

SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

Setup Guide

SAP S/4HANA Enterprise Portfolio and Project Management -
Project Approval and Release with SAP Workflow
Management or SAP Build Process Automation

Table of Contents

Table of Contents	2
Overview	3
Required SAP BTP Services	4
Setup and Configuration	5
Configure SAP Build Process Automation	5
Configure Process Automation Destination	5
Configure OAuth2ClientCredentials SAP Build Process Automation Destination (Service Instance)	5
Configure SAP Workflow Management	6
Configure Workflow Email Destination	7
Configure Workflow Destination	7
Configure Business Rules Destination	7
Configure OAuth2 Client Credentials Workflow Destination (Service Instance)	7
Configure Cloud Integration Destination	8
Configure SAP S/4HANA Destination	9
Configure Cloud Connector	9
Import, Configure and deploy Integration Content	10
Set up and configure sub-system to start workflow	10
Sub-system configuration	10
Destination configuration	11
Set up custom Function Module	12
Customizing of SAP Project System (PS) backend	12

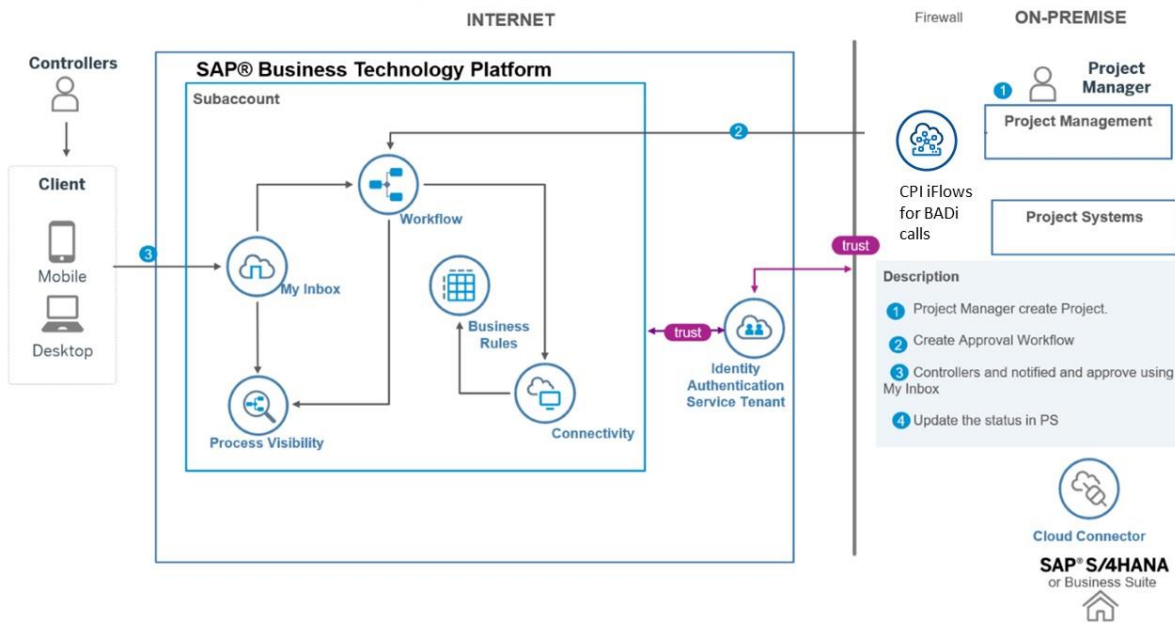
Overview

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

The scenario enabling communication between project managers (using SAP S/4HANA Enterprise Portfolio and Project Management) and controllers (using SAP Controlling and Project System) allowing review and confirmation of project creation. A project manager creates a project in SAP S/4HANA Enterprise Portfolio and Project Management with appropriate structures and triggers transfer to SAP Project System by changing status “flag for transfer”. The project needs to be reviewed in SAP Project System, approved by the controllers and other required approvers and release in the SAP Project System.

- Configurable project controller / approver determination
- Approval for creation of projects by approvers using My Inbox
- Gain visibility on project creation flow using SAP Build Process Automation or SAP Workflow Management’s Visibility capability.

SAP S/4HANA PPM – Project Approval



Required SAP BTP Services

The workflow content package **Project Approval and Release** is intended to be used for Project application in S/4HANA and requires the following services in SAP Business Technology Platform (BTP).

- SAP Build Process Automation or SAP Workflow Management to orchestrate the process.
- SAP Integration Suite to call approval workflows, get project data and release projects.
- SAP Connectivity service (cloud connector) to establish access to SAP S/4HANA on-premise.
- SAP Cloud Portal service or SAP Launchpad service to access the apps that are involved in the process.
- SAP Cloud Identity Services - Identity Authentication (optional).
- SAP BTP, Cloud Foundry runtime.

Setup and Configuration

The **Project Approval and Release** 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 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>.

Destination Configuration Blank Template Service Instance

Service Instance: * sap_processautomation

Name: * process_atuomation_service_destination

Description: Call SAP Process Automation APIs using a service route

Additional Properties New Property

Next Cancel

Destination Configuration

Name: * process_automation_service_destination

Type: HTTP

Description: Call SAP Process Automation APIs using a s...

URL: * https://sap.com/DUMMY_URL

Proxy Type: Internet

Authentication: OAuth2ClientCredentials

Use mTLS for token retrieval

Client ID: * sb- [redacted] I9...

Client Secret: [redacted]

Token Service URL Type: * Dedicated Common

Token Service URL: * https:// [redacted] ...

Token Service User: [redacted]

Token Service Password: [redacted]

Additional Properties

endpoints	{"api":"https://t...	
html5-apps-...	{"app_host_id":"[redacted]..."}	
saasregistry...	true	
sap.cloud.s...	com.sap.spa.process...	
sap.cloud.s...	spa	

Use default JDK truststore

Save Cancel

Configure SAP Workflow Management

Project Approval 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_START

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 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). Please refer to following documentation to find out how to obtain OAuth credentials: [Determine Service Configuration Parameters - SAP Help Portal](#).

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

Configure 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). Please refer to following documentation to find out how to obtain OAuth credentials: [Determine Service Configuration Parameters - SAP Help Portal](#).

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 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 Build Process Automation or SAP Workflow Management is subscribed. Create a destination called CPI with either Basic Authentication or OAuth2ClientCredentials. Please refer to following documentation to find out how to obtain OAuth credentials for connecting to CPI: [SAP Cloud Integration – Configuring Inbound Communication](#).

Destination with Basic Authentication

Name	CPI
Type	HTTP
Proxy Type	Internet
Authentication	Basic Authentication
URL	<runtime.url>
Username	<user>
Password	<password>

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 HTTP destination to connect with SAP S/4HANA on-premise, refer to documentation [here](#) for the same. The below is a destination configuration for for SAP S/4HANA On-premise.

Name	S4HANA
Type	HTTP
Proxy Type	On premise
User	<COMMUNICATION_USER>
Password	<COMMUNICATION_PASSWORD>
Authentication	BasicAuthentication
URL	<Base URL of SAP S/4HANA>
Additional Properties	sap-client: <client number>

Make sure to assign a role to the communication user that is then added to the created SAP Portfolio and Project Management Project with READ authorization otherwise reading the data will fail.

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](#).

Import, Configure and deploy 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 Project Creation Approval and Release**”.

Set up and configure sub-system to start workflow

The custom sub-system must be implemented in SAP S/4HANA Enterprise Portfolio and Project Management to trigger the cloud workflow on a project create or change event. The sub-system reacts to the event, collects the necessary data, and transfers it as payload to the CPI endpoint. After transformation to the correct format, the CPI flow triggers the workflow for the project.

Sub-system configuration

General set up of sub-system can be found [here](#).

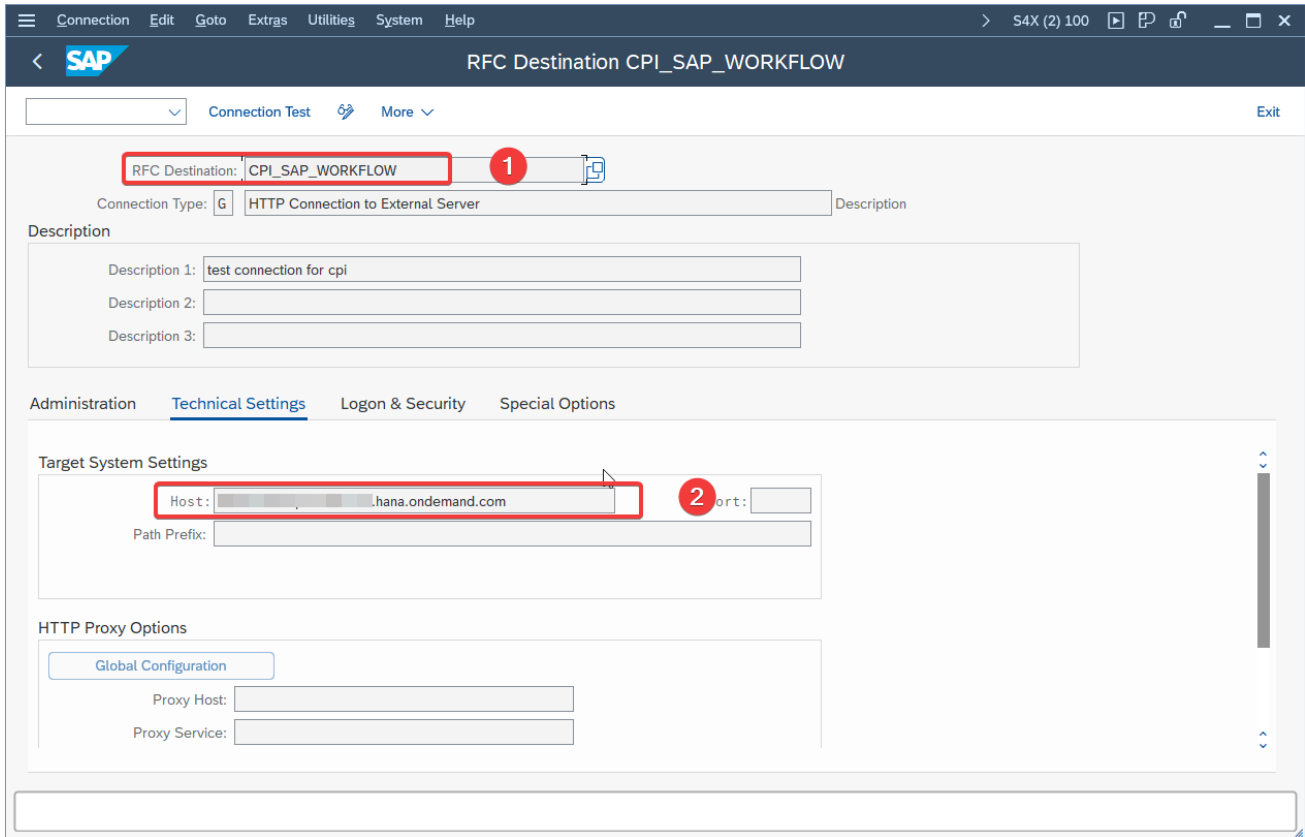
Implement ABAP class and do some **optional** configuration as shown below. This will be done in the Class Builder (transaction SE24). The source for the class can be obtained from [SAP Note 3129117](#).

Attribute	Level	Visibility	Re...	Typing	Associated Type	Description	Initial Value
IF_DPR_APPL_BOOTSTRAP_...	Constant	Public	<input type="checkbox"/>	Type	I	Initializing Class...	-1
SR_INSTANCE	Static Attribute	Private	<input type="checkbox"/>	Type Ref To	ZCL_DPR_SUBSYSTEM	Demo Impleme...	
MT_CUSTOM_DATA	Instance Attribute	Private	<input type="checkbox"/>	Type	DPR_TT_CUSTOM_DATA_UPD	Customer-Data ...	
SC_INS	Constant	Private	<input type="checkbox"/>	Type	CHAR1	Action 'Insert' 'I'	
SC_CHG	Constant	Private	<input type="checkbox"/>	Type	CHAR1	Action 'Change' 'C'	
SC_DEL	Constant	Private	<input type="checkbox"/>	Type	CHAR1	Action 'Delete' 'D'	
MT_CHANGED_OBJECT	Instance Attribute	Private	<input type="checkbox"/>	Type	DPR_TT_GUID_APPL_OBJECTS	Table Type for ...	
MS_CHANGED_OBJECT	Instance Attribute	Private	<input type="checkbox"/>	Type	DPR_TS_GUID_APPL_OBJECT	Structure for Ap...	
GC_CPI_DESTINATION	Constant	Private	<input type="checkbox"/>	Type	CHAR20	Destination conf. 'CPI_SAP_WORKFLOW'	
GC_IFLOW_PATH	Constant	Private	<input type="checkbox"/>	Type	STRING	Path to integrati...	/http/startProjectApprovalWorkflow

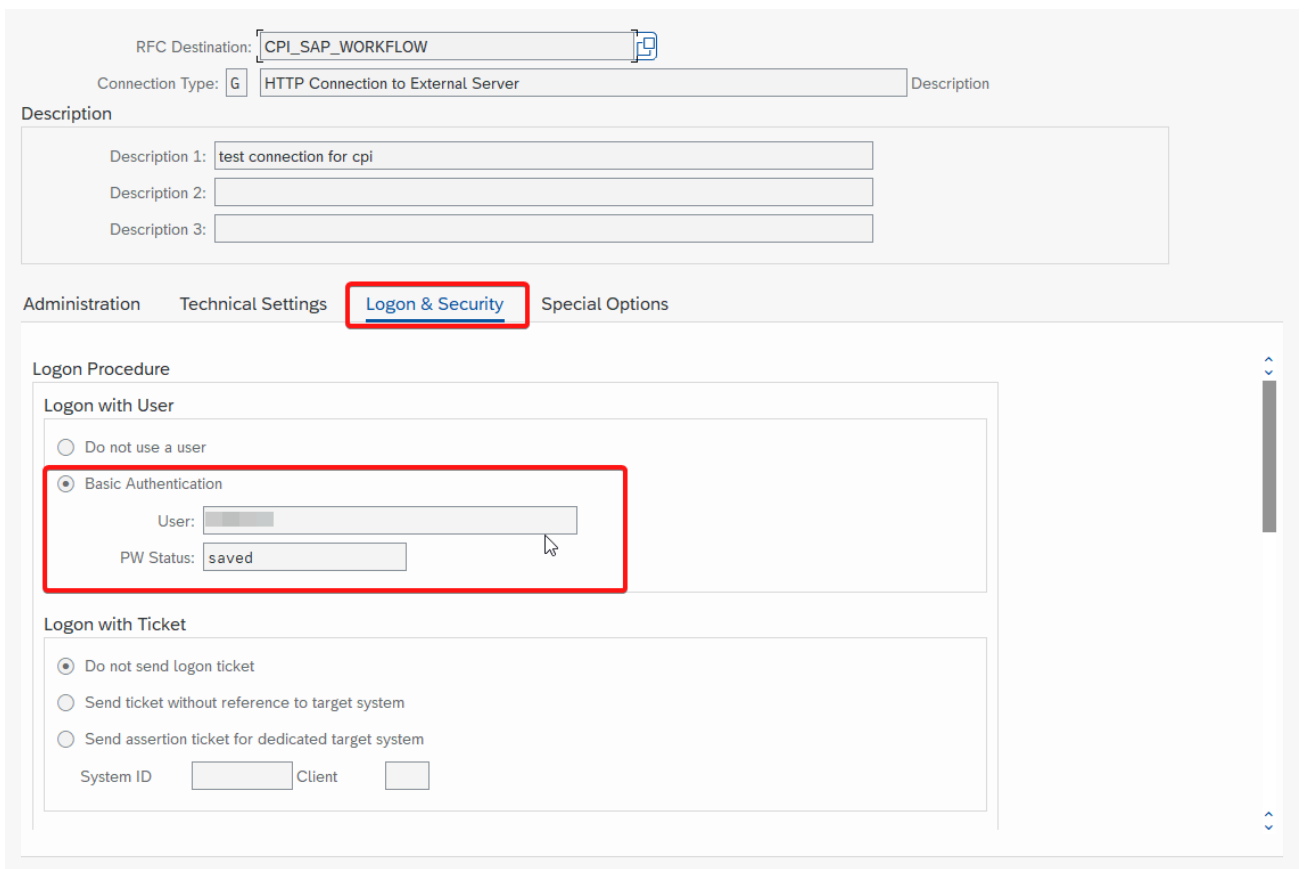
1. Change Associated Type only if the class name is changed from the above.
2. Change Destination name if set up on a different name (see below Destination configuration section).
3. Change path to the SAP Cloud Integration path if it is set up differently.

Destination configuration

Destination pointing to SAP Cloud Integration needs to be set up in the SAP ERP system.



The screenshot shows the SAP configuration interface for an RFC Destination named 'CPI_SAP_WORKFLOW'. The 'Technical Settings' tab is active. A red box highlights the 'RFC Destination' field with a red circle '1' next to it. Below it, the 'Connection Type' is set to 'HTTP Connection to External Server'. The 'Description' section contains three text boxes, with the first containing 'test connection for cpi'. The 'Target System Settings' section has a red box around the 'Host' field containing '.hana.ondemand.com' and a red circle '2' next to it. The 'Path Prefix' field is empty. The 'HTTP Proxy Options' section is visible below, with a 'Global Configuration' button and fields for 'Proxy Host' and 'Proxy Service'.



The screenshot shows the same SAP configuration interface, but with the 'Logon & Security' tab active. The 'Logon Procedure' section is expanded. Under 'Logon with User', the 'Basic Authentication' radio button is selected and highlighted with a red box. The 'User' field is empty, and the 'PW Status' is set to 'saved'. Under 'Logon with Ticket', the 'Do not send logon ticket' radio button is selected. The 'System ID' and 'Client' fields are empty.

1. Configure a destination under HTTP Connections to External System in transaction SM59 with name "CPI_SAP_WORKFLOW".
2. Add HTTP adapter endpoint URL host for the SAP Cloud Integration. Steps to get the host for the endpoint can be found [here](#).
3. Add credentials in the **Logon & Security** tab. If Basic Authentication is used, user used must have "ESBMessaging.send" role. Other possible authentic actions can be found [here](#).

Set up custom Function Module


This function module is to set the status of the project to approved and then release it. Download the codes from [SAP Note 3129117](#) and name the custom function module as ZZBAPI_BUS2001_SET_STATUS. This function module will be consumed by the integration flow through an RFC adapter. If the function module is created with a different name, please change the configuration of the integration flow "Release Project" to the appropriate name.

Configure "Release Project"

Sender	Receiver	More
Type:	All Parameters	▼
Custom BAPI:	ZZBAPI_BUS2001_SET_STATUS	
minute:	30	
TransactionHandling:	Required	

Customizing of SAP Project System (PS) backend

A technical prerequisite for the automatic release of project in the backend system is to configure identical status profiles on the project definition level and WBS element level in the project builder. This step is required to maintain the user status and the system status correctly via the BAPI for automatic project releases.

To verify that a project has the same status profile on project definition level and WBS element level, open the project in the project builder (TCODE: CJ20N), click on the value help context menu icon  next to the system status field and check the status profile on the bottom of the page. Repeat the steps on WBS element level.

See screenshot below:

Status management information Services for Object More

Exit

Syst. Status

X	Stat...	Text
<input checked="" type="checkbox"/>	REL	Released

Status with Status Number

X	Status	Text	No.
<input checked="" type="radio"/>	APPR	approved	20

Status Without Status No.

X	Status	Text
---	--------	------

- Active Status
- Change Docs

Status Profile: Status Profile for WBS element