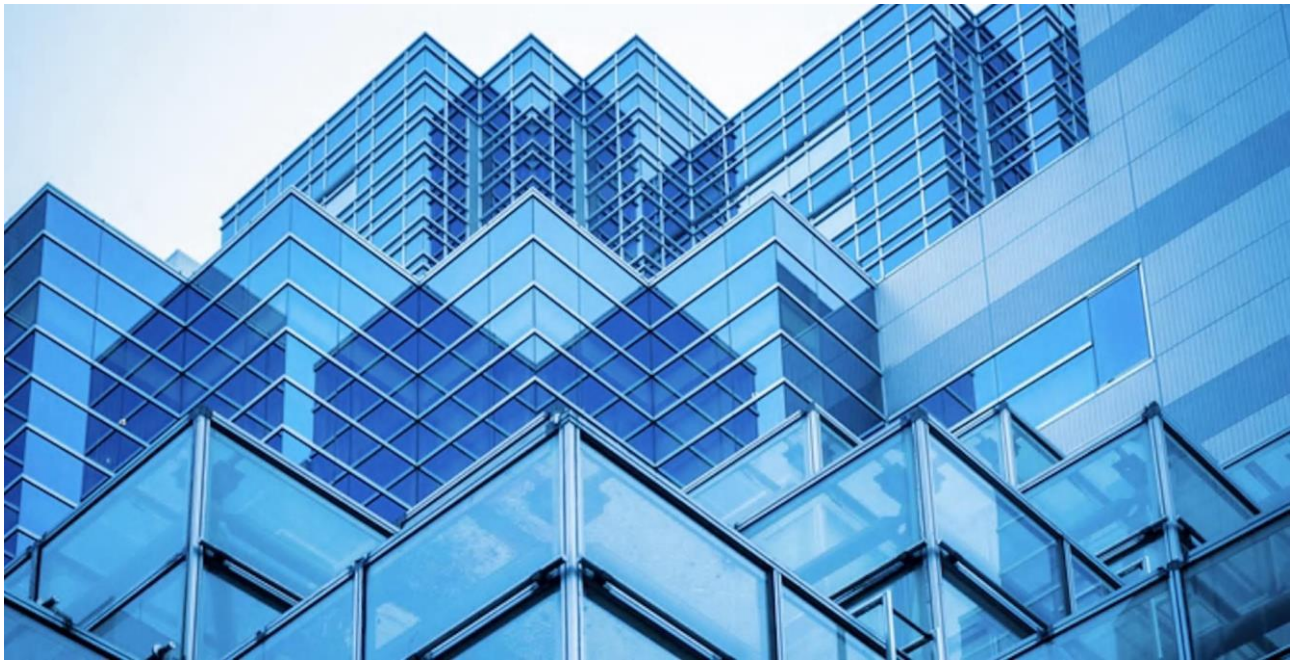


PUBLIC

SAP Build Process Automation

Manage Safety Stocks - Slow Or Non-Moving Materials

Configuration & User Guide

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Change Log

Version	Date	Description
1.0.0	March 6th, 2024	Document created

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This document contains three 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 high-level components used and how the template works in a 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 (BTP) Account with destination.
   (b) Import and configure the template using SAP Build Process Automation design studio.
3. User Guide: This section provides details about different artifacts that are used in this template like process definition, automations, forms, email notifications etc. to better understand how different capabilities are used in this template.

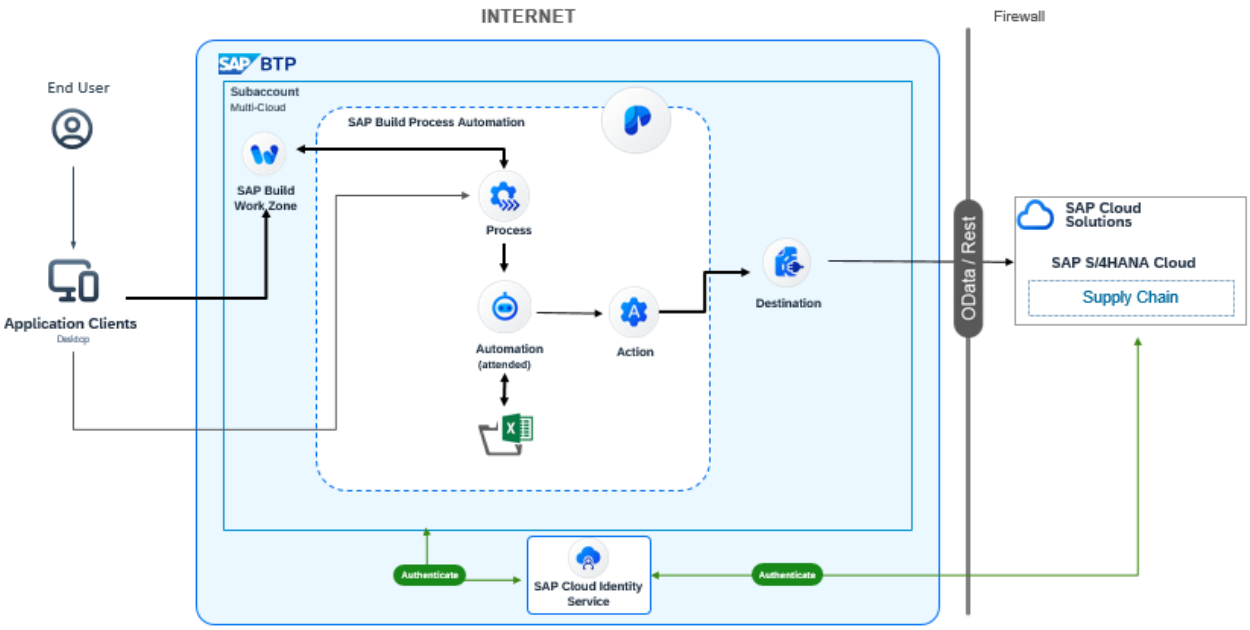
Note:

- This documentation is not a detailed guide to set up SAP Business Technology Platform services. It assumes that the IT admin who is setting the content is skilled with the SAP Business Technology Platform environment. The Configuration section must 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, SAP Integration Suite, and its capabilities.

Overview

The "**Manage Safety Stocks - Slow Or Non-Moving Materials**" process streamlines and automates the process of managing safety stock quantity for slow or non-moving materials, through SAP Build Process Automation within the SAP S/4HANA system.
It does so by getting the updated input excel template from the user which contains the required details to update the safety stock quantity. This process not only reduces manual data processing but also enhances the speed and efficiency of the business process.

Solution Diagram:



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The following steps are included as a part of **Manage Safety Stocks - Slow Or Non-Moving Materials** template:

- The template uses below API:
  - **Product Master (A2X) – Supply Planning Data API**
    - **Patch Method:**
      /A_ProductSupplyPlanning(Product='{Product}',Plant='{Plant}')
      This API is used to update safety stock quantity for slow or non-moving materials with the parameters like "Product" and "Plant" in the SAP S/4HANA system.

More information can be found in Product Master (A2X)/overview

- **Start Process:** User starts the process in attended mode by submitting the form request. The form contains a checklist with the instructions that the user must follow to start the process.
- **Read Operation: "Read Details From Excel"** automation opens input excel file and reads data from input excel file to get the details of the material and update the safety stock quantity.
- **Update Operation: "Update Safety Stock"** automation is used to update of safety stock quantity for slow/non-moving materials in the SAP S/4HANA system.
- Email confirmation will be sent to notifier/stakeholder with the process completion status.

This structured process ensures that the process moves through an efficient and automated workflow. This will reduce the manual efforts, error rate, lead time for updating of safety stock quantity for slow/non-moving materials.

Prerequisites

The following SAP Business Technology Platform services are required to consume the content package of **Manage Safety Stocks - Slow Or Non-Moving Materials** in the SAP S/4HANA:

- SAP Build Process Automation to orchestrate the process.
- SAP Cloud Identity Services - Identity Authentication (Optional)
- SAP Connectivity service to establish access to the SAP S/4HANA, Public Edition
- SAP Business Technology Platform, Cloud Foundry runtime
- SAP Work Zone

Other Prerequisites

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

- SAP Desktop Agent 3.23 or higher
- Excel application and outlook application configured on the system where the automations will run.

Note:

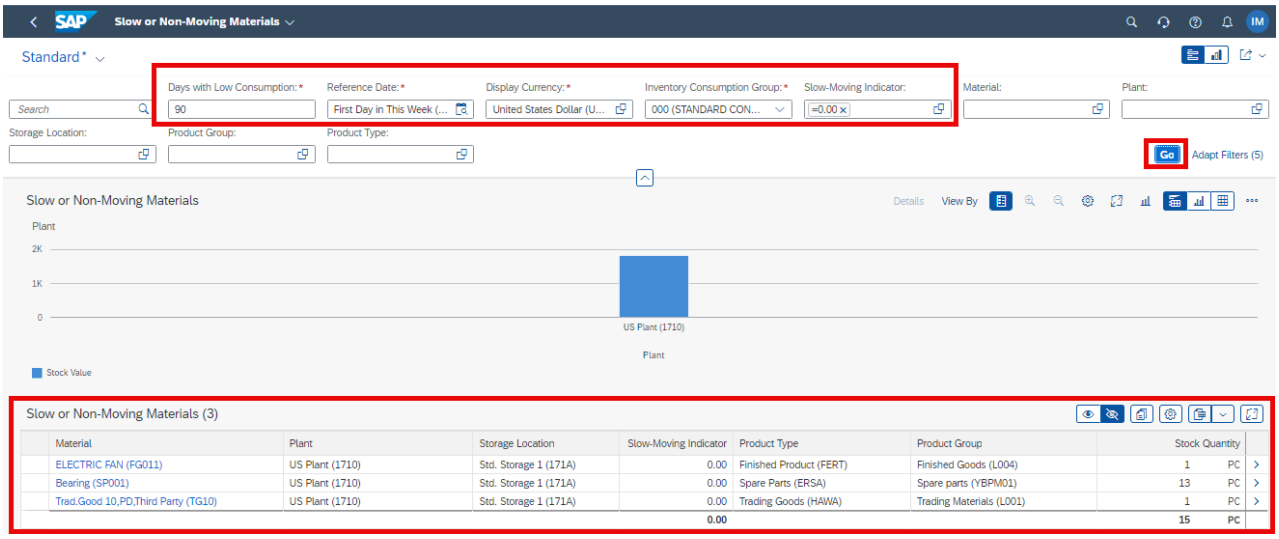
- This package is designed only to work with the input template file structures that are exported from the Fiori application based on the instructions provided below. DO NOT CHANGE any column properties and structure.
- If any changes are made in the input template structure, related process & automation implementation also need to be updated to handle those changes.
- You can decide the folder where the input excel file template should be saved and provide the same in the request form trigger.

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User guide to download slow or non-moving materials from Fiori application

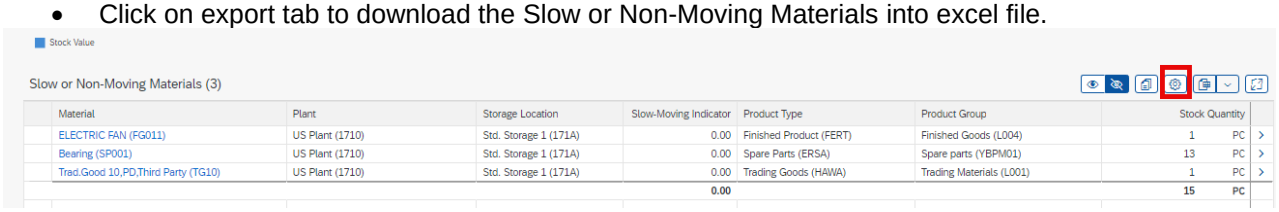
Instruction to fetch Slow or Non-Moving Materials

- Open the Slow or Non-Moving Materials app.
- The fields Days w/o Consumption, Reference Date, Inventory Consumption Group and Display Currency are mandatory. Choose additionally the Slow-Moving Indicator with a value greater zero (>0) to specify the search only for real slow-moving material.
  Note: If the Slow-Moving Indicator equals zero, the system only displays materials that have either no consumption or zero stock quantity or both.
- Click **Go**
- A list of Slow or Non-Moving Materials will be displayed.



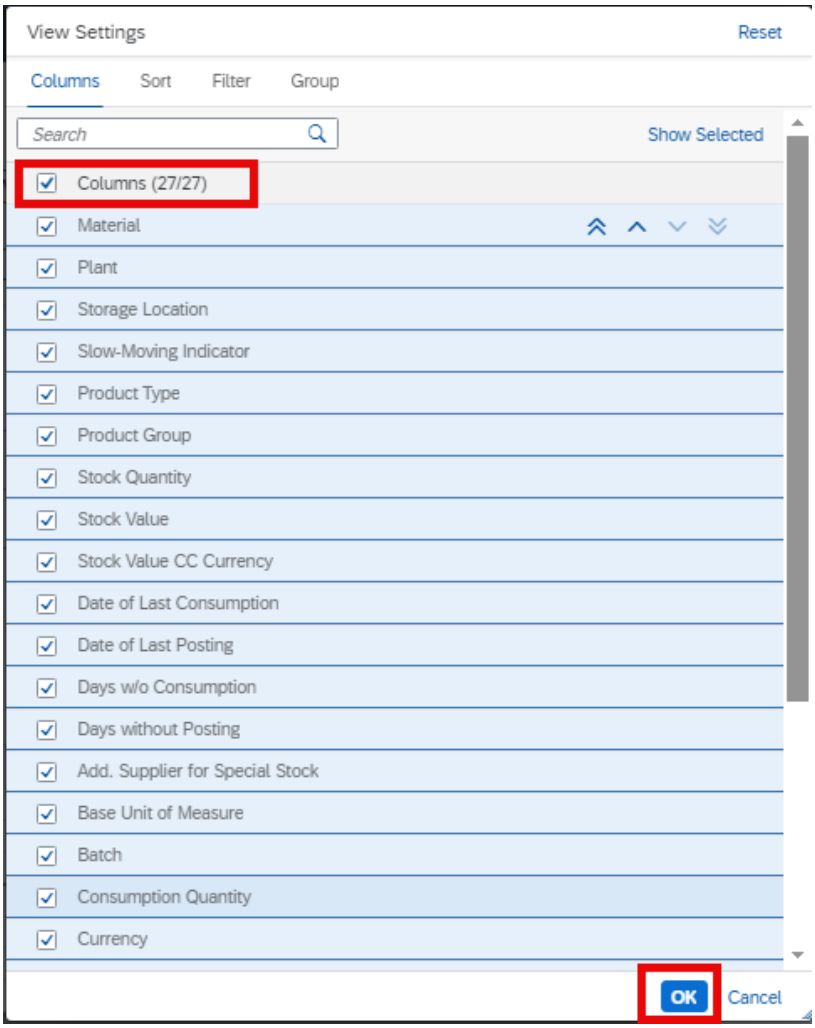
Instruction to download Slow or Non-Moving Materials

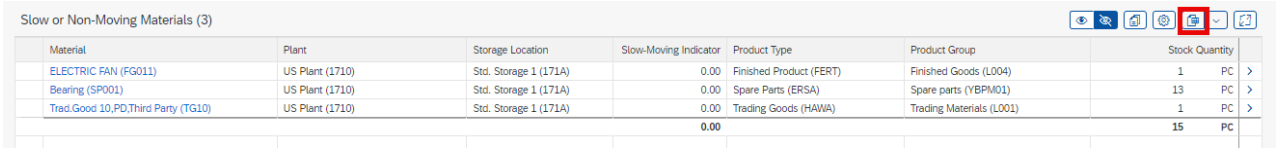
- Go to settings tab and select all columns in the columns tab.
- Click **Ok**
- Click on export tab to download the Slow or Non-Moving Materials into excel file.



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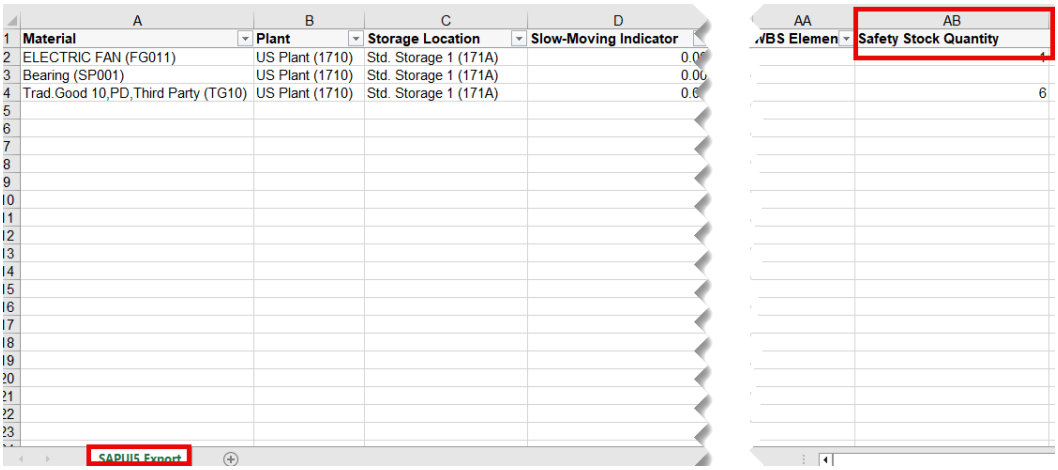
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Instructions to update the Excel file template.

- Open the excel file and add a column named "**Safety Stock Quantity"** in the last column. (i.e., column AB1) of the worksheet **SAPUI5 Export**
- Add the safety stock quantity value for each material in the "**column AB"** of the excel.



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Process Flow

To fetch Safety Stock details from the SAP S/4HANA system for update:

1) **Manual Update:**
   User needs to follow the instruction given in section **User guide to download slow or non-moving materials from Fiori application** to generate the required excel template and save the excel file(s) in any desired folder.

2) **Attended Trigger Using Request Form:**
   The user triggers the **Manage Safety Stocks - Slow Or Non-Moving Materials** process with the request form by following the instructions to complete the checklist in the request form to generate the input template that needs to be fed to the process.

3) **Read The Safety Stock Details:**
   The **'Read Details From Excel"** automation opens and reads the data from the input excel file which contains the slow or non-moving materials details that were exported and updated by the user.

4) **Update Safety Stock Quantity:**
   For each material, the **'Read Details From Excel'** automation initiates another sub-automation named **'Update Safety Stock'** which will update the safety stock quantity for slow or non-moving materials in the SAP S/4HANA system.

5) **Saving Processed file and Send Mail Notification:**
   - Once the input file(s) have been processed from the specified folder,
     - If the file is found to be incorrect template, then it is moved to the folder named "**IncorrectExcelFile**".
     - if the file is processed successfully then the file is moved to the folder named "**Processed**"

6) **Saving Log Reports:**
   - Two different log reports are generated
     - Each file that are processed is monitored and control log is saved into the folder named **"SafetyStockCompleteLogReport"**
     - Each record in each file that are processed is monitored and control log is saved into the folder named **"SafetyStockExecutedFilesLog"**

   Note: The folder structure mentioned above will be automatically generated by the process.

   - Mail notification will be sent to the notifier once the execution is completed with the complete summary of the process execution.

Configuration Guide

Manage Safety Stocks - Slow Or Non-Moving Materials template requires SAP Build Process Automation subscription.
Follow the setup and configuration section.

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Setup SAP Business Technology Platform Cockpit

Destination Configuration

Configure SAP S/4HANA Cloud, public edition Destination

To access the SAP S/4HANA system for read and update operations, an HTTP destination is required in the SAP BTP account where the SAP Build Process Automation is subscribed.

Create a destination with Basic Authentication.
Make sure the communication user has the appropriate communication strategy to create and modify work center in the SAP S/4HANA system.

Destination with Basic Authentication

Name	< Manage Safety Stocks For Slow Or Non-Moving Materials>
Type	HTTP
Proxy Type	Internet
Authentication	Basic Authentication
URL	<S/4HANA_Cloud_PRODUCT_SRV/_endpoint> Example: https://<host>:<port>/sap/opu/odata/sap/API_PRODUCT_SRV/
Username	<username> of the SAP S/4HANA Communication User
Password	<Password> of the SAP S/4HANA Communication User

Additional Properties to Destination

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

sap.applicationdevelopment.actions.enabled	true
sap.processautomation.enabled	true

Setup Communication

To run this template, you must have a communication user, create communication arrangements between the communication user and the following communication scenario, 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.

Communication scenarios to be configured.

Communication Scenario	Related API
Product Integration (SAP_COM_0009)	Overview | Product Master |Accelerator Hub

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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 its capabilities.

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 application.
2) Select the Project Type filter as "**Process Automation**."
3) In the Search bar type **"Manage Safety Stocks - Slow Or Non-Moving Materials"**
4) Select the "**Create from Template**" button to add the template into your lobby.

After successfully adding the template, navigate back to the lobby to find the **"Manage Safety Stocks - Slow Or Non-Moving Materials"** project available for use.

Caution: Be sure to select the Project Type as "Process Automation" in the filters.

Configure Agent Management Settings

This configuration is required to execute the Process with Automation. Kindly follow the steps explained here.

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

There is no configuration needed in the process. But it can be changed based on your requirements of the business.

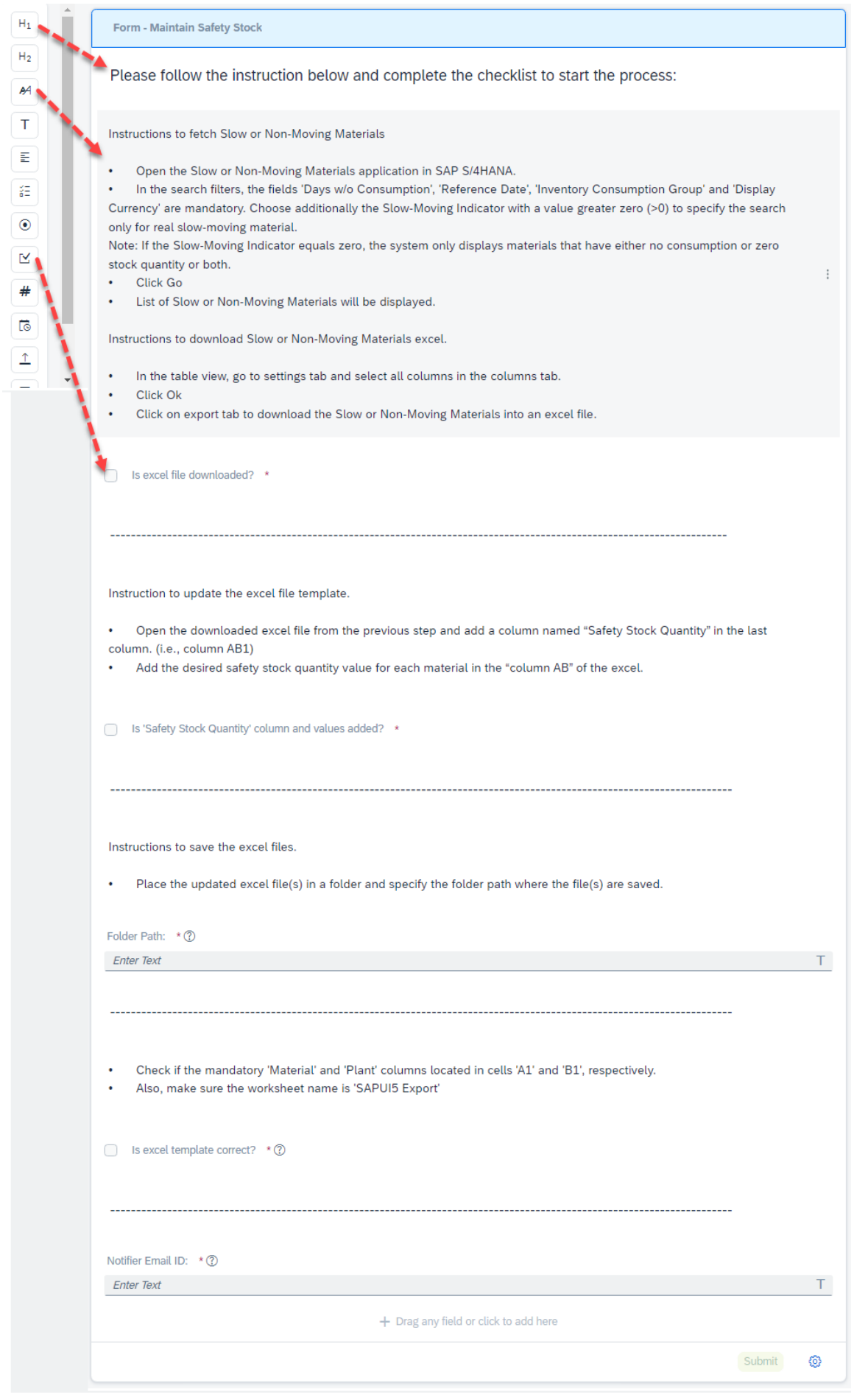
Configure Forms (Optional)

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, add new layout, or input fields to the form by simply dragging-and-dropping them from the side menu.

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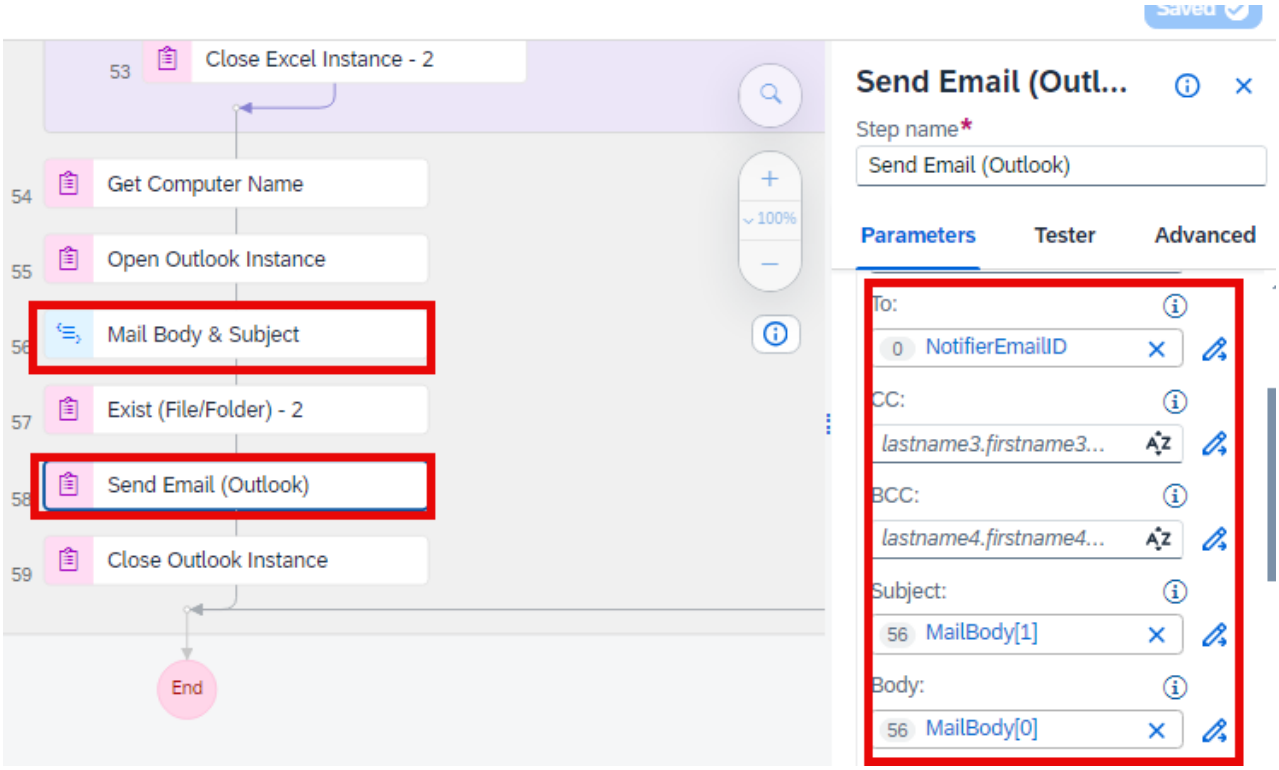


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Configure Email

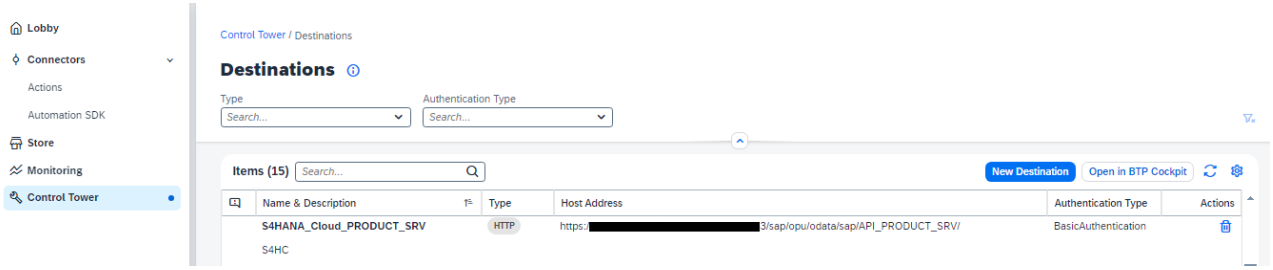
Email notification steps are available in the automation. These are sent via Microsoft Outlook on the computer where the automations run.
The body and subject of the email can be modified accordingly as per your need in the custom script.



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 in the destination environment variables during deployment.
To configure destination:

- Click on **Control Tower**.
- Select **Destinations** from the right panel.
- Click **New Destination**
- Select the destinations to be added.



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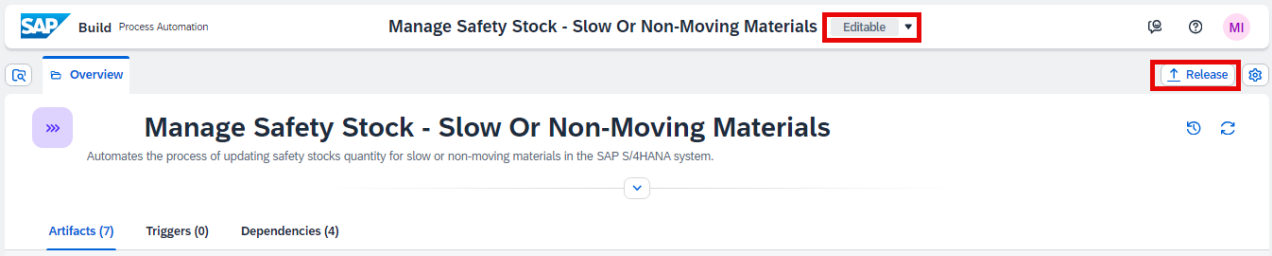
Release and Deploy Process

After configuring your process, it is time to publish, evaluate 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 cannot run and is not available to participants yet.

To release a version of your process,

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

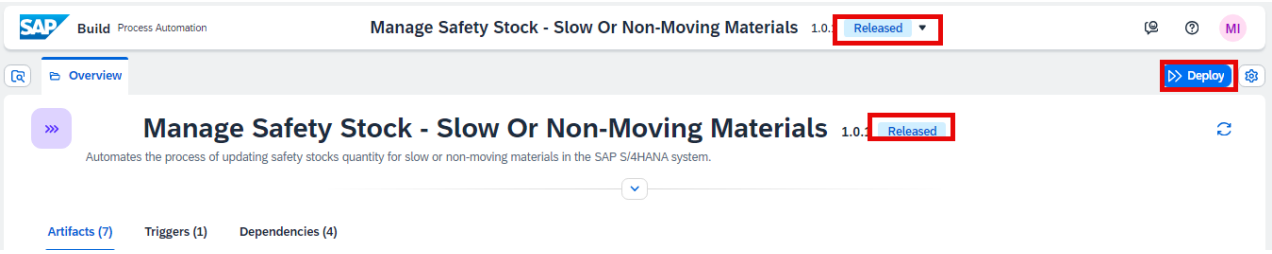


If this is the first time you have released the process, a version labeled 1.0.0 is released. For subsequent releases, you are prompted to select a version type before the process is released.

Deploy – This takes a released version of a process and enables it to be actively run and monitored. A deployed version of this process triggers automation, updating safety stocks quantity, and sending out a successful email to stakeholders.

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 the actual SAP BTP destination during deployment, then the process will enter an Erroneous state when it tries to connect to the external system. For more details about the Destination artifact, please read our documentation.

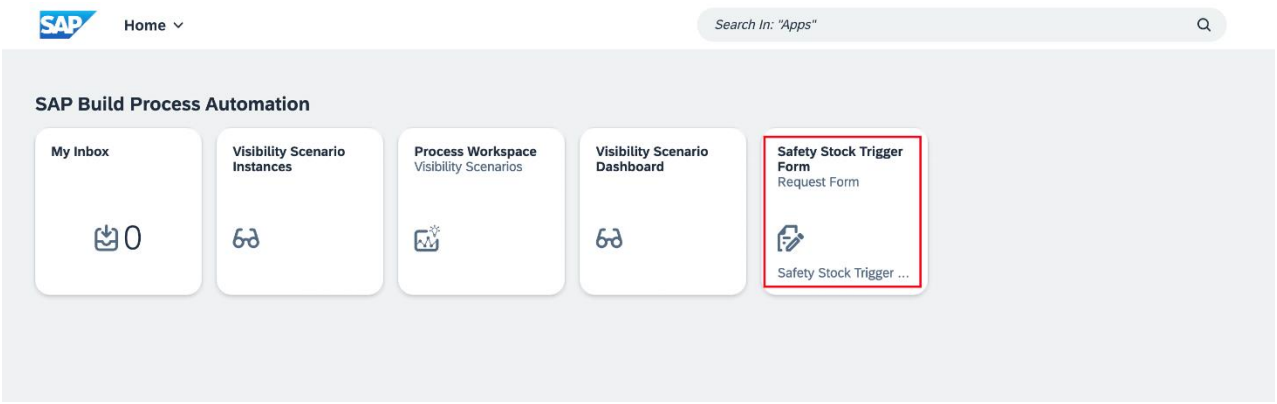
Configure SAP Work Zone

Now that the process is released and deployed, you can configure SAP Work Zone for creating form tile to trigger the process.

Follow the tutorial to configure Work Zone.

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User Guide

Capabilities

This template content contains the following key artifacts:
Please refer to help documentation about these different artifacts.

Icon	Type	Name	Description
	Process	Update Safety Stock Quantity	Process to start the update of safety stock quantity in the SAP S/4HANA system.
	Automation	Read Details From Excel	Main automation to retrieve safety stock details from the updated input excel file that has been exported form the SAP S/4HANA system.
	Automation	Update Safety Stock	Automation to update safety stocks quantity in the SAP S/4HANA system. If error occur during the update, it returns an error message with reasons for the failure.
	Automation	Generate Final Log Report Template	Automation to generate excel template for file level log report
	Automation	Generate Log Report Template for individual File	Automation to generate excel template for record level log report
	Automation	Write Log Report	Automation to write logs into excel file.
	Form	Form – Maintain Safety Stock	Form containing instructions to be followed by the user(s) to start the process

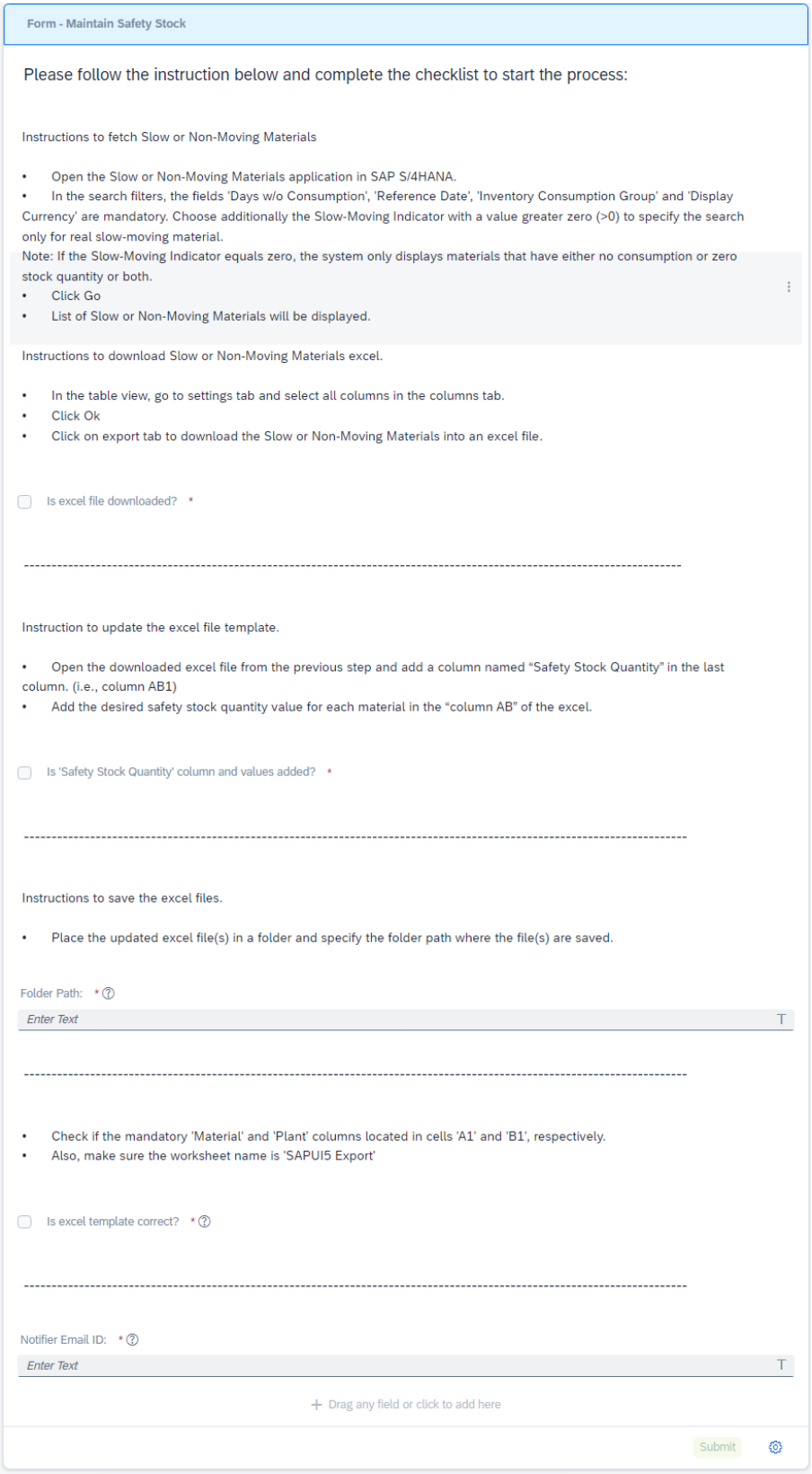
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Forms

The form contains a checklist for the user with instructions to start the process.

Form – Maintain Safety Stock



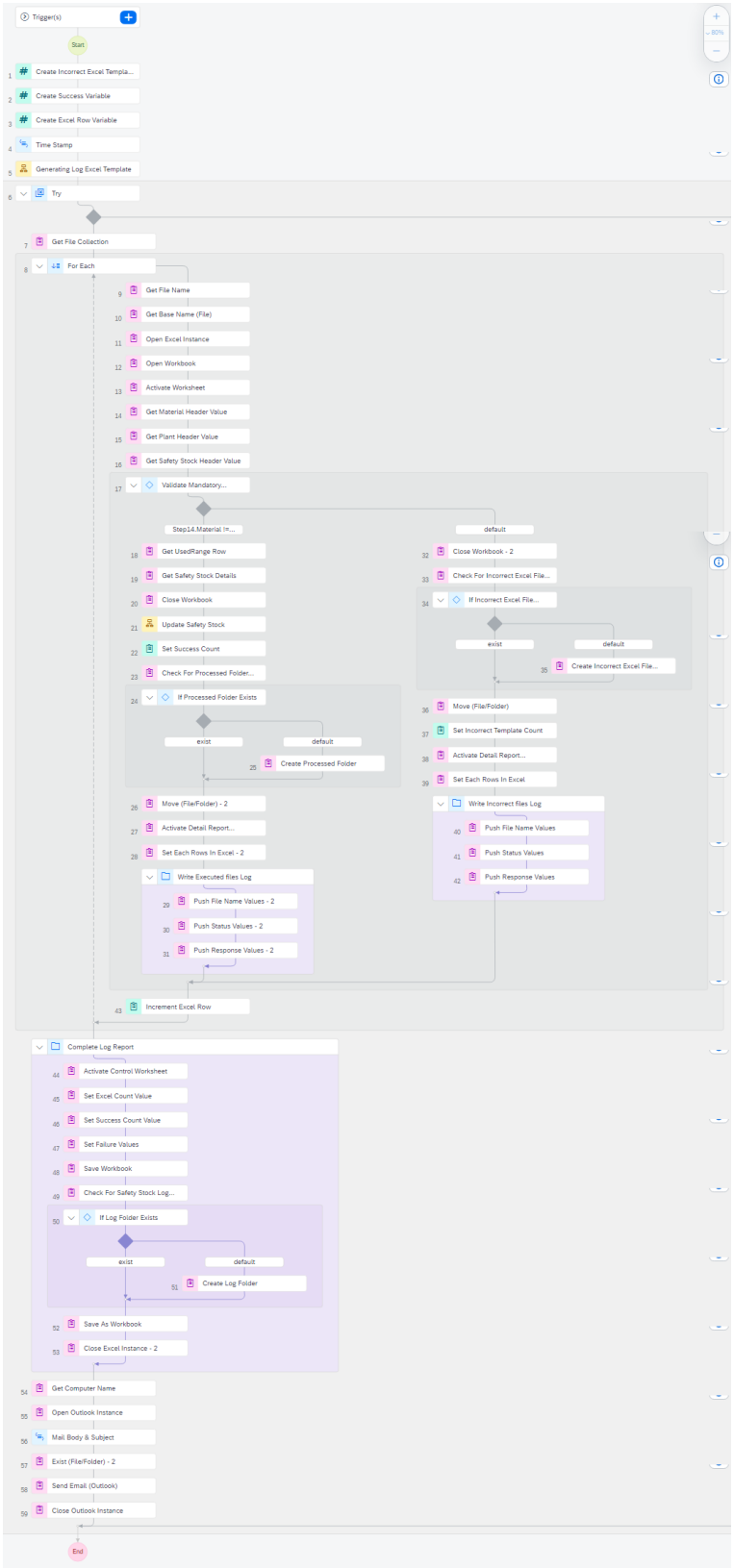
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Automations

Read Details From Excel

Main automation to retrieve safety stock details from the updated input excel file that has been exported from the SAP S/4HANA system.



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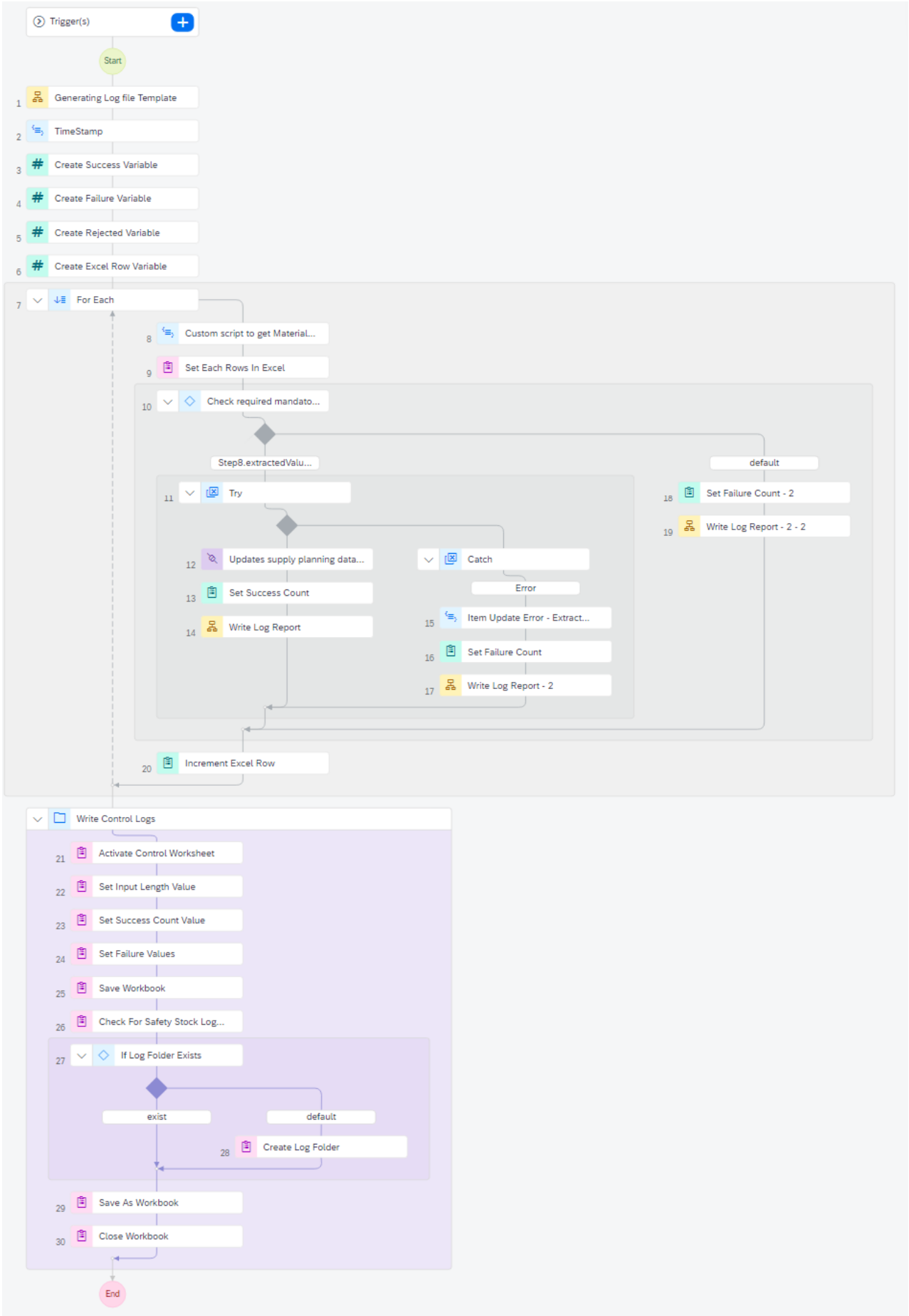
Step 1 to 3: Create variable required for the automation.
Step 4: Save time stamp
Step 5: Generate log template excel file.
Step 6 to Step 7: Get all files from the folder.
Step 8 to Step 16: Retrieve all the header values from the excel file
Step 17: Validate the correctness of the template.
Step 18 to Step 26: If template is correct, fetch the material details from excel and update the safety stock quantity in the SAP S/4HANA system. Then move the processed file to **Processed** folder.
Step 27 to Step 31: Activate the log report file and log the execution details at each file level.
Step 32 to Step 36: If template is incorrect, move the incorrect template file to **IncorrectExcelFile** folder.
Step 37 to Step 43: Activate the log report file and log the execution details at each file level.
Step 44 to Step 53: Activate control work sheet and log the control logs of each file and save the file to **SafetyStockCompleteLogReport** folder.
Step 54 to Step 59: Send the email with completion status to the user.

Update Safety Stock

Automation to update safety stocks quantity in the SAP S/4HANA system. If an error occurs during the update, it returns an error message with reasons for the failure.

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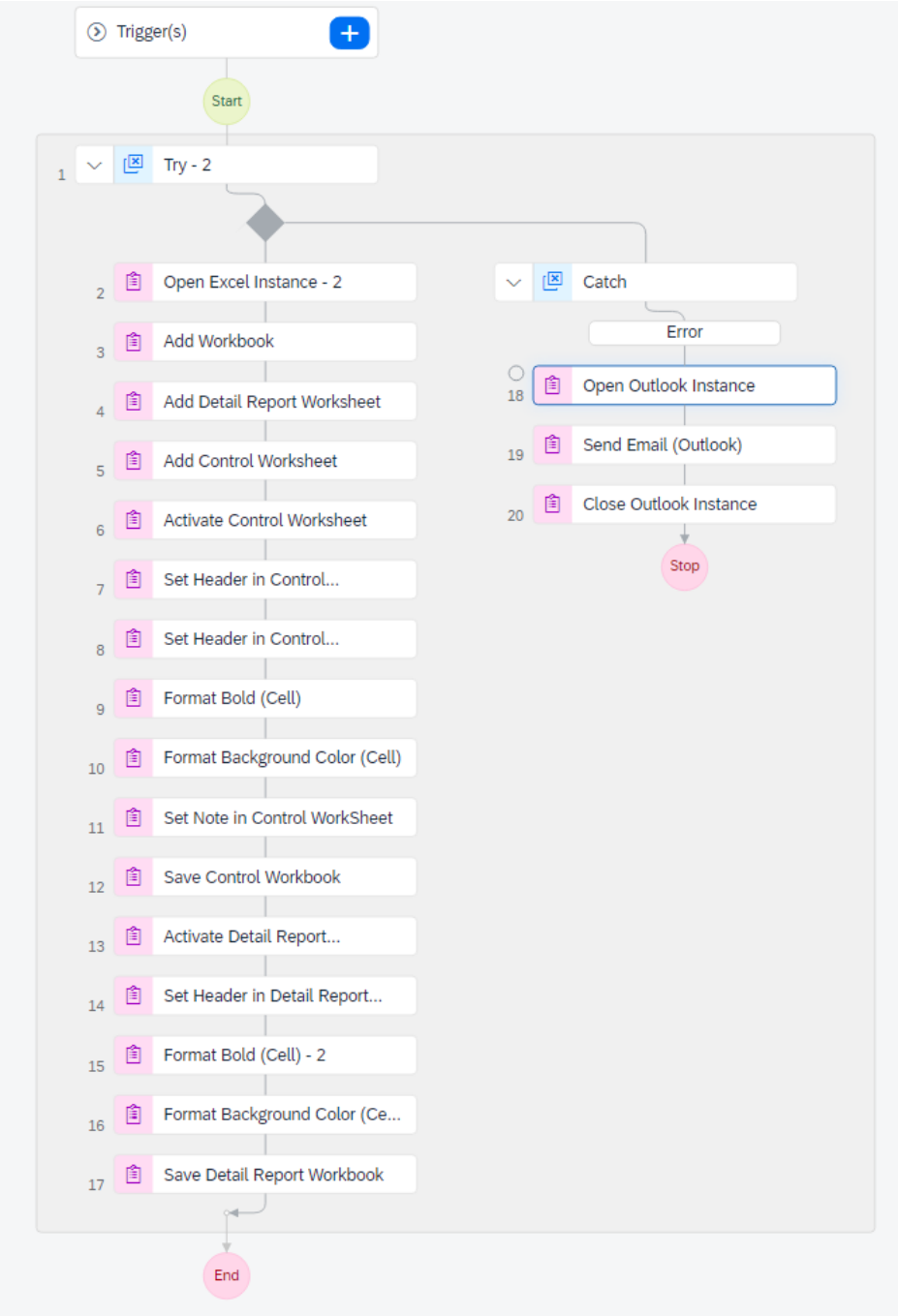
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Step 1: Generate log file template
Step 2: Custom script to set date and time.
Step 3 to Step 6: Creating the excel row variable.
Step 7 to Step 20: update the safety stock quantity values for each material in the SAP S/4HANA system and log the execution details in the excel log template.
Step 21 to Step 30: update the control worksheet with control logs and save the file to **SafetyStockExecutedFilesLog** folder

Generate Final Log Report Template

Automation to generate log reports with detailed information regarding each file.



Step 1 to Step 5: Create an excel file and add 2 new worksheets: **"Control"**and **"Detail Report".**
Step 6 to Step 12: Create the fields in the **"Control"** worksheet.

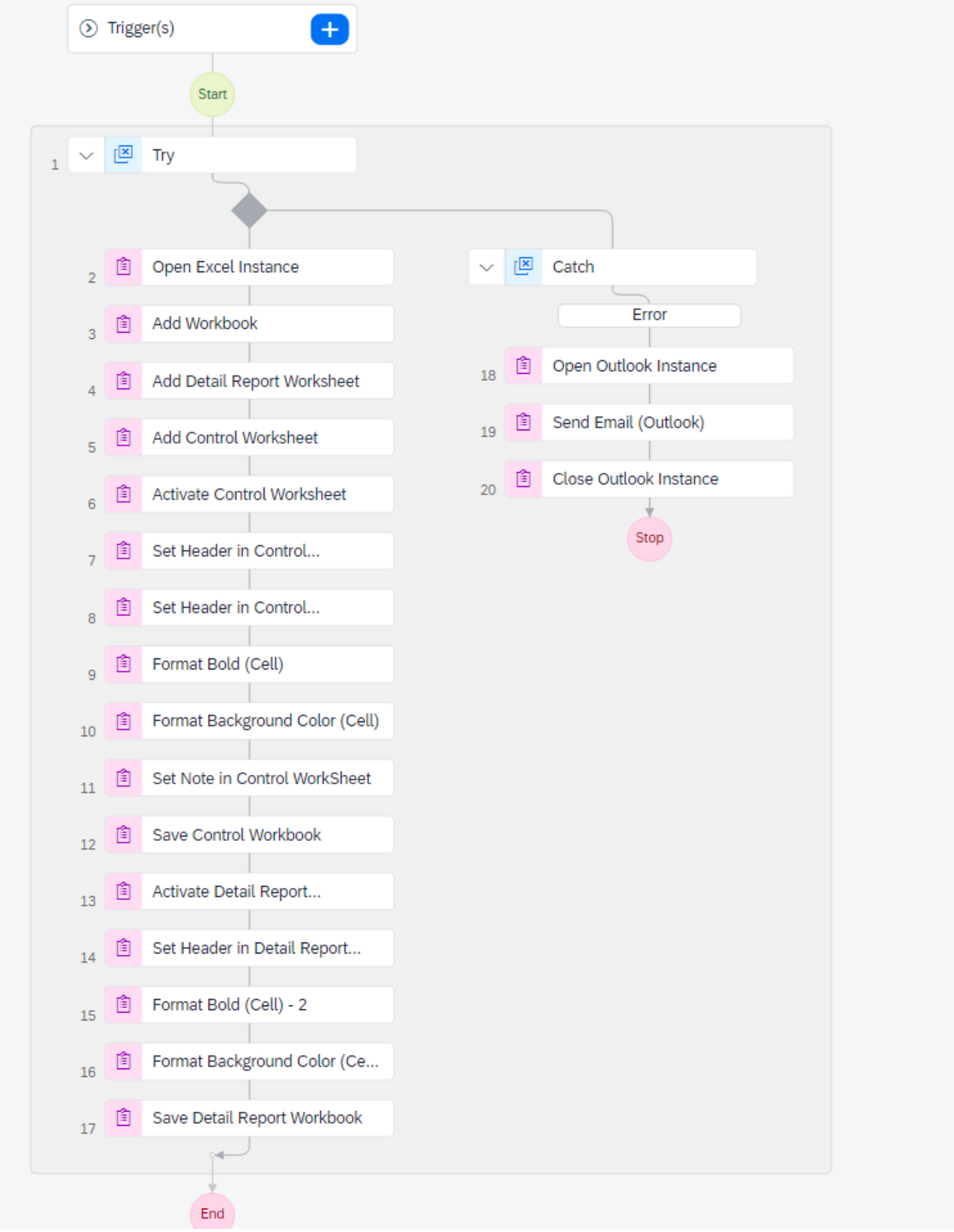
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Step 13 to Step 17: Create the fields in the **"Detail Report"** worksheet and save the workbook.
Step 18 to Step 20:Send error notification mail to user if any issue during generating log report.

Generate Log Report Template For Individual File

Automation to generate log reports with detailed information regarding each record in the file.



Step 1 to Step 5: Create an excel file and add 2 new worksheets: **"Control"**and **"Detail Report".**
Step 6 to Step 12: Create the fields in the **"Control"** worksheet.

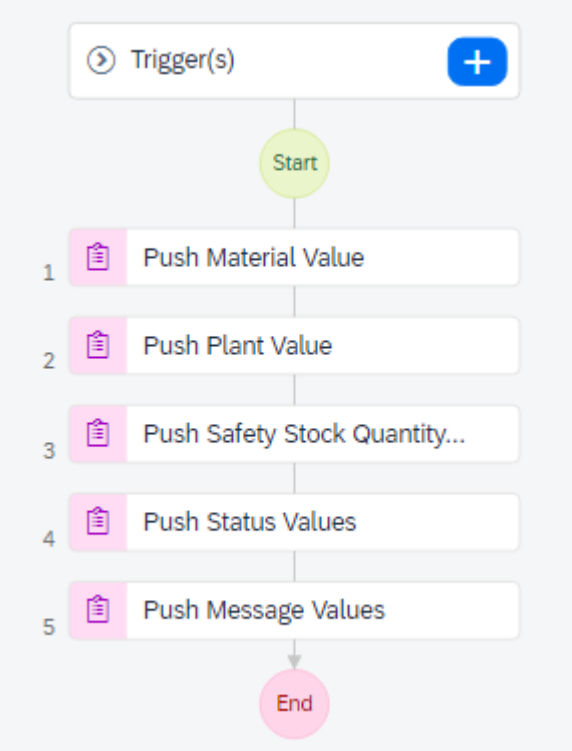
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Step 13 to Step 17: Create the fields in the **"Detail Report"** worksheet and save the workbook.
Step 18 to Step 20:Send error notification mail to user if any issue during generating log report.

Write Log Report

Automation to write logs into excel file.



Step 1 to step 4: Fill execution status details in excel file for each material.

Run an Automation in attended mode

The following table provides steps to run the automation in attended mode.

Step	Instruction
Launch Desktop Agent	Launch Desktop Agent. Make sure that the Unattended mode is selected in the Projects tab of the Desktop Agent.
Open SAP Build Process Automation	Perform the following to release and deploy the task automation: ● Navigate to the Store and search for the **Manage Safety Stocks - Slow Or Non-Moving Materials** package. ● Click **Add** to add the package to the Lobby. ● In the Lobby, click the project to open the Overview page. ● Click Release and then click Deploy. For steps to release and deploy a project, see the Managing Existing Projects topic.
Trigger	● Open deployed version of the package. ● Click on the trigger form and copy the trigger link. ● Open browser and paste the trigger link copied and click enter. ● Form will appear. Follow the instructions provided on the form.

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	● Click on **Submit**.
Monitor the Job	Open SAP Build Process Automation and click **Monitor > Automation Jobs**. You should see your job on the list. If not, adjust the date range on the Jobs page and refresh the page. For more details, refer to the Automation Jobs topic.
Check for Report	After your job status is Complete, verify notification emails sent to the respective stakeholders.

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-BPC component.
This template can be modified using SAP Process Automation. For example: add a decision to determine the approver based on a certain business logic or add an action to post collected information to the backend SAP system. Refer Help Portal for more details.

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