

SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

# Setup Guide

## Projects Activity Trigger with SAP Workflow Management or SAP Build Process Automation

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# Overview

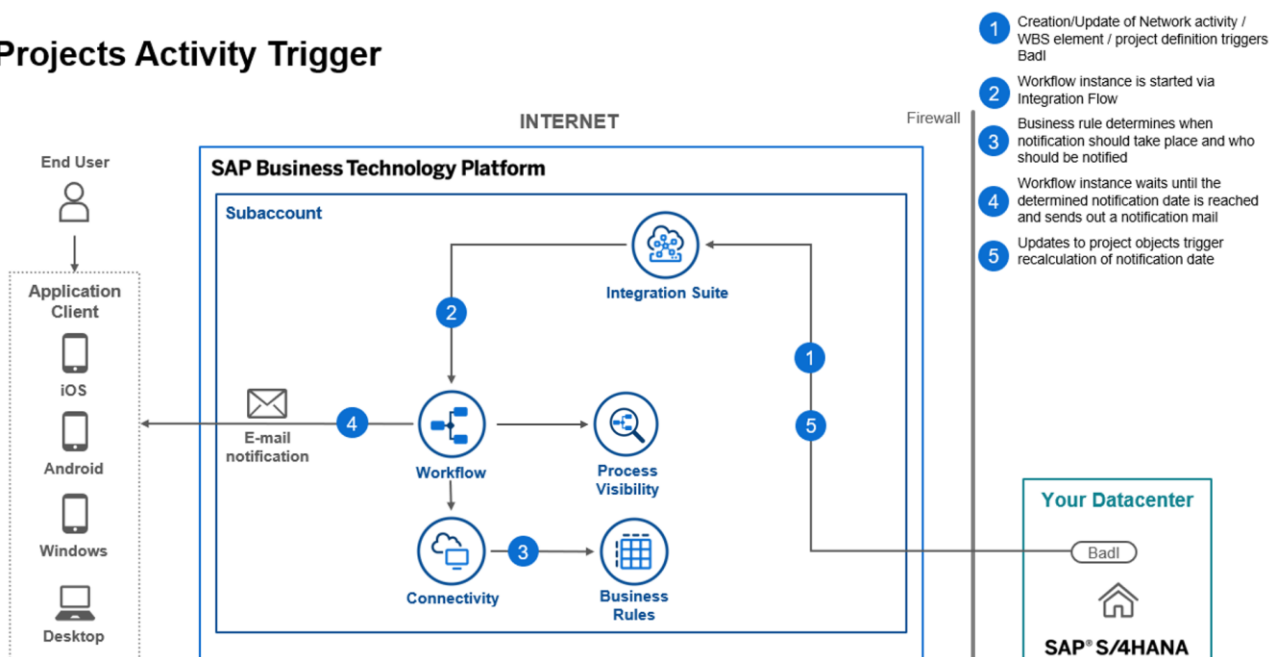
This document provides information about setting up the SAP Business Technology Platform account to consume the workflow content package **Projects Activity Trigger**. The main audience of this document are technical IT/system administrators.

This package enables sending notifications to the responsible users assigned to elements in the SAP Project System. It is possible to configure the lead time before the configured start date of the elements. The notification can be based on WBS elements, project definitions and network activities. The notification can be triggered immediately based on configurable user or system status values or just based on the configured date and lead time.

The Projects Activity Trigger package supports the following features

- Send notifications based on WBS elements, project definitions and network activities
- Immediately trigger notifications based on certain configurable user or system status
- Automatically trigger notifications once an element's date reaches the configurable lead time
- Determine notification recipient based on the assigned responsible person or the assigned work center

## Projects Activity Trigger



## Required SAP BTP Services

The workflow content package **Projects Activity Trigger** is intended to be used for SAP Project System and requires the following services in SAP Business Technology Platform.

- 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 Business Application Studio to modify/deploy the SAPUI5 applications.
- SAP Launchpad Service.

# Setup and Configuration

The **Project Activity Trigger** 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: \*

Name: \*

Description:

Additional Properties New Property

Next Cancel

Destination Configuration

Name: \*

Type:

Description:

URL: \*

Proxy Type:

Authentication:

Use mTLS for token retrieval

Client ID: \*

Client Secret:

Token Service URL Type: \*

Token Service URL: \*

Token Service User:

Token Service Password:

Additional Properties

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

Use default JDK truststore

Save Cancel

## Configure SAP Workflow Management

Projects Activity Trigger 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 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)

|                   |                                  |
|-------------------|----------------------------------|
| 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 Cloud Connector

For SAP S/4HANA on-premise landscape, configure cloud connector to enable secure tunnel to SAP Business Technology Platform tenant. Please refer the help documentation to [configure Cloud Connector](#).

## Configure Custom CDS View Destination

A HTTP destination is required in the Cloud Foundry account where SAP Workflow Management is subscribed. Create a destination with name "S4HANA\_ProjectsActivityTrigger\_WBSElement" with the following configuration, if it doesn't exist already. Please refer how to [create a HTTP destination](#).

|                |   |
|----------------|---|
| Name           | S4HANA_ProjectsActivityTrigger_WBSElement                                 |
| Type           | HTTP  |
| Proxy Type     | OnPremise   |
| Authentication | BasicAuthentication   |
| URL            | <OData base URL of SAP S/4HANA> /sap/opu/odata/sap/<br>ZZ1_WBSELEMENT_CDS |
| User           | <COMMUNICATION_USER>  |
| Password       | <COMMUNICATION_PASSWORD>  |

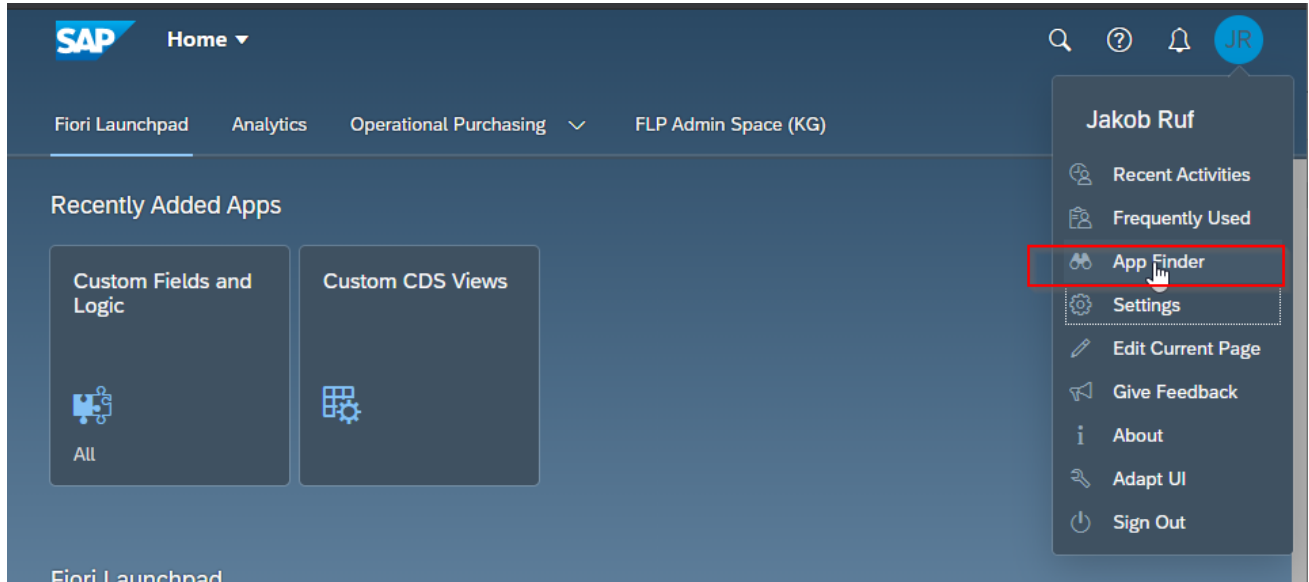


# Configure Custom CDS View in SAP S/4HANA

## WBSElement

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 "ZZ1\_WBSElement" 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\_WBSElementData as the Data Source

Go to section "Elements"

Add the elements as shown here

| Key | Alias                  | Path                                    |
|-----|------------------------|---|
| X   | WBSElementInternalID   | I_WBSElementData.WBSElementInternalID   |
|     | BasicStartDate         | I_WBSElementData.BasicStartDate         |
|     | ForecastedStartDate    | I_WBSElementData.ForecastedStartDate    |
|     | ActualStartDate        | I_WBSElementData.ActualStartDate        |
|     | BasicEndDate           | I_WBSElementData.BasicEndDate           |
|     | ForecastedEndDate      | I_WBSElementData.ForecastedEndDate      |
|     | ActualEndDate          | I_WBSElementData.ActualEndDate          |
|     | BasicDuration          | I_WBSElementData.BasicDuration          |
|     | BasicDurationUnit      | I_WBSElementData.BasicDurationUnit      |
|     | ForecastedDuration     | I_WBSElementData.ForecastedDuration     |
|     | ForecastedDurationUnit | I_WBSElementData.ForecastedDurationUnit |

|  |                       |  |
|--|-----------------------|--|
|  | ActualDuration        | I_WBSElementData.ActualDuration        |
|  | ActualDurationUnit    | I_WBSElementData.ActualDurationUnit    |
|  | WBSElementExternalID  | I_WBSElementData.WBSElementExternalID  |
|  | WBSElement            | I_WBSElementData.WBSElement            |
|  | WBSElementShortID     | I_WBSElementData.WBSElementShortID     |
|  | ResponsiblePerson     | I_WBSElementData.ResponsiblePerson     |
|  | ResponsiblePersonName | I_WBSElementData.ResponsiblePersonName |

Publish your view

## 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 Projects Activity Trigger”.

## Implement the following BAdIs in your SAP Project System

Please follow the instructions from the link to implement the BAdIs with the code from the archive attached to the process:

[https://help.sap.com/doc/saphelp\\_nw75/7.5.5/en-US/44/f518d884056c30e10000000a114a6b/frameset.htm](https://help.sap.com/doc/saphelp_nw75/7.5.5/en-US/44/f518d884056c30e10000000a114a6b/frameset.htm)

Please implement the following BAdIs:

### 1. PROJECTDEF\_UPDATE

- a. Implement method PROCESS\_PROJECT\_DEFINITION of the class from the archive in the BAdI method BEFORE\_UPDATE.

Sample:

```
DATA(lo_project) = zcl_wf_proj_activity_trigger=>factory( ).

IF lo_project IS NOT INITIAL.
lo_project->process_project_definition(
EXPORTING is_project_definition = im_projectdefinition ).
ENDIF.
```

### 2. WORKBREAKDOWN\_UPDATE

- a. Implement method PROCESS\_WBS\_ELEMENT of the class from the archive in the BAdI method BEFORE\_UPDATE.

Sample:

```
"skip if no changes to WBS element
CHECK it_wbs_element IS NOT INITIAL.

DATA(lo_wbs) = ZCL_WF_PROJ_ACTIVITY_TRIGGER=>factory( ).

IF lo_wbs IS NOT INITIAL.
lo_wbs->process_wbs_element(
EXPORTING it_wbs_element = it_wbs_element
          it_wbs_hierarchy = it_wbs_hierarchy ).
ENDIF.
```

### 3. WORKORDER\_UPDATE

- a. Implement method PROCESS\_NETWORK\_ACTIVITY of the class from the archive in the BAdI method IF\_EX\_WORKORDER\_UPDATE~BEFORE\_UPDATE.

Sample:

```
DATA(lo_network) = zcl_wf_proj_activity_trigger=>factory( ).
IF lo_network IS NOT INITIAL.
lo_network->process_network_activity(
EXPORTING it_header = it_header
           it_header_old = it_header_old
           it_item = it_item
           it_operation = it_operation
           it_operation_old = it_operation_old_afvc
           it_status = it_status
        ).
ENDIF.
```

## Configure workflow start status

Workflows starting can be controlled by system status. To enable this, configure an entry in transaction code STRAVC for "ZWF\_ACT\_TRIGGER\_STAT". Note that this only works for "include" and "equals", so "exclude" and "not equals to" will not work even if configured in STRAVC. Below is a sample configuration to start the workflow process only when the Project is in "REL" status.

Display Table TVARVC: Selection Variables

Individual maintenance More

Contents of Table TVARVC  Include changed entries in transport request

Parameter Selection Options

| Name   | O...                     | Lower limit | Upper limit | Multip...                           | Cas...                   | Inter...                 |
|--|--------------------------|-------------|-------------|-------------------------------------|--------------------------|--------------------------|
| <input type="radio"/> SAP_FAST_CLOSE_ERKRS_S   |                          |             |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/> SAP_FAST_CLOSE_GJAHR_S   |                          | 2020        |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/> SAP_FAST_CLOSE_KOKRS_S   |                          | GL00        |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/> SAP_FAST_CLOSE_LDAY_S    |                          | 20200301    |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/> SAP_FAST_CLOSE_MANDT_S   |                          |             |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/> SAP_FAST_CLOSE_NONE_S    |                          |             |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/> SAP_FAST_CLOSE_PERIOD_S  |                          | 02          |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/> SAP_FAST_CLOSE_WERKS_S   |                          |             |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/> SAP_HR_NO_SO_TS_LAST_24H | <input type="checkbox"/> |             |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/> SAP_HR_NO_SO_TS_LAST_7D  | <input type="checkbox"/> |             |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/> SAP_RFM_SD_MASS_CHANGE   |                          | FSH*        |             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/> ZWF_ACT_TRIGGER_STAT     |                          | REL         |             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/>                          | <input type="checkbox"/> |             |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/>                          | <input type="checkbox"/> |             |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="radio"/>                          | <input type="checkbox"/> |             |             | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |

## Ensure good data quality for responsible person email assignment

For the Badl implementations to be able to automatically determine the receiver of the email notification, the data in the table assigning the responsible number to SAP user must be maintained.

To do this, follow those steps:

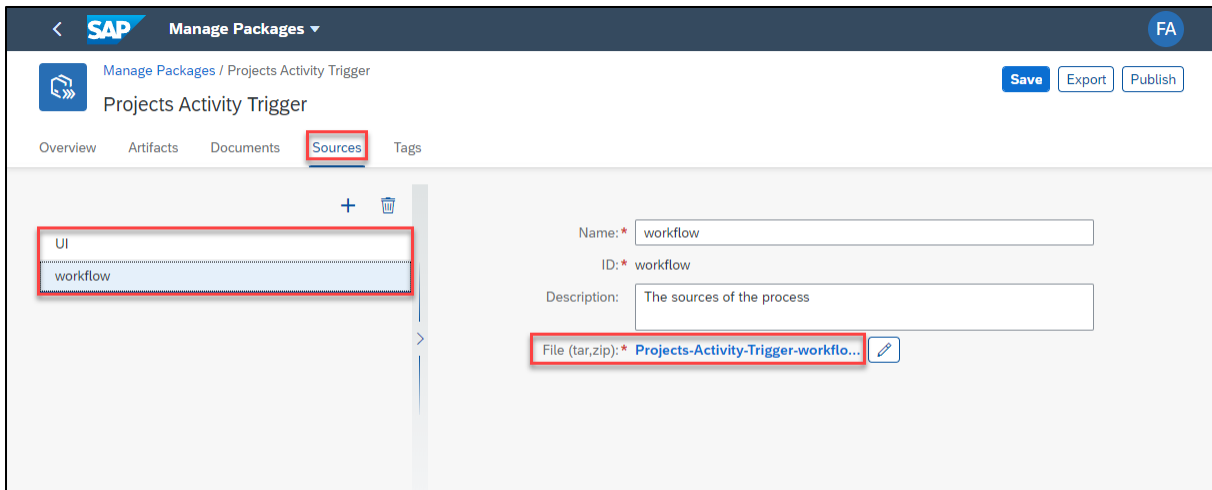
- Open transaction SM30
- Enter TCJ04 and click Maintain
- Make sure that each line is assigned an Office User that corresponds to a user in your system
- Make sure that the given users all have email addresses assigned in their user master data

If you can't ensure good data quality here by giving Office User and email address for the user, you have to implement the fallback solution by maintaining a mapping between the number of the responsible person and the email address in the business rule DetermineEmailAddress. To learn how to do this, follow the respective chapter in the Configuration Guide.

# 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.



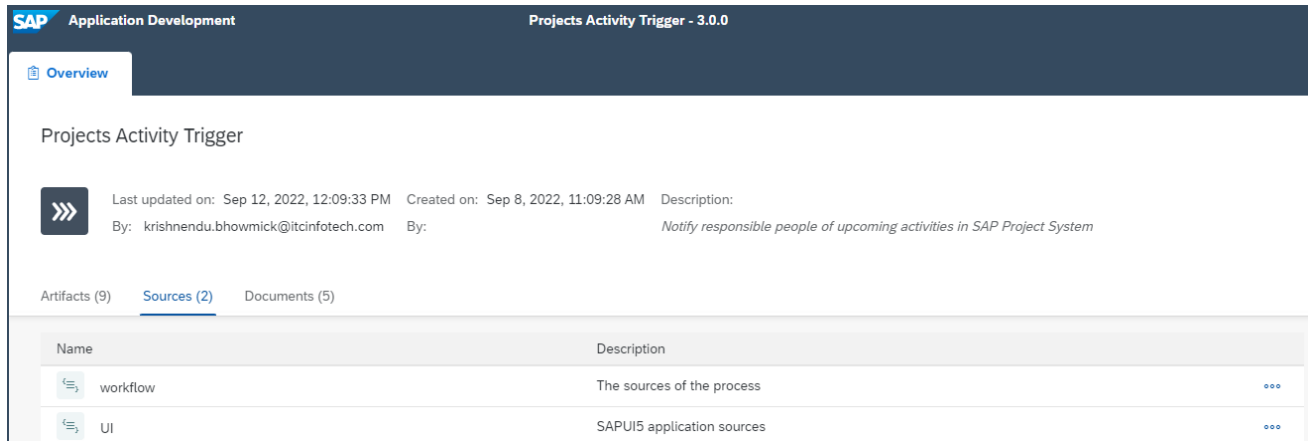
- in **Manage Package** app, select **Sources** tab
- select the archive you want to download in the list on the left side
- click on the blue filename behind **File (tar, zip)** to download the attached source archive
- Import the archive into SAP Business Application Studio
- make any necessary modifications
- 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 the 'Projects Activity Trigger - 3.0.0' project. The 'Sources' tab is active, displaying a table of source artifacts. The table has two columns: 'Name' and 'Description'. There are two rows of data: one for 'workflow' with the description 'The sources of the process', and one for 'UI' with the description 'SAPUI5 application sources'. Each row has a blue filename icon and a three-dot menu icon on the right.

| Name     | Description                |
|----------|----------------------------|
| workflow | The sources of the process |
| UI       | SAPUI5 application sources |

- 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.