

SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

# Configuration & User Guide

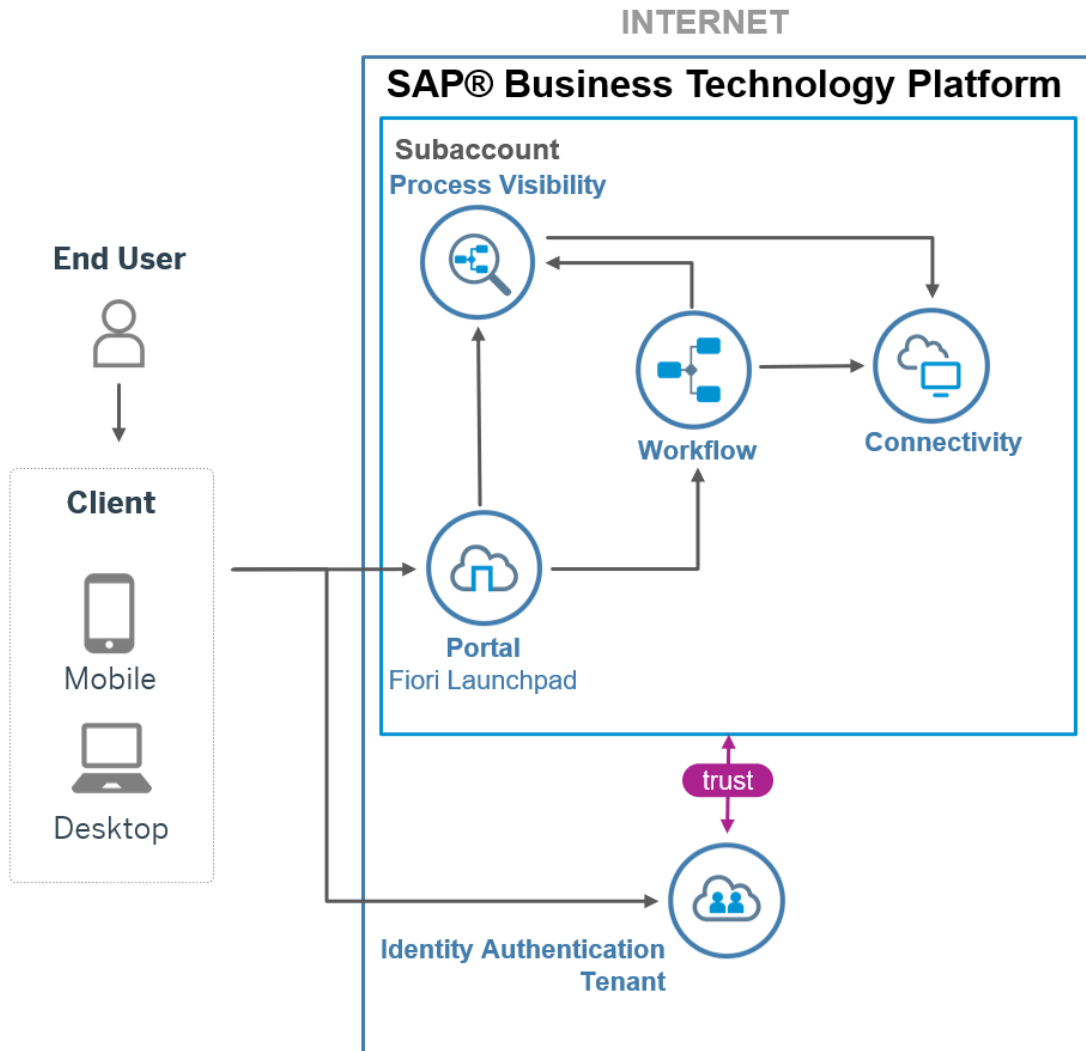
Insight to Action Workflows using SAP Build Process  
Automation or SAP Workflow Management

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# Overview

This document provides information about the configuration steps to consume the insight to action workflows to notify business users based on various situations arising in a business process.



SAP Workflow Management or SAP Build Process Automation has Process Visibility capability, enable Process Owners / Process Operators to gain real time insights into processes and insight to actions.

## Insight to Action

Processes change their status based on different situations like delays, SLA violation or technical failures. Some of this status changes require system centric actions and others require user centric actions. Process Visibility enable you to define both system and user centric actions based on process status.

### System Triggered Action

Process visibility triggers actions when process status changes like (Failed, Suspended, Overdue or at Risk). Pre-configured workflow is triggered, and the workflow can do appropriate steps like notifying process administrators or creating a service ticket.

### User Triggered Action

User triggered actions will be enabled when the process reaches the preconfigured state and a user can trigger this action from process visibility. For eg: The process has exceeded the cycle time or at Risk or suspended or failed.

**SAP Workflow Management or SAP Build Process Automation shall not be used to store or process sensitive personal data. This service can be used if you have a legal ground to process personal data.**

## Required SAP Business Technology Platform Services

The following SAP Business Technology Platform services are required to consume the content package **Insight to Action Workflow**:

- SAP Cloud Foundry runtime
- SAP Workflow management or SAP Build Process Automation
- SAP Cloud Portal Service / SAP Launchpad Service
- SAP Cloud Identity Services - Identity Authentication (optional)

# Setup and Configuration

The **Insight to Action Workflows** 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 SMTP Mail Destination

Configure email destination to automatically send email notification to the involved parties. For more information on configuring the destination, see [configure SMTP mail destination](#).

## Configure OAuth2ClientCredentials 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  🗑
- html5-apps-...  🗑
- saasregistry...  🗑
- sap.cloud.s...  🗑
- sap.cloud.s...  🗑

Use default JDK truststore

Save Cancel

## Configure OAuth2UserTokenExchange Destination

Configure a destination with the following parameters:

Name	sap_process_automation_workflow_useraction
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2UserTokenExchange
URL	<"endpoints"."api">

Client ID	<"uaa":"clientis">
Client Secret	<"uaa":"clientsecret">
Token Service URL	<"uaa":"url">/oauth/token
Additional Properties:	Name: bpmprocessvisibility.triggerWorkflow Value: user

Name	sap_process_automation_workflow_systemaction
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2UserTokenExchange
URL	<"endpoints"."api">
Client ID	<"uaa":"clientis">
Client Secret	<"uaa":"clientsecret">
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](#).

## Configure SAP Workflow Management

Follow [Initial Setup](#) guide to correctly configure SAP Workflow Management. Please [create a service instance of workflow](#) and name it as **Workflow**. Please include the following scopes to the Workflow Service instance.

```
WORKFLOW_INSTANCE_GET
WORKFLOW_INSTANCE_GET_ERROR_MESSAGES
WORKFLOW_INSTANCE_START
WORKFLOW_INSTANCE_CANCEL
```

Please refer help documentation on how to add scopes while creating a service instance.

Restarting a workflow is configured with Principal propagation to get workflow context, cancel and creating a new workflow instance. The user triggers the restart action requires the following permission (WorkflowAdministrator, WorkflowInitiator and WorkflowContextViewer). Please refer help documentation on Workflow service security.

### Configure Default Workflow OAuth Destination

Workflow service require a default OAuth destination to enable principal propagation. If you do not have configured **bpmworkflowruntimeoauth** destination in your subaccount, please configure this using



[workflow help documentation](#).

#### Configure OAuth2ClientCredentials Workflow Destination

Configure a destination with the following parameters:

Name	Workflow
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
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](#).

## Import Insight to Action and Configure Process Variants with SAP Build Process Automation

1. In the [SAP Build Process Automation Store](#), search for live process package Insight to Action and import the same. This content package has one process template and process variant(s) for that template.
2. In the Application Development [Lobby](#), click to open the package with name Insight to Action. This opens the package in a new tab/window.
3. Click the + icon next to the process template to create a new process variant.
4. Enter Name of the new Process Variant (ex, Two Step Approval).
5. Click the newly created Process Variant tile to save and activate the process variant.
6. The process variant has a default implementation with two steps and at least one level of approval.
7. It is possible to remove steps like “Approval for Insight to Action” from a process variant only if there are multiple approvals. Please note that whether a step is mandatory or optional, and how many a times any step can be used within a variant, are dependent on the constraints defined on the process steps.
8. Save and activate the variant. A successful activation will create a new workflow definition in the account that can be viewed in the [Monitor Processes and Workflows app](#).

## Import Insight to Action and Configure Process Variants with SAP Workflow Management

1. In Process Flexibility Cockpit app, search for content package Insight to Action and import the same. Please refer the standard help document about [how to import a content package](#). This content package has one process template and process variant(s) for that template.
2. Open content package in Flexibility Cockpit and click Process Variants tile.
3. Click New Process Variant.
4. Enter Name of the new Process Variant (ex, default) and select “Insight to Action” as Process.
5. Click the newly created Process Variant tile to save and activate the process variant.
6. The process variant has a default implementation with two steps and at least one level of approval.
7. It is possible to remove steps like “Approval for Insight to Action” from a process variant only if there are multiple approvals. Please note that whether a step is mandatory or optional, and how many a times any step can be used within a variant, are dependent on the constraints defined on the process steps.
8. Save and activate the variant. A successful activation will create a new workflow definition in the

account that can be viewed in the Monitor Workflows – Workflow Definition app in SAP Fiori Launchpad.

# Using the Insight to Action workflows

SAP Workflow Management or SAP Build Process Automation has process visibility capability with insight to action feature. Insight to action enables business users to be notified based on the status of a process. A process status can be notified by the system or enable appropriate actions. There are two workflows packaged in this content.

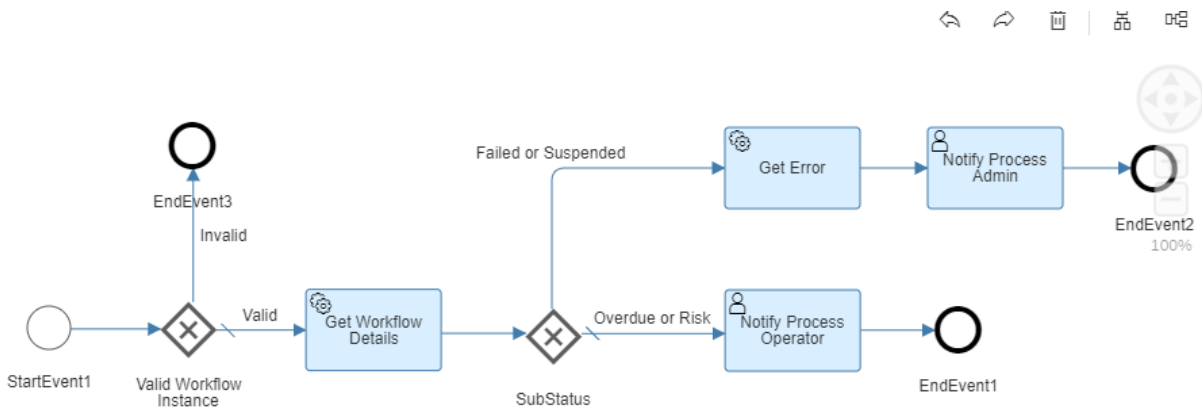
A process can have multiple status and sub statuses. Process visibility provides standard statuses and sub statuses. Customer can define process specific statuses and sub statuses. Please see the help documentation for more details.

<https://help.sap.com/viewer/62fd39fa3eae4046b23dba285e84bfd4/Cloud/en-US/92df3f74c0134d4d922c15043a9629fc.html>

Status	Default Sub Status	Description
At Risk	Threshold Violation	Reached a certain percentage of target cycle time
Critical	Overdue, Suspended, Failed	Exceeded target cycle time or process has failed or suspended.
On Track	On Time	Performing as expected.
Completed without violations	Completed	Completed within the target cycle time
Completed with violations	Completed with time violations	Completed with violation of target cycle time.

## System Centric Action workflow - Notify Process Administrator

This workflow triggered by Process Visibility as and when the Process Status change to any of the above statuses or custom statuses configured by the customer.



## Create User Groups

The Workflow assigns tasks to two users groups depending on the status or sub status. Create these two user groups in the identity management and assign the users responsible.

Status / Sub Status	User Group
On Risk, Critical	ProcessOperators
Failed, Suspended	ProcessAdmins

## Process Visibility Configuration

The above workflow can be consumed from process visibility scenario with minimal configuration.

1. Open your process visibility scenario.
2. Add a calculated attribute with name **workflowInstancelId**.
3. Use Expression Type as Process Information and Type as Process Instance ID.

### Add Calculated Attribute

Name: \*

ID: \*

Expression Type:

Type:

Process:

OK Cancel

4. Add an action of type System and use your destination (Workflow).
5. Select the Workflow Definition Id  
`com.sap.bpm.content.NotifyProcessAdministrators`.
6. Copy the JSON data as Start Context.

```
{  
  "workflowInstancelId": "{workflowInstancelId}",  
  "SubStatus": "{SC_SubStatus}"  
}
```

}

The screenshot shows the configuration for a workflow action named 'NotifyProcessAdmin'. The configuration is divided into several sections:

- General Information:** ID: NotifyProcessAdmin, Type: Trigger Workflow from SAP Workflow Service, Sentiment: Neutral.
- Workflow Details:** Trigger Type: System, Destination: Workflow, Workflow Definition ID: NotifyProcessAdministrators. The Start Context is a JSON object: 

```
{ "workflowInstanceId": "{workflowInstanceId}", "SubStatus": "{SC_SubStatus}" }
```
- Conditions:** A table with 4 rows, each defining a condition based on an attribute, operator, and value.

Attribute	Operator	Value	
SubStatus	equal to	Workflow Failed	
SubStatus	equal to	Workflow Suspended	
Status	equal to	At Risk	
Status	equal to	Critical	

7. Add Conditions using Status and Sub Status attributes.
8. Save and Activate your scenario.

### Approval Tasks

When your scenario changes the status of sub status, process visibility triggers the action, a workflow task is created and assigned to the responsible user groups.

All Tasks (1) Notify Process Admin

Search

REFRESH

Filtered By: Task Type (Notify Process Admin)

Reserved by You

Workflow Instance a75c272b-bfcc-11eb-a822-eeee0a898e18 failed ... sb-clone-4aa4cc07-a... High

Workflow Instance a75c272b-bfcc-11eb-a822-eeee0a898e18 failed or suspended

Created On: May 28, 2021 Priority High

Created By: sb-clone-4aa4cc07-abc4-4715-9e0b-d6bbb4061ca01b12848|workflow|b2746

Workflow Details Error

RequestID: R-0001  
 Subject: Project Budget Approval - R-0001  
 Status: SUSPENDED  
 Started At: May 28, 2021, 5:52:06 PM  
 Started By: Venu

Error

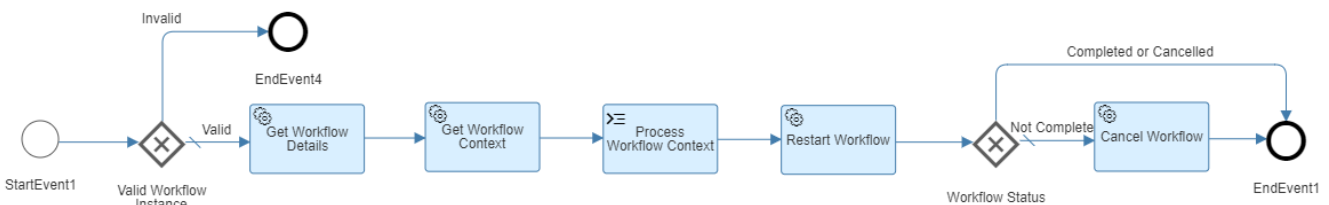
Messages

Activity	Message	Timestamp	ErrorCode
No items available.			

Complete Show Log Release

## User Centric Action workflow – Restart Workflow

This workflow triggered by Process Operator when the Process Status changes to any of the statuses or custom statuses configured by the customer. User can restart the workflow approval and cancel the existing instance. The existing instance will be changed to cancelled and new instance started with the workflow context provided by the customer.



## Configure Visibility Scenarios in SAP Build Process Automation

1. Go to the Application Development Lobby.
2. Select Insight to Action Project.
3. Click to open **Insight to Action** scenario.
4. Click Activate button.

## Process Visibility Configuration in SAP Workflow Management

The above workflow can be consumed from process visibility scenario with minimal configuration.

1. Open your process visibility scenario.
2. Add a calculated attribute with name **workflowInstanceId**.

3. Use Expression Type as Process Information and Type as Process Instance ID.

#### Add Calculated Attribute

Name: \*

ID: \*

Expression Type:

Type:

Process:

OK Cancel

4. Add an action of type System and use your destination (WorkflowActions).
5. Select the Workflow Definition Id `com.sap.bpm.content.RestartWorkflow`.
6. Copy the JSON data as Start Context.

```
{  
  "workflowInstanceld": "{workflowInstanceld}",  
  "SubStatus": "{SC_SubStatus}"  
}
```



ProjectBudgetApproval (sap.com.ProjectBudgetApproval) Save Activate

General Processes Correlation Phases State Status ▾ Attributes **Actions** Performance Indicators

Search  ↕ ✎ + 🗑️

NotifyProcessAdmin  
ID: NotifyProcessAdmin

**Restart Approval**  
ID: Restart\_Approval

ID: Restart\_Approval

Type: Trigger Workflow from SAP Workflow Service

Sentiment: Positive

**Workflow Details**

Trigger Type: User

Destination\*: WorkflowActions ⓘ

Workflow Definition ID\*: RestartWorkflow

Start Context:

```
{
  "workflowInstanceld": "{workflowInstanceld}",
  "SubStatus": "{SC_SubStatus}"
}
```

**Conditions** +

Attribute	Operator	Value	
Status	equal to	At Risk	✎ ✕
Status	equal to	Critical	✎ ✕
SubStatus	equal to	Workflow Failed	✎ ✕
SubStatus	equal to	Workflow Suspended	✎ ✕

7. Add Conditions using Status and Sub Status attributes.
8. Save and Activate your scenario.

### Workflow Changes

RestartWorkflow model access the existing workflow details and context using Workflow APIs. In order to create a new workflow instance with start payload, a script task before the service task Start Workflow needs to be modified.

```

1  var WorkflowStartPayload ={};
2  WorkflowStartPayload.definitionId = $.context.WorkflowInstanceDetail.definitionId;
3  WorkflowStartPayload.context={};
4
5
6  /*
7  This code block needs to be adapted based on the start payload of your workflow
8
9  WorkflowStartPayload.context.Request= $.context.WorkflowInstanceDetail.Context.Request;
10 WorkflowStartPayload.context.Investment= $.context.WorkflowInstanceDetail.Context.Investment;
11 WorkflowStartPayload.context.Approver= $.context.WorkflowInstanceDetail.Context.Approver;
12 WorkflowStartPayload.context.Comments= [];
13 */
14 |
15 $.context.WorkflowStartRequest = WorkflowStartPayload;
16 $.context.WorkflowPatch={};
17 $.context.WorkflowPatch.status = "CANCELED";

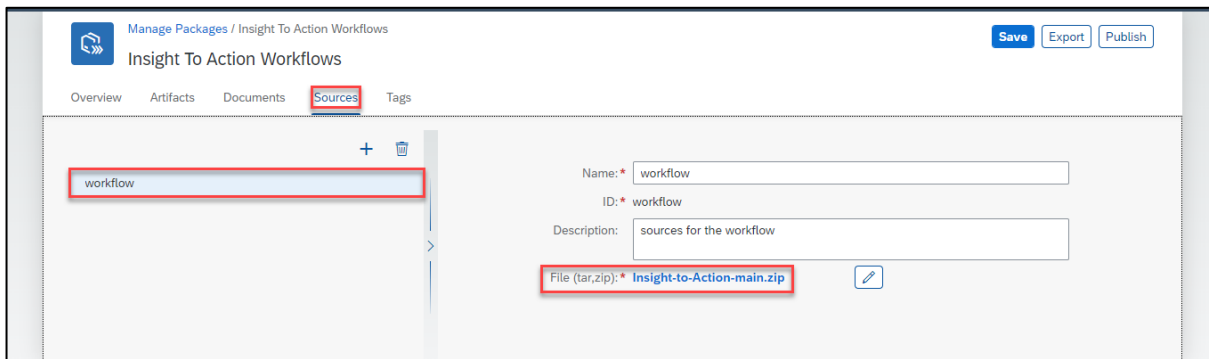
```

Build and deploy the workflow definition to your BTP subaccount.

## 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 the workflows is 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 the workflows is available as part of the content package. With this, custom modifications can be implemented to adapt the content for specific needs.



- in **Application Lobby** search the package, select **Sources** tab
- select the archive you want to download in the list on the left side
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