

SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

Setup Guide

Sample Sales Order Approval Extension with flexible workflow

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Overview

This document provides information about configuration steps to consume the live process package **Sample Sales Order Approval Extension** via an in-App Extension step in Manage Workflows and the out-of-the-box available integration between SAP Business Workflow and SAP Workflow Management / Workflow Capability on SAP BTP. The primary audience of this document is technical IT / system administrators.

Sample Sales Order Approval Extension content package for **SAP S/4HANA** automates a Sales Order Approval in a flexible and transparent approach. It provides flexibility in executing a specific custom agent determination rule and process depending on attributes of the Sales Order Header data. When a sales order is created in SAP S/4HANA and is configured for a custom flexible workflow approval in some cases it might be necessary to use totally new logic or additional steps in the Workflow Capability on SAP BTP in combination. The sales order is either **Released** or **Rejected** or **Rework Requested** based on the approvals and validations performed in the process.

Salient features of this content package are:

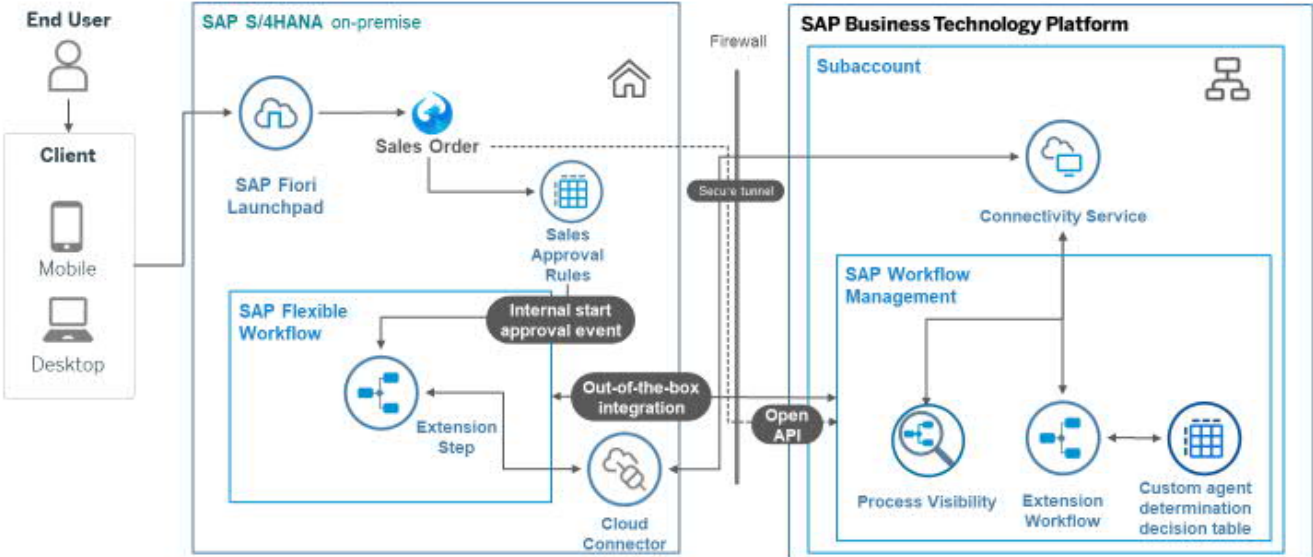
- Plug and Play with SAP S/4HANA without any additional development.
- Sample Process to approve a sales order (one level approval)
- Automatic email notification to parties involved.
- Business Rules provides flexibility in determining approvers
- Out-of-the-box visibility into key process performance indicators of the Sales Order

Known limitations:

- Comments from approvers in the SAP BTP workflow are actually not transferred to SAP S/4HANA (Recommendation: Please inform the requester via Email-Task to proceed in SAP S/4HANA)
- One level approval in the BTP sample workflow (possibility to enhance the workflow)

Solution Diagramm

Extend S/4 Approvals (Sales Order Sample)



Required SAP Business Technology Platform Services

The following SAP BTP services are required to consume the content package **Sample Sales Order Approval Extension**

- SAP Workflow Management
- SAP Launchpad service
- SAP Business Application Studio
- SAP Cloud Identity Services - Identity Authentication [Optional]

Required SAP ABAP Platform

SAP S/4 HANA 2020 (Proxy/API is available since SAP Netweaver 7.40)

Setup and Configuration

The **Sample Sales Order Approval Extension** content package requires SAP Workflow Management subscription or a Cloud Platform Enterprise Agreement (CPEA) contract. Follow the [setup and configuration section](#) of SAP Workflow Management.

Configure Workflow Email Destination

Configure workflow email destination. For more information on configuring destination, see [configure workflow email destination](#).

Configure OAuth2ClientCredentials Workflow Destination

Use an existing or create a new Workflow service instance with at least the following authorities (scopes):

WORKFLOW_INSTANCE_START
WORKFLOW_INSTANCE_GET

Please refer to the documentation on how to [Enable Technical Authentication](#) with specific authorities.

Configure a destination with the following parameters:

Name	Workflow
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentias
URL	https://api.workflow.<region-host>.hana.ondemand.com/workflow-service/rest
Client ID	
Client Secret	
Token Service URL	<"uaa":"url">/oauth/token
Additional Properties:	Name: bpmprocessvisibility.triggerWorkflow Value: system

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 OAuth2UserTokenExchange Workflow Destination

Configure a destination with the following parameters:

Name	WorkflowActions
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2UserTokenExchange
URL	https://api.workflow.<region-host>.hana.ondemand.com/workflow-service/rest
Client ID	
Client Secret	
Token Service URL	<"uaa":"url">/oauth/token
Additional Properties:	Name: bpmprocessvisibility.triggerWorkflow Value: user

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

Configure a Business Rules destination with the following parameters:

Name: *	BusinessRules
Type:	HTTP
Description:	
URL: *	https://bpmruleruntime.<region-host>.hana.ondemand.com/rules-ser...
Proxy Type:	Internet
Authentication:	OAuth2ClientCredentials
Client ID: *	sb-clone-d8<region-host>.hana.ondemand.com/4 bpmrulebr...
Client Secret: *	*****
Token Service URL: *	https://bpm-<region-host>.hana.ondemand.com/oauth/t...
Token Service User:	
Token Service Password:	

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 access business rules APIs](#) using OAuth 2.0 Authentication (client credentials)

Configure OAuth2ClientCredentials Business Rules Destination (Service Instance)

Ignore this step if there is already a destination using Business Rules service instance created.

Create new Destination to call Business Rules Service APIs using a service route from SAP UI5 Component.

- Click New Destination.
- Select **Service Instance** as Destination Configuration.
- Select Service Instance as BusinessRules.
- Enter Name as BusinessRules_CFLP and click Next button.

Destination Configuration Blank Template **Service Instance**

Service Instance: *

Name: *

Description:

- Click **Save** button.

Destination Configuration

Name: *	<input type="text" value="BusinessRules_CFLP"/>
Type:	<input type="text" value="HTTP"/>
Description:	<input type="text" value="Rules destination from SAP UI5 API calls using ..."/>
URL: *	<input type="text" value="https://sap.com/DUMMY_URL"/>
Proxy Type:	<input type="text" value="Internet"/>
Authentication:	<input type="text" value="OAuth2ClientCredentials"/>
Client ID: *	<input type="text" value=""/>
Client Secret:	<input type="text" value="*****"/>
Token Service URL: *	<input type="text" value=""/>
Token Service User:	<input type="text" value=""/>
Token Service Password:	<input type="text" value=""/>

Additional Properties

endpoints	{"rule_repository_url": "...	<input type="button" value=""/>
html5-apps-r...	{"app_host_id": "cbd0c...	<input type="button" value=""/>
saasregistrye...	true	<input type="button" value=""/>
sap.cloud.se...	com.sap.bpm.rule	<input type="button" value=""/>

Use default JDK truststore

Configure OAuth2ClientCredentials Workflow Destination (Service Instance)

Ignore this step if there is already a destination using Workflow service instance created. 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 Odata services / Communication Scenarios in SAP S/4HANA

Following Communication Scenarios (SAP S/4HANA Cloud) or odata services (SAP S/4HANA on-premise) are needed to be configured to use the content package.

SAP_COM_0109

Inbound Services consumed:

/sap/opu/odata/sap/API_SALES_ORDER_SRV

SAP_COM_0087

Inbound Services consumed:

/sap/opu/odata/sap/API_DIVISION_SRV

/sap/opu/odata/sap/API_DISTRIBUTIONCHANNEL_SRV

/sap/opu/odata/sap/API_SALESORGANIZATION_SRV

Follow the documentation on how to [Create Communication Arrangement](#) for Communication Scenario SAP_COM_0109. On similar lines, create the configuration for other communication scenarios as well.

For S/4HANA OP activate the services in /n/IWFND/MAINT_SERVICE for details see following [note](#).

Configure SAP S/4HANA Destination

Configure a HTTP destination to connect with SAP S/4HANA on-premise or SAP S/4HANA Cloud, Please refer how to [create an HTTP destination](#).

The below is a destination configuration for for *SAP S/4HANA on-premise*.

Destination Configuration

Name: *	SAP_S4HANA_OP: [REDACTED]	
Type:	HTTP	
Description:	Used to for external Sales Order Approval scenario	
URL: *	http: [REDACTED] 50000	
Proxy Type:	OnPremise	
Authentication:	BasicAuthentication	
Location ID:	flexibleworkflow	
User: *	BACHSE	
Password:	*****	

Additional Properties

sap-client	001	✖
WebIDEEnab...	true	✖
WebIDESyst...	ER9	✖
WebIDEUsage	odata_gen,odata_aba...	✖

Name	S4HANA
Type	HTTP
Proxy Type	Internet
User	<COMMUNICATION_ USER>
Password	<COMMUNICATION_PASSWORD>
Authentication	BasicAuthentication
URL	<OData base URL of SAP S/4HANA onpremise>
Additional Properties	sap-client: <client 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](#).

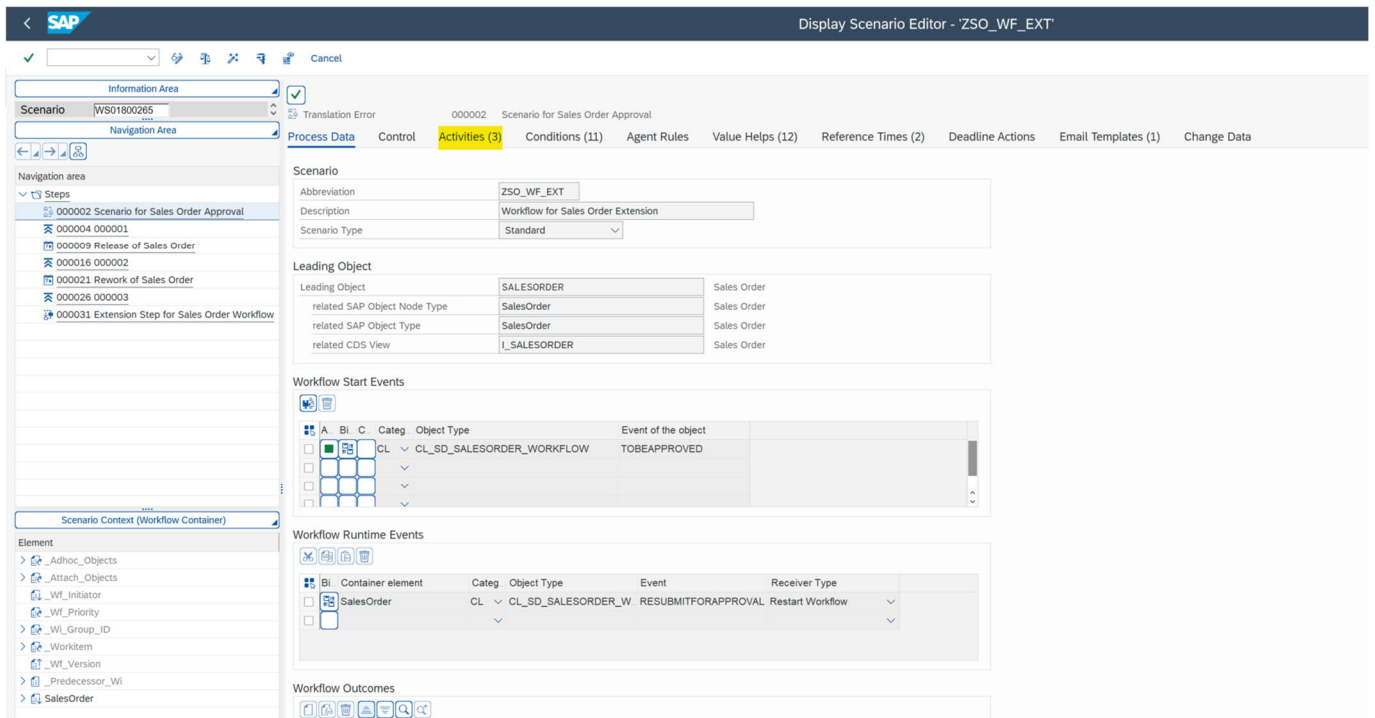
Configure SAP Central Fiori Launchpad Site

If you plan to use SAP Launchpad service, then configure [SAP Central Fiori Launchpad Site with Workflow Applications](#) using help documentation.

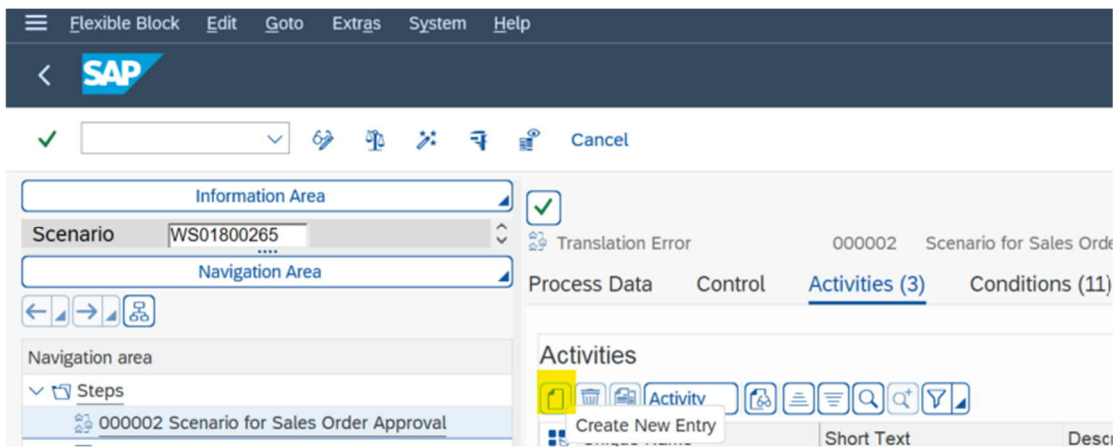
Setup your Flexible Workflow Scenario

If you use a standard scenario with an extension step this is not necessary. If you use a custom scenario you need an extension step as activity.

Go to transaction swdd_scenario and open your Scenario Definition. Go to your flexible block and open the Activities tab.



Click on Create Activity.



Unique name

Short Text

Description

What Do You Want to Create?

User decision
 Activity
 Review
 Extension (SAP Workflow Service)

Properties

Exposed only for exception handling

✔ ✕ Cancel

Enter the outcomes of the extension step.

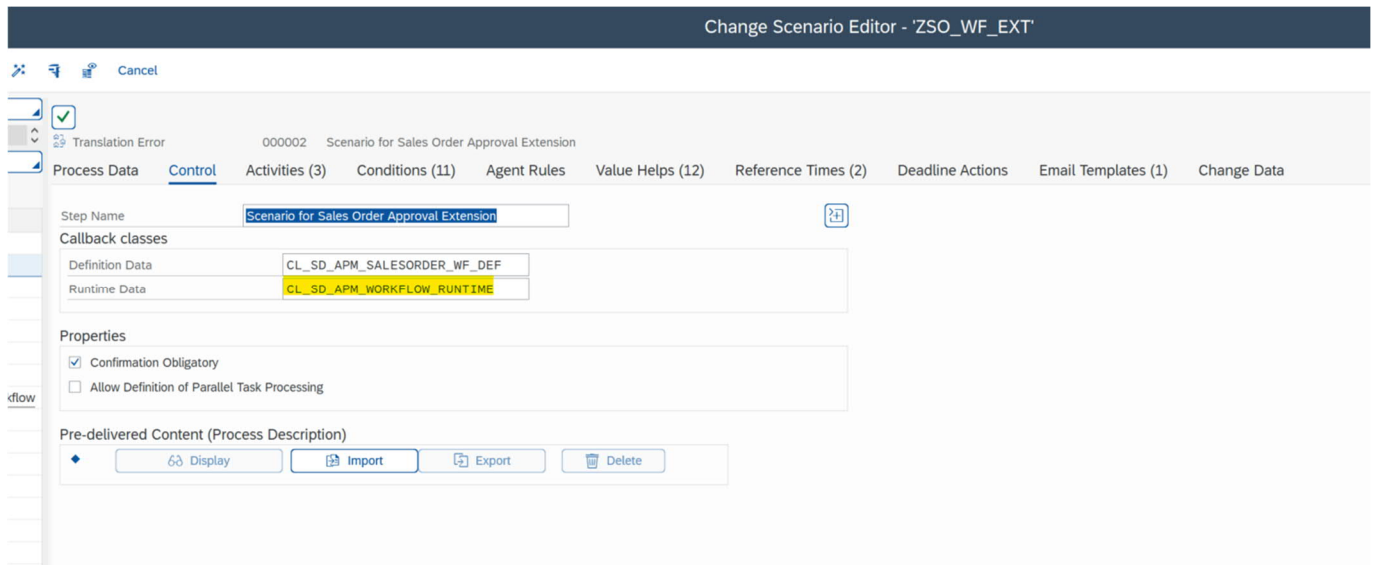
✔ ✕
Extension Workflow 000031 Extension Step for Sales Order Workflow

Outcomes (3)
Control
Properties (4)
Change Data

📄
📄
🗑️
📄
📄
🔍
🔍

Outcome ID	Nature	Subject	Description
<input type="checkbox"/> RELEASED	Positive	Release	Approval Request Released
<input type="checkbox"/> REJECTED	Negative	Reject	Approval Request Rejected
<input type="checkbox"/> REWORK_REQUESTED	Negative	Request Rework	Rework Requested

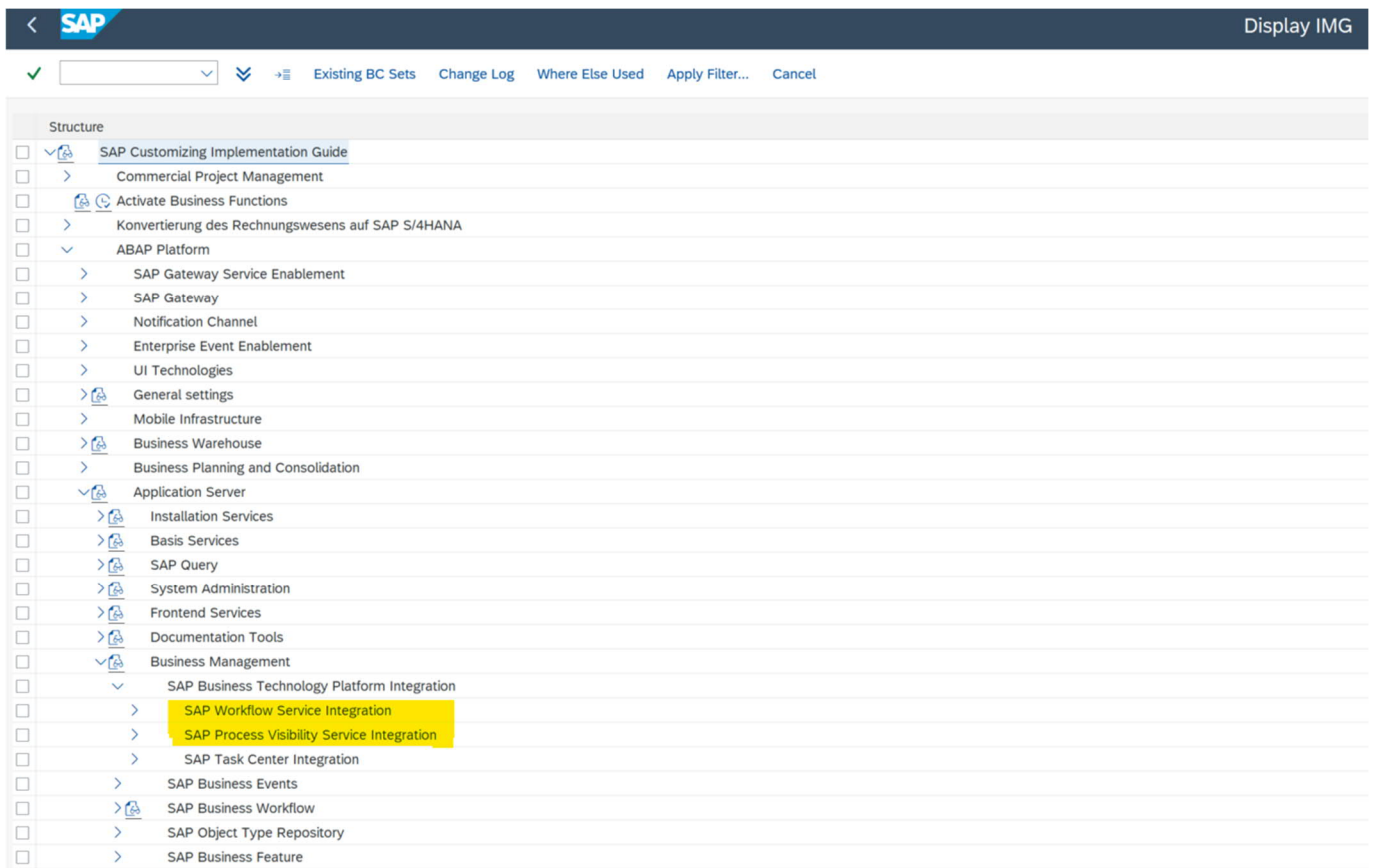
In addition, your scenario needs to be activated and event coupling to start the workflow configured.



In the runtime class of your scenario in the method "AFTER_COMPLETION_CALLBACK" you define what action is triggered in case of a negative outcome of the step. Here you can implement a rework activity.

Setup the integration between SAP Business Workflow and BTP Workflow

Go to the SAP Customizing Implementation Guide under ABAP Platform - Application Server - Business Management – SAP Business Technology Platform Integration and configure the integration for SAP Workflow Service and SAP Process Visibility Service.



For details on the Workflow Service Integration go to this [help portal page](#).

For details on the Process Visibility Integration go to this [help portal page](#).

In addition, there are following useful blogs and blog series:

<https://blogs.sap.com/2021/11/25/part-1-integrating-an-extension-workflow-on-sap-btp-into-a-flexible-workflow/>

<https://blogs.sap.com/2021/08/02/technical-integration-of-a-business-workflows-in-process-visibility-scenario-overview/>

Sales Order Set Up for Approval Workflow

Please take a look at [how to set up Approval Workflows for Sales in Your System](#). To start a flexible workflow, you need an internal approval reason for your Sales Document.

Also take a look at this [blog](#).

To use Email Templates in the Flexible Workflow in Sales please take look at the [documentation](#).