

SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

Setup Guide

Service Confirmation Notification with SAP Workflow Management or SAP Build Process Automation

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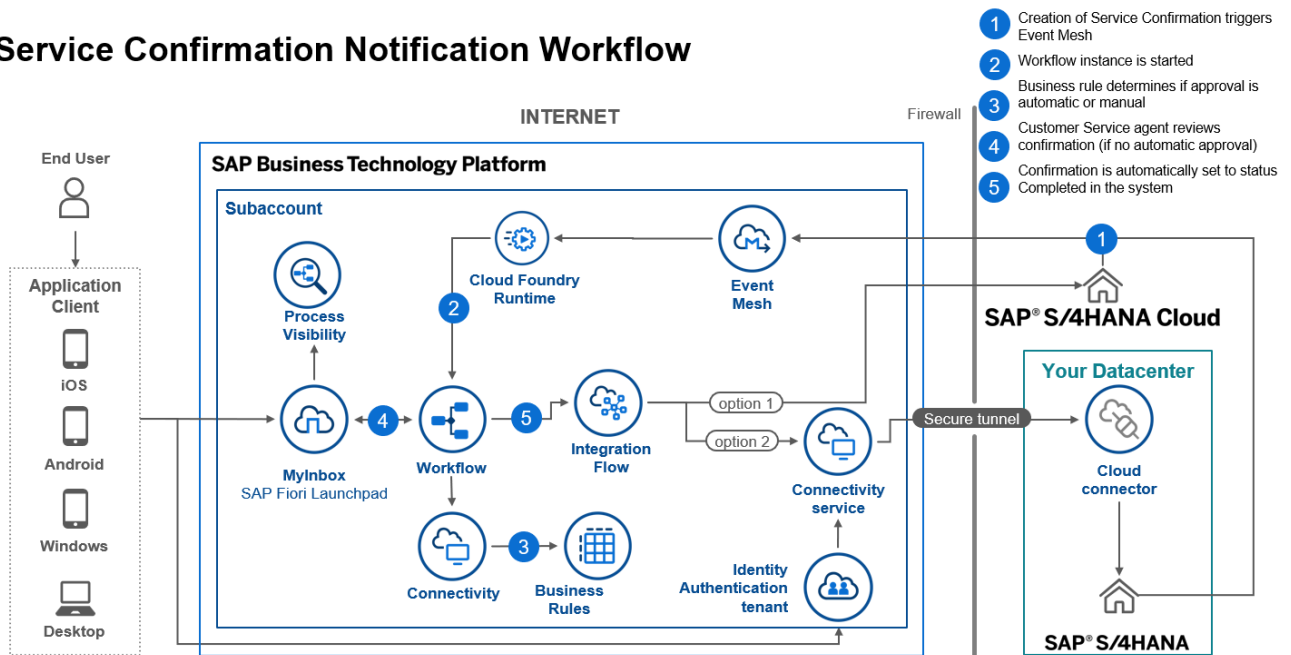
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Overview

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

This scenario enables automatically completing Service Confirmations based on certain attributes of the Service Confirmation that can be configured in a Business Rule. If an automatic approval is not warranted due to matching some specific attributes of the Service Confirmation, the reviewer will be determined based on another Business Rule. After the review, the Service Confirmation will be updated in the connected S/4HANA system.

Service Confirmation Notification Workflow



Required SAP BTP Services

The workflow content package **Service Confirmation Notification** is intended to be used for Service Applications in SAP S/4HANA (both cloud and on-premise) and requires the following services in SAP BTP.

- SAP Build Process Automation or SAP Workflow Management to orchestrate the process.
- SAP Connectivity service (cloud connector) to establish access to SAP S/4HANA on-premise.
- SAP Integration Suite to update Service Confirmations and return response headers to SAP Workflow management.
- 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 Business Application Studio to modify/deploy the SAPUI5 applications.
- SAP BTP, Cloud Foundry runtime.

Setup and Configuration

The **Service Confirmation Notification** 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>.

endpoints	{ "api": "https://k...	🗑️
html5-apps...	{ "app_host_id": "000...	🗑️
saasregistry...	true	🗑️
sap.cloud.s...	com.sap.spa.process...	🗑️
sap.cloud.s...	spa	🗑️

Configure SAP Workflow Management

Service Confirmation Notification 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 SAP 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

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)

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

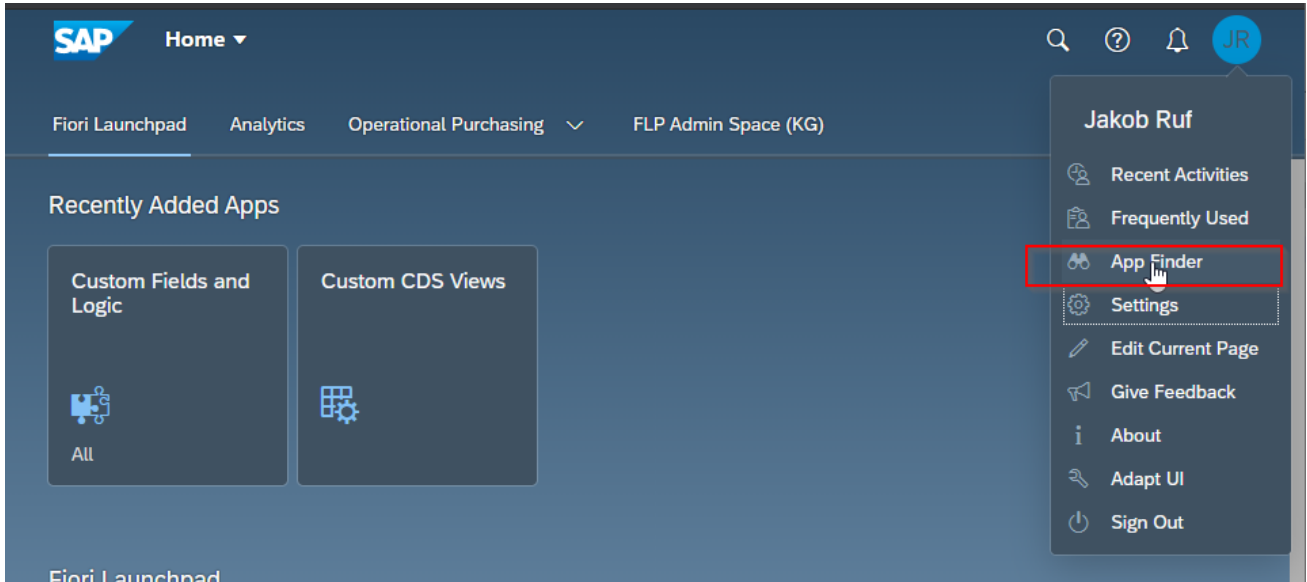
Configure OAuth2 Client Credentials Workflow Destination (Service Instance)

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 Custom CDS View in SAP S/4HANA

Open the Fiori Launchpad of your SAP S/4HANA system
Open the AppFinder

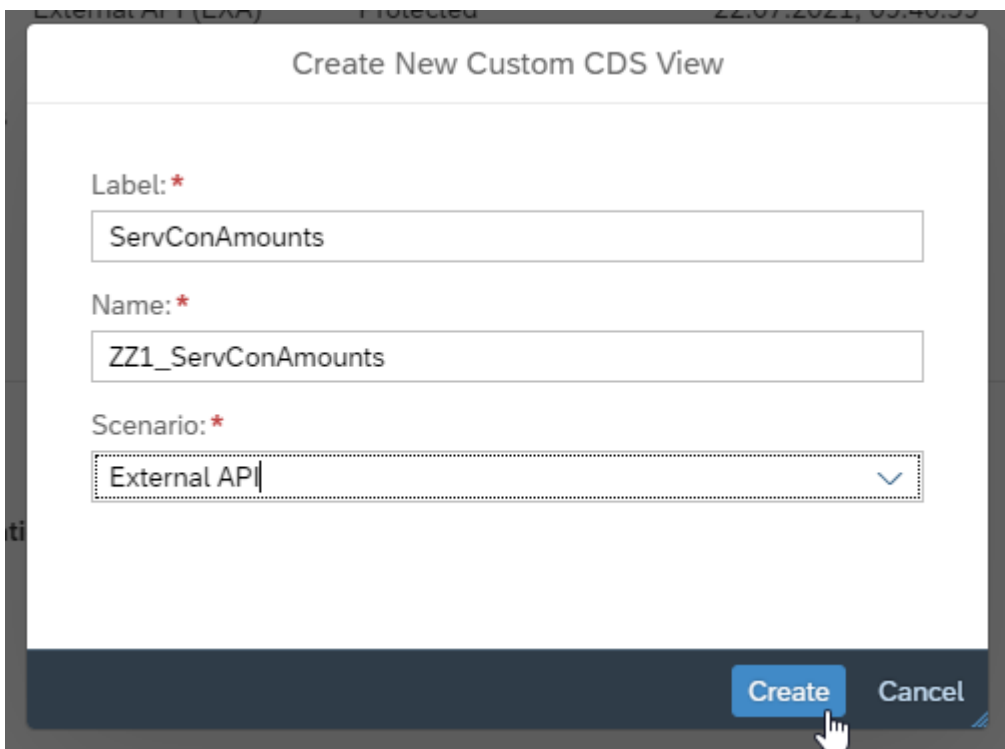


Search in category "All" for the App "Custom CDS Views"

Open "Custom CDS Views"

Create a new CDS View

Enter "ServConAmounts" as the label and select "External API" as the Scenario



Create the View

Go into the view and in section "Data Sources", add a new Primary Data Source

Select I_ServiceDocumentEnhcd as the Data Source

Go to section "Elements"

Add the elements as shown in the screenshot

<input type="checkbox"/>	Key	Alias	Type	Path	Label
<input type="checkbox"/>	<input checked="" type="radio"/>	ServiceObjectType	CHAR (10)	I_ServiceDocumentEnhcd.ServiceObjectType	Trans. Cat.
<input type="checkbox"/>	<input checked="" type="radio"/>	ServiceDocument	CHAR (10)	I_ServiceDocumentEnhcd.ServiceDocument	Transaction ID
<input type="checkbox"/>	<input type="radio"/>	ServiceDocNetAmount	CURR (15,2)	I_ServiceDocumentEnhcd.ServiceDocNetAmount	Net Value
<input type="checkbox"/>	<input type="radio"/>	ServiceDocTaxAmount	CURR (15,2)	I_ServiceDocumentEnhcd.ServiceDocTaxAmount	Total Tax Amount
<input type="checkbox"/>	<input type="radio"/>	ServiceDocGrossAmount	CURR (15,2)	I_ServiceDocumentEnhcd.ServiceDocGrossAmount	Gross Value
<input type="checkbox"/>	<input type="radio"/>	TransactionCurrency	CUKY (5)	I_ServiceDocumentEnhcd.TransactionCurrency	Currency
<input type="checkbox"/>	<input type="radio"/>	ServiceDocumentChangedByUser	CHAR (12)	I_ServiceDocumentEnhcd.ServiceDocumentChangedByUser	Changed By

Go to section "Filter"

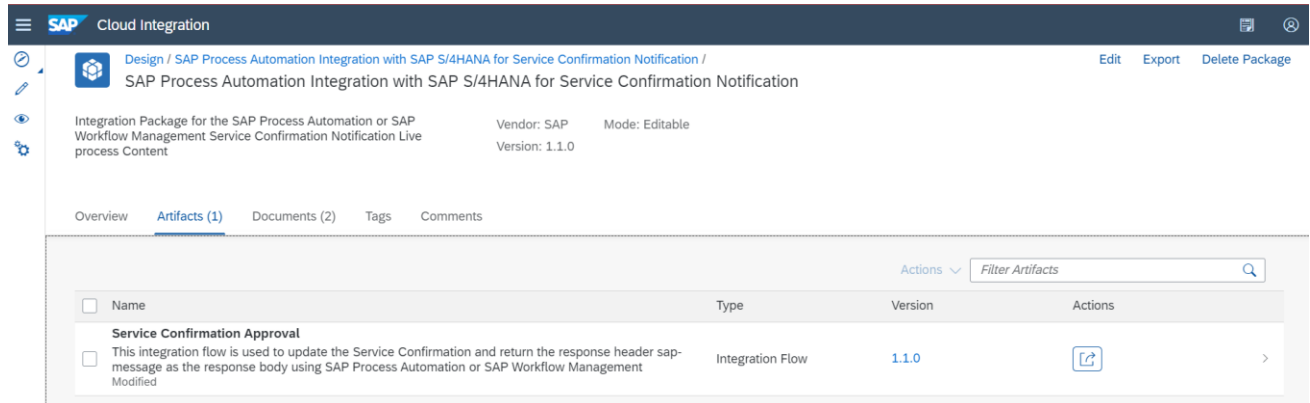
Add a new filter on field I_ServiceDocumentEnhcd.ServiceObjectType with "Equals", "Constant Value" and "BUS2000117"

In section "Next steps", follow the instructions to create a Communication Scenario + Communication Arrangement and assign it to the user you are using in your destination in SAP BTP Cockpit.

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.

Package: **SAP Build Process Automation Integration with SAP S/4HANA for Service Confirmation Notification**



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 Communication Scenarios in SAP S/4HANA

Following Communication Scenarios are needed to be configured in SAP S/4HANA or SAP S/4HANA Cloud to use the content package.

SAP_COM_0352

SAP_COM_0350

Inbound Services consumed:

/sap/opu/odata/sap/API_SERVICE_CONFIRMATION_SRV/

/sap/opu/odata/sap/API_SERVICE_ORDER_SRV/

Custom Communication Scenario for Inbound Service

/sap/opu/odata/sap/YY1_SERVCONAMOUNT_CDS/YY1_ServConAmount (Cloud)

ID: YY1_SERVCONAMOUNTS_CDS

or

/sap/opu/odata/sap/ZZ1_SERVCONAMOUNT_CDS/ZZ1_ServConAmount (onPremise)

ID: ZZ1_SERVCONAMOUNTS_CDS

Add your custom Communication Scenario to the Communication Arrangement for your Workflow destination user

Follow the documentation on how to Create Communication Arrangement for Communication scenarios:

- **SAP_COM_0352**
- **SAP_COM_0350**

SAP S/4HANA system setup

The workflow uses standard Service Order and Service Confirmation based on SAP standard configuration. The workflow does not need any special functionalities.

Prerequisites: Service Order and Service Confirmation must be preconfigured, refer to documentation [here](#).

Configure SAP S/4HANA Destination

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

Name	S4HANA
Type	HTTP
Proxy Type	Internet
User	<COMMUNICATION_USER>
Password	<COMMUNICATION_PASSWORD>
Authentication	BasicAuthentication
URL	<OData base URL of SAP S/4HANA cloud>
Additional Properties	sap-client: <client number>

Configure SAP S/4HANA Destination for Custom CDS View

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

Name	S4HANA_ServConNotif_GrossAmounts
Type	HTTP
Proxy Type	Internet
User	<COMMUNICATION_USER>
Password	<COMMUNICATION_PASSWORD>
Authentication	BasicAuthentication
URL	<OData base URL of SAP S/4HANA cloud> /sap/opu/odata/sap/<CDS_SERVICE_NAME>/<CDS_Entity> Examples:

	<ul style="list-style-type: none"> • https://myXXXXXX-api.s4hana.ondemand.com/sap/opu/odata/sap/YY1_SERVCONEXTERNAL_CDS/YY1_ServConExternal → S/4 HANA Cloud
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](#).

Deploy the CAP application for Event Mesh and Service Confirmation update handling

The CAP application exposes two endpoints with two endpoints

- /emMessages takes a POST from the event mesh and starts a workflow instance with the transmitted Service Confirmation number
- /updateServiceConfirmation takes a POST from the workflow instance, updates the Service Confirmation and returns the response header SAP-Message from S/4HANA system as the response body back to the workflow instance

Configure SAP S/4HANA to push Service Confirmation Events to SAP Event Mesh

At first the Event Mesh needs to be set up on BTP using this [guide](#). Also create a service key for the Event Mesh instance.

In the SAP S/4 HANA System go to the application “Communication Systems” and create a new system. For the System ID and System name use e.g. BTP_EVENTMESH_<REGION> where <REGION> is the region of the subaccount where the Event Mesh instance was set up in the previous step.

Once the system is created the following data needs to be added using the Event Mesh service key:

Technical Data > General:

- HostName: enterprise-messaging-messaging-gateway.cfapp.<region>.hana.ondemand.com
- Port: 443

Technical Data > OAuth 2.0 Settings:

- Auth Endpoint: Use property “tokenendpoint” (e.g. under “management”) from the service key but omit the “https://” and replace “token” at the end by “authorize”
- Token Endpoint: Use property “tokenendpoint” (e.g. under “management”) from the service key but omit the “https://”.

User for Inbound Communication:

- Create a new user and pick “User Name and Password” as “Authentication Method”

Use for Outbound Communication:

- Authentication Method: OAuth 2.0
- Client Authentication: Basic
- OAuth 2.0 Client ID: Use Property “clientid” from service key
- Client Secret: Use Property “clientsecret” from service key

Save the Communication System.

In SAP S/4HANA go to application “Communication Arrangements” and create a new arrangement: The Scenario is “SAP_COM_0092”. As “Arrangement Name” use e.g. the same name as for the system.

For the “Communication User” reuse the user created for inbound communication before. Under “Additional Properties” specify a Channel Name, use “namespace” from the service key as “Topic Space” and optionally add a Description.

Open the arrangement and add the following information:

- Communication System: Pick the previously create Communication System
- Outbound Communication: Pick “Authentication with OAuth 2.0” as “Supported Authentication Methods” and user the “clientid” from before.
- Under Outbound Services > Delivery of Events pick “Port” 443, for “Path” provide “/protocols/amqp10ws” and for “Service URL” provide the property “uri” from the service key ending in “amqp10ws”.

Save the changes to the communication arrangement and then click “Check Connection” to see if the Channel is active.

Go to application “Enterprise Event Enablement” and search for the channel of the communication arrangement. Open the channel and add topic

“sap/s4/beh/serviceconfirmation/v1/ServiceConfirmation/*”

as Outbound Topic.

Go to the Event Mesh Cockpit and open the message client:

Create a Queue using the default settings using e.g., “<namespace>/ServiceOrderConfirmation” as a name. Under “Actions” choose “Queue Subscriptions” and subscribe to the topic “<namespace>/ce/sap/s4/beh/serviceconfirmation/v1/ServiceConfirmation/*”

Also create a webhook using the following data:

- Subscription Name: ServiceConfirmationWfCap
- Queue Name: Pick the queue created just before
- Quality of Service: 0
- Exempt Handshake: Yes
- On Premise: No
- Webhook URL: “<cap_url>/emMessages” where <cap_url> is the url of the cap application included in this package.

- Authentication: OAuth2ClientCredentials
- Client ID, Client Secret and Token URL are taken from the uaa instance bound to the CAP application. Make sure to add "oauth/token" at the end of the Token URL

After saving the webhook make sure the Subscription Status is "ACTIVE" otherwise choose "Resume" under "Actions".

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 Service Confirmation Notification”**.

Deploy the CAP Application and the SAPUI5 user task UIs

Upload the CAPUI5.zip file to your SAP Business Application Studio.

Right click on the mta.yaml file and click "Build MTA Project"

Wait until building the project is finished

Locate the file serviceconfirmationadapter_1.0.0.mtar in the folder mta_archives

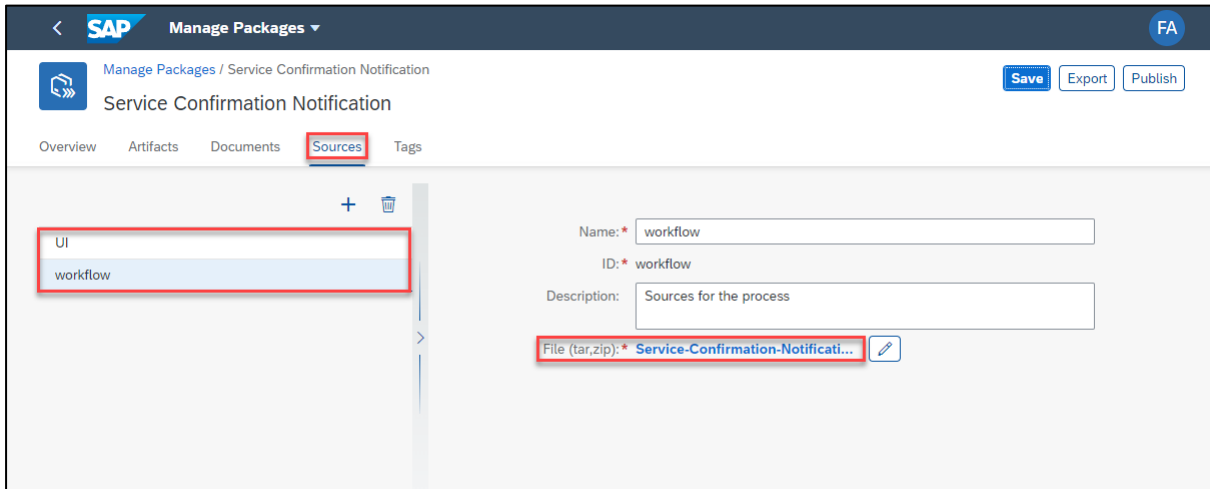
Right click on the file and select "Deploy MTA Archive"

If prompted, log in to your Cloud Foundry instance and wait for the deployment to be finished

Optional: Making Custom changes in SAP Workflow Management

Prerequisite: an account with access to SAP Business Application Studio as well as space developer permissions in BTP.

The source code for both the process and the SAPUI5-based user interfaces are available as part of the content package. With this, custom modifications can be implemented to adapt the content for specific needs.



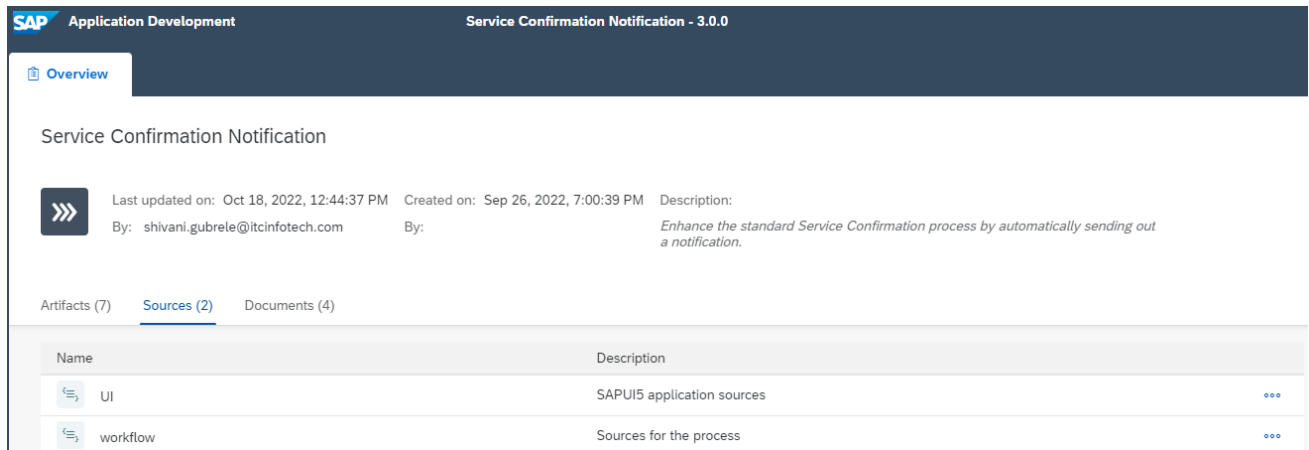
- in **Manage Package** app, select **Sources** tab
- select the archive you want to download in the list on the left side
- click on the blue filename behind **File (tar, zip)** to download the attached source archive
- Import the archive into SAP Business Application Studio
- make any necessary modifications
- Build and deploy the MTA archive, using the space developer credentials

Please refer to the documentation for [SAP Business Application Studio](#), the documentation for [Modeling a Workflow](#) and the documentation for [Creating User Interfaces](#) for details.

Optional: Making Custom changes in SAP Build Process Automation

Prerequisite: an account with access to SAP Business Application Studio as well as space developer permissions in BTP.

The source code for both the process and the SAPUI5-based user interfaces are available as part of the content package. With this, custom modifications can be implemented to adapt the content for specific needs.



The screenshot shows the SAP Business Application Studio interface for a project named "Service Confirmation Notification - 3.0.0". The "Overview" tab is selected, and the "Sources" sub-tab is active. The main content area displays the following information:

- Last updated on:** Oct 18, 2022, 12:44:37 PM
- Created on:** Sep 26, 2022, 7:00:39 PM
- Description:** Enhance the standard Service Confirmation process by automatically sending out a notification.
- By:** shivani.gubrele@itcinfotech.com

Below this information, there are three tabs: "Artifacts (7)", "Sources (2)", and "Documents (4)". The "Sources (2)" tab is selected, showing a table with the following data:

Name	Description
UI	SAPUI5 application sources
workflow	Sources for the process

- in **Application Lobby**, search the package name and select **Sources** tab
- select the archive you want to download in the list on the left side
- click on the blue filename behind **File (tar, zip)** to download the attached source archive
- Import the archive into SAP Business Application Studio
- make any necessary modifications
- Build and deploy the MTA archive, using the space developer credentials

Please refer to the documentation for [SAP Business Application Studio](#), the documentation for [Modeling a Workflow](#) and the documentation for [Creating User Interfaces](#) for details.