SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

Setup Guide

Manage Emissions Data using SAP Build Process Automation

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Overview

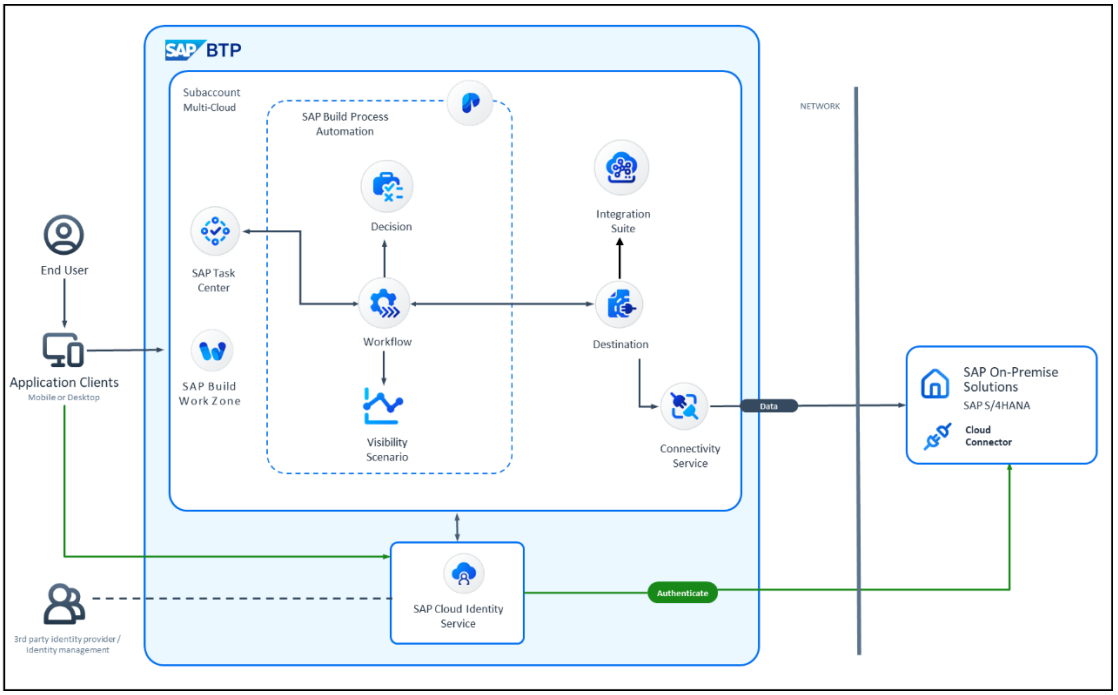
This document provides information about setup steps to consume the package **Manage Emissions Data**. The main audience of this document are Business Process Experts and Process Operators.

The SAP Emission Management process is used to collect and monitor the emission data for different frequencies – hourly, daily, monthly, half-yearly, yearly. This process is integrated with the Plant Maintenance and Incident Management process.

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 via SAP Build Process Automation.
- Out-of-the-box visibility into key process performance indicators.

Solution Diagram



Required SAP Business Technology Platform Services

The workflow content package **Manage Emissions Data** is intended to be used for SAP S/4HANA and requires the following services in SAP Business Technology Platform (BTP):

- SAP Build Process Automation to orchestrate the process.
- 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

Manage Emissions Data 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/ EM_MONITORDATA_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 "EM_MONITORDATA_SRV" and click on "Get Services"
5. Select "EM_MONITORDATA_SRV" and click on "Add Selected Services"
6. Enter the required package and click on OK

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

1. BAPI_USER_GET_DETAIL - Read User Details
2. ZWF_RFC_EMISSIONS_GET_APPR – Fetch Approver Details

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

Configure Cloud Connector

For SAP S/4HANA on-premises landscape, configure cloud connector to enable secure tunnel to SAP BTP tenant. Refer the help documentation to configure Cloud Connector.

- Below is the list of services/resources that are needed to be exposed from SAP S/4HANA on-premises using Cloud Connector

Resources	Protocol	Backend-Type
/sap/opu/odata/sap/ EM_MONITORDATA_SRV	OData	ABAP System
ZWF_RFC_EMISSIONS_GET_APPR	RFC	ABAP System
BAPI_USER_GET_DETAIL	RFC	ABAP System

SAP Business Technology Platform Cockpit

Configure SAP Build Process Automation Destination

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

1. Subscribe to SAP Build Process Automation
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

Setup SAP Build 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 does not exist already.

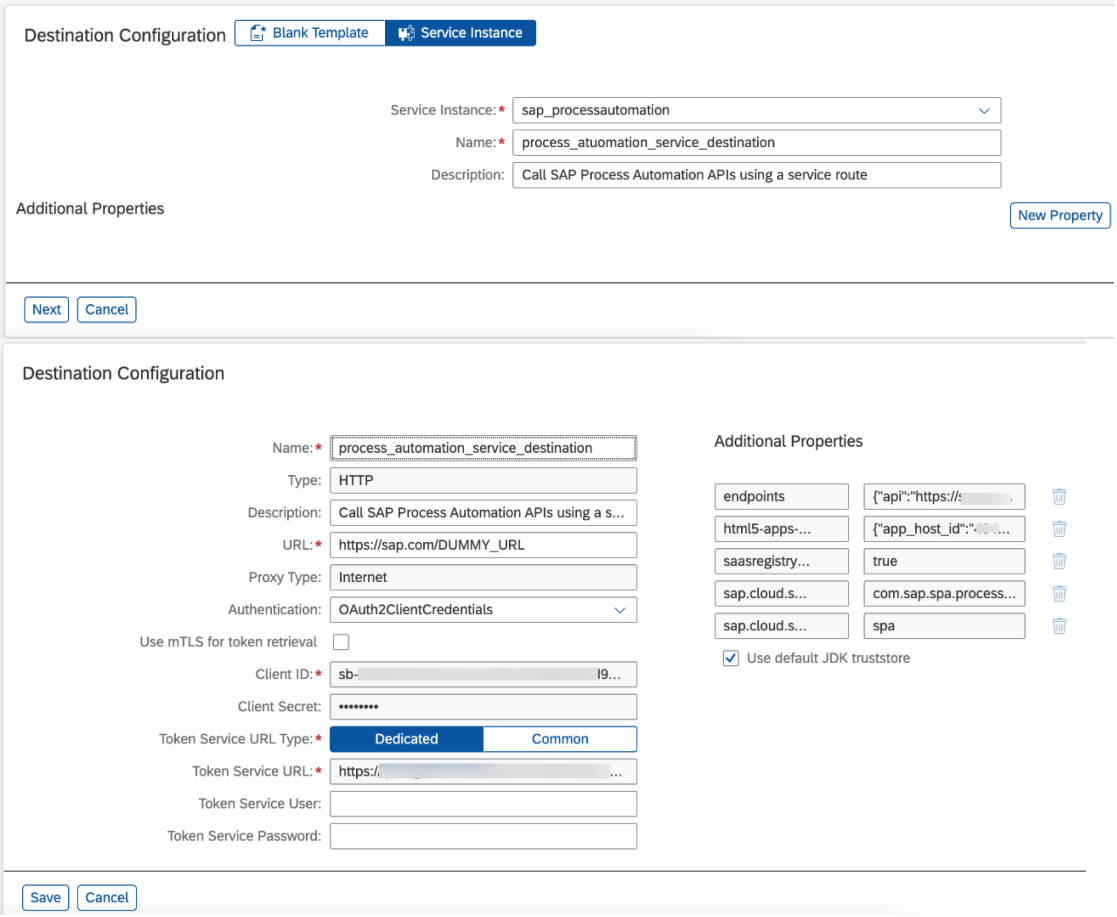
Please refer to create a HTTP destination OAuth 2.0 Authentication (client credentials).

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 (as shown below) which will be used to call SAP Build Process Automation APIs using a service route from SAPUI5 component. For more details, follow the SAP help document on SAP Business Technology Platform Connectivity.



Email Destination

Email destination will be needed to send email notifications during workflow execution to approve or requestor, based on the workflow definition. Follow the documentation to setup email destination: configure email destination.

Configure Integration Suite Destination

To call an integration flow, a destination is required in the SAP Business Technology Platform tenant where the SAP Build process Automation is subscribed.

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

Destination with Basic Authentication

Name	CPI
Type	HTTP
Proxy Type	Internet
User	<USER>
Password	< PASSWORD>
Authentication	BasicAuthentication
URL	< runtime.url>>

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 an S/4 HANA destination (as shown below) to connect with SAP S/4HANA on-premise.

Note: This destination is required by Integration Suite and Start UI.

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 the 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 Cloud Platform Integration.

Name	<RFC_DESTINATION_NAME>
Type	RFC
Proxy Type	OnPremise
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 >

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**

Setup Content Package

Import and deploy Integration Suite content

This workflow content requires the Integration Suite to process the – emission data in SAP S/4HANA. The integration content package SAP Build Process Automation Integration with SAP S/4HANA for Manage Emissions Data is available in SAP API Business hub to integrate SAP Build Process Automation with SAP S/4HANA. Integration models use RFC and OData to integrate with SAP S/4HANA. The following integration models are available in this package.

1. Get Approvers for Emission Data
2. Trigger Workflow for Emission Data
3. Update Emission Data Status

Further details can be found in dedicated integration guide of the integration package "SAP Build Process Automation Integration with SAP S/4HANA for Manage Emissions Data" that is accessible in this link.

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 Manage Emissions Data**".
- Click on the package.
- 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.
- 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.

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.



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.

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 Manage Emissions Data and import the same. Please go to Configuration Guide for further process.

Appendix

Perform the below mentioned steps for implementation of custom ABAP objects

Creating Function Group

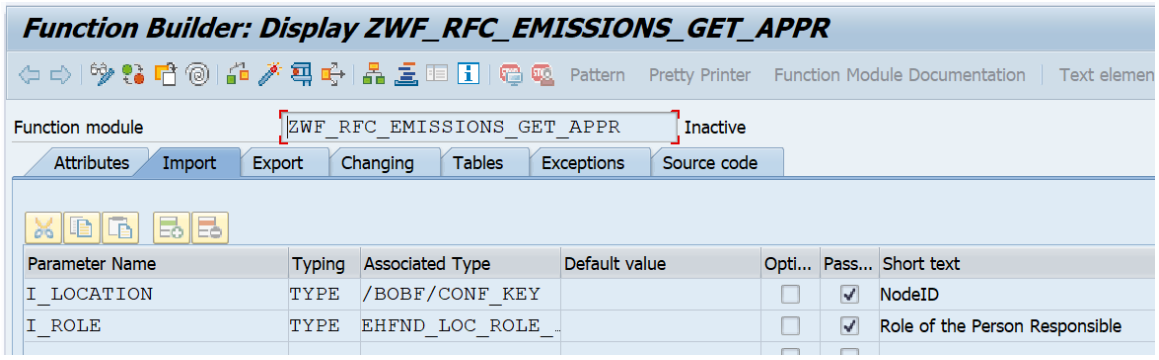
Steps:

1. Go to t-code “SE37”
2. In Menu, select Goto -> Function Groups -> Create Group
3. Enter Function Group name as “ZWF_FG_EMISSION” 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_EMISSION” as the name of function group and click on Display button
7. Right click on the Function Group “ZWF_FG_ EMISSION “on the left side panel and “Click on “Activate” (Click OK button on the pop-up which shows list of inactive objects)

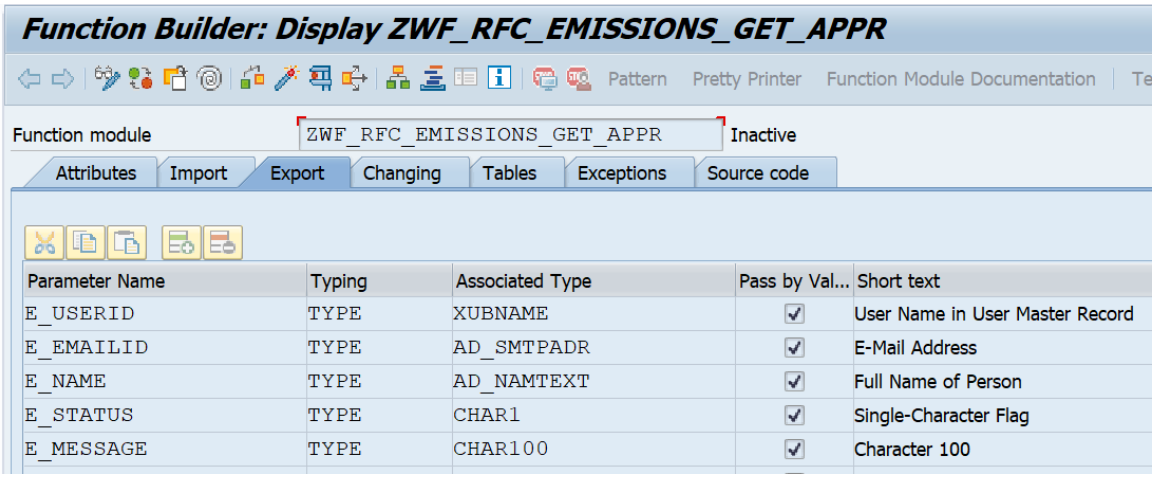
Creating Function Module

Steps:

1. Go to t-code “SE37”
2. Click on “Create” button
3. Enter “ZWF_RFC_EMISSIONS_GET_APPR” as name of Function Module
4. Enter “ZWF_FG_EMISSION” 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_ EMISSION” from SAP Note 3136166
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)