SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

Setup Guide

Real Estate Contract Valuation Posting Approval using SAP Build Process Automation

THE BEST RUN SAP

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Overview

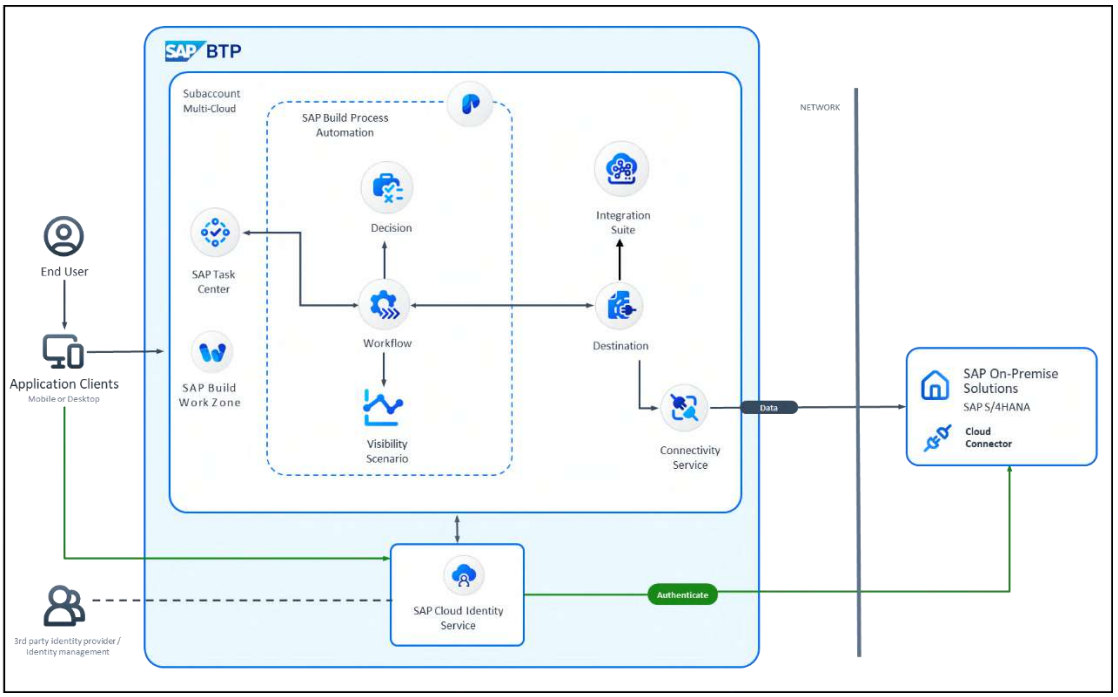
This document provides information about setting up the SAP Business Technology Platform account to consume the workflow content package **Real Estate Contract Valuation Posting Approval.** The main audience of this document are technical IT/system administrators.

This workflow's objective is to have an approval process in place for Right of Use asset values in case of any contract changes. Valuation posting approvals are required in case of contract extensions, contract termination, change in interest value etc.

Features

- Plug and Play with SAP S/4HANA without additional development.
- New Process variants can be configured in a no-code approach.
- Agent/approver determination using Decisions or external service.
- Pre-built integration content to call SAP S/4HANA from SAP Build Process Automation
- Out-of-the-box visibility into key process performance indicators.

Solution Diagram



Required SAP BTP Services

The workflow content package **Real Estate Contract Valuation Posting Approval** is intended to be used for SAP S/4HANA and requires the following services in SAP Business Technology Platform:

- SAP Build Process Automation
- SAP Integration Suite
- SAP Connectivity service
- SAP Business Application Studio
- SAP Application Runtime Service
- SAP Work Zone, standard or advanced
- SAP Cloud Identity Services - Identity Authentication (optional)

Setup and Configuration

The **Real Estate Contract Valuation Posting Approval** content package requires SAP Build Process Automation subscription. Based on which service you plan to use, follow the appropriate section to configure either SAP Build Process Automation.

SAP S/4HANA

Configure APIs in SAP S/4HANA

Following APIs are needed to be configured in SAP S/4HANA to use the content package.

OData Services:
/sap/opu/odata/sap/API_COMPANYCODE_SRV
/sap/opu/odata/sap/API_COSTCENTER_SRV
/sap/opu/odata/sap/RE_CN_VALUATION_ODATA_SRV

Steps to Register OData Services in SAP Gateway

1. Go to t-code "/IWFND/MAINT_SERVICE"
2. Click on "Add Service"
3. Select the required System Alias (Select LOCAL as system alias in case of Embedded Deployment of Gateway)
4. Enter Technical Service Name as "API_ COMPANYCODE_SRV" and click on "Get Services"
5. Select "API_COMPANYCODE_SRV" and click on "Add Selected Services"
6. Enter the required package and click on OK
7. Repeat steps 1-6 for all the OData services mentioned in previous section

List of BAPI/RFC which need to be available in SAP S/4 HANA

ZWF_FM_RECEEP_POST_VLTN – To post real estate contract valuation
BAPI_USER_GET_DETAIL – To get email-id of cost center owner
ZWF_FM_HR_MASTER_GET_APPR_MULT – To get approver details

Additionally following Function Modules need to be available in SAP S/4 HANA

ZWF_FM_GET_ACTIVEWF – To check active workflow
ZWF_FM_CASHFLOW_DOC_APPLI – To get cashflow details

Note: Steps to implement custom ABAP objects are mentioned in the Appendix.

Configure Cloud Connector

For SAP S/4HANA on-premise landscape, configure cloud connector to enable secure tunnel to SAP BTP 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/API_COMPANYCODE_SRV	OData	ABAP System
/sap/opu/odata/sap/API_COSTCENTER_SRV	OData	ABAP System
/sap/opu/odata/sap/RE_CN_VALUATION_ODATA_SRV	OData	ABAP System
ZWF_FM_HR_MASTER_GET_APPR_MULT	RFC	ABAP System
BAPI_USER_GET_DETAIL	RFC	ABAP System
ZWF_FM_RECEEP_POST_VLTN	RFC	ABAP System

SAP Business Technology Platform Cockpit

Configure SAP Build Process Automation

Follow the setup and configuration section of SAP Build Process Automation:

1. Subscribe to SAP Build Process Automation (Standard Plan)
2. Configure Destinations for Live Process Projects
    - Import Package Destination
    - Decisions Destination to support start and step conditions
3. Configure SAP Work Zone to access MyInbox and Start Form

Configure Process Automation Destination

A destination is required in the SAP Business Technology Platform subaccount where SAP Build Process Automation is subscribed.

- Create a destination with the name “sap_process_automation_service” with the following configuration if it doesn’t exist already.

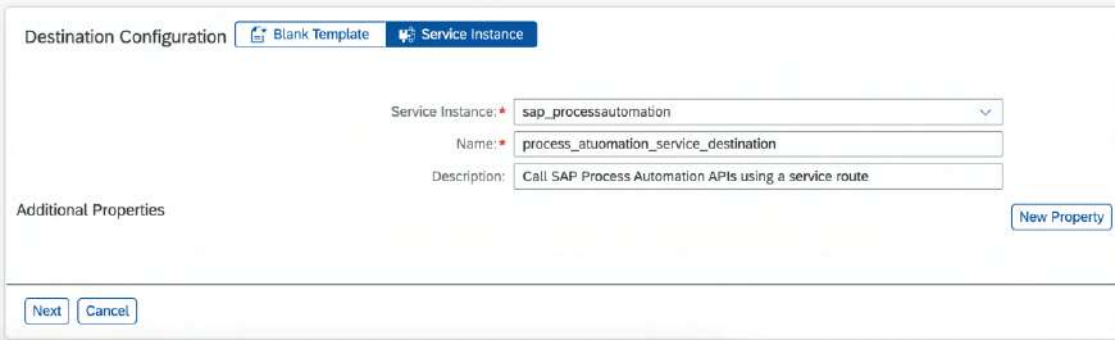
Please refer to create a HTTP destination OAuth 2.0 Authentication (client credentials).

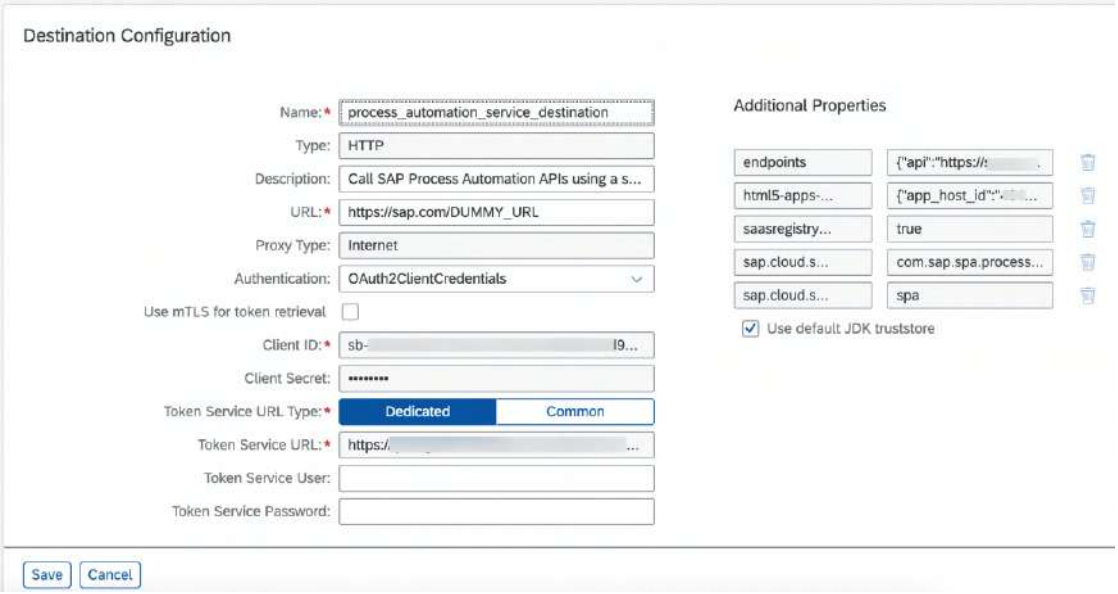
Name	sap_process_automation_service
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	<”endpoints”.”api”>
Client ID	<"uaa":"clientis”>
Client Secret	<"uaa":"clientsecret”>
Token Service URL	<"uaa":"url">/oauth/token

Configure OAuth2ClientCredentials SAP Build Process Automation Destination (Service Instance)

Ignore this step if there is already a destination using SAP Build Process Automation service instance created.

Create new destination to call SAP Build Process Automation APIs using a service route from SAP UI5 component. For more details, follow the help document:





Email Destination

Configure email destination to automatically send email notification to the involved parties. For more information on configuring the destination, see configure SMTP mail destination.

Configure OAuth2UserTokenExchange Destination

Configure a destination (as shown below) with the following parameters:

- Refer help documentation how to get URL, Client ID , Client Secret and Token Service URL. For more information refer to how to create a HTTP destination.

Name	sap_process_automation_workflow_useraction
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2UserTokenExchange
URL	<”endpoints”.”api”>
Client ID	<"uaa":"clientis”>
Client Secret	<"uaa":"clientsecret”>
Token Service URL	<"uaa":"url">/oauth/token
Additional Properties:	Name: bpmprocessvisibility.triggerWorkflow Value: user

Configure SAP Integration Suite Destination

To call an integration flow, a HTTP destination is required in the SAP Business Technology Platform tenant.

- Create a destination called CPI with either Basic **or** OAuth2ClientCredentials.

Destination with OAuth2ClientCredentials Authentication

Name	CPI
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	<runtime.url>
Client Id	<client ID>
Client Secret	<client secret>
Token Service URL	<oauth.url.for.clientCredentials>

Additional Properties to Destination

Additionally, add the following properties in the destination for Integration Suite.

WebIDEEnabled	true
WebIDESystem	CPI
WebIDEUsage	odata_gen

Configure SAP S/4HANA Destination

Configure a S/4 HANA destination to connect with SAP S/4HANA on-premise .

Name	S4HANA
Type	HTTP
Proxy Type	On-Premise
User	<ONPREMISE_ USER>
Password	<ONPREMISE_PASSWORD>
Authentication	BasicAuthentication
URL	<OData base URL of SAP S/4HANA>
Additional Properties	sap-client: <client number>

Configure RFC Destination

Configure a RFC destination to connect with SAP S/4HANA on-premise. Below is a destination configuration for *SAP S/4HANA on-premise*.

Note: This destination is required by Integration Suite (Suite).

Name	<RFC_DESTINATION_NAME>
Type	RFC
Proxy Type	On-premise
User	<ONPREMISE_USER>
Password	<ONPREMISE_PASSWORD>
Repository User	<ONPREMISE_USER>
Repository Password	<ONPREMISE_PASSWORD>

Additional Properties	jco.client.ashost: <host>
Additional Properties	jco.client.client:<client number>
Additional Properties	jco.client.lang: <language>
Additional Properties	jco.client.sysnr:<system number >

Setup Content Package

Import and deploy Integration Suite content

This package utilizes SAP Integration Suite to provide integration between SAP ERP (or SAP S/4HANA) and SAP Build Process Automation. Further details can be found in dedicated integration guide of the integration package "SAP Build Process Automation Integration with SAP S/4HANA for Real Estate Contract Valuation Posting Approval"

Import pre-packaged Integration content in SAP Integration Suite

- Access your SAP Integration Suite tenant management node (https://<integrationtenant> /it spaces).
- View all pre-packaged integration flow under Discover->Integration. (https://<integrationtenant>/itspaces/shell/discover)
- Search content package "SAP Build Process Automation Integration with SAP S/4HANA for Real Estate Contract Valuation Posting Approval"**.**
- Click on the package "SAP Build Process Automation Integration with SAP S/4HANA for Real Estate Contract Valuation Posting Approval**"**.
- Click Copy to import the Integration content package to your workspace.
- Navigate to the *Monitor* view (https://<integrationtenant> /its spaces/shell/monitoring) to setup the security materials required for the package.
- Deploy the following credentials using the Security Material app. Detailed information on the credentials is available on the configuration guide.

In Integration Suite, open Operations view, then click on Security Material to create and deploy security materials.

- **S4HANA** – (User Credentials) To call the OData APIs.
- **WF_CREDENTIAL** – (OAuth2 Client Credentials) To start the approval workflows in SAP Build Process Automation (help documentation to determine the service configuration parameters)

Note:

- The credential names can be different from what is mentioned above. Make sure that you configure the appropriate credential names in the integration flow's OData/HTTP adapter configuration.

- If Approver Determination Strategy is selected as "External Service" in workflow configurations, then a CPI iFlow *Get Approvers for Plan Activity Prices Approval* with the below mentioned endpoint, input and output details will be called to get the required approver details. In case there is a need for implementation of custom CPI iFlow then the same needs to have the below mentioned endpoint, input and output structure.

API Attributes	Values
Path	/http/getApproversrecvpawfm
HTTP Method	POST
Payload sent by workflow (sample data)	{ "d": { "positions": [{ "companyCode": "4001", "positionID": "50000508" }] } }

	}

Response Payload from integration flow	**RESPONSE STATUS, Ex 200 OK**
	{
	"d": {
	"status": "Success",
	"message": "Data fetched successfully",
	"approvers": [
	{
	"userID": "ABC",
	"emailID": "abc@abc.com",
	"name": "ABC ABC",
	"companyCode": "4001",
	"positionID": "50000508"
	}
	]
	}
	}

Payload Type	Application / JSON

Import and deploy SAP UI5 Application content

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

- Download the SAPUI5 application file from the imported store project, it will available under the file section in the package.
- Open Business Application Studio and import the previously downloaded SAPUI5 project.
- Ensure that you have already created the SAP Build Process Automation instance and the same instance details need to be updated in the mta.yaml file available in the SAP UI5 application project.

- Update your process definition id (Package needs to be deployed) in the i18n.properties file (property: DEFINITION_ID) as shown in the following snippets (definition id only needs to be updated in start UI application).
- 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.

- In case of Start UI, after successful deployment of the project, it can be accessed using through SAP standard work zone & user can provide the required journal entry details & submit the form for the journal entry approval & posting.Please refer configuration guide for more details.

Note:

Destination names need to be updated in xs-app.json that was previous configured in “Configure SAP S/4HANA Destination” section.

Import SAP Build Process Automation content

In the SAP Build Process Automation Store, search for live process package Real Estate Contract Valuation Posting Approval and import the same. Please go to Configuration Guide for further process.

Appendix

Creating Function Group

1) ZWF_FG_UTIL_BTPWF

Steps:

1. Go to t-code “SE37”
2. In Menu, select Go to -> Function Groups -> Create Group
3. Enter Function Group name as “ZWF_FG_UTIL_BTPWF” and enter a meaningful Short Text (Select the required package name to save this object)
4. Go to t-code “SE80”
5. Select “Function Group” from dropdown
6. Enter “ZWF_FG_UTIL_BTPWF” as the name of function group and click on Display button
7. Click on Save
8. Right click on the Function Group “ZWF_FG_UTIL_BTPWF“on the left side panel and “Click on Activate” (Click OK button on the pop-up which shows list of inactive objects)

2) ZWF_FG_RECEEP_BTPWF

Steps:

1. Go to t-code “SE37”
2. In Menu, select Goto -> Function Groups -> Create Group
3. Enter Function Group name as “ZWF_FG_RECEEP_BTPWF” and also enter a meaningful Short Text (Select the required package name to save this object)
4. Go to t-code “SE80”
5. Select “Function Group” from dropdown
6. Enter “ZWF_FG_RECEEP_BTPWF as the name of function group and click on Display button
7. Right click on “Includes” folder and select “Create” option
8. Enter “ZWF_FG_RECEEP_BTPWF_FORMS” as the name of Include. (Select the required package and click on ok in the successive dialog boxes)
9. Copy and paste the code for “ZWF_FG_RECEEP_BTPWF_FORMS” **from SAP NOTE 3167808** inside the code editor
10. Click on “Save”

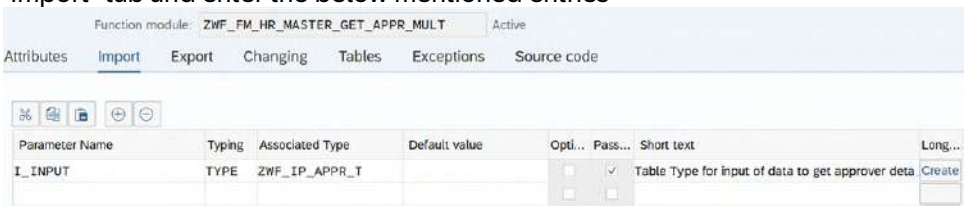
11. On the left side panel, expand “Includes” folder and double click on “LZWF_FG_RECEEP_BTPWFTOP”
12. Go to edit mode and paste the code for “LZWF_FG_RECEEP_BTPWFTOP” **from SAP NOTE 3167808** inside the code editor
13. Click on Save
14. Right click on the Function Group “ZWF_FG_RECEEP_BTPWF “on the left side panel and “Click on Activate” (Click OK button on the pop-up which shows list of inactive objects)

Creating Function Modules

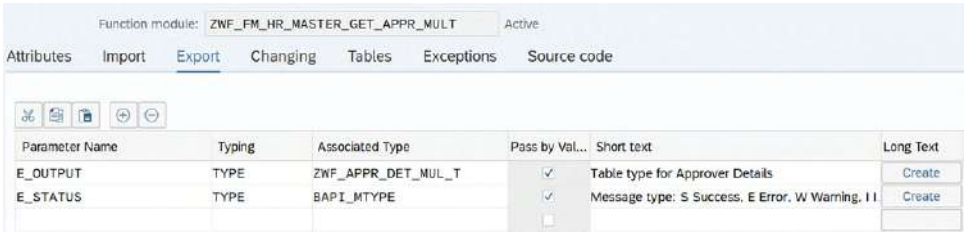
1) ZWF_FM_HR_MASTER_GET_APPR_MULT

Steps:

1. Go to t-code “SE37”
2. Click on “Create” button
3. Enter “ZWF_FM_HR_MASTER_GET_APPR_MULT” as name of Function Module
4. Enter “ZWF_FG_UTIL_BTPWF” as Function Group
5. Enter a meaningful short text
6. Click on “Save” (Click on OK in successive pop-ups)
7. Go to “Import” tab and enter the below mentioned entries

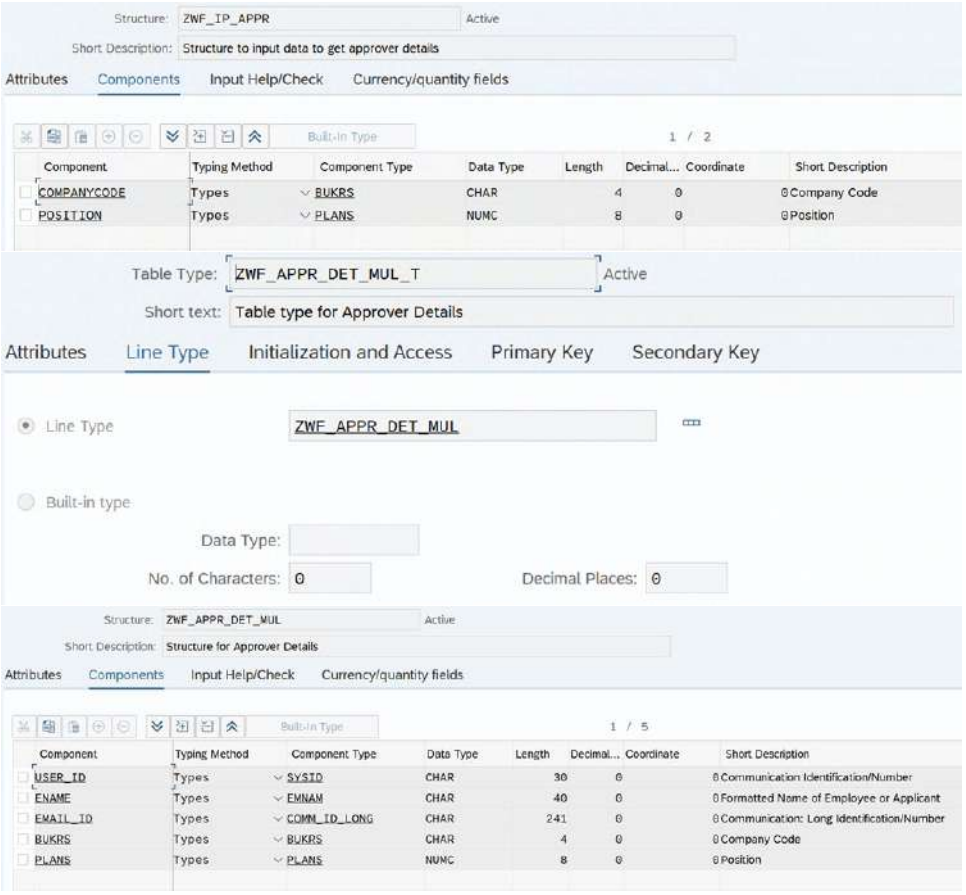


8. Go to “Export” tab and create the below entries



9. Go to “Source Code” tab and paste the attached code for “ZWF_FM_HR_MASTER_GET_APPR_MULT” **from SAP NOTE 3167808**
10. Go to “Attributes” tab and select radio button for “Remote-Enabled”
11. Click on “Save”
12. Click on “Activate” (Click OK button on the pop-up which shows list of inactive objects)

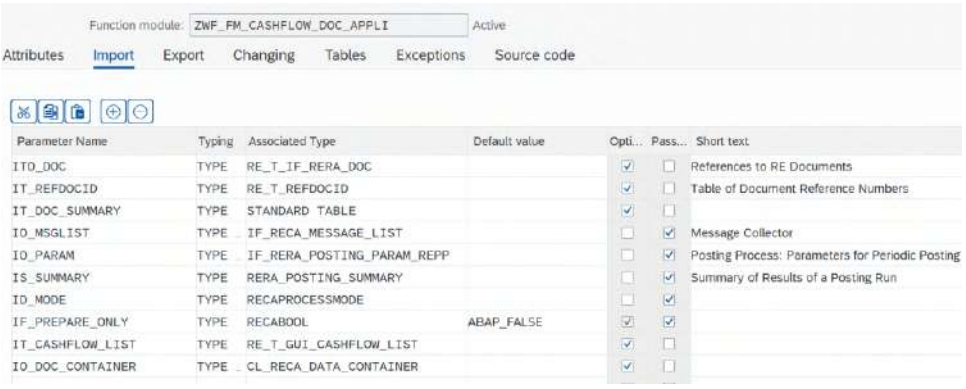
Note: The details of required “Associated Type” (Table Type) used in the Tables tab are mentioned below:



2) ZWF_FM_CASHFLOW_DOC_APPLI

Steps:

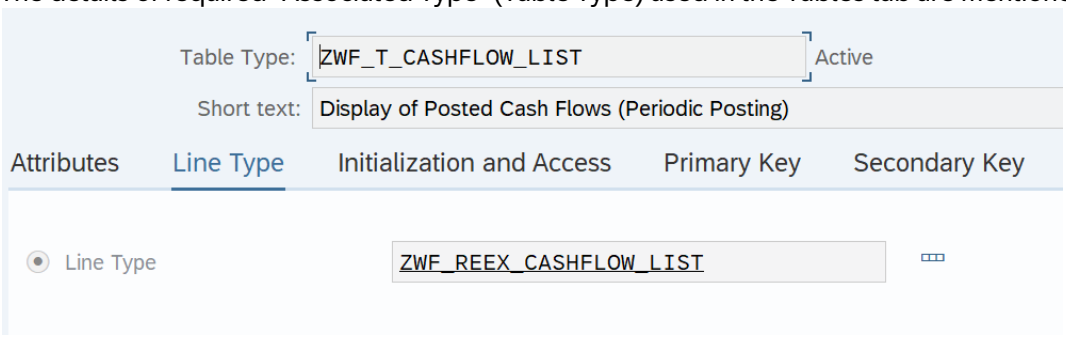
1. Go to t-code “SE37”
2. Click on “Create” button
3. Enter “ZWF_FM_CASHFLOW_DOC_APPLI” as name of Function Module
4. Enter “ZWF_FG_RECEEP_BTPWF” as Function Group
5. Enter a meaningful short text
6. Click on “Save” (Click on OK in successive pop-ups)
7. Go to “Import” tab and enter the below mentioned entries

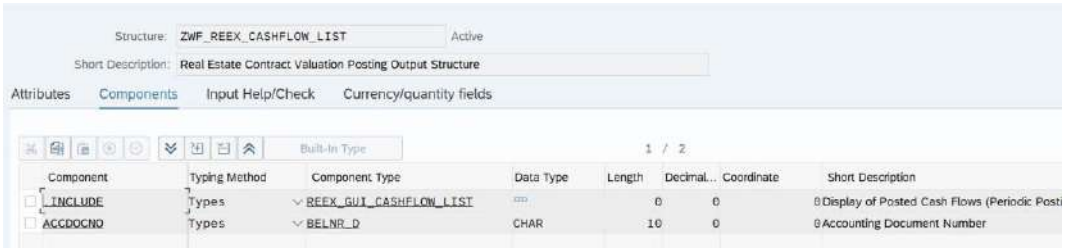


8. Go to “Export” tab and create the below entries

9. Go to “Source Code” tab and paste the attached code for “ZWF_FM_CASHFLOW_DOC_APPLI” **from SAP NOTE 3167808**
10. Click on “Save”
11. Click on “Activate” (Click OK button on the pop-up which shows list of inactive objects)

Note: The details of required “Associated Type” (Table Type) used in the Tables tab are mentioned below:

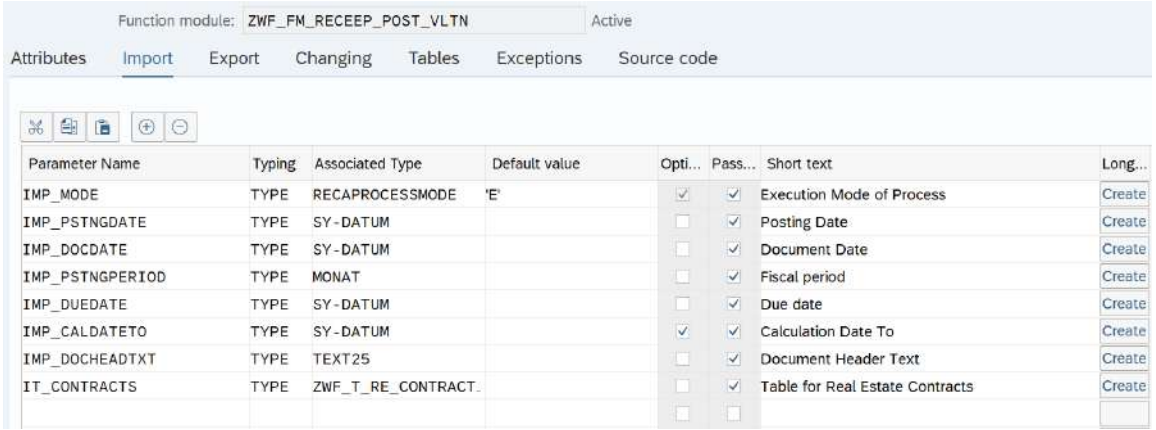




3) ZWF_FM_RECEEP_POST_VLTN

Steps:

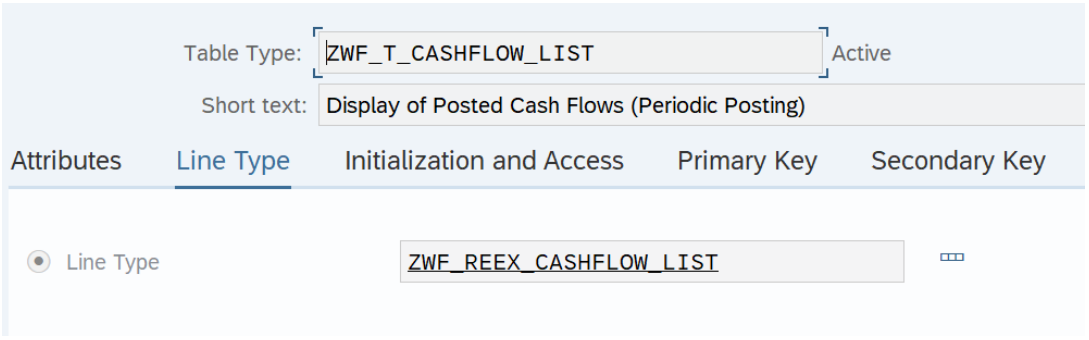
1. Go to t-code “SE37”
2. Click on “Create” button
3. Enter “ZWF_FM_RECEEP_POST_VLTN” as name of Function Module
4. Enter “ZWF_FG_RECEEP_BTPWF” as Function Group
5. Enter a meaningful short text
6. Click on “Save” (Click on OK in successive pop-ups)
7. Go to “Import” tab and enter the below mentioned entries

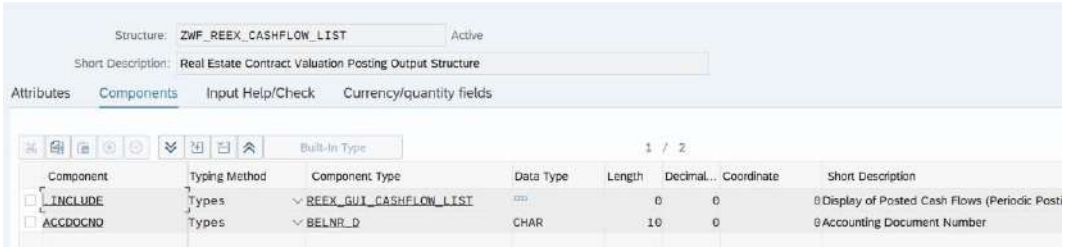


8. Go to “Export” tab and create the below entries

9. Go to “Source Code” tab and paste the attached code for “ZWF_FM_RECEEP_POST_VLTN” **from SAP NOTE 3167808**
10. Go to “Attributes” tab and select radio button for “Remote-Enabled”
11. Click on “Save”
12. Click on “Activate” (Click OK button on the pop-up which shows list of inactive objects)

Note: The details of required “Associated Type” (Table Type) used in the Tables tab are mentioned below:



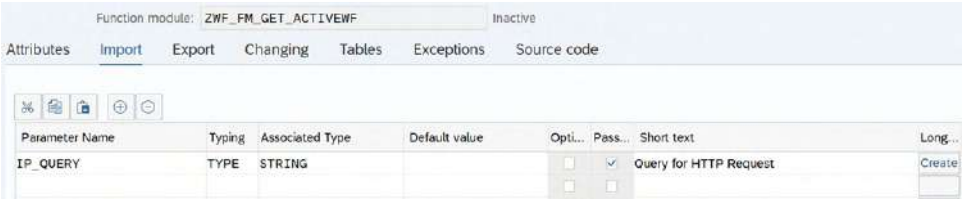


4) ZWF_FM_GET_ACTIVEWF

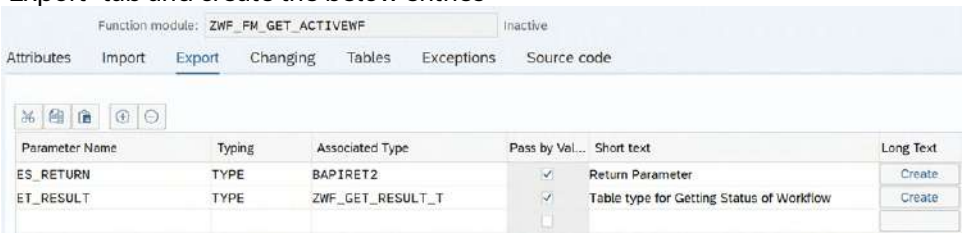
Steps:

1. Go to t-code “SE37”
2. Click on “Create” button
3. Enter “ZWF_FM_GET_ACTIVEWF” as name of Function Module
4. Enter “ZWF_FG_UTIL_BTPWF” as Function Group
5. Enter a meaningful short text
6. Click on “Save” (Click on OK in successive pop-ups)

7. Go to “Import” tab and enter the below mentioned entries

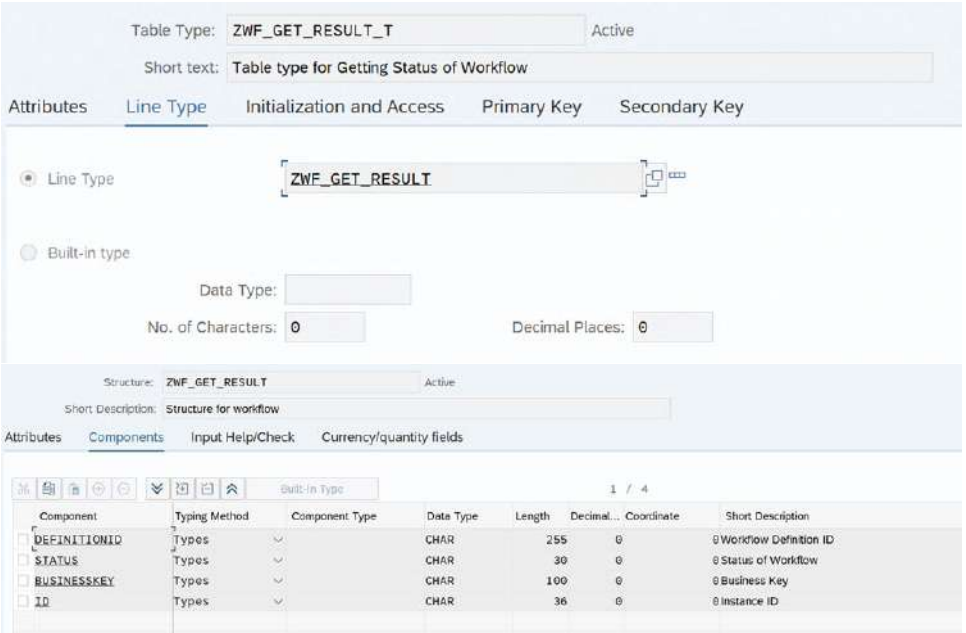


8. Go to “Export” tab and create the below entries



9. Go to “Source Code” tab and paste the attached code for “ZWF_FM_GET_ACTIVEWF” **from SAP NOTE 3167808**
10. Click on “Save”
11. Click on “Activate” (Click OK button on the pop-up which shows list of inactive objects)

Note: The details of required “Associated Type” (Table Type) used in the Tables tab are mentioned below:



Implementing BADI

Steps:

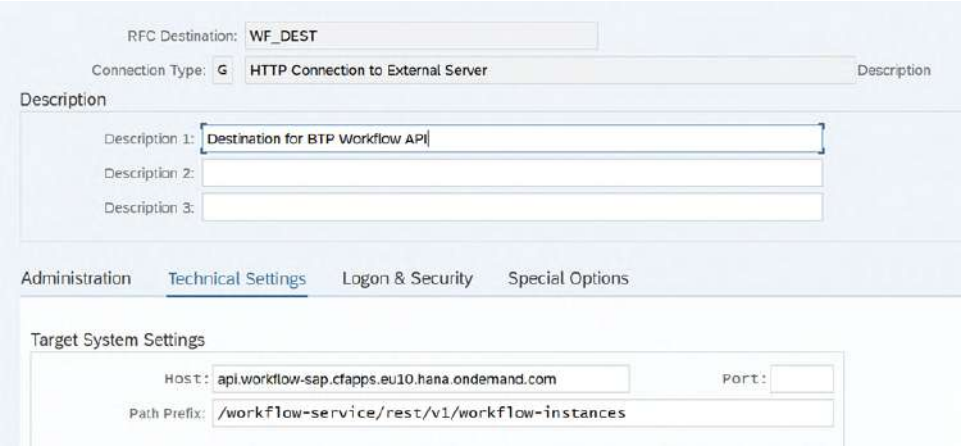
1. Go to t-code “SE18”
2. Enter “BADI_RECN_CONTRACT” as the BADI Name
3. Click on “Display” button
4. In the menu, click on “Implementation” and subsequently on “Create”
5. Upon being prompted to enter the Enhancement Implementation Name, enter

"ZWF_EI_RECONTRACTVAL"

6. Click on the "Okay" button in the pop-up or just press "Enter"
7. Enter a meaningful description
8. Upon being prompted to enter the BADI Implementation Name, enter "ZWF_BI_RECONTRACTVAL" and meaningful description
9. Upon being prompted to enter the Implementation Class Name, enter "ZWF_CL_RECONTRACTVAL"
10. Select "Empty class" to continue
11. Double click on the name of the implementing class and alter the method "IF_EX_RECN_CONTRACT~CHECK_ALL" by pasting the code from **"IF_EX_RECN_CONTRACT~CHECK_ALL" from SAP NOTE 3167808** in the method
12. Save and activate the newly created object like Class, Method, BADI implementation, Enhancement implementation

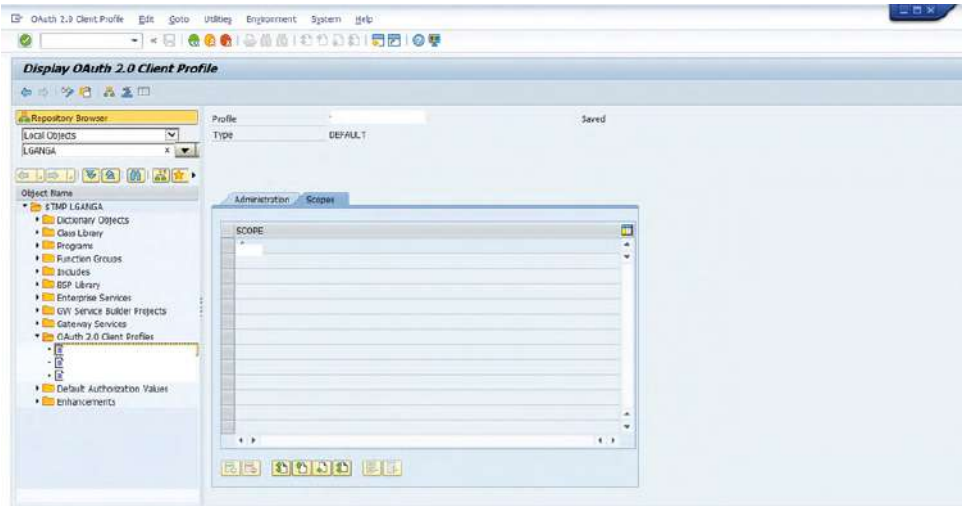
Configuration of RFC Connections:

1. Go T-Code SM59.
2. Create New RFC destination as **"WF_DEST"** and Connection Type as **"G"**
3. Under Technical Settings enter the host name of the BTP Workflow API and Path Prefix as **"/workflow-service/rest/v1/workflow-instances"**



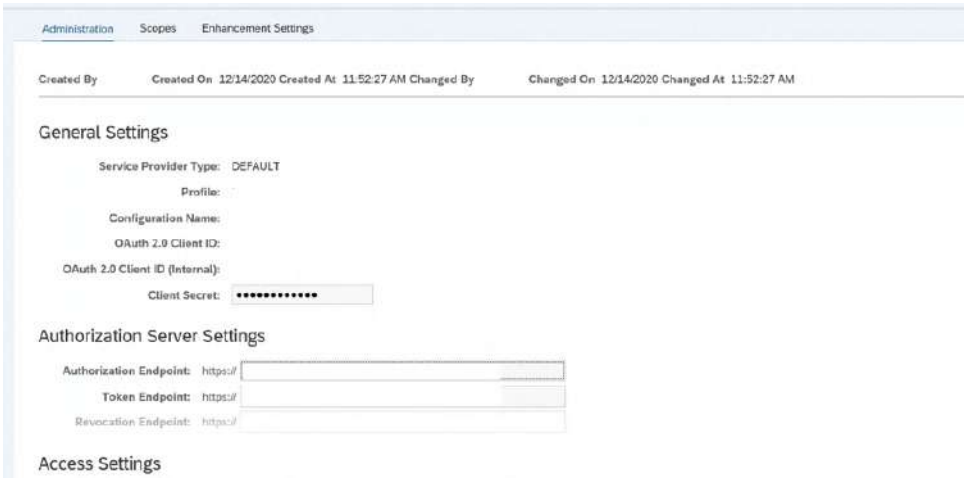
Creating OAuth2.0 client profile:

1. Start the object navigator (transaction SE80).
2. Choose Development Object in the dropdown list.
3. To create a development object in the SAP namespace, choose Create OAuth 2.0 Client Profile in the context menu of the object name.
4. Enter the object name in the Client Profile field of the popup as 'ZOAUTH_CLIENT_PROFILE'.
5. choose the type of service provider as 'DEFAULT'
6. Also provide the scope as configured in the service provider configuration and activate the client profile.



Configure the OAuth2.0 Client

1. Go to transaction OA2C_CONFIG to configure the OAuth2.0
2. Click on 'Create'.
3. Select the OAuth2.0 Client Profile as 'ZOAUTH_CLIENT_PROFILE' and provide the Client ID.
4. Maintain the Client Secrete
5. Also provide the Token Endpoint.
6. Enter the Client Authentication as 'Basic', Resource Access Authentication as 'Header Field' and select grant type as 'Client Credentials'.
7. Click on save. The OAuth2.0 configuration name is 'ZOAUTH_CLIENT_PROFILE'



Now the OAuth2.0 configuration is completed.