SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

Integration Guide

SAP Build Process Automation Integration with SAP S/4HANA for Authorization For Expenditure

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Overview

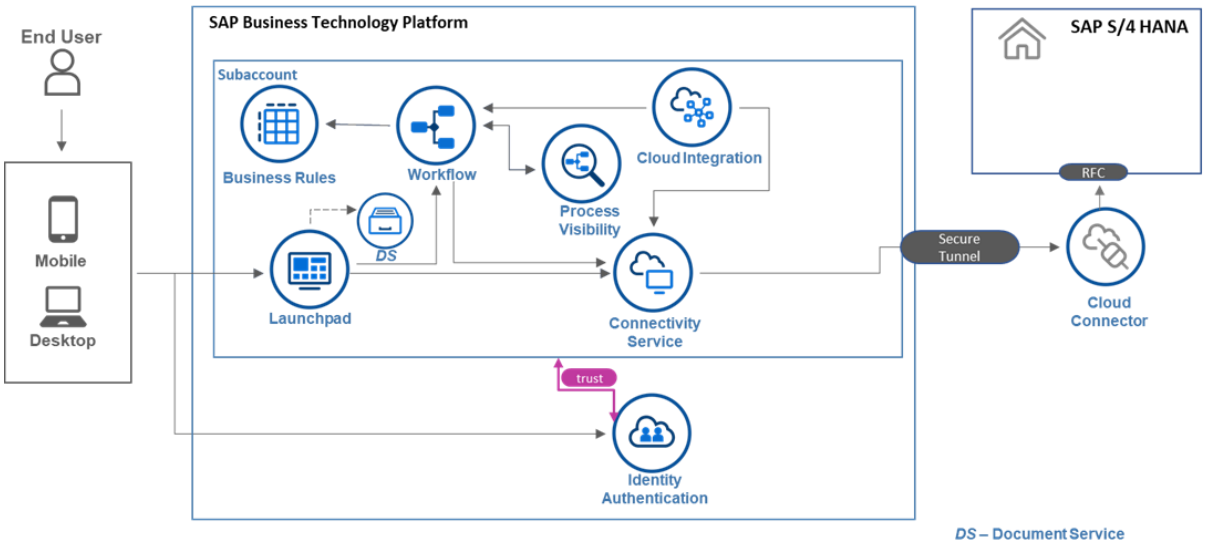
This document provides information about configuration steps to setup the integration content to consume the live process content package Authorization for Expenditure. The primary audience of this document is integration administrators and developers.

Authorization for Expenditure (AFE) is common in Upstream Oil and Gas industry and used to approve, control, and monitor high value investments in Capital and Operational Expenditure processes. AFEs are created at an Oil / Gas well level and there can be many AFEs for a particular well. These AFEs can be used for well development, maintenance etc. There are internal and Oil and Gas Joint Venture partner approvals needed before AFE can be taken up for execution

Scenario Definition

- Predefined WBS to plan and capture the expense and Plan for Gross AFE value
- AFE created at SAP S/4HANA fetched and a workflow with approvers is triggered on BTP
- Offline approvals for External approvers (Partner approvals) can be take and proof of approval attached to the AFE
- Plug and Play with SAP S/4HANA without additional development.
- Pre-configured process steps to create new variants. New Process variants can be configured in a low-code, no-code approach.
- Agent/approver determination using Business Rules or external service.
- Flexibility in determining process variants based on business conditions.
- Pre-built integration content to call SAP S/4 HANA from SAP Build Process Automation or SAP Workflow Management
- Out-of-the-box visibility into key process performance indicators.
- Monitoring and Controlling High Value Investments being made by Oil and Gas / Mining Operator Companies on the behalf of Joint Venture Partner by establishing a rigorous process of Authorization and approval prior to incurring investments. This process establishes transparency between Operators and JV Partners
- Upstream Oil & Gas and Mining

Solution Diagram



This package contains Integration Flows to Update Project Status, Update Budget and Create WBS Elements for Projects from SAP Build Process Automation or SAP Workflow Management to SAP S/4HANA.

Salient features of this integration package are:

- Create WBS integration model creates WBS for project in SAP S/4HANA.
- Fetch Project Status integration model fetches the project statuses available in SAP S/4HANA.
- Update Budget integration model updates the budget of the project in SAP S/4HANA.
- Update Status of Project integration model updates the status of the project in SAP S/4HANA.

Required SAP Business Technology Platform Services

The live process content package Authorization For Expenditure (AFE) is intended to be used for finance LOB specific to the invoice collection and dunning processes. It requires the following services in SAP Business Technology Platform.

- SAP Launchpad Service - Simplify access to business apps with a role based, personalized launchpad site
- SAP Build Process Automation or SAP Workflow Management - Digitize workflows, manage decisions, and gain end-to-end process visibility
- Cloud integration capability within SAP Integration Suite
- Identity Authentication - Authentication and single sign-on
- SAP Connectivity Service - Establish connections between cloud applications and SAP S/4HANA
- SAP Authorization and Trust Management Service - Manage application authorizations and connections to identity providers
- SAP BTP Cloud Foundry Runtime - The SAP BTP, Cloud Foundry runtime lets you develop polyglot cloud-native applications and run them on the SAP BTP Cloud Foundry environment
- SAP Cloud Connector - Establish secure and reliable connectivity between your cloud applications and SAP S/4HANA running in isolated networks
- SAP Document Service - SAP Document Management service is a content management service on the Cloud Foundry environment of SAP BTP

Setup and Configuration

This section will explain how to setup the integration content that is required for the workflow content packages SAP Build Process Automation Integration with SAP S/4HANA for Authorization For Expenditure .

Configure SAP S/4HANA Destination

Configure S/4 HANA destination to connect with SAP S/4HANA on-premise . The below is a destination configuration for SAP S/4HANA on-premise.

Note: This destination is required by SAP Build Process Automation or SAP Workflow Management as well as Cloud Integration (Suite).

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 Cloud Integration (Suite).

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/ZWF_PROJECT_STATUS_CDS	HTTPS	ABAP System
BAPI_PROJECT_MAINTAIN	RFC	ABAP System
ZWF_RFC_PS_SET_STATUS	RFC	ABAP System
ZWF_RFC_PS_UPDATE_BUDGET	RFC	ABAP System

Import, configure and deploy cloud integration content

The integration content package SAP Build Process Automation Integration with SAP S/4HANA for Authorization For Expenditure is available in SAP API Business hub to integrate SAP Build Process Automation or SAP Workflow Management with SAP S/4HANA. Integration models use RFCs to integrate with SAP S/4HANA. The following integration models are available in this package.

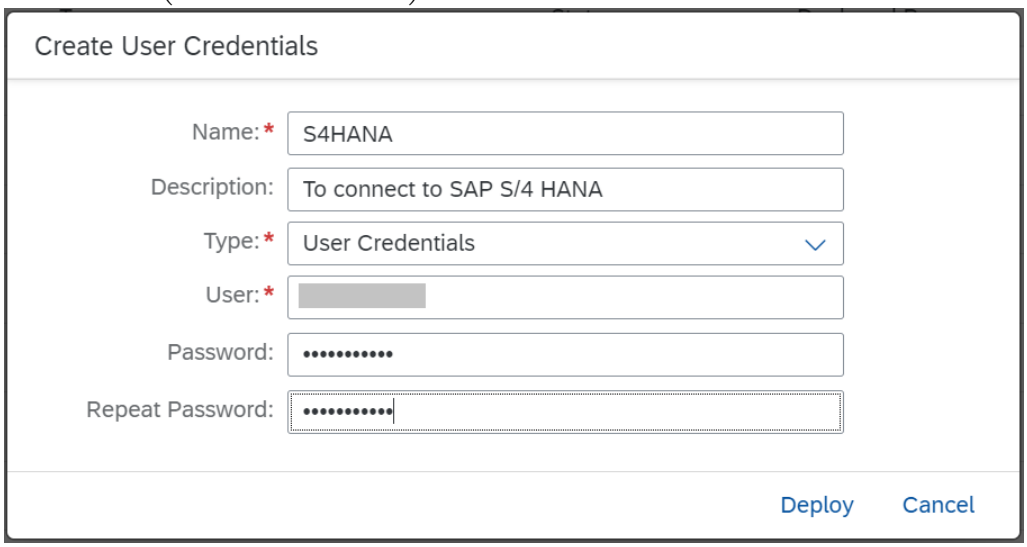
1. Create WBS Elements
2. Fetch Project Status
3. Update the Project Status
4. Update the WBS Budget

Import the integration package to your SAP Cloud Integration tenant. To be able to import and deploy integration flows, you need the role AuthGroup.IntegrationDeveloper (in Neo environment)

or PI_Integration_Developer (in cloud foundry environment) assigned in your tenant.

Import pre-packaged Integration content in SAP Integration Suite

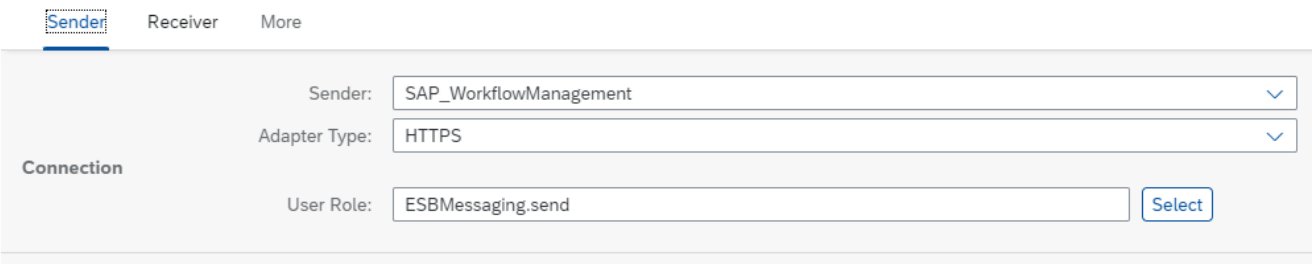
- Access your SAP Integration Suite tenant management node (https://<integrationtenant> /itspaces).
- View all pre-packaged integration flow under Discover->Integration. (https://<integrationtenant> /itspaces /shell/discover).
- Search content package "SAP Build Process Automation Integration with SAP S/4HANA for Authorization For Expenditure ".
- Click on the package "SAP Build Process Automation Integration with SAP S/4HANA for Authorization For Expenditure".
- Click Copy to import the Integration content package to your workspace.
- Navigate to the *Monitor* view (https://<integrationtenant> /itspaces /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)



HTTPS Adapter Configuration

Open the integration model Create WBS Elements

- Click Configure button, choose the appropriate Sender and set their User Role

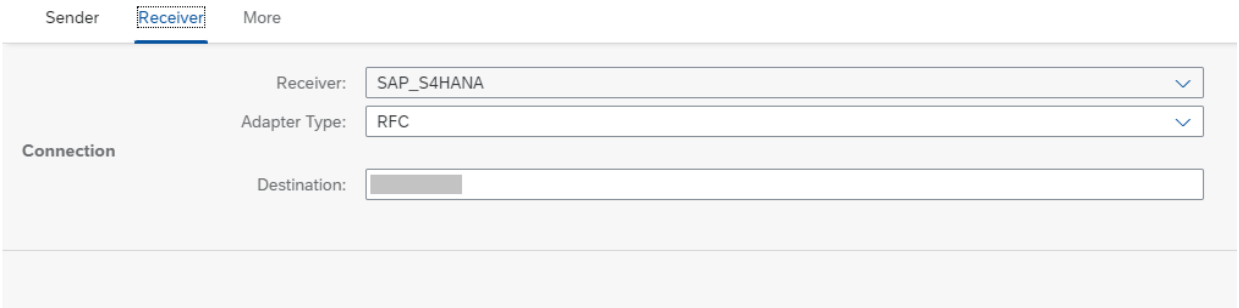


- Save and Deploy the integration model.
- Similarly, configure the Update the WBS Budget and Update the Project Status integration models and deploy them.

RFC and OData Adapter Configuration

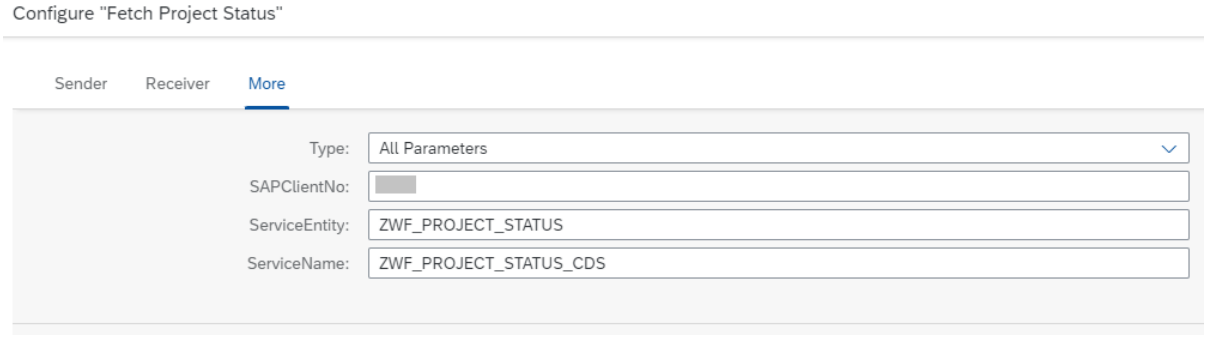
Open the integration model Update the WBS Budget

- Click Configure button, choose the appropriate receiver (RFC) and set their respective destination credentials.



- Save and Deploy the integration model.
- Similarly, configure the Create WBS Elements and Update the Project Status integration models and deploy them.
- Open the integration model Fetch Project Status.
- Click Configure button, choose receiver (SAP_S4HANA) and set the required endpoint and credential names.

- Go to *More* tab and enter the OData Service Name, Service Entity and SAP Client



Note: The Service Name "ZWF_PROJECT_STATUS_CDS" and Function Import Name "ZWF_PROJECT_STATUS" will be the same as mentioned in the screenshot unless the names of these ABAP objects were changed while implementing the custom ABAP objects as mentioned in section "Deploy Custom ABAP Objects" in Setup Guide of the live process content package Authorization For Expenditure.

Note: In case the Approver Determination Strategy is selected as "External Service" in workflow configurations, then a Cloud integration model needs to be implemented with the below mentioned endpoint, input and output details.

API Attributes	Values
Path	/http/getApproversAFE
HTTP Method	GET

Payload sent by workflow (sample data)	"d":
	{
	"ExpenditureDetails" : $.context.ExpenditureDetails,
	"Role" : $.context.role
	}

Response Payload from integration flow	RESPONSE STATUS, Ex 200 OK "ApproverRulesResult": {"d": {"approvers": [{"supervisorEmail": "email@example.com","email": "email@example.com","userGroup": "Approver_GroupId","userId": "Approver_UserId"}]}} Note: When Status is not 200, then it is considered a failed service call.
Payload Type	Application / JSON