

SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

# Setup Guide

## Manage Emissions Data using SAP Workflow Management or SAP Build Process Automation

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# Overview

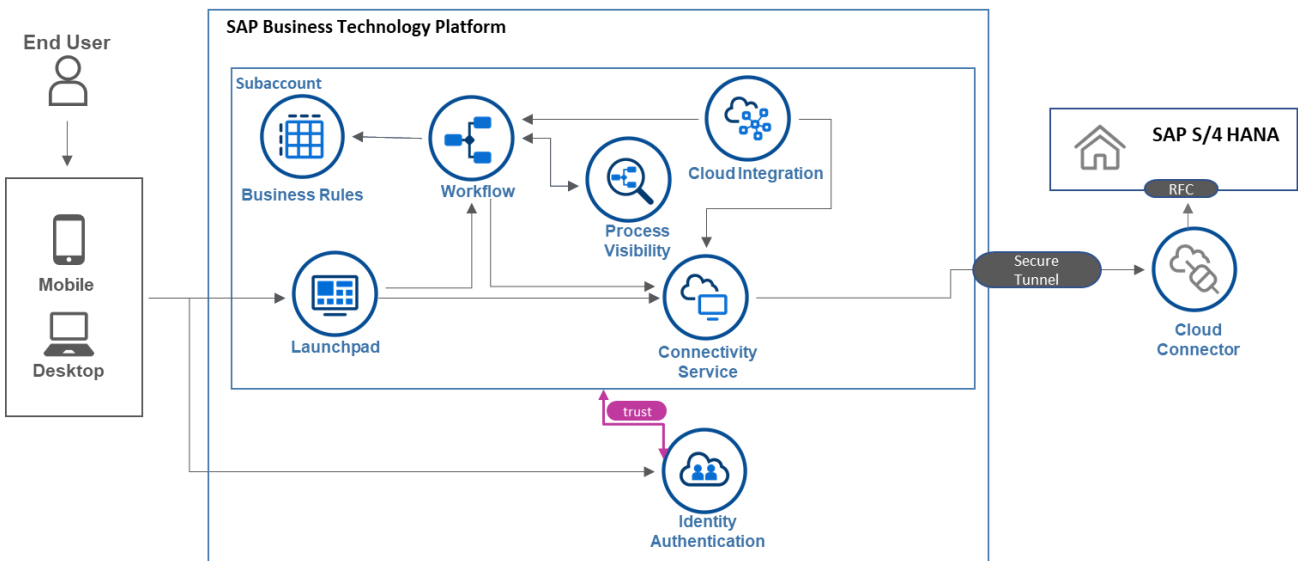
This document provides information about setup steps to consume the package **Manage Emissions Data**. The main audience of this document are Business Process Experts and Process Operators.

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 Business Rules or external service.
- Pre-built integration content to call SAP S/4HANA from SAP Workflow Management or 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 BTP:

- SAP Build Process Automation or SAP Workflow Management to orchestrate the process.
- SAP Integration Suite for data activities with Emission Management information.
- SAP Connectivity service (cloud connector) to establish access to SAP S/4HANA.
- SAP Launchpad service to access the apps that are involved in the process.
- SAP Business Application Studio to modify/deploy the SAPUI5 applications.
- SAP BTP, Cloud Foundry runtime.
- SAP Cloud Identity Services (Optional)

# Setup and Configuration

**Manage Emissions Data** content package requires SAP Build Process Automation or SAP Workflow Management subscription or a CPEA contract. Based on which service you plan to use, follow the appropriate section to configure either SAP Build Process Automation or SAP Workflow Management.

## 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](#)
  - a. Import Package Destination
  - b. Business Rules Destination to support start and step conditions
3. [Optional] [Configure SAP Launchpad Service for SAP Build Process Automation](#)

### Configure Process Automation Destination

A HTTP destination is required in the BTP subaccount where SAP Build Process Automation is subscribed. Create a destination with name "sap\_process\_automation\_service" with the following configuration if it doesn't exist already. Please refer how to [create a HTTP destination](#) OAuth 2.0 Authentication (client credentials).

Name	sap_process_automation_service
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentias
URL	<"endpoints"."api">
Client ID	<"uaa":"clientis">
Client Secret	<"uaa":"clientsecret">
Token Service URL	<"uaa":"url"/>/oauth/token

Note: While creating the service instance for SAP Build Process Automation service, make sure that at least the required scopes are assigned (help documentation to enable technical authentication to [access the SAP Build Process Automation APIs](#)). If the scopes are not assigned, you can also [update the service instance](#) with the required scopes.

### Configure SMTP Mail 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 OAuth2ClientCredentias 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:

<https://help.sap.com/viewer/cca91383641e40ffbe03bdc78f00f681/Cloud/en-US/685f383cebb54c009b2fac633b32c90f.html>.

## Configure OAuth2UserTokenExchange Destination

Configure a destination with the following parameters:

Name	sap_process_automation_workflow_useraction
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2UserTokenExchange
URL	<"endpoints"."api">
Client ID	<"uaa"."clientid">
Client Secret	<"uaa"."clientsecret">
Token Service URL	<"uaa"."url"/>/oauth/token

Additional Properties:	Name: bpmprocessvisibility.triggerWorkflow Value: user
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Please 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](#).

## Configure SAP Workflow Management

**Manage Emissions Data** content package requires SAP Workflow Management subscription or a CPEA contract. Follow the setup and configuration section of SAP Workflow Management.

<https://help.sap.com/viewer/6f55baaf330443bd8132d071581bbae6/Cloud/en-US/d7910e2bf7f64afc9d0eb21b0cc9e84d.html>

Note: While creating the service instance for Workflow service, make sure that at least the following scopes are assigned (help documentation to [enable technical authentication](#) to access the workflow APIs). If the scopes are not assigned, you can also [update the service instance](#) with the following scopes.

- WORKFLOW\_INSTANCE\_GET
- WORKFLOW\_INSTANCE\_START
- WORKFLOW\_INSTANCE\_CANCEL

### Configure Workflow Email Destination

Configure workflow email destination to automatically send email notification to the involved parties. For more information on configuring the destination, see [configure workflow email destination](#).

### Configure OAuth2ClientCredentials Workflow Destination

A HTTP destination is required in the BTP subaccount where SAP Workflow Management is subscribed. Create a destination with name "Workflow" with the following configuration if it doesn't exist already. Please refer how to [create a HTTP destination](#) OAuth 2.0 Authentication (client credentials).

Name	Workflow
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	<rest_api_url>
Client ID	<client ID>
Client Secret	<client secret>
Token Service URL	<uaa.url>/oauth/token

Note: While creating the service instance for Workflow service, make sure that at least the following scopes are assigned (help documentation to [enable technical authentication](#) to

access the workflow APIs). If the scopes are not assigned, you can also [update the service instance](#) with the following scopes.

- WORKFLOW\_INSTANCE\_START
- WORKFLOW\_INSTANCE\_UPDATE\_CONTEXT
- WORKFLOW\_INSTANCE\_GET
- MESSAGE\_SEND

Please 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](#) and [how to use Workflow APIs](#).

### Configure OAuth2ClientCredentials Business Rules Destination

A HTTP destination is required in the Cloud Foundry account where SAP Workflow Management is subscribed. Create a destination with name "BUSINESS\_RULES" with the following configuration if it doesn't exist already. Please refer how to [create a HTTP destination](#) and [how to access business rules APIs](#) using OAuth 2.0 Authentication (client credentials)

Name	BUSINESS_RULES
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	<rule_runtime_url>/rules-service
Client ID	<client ID>
Client Secret	<client secret>
Token Service URL	<uaa.url>/oauth/token

### Configure Destination to Enable Start & Step Conditions

To enable the usage of start conditions and step conditions on a process variant, create a destination for business rules with the configuration as mentioned in the following help document:

[https://help.sap.com/viewer/6f55baaf330443bd8132d071581bbae6/Cloud/en-US/543b5dbd77d940b4b1f972298b559911.html?q=WM\\_BUSINESSRULES](https://help.sap.com/viewer/6f55baaf330443bd8132d071581bbae6/Cloud/en-US/543b5dbd77d940b4b1f972298b559911.html?q=WM_BUSINESSRULES)

### Configure OAuth2 Client Credentials Workflow Destination (Service Instance)

Similarly, create new Destination to call Workflow Service APIs using a Service route from SAP UI5 Component. For more details, follow the official help document:

<https://help.sap.com/viewer/cca91383641e40ffbe03bdc78f00f681/Cloud/en-US/685f383cebb54c009b2fac633b32c90f.html>



## Configure Cloud Integration Destination

To call an integration flow, a HTTP destination is required in the SAP BTP tenant where the SAP Workflow Management is subscribed. Create a destination called 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 cloud integration.

WebIDEEEnabled	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 .

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

Name	S4HANA
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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 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

BAPI\_USER\_GET\_DETAIL - Read User Details

ZWF RFC\_EMISSIONS\_GET\_APPR – Fetch Approver Details

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

## 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 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 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/EM_MONITORDATA_SRV	OData	ABAP System
ZWF_RFC_EMISSIONS_GET_APPR	RFC	ABAP System
BAPI_USER_GET_DETAIL	RFC	ABAP System

## Import, configure and deploy cloud integration content

This package utilizes Cloud Integration capability within SAP Integration Suite to provide integration between SAP ERP (or SAP S/4HANA) and SAP Build Process Automation or SAP Workflow Management. 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".

## 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 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\_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

**Function Builder: Display ZWF RFC\_EMISSIONS\_GET\_APPR**

Function module: ZWF RFC\_EMISSIONS\_GET\_APPR Inactive

Attributes Import Export Changing Tables Exceptions Source code

Parameter Name	Typing	Associated Type	Default value	Opti...	Pass...	Short text
I_LOCATION	TYPE	/BOBF/CONF_KEY		<input type="checkbox"/>	<input checked="" type="checkbox"/>	NodeID
I_ROLE	TYPE	EHFND_LOC_ROLE_		<input type="checkbox"/>	<input checked="" type="checkbox"/>	Role of the Person Responsible

8. Go to "Export" tab and create the below entries

**Function Builder: Display ZWF RFC\_EMISSIONS\_GET\_APPR**

Function module: ZWF RFC\_EMISSIONS\_GET\_APPR Inactive

Attributes Import Export Changing Tables Exceptions Source code

Parameter Name	Typing	Associated Type	Pass by Val...	Short text
E_USERID	TYPE	XUBNAME	<input checked="" type="checkbox"/>	User Name in User Master Record
E_EMAILID	TYPE	AD_SMTPADR	<input checked="" type="checkbox"/>	E-Mail Address
E_NAME	TYPE	AD_NAMTEXT	<input checked="" type="checkbox"/>	Full Name of Person
E_STATUS	TYPE	CHAR1	<input checked="" type="checkbox"/>	Single-Character Flag
E_MESSAGE	TYPE	CHAR100	<input checked="" type="checkbox"/>	Character 100

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)

