determine Additional Data** - This decision is used to determine the additional data like GL Account and Reversal Details.
This decision can be selected from process as shown below:



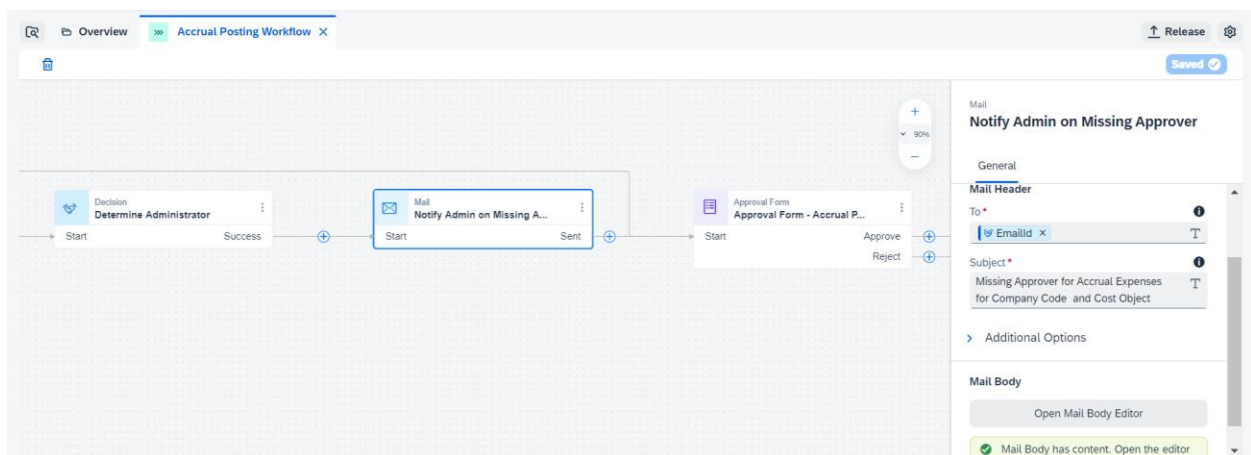
These decisions must be modified for conditions and result values based on your business policies and requirements. To modify this decision, follow similar steps as those mentioned for Decision **Determine Administrator**.

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**'.



Edit Mail Body

Value Binding

Search

- > Determine Administrator
- > Determine Approver
- > Determine Approval Requi...
- > Determine Additional Data
- > Process Inputs
- > Process Metadata

B *U*

Dear Admin,

The approval process is blocked for accrual expenses related to the below company code and cost object as the approver is not maintained. Please assign an appropriate user or group to the process instance for approval process to continue from the monitoring application.

Company Code: >>> companyCode x

Cost Object: >>> costObject x

Process Instance Id: >>> Process Instance Id x

Please follow below steps to assign approver:

1. Open "SAP Build Process Automation"
2. Go to "Monitoring" tab
3. Open "Process and Workflow Instances" app
4. Search for above mentioned "Process Instance Id"
5. Click on the searched process instance
6. Click on "Additional Options" (denoted by three dots i.e. "...")
7. Click on "Show Tasks"
8. Click on "Assign Processor"
9. Enter the approver user-id

Apply Cancel

- 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 the below link:

<https://help.sap.com/docs/build-process-automation/sap-build-process-automation/add-mail-notifications-to-process?q=email%20body>

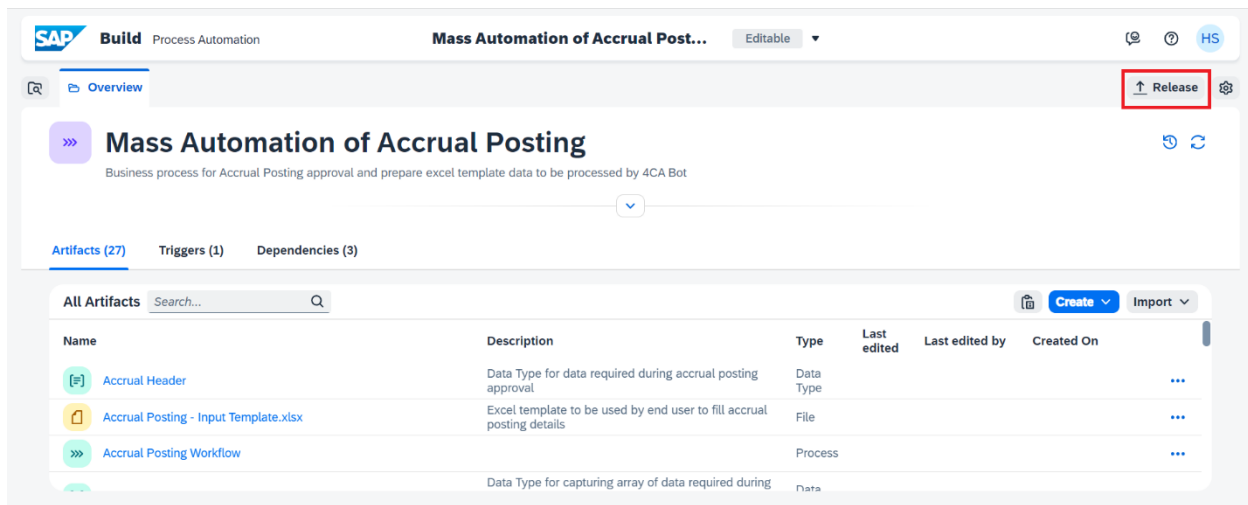
Release and Deploy the Process

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.'

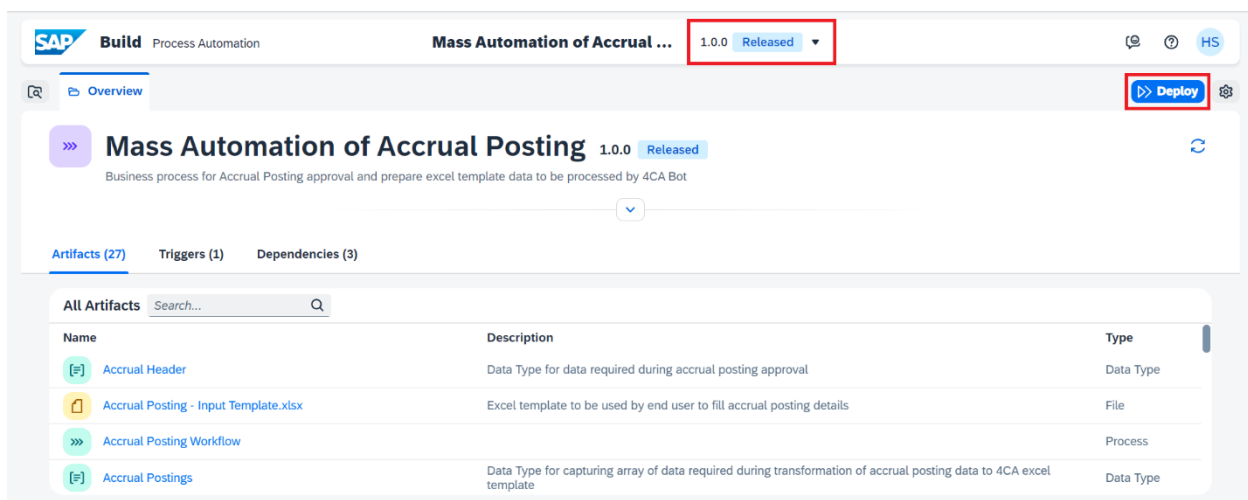


If this is the first time you've released the process, a version labelled 1.0.0 is released. For subsequent releases, you're prompted to select a version type before the process is released.

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".



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.

- **AccrualPostingBaseFolderPath**: Base folder path for accrual posting related files
- **BaseFolder4CA**: Base Folder for 4CA bot related files
- **DMSDestination**: Destination for Document Management Service (DMS)

- **DMSFolderPath:** Folder path of Document Management Service (DMS) for saving excel attachment files which will be displayed in approval tasks
- **EmailAttachmentName:** Expected file name of accrual posting template attachment in email (including file extension)
- **EmailFolderProcessed:** Email folder for processed mails
- **EmailFolderToBeProcessed:** Email folder for mails to be processed
- **EmailStartDate:** Start date for searching emails
- **EmailSubject:** Subject of the emails having accrual posting input excel attachment

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.

User Guide

Capabilities

The following are the capabilities of this template:

Icon	Type	Name	Description
	Automation	Automation to Fill the Data in Excel Sheet	Automation to fill separate excels with accrual posting data based on different groups
	Automation	Create Folder for DMS	Automation to create folder for document management service which is used to display attachment in approval form
	Automation	Delete Folders in DMS	Automation to delete the folders in the SAP document management service after the process is done.
	Automation	Delete item	Automation is to delete all the existing files inside the folder in SAP Document Management Service.
	Automation	Get folder content	Automation to get the folder content from SAP document management service.
	Automation	Main - Read Excel and Initiate Workflow	Main automation to read excel input data and trigger workflow for approval process
	Automation	Notify Requester	Notify requester regarding approval status
	Automation	Prepare 4CA Excel Template	Automation for filling accrual posting data in 4CA bot excel template
	Automation	Read Excel Data	Automation to read data from accrual posting input excel template

	Automation	Remove Folder content in DMS	Automation to remove the folder content and folder details in document management service after the approval
	Automation	Search for Mail in Outlook	Automation to search for accrual posting related mails in outlook mailbox
	Automation	Upload Document in DMS	Automation to upload document in document management service
	Decisions	Determine Additional Data	Decision to determine additional data required to support posting of accrual data in SAP S/4HANA
	Decisions	Determine Administrator	Decision table to determine administrator details for cases like approver not maintained, escalations etc.
	Decisions	Determine Approval Required	Decision to check if approval is required for accrual posting
	Decisions	Determine Approver	Decision to determine approver for approving accrual posting data
	Form	Approval Form - Accrual Posting	Approval form for displaying accrual details and capturing approver decision
	Process	Accrual Posting Workflow	Process for Accrual Posting Workflow
	Data type	Accrual Header	Data Type for data required during accrual posting approval
	Data type	Accrual Postings	Data Type for capturing array of data required during transformation of accrual posting data to 4CA excel template
	Data type	Additional Posting Data	Data Type for capturing additional data required for accrual posting
	Data type	Approver Details	Data Type for capturing various approver details required for sending approval tasks and emails
	Data type	DMS Object	Data type for storing object information to delete files after processing
	Data type	Document Folder Path	Data Type to capture document folder path details of document management service
	File	Accrual Posting - Input Template	Excel template to be used by end user to fill accrual posting details
	File	Master Template - Automated Upload of Manual Entries via API	Input excel template for 4CA bot

	Project Launcher	Mass Automated Accrual Posting Workflow	Project Launcher for mass automated accrual posting process
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This content package will enable SAP ERP customers to automate the Mass Accrual Posting in SAP S/4HANA System. The purpose of this technical specification is to outline the process and requirements for Accrual Posting. This specification also includes the necessary table and field mappings within SAP, as well as the latest API to be used for Accrual Posting.

Automation

Main - Read Excel and Initiate Workflow

Main automation to fetch excel attachments from a predefined outlook mailbox using “Search for Mail in Outlook” Automation, read excel input data by “Read Excel Data” Automation and trigger workflow for approval process by “Accrual Posting Workflow” Process.

Prepare 4CA Excel Template

This Automation help to Fill 4CA Input Excel Template for Accrual Posting after the same has been approved by required approver.

Notify Requestor

Notify requester regarding approval status with the proper mail body.

Process

Accrual Posting Workflow

This Process will Determine the GL Account and Reversal Details and Determine Approver, then it will send for the Approval, if it is Approved the Automation “Prepare 4CA Excel Template” will be executed then notify the Requestor about the approval status.

Forms

Approval Form - Accrual Posting

- Approval form for accrual Posting

Approval Form - Accrual Posting

Approval for Accrual Postings in SAP S/4HANA

Please validate and provide your approval for below mentioned accrual expenses (details available in attached excel template) to be posted in SAP S/4HANA

Company Code
 Prepopulated Field T

Cost Center
 Prepopulated Field T

WBS Element
 Prepopulated Field T

Accrual Posting Data

 Uploaded File(s)

Support

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

This template can be modified using SAP Process Automation. For example: add business rules 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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