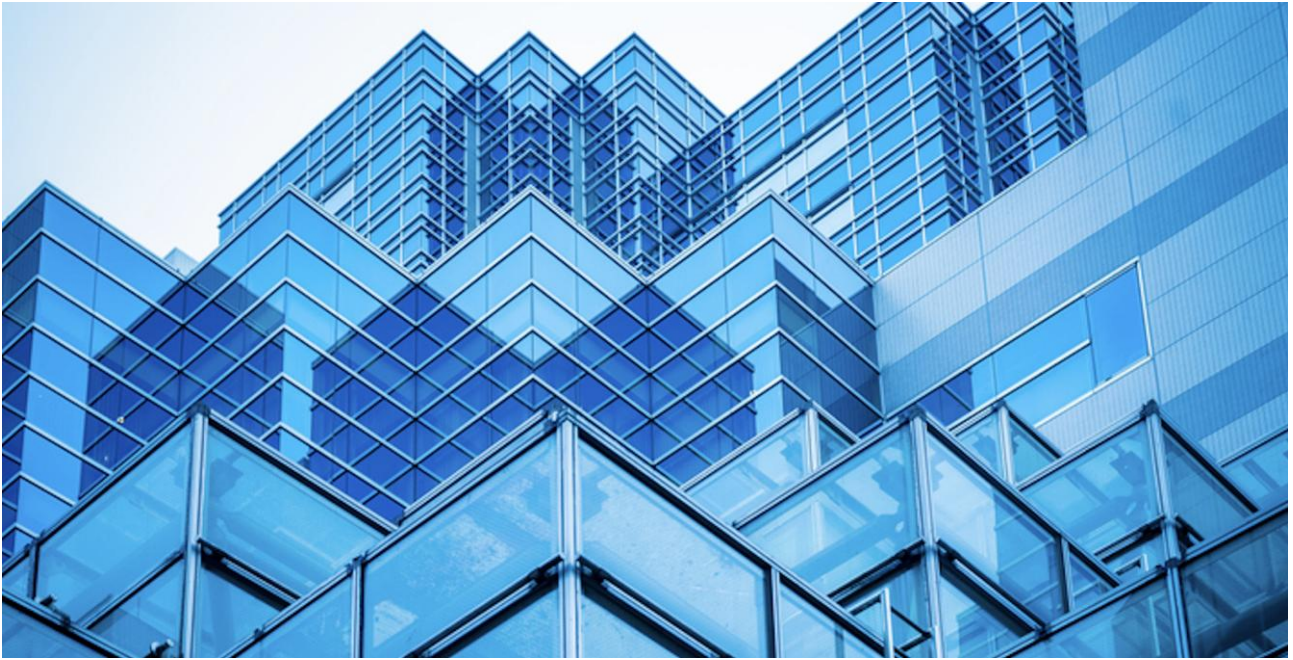




PUBLIC

SAP Build Process Automation

Manage Asset Creation Requests Configuration and User Guide

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Change Log

Version	Date	Description
1.0.0	June 5, 2025	Document update: Appendix updated



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 contain sections which will guide you to setup your (a) SAP Business Technology Platform Account with destination, cloud connector, user roles etc., (b) SAPUI5 application via SAP Business Application Studio and (c) Import and configure the template using SAP Build Process Automation design studio.
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 and its capabilities.

Overview

This document provides technical information about what needs to be configured to make the package – Manage Asset Creation Requests to run. The main audience of this document are technical personas like IT Administrators or Developers.

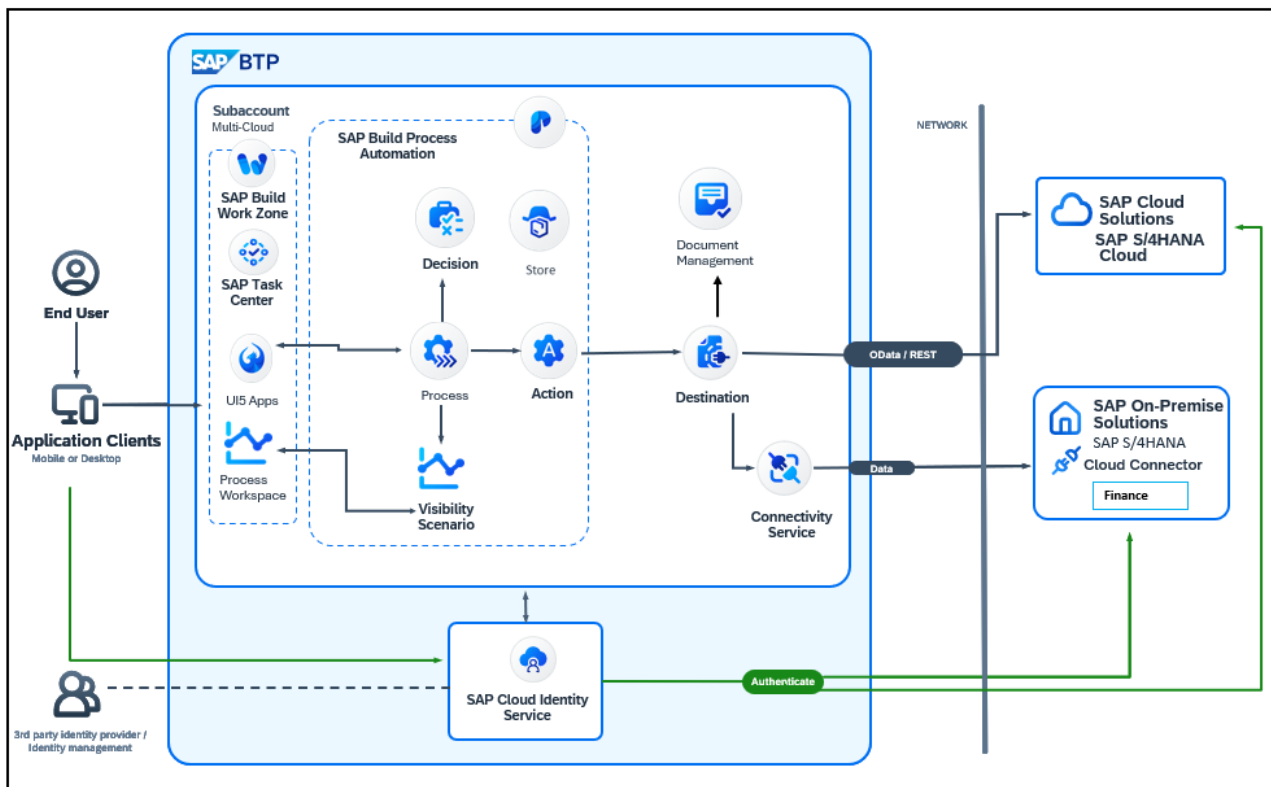
Manage Asset Creation Requests content package for SAP S/4HANA automates asset approvals in a flexible and transparent approach. It provides flexibility in executing a specific process depending on attributes such as company code, cost center, asset class, plant etc. When an asset is created in SAP S/4HANA and is configured for external approval, a pre-configured process is triggered in SAP Build Process Automation based on configurable business conditions. The asset is created based on the approvals and validations performed in the process.

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

Features:

- Process steps delivered to approve an asset.
- Custom validation on asset attributes using decisions.
- Out-of-the-box visibility into key process performance indicator.

Process Flow Diagram



Solution flow :

1. Asset details are sent for asset creation from the Start UI application that triggers the asset approval process.
2. Asset details are validated based on the business rules defined in the decision. If the asset details are successfully validated, it will proceed to the approval process.
3. If the asset details do not meet the criteria defined in the business rules, the validation will fail, and notification email will be sent to the requester.
4. After asset validation, the asset details will be sent to the approver based on the allocation in the business rules. If the approver is not defined in the business rules, the process will move to the process administrator, who will define the approver.
5. Once the approver receives the asset details, they will have the options to approve, reject, or send it back for rework. If the approver rejects the asset creation, the request will be rejected, and a notification will be sent to the requester.
6. If the approver sends the asset creation details for rework, the requestor will receive a rework form and will be able to modify the asset creation details. The details will then go through validation again and return for approval.
7. If the approver approves the asset details, the asset will be created in the SAP S/4HANA system, and the requestor will receive notification with the asset number which is created. If the asset creation fails, the requestor will receive a notification email indicating that the asset creation has failed.

Required SAP Business Technology Platform Services

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

- SAP Build Process Automation
- SAP Connectivity service
- SAP Business Application Studio
- SAP Application Runtime Service
- SAP Work Zone, standard or advanced
- SAP Document Management Service
- SAP Cloud Identity Services - Identity Authentication (optional)
- SAP Business Technology Platform, Cloud Foundry runtime.

Prerequisites

For this template to run successfully the following prerequisites are needed

- Get access to BTP account.
- Need valid SAP S/4HANA user.

Configuration Guide

Manage Asset Creation Requests template requires SAP Build Process Automation subscription and Destination Setup for SAP Build Process Automation. Follow the [setup and configuration section](#).

Setup SAP S/4HANA

Setup Communication

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](#)

For Custom CDS creation [Appendix](#) section can be followed.

Setup Business Technology Platform Cockpit

Configure SAP Build Process Automation Destination

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

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

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

Configure SAP S/4HANA Destination

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

Destination Property	Value
Name	<Name>
Type	HTTP
URL	<SAP S/4HANA endpoint> Example: https://<s4system-name>-api.xxxxxxxx
Proxy Type Internet	Internet
Authentication	Basic Authentication
Username	<Username> of the SAP S/4HANA Communication User
Password	<Password> of the SAP S/4HANA Communication User

Configure SAP Build Process Automation Email Destination

Mail notifications are used in this template to send notifications to requestor, approver, and admin during different stages of the process. Follow the instructions to setup mail destination in your SAP Business Technology Platform Account.

Configuring destination, [Configure Mail Destination](#)

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

User Roles Configuration

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

Role Collection Name	Purpose
TaskCenterAdmin	Permission to execute calls to the connector status API and monitor configured destinations and running background jobs.
Process Automation Developer	Standard Business User, can model and publish processes
ProcessAutomationParticipant	To execute (like accessing 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.

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

Cloud Connector Configuration

For SAP S/4HANA on-premise landscape, configure cloud connector to enable secure tunnel to SAP Business Technology Platform tenant. Please refer the help documentation to [configure Cloud Connector](#).

Services/Resources that need to be exposed from SAP S/4HANA on-premise using Cloud Connector.

Resources	Protocol	Backend-Type
/sap/opu/odata/sap/ZZ1_ASSET_CDS/ZZ1_Asset	OData	SAP S/4HANA
/sap/opu/odata/sap/ZZ1_ASSETDETAILS_CDS/ZZ1_AssetDetails	OData	SAP S/4HANA
/sap/opu/odata/sap/ZZ1_ASSETCLASS_CDS/ZZ1_AssetClass	OData	SAP S/4HANA
/sap/opu/odata/sap/ZZ1_COMPANYCODE_CDS/ZZ1_Companycode	OData	SAP S/4HANA
/sap/opu/odata/sap/ZZ1_COSTCENTER_CDS/ZZ1_CostCenter	OData	SAP S/4HANA
/sap/opu/odata/sap/ZZ1_PLANTS_CDS/ZZ1_Plants	OData	SAP S/4HANA
/sap/opu/odata/sap/ZZ1_SUPPLIER_CDS/ZZ1_Supplier	OData	SAP S/4HANA
/sap/opu/odata/sap/ZZ1_USERDETAILS_CDS/ZZ1_UserDetails	OData	SAP S/4HANA
/sap/opu/odata/sap/ZZ1_SUPPLIERBYCOMPANY_CDS/ZZ1_SupplierByCompany	OData	SAP S/4HANA
/sap/opu/odata/sap/ZAPI_MANAGE_ASSET_SRV/Asset_DetailsSet	OData	SAP S/4HANA

Setup Content Package

Import SAP Build Process Automation content

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

This template can be downloaded from the Store:

1. Navigate to the Store in your SAP Build Process Automation account.
2. Select the Project Type filter as “Business Process.”
3. In the Search bar type “**Manage Asset Creation 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 Asset Creation Requests**” template available for use.

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

Import and deploy TASK UI application

The content package requires the SAP UI5 user interface which is available in Manage Asset Creation Requests content package. Below are details of Task UI application.

Task UI Applications:

- manage-asset-creation-approval-ui
- manage-asset-creation-rework-ui

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

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

Configuration & Modification

Once you have added the content to your lobby, you will find the project in your project list. Adapt the content template based on your requirements.

Configure Decisions

There are 4 decisions in this template. We can configure as required.

1. Approval Strategy

Decision to identify the approver determination type for asset approval. To modify the decision:

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

Approval Strategy

Description: Decision to identify the approver determination type for asset approval

Inputs/Output Rules Variables

Input Parameters

Name *	Description *	Type *	List
Asset Details	Details of asset	Asset Creation Details	☐

[Add Input Parameter](#)

Output Parameter

☒ Same as Input

Name *	Description *	Type *	List
Approval Strategy	Strategy for asset approval determination	String	☐

[Add Output Parameter](#)

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

Approval Strategy

General Information:
Status: Draft
Hit Policy: **FIRST MATCH**

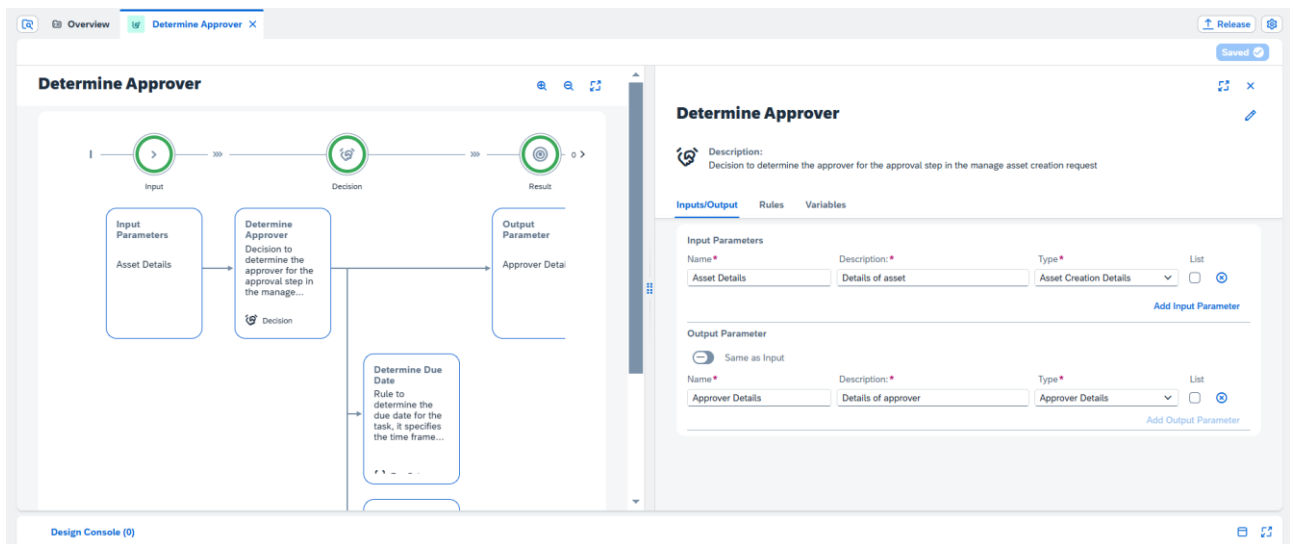
Description: Rule to determine the approver using external services or business rules, based on business needs, to ensure an accurate approval process

Decision Table

If	Then
☐ companyCode	Approval Strategy
☐ assetClass	'Business Rules'
☐ costCenter	'Business Rules'
☐ plant	

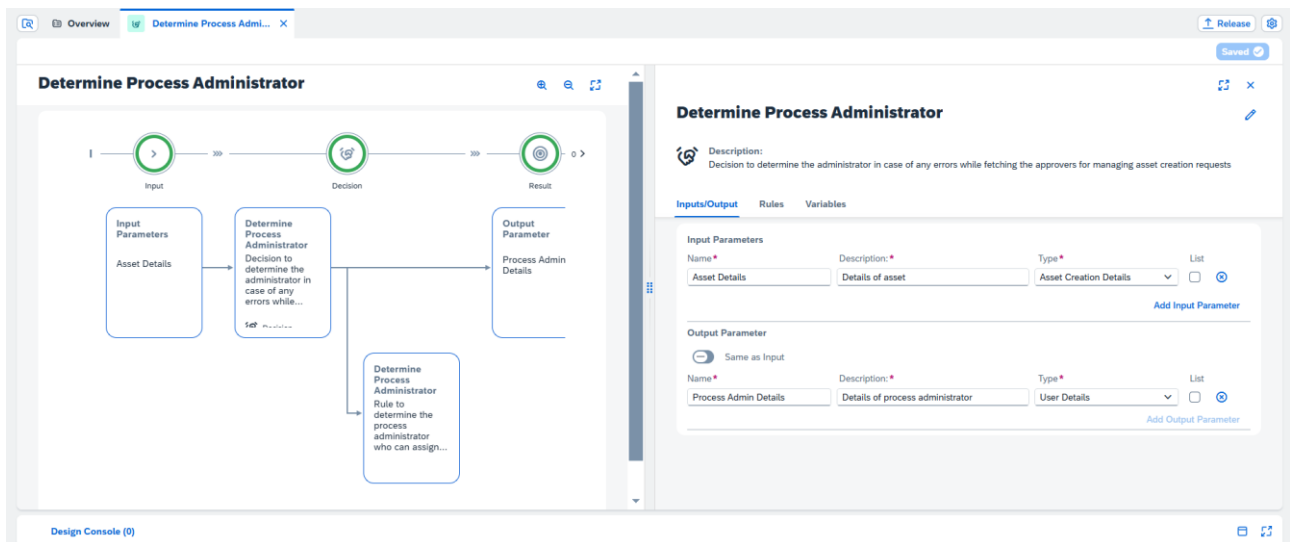
2. Determine Approver

Decision to determine the approver of the approval step in the manage asset creation request.



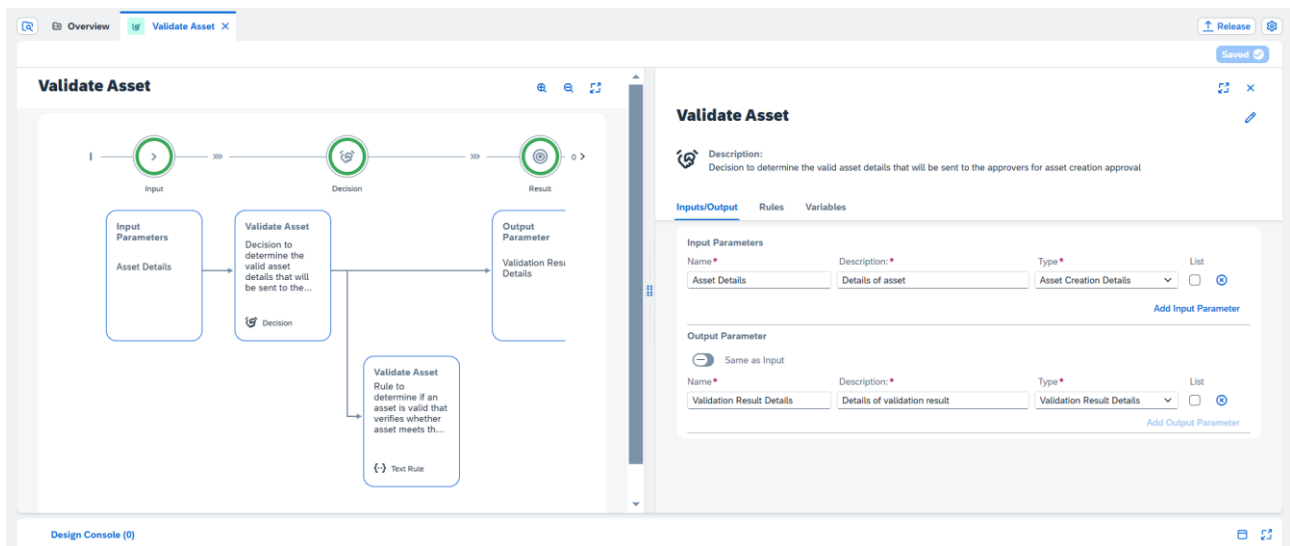
3. Determine Process Administration

Decision to determine the administrators in case of any error in fetching the approvers for manage asset creation requests



4. Validate Asset

Decision to determine the valid asset details which will send to the approvers for approval of asset creation



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 modified.

To update the email body content, do the following:

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

Mail Body

Dear Approver,

Kindly approve the asset creation request in your **My Inbox** application.

Asset Creation Record Details

Company Code : <> companyCode

Company Code Name : <> companyCodeName

Asset Class : <> assetClass

Asset Class Name : <> assetClassName

Cost Center : <> costCenter

Cost Center Name : <> companyCodeName

Plant : <> plant

Plant Name : <> plantName

Description : <> description

Inventory No : <> inventoryNo

Manufacturer : <> manufacturer

Supplier : <> supplier

Supplier Name : <> supplierName

This is an automated mail, please do not respond to it

Close

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

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

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

Create Process

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

Create Forms

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

Create Decision

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

Release and Deploy the Process

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

Release - This locks the version of your process, meaning that no further edits can be made to that version.

At this stage, the process can't be run and isn't available to participants yet.

To release a version of your process:

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

For more information please visit: [SAP Build Process Automation](#)

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

Import Destination

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

To configure destination,

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

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

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

Deploy – This takes a released version of a process and enables it to be actively run and monitored. A deployed version of this approval process unlocks the request form, allowing participants to submit requests and the approvers to view items in their inbox.

To deploy a released version of your process,

- First ensure that the status is listed as 'Released'.

- Then click '**Deploy**'.

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

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

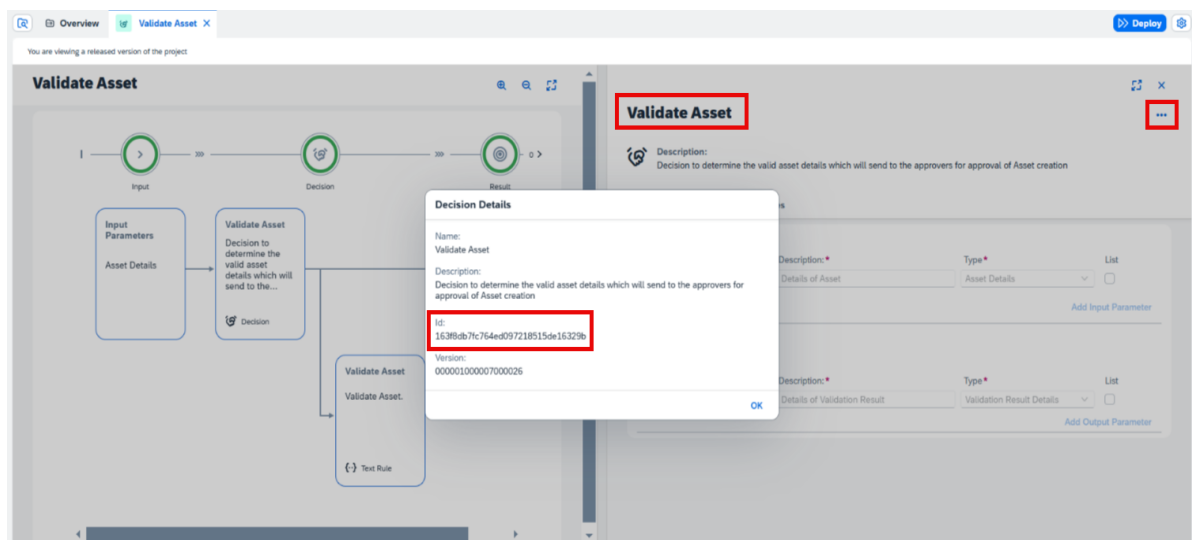
- **S4HANA:** Business Technology Platform destination to connect with SAP S/4HANA system. As shown in SAP S/4HANA destination set-up-section.

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.

Configure and Deploy Task UI

After the process has been deployed, the decision Id is changed. The updated decision Id must be changed in the corresponding Task UI application:

1. Once the application and the process has been deployed, go to the deployed process and click on the decision: **Validate Asset**. Here, open the decision and see in the deployed version, you will have 3 dots to the right side. Click on that and you will get a link to 'view details'. Click on view details and you will find the id for the decision. This is the rule id in this case. Note it down.



2. Go to Business Application Studio and open the corresponding task UI code; go to the file, **assetreworkwfui.Component.js**. For the function, **fnValidateAssetInput**, change the 'RuleServiceId' that you have noted above.

```

fnValidateAssetInput: function (data, definitionId) {
    //var oController = this;
    var oController=this.byId("ReworkUi").getController();
    var oReworkComp=this;
    oController.result = "";
    oController.errorMessage = "";
    var oData = {
        definitionId: definitionId,
        context: data
    };
    var oData1 = {
        "RuleServiceId": "163f8db7fc764ed097218515de16329b",
        "Vocabulary": [
            {
                // "AssetDetails":data.context.assetDetails
                "AssetDetails": {
                    "CompanyCode": data.assetDetails.companyCode,
                    "CostCenter": data.assetDetails.costCenter,
                    "AssetClass": data.assetDetails.assetClass,
                    "Plant": data.assetDetails.plant,
                    "LevelName": "Finance Head"
                }
            }
        ]
    };
}

```

3. Once Changed, save the changes build and deploy the mta.yaml file again. Please also remember to refresh the work zone tile again. Refer [help documentation](#).

Configure and Deploy Start UI

The content package requires the SAP UI5 user interface which is available in **Manage Asset Creation Requests** content package. Below are details of Start UI application

Start UI Application: manage-asset-creation-create-ui

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

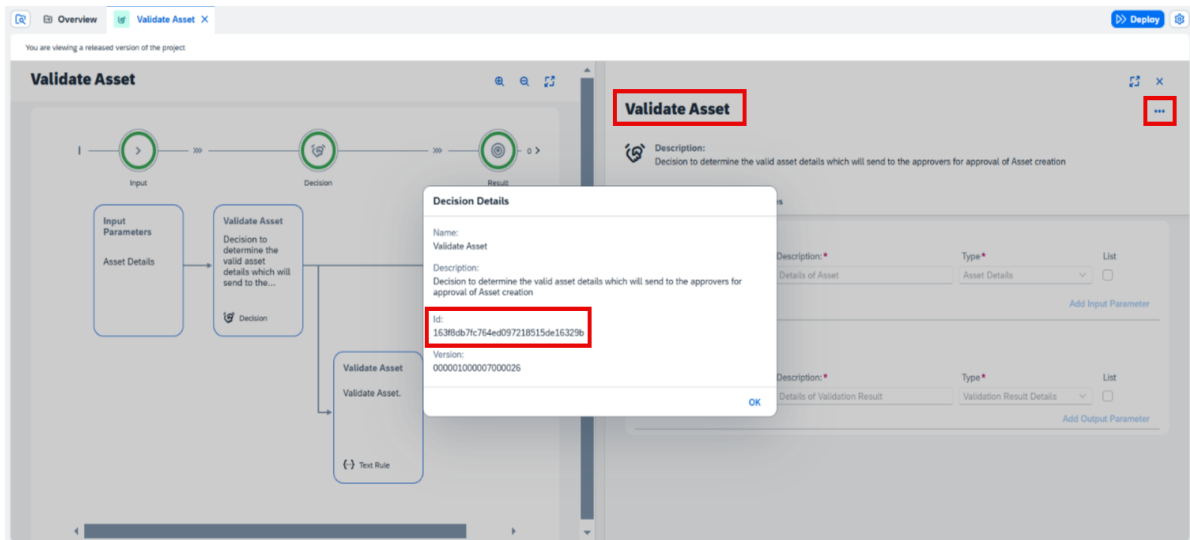
1. Download the SAPUI5 application Start UI from the imported store project.
2. Open Business Application Studio and import the previously downloaded SAPUI5 project.
3. The definition id of the Process can be found in the Monitoring section of the lobby, inside Process and Workflow Definitions. You need to enter the project name and go to the **main** process. The ID mentioned in the process would be the definition id. Refer [determine the workflow definition ID](#) for more details
4. This definition id must be maintained in assetwfui.assetwfui.controller.AssetCreate.js file in Business Application Studio. Please refer below screenshot.

```

var model = this.getView().getModel();
var definitionId = "163f8db7fc764ed097218515de16329b";
var initialContext = model.getProperty("/initialContext");

```

- After the process has been deployed in the previous section of 'Release and Deploy Process', go to the deployed process and click on the decision: **Validate Asset**. Here, open the decision and see in the deployed version, you will have 3 dots to the right side. Click on that and you will get a link to 'view details'. Click on view details and you will find the **id for the decision**. This is the rule id in this case.



- This is different for each of us when we deploy the package. Hence this must be changed in the Business Application Studio. To do this, Go to **assetwfui.assetwfui.controller.AssetCreate.js** file and click on **ctrl+F** and search for the text, 'rule'. You will find the rule id used in the file as shown below. Change this to the ID that you have noted in the above step.

```
fnValidateAssetInput: function (data, definitionId) {
    var oController = this;
    oController.result = "";
    oController.errorMessage = "";
    var oData = {
        definitionId: definitionId,
        context: data
    };
    var oData1 = {
        "RuleServiceId": "163f8db7fc764ed097218515de16329b",
        "Vocabulary": [
            {
                // "AssetDetails": data.context.assetDetails
                "AssetDetails": {
                    "CompanyCode": data.assetDetails.companyCode,
                    "CostCenter": data.assetDetails.costCenter,
                    "AssetClass": data.assetDetails.assetClass,
                    "Plant": data.assetDetails.plant,
                    "LevelName": "Finance Head"
                }
            }
        ]
    };
}
```

- Repeat steps 5 and 6 in the file **assetwfui.assetwfui.controller.AssetCopy.js**. Same decision: **Validate Asset** being used here.
- Once changed, build SAPUI5 project using mta.yaml file the generated project (generated mtar file will be available in the mta_archieves folder) file can be deployed.

Configure SAP Work Zone

Configure SAP Work Zone to access the start UI for this automation.

Once SAP Work zone is configured, perform the following steps to create the tile for the start UI:

1. Open content manager and click on the HTML5 Apps.
2. Select the Create Asset Start UI from the list of apps and choose Add.
3. Add the relevant roles to the user. Create Asset Start UI will be available to the user as a tile in the SAP Work Zone.

If you plan to use SAP Work Zone service, then configure [SAP Work Zone with SAP Build Process Automation Applications](#) using help documentation.

User Guides

Capabilities

The following are the capabilities of this template:

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

Type	Name	Description
Decision	Approval Strategy	Decision to identify the approver determination type for asset approval
Decision	Determine Approver	Decision to determine the approver for the approval step in the manage asset creation request
Decision	Determine Process Administrator	Decision to determine the administrators in case of any error in fetching the approvers for manage asset creation requests
Process	Asset Approval	Process for approval of asset details for asset creation request
Process	Asset Creation	Process to post the creation of asset in SAP S/4HANA
Process	Manage Asset Creation Requests	Process to initiate the approval of asset creation request
Process	Validate Asset Details	Process to validate the asset details for asset creation
Form	Asset Creation Approval Request	Task UI for asset creation approval
Form	IT Support - Approver Assignment	Form for administrator action as approver details not maintained in the decision.
Form	Inform Initiator for Rework	Task UI for rework
Data type	Approver Details	Datatype to store the fields of approver details

Data type	Asset Creation Details	Datatype to store all the fields of data required for asset creation
Data type	Asset Details	Datatype to store the fields of asset details for asset creation
Data type	History	Datatype to store the history of approval/rework task
Data type	Internal	Datatype to store the internal details which is based on the decisions
Data type	Messages	Datatype to store the fields of response message details of create asset post call
Data type	User Details	Datatype to store the fields of user details
Data type	Validation Result Details	Datatype to store the validation result details

Actions

Manage Asset Creation - Post Create Asset Action

This service enables the creation and posting of asset information, including the configuration of asset master data, to ensure precise asset tracking and reporting

Method	API	API Path	Purpose
POST	/sap/opu/odata/sap/ZAPI_MANAGE_ASSET_SRV	/sap/opu/odata/sap/ZAPI_MANAGE_ASSET_SRV/Asset_DetailsSet	The asset posting action in SAP S4/HANA allows for the creation and posting of asset details, including the setup of asset master data, ensuring accurate asset tracking and reporting.

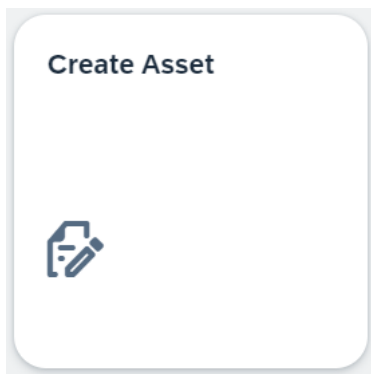
SAP UI5 SCREEN

This is the Start UI application to submit the request for Manage Asset Creation Requests must be entered here to trigger the process.

The tile name that must be chosen in the Work Zone is: 'Create Asset'.

Once navigated to the tile, user can submit the asset creation request.

1.Access app Create Asset.



2. After clicking on the Create Asset tile, below screen will be displayed and user will have the option to copy the existing asset as a reference or create an asset without reference.

< **SAP** Create Asset ▾ Q hs

Asset Number: Company code: Asset Class: Cost Center: **Go** Adapt Filters

✕

[Create](#) [Copy](#)

	Asset Number	Asset Class	Company code	Cost Center	Valid From	Valid To	Manufacturer
☐	900000000005	92000	4001		01.01.1900	31.12.9999	
☐	900000000004	92000	4001		01.01.1900	31.12.9999	
☐	900000000003	92000	4000	40001000	01.01.1900	31.12.9999	
☐	900000000003	92000	4001		01.01.1900	31.12.9999	
☐	900000000002	92000	4000	40001000	01.01.1900	31.12.9999	
☐	900000000002	92000	4001		01.01.1900	31.12.9999	
☐	900000000001	92000	4000	40001000	01.01.1900	31.12.9999	
☐	900000000001	92000	4001		01.01.1900	31.12.9999	
☐	900000000000	92000	4000	40001000	01.01.1900	31.12.9999	
☐	900000000000	92000	4001	40011000	01.01.1900	31.12.9999	

In 'Create Asset', we have 4 fields:

Asset Number: A unique identifier assigned to an asset for tracking and management.

Company Code: A specific organizational unit in financial accounting representing a legal entity.

Asset Class: A categorization of assets based on their type or purpose (e.g., machinery, vehicles).

Cost Center: A department or unit within an organization where costs are incurred.

3 Go to application Create Asset. Select one line item which you want to copy. Select Copy.

The screenshot shows the 'Create Asset' form in SAP. The form is organized into four main sections: Header Data, General Data, Time Dependent, and Origin. The Header Data section contains fields for Requestor (MUA41499), Company code (4001), and Asset Class (11000). The General Data section includes Asset Description (Rework Scenario) and Inventory Number. The Time Dependent section has Cost Center (SBPA0001), Plant, and Location. The Origin section includes Supplier (10002) and LP Local Vendor 2 (Powertrain & CO). At the bottom right, there are 'Submit' and 'Cancel' buttons.

In 'Copy' we have 9 fields:

Requestor(Mandatory): The person or department that initiates the asset acquisition.

Asset Description (Mandatory): A brief summary or details about the asset.

Inventory Number: A unique code used for physical inventory tracking of the asset.

Plant: A specific location or facility where operations or production activities occur.

Location: The physical or designated area where the asset is housed.

Supplier(Mandatory): The vendor or company providing the asset.

Cost Center(Mandatory): A department or unit within an organization where costs are incurred.

Manufacturer: The company that produced or built the asset.

Attachments: Additional files or documents related to the asset (e.g., invoices, manuals).

Once all the mandatory/required details are filled, click on the **Submit** button for approval in SAP UI5 screen to start the process.

Appendix

To call the APIs related to **Manage Asset Creation Requests**, the following CDS Views and custom communication scenarios along with communication arrangement should be enabled for the communication user. The SAP S/4HANA custom communication scenario consists of the external API details which was used to display the Asset details and value help used in Manage Asset Creation Request application. This application is developed based on [CDS as external ODATA API](#) and [creation of custom communication scenario](#).

Creation of CDS View Asset details (ZZ1_ASSETDETAILS)

1. Login to S4HANA cloud Fiori Launchpad with required credentials.
2. Go to Extensibility business group and click on Custom CDS Views tile
3. Click on create button it will open the pop-up, provide label as AssetDetails and choose External API option from scenario dropdown and click on button create in pop-up window.

4. Select primary data source from will be open with list of CDS View provide the Standard CDS view name I_FixedAsset in search field and enter select the required CDS Names "I_FixedAsset" and "I_FixedAssetAssgmt" to continue.
5. In case to use multiple CDS in Data sources tab click on "Add" button and select "Associated Data Sources" which opens pop-up. Provide the Standard CDS view name "I_FixedAssetAssgmt" in search field and Click "OK". The Data Source "I_FixedAssetAssgmt" will be listed , select it.
6. After selection of primary and secondary data source, click on Join condition which open Define Join condition Pop-up, click add button and make relationship between two data sources by selection of similar fields in field of associated data sources and change cardinality as per requirement of CDS Views.
7. Go to Elements tab click add button and select elements from submenu and select required fields from multiple CDS click Ok button.

Key	Alias	Type	Path	Label
ON	CompanyCode	CHAR (4)	I_FixedAsset.CompanyCode	Company Code
ON	MasterFixedAsset	CHAR (12)	I_FixedAssetMasterFixedAsset	Asset
ON	FixedAsset	CHAR (4)	I_FixedAsset.FixedAsset	Subnumber
OFF	AssetClass	CHAR (8)	I_FixedAsset.AssetClass	Asset Class
OFF	Inventory	CHAR (25)	I_FixedAsset.Inventory	Inventory Number
OFF	FixedAssetDescription	CHAR (50)	I_FixedAsset.FixedAssetDescription	Description
OFF	AssetAdditionalDescription	CHAR (50)	I_FixedAsset.AssetAdditionalDescription	Description (2)
OFF	ValidityStartDate	CHAR (8)	I_FixedAssetAssgmt.ValidityStartDate	Valid From
OFF	ValidityEndDate	CHAR (8)	I_FixedAssetAssgmt.ValidityEndDate	Valid To
OFF	CostCenter	CHAR (10)	I_FixedAssetAssgmt.CostCenter	Cost Center
OFF	Plant	CHAR (4)	I_FixedAssetAssgmt.Plant	Plant
OFF	AssetManufacturerName	CHAR (30)	I_FixedAsset.AssetManufacturerName	Manufacturer
OFF	Supplier	CHAR (10)	I_FixedAsset.Supplier	Supplier

8. Click on Publish button present on Footer.

Creation of CDS Asset Class (ZZ1_ASSETCLASS)

Repeat step 1 to 3 as mentioned above in asset details

For 4th step select primary data source as I_AssetClassText.

Steps 5 & 6 are not required as it is single data source

Repeat step 7 by selecting required fields as shown below

Key	Alias	Type	Path	Label
ON	AssetClass	CHAR (8)	I_AssetClass Text.AssetClass	Asset Class
ON	Language	LANG (1)	I_AssetClass Text.Language	Language Key
OFF	AssetClassName	CHAR (20)	I_AssetClass Text.AssetClassName	Short Text
OFF	AssetClassDescription	CHAR (50)	I_AssetClass Text.AssetClassDescription	Description

Go to Filter tab and select language in form-based and in value provide system language as shown below

Field: I_AssestClassTextLanguage

Type: LANG(1)

Operator: Equal

Value Type: Session Variable

Repeat step 8 by publishing CDS View

Creation of CDS view Company Code (ZZ1_COMPANYCODE)

Repeat step 1 to 3 as mentioned above in asset details

For 4th step select primary data source as I_CompanyCode as shown in below screen shots

Steps 5 & 6 are not required as it is single data source

Repeat step 7 by selecting required fields in Element's tab as shown below

Key	Alias	Type	Path	Label
ON	CompanyCode	CHAR (4)	I_CompanyCode.CompanyCode	Company Code
OFF	CompanyCodeName	CHAR (25)	I_CompanyCode.CompanyCodeName	Company Name
OFF	Currency	CUKY (5)	I_CompanyCode.Currency	Currency
OFF	Language	LANG (1)	I_CompanyCode.Language	Language Key

Repeat step 8 by publish company code CDS View

Creation of CDS View Cost Center (ZZ1_COSTCENTER)

Repeat step 1 to 3 as mentioned above in asset details

For 4th step select primary data source as I_CostCenterText.

Steps 5 & 6 are not required as it is single data source

Repeat step 7 by selecting required fields in Elements tab as shown below

Key	Alias	Type	Path	Label
ON	CostCenter	CHAR (10)	I_CostCenter Text.CostCenter	Cost Center
ON	ControllingArea	CHAR (4)	I_CostCenter Text.ControllingArea	Controlling Area
ON	Language	LANG (1)	I_CostCenter Text.Language	Language Key
ON	ValidityEndDate	DATS (8)	I_CostCenter Text.ValidityEndDate	Valid To
OFF	CostCenterName	CHAR (20)	I_CostCenter Text.CostCenterName	Cost Center Name
OFF	CostCenterDescription	CHAR (40)	I_CostCenter Text.CostCenterDescription	Cost Center Desc

Repeat step 8 by publish company code CDS View

Creation of CDS View Asset Number (ZZ1_ASSET)

Repeat step 1 to 3 as mentioned above in asset details

For 4th step select primary data source as I_FixedAssetStdVH.

Steps 5 & 6 are not required as it is single data source

Repeat step 7 by selecting required fields in Elements tab as shown below

Key	Alias	Type	Path	Label
ON	CompanyCode	CHAR (4)	I_FixedAssetStdVH.CompanyCode	Company Code
ON	MasterFixedAsset	CHAR (12)	I_FixedAssetStdVH.MasterFixedAsset	Asset
ON	FixedAsset	CHAR (4)	I_FixedAssetStdVH.FixedAsset	Subnumber
OFF	FixedAssetDescription	CHAR (50)	I_FixedAssetStdVH.FixedAssetDescription	Description

Repeat step 8 by publish company code CDS View

Creation of CDS View plant (ZZ1_PLANT)

Repeat step 1 to 3 as mentioned above in asset details for 4th step select primary data source as I_PlantStdVH.

Steps 5 & 6 are not required as it is single data source

Repeat step 7 by selecting required fields in Element's tab as shown below

Key	Alias	Type	Path	Label
ON	Plant	CHAR (4)	I_PlantStdVH.Plant	Plant
OFF	PlantName	CHAR (30)	I_PlantStdVH.PlantName	Plant Name

Repeat step 8 by publish company code CDS View

Creation of CDS View supplier (ZZ1_SUPPLIER)

Repeat step 1 to 3 as mentioned above in asset details

For 4th step select primary data source as I_Supplier

Steps 5 & 6 are not required as it is single data source

Repeat step 7 by selecting required fields in Element's tab as shown below

Key	Alias	Type	Path	Label
ON	Supplier	CHAR (10)	I_Supplier.Supplier	Supplier
OFF	SupplierName	CHAR (80)	I_Supplier.SupplierName	Name of Supplier
OFF	SupplierAccountGroup	CHAR (4)	I_Supplier.SupplierAccountGroup	Account Group

Repeat step 8 by publish company code CDS View

Creation of CDS View Requestor (ZZ1_USERDETAILS)

Repeat step 1 to 3 as mentioned above in asset details

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For 4th step select primary data source as I_BusinessUserVH.

Steps 5 & 6 are not required as it is single data source

Repeat step 7 by selecting required fields in Element's tab as shown below

Key	Alias	Type	Path	Label
ON	BusinessPartner	CHAR (10)	I_BusinessUserVH.BusinessPartner	Person ID
OFF	UserID	CHAR (12)	I_BusinessUserVH.UserID	User ID
OFF	FirstName	CHAR (40)	I_BusinessUserVH.FirstName	First Name
OFF	LastName	CHAR (40)	I_BusinessUserVH.LastName	Last Name
OFF	DefaultEmailAddress	CHAR (241)	I_BusinessUserVH.DefaultEmailAddress	Email Address

Repeat step 8 by publish company code CDS View

Creation of CDS View Supplier by Company (ZZ1_SUPPLIERBYCOMPANY)

Repeat step 1 to 8 mentioned in above asset details by changing with below data sources and selection fields below

Key	Alias	Type	Path	Label
ON	Plant	CHAR (4)	I_SupplierCompanyByPlant.Plant	Plant
ON	Supplier	CHAR (10)	I_SupplierCompanyByPlant.Supplier	Supplier
OFF	CompanyCode	CHAR (4)	I_SupplierCompanyByPlant.CompanyCode	Company Code
OFF	CostCenter	CHAR (10)	I_CostCenter.CostCenter	Cost Center

Creation of Custom communication scenario

1. Login to SAP S/4HANA cloud Fiori Launchpad with required credentials.
2. Go to Extensibility in toolbar and click Custom Communication Scenarios tile.
3. Click on New button which open pop-up window provide communication scenario ID as Asset and description as Asset Creation and click New on pop-up button.
4. Click on Add button in Inbound services and select required CDS from Add services pop-up and click on OK button.

Select CDS Views as mentioned below:

ZZ1_ASSETCLASS_CDS
ZZ1_ASSETDETAILS_CDS
ZZ1_ASSET_CDS
ZZ1_COMPANYCODE_CDS
ZZ1_COSTCENTER_CDS
ZZ1_PLANT_CDS
ZZ1_SUPPLIERBYCOMPANY_CDS
ZZ1_SUPPLIER_CDS
ZZ1_USERDETAILS_CDS

5. Click on Publish button present on Footer, it will enable the Create Arrangement button after successful publish.
6. Click on Create Arrangement button, it will navigate to new Fiori app Communication arrangement by open pop-up new communication arrangement. Enter required Scenario Id ZZ1_Asset and Arrangement name as asset and click on Create button.

7. Enter Communication system and Username created in SAP S/4HANA system.
8. Save the Communication Arrangement and status should change to Active.

Setup Service: /sap/opu/odata/sap/ZAPI_MANAGE_ASSET_SRV/Asset_DetailsSet

1. Go to the SAP GUI and enter SEGW in the command field to open the Gateway Service Builder.
2. In the Service Builder screen, click on the "Create Project" button.
3. Enter a name 'ZAPI_MANAGE_ASSET' for your project in the Project Name field. This name should be unique and descriptive.
4. Provide a relevant short description of your project.
5. In the left-hand tree structure, right-click on Data Model and choose Create ->Entity Type. Enter the entity type name as 'Asset' and click the check box Create related Entity Set then click Ok.

6. Now open the entity type properties and add the fields as given in the below screen shot, Data Model -> Entity Types -> Asset -> Properties

Properties														
Name	Is Key	Edm Core Type	Prec.	Scale	Max ...	UrCreat...	Upda...	Sorta...	Nulla...	Filt.	Label	La...	CoABAP Field Name	ABAP Ty
AssetClass	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	ASSETCLASS	☐
AssetClassName	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	ASSETCLASSNAME	☐
CompanyCode	☒	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	COMPANYCODE	☐
CompanyCodeName	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	COMPANYCODENA...	☐
Description	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	DESCRIPTION	☐
Supplier	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	SUPPLIER	☐
SupplierName	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	SUPPLIERNAME	☐
CostCenter	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	COSTCENTER	☐
CostCenterName	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	COSTCENTERNAME	☐
InitiatorEmail	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	INITIATOREMAIL	☐
InventoryEmail	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	INVENTORYEMAIL	☐
InventoryNo	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	INVENTORYNO	☐
Location	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	LOCATION	☐
Plant	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	PLANT	☐
PlantName	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	PLANTNAME	☐
Manufacturer	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	MANUFACTURER	☐
Requestor	☐	Edm.String	0	0	0	☐	☐	☐	☐	☐		T	REQUESTOR	☐

7. In the left-hand tree structure, right-click on **Data Model** and choose **Create ->Entity Type**. Enter the entity type name as 'Return' and click the check box Create related Entity Set then click Ok.

8. Now open the entity type properties and add the fields as given in the below screen shot,
9. Data Model -> Entity Types -> Asset -> Properties Select the fields and structures to create the entity.

Properties												
Name	Is Key	Edm Type	Prec.	Scale	Max ...	UnCreat...	Upda...	Sorta...	Nulla...	File Label	La...	CoABAP Field
Type	☒	Edm.String	0	0	1	☐	☐	☐	☐	Message type	T	TYPE
Id	☒	Edm.String	0	0	20	☐	☐	☐	☐	Message Class	T	ID
Number	☒	Edm.String	0	0	3	☐	☐	☐	☐	Message Number	T	NUMBER
Message	☐	Edm.String	0	0	220	☐	☐	☐	☐	Message Text	T	MESSAGE
MessageV1	☐	Edm.String	0	0	50	☐	☐	☐	☐	Message Variable	T	MESSAGE_V1
MessageV2	☐	Edm.String	0	0	50	☐	☐	☐	☐	Message Variable	T	MESSAGE_V2
MessageV3	☐	Edm.String	0	0	50	☐	☐	☐	☐	Message Variable	T	MESSAGE_V3
MessageV4	☐	Edm.String	0	0	50	☐	☐	☐	☐	Message Variable	T	MESSAGE_V4

10. After defining entity types and services, generate runtime objects using **Service Builder**, this will generate the necessary classes in the backend.

Name	Generated Artifact Type	Program ID	Object Type	Object Name
ZAPI_MANAGE_ASSET_MDL	Registered Model	R3TR	IWMO	ZAPI_MANAGE_ASSET_MDL
ZAPI_MANAGE_ASSET_SRV	Registered Service	R3TR	IWSV	ZAPI_MANAGE_ASSET_SRV
ZCL_ZAPI_MANAGE_ASSET_DPC	Data Provider Base Cla	R3TR	CLAS	ZCL_ZAPI_MANAGE_ASSET_DPC
ZCL_ZAPI_MANAGE_ASSET_DPC_EXT	Data Provider Extensio	R3TR	CLAS	ZCL_ZAPI_MANAGE_ASSET_DPC_EXT
ZCL_ZAPI_MANAGE_ASSET_MPC	Model Provider Base Cl	R3TR	CLAS	ZCL_ZAPI_MANAGE_ASSET_MPC
ZCL_ZAPI_MANAGE_ASSET_MPC_EXT	Model Provider Extensio	R3TR	CLAS	ZCL_ZAPI_MANAGE_ASSET_MPC_EXT

11. Redefine the method “/IWBEP/IF_MGW_APPL_SRV_RUNTIME~CREATE_ENTITY” and add the code within the Method & Endmethod given as below.

```

METHOD /iwbeb/if_mgw_appl_srv_runtime~create_entity.
DATA: BEGIN OF ls_payload.
    INCLUDE TYPE zcl_zapi_manage_asset_mpc=>ts_asset.
DATA : to_return TYPE TABLE OF zcl_zapi_manage_asset_mpc=>ts_return,
END OF ls_payload.
DATA : lv_companycode    TYPE bapi1022_1-comp_code,
      lt_generaldata     TYPE TABLE OF bapi1022_feglg001,
      lt_generaldatax    TYPE TABLE OF bapi1022_feglg001x,
      lt_inventory       TYPE TABLE OF bapi1022_feglg011,
      lt_inventoryx      TYPE TABLE OF bapi1022_feglg011x,
      lt_timedependentdata TYPE TABLE OF bapi1022_feglg003,
      lt_timedependentdatax TYPE TABLE OF bapi1022_feglg003x,
      lt_origin          TYPE TABLE OF bapi1022_feglg009,

```

```

lt_originx      TYPE TABLE OF bapi1022_feglg009x,
lt_return       TYPE TABLE OF bapiret2.

DATA(exception) = NEW /iwbep/cx_mgw_busi_exception( ).

io_data_provider->read_entry_data(
  IMPORTING
    es_data = ls_payload ).

lv_companycode = ls_payload-companycode.
APPEND VALUE #( assetClass = ls_payload-assetClass
  descript  = ls_payload-description
  invent_no = ls_payload-inventoryNo
) TO lt_generaldata.
APPEND VALUE #( assetClass = 'X'
  descript  = 'X'
  invent_no = 'X'
) TO lt_generaldata.
APPEND VALUE #( costCenter = ls_payload-costCenter
  plant      = ls_payload-plant
  location   = ls_payload-location
) TO lt_timedependentdata.
APPEND VALUE #( costCenter = 'X'
  plant      = 'X'
  location   = 'X'
) TO lt_timedependentdata.
APPEND VALUE #( vendor_no = ls_payload-supplier
  vendor      = ls_payload-suppliername
  manufacturer = ls_payload-manufacturer
) TO lt_origin.
APPEND VALUE #( vendor_no = 'X'
  vendor      = 'X'
  manufacturer = 'X'
) TO lt_originx.

CALL FUNCTION 'BAPI_FIXEDASSET_CREATE'
  EXPORTING
    companycode = lv_companycode
    generaldata = lt_generaldata
    generaldatax = lt_generaldatax
    inventory    = lt_inventory
    inventoryx   = lt_inventoryx
    timedependentdata = lt_timedependentdata
    timedependentdatax = lt_timedependentdatax
    origin       = lt_origin
    originx      = lt_originx
  IMPORTING
    return       = lt_return.

IF line_exists( lt_return[ type = 'E' ] ).
  CALL FUNCTION 'BAPI_TRANSACTION_ROLLBACK'.
  LOOP AT lt_return ASSIGNING FIELD-SYMBOL(<fs_return>).
    APPEND VALUE #( type = <fs_return>-type
      id = <fs_return>-id
      number = <fs_return>-number
      message = <fs_return>-message
    ) TO ls_payload-to_return.

  ENDLOOP.

```

```

    RAISE EXCEPTION exception.
ELSE.
    CALL FUNCTION 'BAPI_TRANSACTION_COMMIT'
        EXPORTING
            wait = abap_true.
    LOOP AT lt_return ASSIGNING <fs_return>.
        APPEND VALUE #( type    = <fs_return>-type
                        id      = <fs_return>-id
                        number   = <fs_return>-number
                        message  = <fs_return>-message
                        ) TO ls_payload-to_return.
    ENDLOOP.
    copy_data_to_ref(
        EXPORTING
            is_data = ls_payload
        CHANGING
            cr_data = er_entity
    ).

ENDIF.

ENDMETHOD.

```

12. After implementing the logic, register and activate the service using the **/IWFND/MAINT_SERVICE** transaction and test the service in the SAP Gateway Client (/IWFND/GW_CLIENT).

13. Payload to post the data,

```

{
    "assetClass": "10000",
    "assetClassName": "",
    "companyCode": "4001",
    "companyCodeName": "",
    "description": "Sample test run1",
    "supplier": "10009",
    "costCenter": "SBPA0001",
    "costCenterName": "",
    "initiatorEmail": "",
    "inventoryNo": "",
    "location": "",
    "plant": "",
    "plantName": "",
    "manufacturer": "",
    "requestor": "",
    "supplierName": "",
    "to_return": [
    {
        "Type": "",
        "Id": "",
        "Number": "",
        "Message": "",
        "Message1": "",
        "Message2": "",
        "Message3": "",
        "Message4": ""
    }
    ]
}

```

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