



# USER GUIDE

## Workflows

2025.2 - June 2025

# Table of Contents

<b>Table of Contents</b> .....	<b>2</b>	Considerations .....	36
<b>Workflows</b> .....	<b>6</b>	<b>Configuring Views for Workflows</b> .....	<b>38</b>
<b>Getting Started with STEP Workflows</b> .....	<b>8</b>	Attribute .....	39
<b>Workflow Terminology</b> .....	<b>9</b>	Attribute Group .....	40
<b>Workflow Privileges</b> .....	<b>11</b>	Aspect .....	40
<b>Initial Setup for Workflows</b> .....	<b>12</b>	Component .....	42
<b>Creating a Workflow</b> .....	<b>16</b>	DeDuplication .....	43
Prerequisites .....	16	DTP task info provider .....	44
Considerations .....	16	Pluginable cell debug .....	45
Step 1: Create a New Workflow .....	17	Pluginable cell primary image .....	45
Step 2: Create States in a Workflow .....	17	Vendor .....	46
Step 3: Create Transitions Between States .....	20	Workflow assignee .....	47
Step 4: Add Events to Transitions .....	22	Workflow attachment .....	49
Step 5: Set Assignees .....	24	Workflow deadline .....	51
Set an Assignee for a State .....	25	Workflow linked name .....	52
Set an Assignee for the Workflow .....	26	Workflow note column .....	55
Step 6: Set Validity .....	27	Workflow planned page .....	56
Step 7: Set Workflow Options .....	27	Workflow task column .....	57
Duplicate an Existing Workflow .....	29	Workflow variable .....	58
<b>STEP Workflow Designer</b> .....	<b>31</b>	Workflow variable user list .....	59
Prerequisites .....	31	View 'Sort On' Option .....	60
Overview .....	31	Ordering Columns in Views .....	63
Dialogs .....	32	Using the XML View Editor .....	64
Workflow Editor .....	32	<b>Configuring Mappings for Workflows</b> .....	<b>65</b>
State Editor .....	32	Prerequisites .....	65
Transition Editor .....	34	Configuration .....	65
Visual Indicators .....	34	Workflow User / Group Specific Mappings .....	68
<b>Views and Mappings for Workflows</b> .....	<b>36</b>	<b>Working with Tasks in Workflows</b> .....	<b>73</b>
		<b>Moving Tasks through a Workflow in STEP Workbench</b> .....	<b>74</b>
		Initiating the Object into the Workflow .....	74

Processing Tasks in a Workflow .....	75	<b>Claiming and Releasing Tasks in Workflows .....</b>	<b>107</b>
STEP Workflow Tasks Tab .....	75	Claiming a Task in a Workflow .....	107
Tasks Tab on an Object .....	79	Releasing a Task in a Workflow .....	108
<b>State Log Tab .....</b>	<b>80</b>	<b>Workflow Re-assignments .....</b>	<b>109</b>
Managing State Log Entries .....	82	Administrator Privilege Setup for Workflow Assignee .....	109
<b>Workflow Advanced Search Criteria .....</b>	<b>83</b>	Re-assignment Procedures for STEP Workflow Administrators ..	112
Performing an Advanced Search with Workflows .....	83	STEP Workflow Tab .....	112
<b>Managing Workflows .....</b>	<b>87</b>	Object's Task Tab .....	113
STEP Workflow Editor Tab .....	87	<b>Auto-Initiation of Tasks in Workflows .....</b>	<b>114</b>
Validity Tab .....	88	Setting Automatic Initiation of Tasks in Workflows .....	114
Log Tab .....	89	Initiating an Object Automatically in Workflows .....	115
Status Tab .....	90	Create and Initiate from STEP Workbench .....	115
Purging Workflow Revisions .....	93	Create and Initiate from Import .....	117
Deleting Workflows .....	94	Disabling Auto-Initiation .....	118
<b>Advanced Workflow Topics .....</b>	<b>95</b>	<b>Auto-Routing Tasks in a Workflow .....</b>	<b>119</b>
<b>Assignees in Workflows .....</b>	<b>96</b>	<b>Bulk Update Operations for Workflows .....</b>	<b>122</b>
<b>Assigning Tasks Using Business Rules .....</b>	<b>97</b>	Claiming a Task in a Workflow .....	123
Overwriting the Assignee in Workflows with JavaScript .....	97	Claiming a Task .....	123
Reassigning to Previous Users in a Workflow .....	99	Initiate Items in STEP Workflows .....	126
<b>Retrieving the ID of an Assignee Completing a Task in Workflows .....</b>	<b>101</b>	Removing Items from STEP Workflow .....	128
Using Manager Interface to Return the User ID in a Workflow ...	101	Trigger STEP Workflow Event .....	128
Using Task Interface to Return the User ID in a Workflow .....	102	<b>Business Rules and Workflows .....</b>	<b>131</b>
Condition to Aid in returning User ID in Workflows .....	102	Example .....	131
<b>Workflow State Editor Assignee Tab Options .....</b>	<b>104</b>	Applying Rules in a Workflow .....	132
Workflow Default .....	104	Workflow Business Rules in Operation .....	136
Select User / Group .....	105	Order of Operation .....	136
Fetch from Variable .....	105	More Information .....	137
Executing User .....	105	<b>Deadlines and Escalations in Workflows .....</b>	<b>138</b>
Advanced Options .....	106	Understanding Deadlines in the Workflow State Editor .....	138
		Setting Up Deadlines for Workflows .....	138

Business Actions for the Workflow On Entry Tab .....	140	Mandatory Attributes .....	
Editing Deadlines through Workflow Views and Mappings .....	141	Configuring Workflow States / Transitions with Conditionally Mandatory References .....	173
<b>Deleting Objects in Workflows .....</b>	<b>143</b>	Conditionally Mandatory Attribute and Reference Handling in Web UI .....	175
<b>Edit a Workflow in Use .....</b>	<b>145</b>	Example .....	175
Important considerations before editing a workflow in use .....	145	Conditionally Mandatory Attribute and Reference Handling in STEP Workbench .....	179
<b>Exporting Workflow Definitions .....</b>	<b>146</b>	Determining Mandatory Status of an Attribute or Reference .....	179
Loading Workflow Configurations on Another System .....	146	<b>Monitoring Workflows with a Profile .....</b>	<b>181</b>
Export in the SCXML Format .....	148	Profile Editor .....	189
<b>Exporting Workflow Statuses .....</b>	<b>149</b>	<b>Remove Objects from Workflows .....</b>	<b>191</b>
<b>Workflows and LOVs .....</b>	<b>151</b>	Remove Single Object .....	191
Initiate an LOV in a Workflow .....	152	Remove All Objects from a Workflow .....	191
Remove an LOV from a Workflow .....	153	Remove Objects from a State Using Bulk Updates .....	192
<b>Java API for Workflows .....</b>	<b>155</b>	Removing Objects from the Final State .....	196
<b>Localizing Workflow State Names and Events .....</b>	<b>156</b>	Remove object from STEP Workflow Business Action .....	196
Considerations and Limitations .....	158	Execute JavaScript Business Action .....	197
<b>Mandatory Attributes, References, and Variables in Workflows ..</b>	<b>159</b>	<b>Running Background Processes from Workflows .....</b>	<b>200</b>
Setting up Workflow State Mandatory Data .....	159	On Entry Background Process Script .....	204
Setting up Workflow State Mandatory Attributes .....	159	<b>Scheduling a Task Notification Email .....</b>	<b>205</b>
Setting up Workflow State Mandatory References .....	161	Prerequisites .....	205
Setting up Workflow Transition Mandatory Data .....	163	Setting Up Email Notifications .....	205
Setting up Workflow Transition Mandatory Attributes .....	163	<b>Send Email from a Workflow .....</b>	<b>211</b>
Setting up Workflow Transition Mandatory References .....	164	Dynamic Email Addresses .....	211
Setting up Dynamic Mandatory Data on Workflow Transition .....	165	Configuring Emails from Workflows .....	211
Setting up Dynamic Workflow Transition Mandatory Attributes and References .....	166	Conditions .....	211
Smartsheets State Mandatory Attributes and References .....	167	Static Email Address .....	216
Set Workflow to Ignore Mandatory Attributes and References .....	167	<b>State Characteristics in Workflows .....</b>	<b>218</b>
Setting up Mandatory Workflow Variables .....	169	<b>Initial and Final States in a Workflow .....</b>	<b>219</b>
<b>Conditionally Mandatory Attributes and References in Workflows</b>	<b>170</b>	Initial .....	219
Configuring Workflow States / Transitions with Conditionally .....	170		

Initial State .....	219	Workflow Attachment Configurations .....	258
Initial as a Parallel .....	219	Attaching a File in a Workflow .....	260
Final .....	220		
<b>Clusters in Workflows .....</b>	<b>222</b>		
Creating and Entering Clusters in Workflow .....	222		
Exiting a Cluster in a Workflow .....	224		
<b>Parallels in Workflows .....</b>	<b>227</b>		
Exiting a Parallel .....	227		
<b>Progress Bar In Workflows .....</b>	<b>230</b>		
<b>Status Flags .....</b>	<b>232</b>		
<b>Initial Setup for Status Flags in Workflows .....</b>	<b>233</b>		
Prerequisites .....	233		
Configuration .....	233		
<b>Configuring Status Flags in Workflows .....</b>	<b>236</b>		
Prerequisites .....	236		
Configuration .....	236		
Using Business Rules to Set Status Flags in Workflows .....	237		
<b>Triggering Workflow Events from Imports .....</b>	<b>245</b>		
Condition for Triggering Workflow Events from Imports .....	245		
<b>Validate Data in a Workflow .....</b>	<b>249</b>		
Configuring Validation .....	249		
Applying Validation .....	250		
<b>Workflow Variables .....</b>	<b>252</b>		
Creating a Workflow Variable .....	252		
Workflow Variables in Use .....	254		
Workflow Variables in Web UI .....	256		
Workflow Variables in new UI for STEP (also known as Instrument) .....	256		
<b>Web Services for SOAP Requests for Workflows .....</b>	<b>257</b>		
<b>Workflow Attachments .....</b>	<b>258</b>		

## Workflows

This guide concerns designing, using, and monitoring STEP Workflows in the STEP Workbench. Workflows are managed within the workbench, though end users can access them via both the workbench and Web UI. For information on configuring and working with workflows in Web UI, refer to the Workflows in Web UI section of the Web User Interfaces documentation.

Workflows may be considered as a view or representation of real work within a company, allowing businesses to manage and streamline the flow of tasks among varying groups, users, and system activities. A workflow definition consists of a number of states that an object or task can be in at a given time, the legal transitions between these states, and the events via which the transitions can be triggered. The flow being described may refer to an asset, service, person, product, or other element that is being transferred from one state to another. For example, introduction of a new product may involve work from a variety of business groups, such as Product Management, Marketing, Creative, and Legal. Each group needs to interact with the product in some way, and likely have differing sets of data required for this interaction. Some groups may not be able to do their work until another group has completed theirs, while other groups may be able to act on the product in parallel.

The same principles apply for any other data types and any type of data maintenance. Regardless of the type of data or process being handled, an object in a state represents a task that requires work. For instance, a user could be required to populate a set of attributes, and when completed, manually trigger a transition from one state to the next. Alternatively, an object could be in a state waiting for data from an external system, waiting for a background process to complete, or waiting for a specific event elsewhere in the workflow or in STEP in general, and thus not require any direct human interaction.

STEP Workflows are data-centric workflows, meaning that a workflow instance is defined as the relation between a workflow definition and an object in the STEP database. An object can be in multiple workflows simultaneously, and each instance will have no impact on the others (unless the workflow definitions include business rules to create a relationship between various workflows).

On top of the basic STEP Workflow functionality, a number of additional features are available that make workflows powerful tools for streamlining processes and ensuring data quality. These include, but are not limited to, options to:

- Configure business rules to validate data, assign tasks, move tasks through workflows, integrate workflows with other processes such as imports and exports, and more
- Configure data views specific for each workflow state, allowing each actor in the flow to focus only on the data most relevant for their tasks
- Support both static and dynamic task assignment and ownership, ensuring that the right actor accesses the right task at the right time
- Design for sequential and parallel execution of tasks, streamlining work processes for maximum efficiency
- Set deadlines and escalation actions, ensuring that tasks are completed in a timely manner
- Configure dashboards for snapshot monitoring and KPI reporting, allowing administrators to quickly view and assess key data points across the entire workflow

The supported workflow enabled object types are:

- Assets
- Attributes
- Classifications
- Entities
- Lists of Values (LOVs)

- Planned pages
- Products
- Publications
- Publication sections

While workflows can become quite complex, the basics are really simple, and it is possible to get a small functional workflow up and running in a matter of minutes. This guide will begin with the basic material and work up to more advanced topics.

**Note:** A workflow definition can be exported as comments and submitted to an external source control system for comparison purposes. For details, refer to the Configuration Management documentation.

## Getting Started with STEP Workflows

This portion of the material introduces the user to basic STEP Workflow functionality, including creating a simple workflow and accessing tasks within it. More advanced material can be found in the Advanced Workflow Topics section of the Workflows documentation, but it is recommended that users be well-versed in the introductory topics before beginning advanced functions.

If you are new to workflows, it is recommended that you read the material in the suggested order, as topics build upon one another.

However, if you are concerned only with the end user functionality (working with tasks in a workflow), as opposed to designing and configuring a workflow, review the Working with Tasks in Workflows section of the material.

Suggested reading order:

- Workflow Terminology
- Workflow Privileges
- Initial Setup for Workflows
- Creating a Workflow
- STEP Workflow Designer
- Views and Mappings for Workflows
- Working with Tasks in Workflows
- Managing Workflows

# Workflow Terminology

This defines a list of commonly used terms in workflows.

<b>Action</b>	Type of business rule that can be executed on arrival in a new state (on-entry), on exit from a state (on-exit), or on the transition between two states (on-transition). Actions may modify data.
<b>Assignee</b>	The user or group to which a task is assigned for work to be performed. User states can be assigned directly to a named user or to a user group. When a state is assigned to a user group the task is 'offered' to all members of that group. To perform the task associated with the state, a member of the group has to claim the task. Once a task is claimed it is no longer visible in the group task list; only the person who claimed the task is able to view it. A user may subsequently release a task back to the group.
<b>Automated State</b>	State in which the STEP system performs the required work and automatically progresses the workflow when the automated work is complete. Typically requires the use of at least one business rule.
<b>Business Rule</b>	Automated activity that may implement customer-defined rules, such as validations, automatic updates, notifications, data-driven workflow routing, etc. Also refer to Condition and Action.
<b>Condition</b>	Type of business rule that can prevent a transition from being taken when an event is attempted. Within a workflow, conditions may only be executed on attempted transitions (e.g., before 'Proceed' event is allowed, validate that all required data has been populated). A condition may not change data.
<b>Deadline</b>	Optional setting for time allowed for a task to be completed. If a deadline expires on a task it is possible to perform an escalation.
<b>Escalation</b>	The action(s) to be taken when a deadline expires. Escalations require at least one business rule to be configured, which is triggered by the escalation.
<b>Event</b>	The name associated with a transition between two states, such as Proceed, Reject, or Accept. When a task is completed an event is triggered to transition an object to the next state(s) in the workflow. In most cases where there is just a single event, this is called 'Proceed' but in some cases there is a need to support different routing via different events (e.g., 'Accept' or 'Reject') or a different name is chosen to add clarity (e.g., 'Approve').
<b>Final State</b>	The state within a workflow or a parallel cluster that is the last step of this workflow or parallel cluster. A final state cannot have any outbound events as there are no available transitions from the state. For parallel clusters, final states are used to auto-progress the workflow when all concurrent parallel clusters have reached their final state.
<b>Initial State</b>	The first state that is activated within a workflow or within a parallel cluster of a workflow.
<b>Task</b>	The work and/or action that must be completed within a specific workflow state (whether by a user or via automation).
<b>Task Fields</b>	Fields (attribute, reference, workflow variable) that are available within a specific state for the system or a user to access (view and/or populate). Task fields may or may not be included in the view.
<b>Parallel cluster</b>	A set of states that form a sequential branch of dependent states which may run parallel to other independent branches within the same workflow.

<b>State</b>	A step within a workflow to which a specific user, user group, or system can be assigned to complete the task(s) associated with the state. Also refer to User State and Automated State.
<b>Transition</b>	The change of tasks from one state to another.
<b>User State</b>	State that requires a user to complete a task before marking the state complete. May include some automation that happens on entry or exit of the state, but requires a user to trigger the exit from the state (indicating completion of the associated task).
<b>View</b>	The set of specific data points that are presented to the user in the STEP Workbench when a task is selected. Views are configurable by state and are only applicable for user states that will be accessed directly from the STEP Workbench. Views are not applicable for automated states, and states accessed via a Web UI have interfaces defined via the Web UI configuration. Within the STEP Workbench, users can still choose to use the full set of workbench data and tabs to work on workflow tasks if desired (and permitted via privilege configurations). However, a view can streamline work processes so that only a small subset of fields that are directly relevant to the task / state are displayed.
<b>Workflow</b>	Business process(es) modeled as a series of states and tasks that can be executed by users and/or automatic processes within the STEP system. Workflows prompt the next step of a process to be started, by either creating a task for a user, or sending an alert. Workflows may contain a number of process steps or tasks, as well as business logic.
<b>Workflow Attachment</b>	A temporary asset attached to a task, that does not exist outside of the workflow.
<b>Workflow Variable</b>	A temporary data point (similar to an attribute value) attached to a task, that does not exist outside of the workflow.

## Workflow Privileges

There are a number of Setup Actions (privileges) directly related to STEP Workflows, both in terms of allowing users to configure workflows and to work with tasks within workflows. In addition to workflow-specific privileges, workflows also take into account general privileges. For example, if a user does not have access to a specific set of objects or data points, they will not have access to them within a workflow either, unless specific access is granted within the workflow.

For complete information on privileges related specifically to workflows, refer to the 'Workflows' section of the Setup Actions and Error Descriptions topic in the System Setup documentation.

For information on editing general privileges to provide access to data or objects specifically within a particular workflow state, refer to the Editing Privilege Rules section of the System Setup documentation.

## Initial Setup for Workflows

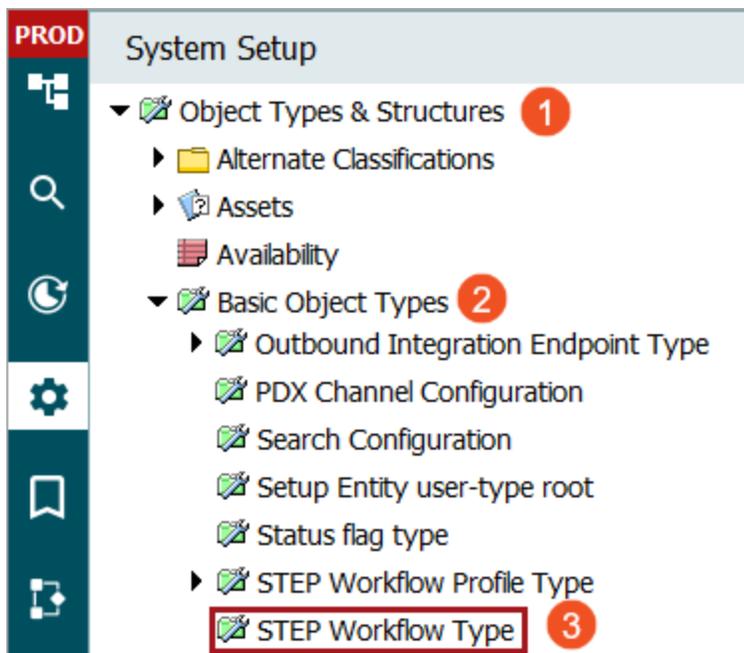
To create workflows in STEP, some basic configuration must first be completed. Specifically, the STEP Workflow Type basic object type must have a Setup Group parent assigned, and a System Setup object of the proper type must have been created to hold the workflows.

In most cases, this setup will already be complete on a system and is only required if a Workflows folder (or other setup node enabled to workflow children) is **not** present on the System Setup tab, as shown in final step below.

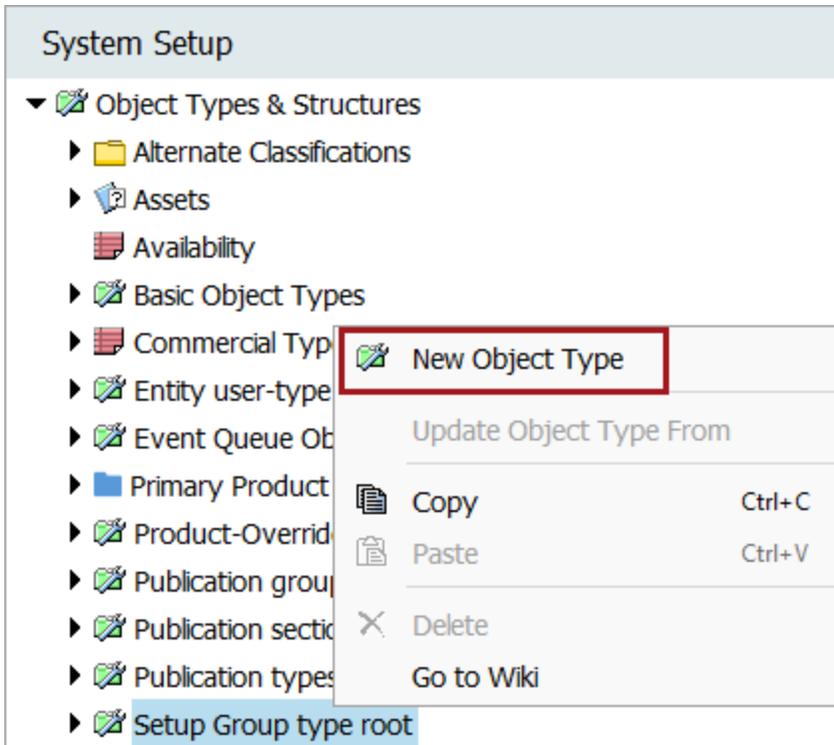
The setup described below is only required to be completed once on any system, but may be carried out multiple times if it is desired to separate workflows for organizational purposes.

### Enabling a Setup Group for Workflows

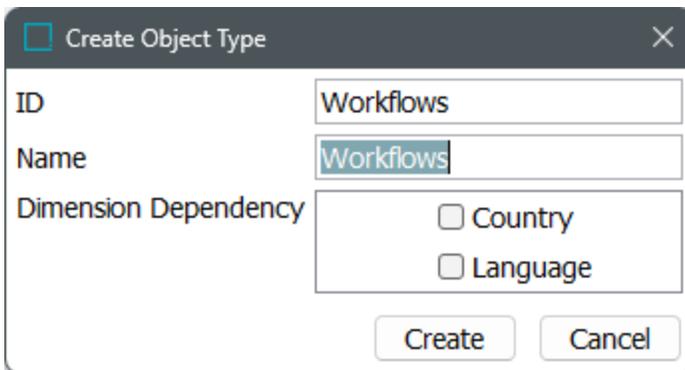
1. Go to System Setup, select Object Types and Structures, open Basic Object Types, and verify that **STEP Workflow Type** exists. If not, contact your system administrator for assistance.



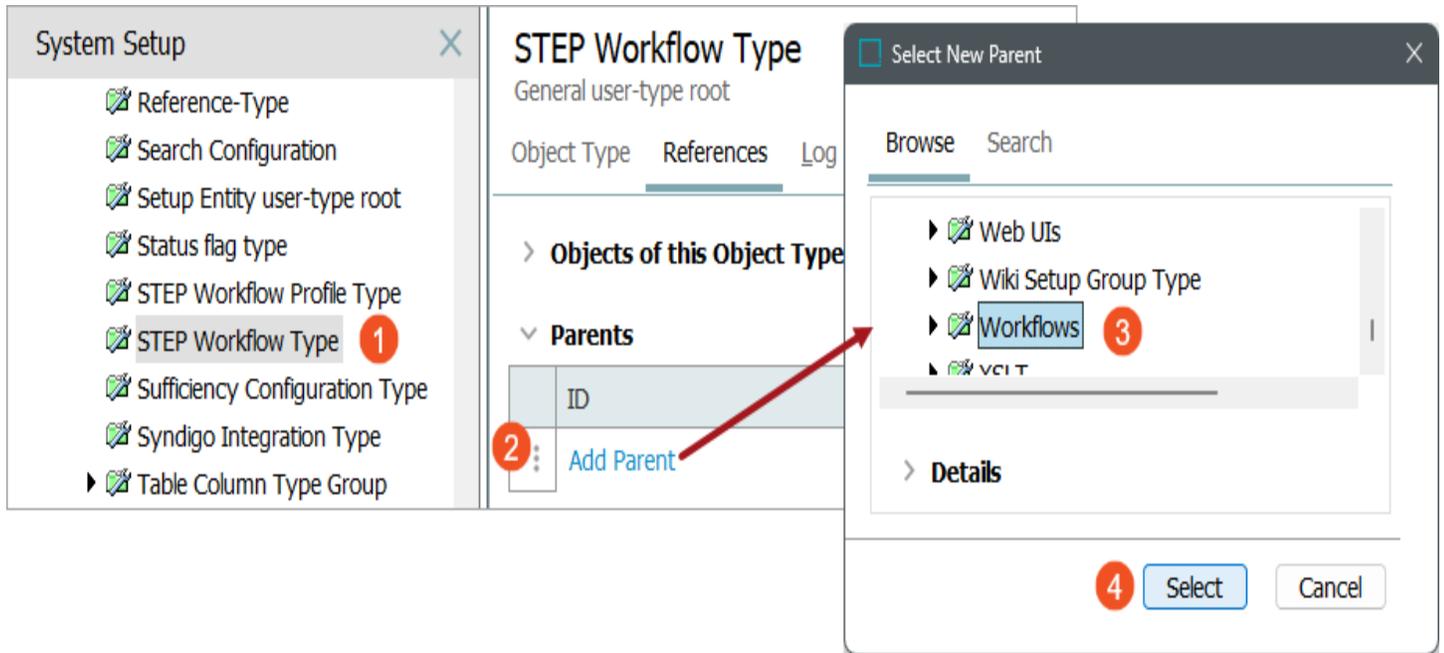
2. Under Object Types & Structures, right-click on 'Setup Group type root', and click **New Object Type** from the context menu.



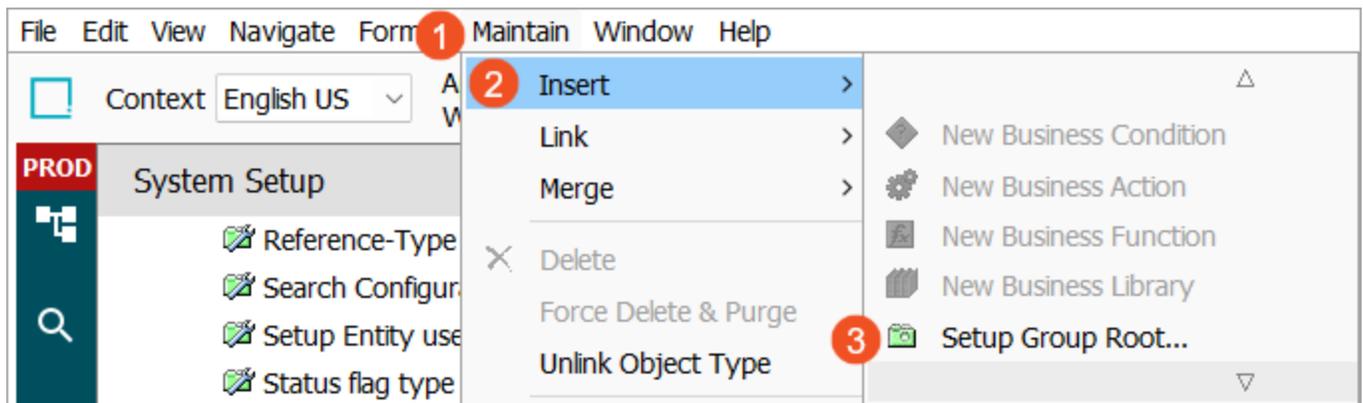
3. Enter an ID and a Name, and click **Create**.



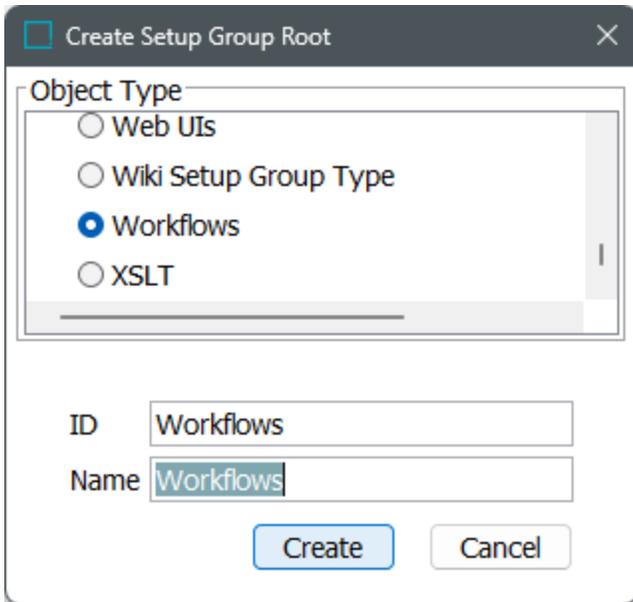
4. Return to Object Types & Structures, open Basic Object Types, and open the **STEP Workflow Type** node. In the corresponding editor, select the References tab and select **Add Parent** to link this to the folder created for workflows under **Setup Group type root**. This enables workflow objects to be created as children to the Workflows setup group root.



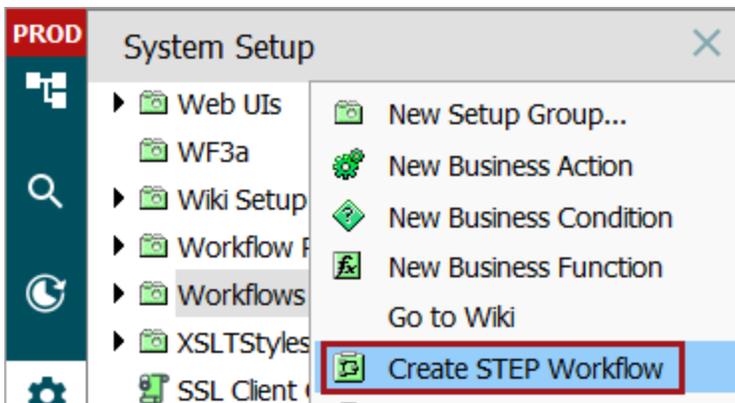
- On the Maintain menu, navigate to Insert, and scroll down to select **Setup Group Root**. This creates a parent node to house workflow instances.



- On the 'Create Setup Group Root' dialog, select the workflow object type that was created earlier. Enter an ID and Name, and click **Create**.



This creates a folder in System Setup to hold individual workflows as defined in the Creating a Workflow topic.

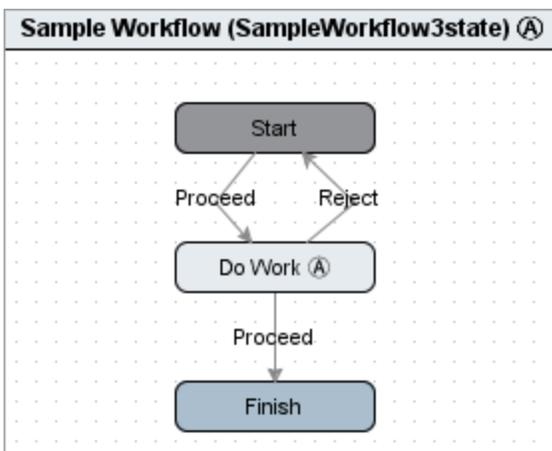


## Creating a Workflow

This topic describes how to create a basic workflow, which requires the following steps:

1. [Create a new workflow](#)
2. [Create states in a workflow](#)
3. [Create transitions between states](#)
4. [Add events to transitions](#)
5. [Set assignees](#)
6. [Set validity](#)
7. [Set workflow options](#)

Each of the steps is described in detail below, guiding users through the creation of a simple workflow, as shown below.



You can also [duplicate an existing workflow](#) to create a new workflow that can be modified while leaving the original workflow unchanged.

## Prerequisites

To create a workflow, the system must first have a place established to house the workflow as detailed in the Initial Setup for Workflows topic. On any system, this setup only needs to be completed once and is likely to have already been completed. However, if the System Setup tab does not have a folder that allows workflow children (as shown in the [Step 1: Create a New Workflow](#) section below), then this initial configuration needs to be completed before any workflows can be created.

## Considerations

Steps 1 - 3, and step 5, of workflow creation must all be completed in a single session to save the workflow configuration. Therefore, take care during initial configuration to ensure that the steps can be completed and work is not lost.

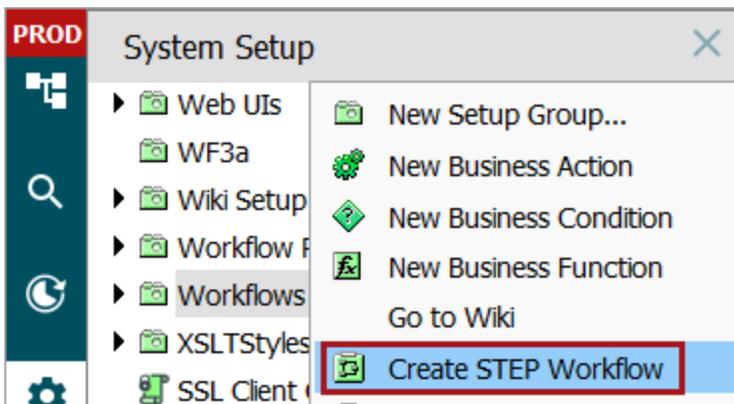
Each of the items below must be true to save a workflow configuration:

- A unique ID must be specified for the workflow.
- There must be an Initial and a Final state on the outer level.

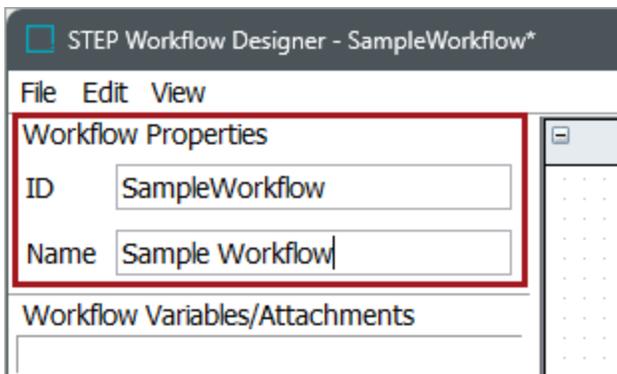
- All states must be reachable (e.g., there must be at least one incoming transition for each state).
- State IDs must be unique within the workflow.
- All states must have an assignee, or a default assignee must be assigned to the workflow.

## Step 1: Create a New Workflow

1. Right-click the folder established to house all workflows, and select **Create STEP Workflow**.



2. The **STEP Workflow Designer** will open. Additional information about the designer can be found in the STEP Workflow Designer topic. For now, enter an ID and Name for the workflow.



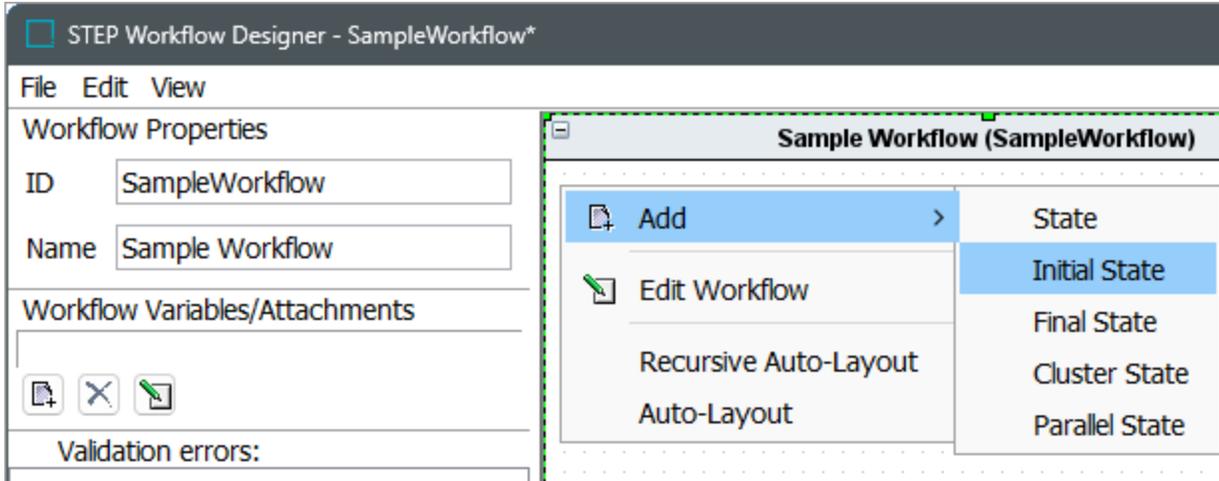
A 'container' has been created, to which states and transitions must be added to build the actual workflow.

## Step 2: Create States in a Workflow

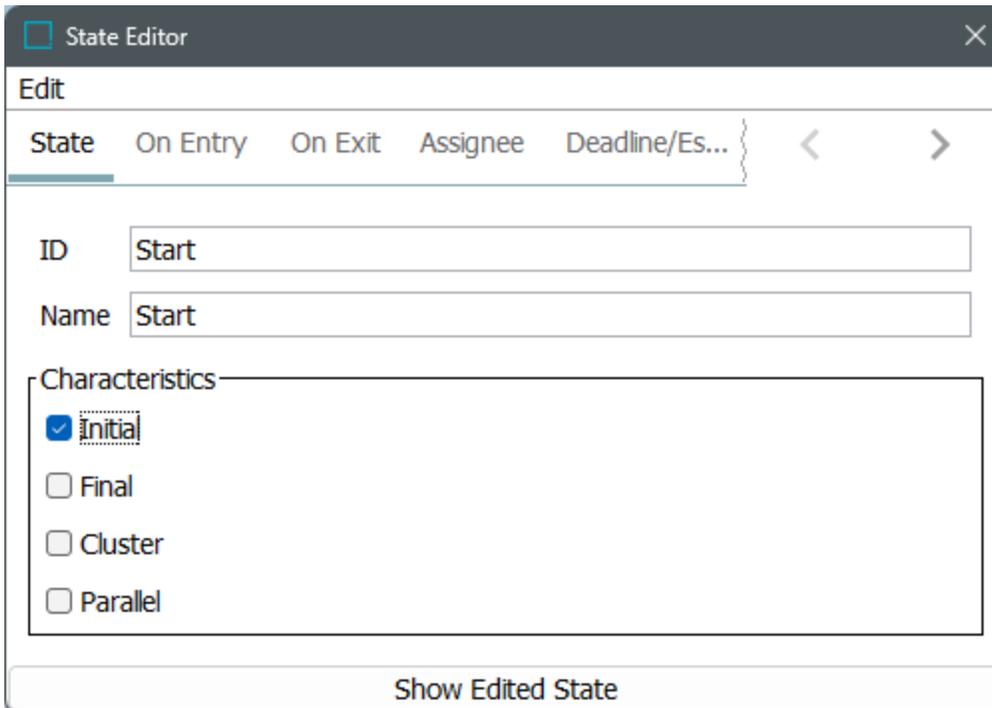
A state represents an assignment to be completed, whether by a human or a system. When a new workflow is created, it must have a single initial state at the outermost level, which is where any task entering the workflow will begin. In addition, a single final state must be present at the outermost level to indicate completion of the workflow. The indication of 'initial' or 'final' for a state is considered a characteristic of the state. States can also have 'parallel' or 'cluster' characteristics, which are required when workflows have parallel states and/or when a set of states should be grouped together within a workflow (comparable to a mini-workflow within the overall flow).

For this example, we will create a basic workflow using three states: an initial state, a standard state, and a final state. However, further descriptions of state characteristics, including more complex examples using parallel and cluster states can be found in the State Characteristics in Workflows topic.

1. To create the Initial State, right-click the canvas area and select 'Add', and 'Initial State' from the menu. The Initial State is the first state that any object started in the workflow is placed into.



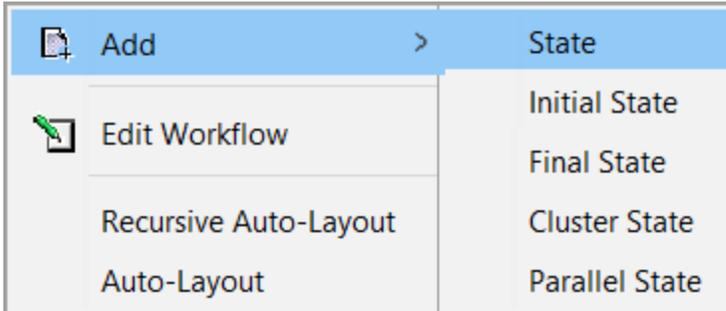
2. In the State Editor that appears, type the desired ID and Name of the state. Make sure that **Initial** under **Characteristics** is checked, and close the dialog box.



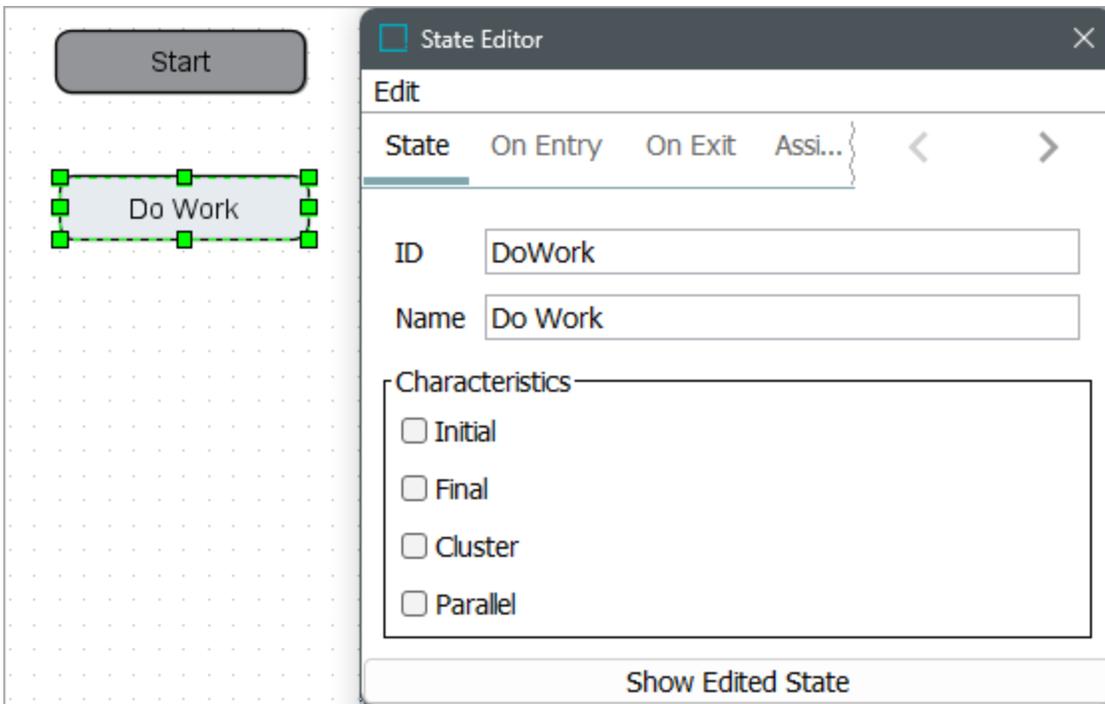
**Note:** IDs can be revised as needed before the workflow is saved. However, because workflow business rules are tied to state IDs, all state IDs are locked upon saving of the workflow.

State names are editable at any time, and can also be localized, allowing users to view differing names for the same state based on locale. More information on this can be found in the Localizing Workflow State Names and Events section of the Workflows documentation.

3. Create a second state by right-clicking the canvas and selecting **Add**, then **State**.

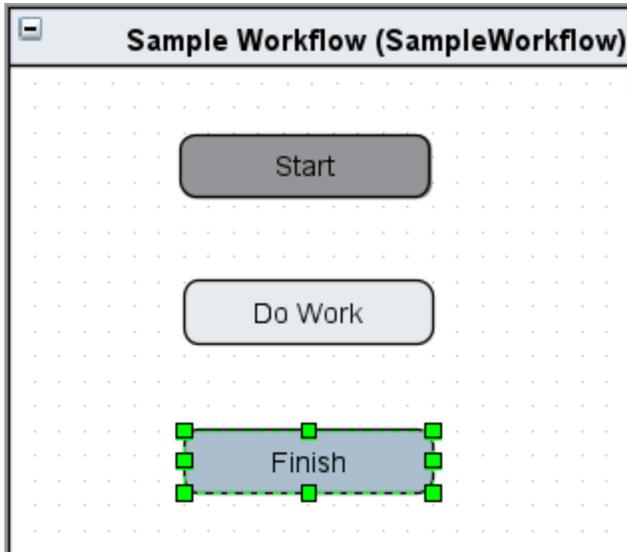


No **Characteristics** need to be checked in the State Editor dialog box for states in between the **Initial** and **Final States**.



4. For the last state, right-click the canvas area and select **Add**, then **Final State**. In the State Editor box, fill in the ID and Name accordingly, and check the **Final** option under **Characteristics**. Close the dialog.

The workflow displays as pictured below.

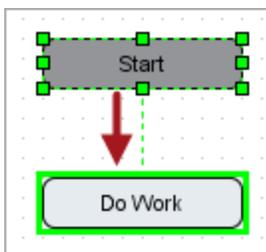


You have now created a basic workflow with three states. However, for tasks to be able to move through the workflow, transitions must be added between the states.

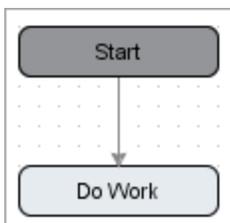
### Step 3: Create Transitions Between States

Transitions are needed between states in order for the workflow to be valid. Each state (with the exception of final states in the outer level) should have at least one transition to allow tasks to proceed through the workflow. States may have more than one transition, meaning there are multiple options for exiting the state. For example, users may need the option to move a task to a subsequent state in the workflow, as well as returning it to a previous state (e.g., to proceed or reject).

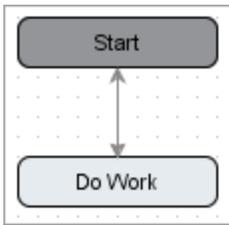
1. Hover over the center of the **Initial State** so that the cursor changes into a hand icon and a green box appears around the state. Click and drag to the center of the next desired state until a green box encircles that state.



Release the mouse click to create the transition, which is then displayed as an arrow between the states.

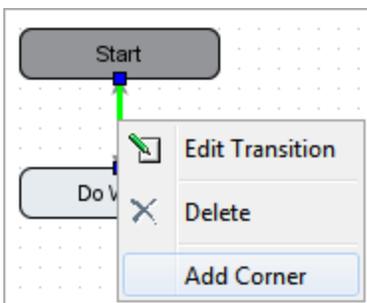


- Repeat step 1, but going in the opposite direction (e.g., click the second state and drag to the first).

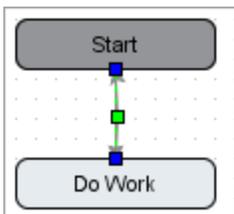


Now there are two transitions going in opposite directions in the workflow. This allows objects to progress forward in the workflow if approved or to be rejected and sent back to a previous state if needed.

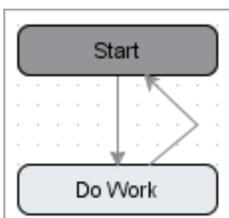
- Though they appear as a single arrow at this point, each transition is actually unique, which can be found by adding corners to each transition. To do this, right-click on the arrow and select **Add Corner**.



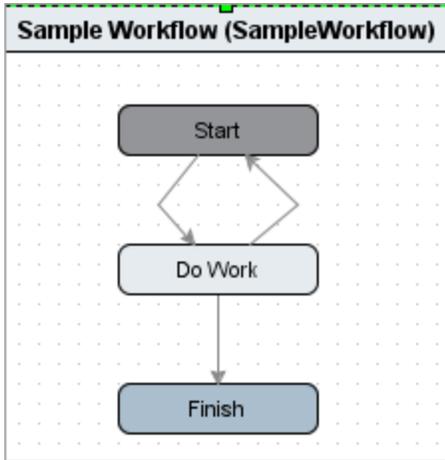
A green box will appear on the transition.



Click and drag the box to the right or left.



- Repeat the above steps to add a corner to the other existing transition, and to add a new transition between the second and third states. When complete, your workflow should appear as shown below.



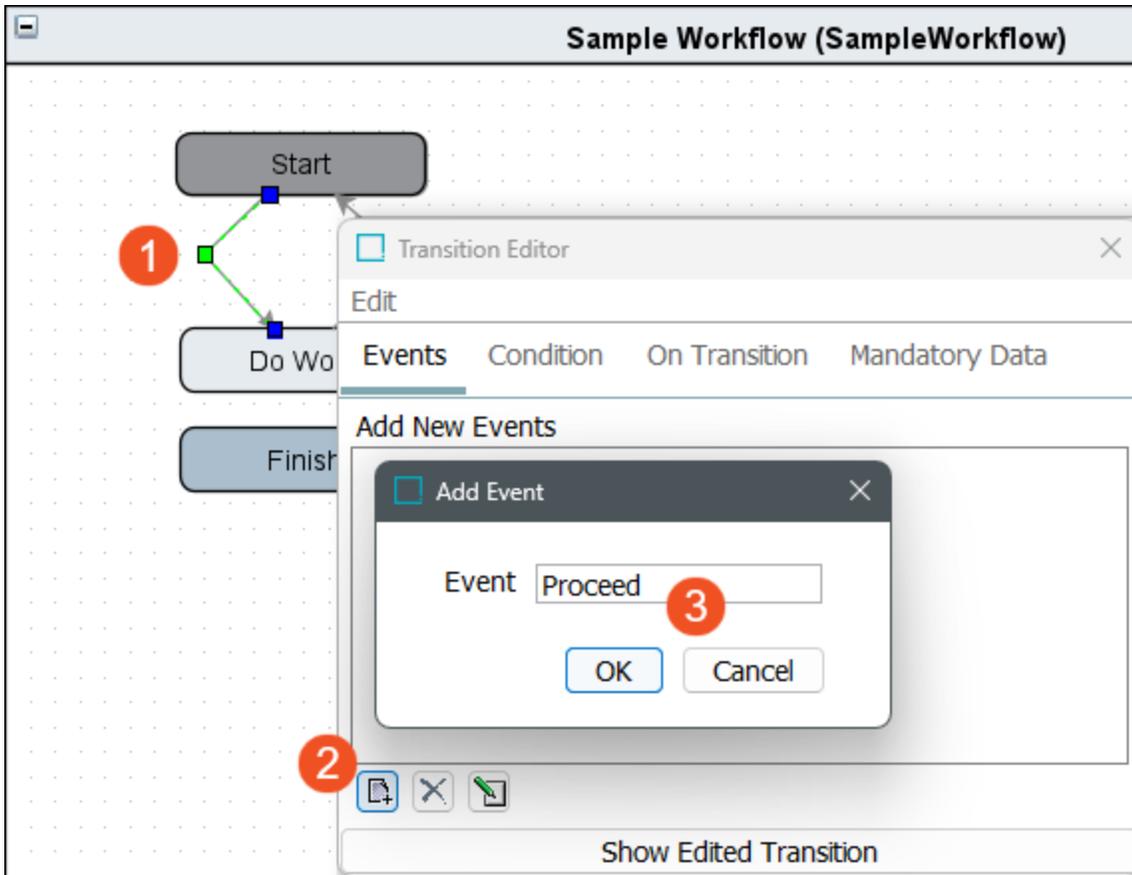
## Step 4: Add Events to Transitions

While not strictly necessary, adding events to transitions can increase usability of workflows as the event names are displayed to the end users. When a meaningful event name is applied, it provides an indication to the user of what is occurring when they select to Submit a task in the workflow. When multiple transitions are present from a single state, it is especially useful to have events applied so that a user can choose which selection to make (e.g., Proceed vs. Reject).

Events also enable advanced workflow options, such as applying business rules and logic to specific events. More information on advanced functions is available in the Advanced Workflow Topics section of the documentation.

To add an event to a transition, follow the below steps.

1. Double-click the transition, select the **Events** tab in the Transition Editor dialog that appears, and then click the **Add Event** icon button. Name the event accordingly and click **OK**.

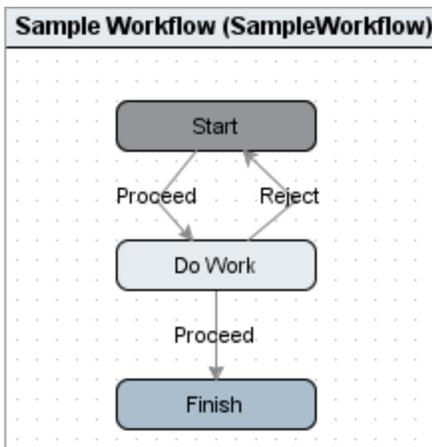


**Note:** Although the designer automatically replaces any space in the event name with an underscore, when the event is displayed to end users in the workbench or Web UI, the spaces are displayed.

Additional events can be added to the same transition, which can be useful when adding business rules to a workflow. However, for this simple example, we will use only one event per transition.

2. Close the Transition Editor dialog.
3. Drag event names onto the canvas to improve visibility if needed. Multiple events within the workflow may have the same name.

- Repeat the above steps to add an event to each remaining transition, resulting in a workflow comparable to the one shown below.



You have now created a basic workflow, but to make it valid and save your work, you must specify an assignee for the workflow.

## Step 5: Set Assignees

Each state in a workflow requires an assignee to be set, regardless if the state represents a human task or not. The object-in-state relation must always be assigned to a STEP user or user group. This can be done one of two ways:

- assign an individual to each state as defined in [Set Assignee for State](#)
- assign the same individual to the overall workflow as defined in [Set an Assignee for the Workflow](#)

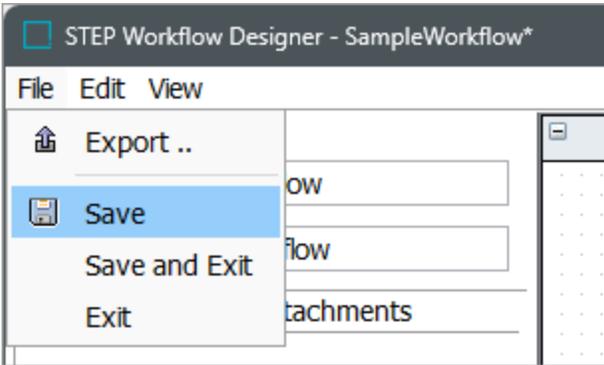
If states do not have an assignee defined locally, by default they will inherit the assignee defined by the workflow.

As the primary purpose of workflows is to assign tasks to varying actors in a controlled manner, each workflow state that requires human interaction will generally have a different assignee (rather than using the workflow default). In contrast, states that represent a system action or an automated state will often use the workflow default, which can be set to an administrator user group.

**Note:** Users that do not have the STEP Workflow Administrator privilege will only be allowed to view tasks assigned to themselves or a group they are member of.

There are several options for setting assignees in a workflow, including to set assignee dynamically based on information on the object or previous actions taken in the workflow. For this example, the basic functions of specifying a user or group assignee are described. More advanced assignee options are described in the Assignees in Workflows topic.

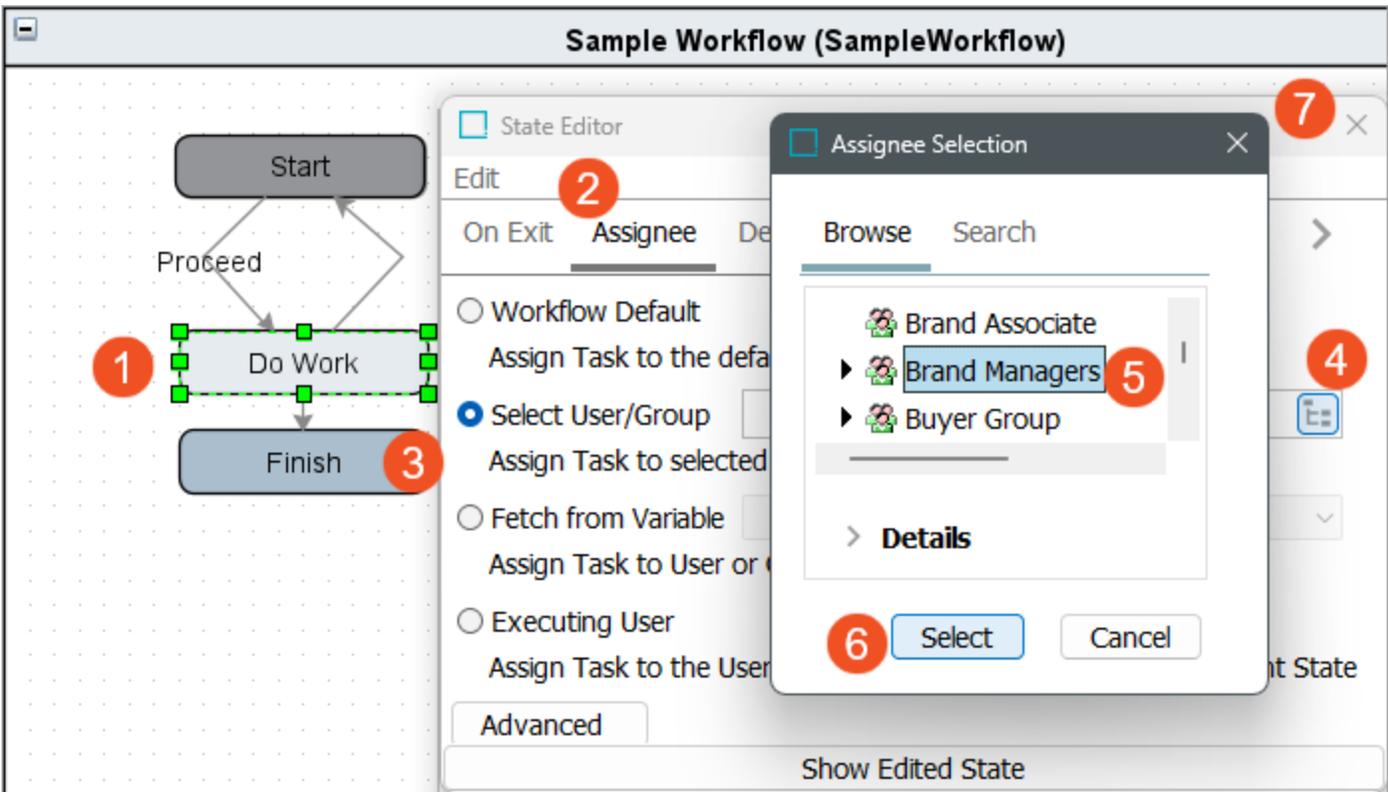
Once assignees have been set, save the workflow:



### Set an Assignee for a State

Specify an assignee for each state with user interaction. To set the assignee locally for a state, double-click the state, select the **Assignee** tab in the State Editor dialog that appears, click the **Select User / Group** radio button, click the ellipsis button (⋮) to open the

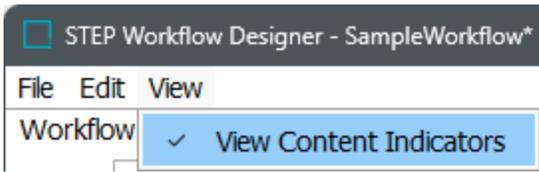
Assignee Selection dialog, select a user or user group, click **Select** to close the selection dialog, then close the State Editor dialog.



When a user group is selected, all users in that group can access tasks in the state. When a specific user is selected, only that user (or a workflow administrator) can access tasks in the state. It is most common to assign states to user groups rather than to individual users so that tasks can continue to be processed even if a specific user is unavailable, for example when sick or on holiday.

When a state has an assignee, the letter 'A' with a circle around it will appear in the state: Do Work (A)

If the assignee indicator does not appear, go to the View menu in the STEP Workflow Designer and check the **View Content Indicators** option.



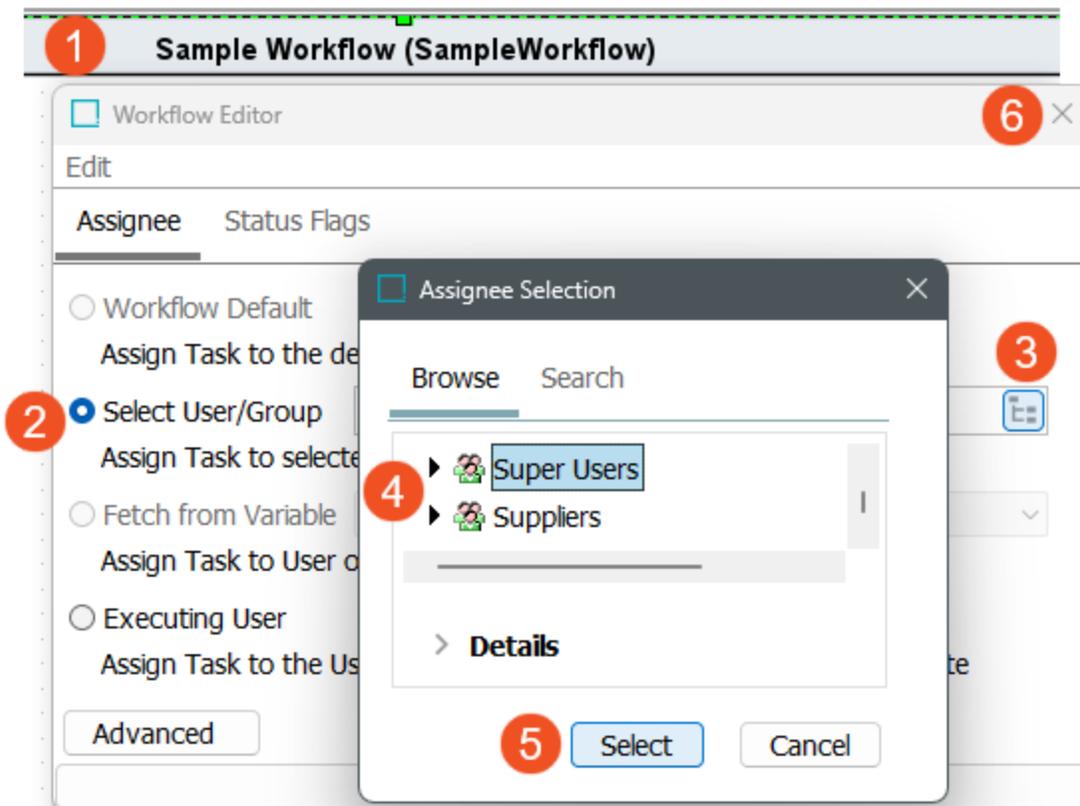
Repeat the above actions until an assignee has been designated for each state in the workflow. Alternatively, an assignee can be set for the complete workflow. When each state has an assignee (via individual assignment or the workflow default), the workflow can be saved via the Save option on the File menu.

### Set an Assignee for the Workflow

All states must have an assignee specified before you can save a workflow. Any state without an assignee explicitly specified inherits the workflow assignee. Therefore, it is often helpful to have a default assignee to ensure that the workflow can be saved. In addition, it is common to use the workflow assignee for states that are automated and/or the work occurring in the state is done by the system rather than a user since in these cases the assignee is not a meaningful designation. Typically, the default workflow assignee is an administrator user or group.

To set the default assignee for a workflow, double-click the title bar of the workflow, click the **Select User / Group** radio button, click the ellipsis button (⋮) to open the Assignee Selection dialog, select a user or user group, click **Select** to close the selection dialog, then

close the State Editor dialog.

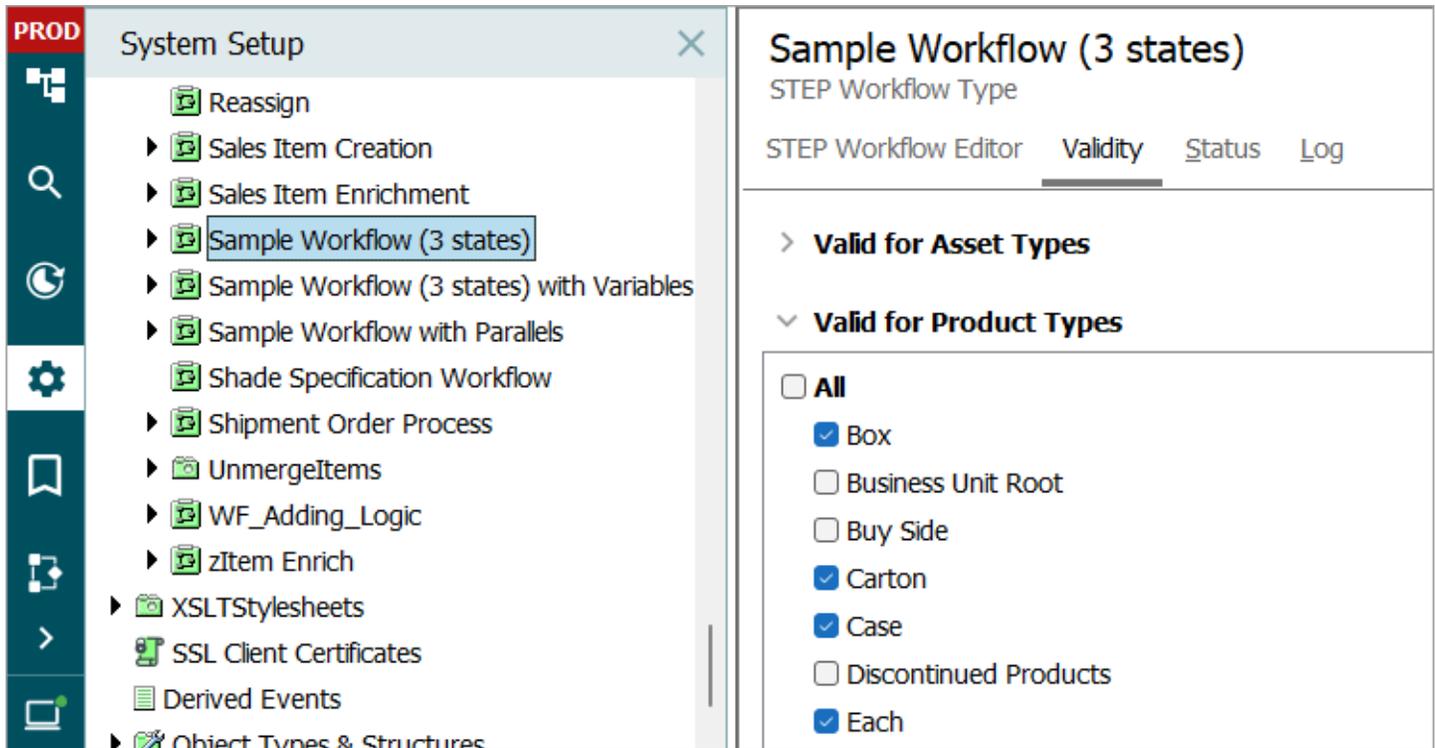


When each state has an assignee (via individual assignment or the workflow default), the workflow can be saved via the File menu Save option.

## Step 6: Set Validity

Before a workflow is fully functional, it must be made valid for the object type(s) that will use it. For example, if a workflow was made specifically to review and approve packaging objects and data, it might be made valid for Each, Box, Carton, and Case.

To set validity, select the workflow from the **System Setup** tab, click the **Validity** tab, and check the appropriate object type(s). Any number of object types can be selected within the same section.



**Note:** Workflows can be made valid for several object types, but only types of the same 'super type.' As an example, you could make a workflow valid for the object types 'Shipping Address' and 'Main Address' of the super type 'Entities', but not also for 'Building Photo' of the super type 'Assets.'

## Step 7: Set Workflow Options

The final step in creating a workflow is to set the options available on the STEP Workflow Editor tab. These settings are not required to be changed, but they govern the behavior of the workflow and should be considered as part of workflow design.

STEP Workflow Editor				Validity	Status	Log
	Name	:	:	Value	:	:
:	ID			SampleWorkflow		
:	Name			Sample Workflow (3 states)		
:	Revision			0.2 Last edited by USERJ on Thu Nov 07 14:52:48 EST 2024		
:	Initiate automatically			<input checked="" type="checkbox"/>		
:	Listen on updates from import			<input type="checkbox"/>		
:	Use executing user's write privileges			<input type="checkbox"/>		
:	Disable transitions on terminated Workspaces			<input type="checkbox"/>		
:	Start Condition					

**Initiate automatically** - When checked, objects of the specified validity for the workflow are automatically initiated into the workflow upon creation, without any manual intervention. This option is only applicable for object types for which instances of the objects can exist in the Tree (e.g., products, classifications, assets, entities, publications, publication sections, or planned pages), not for attributes or lists of values.

This is useful for onboarding / creation workflows used to process new objects.

**Listen on updates from Import** - When checked, the system identifies updates on objects of the type specified by the validity of the workflow and takes action as needed. Specifically, an object can be transitioned from one state to another upon update of the object via import. This function is only available for assets, classifications, entities, and products, and requires additional configuration to enable. Complete configuration is described in the Triggering Workflow Events from Imports topic.

This is especially useful when completion of a workflow requires information from another source system. As soon as that information is received, the task can be automatically sent to the next state in the workflow.

**Use executing user's write privileges** - This option is related to the execution of business rules in the workflow. When checked, a user that triggers the execution of a business rule is prevented from making any changes or accessing any data in the system via the business rule that they are not normally privileged to. When not checked, business rules are run with full access.

For example, if the user is not privileged to change a certain attribute value on an object, and the business action is configured to make such a change, a privilege exception is thrown and the action is not carried out.

**Important:** Use caution with this option as it can prevent business rules from being carried out and/or can result in errors that the business rule must be able to handle gracefully.

**Disable transitions on terminated Workspaces** - When checked, it is not possible to perform transitions in terminated workspaces (e.g., the Approved workspace). Check this option to prevent a user from submitting objects while in the Approved workspace which results in

an error since data cannot be modified in the Approved workspace. Business rules are often used to submit tasks to a state and workflow actions are executed from the current workspace. For example, if a user is viewing data in the Approved workspace and attempts to submit an object from a state where submission involves the use of a business action, an error is returned.

**Start Condition** - This option allows specifying a business condition that must be fulfilled before the workflow can start. For example, if some basic data is required to be populated prior to initiation, a condition can be set to ensure that the required data is present. If the condition is not met (e.g., does not evaluate to true), the object is not allowed to enter the workflow.

**Important:** If users will be working with tasks within the workbench (rather than Web UI), views and mappings should also be configured following creation of the workflow. The configuration of views and mappings enables the administrator to control user access to specific workflow states and to establish the order in which views appear to the user on the STEP Workflow navigator tab. Instructions for this configuration are available in the Views and Mappings for Workflows section of the Workflows documentation.

## Duplicate an Existing Workflow

Another way to create a workflow is to duplicate an existing workflow. Some of the reasons for duplicating a workflow include the need to:

- make changes and test a workflow that is already in use while leaving the original workflow unchanged.
- create a new workflow similar to an existing workflow.

Duplicating a workflow copies the basic workflow structure and associated business rules.

The following elements are not duplicated and must added manually:

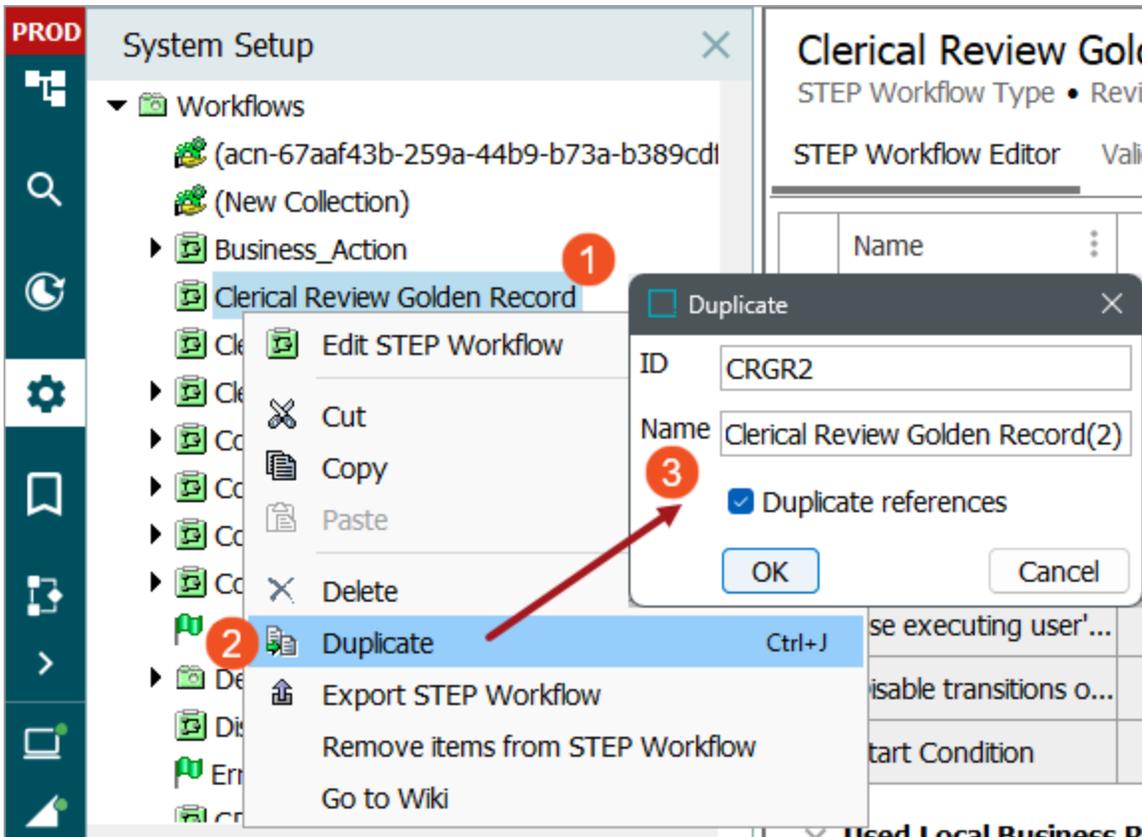
- global workflow options as defined in the [Set Workflow Options](#) section above
- workflow-specific privileges

To duplicate an existing workflow:

1. On System Setup, right-click the desired workflow and select **Duplicate** from the menu.
2. In the Duplicate dialog, enter an ID and a name.

**Note:** The 'Duplicate references' option has no impact on workflows.

3. Click the **OK** button.



# STEP Workflow Designer

This topic provides an overview of the STEP Workflow Designer, including descriptions of the various sub-editors and visual indicators within the designer. It is intended to orient you with the interface and provide general information for where to accomplish things in the designer, rather than to complete any specific task itself. When applicable, links to more detailed task-oriented materials are provided.

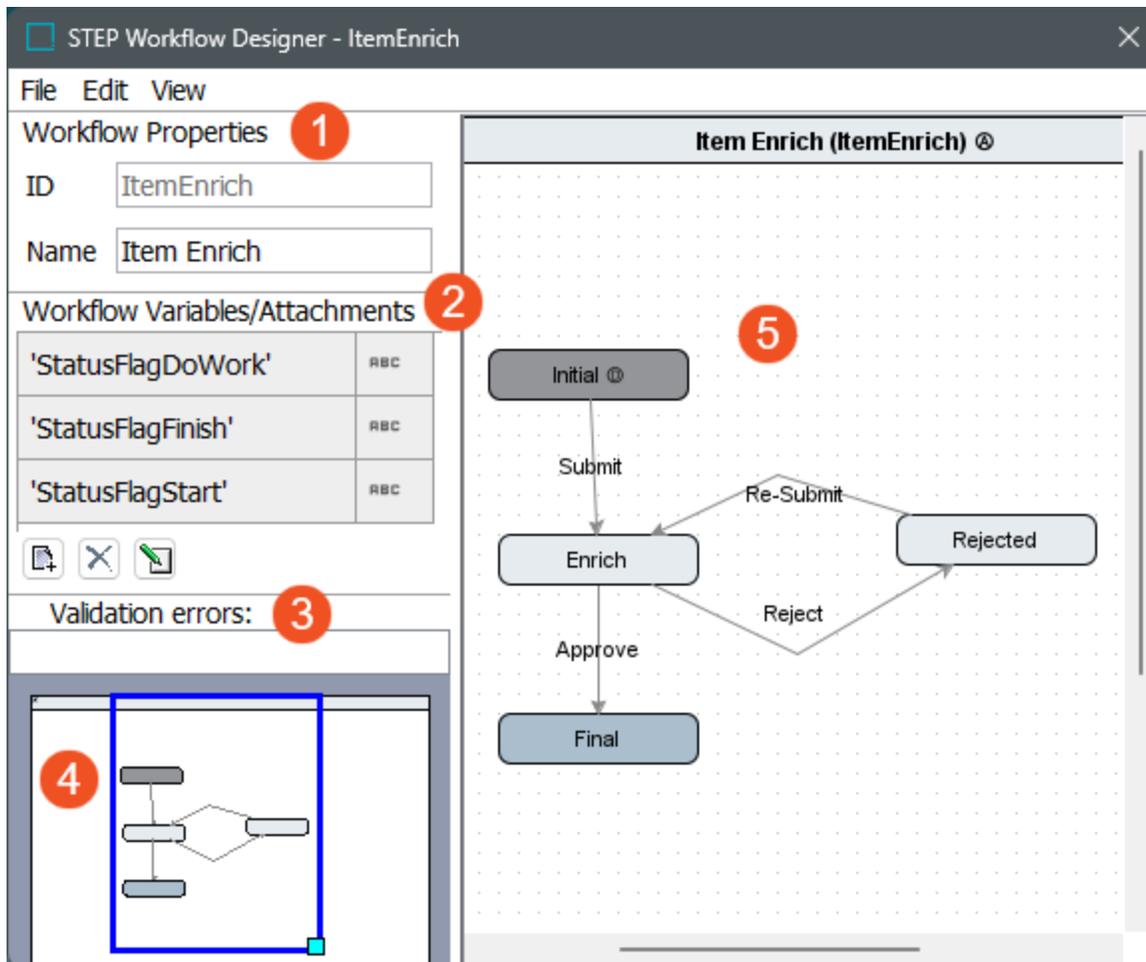
## Prerequisites

The reader should be familiar with the Creating a Workflow topic.

## Overview

The STEP Workflow Designer has the following primary areas as identified in the image below:

1. Workflow Properties panel for setting **ID** and **Name**
2. **Workflow Variables/Attachments** for add-ons
3. **Validation errors** and warnings when needed
4. Overview / zoom for canvas
5. Canvas where States and Transitions are defined

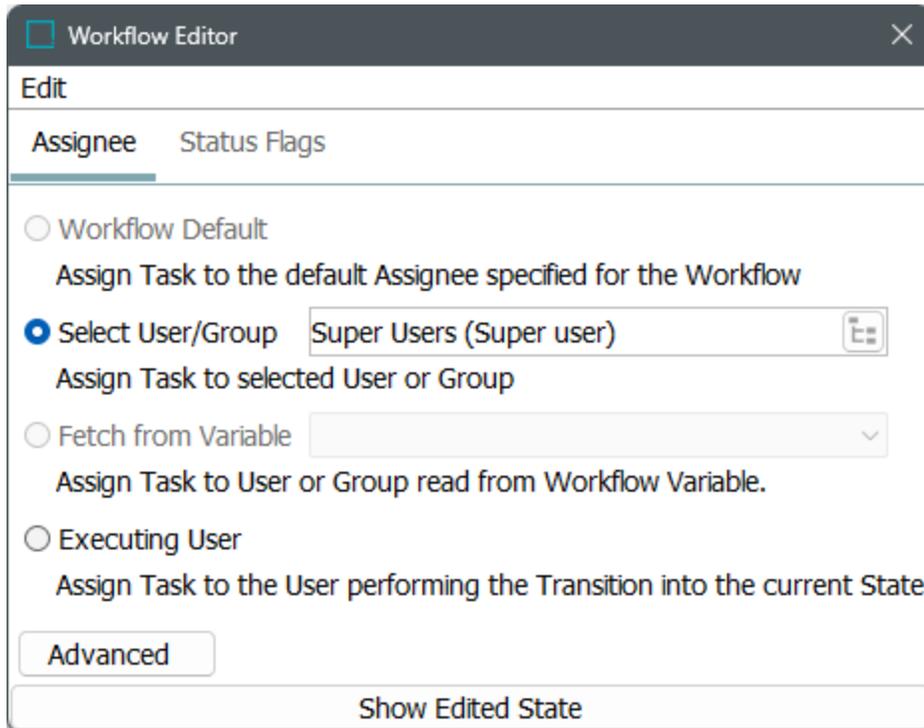


## Dialogs

Users can edit workflows with the dialogs and functionality described below.

### Workflow Editor

To open in the Workflow Editor, double click the canvas region. Use the workflow editor to make global changes for the workflow, including setting the default assignee for the workflow and enabling status flags for the workflow.



Tab	Available Functions
Assignee	Modify the assignee for the entire workflow. Refer to the Workflow State Editor Assignee Tab Options topic.
Status Flags	Status flags can be added and/or removed. Refer to the Status Flags topic.

### State Editor

The State Editor displays when the user right-clicks on the canvas to add a state, or when a user double-clicks on an existing state. This editor enables users to make changes specific to a particular state. The 'more tabs' button  indicates additional properties are available.

Use the 'move back' and 'move forward' buttons (  and  ) display additional tabs.

State Editor
✕

**Edit**

State   On Entry   On Exit   Assignee   ...   <   >

---

ID

Name

**Characteristics**

Initial

Final

Cluster

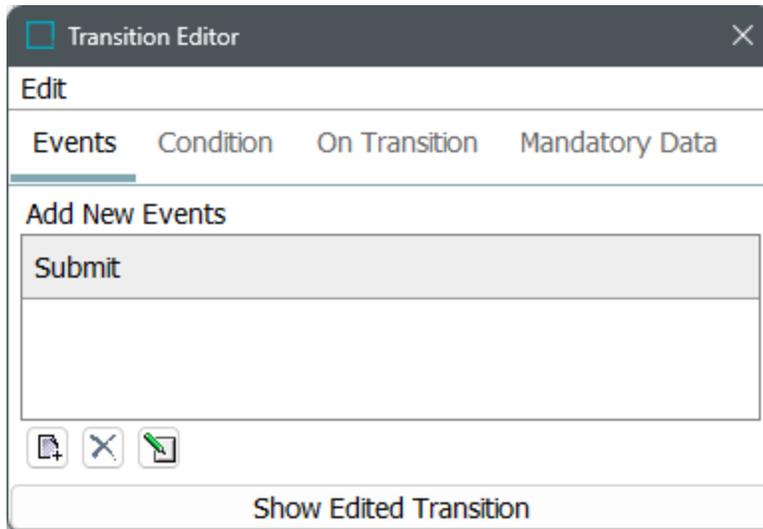
Parallel

[Show Edited State](#)

Tab	Description
Assignee	Assignees can be added / removed / modified per state. Refer to Assignees in Workflows.
Comments	Comments can be added / removed / modified. Comments have no explicit function and cannot be viewed outside of the designer. However, they can be useful to make notes such as intended function, considerations when modifying for designers regarding a particular state.
Deadline/Escalation	Set deadlines and add / modify / delete associated escalation business rules. Refer to Deadlines and Escalations in Workflows.
Mandatory Data	Set attributes, attribute groups, and/or references that are required to be populated before a task can leave the state. Refer to Mandatory Attributes and References in Workflows.
On Entry	Add / modify / delete business actions that are run on entry to the state. Refer to Business Rules and Workflows.
On Exit	Add / modify / delete business actions that are run on exit from the state. Refer to Business Rules and Workflows.
State	Change the name or characteristics of the state. Refer to State Characteristics in Workflows.
Web UI Screen Mapping	Provides a link to the Web UI to map the state to a specific Web UI screen. From the dropdown, select the Web UI that should have access to the workflow, and click the Edit button. This will launch the login page of the Web UI. The user must have privileges to edit Web UI configurations and if so, logging in will open the designer to the Screen Mapping properties with conditions to map to the workflow state pre-populated. The user can then select an existing screen to map the state to. For more information on mapping Web UI screens, refer to the Main Properties topic of the Web User Interfaces documentation.

## Transition Editor

The Transition Editor is displayed when the user double-clicks on an existing transition. This editor enables users to make changes specific to a particular transition.



Tab	Description
Condition	Add / remove / modify business conditions on the transition. Refer to Business Rules and Workflows.
Events	Add / remove / modify events on the transition. Refer to Auto-Routing Tasks in a Workflow.
Mandatory Data	Set attributes, attribute groups, and/or references that are required to be populated before a task can take the transition. Refer to Mandatory Attributes and References in Workflows.
On Transition	Add / remove / modify business actions on the transition. Refer to Business Rules and Workflows.

## Visual Indicators

Visual indicators allow users to quickly gather information about the workflow without opening a particular state or transition.

Indicator	Description
A	A assignee has been specified for the workflow or state. Refer to Assignees in Workflows.
D	A deadline has been selected for the state. Refer to Deadlines and Escalations in Workflows.

Indicator	Description
I	An 'On Entry' action is present on the state. 'I' stands for 'In' (into the state). Refer to Business Rules and Workflows.
O	An 'On Exit' action is present on the state. 'O' stands for 'Out' (out of the state). Refer to Business Rules and Workflows.
P	Specific user privileges have been granted for the state. Refer to Editing Privilege Rules in the System Setup documentation.
Dotted transition line	A condition exists on the transition. Refer to Business Rules and Workflows.
Rounded end on transition	An action exists on the transition. Refer to Business Rules and Workflows.
Blue color	The state has the Final characteristic. Refer to State Characteristics in Workflows.
Dark gray color	The state has the Initial characteristic. Refer to State Characteristics in Workflows.
Light blue / gray color	The state has the Cluster characteristic, or no characteristics (e.g., standard state). Refer to State Characteristics in Workflows.

## Views and Mappings for Workflows

While not strictly necessary, if users are going to work with workflows in the STEP Workbench, it is generally recommended to create views and mappings for the workflow. This ensures that users have access to the necessary information to complete their tasks and streamlines the work process. However, users can also use the standard editors available on objects in the Tree if desired, using the workflow navigator only to submit tasks rather than to review and edit data.

When a workflow state is selected in the STEP Workflow navigator tab, a 'view' is the information that displays. 'Mapping' is applying a view to a particular state in a workflow. When configuring a workflow it is important to decide what data is visible for objects (views), and define which states to display (mappings). Without views and mappings configured, all states in the workflow are displayed on the STEP Workflow navigator tab (including parallels, clusters, and final states). Additionally, only the ID of the objects in the selected state display in the STEP Workflow Items editor or the Task tab on the object.

Upon mapping views to states, only the states for which a mapping exists are displayed in the STEP Workflow navigator tab. The sequencing of mappings determines the order in which the tasks are displayed in the STEP Workflow Items tab.

The configured views are used in the STEP Workflow Items editor and on the object's Tasks tab. This allows for customization, meaning, if a user wants to show only human-related tasks, they can exclude mappings for states, parallels, or clusters that are not human tasks.

The screenshot shows the 'STEP Workflow Items' editor. On the left is the 'STEP Workflow' navigator with a tree view containing items like 'SampleWorkflow', 'Sample Workflow (3 states)', and 'Sample Workflow (3 states) with Variables'. Below this is a 'Filter by Collection' field and a list of tasks: 'Start' (5), 'Do Work' (1), and 'Finish' (0). The main area displays a table of 'STEP Workflow Items' with columns for 'Name' and 'Long Item Desc...'. A 'View Editor' dialog is open over the table, showing a tree view of views and mappings. The 'View Editor' tree includes 'View: Start' (with aspects 'id' and 'name', and attribute group 'ItemDescriptionInformation'), 'View: Do Work' (with aspect 'name' and columns for 'WorkflowDeadline' and 'WorkflowVariable'), and 'View: Finish' (with aspect 'name' and attribute group 'ItemPricingInformation'). Below the views are mappings: 'Mapping : Start->Start', 'Mapping : Do Work->Do Work', and 'Mapping : Finish->Finish'. Red arrows point from the 'Do Work' task in the left pane to the 'View: Do Work' entry in the editor, and from the 'Long Item Desc...' column header to the 'View Editor' dialog.

**Note:** While views and mappings can be applied to a blank workflow canvas, generally it does not make sense to do so. Therefore, it is expected that a workflow has been created prior to any views or mappings being applied. Refer to the Creating a Workflow topic for detailed instructions on workflow creation.

## Considerations

Before creating views or mappings, it is important to be aware of the following points:

- The views and mappings configured in the STEP Workflow Designer only apply to the workbench and not Web UI. Views in Web UI are defined by the configuration of the screen. If users will not be interacting with workflows in the workbench, it is not necessary to configure the workbench views. Instead, refer to the Workflows in Web UI section of the Web User Interfaces documentation.
- A view can contain both object- and workflow-specific data. This means that a view can contain information for attributes, attribute groups, and aspects that are specific to the object (such as name, ID, approval status, etc.) as well as elements like workflow assignee, deadline, workflow variables, and workflow attachments.
- A view can be mapped to multiple states. For example, if a state is assigned to a particular user or group early in the workflow to edit data, and again later in the workflow to review data, it is possible that the same data points should be available to them in each state. In this case, the view only needs to be configured once, and that view can then be mapped to each applicable state.
- Once a view or mapping has been started for a workflow, even if they are then deleted to be completed at another time, no states will show in the STEP Workflow tab until views and mapping are completed.

The details for configuring views and mappings are covered in the subsequent topics [Configuring Views for Workflows](#) and [Configuring Mappings for Workflows](#), both in the [Web User Interfaces](#) documentation.

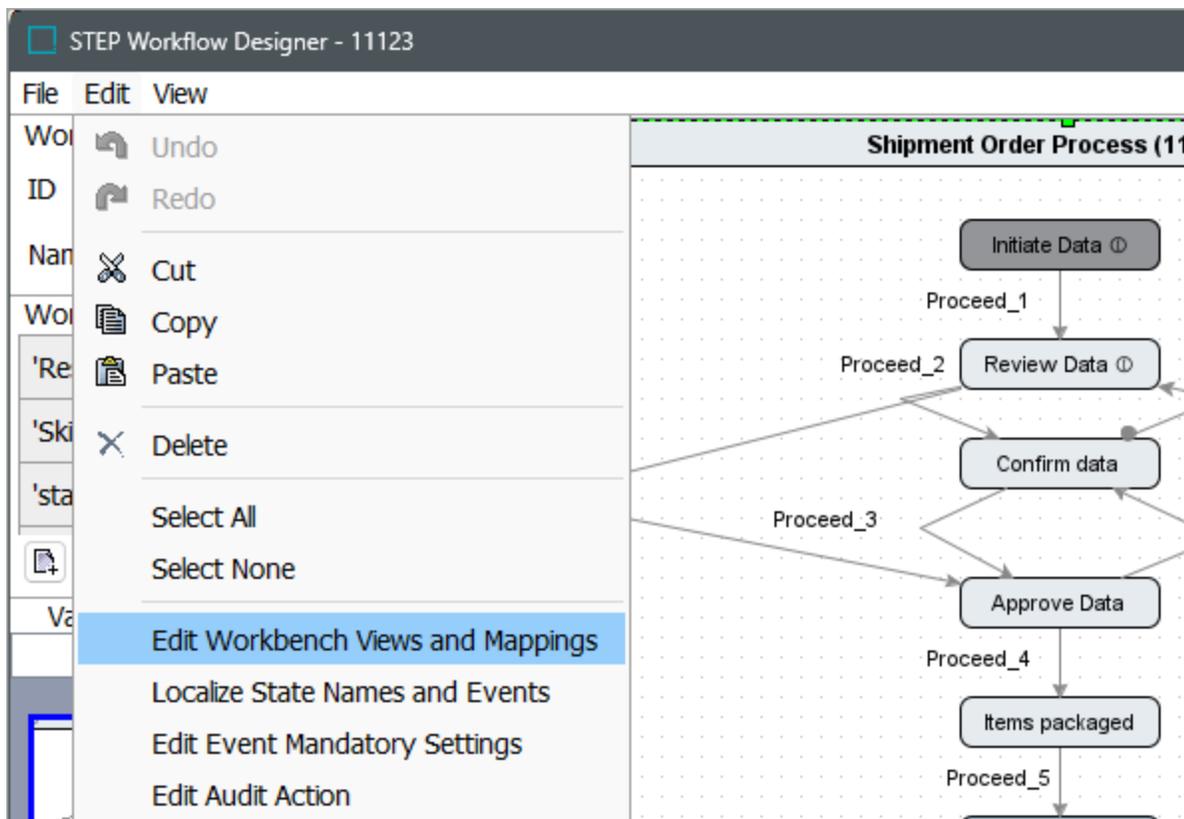
## Configuring Views for Workflows

This topic details how to configure views for states. Without configured views, when accessing tasks on the object, the STEP Workflow navigator tab and the Tasks tab display only the ID of objects in a workflow. Therefore, if users will interact with the workflow in the workbench, it is recommended to create views for a user-friendly view of the data points relevant for their tasks in that state.

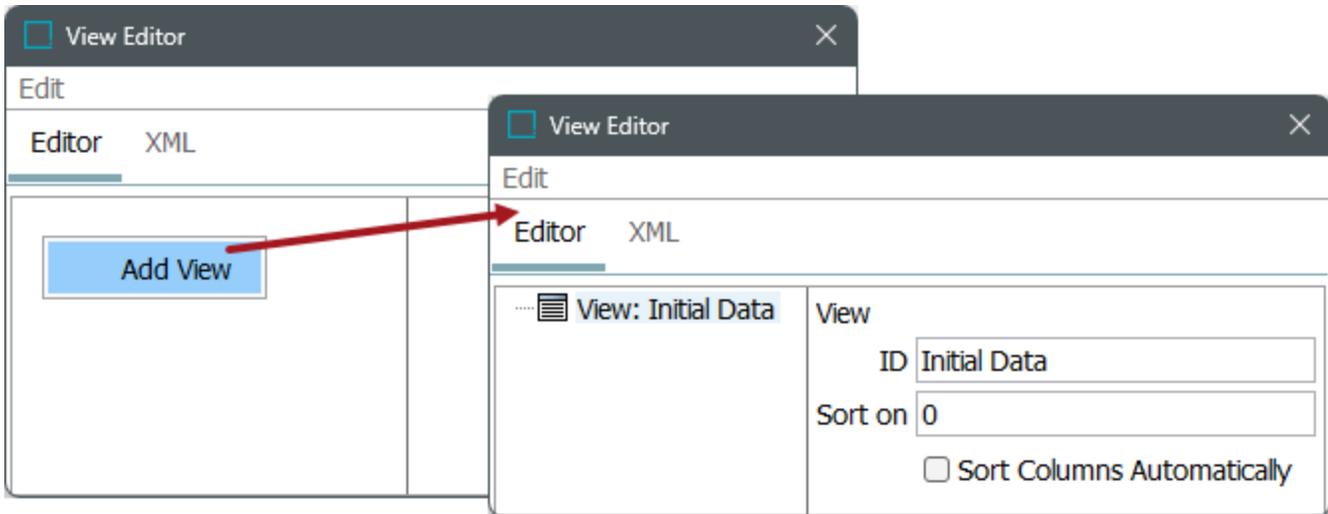
**Note:** There is no need to configure views for workflows that will be accessed only in Web UI. For information on working with workflows in Web UI, refer to the Workflows in Web UI section of the Web User Interfaces documentation.

Use the steps below to create views for a workflow accessed in the workbench and provide information for the view options.

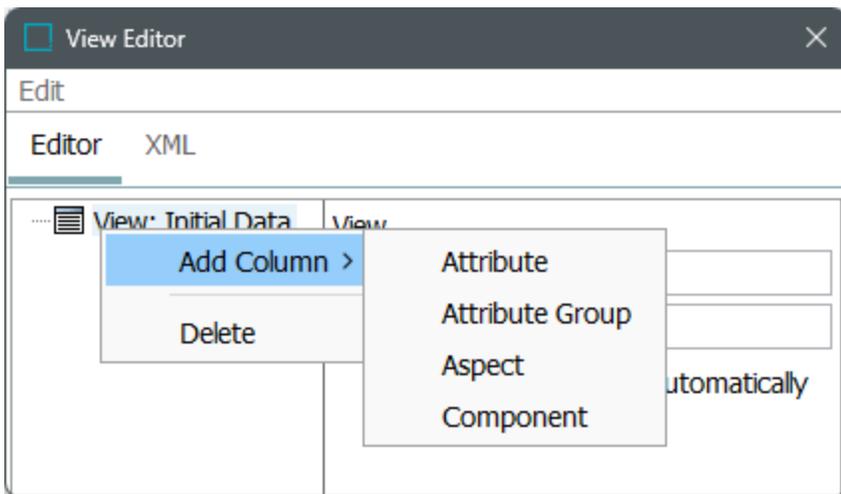
1. In System Setup, select the desired workflow, right-click and select **Edit STEP Workflow**.
2. From the **Edit** menu, select **Edit Workbench Views and Mappings** to open the STEP Workflow Designer.



3. The View Editor opens and is blank. Right-click on the left side panel and click **Add View**. Enter an ID for the view. The view ID is displayed on the left side panel.



4. Right-click the view and select **Add Column** to add a column. Choose a type of data to add to the view.



- The **Attribute**, **Attribute Group**, and **Aspect** options display object data.
- The **Component** option displays data specific to the workflow task (e.g., a workflow variable, attachment, assignee, etc.).

As many columns can be added as needed. The below sections describe the view options and how to reorder columns within a view.

**Important:** For views to take effect, each view must be mapped to one or more states. For details on mapping views, refer to [Configuring Mappings for Workflows](#).

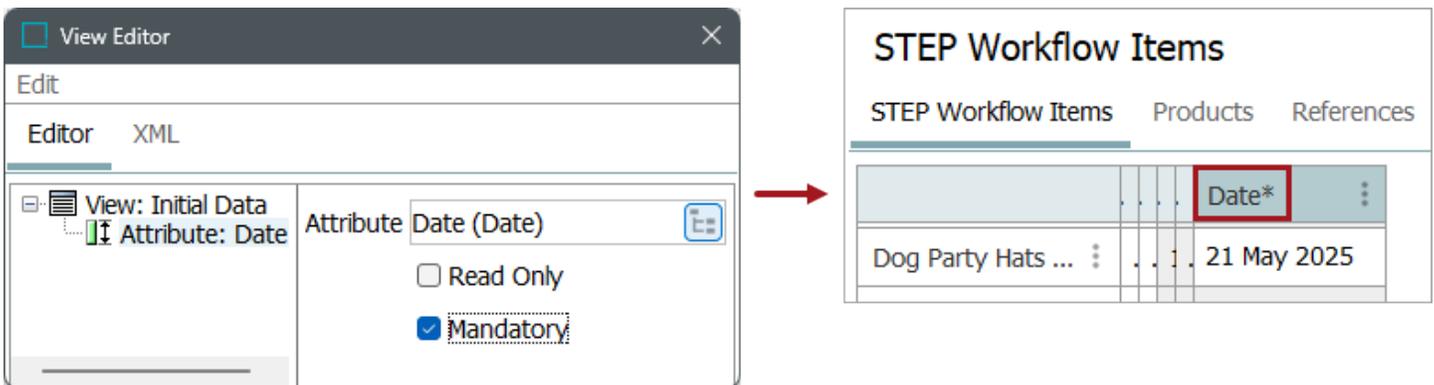
## Attribute

The Attribute column type is used to insert a single attribute into the view. Only attributes with validity that matches the validity of the objects in the workflow are displayed in the view. When working with specification attributes on products, the attribute must also be linked appropriately in the hierarchy to be valid for the workflow objects.

An attribute can be configured as 'Read Only' and/or 'Mandatory'. Attributes marked as 'Read Only' are not editable on the STEP Workflow Items or Tasks tabs. The 'Mandatory' setting uses an asterisk (\*) to visually indicate that the attribute is required.

**Note:** The Mandatory checkbox in view configuration provides a visual indicator only—it does NOT enforce that the attribute is populated. If the attribute must be populated prior to exiting the state, the attribute must be marked as mandatory using the Mandatory Data tab of the state or transition editor. More information on this is available in the Mandatory Attributes and References in Workflows topic.

To add an attribute to a view, right-click on the view, select **Add Column**, and select **Attribute**. Click the Select Attribute (🔍) button, choose an attribute, and set the Read Only and/or Mandatory options as needed.



If a field is highlighted in red, the value is mandatory for approval of the object, independent of the workflow or state. This type of mandatory is set on the attribute by setting Mandatory = Yes. As with the mandatory indicator in the view, this does not force the user to populate a value within the state.

STEP Workflow Items				
STEP Workflow Items	Products	References	Referenced By	
	ID	Description, Web	PvP	Multiplayer*
Space Adventure Game	131536			
80's Slasher Game	131542	1	1	No

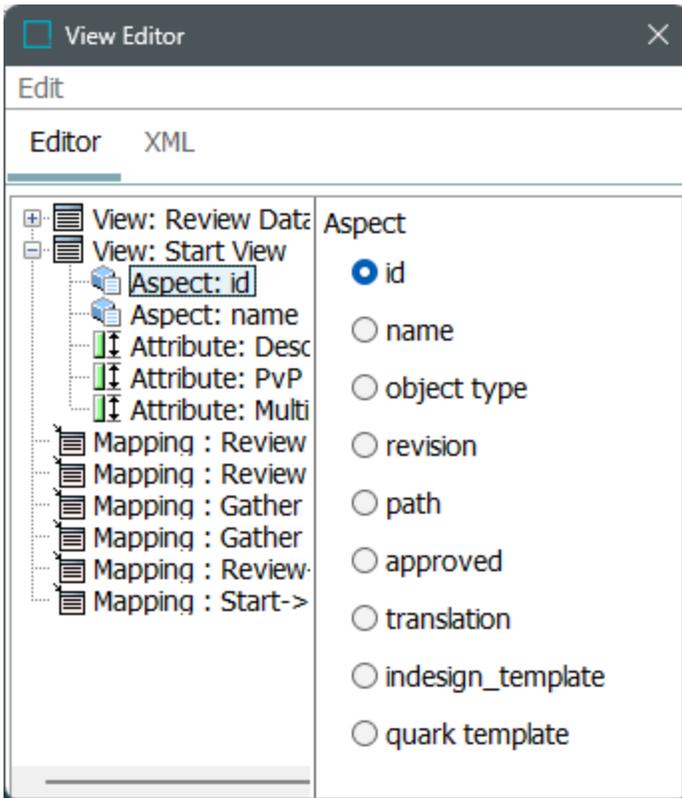
## Attribute Group

The 'Attribute Group' column type is used to insert all attributes in a group into the view. The same considerations apply as for a single attribute, described above.

## Aspect

Via the Aspect option, it is possible to insert columns for ID, name, object type, revision, and other basic data for the object.

To add an aspect to a view right-click on the view > **Add Column** > **Aspect**. Click the appropriate radio button for the desired aspect. A full description of what each aspect option is can be found in the table below.



Aspect	Description
id	Displays the ID of the object, which is not editable.
name	Displays the STEP Name of the object, which is editable if privileges allow.
object type	Displays the object type of the object. If privileges allow for editing, a dropdown is present from which valid object types can be selected.
revision	Displays the revision number, as well as when the object was last edited and by whom. The field is not editable.
path	Displays the path of where the object exists in STEP. The field is not editable.
approved	Displays the approval status of the object and date / time of last approval if applicable. The field is not editable.
translation	Displays the translation status of the object, for example: Up to date, In Progress, Not Translated, etc. (not editable). For more on translations, refer to the Translations documentation.

Aspect	Description
indesign_template	Displays the Print Publisher product template being used for print. By clicking on the hyperlink, the user is brought to the template.
quark template	Legacy option that should not be used in current implementations.

Unique Key is not a selection option. If it is required to display the key value of an object, the attribute(s) driving the key should be selected using the Attribute or Attribute Group options.

## Component

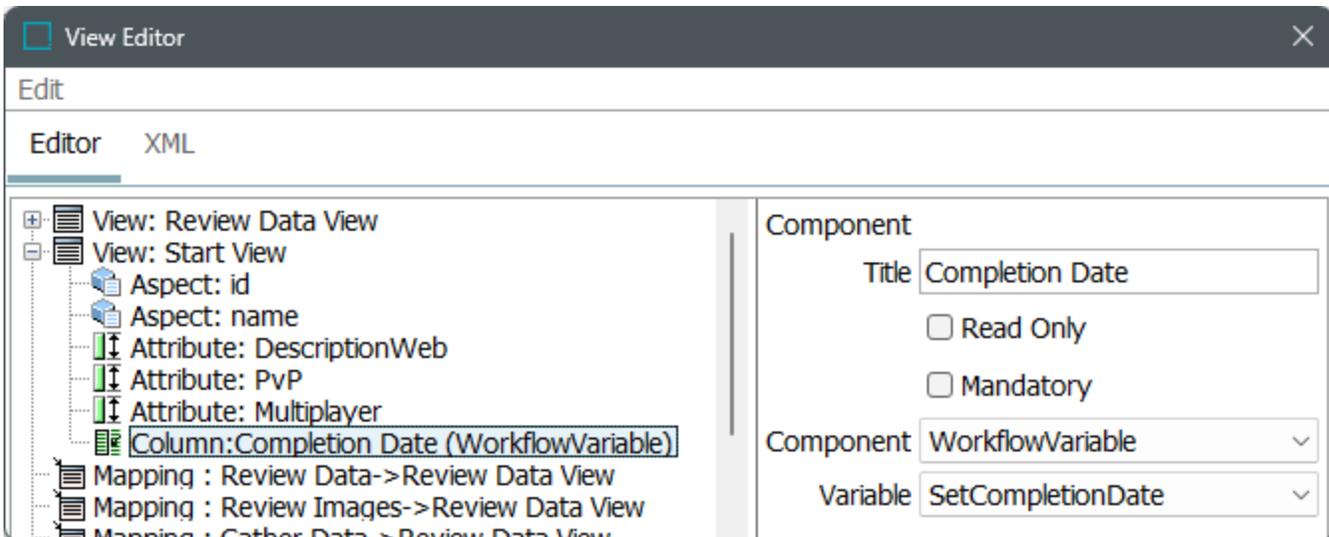
The component option gives access to a list of data specifically related to workflows, including assignee, workflow attachments, workflow variables, etc.

To add a component to a view right-click on the view > **Add Column** > **Component**.

Populate the **Title** (header for the column in the view), select **Read Only** or **Mandatory** as appropriate, and select a component from the dropdown. Selection of a component may result in additional selection options.

For example, selection of Workflow Variable yields an additional dropdown to select the specific variable to be used. For more on variables, refer to the Workflow Variables topic.

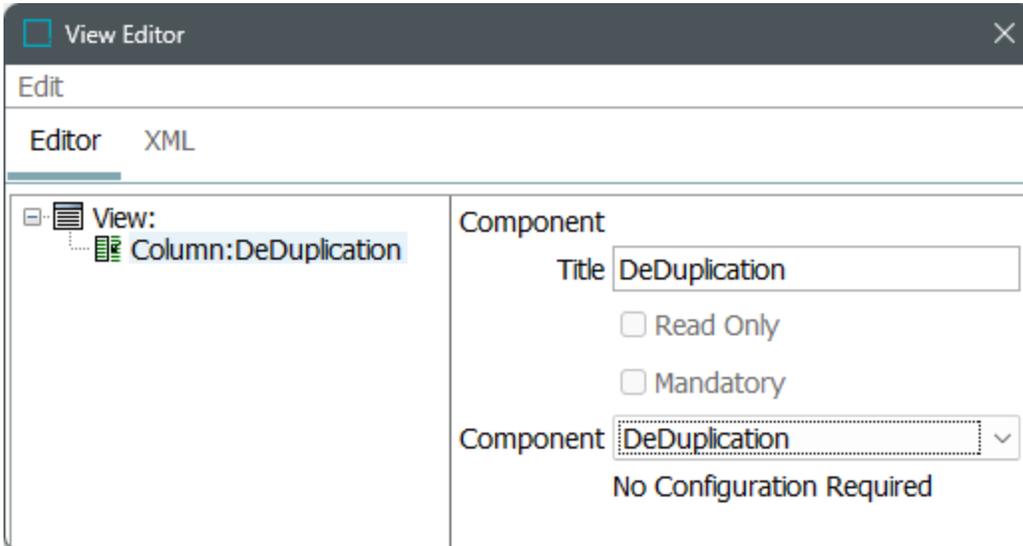
Each component option is described in detail below.



**Read Only** and **Mandatory** fields are not applicable on all components and are disabled in that case. When available, fields marked as 'Read Only' are not editable on the STEP Workflow Items or Tasks tabs. Checking 'Mandatory' means that an asterisk (\*) is shown with the Title to indicate to users that the field should be populated. However, it does *not* enforce that the field is populated prior to the task exiting the state.

## DeDuplication

Adding the DeDuplication component to a workflow view allows a user to review if there are any objects in the system that have been flagged as potential duplicates by a matching algorithm.



If potential duplicates have been identified, a Duplicates button is present that the user can click to access a list of possible duplicates for the selected object in the workflow. Clicking the Differences button opens a Compare screen where the user can view differences and confirm or reject duplicates.

### STEP Workflow Items

STEP Workflow Items    Multi Editor    References    Referenced By

	WorkflowVariable (Variable=MatchingAlgorithmID)	Deduplication	ID	Name
APRIL LOGAN	IndividualMatching	Duplicates	1351629	APRIL LOGAN
MAR			1351979	MARTHA MARSDEN
AMY			1351989	AMY UTTERBACK
AMA			1351949	AMANDA DUNAWAY
PAT			1351964	PATRICIA DENNARD

Resolve possible duplicates.

APRIL LOGAN is possible duplicated by these objects. Please resolve manually.

1369015	APRIL LOGAN	79	Differences
---------	-------------	----	-------------

Compare

**Matching Algorithm Criteria**

Name	Score (%)
	79.25
<b>Total</b>	<b>79.25</b>

	APRIL LOGAN	APRIL LOGAN	
[All Elements]			
ID	1351629	1369015	<a href="#">Details...</a>
Name	APRIL LOGAN	APRIL LOGAN	<a href="#">Details...</a>
Attributes			
References			

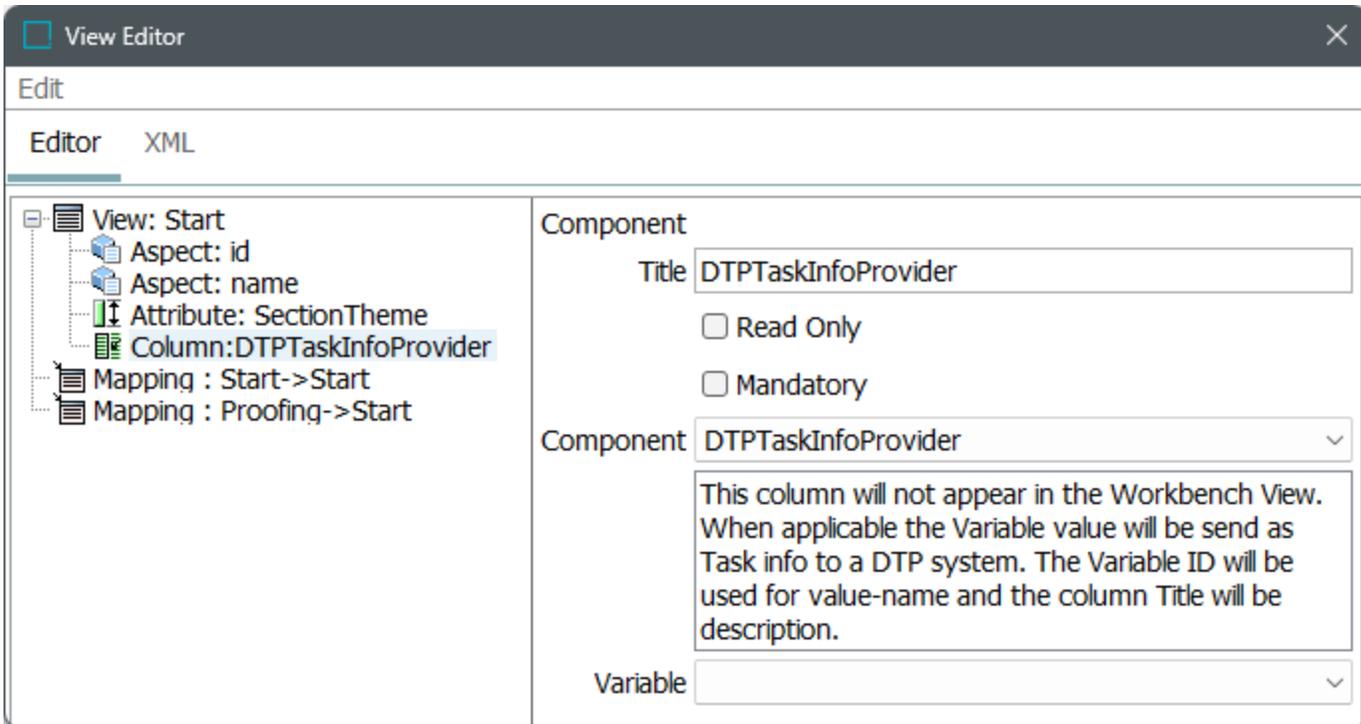
  

Hide Identical Rows

For additional information on deduplication workflows, refer to the Matching, Linking, and Merging documentation.

### DTP task info provider

Component that can be used if a user wishes to show task data in the InDesign plugin tasks tab. It will not be rendered in the workbench. The Variable ID will be used for value-name and the column Title will be description.

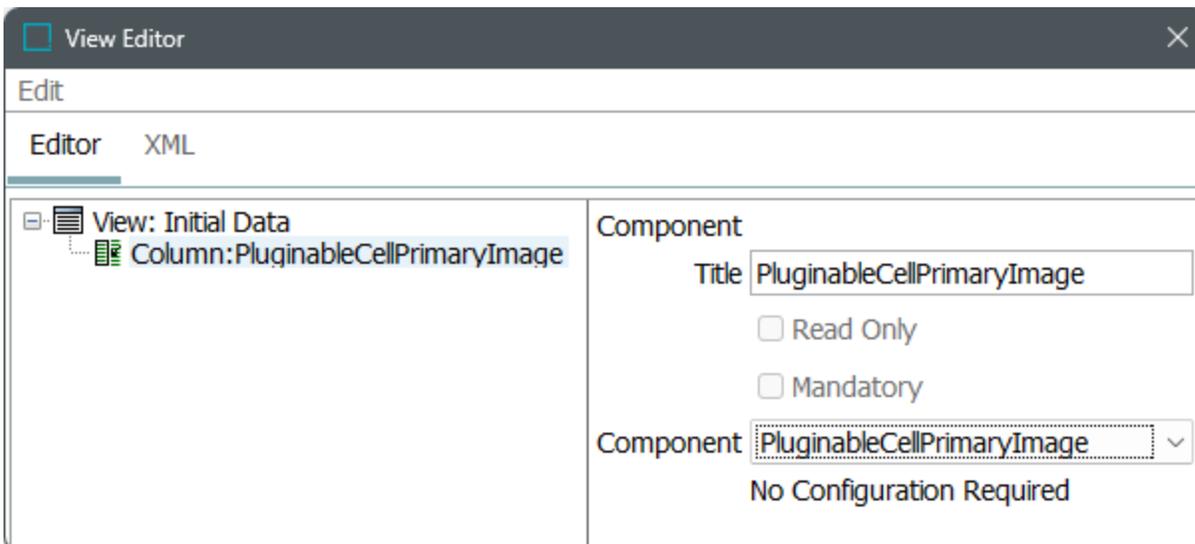


### Pluginable cell debug

Experimental debug option that generally should not be used.

### Pluginable cell primary image

Component for displaying the primary image of the object.



The component displays a thumbnail of the primary image. Neither the image nor the reference can be edited. Images cannot be added or removed using this component.

STEP Workflow Items			
STEP Workflow Items	Products	References	Referen
		PluginableCellPri...	
Blue Flashlight			
Green Flashlight			

**Note:** If end users need to edit references (primary image or otherwise), use the standard editor functionality on the References and Referenced By tabs.

The reference type used to identify the primary image is set in System Settings as defined in the Primary Image Type topic of the System Setup documentation.

### Vendor

The vendor component displays the name of the vendor / supplier that the object is assigned to. This is typically used for systems that have a supplier hierarchy in place. More information on this setup is available in the Supplier Web UI Setup Guide in the Web User Interfaces documentation.

View Editor
✕

Edit

Editor XML

View: Review

Column: Vendor

Component

Title

Read Only

Mandatory

Component

No Configuration Required

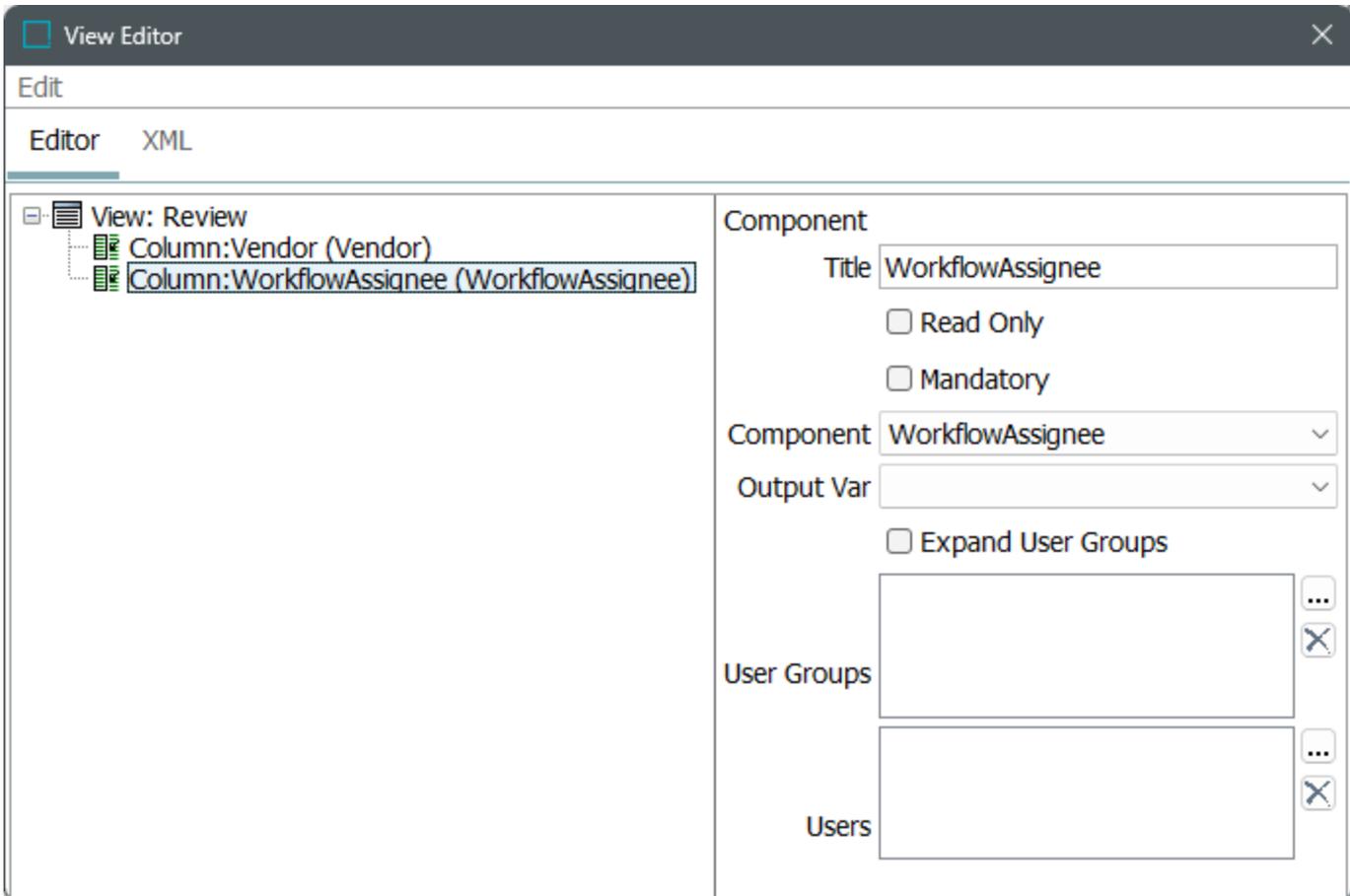
The component displays the name of the supplier classification folder that the object is linked to (the object is in the products sub-folder).

STEP Workflow Items		
STEP Workflow Items	Products	Refere...
	PluginableCellPri...	Vendor
Blue Flashlight		Acme, Products Gal..
Green Flashlight		Products Galore

This component uses the reference type indicated in the 'Link type for vendor classification to product link' system setting, as defined in the Web UI Settings topic of System Setup documentation.

### Workflow assignee

Used for displaying the current assignee and/or letting users with the STEP Workflow Administrator privilege re-assign the current task to another user / group.



If to be used for re-assigning, either the **User Groups** or **Users** parameter (or both) must be populated. Selections will be the available assignees.

If the **Expand User Groups** checkbox is selected, all users in the selected user groups will be available for selection / assignment (as well as the user group itself). When a privileged user selects a user / group to re-assign the task to (in the STEP Workflow Items editor or on the object Tasks tab), the re-assignment will occur immediately, and the task might disappear upon refresh.

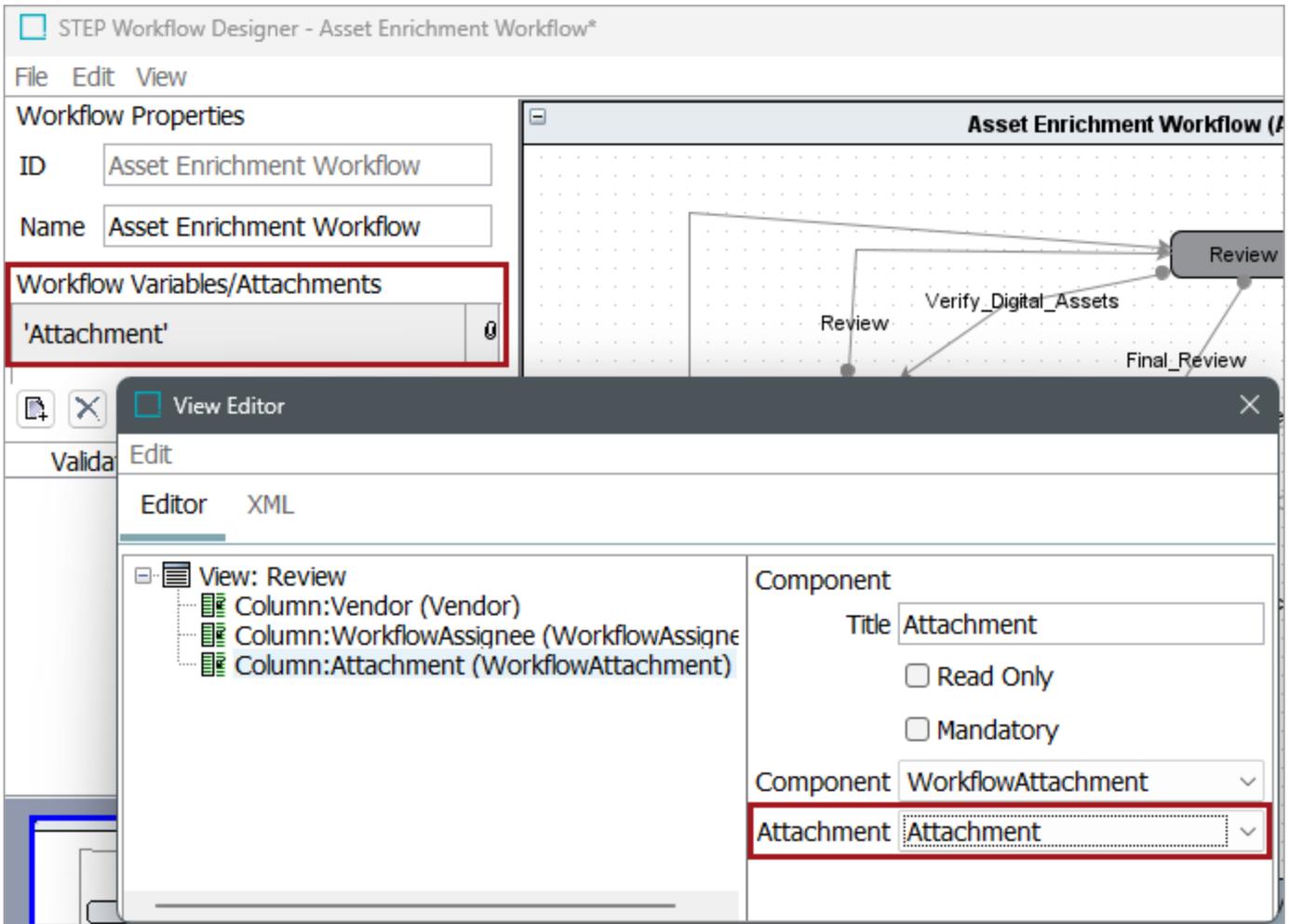
The **Output Var** parameter can be used to select a workflow variable to write the public ID of an assignee. If a selection is made, when an end user populates the cell, no reassignment takes place, and no special privileges are required. This allows a user to select a 'future' assignee - the actual assignment must be done later by a business action that looks up the assignee using GroupHome / UserHome. If the same ID is used on both a group and a user, the component will use the group, as it is found first.

STEP Workflow Items			
STEP Workflow Items	Products	References	Referenced By
	eCellPri...	Vendor	WorkflowAssignee
Blue Flashlight		Acme, Products Gal...	Group : Image G...
Green Flashlight		Products Galore	Group : Buyer Group Group : Image Group
			Group : Image Group

For more on Assignees and the description of the various options for the Workflow Assignee component, refer to the Assignees in Workflows topic.

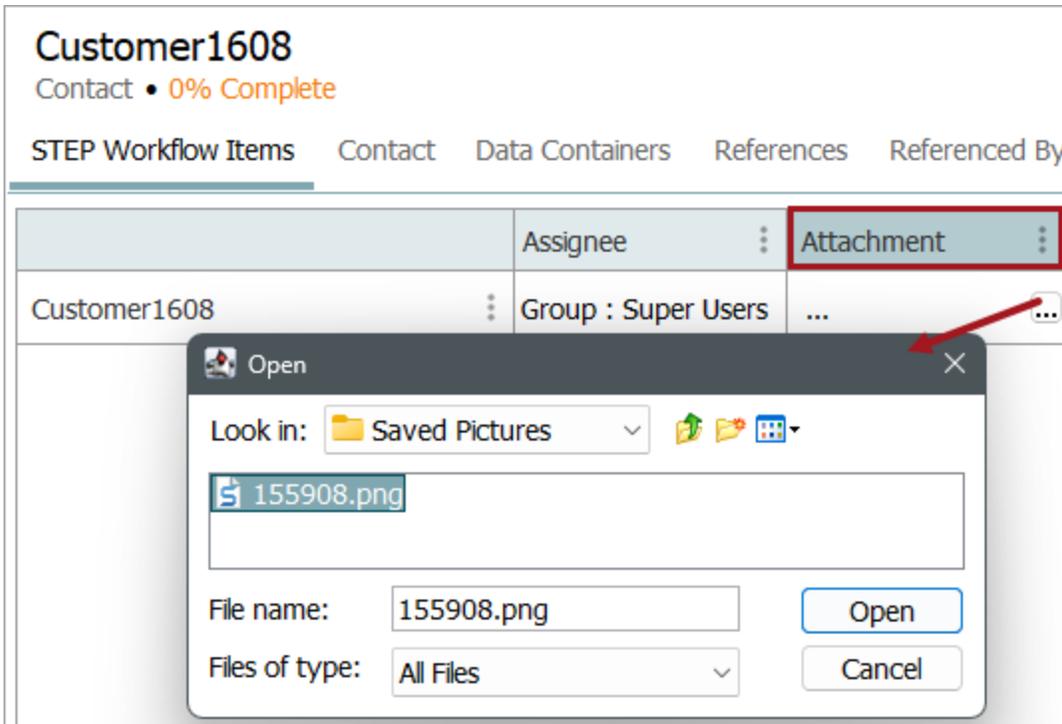
### Workflow attachment

A component that lets users add, open, download, and delete Workflow Attachments. A Workflow Attachment must have been previously set up and saved in the STEP Workflow Designer to be selected in the **Attachment** dropdown. For more information on Workflow Attachments and the features in this component, refer to Workflow Attachments.



**Note:** If marked as 'Read Only', the add and delete options will be disabled, but users will still be able to open and download attachments.

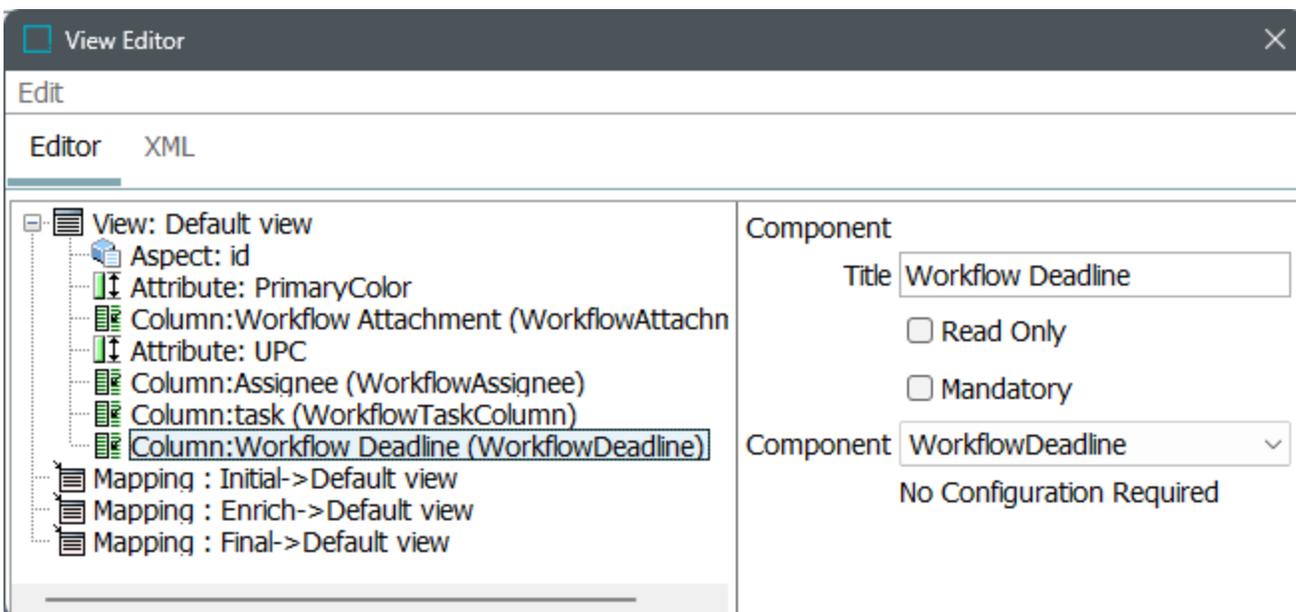
Viewing the STEP Workflow Items tab includes a column that uses the Title assigned.



## Workflow deadline

Users with the STEP Workflow Administrator privilege will be able to set, edit, and delete task deadlines. Users without the privilege will view different icons depending on whether the deadline is reached or not.

The editability of the deadline field is determined solely by privileges, and therefore the Read Only setting is not applicable for this component.



Deadlines will be displayed when a user hovers over the icons.

### STEP Workflow Items

STEP Workflow Items   Products   References   Referenced By

ID	Assignee	Workflow Deadline
267849	User : supplier1	
267851	User : supplier1	
267850	User : s	

Date Picker ✕

Year:    Month:    Day:

2024 ▾    dec ▾    10 ▾

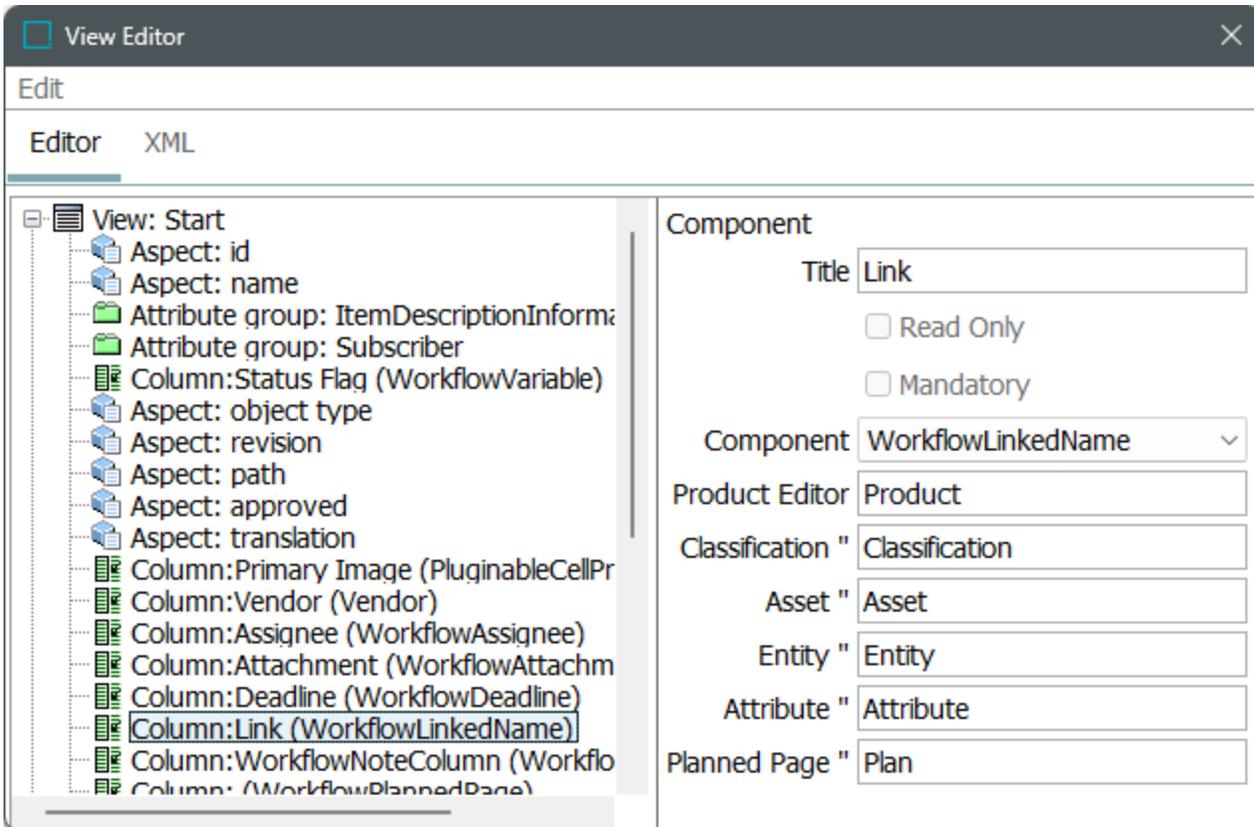
Hours: Minutes: Seconds:

12    29    19

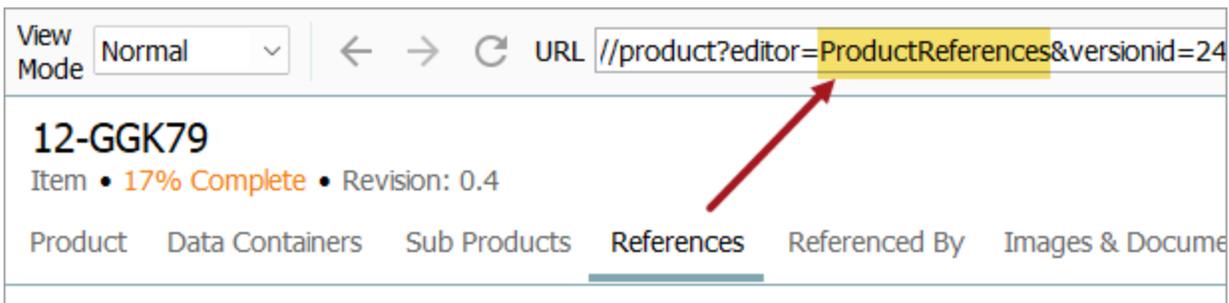
For more on this refer to Deadlines and Escalations in Workflows.

### Workflow linked name

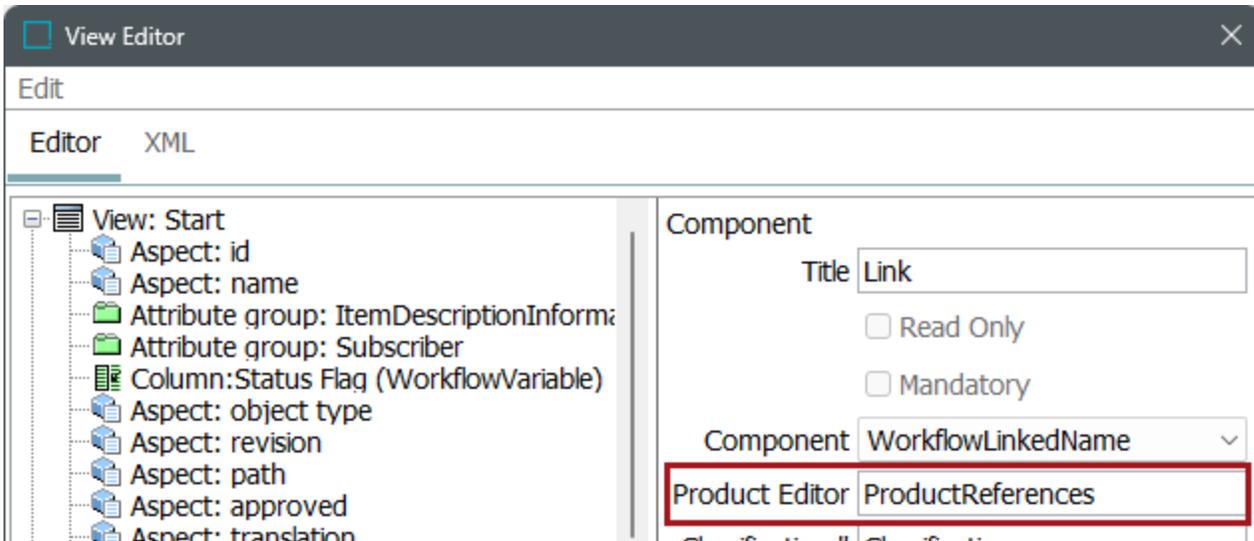
Component for displaying the object name as a link to the configured object editor. When the component is selected, default values are populated, which takes the user to the standard editor for each super type of objects (e.g., the Product tab in Tree view for "blue" objects in STEP). However, these default values can be edited so that the user is directed to another tab when clicking the hyperlink in the view (e.g., to the References tab or Images & Documents).



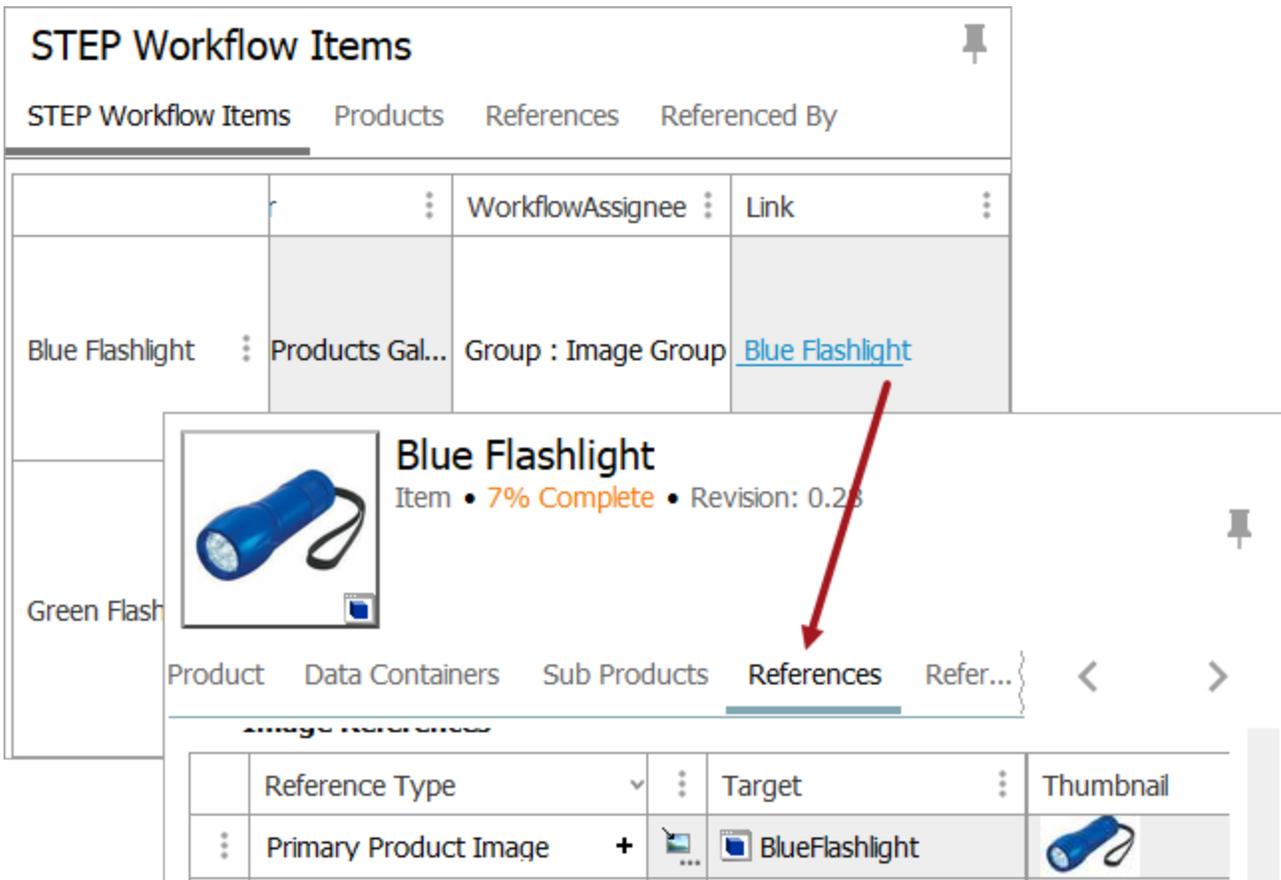
For example, to change the default landing page to be the References tab of the product editor, go to the desired editor, choose the desired tab, and look at the STEP URL field. In this example, the tab is named 'ProductReferences'.



Type 'ProductReferences' for the Product Editor parameter and save the changes to the workflow.

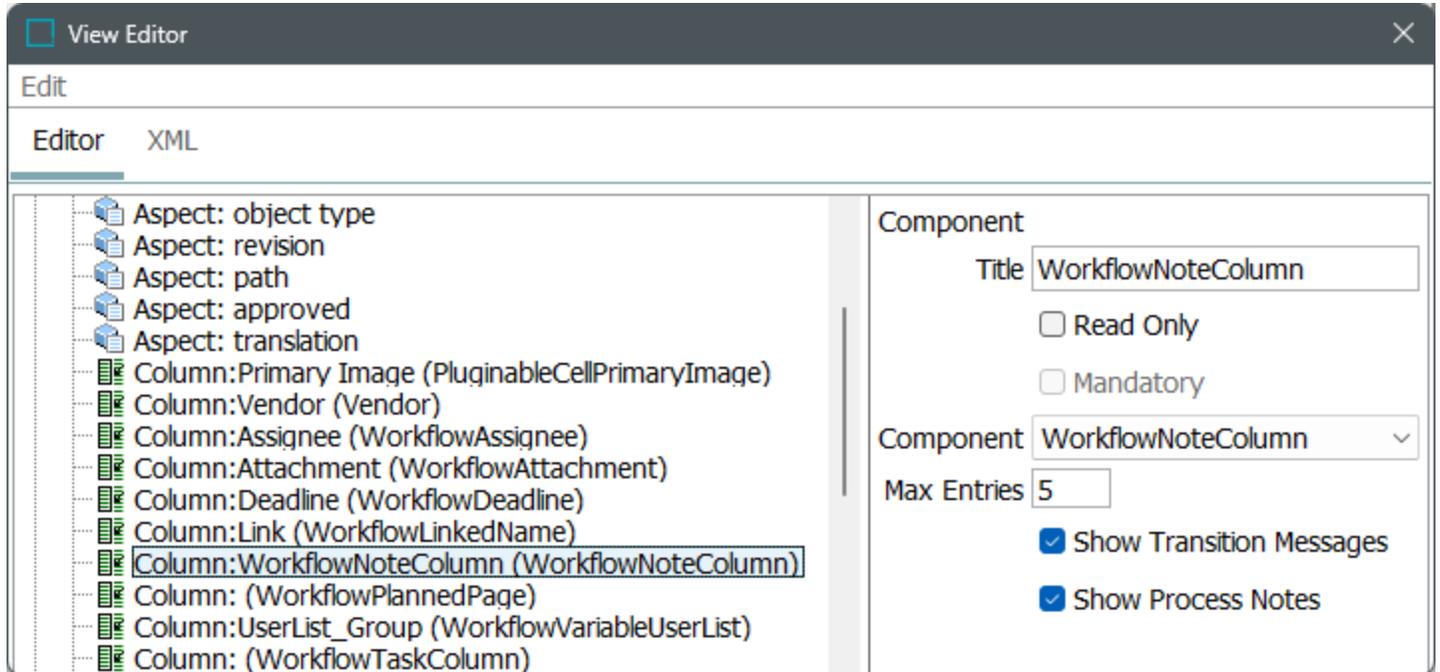


Display the STEP Workflow Items tab and click the name link to display the configured tab within the STEP Workflows editor.



## Workflow note column

Component for displaying the most recent Process Note or Transition Message. If *not* configured as Read Only, a new note can be added, and will persist throughout the workflow. Hover over the field to display the notes. The configured number of recent entries is determined by the **Max Entries** field. Along with the message, the user info and timestamp will also show.



**View Editor**

Edit

Editor XML

- Aspect: object type
- Aspect: revision
- Aspect: path
- Aspect: approved
- Aspect: translation
- Column:Primary Image (PluginableCellPrimaryImage)
- Column:Vendor (Vendor)
- Column:Assignee (WorkflowAssignee)
- Column:Attachment (WorkflowAttachment)
- Column:Deadline (WorkflowDeadline)
- Column:Link (WorkflowLinkedName)
- Column:WorkflowNoteColumn (WorkflowNoteColumn)**
- Column: (WorkflowPlannedPage)
- Column:UserList\_Group (WorkflowVariableUserList)
- Column: (WorkflowTaskColumn)

**Component**

Title: WorkflowNoteColumn

Read Only

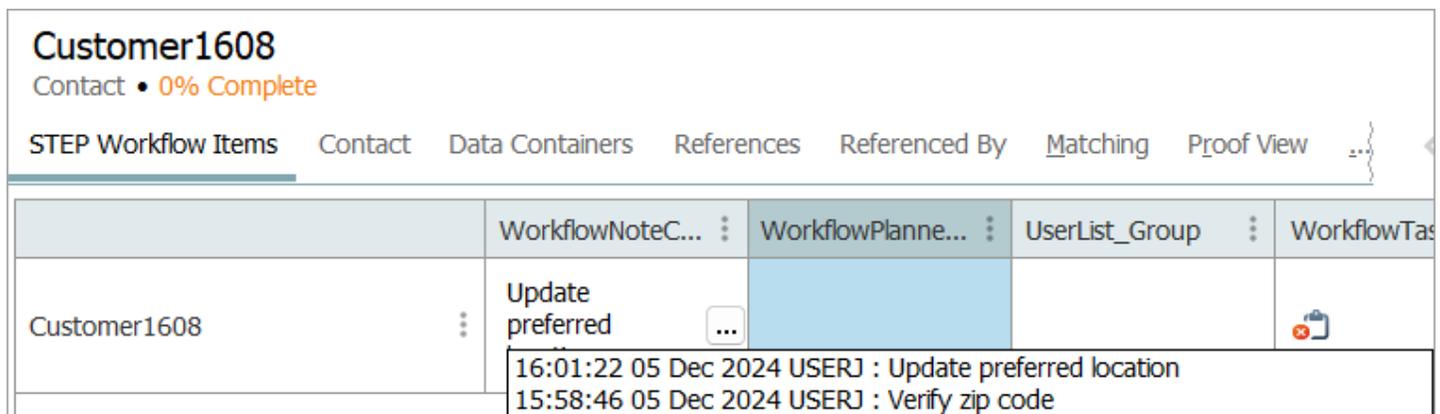
Mandatory

Component: WorkflowNoteColumn

Max Entries: 5

Show Transition Messages

Show Process Notes



**Customer1608**  
Contact • 0% Complete

STEP Workflow Items Contact Data Containers References Referenced By Matching Proof View

	WorkflowNoteC...	WorkflowPlanne...	UserList_Group	WorkflowTas
Customer1608	Update preferred			
	16:01:22 05 Dec 2024 USERJ : Update preferred location 15:58:46 05 Dec 2024 USERJ : Verify zip code			

The **Show Transition Messages** and **Show Process Notes** parameters are used to define the types of notes displayed. Take care when making these selections as they significantly impact the user experience. Typically, only one option will be selected, as appropriate for the intended use.

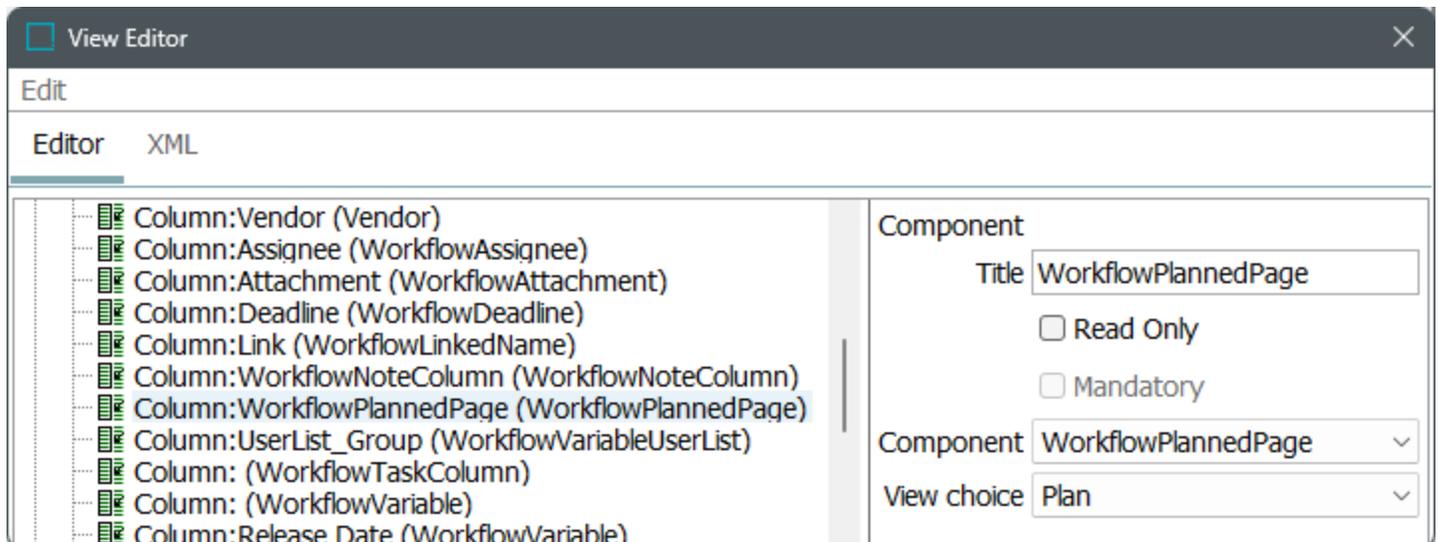
- **Show Transition Messages:** Check this if a message is provided at the time the task is submitted, and the next user should view that message. If no message is provided at the time of transition, a transition is still logged, though without a message (e.g., time, date, and user is displayed upon hover, but no corresponding message is displayed). The intent of this is for serial work streams where one user will need to view a

message entered from the immediately preceding user, but is unlikely to need to view previously entered messages from those further upstream. Therefore, only the message entered by the last user is displayed in the view.

- **Show Process Notes:** Check this if users will enter notes while working with tasks, and the notes should be visible to the next user. The intent of this is that the current user needs to pass information to one or more subsequent users, and they enter the message while working with the task (e.g., prior to submission). The most recently entered note will always be available in the direct view, with additional notes available upon hover.
- **Both:** Use caution when selecting both parameters in the same column. The most recent transition message is always displayed in the view (if no message was entered, the view displays no value). Any notes entered outside of the submit message are only available upon hover (even if a transition message was not provided). If a transition message is *always* provided, this can be a valid setup. However, if transition messages are not guaranteed, it can appear to the end user that no messages are present, when in fact process notes have been provided. If both process notes and transition messages need to be available, it is recommended to add the column to the view twice with only one parameter checked in each so that both process notes and transition messages are shown independently.

## Workflow planned page

Component that can be used in workflows valid for Planned Pages. It will show a thumbnail of the plan, Sticker book, or Mounted pages (as directed by the **View choice** parameter), and links directly to the selection when clicked.



### STEP Workflow Items

STEP Workflow Items [Multi Editor](#)

	Preview	Name	ID
Shower Decorations		Shower Decorations	135826
Party Hats		Party Hats	135979

#### Party Hats

Planned Page

STEP Workflow Items **Plan** [Planned Page](#) [Plan Notes](#) [References](#) [Status](#) [State Log](#) [Tasks](#)

---

Flatplanner


X: 
Y: 
W: 
H: 
[View](#) [Plan](#)



## Workflow task column

The WorkflowTaskColumn component lets users claim / release a task. Users will not be able to work on tasks not assigned directly to them, so if a task is assigned to a user group they are a member of, they have to claim it in order to work with it. When a task is claimed, it is possible to release it again, assigning it back to the latest group assignee. If the task has never been assigned to a user group, the task is assigned to the default assignee for the state.

This component is especially useful for states where the assignee initially is a user group, and the desire is to let users in that group claim and complete tasks.

View Editor

Edit

Editor XML

- Column:Vendor (Vendor)
- Column:Assignee (WorkflowAssignee)
- Column:Attachment (WorkflowAttachment)
- Column:Deadline (WorkflowDeadline)
- Column:Link (WorkflowLinkedName)
- Column:WorkflowNoteColumn (WorkflowNoteColumn)
- Column:WorkflowPlannedPage (WorkflowPlannedPage)
- Column:UserList\_Group (WorkflowVariableUserList)
- Column:WorkflowTaskColumn (WorkflowTaskColumn)
- Column: (WorkflowVariable)

Component

Title

Read Only

Mandatory

Component

No Configuration Required

### STEP Workflow Items

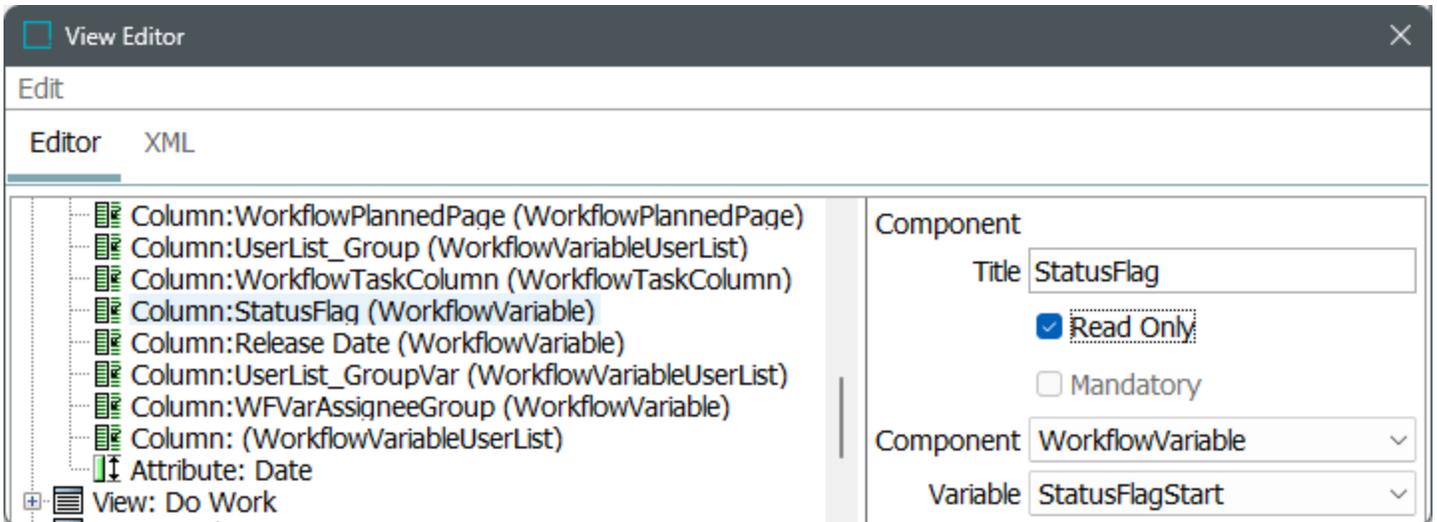
STEP Workflow Items Products References Referenced By

STEP Workflow Items	Products	References	Referenced By
	Co-op*	⋮	Task ⋮
College Baseball Game ⋮	2-6 Players		
Cosmic Video Game ⋮			

For more on task ownership, refer to the Assignees in Workflows topic.

### Workflow variable

Component for viewing and editing Workflow Variables, which requires selection of the **Variable** that should be made available. For more on variables, refer to the Workflow Variables topic.



If the selected variable is bound to an attribute and the component is configured to *not* be Read Only, the cell editor matching the validation base type of the attribute will be used (e.g., a date picker for attributes with a type=Date).

STEP	Workflow Items	Products	References	Referenced By
		Base Unit of Me... :	Secondary Color :	StatusFlag :
18212 L B :	EA	Carmine Red		
ALRM-01 45676 :				Critical

### Workflow variable user list

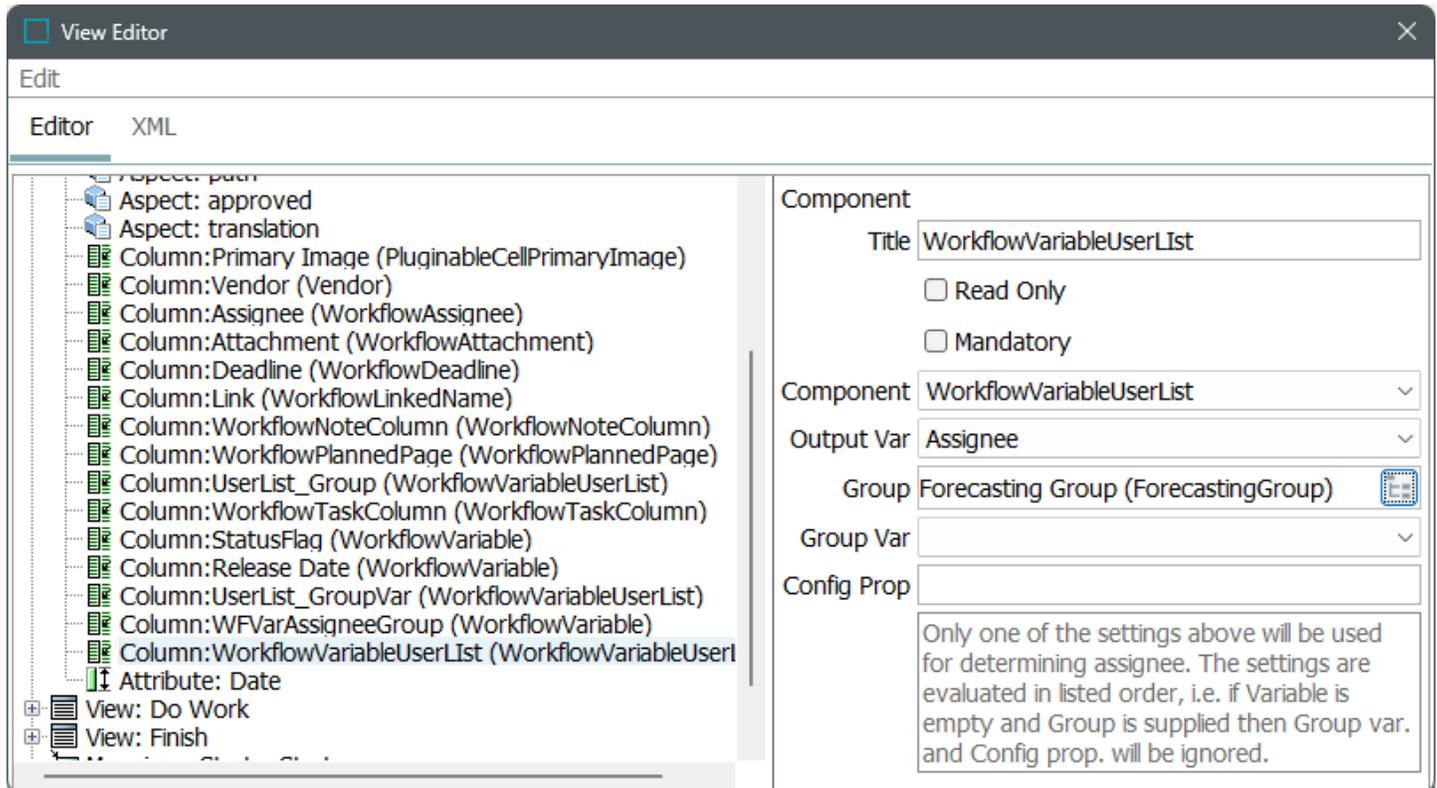
Component for letting the user select from a list of users. The typical use case for this component is one where a user, as part of one task, selects who should handle a subsequent task. The ID of the selected user is then stored in the workflow variable specified in the **Output Var** parameter. From there, it can be used to apply an assignee in a subsequent state using the **Fetch from Variable** assignee option in the State Editor Assignee tab.

An existing workflow variable must be selected in the **Output Var** parameter. This is used to store the selection so that it can be accessed later in the workflow (e.g., at the time of task assignment in a subsequent state).

One of the three selection parameters must be configured (Group, Group Var, Config Prop). The three properties are evaluated in the order shown. Therefore, if Group is populated, it will be used, and Group Var and Config Prop will not be evaluated.

An existing User Group may be selected in the **Group** parameter, and the users in that group will then be available for selection by the end user. This is used when users will always choose a user from within the selected group. If the user group that users need to select an assignee from can vary based on other factors, then the **Group Var** parameter should be used. From this, an existing workflow variable must be selected, and it is expected that at some point in the workflow (prior to the state for which the view is being configured), the variable has been populated with the ID of a User Group. The system then reads the ID from the workflow variable on the task and makes

the users from the corresponding user group available for selection. A **Config Prop** option is also available where the ID of a configuration property can be supplied, and the user group will be read from there. This is typically only used in conjunction with extensions.



**Customer1608**  
Contact • 0% Complete

STEP Workflow Items    Contact    Data Containers    References    Referenced By    Mat

...	Release Date	UserList_Group...
Customer1608		forecasting1 forecasting2

For more on variables, refer to the Workflow Variables topic.

For more on Assignees, refer to the Assignees in Workflows topic.

## View 'Sort On' Option

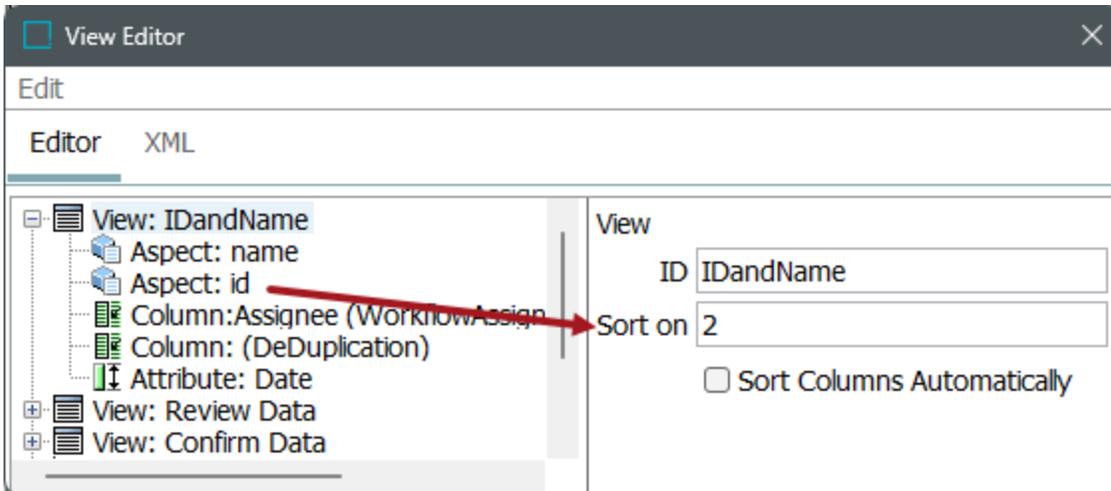
The Sort On option allows tasks in the workflow to have a default sort order specified by a column. An integer can be entered to indicate the column that should be used for sorting (1= first column, 2= second column, etc.). An example is below.

With no sort order specified, the items are in no particular order in the STEP Workflow Items tab.

The screenshot shows the 'View Editor' window with the 'View: IDandName' configuration. The 'Sort on' field is highlighted with a red box and contains the value '0'. Below the editor is the 'STEP Workflow Items' table, which displays a list of items in an unsorted order.

	Name	ID
light blue heels	light blue heels	242722
2 Person Tent	2 Person Tent	4526582
Blå Kasket	Blå Kasket	120170
Yellow Lamp 1	Yellow Lamp 1	242721
Girls Flats	Girls Flats	214301
20738	20738	192405

However, when you add a number for the Sort On option to distinguish what column the view should be sorted by, the items are sorted in ascending order. Notice that in the View Editor, the first view the object name appears in the first column. To sort by this, the user types in 2 to represent the first column in this view.



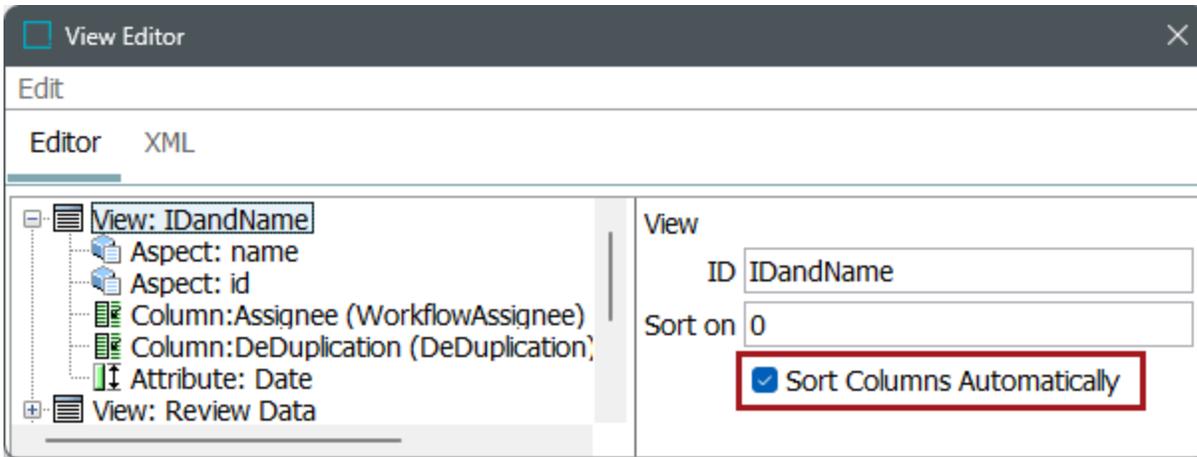
All objects in the workflow in this view are now sorted according to object name.

## STEP Workflow Items

STEP Workflow Items    Products    References    Referenced By

	Name	ID
18213 M O	18213 M O	18213
Heels - 3 or higher	Heels - 3 or higher	20694
Red Pumps	Red Pumps	20695
20714	20714	20714
Comfy Bed	Comfy Bed	22155
109308	109308	109308
Gray Hat	Gray Hat	114509

If the option **Sort Columns Automatically** is checked, the Title parameter for each element of the view is used and columns are sorted in alphabetical order based on this value, excluding aspects. To clarify, all columns of the 'Aspect' type (e.g., ID, Name, Revision, etc.) appear first in the view, followed by all other elements listed in alphabetical order by Title.

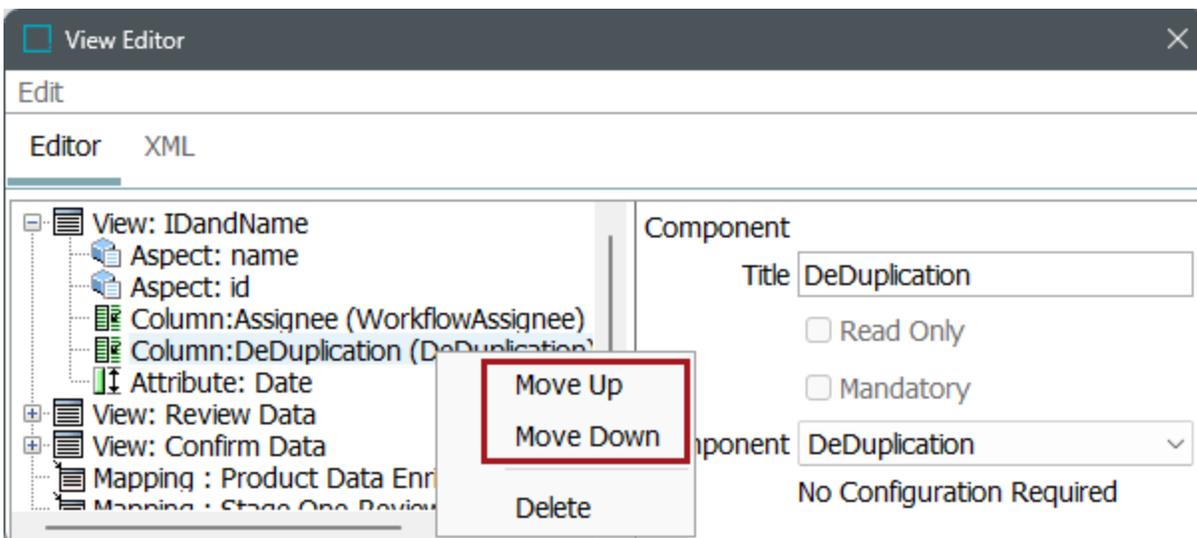


With columns sorted automatically, the Date column displays before the DeDuplication column, even though they are in the reverse order in the IDandName view.

STEP Workflow Items					
STEP Workflow Items    Products    References    Referenced By					
	ID	Name	Assignee	Date*	DeDuplication

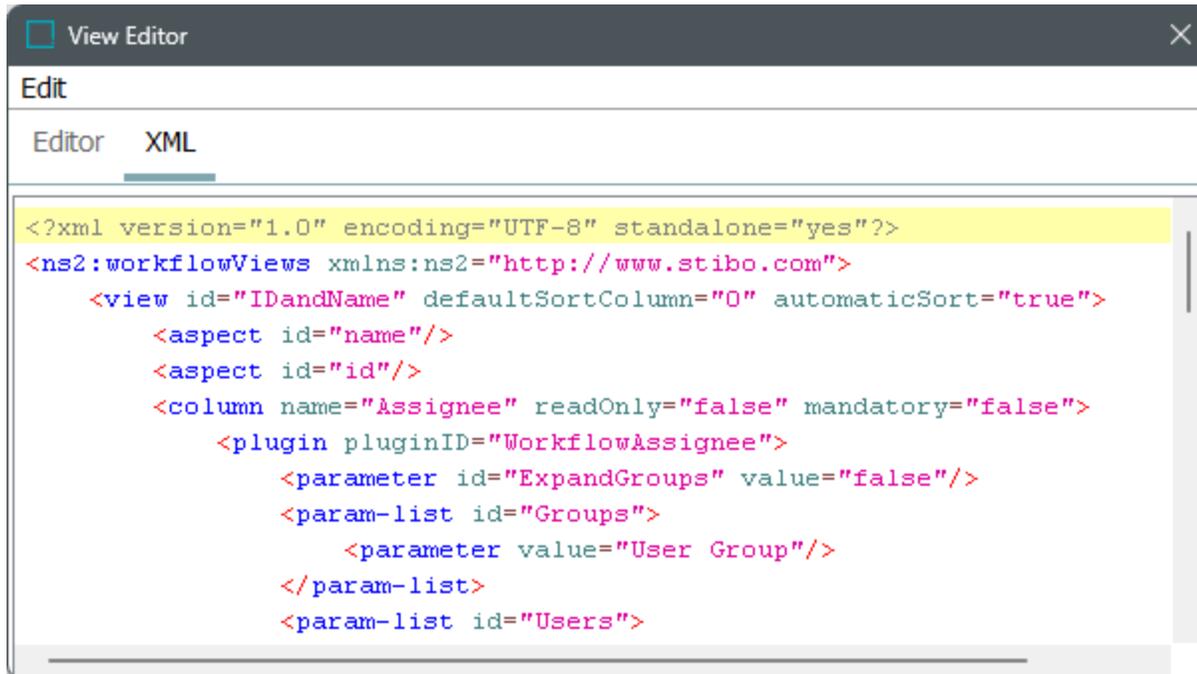
## Ordering Columns in Views

It is possible to reorder the data selections in a view by right-clicking on any element of the view and selecting either Move Up or Move Down, depending on what options are given according to the current position. By default, the order of columns in the View Editor determines the order in which they are displayed to the end user.



## Using the XML View Editor

In addition to the Editor tab on the View Editor dialog, the XML tab shows an XML representation of the defined views and mappings. User can create and configure views via XML instead of the Editor option. This can be especially useful when a number of similar views need to be configured and workflow designers need to indicate only a few differences between them. In addition, the XML editor can be used to copy views across workflows, which is helpful when multiple workflows use a similar view, but the workflow itself differs and should not be copied (e.g., onboarding and maintenance workflows).



## Configuring Mappings for Workflows

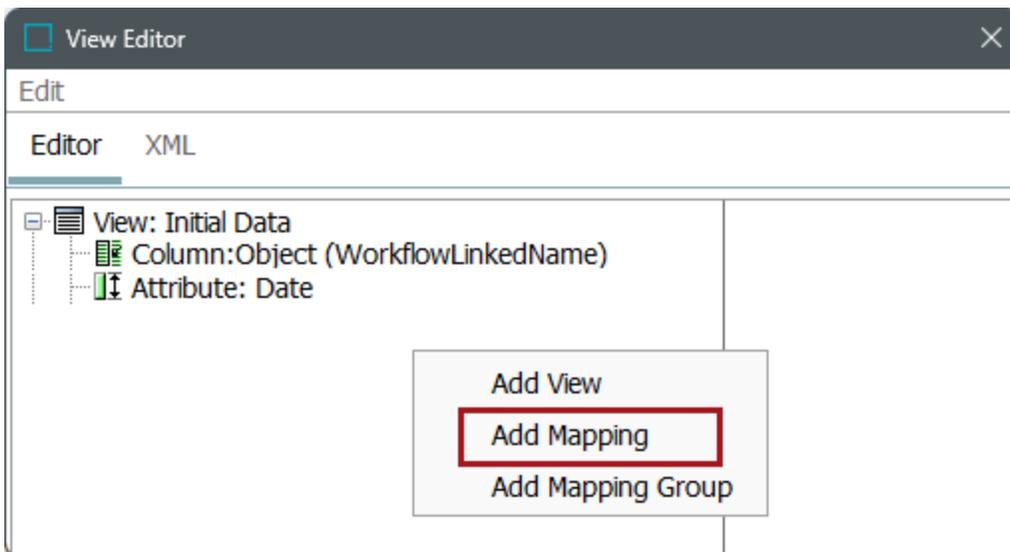
This topic details how to map a view to a workflow state (or states), as well as how to map views to specific users or user groups. When no views or mappings are configured, all states in the workflow are displayed on the STEP Workflow navigator tab (including parallels, clusters, and final states). When a workflow includes automated, system, parallel, and/or cluster states, *and* users will be interacting with the workflow in the STEP Workbench. It is recommended to create mappings so that only the user states (e.g., states in which a human must interact) are present on the STEP Workflow tab.

### Prerequisites

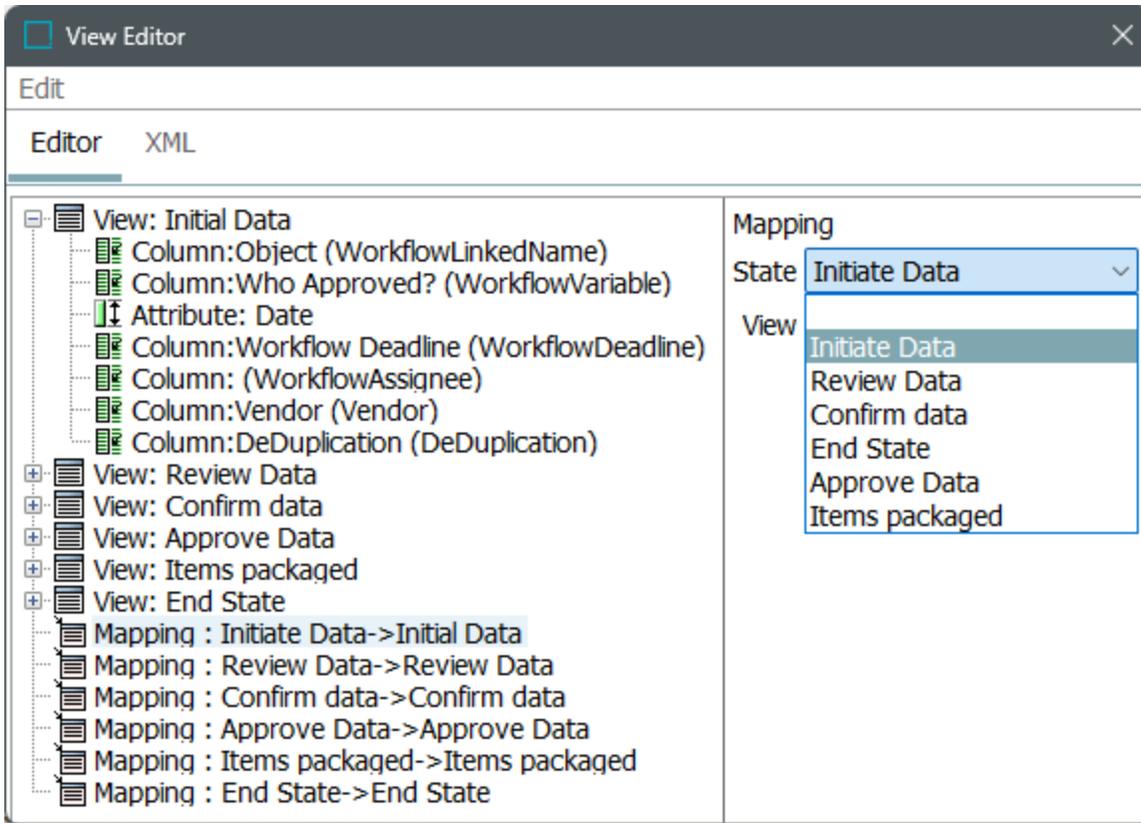
A workflow has been created and one or more views have been created for the workflow. Both the view(s) with an ID assigned and the state(s) must already exist since the mapping task connects a view to a particular state or set of states. Only views with an ID assigned are available for selection in the mapping. For more on creating views, refer to the Configuring Views for Workflows topic.

### Configuration

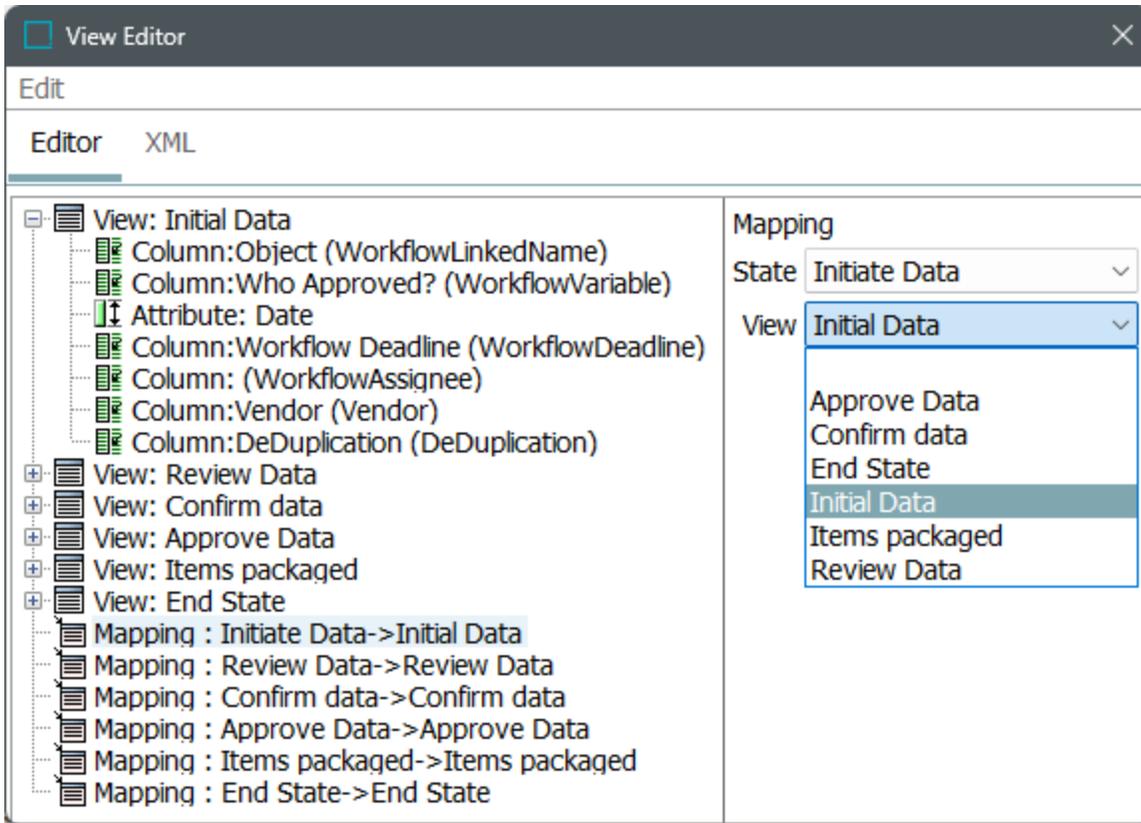
1. To add mapping to a view, right-click anywhere on the left hand side of the editor panel and select **Add Mapping**.



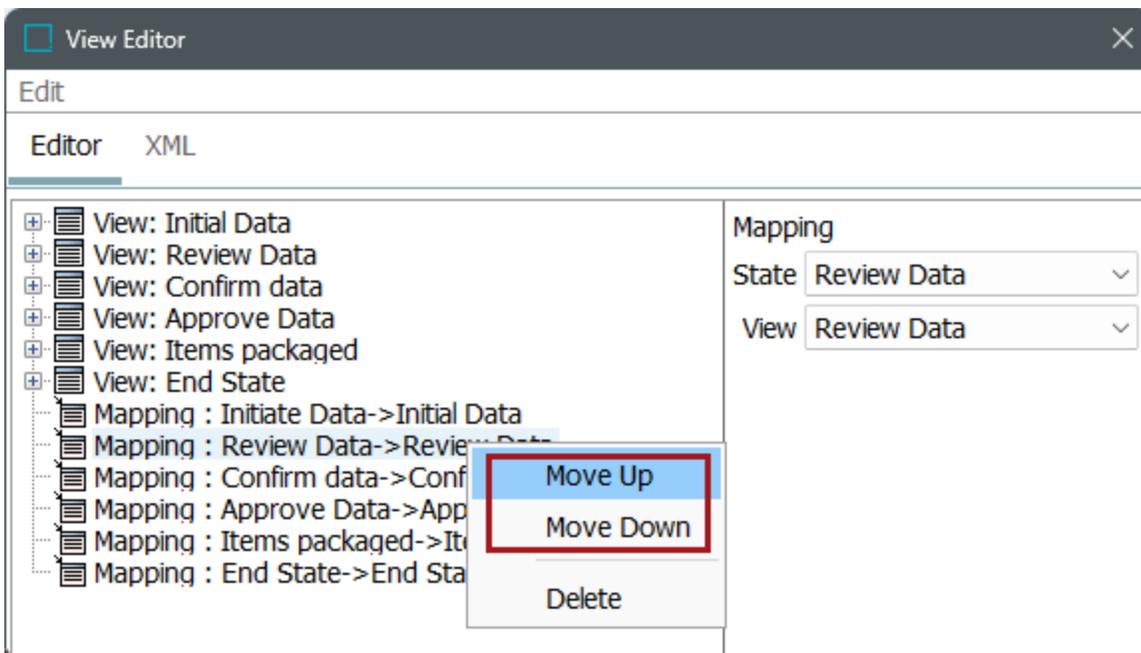
2. In the right-hand panel in the View Editor window, select the state from the dropdown for which you want to apply a view.



3. From the View dropdown, select the view that you would like to apply to the state.



- Repeat the above steps as many times as needed so that each state requiring human interaction has a view assigned to it. The same view can be applied to multiple states.
- Sequence the mappings in the appropriate order by right-clicking on a mapping and selecting 'Move Up' or 'Move down' to define the order in which the views are presented to the user on the STEP Workflow navigator tab. Mapping sequence is typically assigned alphabetically or sequentially (e.g., the first state in the workflow is sequenced first).



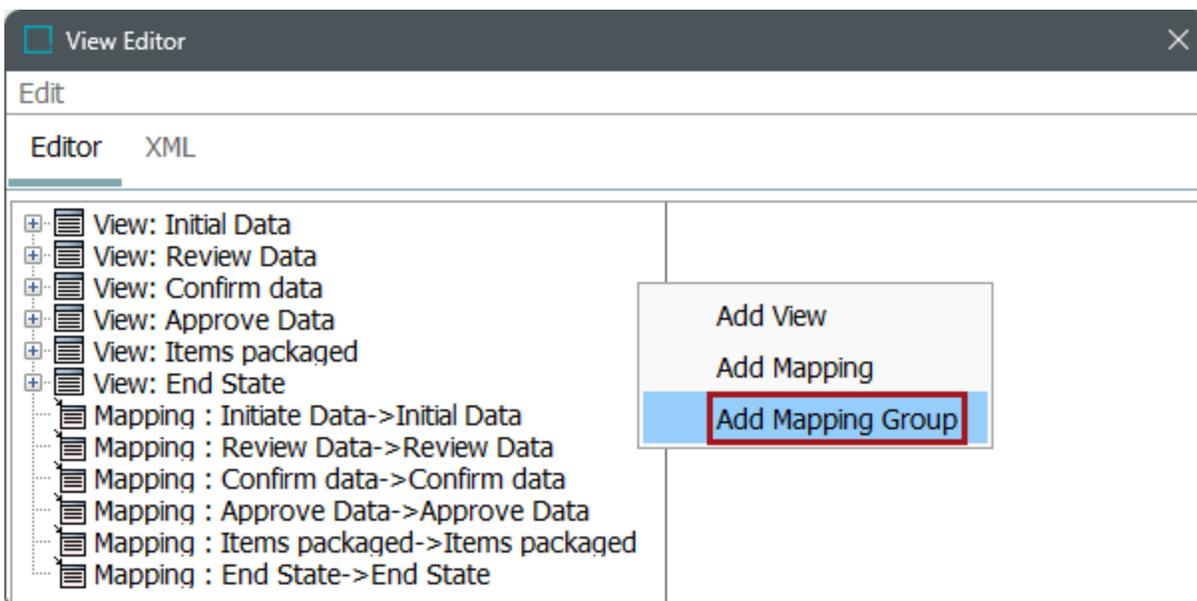
6. Save the workflow, exit the STEP Workflow Designer, and go to the **STEP Workflow** navigator tab.
7. Select the workflow for which view and mapping is being created and expand the section. Only the states for which a mapping was created are visible.

Shipment Order Process	
Initiate Data	5
Review Data	3
<a href="#">Confirm data</a>	2
Approve Data	1
Items packaged	0
End State	0

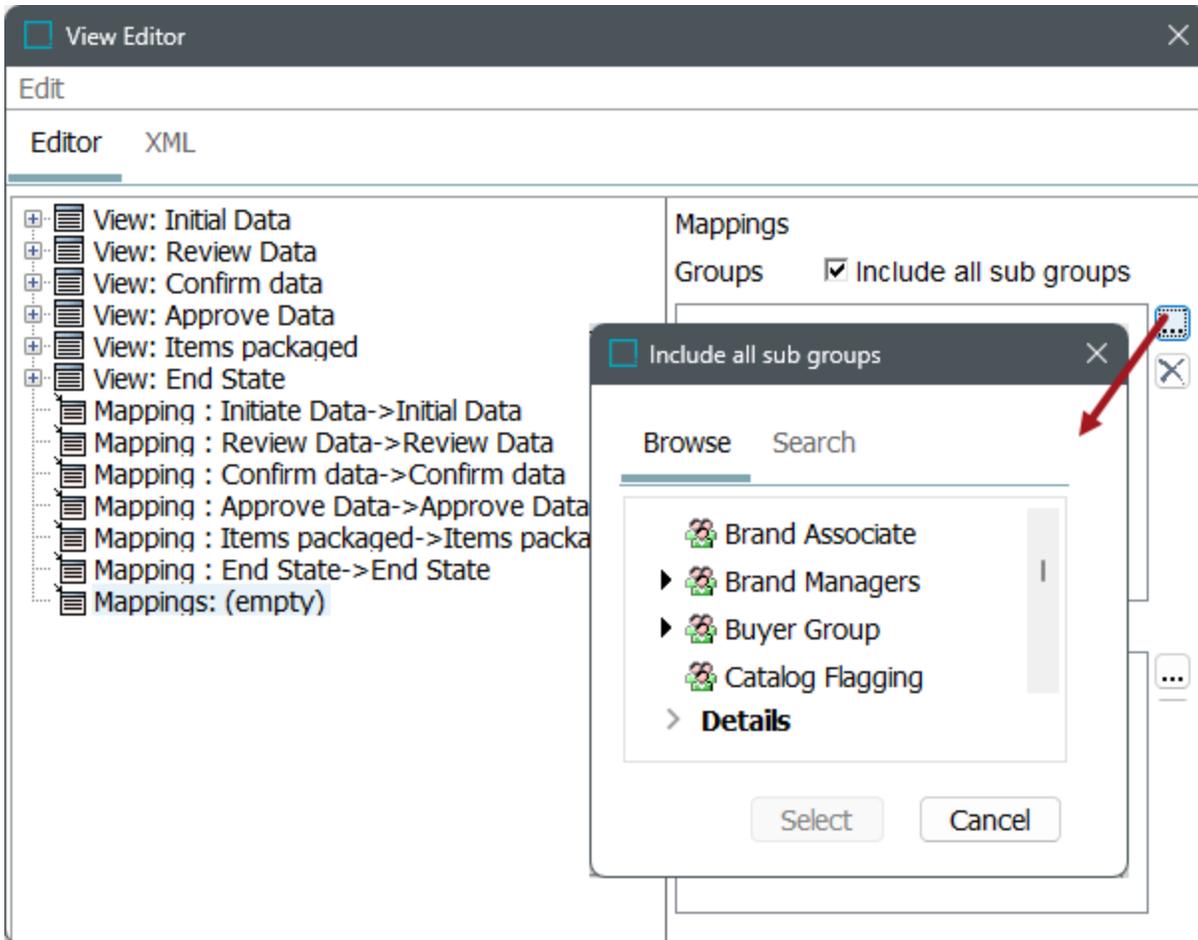
## Workflow User / Group Specific Mappings

You can create mappings that only apply to specific users or user groups so that only users in a specific group can view a given state. For example, only administrator users have access to automated and system states to intervene in case of errors, or users in a specific group can view tasks within the same state with different views, such as an end user who needs to view different data than an administrator.

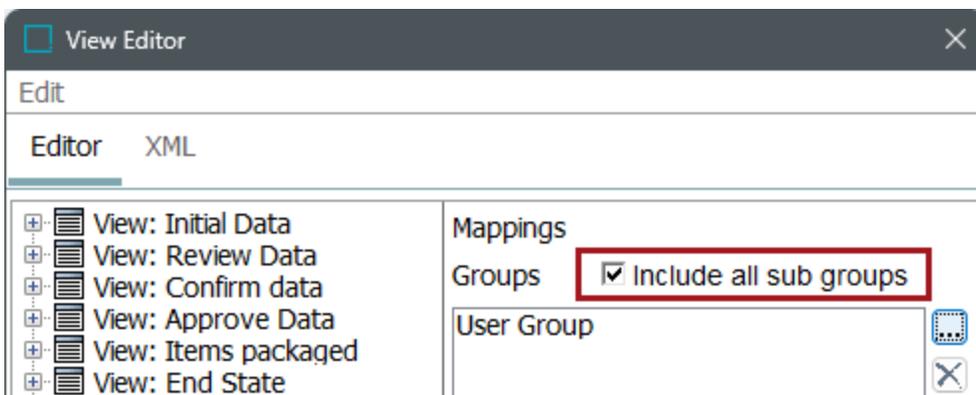
1. To create user / user group specific mappings, right-click the left panel in the View Editor, and select **Add Mapping Group**.



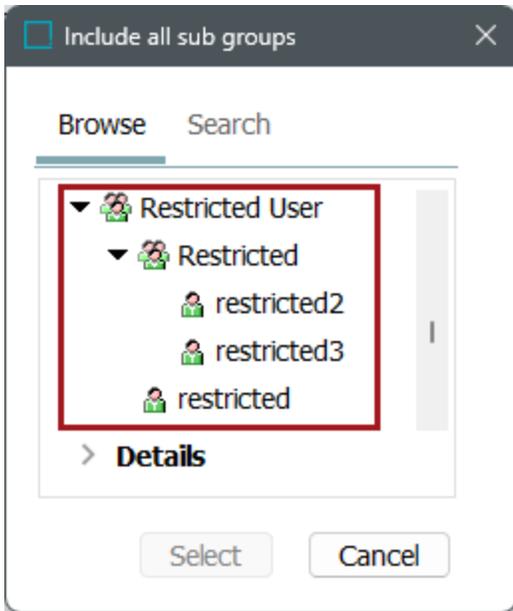
2. Select the user(s) and/or group(s) you want the mapping to apply. There are separate fields for if a group is added verses a single user.



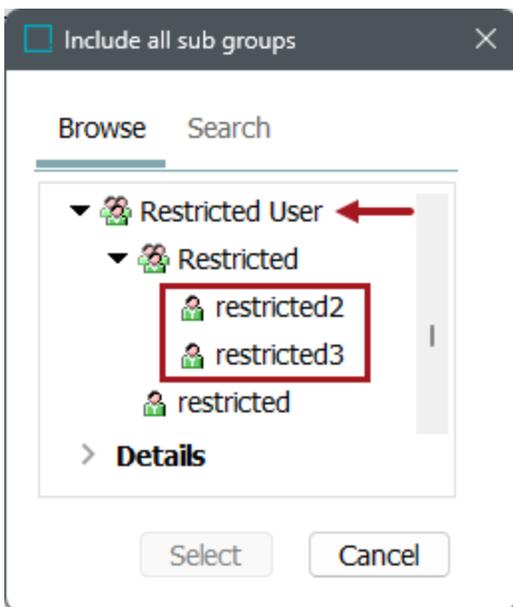
Check the **Include all sub groups** box if subgroups within the group, as well as direct users in the group, should have access to the view.



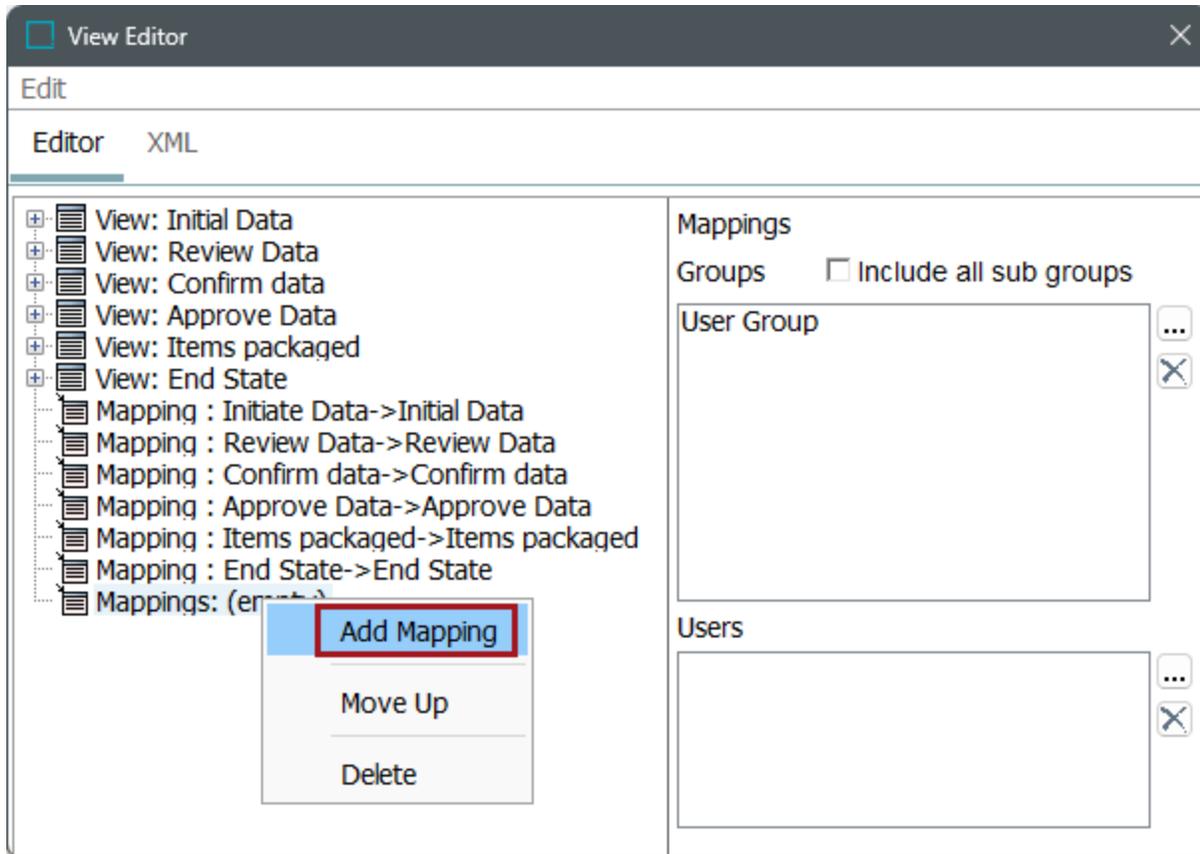
In the example below, checking the **Include all sub groups** option and selecting the Restricted User group, this would include the 'restricted' user, as well as 'restricted2' and 'restricted3.'



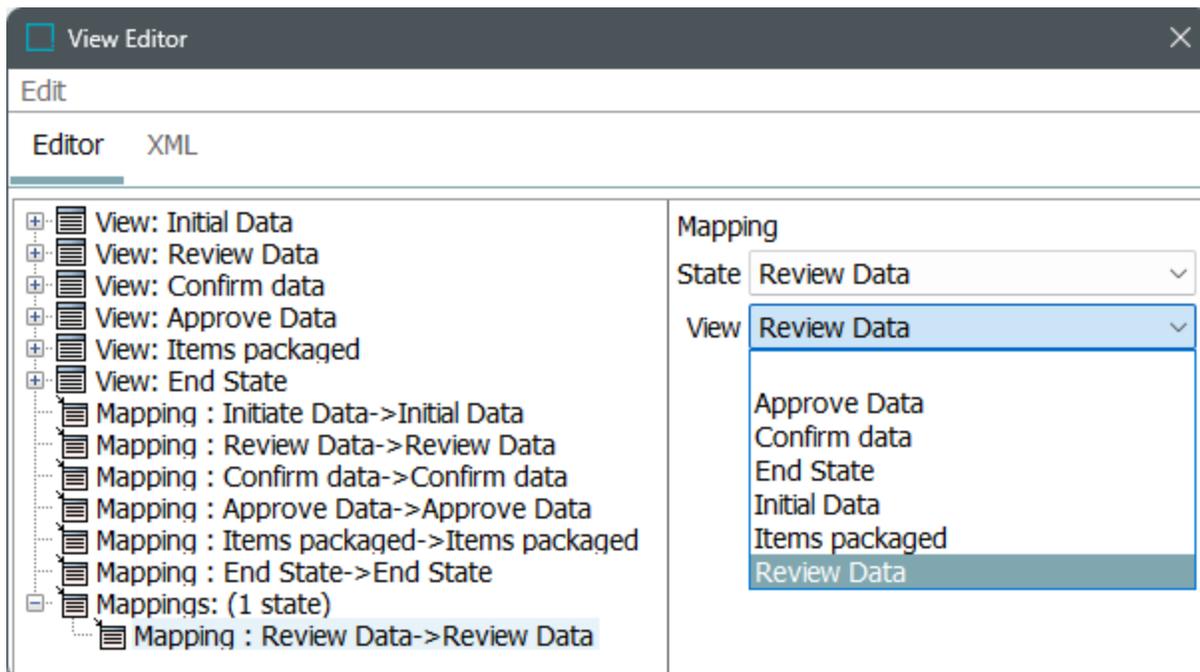
If the **Include all sub groups** box is not checked, only the top level users directly in the group have access to the view. For example, with **Restricted** selected, only 'restricted2' and 'restricted3' have access to the view.



- When all users or groups are added, right-click on the **Mappings: empty** node and select **Add Mapping** from the context menu.



4. On the States and Views dropdown menus, choose the appropriate state and view for the user or groups to have access to.



**Important:** When a state is mapped to a view both inside and outside a mapping group, and a user logs in who is either directly specified on the mapping group, or member of a group that is specified, the mappings will be evaluated from the top down and the first one that matches will be used. In other words, if the same user is in two different groups with different privileges, but both groups are mapped to the same state, then whatever group comes first in the mapping dictates the allowable privileges for that user. Thus, the order of mappings and mapping groups is significant and mappings must be sequenced appropriately.

5. Close the View Editor and save the workflow.

## Working with Tasks in Workflows

This set of topics focuses on the end user, e.g., the user working with tasks in a workflow in the workbench, rather than the user configuring and/or designing a workflow. After reading these topics, a user should be able to access workflow tasks, edit data on objects in a workflow, and submit tasks through the assigned states in a workflow.

Topics covered in this section are:

- Moving Tasks through a Workflow in STEP Workbench
- State Log Tab
- Workflow Search Criteria

While concepts remain the same across the workbench and Web UI, the interfaces differ. For information specific to Web UI, refer to the Workflows in Web UI section of the Web User Interfaces documentation.

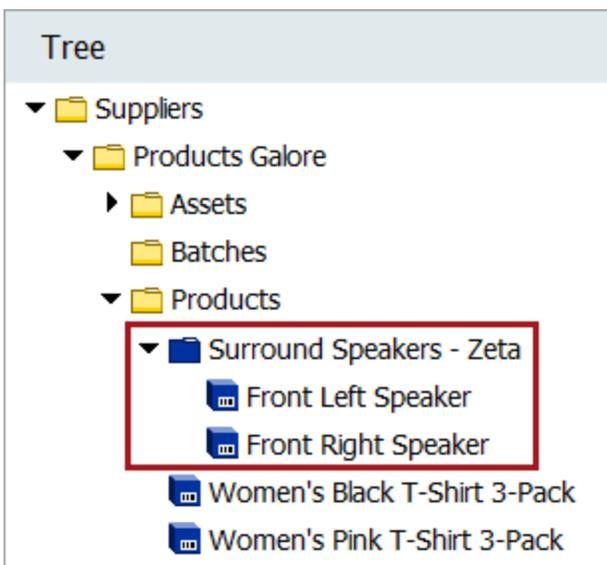
## Moving Tasks through a Workflow in STEP Workbench

To move an object or task through a workflow in the workbench, it first must be initiated into the workflow. This allows the task to be addressed accordingly through each state in the workflow.

To initiate a task in a workflow in Web UI, refer to [Moving Tasks through a Workflow in Web UI](#) in the [Web User Interfaces](#) documentation.

### Supplier Users

In a workflow, supplier users can only view objects that are **directly** linked to their supplier classification. Objects that are children to blue folders within a classification folder are not available to supplier user workflow tasks. For example, in the following image, the speaker products are not available for workflow tasks because they are child objects to the 'Surround Speakers - Zeta' product folder. The 't-shirt' objects can be worked as tasks because they have a direct link to a classification folder.



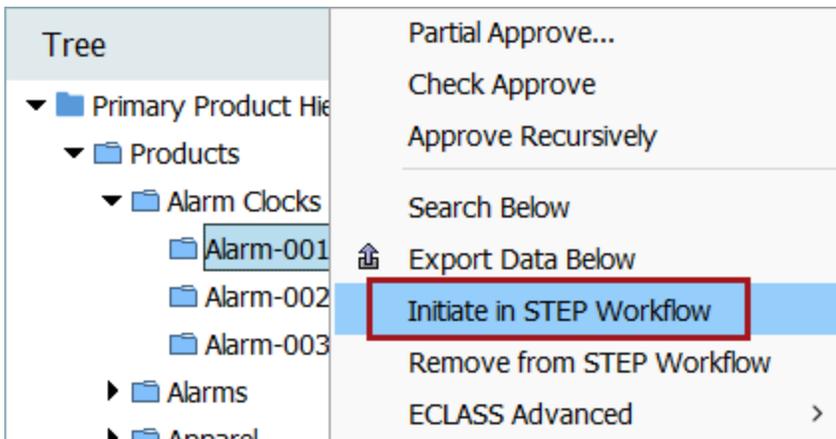
For more information about a supplier item Web UI, refer to the [Supplier Web UI](#) topic and the [Supplier Web UI Setup Guide](#) topic, both in the [Web User Interfaces](#) documentation.

### Initiating the Object into the Workflow

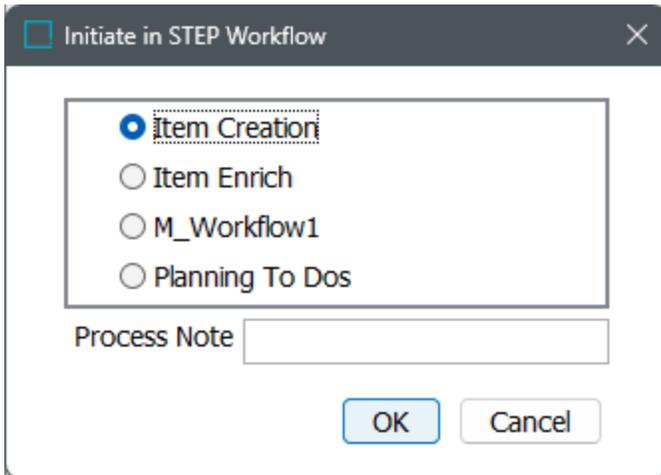
The below process describes how to manually initiate an object into a workflow. However, oftentimes, workflows are configured to automatically initiate objects of a certain type or types into the workflow upon creation of the object. In addition, workflows can be initiated by a variety of other actions or processes (both automated and manually initiated), such as business rules, imports, or bulk updates.

To manually initiate an object into a workflow:

1. Navigate to the **Tree** tab and select the desired object. Right-click and select **Initiate in STEP Workflow**.



2. In the dialog that appears, select which workflow to initiate the object into. Only workflows that the object is valid for display, and any workflows that are disabled indicate that the object has already been initiated into those particular workflows.



If desired, the user can enter a Process Note when starting the workflow. This note is posted to the object's State Log.

Refer to the State Log Tab topic.

## Processing Tasks in a Workflow

Once an object is initiated in a workflow, it is available in one or more states of the workflow. Each instance of an object in a state represents a task to be completed. Each state is assigned to a particular user or group who has the responsibility of completing the tasks in that state. Because of this, tasks are most often accessed via the states themselves, rather than via the objects in the states. The STEP Workflow tab allows users to view tasks in the states to which they have privileges to access. The Tasks tab on an object allows users to view all tasks for a given object, across multiple workflows. Both options are described below.

### STEP Workflow Tasks Tab

STEP offers a task list in the workbench that shows all tasks assigned to the current user (either directly to the user or to a group of which the user is a member). This is the primary interface for working with workflows in the workbench and displays all workflows that the user has the 'View and use STEP Workflow' privilege for. When any workflow section is expanded, a list of the configured states is displayed,

with an object count displaying the number of tasks in the state that the user has access to.

STEP Workflow	
Tasks	Profile
Item Creation 	
Filter by Collection	
Final Item Review	0
Supplier Enrichment	2
<a href="#">Buyer Review</a>	2
Forecasting	0
Regulatory Enrich	0
Warehouse Data	0
Supplier Rework	1
Existing SalesItem	0
New SalesItem	0

Only tasks that are available for the user are displayed. For example, a user who is not part of a group that can process tasks in the Review Data state will view a count of zero (0).

**Note:** A legacy 'Advanced' sub tab is available (in addition to the Tasks and Profiles tab shown in the above screenshot). To view the tab, the user must have the 'View STEP Workflow Advanced tab' privilege and the configuration property 'STEPWorkflowNavigationXMLConfigurator.File' must point to a valid configuration file. Such a file is included in the STEP distribution and is unpacked to "STEP\_HOME/config-examples/workflow/workbench-navigation.xml" when the application is deployed. If enabled, this tab lets users search for specific tasks based on workflow, state, assignee and a set of configurable search criteria. The tab gives access to view tasks assigned to other users and thus primarily should be used by administrators. Similar functions are available within the standard search functionality for workflow tasks, which honor privileges so it is generally advised to use those instead. For more on using the Advanced Search tab, refer to the Workflow Advanced Search Criteria topic. In addition, the Profile tab is used for monitoring workflows and is described within the Monitoring Workflows with a Profile topic.

To work with tasks via the STEP Workflow tab:

1. Navigate to the **STEP Workflow** tab, expand the section for the desired workflow, and select the appropriate view. The options are:



- **Show All (triple user button):** All tasks are displayed. This button is only available if the user has 'STEP Workflow Administrator' privileges for the workflow.
- **Show Group (double user button):** Tasks assigned directly to the current user or to a User Group of which they are a member are displayed.

**Note:** The Show Group (double user button) icon allows users that have the 'View task assigned to other users in my group(s)' privilege to view their assigned tasks, as well as any tasks assigned to others and any unclaimed tasks within any group in which they are a member. For more information about workflow privileges, refer to the Workflows section of the Setup Actions and Error Descriptions topic in the System Setup documentation.

- **Show User (single user button):** Only tasks assigned directly to the current user are displayed.

A user can further refine the task view by using the 'Filter by Collection' option. If a collection has been previously set up, Click the selector button  to select that collection will filter the task list to display only tasks for objects contained in the collection. For more on creating collections, refer to the Collections documentation.

2. With the appropriate view selected, click the link for the state in which tasks should be accessed. This will display the tasks in the state according to the view configured by the workflow administrator, allowing users to review and/or edit data as needed. Cells in gray are read-only, while white cells can be edited. Red cells may be present and are considered mandatory and should be populated prior to submission, though the system may or may not prevent transition of the task if they are not populated (based on the workflow configuration).

Some workflows require tasks to be claimed before they can be updated by a user. This can be verified by the presence / absence of a task claiming icon (). If this is present in one of the columns on the STEP Workflow Items tab, refer to the Claiming and Releasing Tasks in Workflows topic for additional information.

**Note:** If it is preferred to view in the objects listed in columns instead of rows in the STEP Workflow Items editor, right-click the table header and select 'Rotate Table'.

**STEP Workflow** ✕

Tasks Profile

Item Creation

Filter by Collection 

Final Item Review	0
Supplier Enrichment	2
Buyer Review	2
Forecasting	0

**STEP Workflow Items**

STEP Workflow Items Products References Referenced By

	ID	Name
Subwoofer	267856	Subwoofer
Rear Left Speaker	267852	Rear Left Speaker

**Note:** The STEP Workflow Items editor shows a default maximum of 100 tasks / objects when you select a state on the Tasks sub tab. This limit can however be changed by a system administrator via the config property `STEPWorkflow.Assignee.TaskList.Max`.

3. Submit a task to a subsequent state to indicate that work on the task is complete. Unless the user has access to a subsequent task for that object, it will no longer be accessible for them in the workflow.

To submit a task, select the task (multi-select is enabled using Ctrl + click), choose the appropriate selection from the dropdown (if applicable), and click Submit. The available options for selection are configured in the STEP Workflow Designer. In some cases, only a single selection is present and therefore, it is not required to select a specific transition.

### STEP Workflow Items

STEP Workflow Items   Products   References   Referenced By

	ID	Name
Subwoofer	267856	Subwoofer
Rear Left Speaker	267852	Rear Left Speaker

Reject Submit  
Reject  
Do Not Enrich  
Accept

- On the Submit Items dialog, add a comment if desired, which will be recorded in the Notes field on the State Log tab of the object. Click the Submit Now button to complete the task, or click Cancel to return to the STEP Workflow Items editor.

If multiple objects were selected, the same comment is applied to all objects.

Submit items
✕

Submit message

Description

- Click the Refresh button in the Task pane to update the task list.

The screenshot shows a 'STEP Workflow' window for the item 'Rear Left Speaker', which is 2% complete. The window is divided into two main sections. On the left, there is a 'Tasks' tab with a list of workflow steps: 'Item Creation' (highlighted with a red box and a refresh icon), 'Final Item Review' (0), 'Supplier Enrichment' (2), 'Buyer Review' (1), and 'Forecasting' (0). On the right, there is a table titled 'STEP Workflow Items' with columns for 'Product', 'Data Containers', 'Sub Products', 'References', and 'Re'. The table contains one row for 'Rear Left Speaker' with ID '267852'.

## Tasks Tab on an Object

From an object in Tree, the Tasks tab displays all tasks across all workflows for that object, subject to the user's privileges. Only tasks that the user has rights to address are visible.

The screenshot shows the 'Subwoofer' object's 'Tasks' tab. On the left is a 'Tree' view showing a hierarchy of categories: Home Theater Components, Surround Speaker Systems, and Soundbars. The 'Subwoofer' item is highlighted. The main area shows the 'Tasks' tab for 'Subwoofer' (Revision: 0.1). It features two expandable sections: 'Item Creation/Supplier Rework (USERJ)' and 'Item Enrich/Initial (SUPPLIER1)'. The 'Item Creation' section shows a table with fields: ID (267856), Name (Subwoofer), and Supplier Rejection Message. Below it are 'Proceed' and 'Submit' buttons. The 'Item Enrich' section shows a table with fields: ID (267856), Primary Color (Black), Workflow Attachment (...), UPC, Assignee (User : supplier1), task (with a task icon), and Workflow Deadline. Below it are 'Submit' buttons.

The interface and interactions are comparable to that of the task list, however, in the Task tab, users can expand or collapse sections to access tasks in various states and workflows.

## State Log Tab

Any object type for which a workflow can be configured has an editor tab named State Log. This is useful for tracking the recent history of an object across all workflows that include the object. Initiating an object into a new workflow creates a flipper under which recent history is housed for that particular workflow.

All transitions, assignments, notes, and status flags are displayed with a row in the table. For each entry there is a timestamp, a log type, and the name of the user causing the entry. Only the latest 50 entries per workflow are displayed.

The following checkboxes filter the state log, allowing a user to view only the necessary information for the object in the workflow indicated by the flipper. At least one checkbox must be checked for the workflow information to be displayed.

- **Show transitions:** when checked, the 'transition' log type entry is displayed, adding data for the 'To State' column, in addition to the 'From State' column.
- **Show assignments:** when checked, the 'assignment' log type entry is displayed in the 'Assignee' column, showing the user to whom the task has been assigned.
- **Show notes:** when checked, any notes entered while transitioning from one state to another are displayed in the 'Note' column.
- **Show status flag changes:** when checked, the 'statusflag' log type entry is displayed, adding data for the 'Status Flag' column.
- **Hide Parallel and Cluster States:** when checked, any states in a workflow which has Parallel or Cluster states are displayed. Since entering and leaving parallels and clusters result in a lot of entries, this option allows you to reduce the number of rows displayed for those types of workflows.

The log does not reset with every new workflow instance. Thus, if an object has been removed from a workflow and then later initiated into the same workflow again, entries from the first instance continue to display.

## 18210 Yellow

Open Items • 17% Complete • Revision: 0.11



Referenced By Images & Documents Commercial Tables Category Profile Proof View Status Log State Log Tasks < >

### Lead Pipe Plumbing Check

Show transitions  Show assignments  Show notes  Show status flag changes  Hide parallel and cluster states

	Time	User	Event	From State	To State	Note	Assignee	Status Flag	Log Type
⋮	Tue Apr 25 12:04:...	USERJ		Gather Data			USERJ		assignment
⋮	Tue Apr 25 12:04:...	USERJ	Proceed	Start	Gather Data				transition
⋮	Tue Apr 25 12:04:...	USERJ		Gather Data				Low	statusflag
⋮	Mon Apr 03 11:27:...	USERJ		Start			USERJ		assignment
⋮	Mon Apr 03 11:27:...	USERJ			Start				transition
⋮	Mon Apr 03 11:22:...	USERJ		Review Data		SYSTEM-GENERATED MESSAGE: Object removed from Workflow			transition
⋮	Mon Apr 03 07:41:...	USERJ		Review Data			USERJ		assignment
⋮	Mon Apr 03 07:41:...	USERJ	Proceed	Gather Data	Review Data				transition
⋮	Mon Apr 03 07:15:...	USERJ		Gather Data			USERJ		assignment
⋮	Mon Apr 03 07:15:...	USERJ	Proceed	Start	Gather Data				transition
⋮	Mon Apr 03 07:15:...	USERJ		Start			USERJ		assignment
⋮	Mon Apr 03 07:15:...	USERJ			Start				transition
⋮	Mon Apr 03 07:13:...	USERJ		Gather Data		SYSTEM-GENERATED MESSAGE: Object removed from Workflow			transition
⋮	Mon Apr 03 07:11:...	USERJ		Gather Data			Super user		assignment
⋮	Mon Apr 03 07:11:...	USERJ	Proceed	Start	Gather Data				transition
⋮	Mon Apr 03 07:05:...	USERL		Start			Super user		assignment
⋮	Mon Apr 03 07:05:...	USERL			Start				transition

## Managing State Log Entries

The age of the State Log entries to be kept is managed by the `sharedconfig.properties` file. By default, log entries are retained for 93 days (slightly more than three (3) months). Log entries older than the value set in the property are deleted over time, as the system has available system resources for the cleanup process to run. For performance reasons, old log entries are only removed when adding new entries to the transition log. Cleanup of old log entries improves system performance.

Although the property value can be increased, increasing the property value does not restore entries already deleted. It is not advisable to increase the number of days, but instead to reduce it.

To modify the `sharedconfig.properties` file on the STEP application server, set the value for the property required based on your database type. Changes to the properties file are implemented when the server is restarted.

For an Oracle database, use the case-sensitive property:

```
StateflowLog.Days.Retention=93
```

**Note:** The upper limit for this value is 9999 (27 years).

For a Cassandra database, use the case-sensitive property:

```
Cassandra.StateflowLog.Days.Retention=93
```

In this example, the State Log tab will keep entries from the most recent 93 days, which is the default.

**Important:** A setting of 365 (1 year) is considered to be very high. To avoid negatively impacting performance in workflow transitions, historical dashboards, and state log display, it is recommended to set the value as low as legally and practically possible.

## Workflow Advanced Search Criteria

The STEP Workflow Advanced Search criteria lets a user search for:

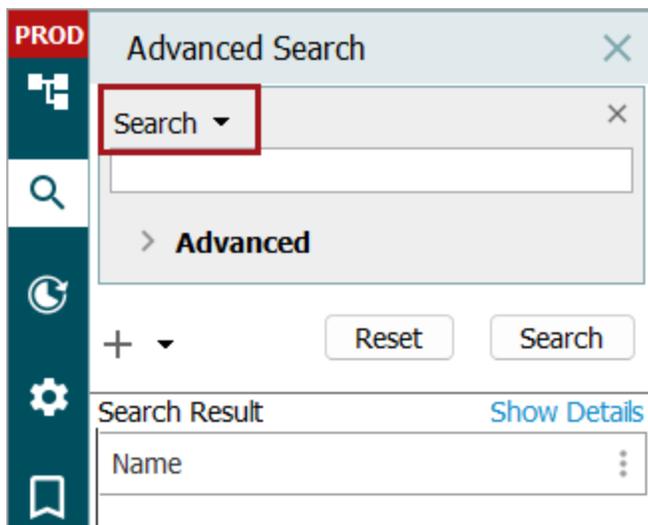
1. Objects that are in a specific state in a specific workflow
2. Objects that are in a specific workflow but could be in any state
3. Objects that are valid for a given workflow, but are not in it

These options are helpful because they allow users to interact with workflows more efficiently. For example, if a user wants to update a group of items that are already in a specific workflow, they can use search to identify the items in a particular state and perform a bulk update on all objects. Additionally, if a user wants to view which items are valid for a particular workflow and which have not yet been initiated they can do so. All of these options assist users when working with workflows.

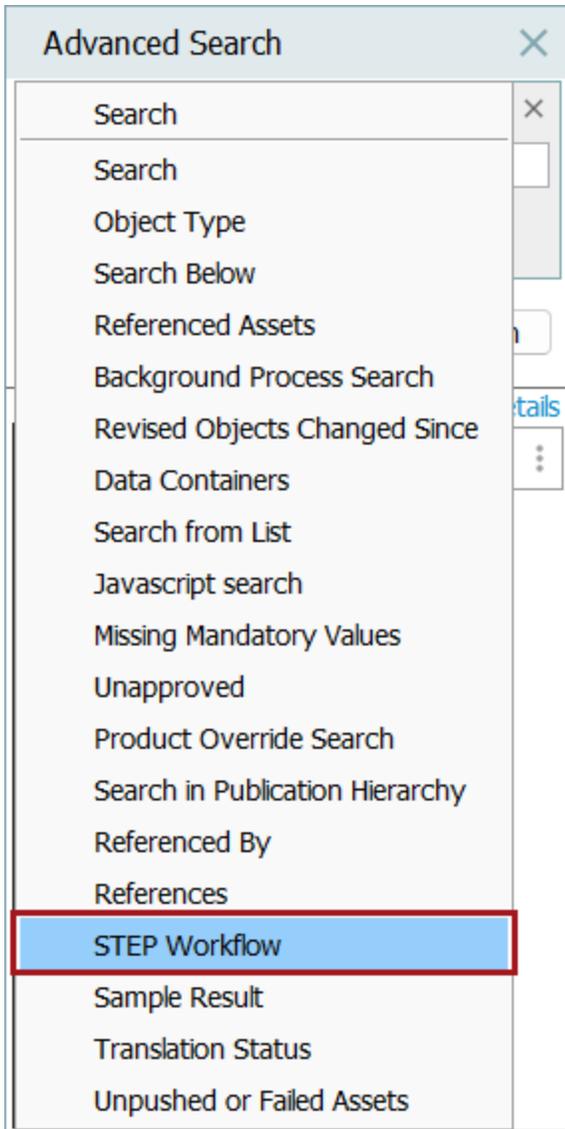
## Performing an Advanced Search with Workflows

Below is an example of how the Advanced Search tab can be used for workflows.

1. Navigate to the Advanced Search tab and click the Search dropdown option.

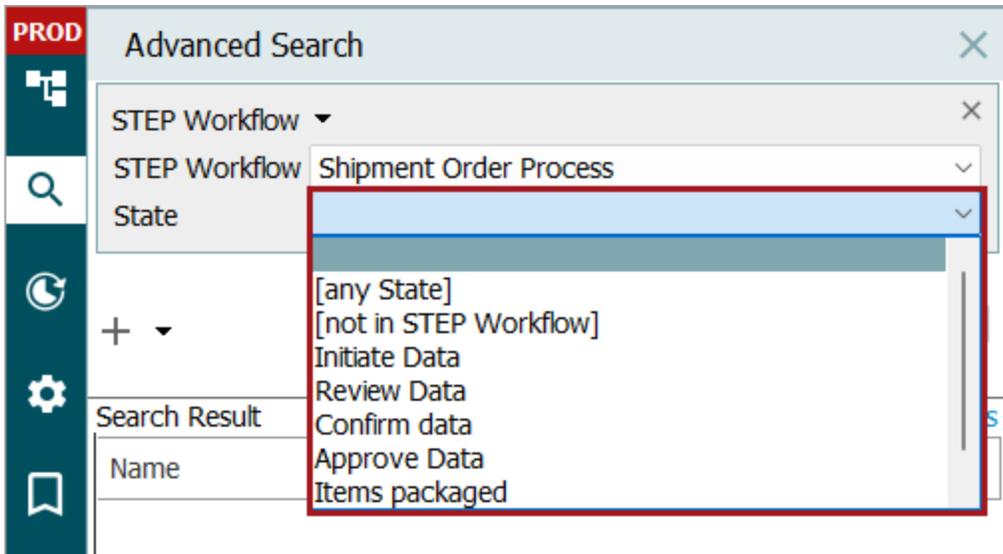


2. Select **STEP Workflow**.

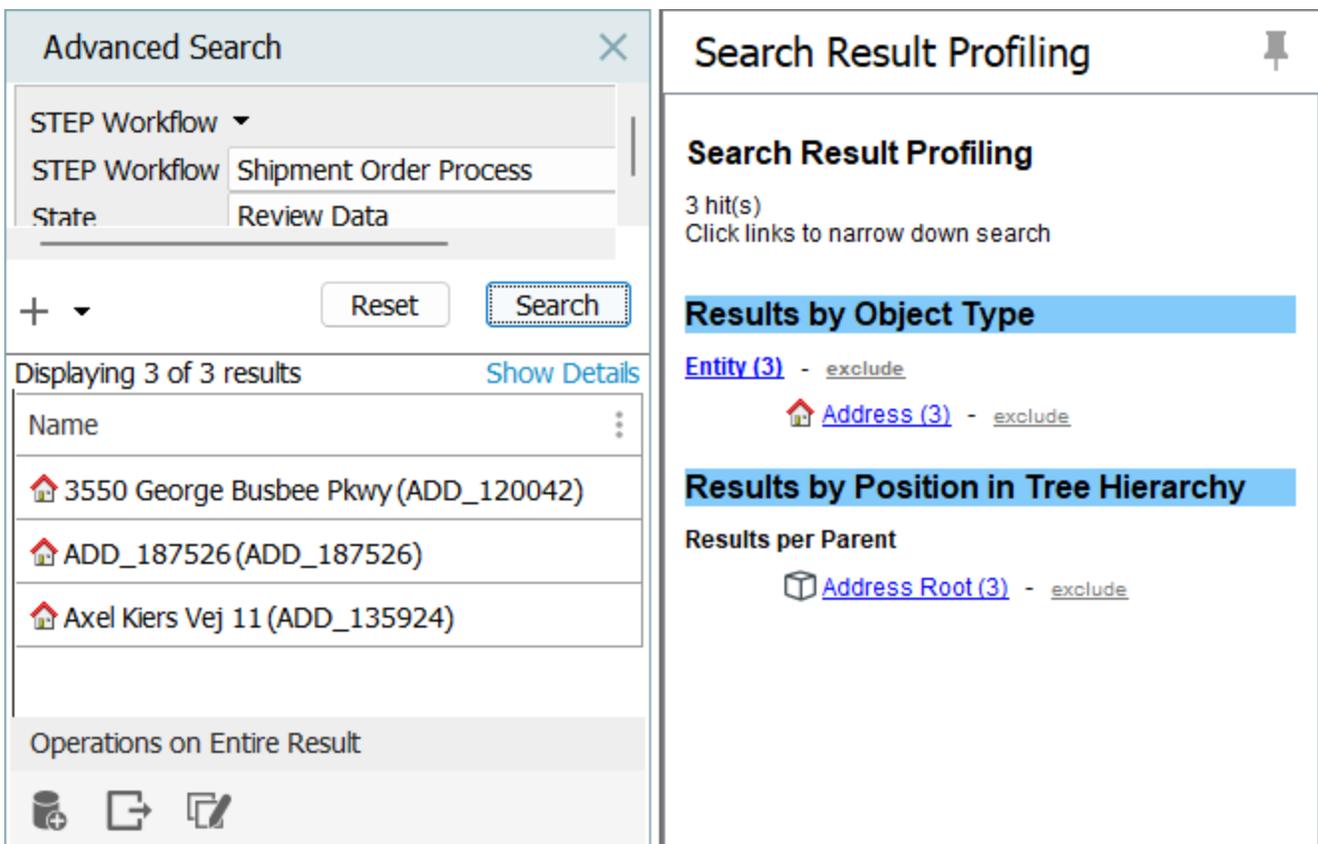


3. Set the two parameters to specify workflow and state.

- STEP Workflow is required.
- State is optional. The bracketed options in the State parameter allow users to identify all objects currently in the workflow or all objects valid for the workflow but not currently active in it.



4. Click the Search button to run the search and view any results.



When checking the tasks that are in a state, users can also verify the results by going to the Tasks sub tab in the STEP Workflow tab. Refer to the Moving Tasks through a Workflow in STEP Workbench topic for more information.

**STEP Workflow** ✕

Tasks Profile

▼ Shipment Order Process

🔄 ⓘ 👤 👤 👤

Filter by Collection ⌵

Initiate Data	5
<a href="#">Review Data</a>	3
Confirm data	2
Approve Data	1
Items packaged	0
End State	0
➤ Unmerge Individual Customer Records	
➤ User Web UI Workflow	

**STEP Workflow Items**

STEP Workflow Items Multi Editor References Referenced By

	Workflow Task ...	Assignee	ID	Name
ADD_187526	🔗	User : User	ADD_187526	ADD_187526
3550 George Busbee Pkwy	🔗	User : User	ADD_120042	3550 George Busbe...
Axel Kiers Vej 11	🔗	User : User	ADD_135924	Axel Kiers Vej 11

Proceed 2 Submit

Headers marked with asterisk (\*) specifies workflow mandatory values

5. If the search is not as refined as needed, add additional search criteria by clicking the + button, and further filter the results. For example, the workflow criteria could be combined with the Search Below criteria to isolate objects in a particular category.

For more information on the various search criteria and/or the actions that can be taken with a set of search results, refer to the [Advanced Search](#) topic and child topics in the [Getting Started](#) documentation.

# Managing Workflows

When a workflow is selected from the System Setup tab, various settings for the workflow can be viewed and/or edited (if applicable) on the different tabs. These settings help in giving valuable information in regards to the particular workflow such as an overview of the workflow, what the workflow is valid for, a list of users who have interacted with the workflow or made changes, and any revision history.

To view the workflow tabs, go to System Setup, expand the workflows node, and select the relevant workflow. This opens the workflow in an editor. Workflows viewed in the Approved Workspaces are read-only.

## STEP Workflow Editor Tab

The STEP Workflow Editor tab displays basic information about the workflow, as well as providing some global configuration options for the workflow.

**Order Process** 📌

STEP Workflow Type • Revision: 0.84

STEP Workflow Editor   Validity   Status   Log

Name	Value
ID	Workflow6
Name	Order Process
Revision	0.84 Last edited by USERJ on Thu Dec 05 14:51:27 EST 2024
Initiate automatically	<input type="checkbox"/>
Listen on updates from import	<input type="checkbox"/>
Use executing user's write privileges	<input type="checkbox"/>
Disable transitions on terminated Workspaces	<input type="checkbox"/>
Start Condition	

▼ **Used Local Business Rules**

Title	State	STEP Workflow Component	Description
(acn-0affdf40-bf99-4189-849f-ebbc05013a8e)	Stage One-Review Data Enrichment	On entry	
(acn-a0a0ce4c-eedc-488c-9516-38bc409065e1)	Stage One-Confirm Data Accuracy -> Stage One-Review Data ...	On transition	Execute var inst;inst = node.get..

▼ **Used Global Business Rules**

Title	State	STEP Workflow Component	Description
Bulk Update Always Fail	Stage One-Review Data Enrichment	Escalation	Execute throw "Some Text to Fail";
CreateCollection	Product Data Enrichment -> Stage One-Review Data Enrichment	On transition	Execute Send email
D&B Detailed Company Profile Request	Stage One-Review Data Enrichment -> Stage One-Confirm Data Accuracy	On transition	Execute Action which performs defa
Demo1	Product Data Enrichment	Escalation	Execute if (approveContext){var lin
Remove from Workflow	Move to Publication Group	On entry	Execute Deletes this STEP Workflow

▼ **Workflow Privileges**

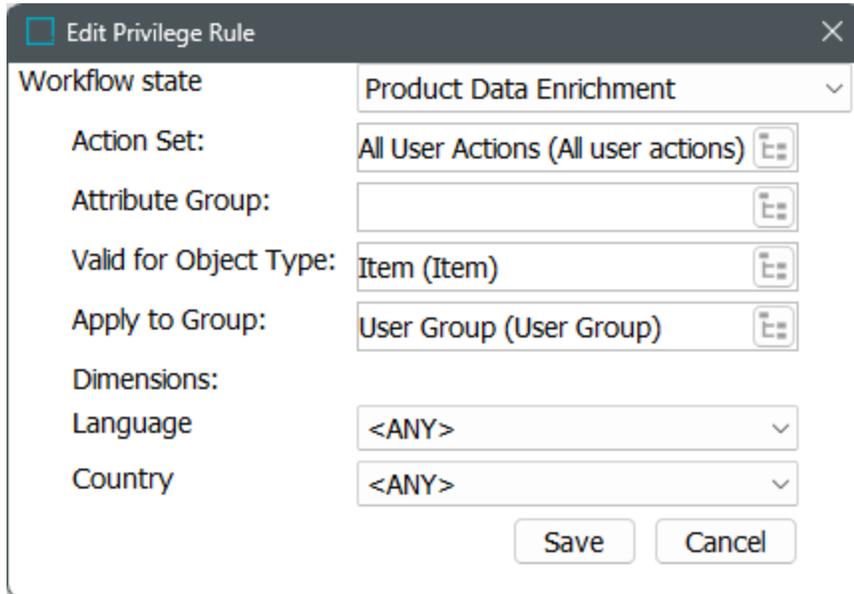
Applies to	Action Set	Attribute Group	Object Type	Group	Language	Country
Initial	All User Actions		Item	User Group	<ANY>	<ANY>
<a href="#">Add Privilege</a>						

For more information on the basic settings, refer to [Creating a Workflow](#).

The STEP Workflow Editor tab also has two flipper areas that show an overview of the business rules used in a workflow: 'Used Local Business Rules' and 'Used Global Business rules'.

The Workflow Privileges flipper displays state-specific privileges for the workflow, which can be edited from the Privilege Rules tab on a User Group, or from this interface. This functionality is useful when a particular user group should have access to data *only when an object is in the indicated state*. For example, a user group may have rights to *edit* certain data only when accessing the data from a particular state or an onboarding / creation workflow or a maintenance workflow, but can only *view* the data for objects not in the editable workflow states.

To edit the workflow privileges, click on the Add Privilege link, and select the state that the particular privilege is to apply to from the drop-down menu in the pop-up window.



Once the state has been chosen for which the privileges should be applied, it is then possible to set up the various options to set the privileges for that particular state. Complete configuration information for workflow privilege rules is provided in the Editing Privilege Rules topic of the System Setup documentation.

If workflow privileges are applied to a state, a 'P' indicator displays on the state within the workflow editor:



## Validity Tab

The Validity tab allows for specification of which object types the workflow is valid for. Only objects of the selected types can be initiated into the workflow. Notice that while a workflow can be made valid for multiple object types of a specific node type, it cannot be valid for object types of different node types. For example, a workflow can be valid for multiple types of entities, but not for both entities and classifications.

## Order Process

STEP Workflow Type

STEP Workflow Editor   **Validity**   Status   Log

▼ **Valid for Product Types**

- All**
- ACME\_ Product Category
- ACME Branch Information
- Item**
- Item Family**
- Item Folder
- Manually Sorted Product Folder
- Sales\_Item\_Family
- Sales Item**
- SalesItemFamily**
- Sales Item Folder
- Supplier Article Group
- Supplier Brand
- SupplierCategory**
- Supplier Product Line

## Log Tab

The Log tab is a list of dates and times when changes were made to the workflow. Listed with each time stamp is the user who made each change.

## Order Process

STEP Workflow Type 📌

STEP Workflow Editor   Validity   Status   Log

---

Showing page 1 of 1

2018-11-27 15:43:03 'USERE': Modified

2018-11-27 15:43:03 'USERE': Modified

2020-01-28 14:08:20 'USERJ': Included in package CPACK Test

2021-01-13 12:46:01 'USERL': Modified

2021-01-13 12:46:01 'USERL': Modified

2021-07-21 14:50:18 'USERL': Modified

2021-07-21 14:50:18 'USERL': Modified

2021-07-21 15:54:22 'USERL': Modified

2021-07-21 15:54:22 'USERL': Modified

2024-11-08 15:30:09 'USERJ': Modified

2024-11-08 15:30:09 'USERJ': Modified

2024-12-05 13:55:34 'USERJ': Modified

2024-12-05 13:55:34 'USERJ': Modified

2024-12-05 14:10:14 'USERJ': Modified

2024-12-05 14:10:14 'USERJ': Modified

2024-12-05 14:25:55 'USERJ': Modified

2024-12-05 14:25:55 'USERJ': Modified

2024-12-05 14:27:25 'USERJ': Modified

2024-12-05 14:27:25 'USERJ': Modified

2024-12-05 14:51:27 'USERJ': Modified

2024-12-05 14:51:27 'USERJ': Modified

First Page
Previous Page
Next Page
Last Page
Download...

## Status Tab

The Status tab provides an overview of the revisions of the workflow, including the user who changed the object and when the change occurred.

## Order Process

STEP Workflow Type • Revision: 0.84



STEP Workflow Editor   Validity   Status   Log

### ▼ Revisions

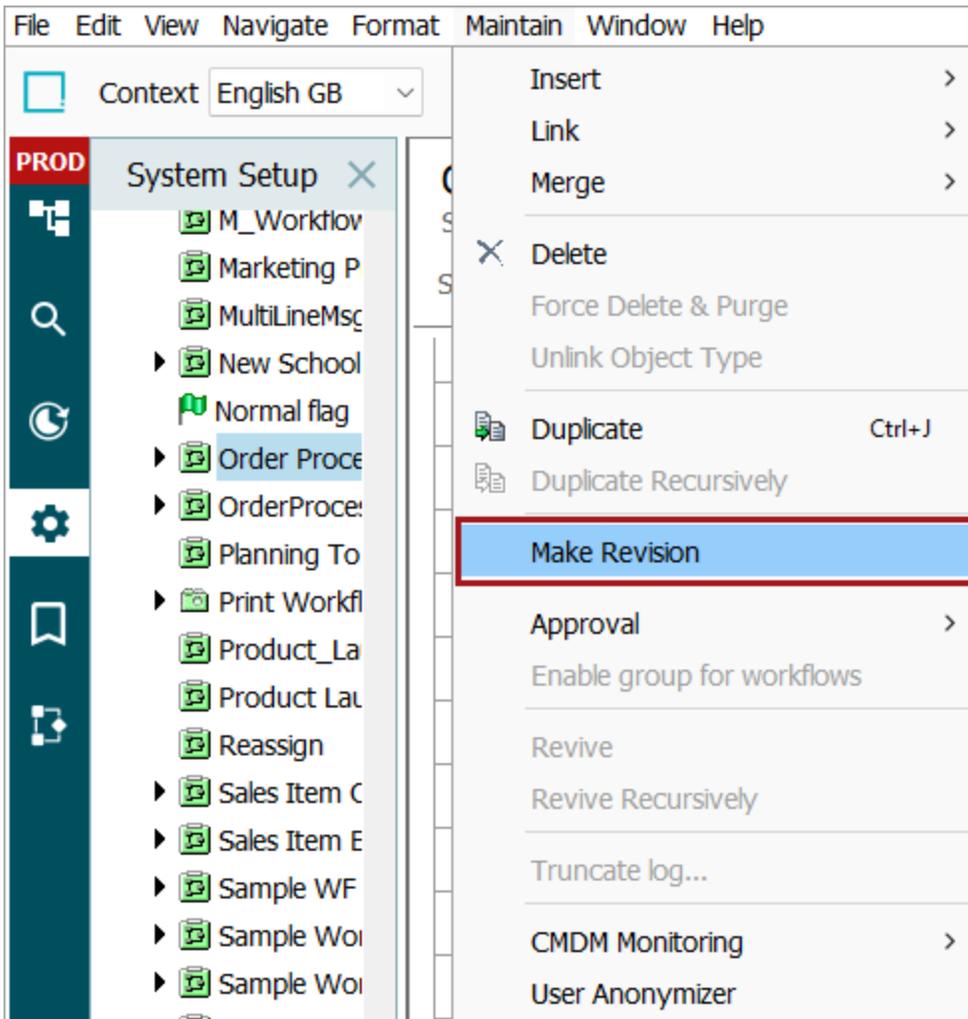
Revision	Created	Edited	Major	User	Comment
0.84	Thu Dec 05 14:51:27 EST 2024	Thu Dec 05 14:51:27 EST 2024		USERJ	Workflow updated
0.83	Thu Dec 05 14:27:25 EST 2024	Thu Dec 05 14:27:25 EST 2024		USERJ	Workflow updated
0.82	Thu Dec 05 14:25:55 EST 2024	Thu Dec 05 14:25:55 EST 2024		USERJ	Workflow updated
0.81	Thu Dec 05 14:10:14 EST 2024	Thu Dec 05 14:10:14 EST 2024		USERJ	Workflow updated
0.80	Thu Dec 05 13:55:34 EST 2024	Thu Dec 05 13:55:34 EST 2024		USERJ	Workflow updated
0.79	Fri Nov 08 15:30:09 EST 2024	Fri Nov 08 15:30:09 EST 2024		USERJ	Workflow updated
0.78	Wed Jul 21 15:54:22 EDT 2021	Wed Jul 21 15:54:22 EDT 2021		USERL	Workflow updated
0.77	Wed Jul 21 14:50:18 EDT 2021	Wed Jul 21 14:50:18 EDT 2021		USERL	Workflow updated
0.76	Wed Jan 13 12:46:01 EST 2021	Wed Jan 13 12:46:01 EST 2021		USERL	Workflow updated
0.75	Tue Nov 27 15:43:03 EST 2018	Tue Nov 27 15:43:03 EST 2018		USERE	Workflow updated
0.74	Tue Nov 27 15:27:01 EST 2018	Tue Nov 27 15:27:01 EST 2018		USERE	Workflow updated
0.73	Fri Sep 29 05:36:13 EDT 2017	Mon Oct 02 01:10:50 EDT 2017		USER7	Auto Generated
0.72	Mon Sep 11 08:52:19 EDT 2017	Mon Sep 11 08:52:19 EDT 2017		USERL	Workflow updated
0.71	Mon Sep 11 07:57:33 EDT 2017	Mon Sep 11 07:57:33 EDT 2017		USERL	Workflow updated
0.70	Wed Jun 14 10:24:18 EDT 2017	Wed Jun 14 10:24:18 EDT 2017		USERL	Workflow updated
0.69	Wed Jun 14 10:07:52 EDT 2017	Wed Jun 14 10:07:52 EDT 2017		USERL	Workflow updated
0.68	Wed Jun 14 10:00:40 EDT 2017	Wed Jun 14 10:00:40 EDT 2017		USERL	Workflow updated
0.67	Thu Jun 08 11:00:36 EDT 2017	Thu Jun 08 11:00:36 EDT 2017		USERL	Auto Generated
0.66	Fri Jun 02 16:29:30 EDT 2017	Fri Jun 02 16:29:30 EDT 2017		USERL	Workflow updated
0.65	Fri Jun 02 16:26:42 EDT 2017	Fri Jun 02 16:26:42 EDT 2017		USERL	Workflow updated
0.64	Thu May 25 18:07:10 EDT 2017	Thu May 25 18:07:10 EDT 2017		USER8	Workflow updated
0.63	Mon May 08 12:28:30 EDT 2017	Mon May 08 12:28:30 EDT 2017		USERL	Workflow updated

> Hidden values

> Diagnostics

Revisions are created when the workflow has had edits made to it in the STEP Workflow Designer, and the designer is saved and closed. Minor revisions are made automatically when various users interact with the same object.

Major revisions can be made on both the object initiated in the workflow or the workflow itself. It is recommended to make a major revision for a workflow each time a set of changes has completed. For example, it may be useful to make a major revision when UAT begins for a workflow so it is clear what is being tested, and again upon completion of UAT so that it is clear what has been released for production. To do so, click on the workflow in System Setup, and select Make Revision from the Maintain menu.



Previous versions of STEP Workflows can be viewed by selecting the revision on the Status tab, right-clicking on the row indicator (>), and selecting View STEP Workflow.

STEP Workflow Editor   Validity   Status   Log

▼ **Revisions**

	Revision	Created	Edited
⋮	0.84	Thu Dec 05 14:51:27 EST 2024	Thu Dec 05 14:51:27 EST 2024
1	0.83	Thu Dec 05 14:27:25 EST 2024	Thu Dec 05 14:27:25 EST 2024
		Thu Dec 05 14:25:55 EST 2024	Thu Dec 05 14:25:55 EST 2024
		Thu Dec 05 14:10:14 EST 2024	Thu Dec 05 14:10:14 EST 2024
		Thu Dec 05 13:55:34 EST 2024	Thu Dec 05 13:55:34 EST 2024
		Fri Nov 08 15:30:09 EST 2024	Fri Nov 08 15:30:09 EST 2024
		Wed Jul 21 15:54:22 EDT 2021	Wed Jul 21 15:54:22 EDT 2021

✂ Cut      Ctrl+X

📄 Copy     Ctrl+C

📄 Paste    Ctrl+V

📄 Paste Link   Ctrl+L

---

Purge

📄 View STEP Workflow   2

## Purging Workflow Revisions

Any revision can be purged, but once a revision is purged it cannot be recovered.

To purge a revision, right-click on the row indicator (>) next to the desired revision and select Purge.

STEP Workflow Editor   Validity   Status   Log

▼ **Revisions**

	Revision	Created	Edited
⋮	0.84	Thu Dec 05 14:51:27 EST 2024	Thu Dec 05 14:51:27 EST 2024
1	0.83	Thu Dec 05 14:27:25 EST 2024	Thu Dec 05 14:27:25 EST 2024
		Thu Dec 05 14:25:55 EST 2024	Thu Dec 05 14:25:55 EST 2024
		Thu Dec 05 14:10:14 EST 2024	Thu Dec 05 14:10:14 EST 2024
		Thu Dec 05 13:55:34 EST 2024	Thu Dec 05 13:55:34 EST 2024
		Fri Nov 08 15:30:09 EST 2024	Fri Nov 08 15:30:09 EST 2024
		Wed Jul 21 15:54:22 EDT 2021	Wed Jul 21 15:54:22 EDT 2021

✂ Cut      Ctrl+X

📄 Copy     Ctrl+C

📄 Paste    Ctrl+V

📄 Paste Link   Ctrl+L

---

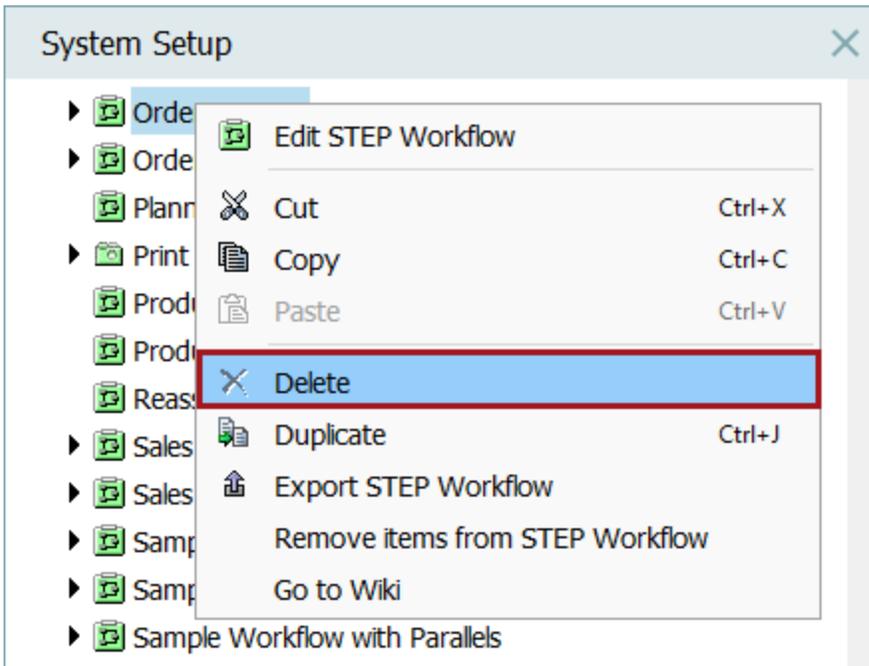
Purge   2

📄 View STEP Workflow

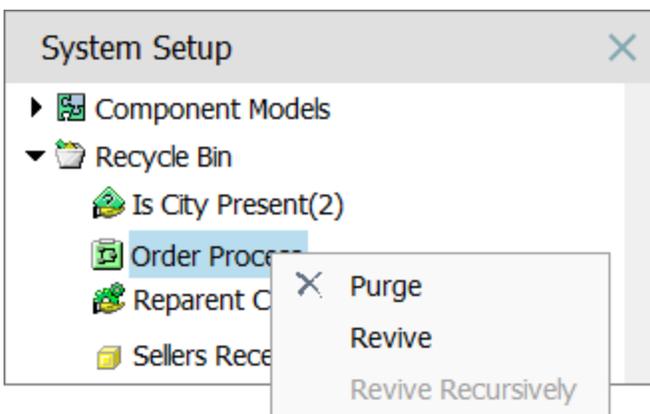
For more information on the Status Tab and revisions, refer to Revisions in the System Setup documentation.

## Deleting Workflows

To delete an entire workflow, right-click on it from the System Setup tab and select Delete.



Deleted workflows will be available in the System Setup Recycle Bin until they are purged (permanently deleted) or revived (restored to their previous location).



## Advanced Workflow Topics

This portion of the material covers more advanced workflow configurations, going beyond the basic setups described in the introductory material. Users should be familiar with all material in the Getting Started with STEP Workflows documentation before attempting to configure and/or utilize more advanced workflow functionality.

Most real-world workflows will utilize many of the functions described in the advanced topics, but none are required in any particular workflow. The topics generally do not build on one another and completing one configuration typically does not require knowledge of any other, outside of the basic workflow setup.

In other words, the advanced workflow documentation is function- and topic-based, meaning that each topic describes a particular function a user can carry out (e.g., send email from a workflow or remove objects from a workflow) or a particular topic a user can read about (e.g., workflow attachments or workflow deadlines).

Therefore, there is no suggested reading order and users should approach the material in the order that seems most relevant for their workflow.

## Assignees in Workflows

In workflows, an object cannot be in a state without an assignee being set. This regardless of whether the state represents a human task or not. The assignee must be an existing STEP User or user group.

An important thing to notice when working with assignees is that users who do not have the 'STEP Workflow Administrator' privilege for a given workflow only will be able to view tasks assigned to themselves or a group they are a member of. Furthermore, they will only be able to work with tasks assigned directly to themselves and have to claim a task (i.e., assign it to themselves) to be able to edit workflow related data and perform transitions. Users with the 'STEP Workflow Administrator' privilege can view and work with all tasks regardless of who they are assigned to.

**Note:** For states that do not represent a human task, you will typically want the assignee to be either an administrator with in-depth knowledge about the workflow or a dedicated 'automation' dummy user.

There are multiple ways of setting the assignee for a state. In the sections below, the options in the Workflow Designer State Editor are described.

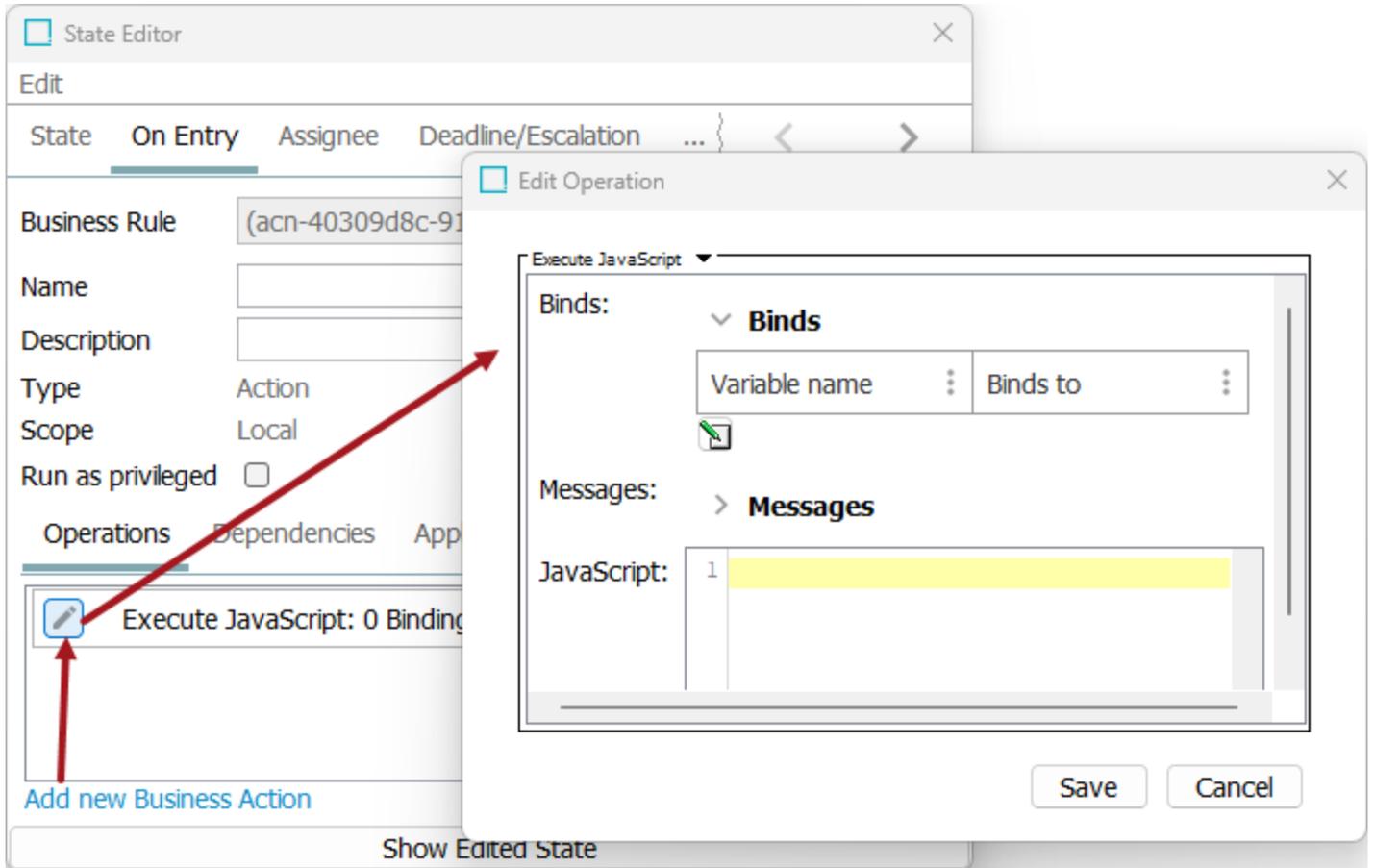
For setting the assignee using the On Entry tab in the State Editor, refer to the Assigning Tasks Using Business Rules topic.

For more on retrieving user IDs who work with tasks in workflows, refer to the Retrieving the ID of an Assignee Completing a Task in Workflows topic.

**Note:** Attempting to delete a user who an assignee for a workflow state will result in errors. For more information, refer to the Working with Users topic in the System Setup documentation.

## Assigning Tasks Using Business Rules

While the assignee always will be set using the option selected on the State Editor's Assignee tab when entering a state, it is sometimes necessary to overwrite the assignee using a business action configured to run in the State Editor on the On Entry tab.



## Overwriting the Assignee in Workflows with JavaScript

If the user has the ID of an assignee in a workflow variable, it is of course recommended that the user use the 'Fetch from Variable' option described in the Workflow State Editor Assignee Tab Options topic. If, however, the user wishes to do it with a script On Entry, it can be done with JavaScript, which can be found in the online version of this topic.

Execute JavaScript

**Binds:**

Variable name	Binds to
node	Current Object
step	STEP Manager
workflow	Current Workflow

**Messages:** > Messages

**JavaScript:**

```

1 var instance = node.getWorkflowInstance(workflow);
2 var userObj = step.getUserHome().getUserById(instance.getSimpleVariable("WorkflowVariableHoldingID"));
3 instance.getTaskByID("MyState").reassign(userObj);

```

Save Cancel

A user must have STEP Workflow Administrator privilege to use this 'reassign()' API method, however only if the 'Use executing user's write privilege' option on the Workflow Object editor is selected.

## Shipment Order Process

STEP Workflow Type • Revision: 0.140

STEP Workflow Editor   Validity   Status   Log

Name	Value
ID	11123
Name	Shipment Order Process
Revision	0.140 Last edited by USERJ on Fri Dec 06 13:08:24 EST 2024
Initiate automatically	<input type="checkbox"/>
Listen on updates from import	<input type="checkbox"/>
Use executing user's write privileges	<input checked="" type="checkbox"/>
Disable transitions on terminated Workspaces	<input type="checkbox"/>
Start Condition	

### Used Local Business Rules

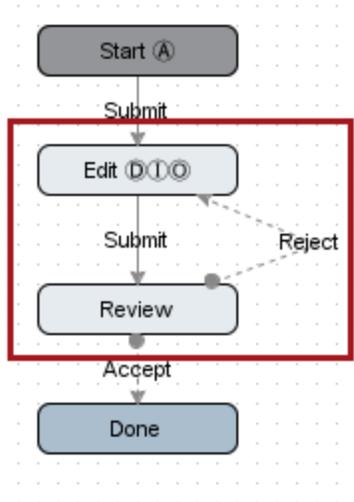
Title	State	STEP Workflow Component	Description
(acn-92a63753-44a7-4483-b5c...	Confirm data -> Review Data	On transition	Execute

## Reassigning to Previous Users in a Workflow

If a task is rejected back to a previous state, and needs to be worked on by the same user who initially worked on it in that particular state, this business rule can be used in combination with On Exit actions to return the correct assignee.

In the example below, a user picks up a task in the Edit state, completes the assignment and submits it to the Review state. An On Exit business action is in place on the Edit state to store the data of who last worked on the task in a workflow variable. For more about On Exit scripts refer to Retrieving the ID of an Assignee Completing a Task in Workflows.

Once in the Review state, a different user looks at the task and does not think it is ready to move forward. They send it back to the Edit state to be re-evaluated by the user who originally submitted it.



To do this On Entry action of overriding the workflow default assignee back to the user who originally worked on it in the Edit state, the following script with the corresponding binds need to be put in place:

Edit Operation
✕

Execute JavaScript ▾

**Binds:**

Variable name	Binds to
node	Current Object
step	STEP Manager
workflow	Current Workflow

**Messages:** > Messages

**JavaScript:**

```

1 var task = node.getWorkflowInstance(workflow).getTaskById("MyState");
2 var reassignUser = node.getWorkflowInstance(workflow).getSimpleVariable("WorkflowVariable");
3 if(reassignUser!=null) {
4     var user = manager.getUserHome().getUserById(reassignUser);
5     if(user!=null){
6         manager.executeWritePrivileged(function() {
7             task.reassign(user);
8         });
9     }
10 }
  
```

Save
Cancel

For the JavaScript example, refer to the online version of this topic.

## Retrieving the ID of an Assignee Completing a Task in Workflows

In a workflow, it is common to have more than one user interact with different tasks in a particular state. As a task progresses through the workflow, it is then helpful to know which user last interacted with the task. To help with this, there is an automated process that can be set to retrieve the ID of the last assignee to a task. This way, should there be an error with the task and it needs to be sent back to the previous state, it can also be determined on who the last user was while in that state.

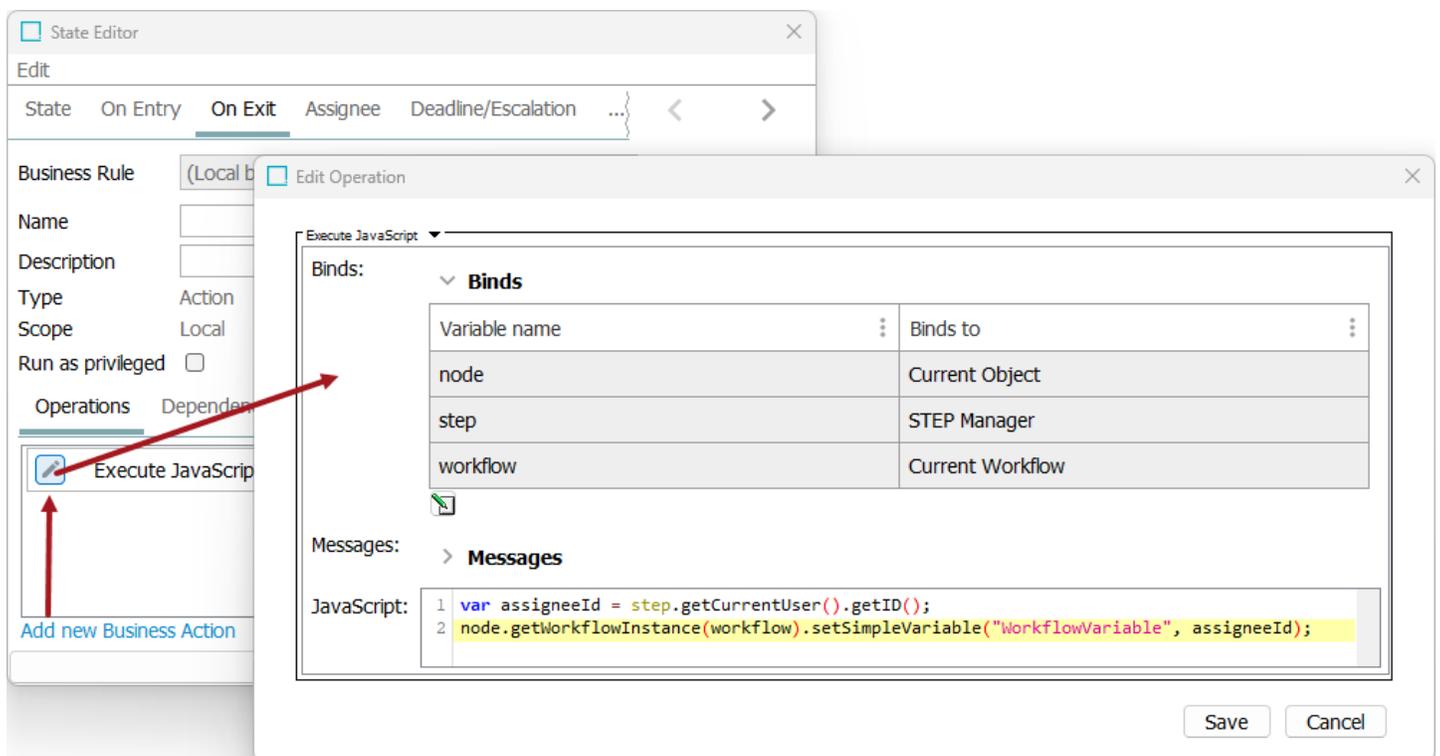
There are two script options that can be used according to user preference. Both are placed on a State Editor on the 'On Exit' tab. Both scripts can also be combined with a condition to guarantee the user ID is returned, if desired.

### Using Manager Interface to Return the User ID in a Workflow

In the script below, the ID of the user who performs the transition is obtained via the Manager interface ("step" is a shorthand for getting the Manager). This script retrieves the ID of an assignee and stores it in a workflow variable which is being represented by "WorkflowVariable" in this case.

```
var assigneeId = step.getCurrentUser().getID();
node.getWorkflowInstance(workflow).setSimpleVariable("WorkflowVariable", assigneeId);
```

For the example below, the workflow variable is called 'MyVariable'.



The screenshot shows the 'State Editor' interface with the 'On Exit' tab selected. An 'Execute JavaScript' business action is being configured. The 'Binds' section is expanded, showing a table with the following data:

Variable name	Binds to
node	Current Object
step	STEP Manager
workflow	Current Workflow

Below the binds, the 'JavaScript' section contains the following code:

```
1 var assigneeId = step.getCurrentUser().getID();
2 node.getWorkflowInstance(workflow).setSimpleVariable("WorkflowVariable", assigneeId);
```

To implement this, open the desired workflow, right-click on the desired state and select Edit state > On Exit > Add new Business Action > edit Operation > **Execute JavaScript**. Add any necessary binds for the workflow.

One aspect to be aware of is that a user with the 'STEP Workflow Administrator' privilege potentially could have completed the task while the workflow was assigned to a group, resulting in the group ID being returned instead. Use the condition mentioned at the end of this topic if returning the user ID only for the workflow variable is a concern.

## Using Task Interface to Return the User ID in a Workflow

Alternately, the ID of the Assignee can also be obtained via the Task interface. This too is implemented by opening up the desired workflow, right-clicking on the desired state, and selecting Edit state > On Exit > Add new Business Action > edit Operation > **Execute JavaScript**. Again, replace "WorkflowVariable" with the variable for the workflow, and add any necessary binds for the workflow.

```
var instance = node.getWorkflowInstance(workflow);
var assigneeId = instance.getTaskByID("MyState").getAssignee().getID();
instance.setSimpleVariable("WorkflowVariable", assigneeId);
```

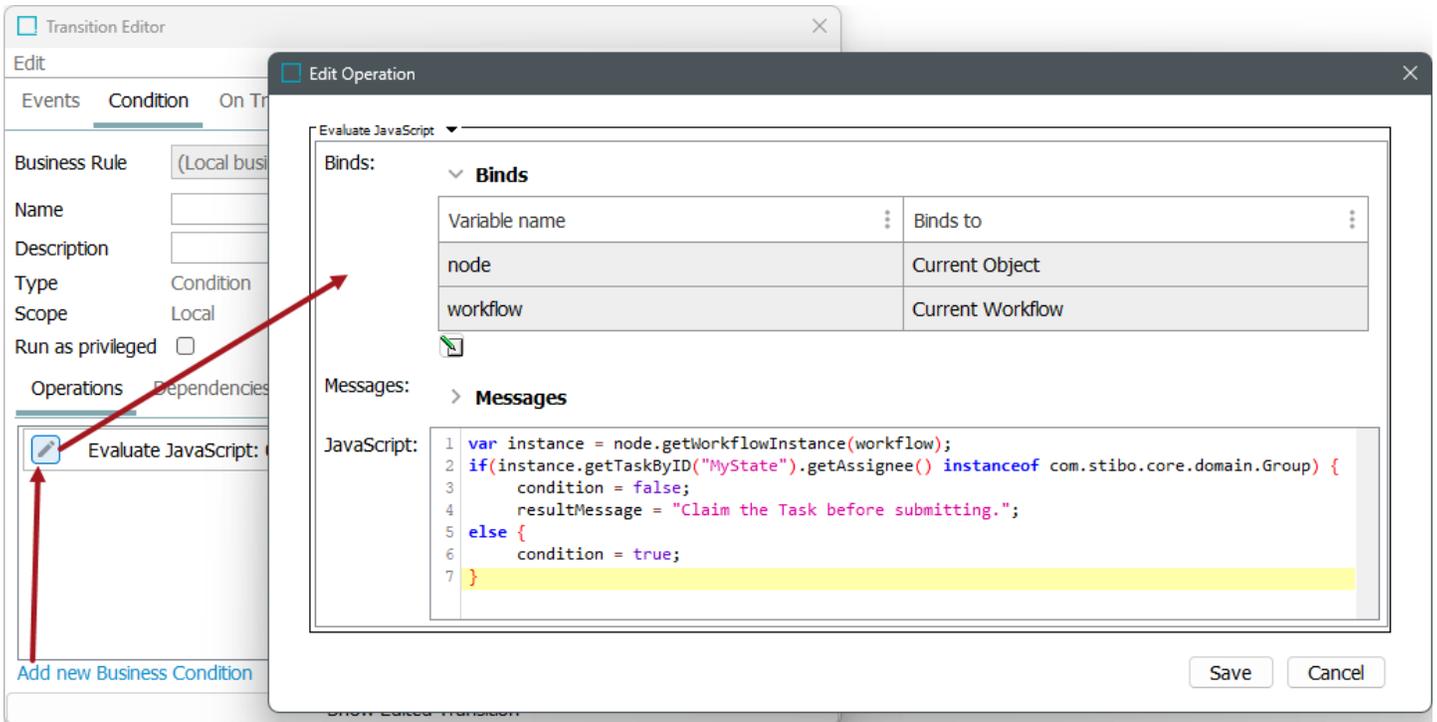
Again, an aspect to be aware of is that a user with the 'STEP Workflow Administrator' privilege potentially could have completed the task while the workflow was assigned to a group. This could result in the ID of a user group being stored in the Workflow Variable, versus the individual user ID.

For this reason, adding a condition on the transitions out of the state in conjunction with the script on the Task interface will guarantee that the ID stored in the variable will be an individual user and not the group ID.

## Condition to Aid in returning User ID in Workflows

Below is the condition that can be added to the Transitions Editor on the 'On Transition tab' out of the state that is retrieving the user ID. This condition in conjunction with the script, will make it impossible for a task to exit the state if the assignee is a group ID. To implement the condition, right-click on the transition > Edit Transition > Condition > Add new Business Condition > True if value for Attribute "" "null" > **Execute JavaScript**. Add any binds needed for the workflow.

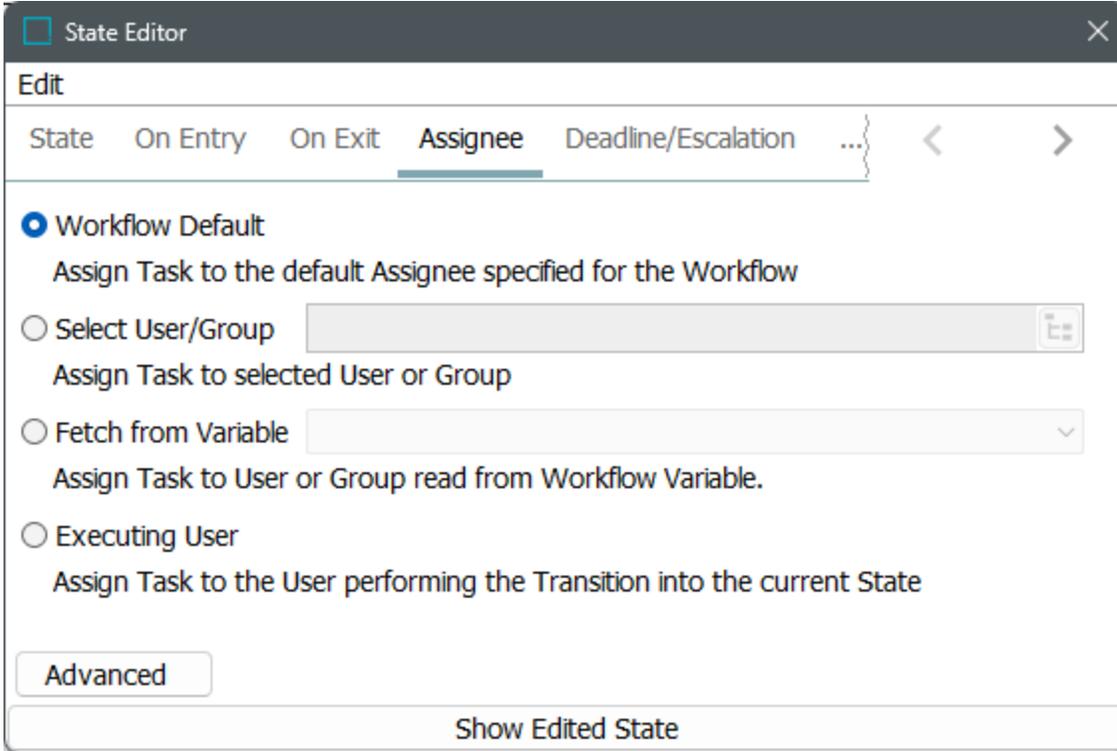
```
var instance = node.getWorkflowInstance(workflow);
if(instance.getTaskByID("MyState").getAssignee() instanceof com.stibo.core.domain.Group) {
    condition = false;
    resultMessage = "Claim the Task before submitting.";
} else {
    condition = true;
}
```



If a user wishes to send a task back to a previous state and re-assign it to the user who worked on the task in that state, refer to the [Assigning Tasks Using Business Rules](#) topic.

## Workflow State Editor Assignee Tab Options

Every state in a workflow needs an assignee in order for the workflow to work. An assignee can be set for any state by opening the State Editor and navigating to the Assignee tab. On the State Editor's Assignee tab the following options for setting the Assignee are available:



The screenshot shows a window titled "State Editor" with a close button in the top right corner. Below the title bar is a tabbed interface with the following tabs: "State", "On Entry", "On Exit", "Assignee" (which is currently selected and highlighted), and "Deadline/Escalation". To the right of these tabs are navigation arrows. The "Assignee" tab contains the following options:

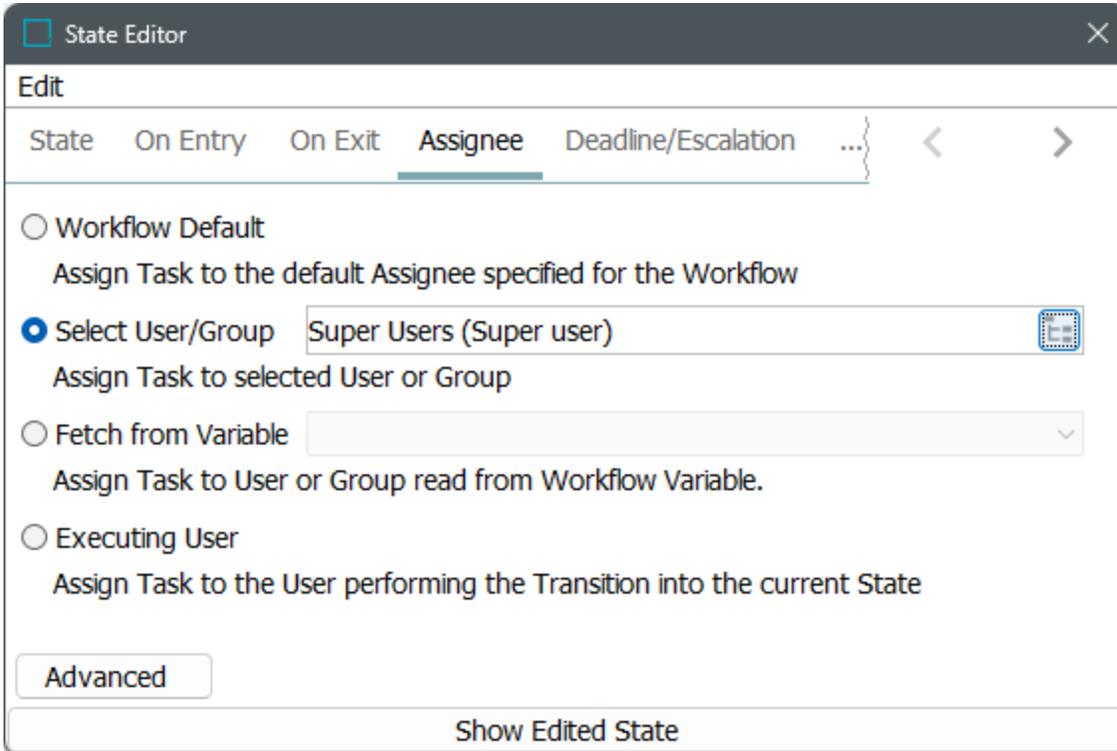
- Workflow Default**  
Assign Task to the default Assignee specified for the Workflow
- Select User/Group** [Text Input Field] [User Selection Icon]  
Assign Task to selected User or Group
- Fetch from Variable** [Dropdown Menu]  
Assign Task to User or Group read from Workflow Variable.
- Executing User**  
Assign Task to the User performing the Transition into the current State

At the bottom left of the tab area is a button labeled "Advanced". At the bottom center of the window is a button labeled "Show Edited State".

### Workflow Default

If this option is selected, the state will get the assignee specified as the default for the entire workflow.

The original Workflow Default for the entire workflow is specified by right-clicking the canvas and selecting 'Edit Workflow', by double-clicking the canvas, or by double clicking the header bar showing the Workflow ID/Name. As the user will notice, in the dialog that appears on the Assignee tab, it is not possible to select the 'Workflow Default' option. This is because a user or user group needs to be selected in order for there to be a default option for any states in the workflow.



The screenshot shows a 'State Editor' window with a tabbed interface. The 'Assignee' tab is selected. It contains four radio button options: 'Workflow Default', 'Select User/Group', 'Fetch from Variable', and 'Executing User'. The 'Select User/Group' option is selected, and a dropdown menu shows 'Super Users (Super user)'. Below the options is an 'Advanced' button and a 'Show Edited State' button.

While the user does not necessarily have to specify a default assignee for the workflow, if any of the states are configured to use it, the workflow will not save until a Workflow Default assignee is established.

### Select User / Group

Use this option to pick a specific user or user group to function as the assignee.

### Fetch from Variable

Using this option it is possible to set the assignee based on the value of a Workflow Variable. When an object is transitioned into a state with this setting, the variable value must hold either a STEP URL for a user or a user group, or the ID of a user or user group (If there is a user and a group with the same ID, the user will be selected).

If STEP cannot find a valid assignee from the variable value, the transition into the state cannot be performed and the user will get an error. As the 'Fetch from Variable' option requires a Workflow Variable to be set before entering, it is not available when setting the workflow default and neither is it available for Initial states not inside clusters.

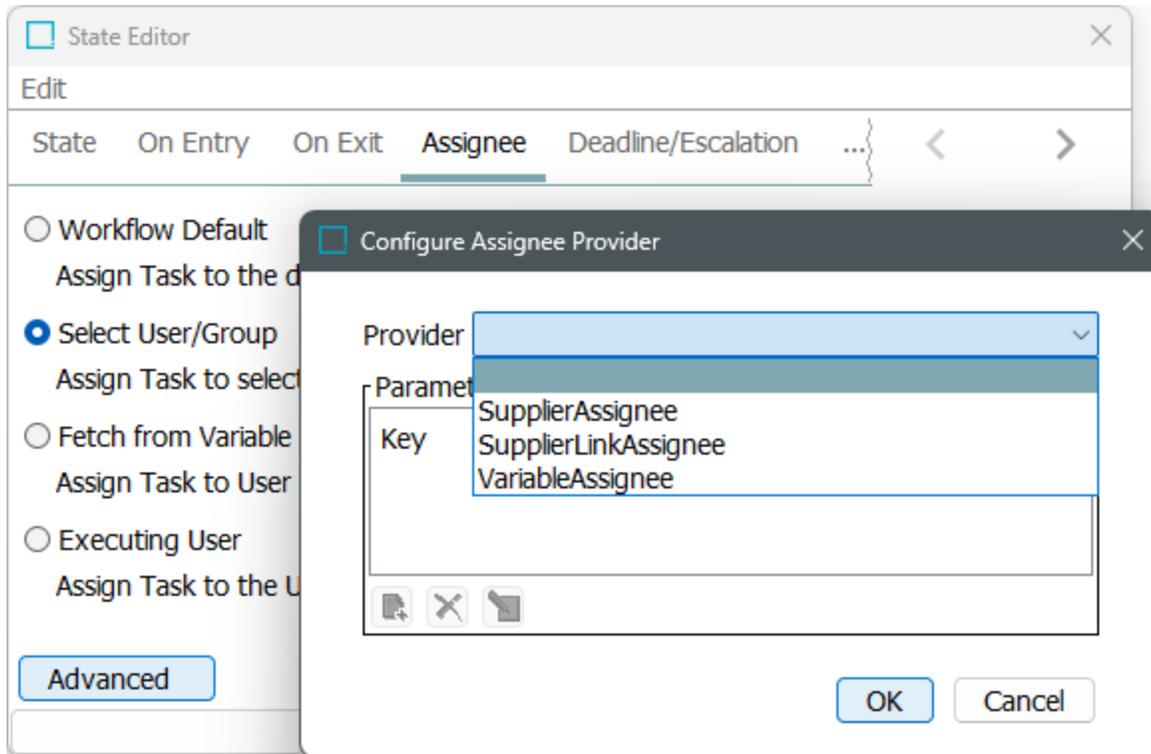
The variable to read the assignee from could be populated by the 'WorkflowVariableUserList' view component (refer to the Views and Mappings for Workflows topic) or could be set in a business action. An example could be when leaving a state, the assignee for that state is stored. Refer to Retrieving the ID of an Assignee Completing a Task in Workflows for an example.

### Executing User

Using this option will set the assignee to be the user who performs the transition into the state. Typical use case is when the individual who created the workflow wants the user who starts a task in the workflow to become the assignee for the first state. Beware of the fact that if the option is selected for the entire workflow, the user will be resolved each time a state configured to use the Workflow Default is entered. That is, for each state the assignee will be set to the user performing the transition into the state, not the user who originally started the workflow.

## Advanced Options

Via the Advanced button on the Assignee tab it is possible to let the assignee be set by an assignee Provider plugin. These plugins can be customer specific but three are present in the STEP core:



Component	Returned Value
SupplierLinkAssignee	Provider plugin for getting a supplier group assignee via a classification link. Only works for products.
SupplierAssignee	Legacy version SupplierLinkAssignee.
VariableAssignee	Legacy version of the 'Fetch from Variable' option described above.

**Note:** The assignee provider plugins generally require that one of the above three default options is selected. This selection will then be used as a fallback if the plugin fails in delivering a valid assignee.

## Claiming and Releasing Tasks in Workflows

As noted in the Configuring Views for Workflows topic, when using the WorkflowTaskColumn view component, users can claim and release tasks directly from the STEP Workflow Items editor or the object's Tasks tab. This allows users to 'check out' a task to work on, thus preventing other users from taking the task and working on it as well.

For example, on a task assigned to a group, when a user clicks the icon in the Workflow Task Column, the task is assigned to them and opened for editing.

STEP Workflow Items			
STEP Workflow Items	Multi Editor	References	Referenced By
	Workflow Task Column	Assignee	ID
ADD_187526		User : User	ADD_187526
3550 George Busbee Pkwy		User : User	ADD_120042
Axel Kiers Vej 11		User : User L	ADD_135924

Set the 'View tasks assigned to other users in my group(s)' setup action to allow all users in the group to view all tasks assigned to any user in the group. For more information, refer to the Setup Actions and Error Descriptions topic in the System Setup documentation.

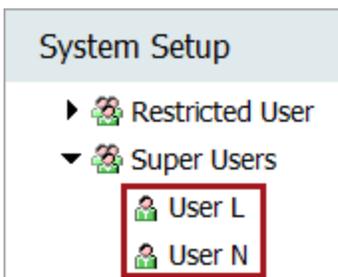
An object is not locked when it is active in a workflow. This means that a user with the privilege to edit the object can still make changes, regardless of how many workflows the object is currently involved in. The restrictions related to assignee mentioned above only apply to workflow data and functionality.

When a task is claimed, it can be released again which assigns it back to the latest 'Group Assignee'. If the task has never been assigned to a group, the task is assigned to the default assignee for the state.

Both the claim and release operations are also available through the API Task interface via the Task.claim() and Task.unclaim() methods.

### Claiming a Task in a Workflow

In the following user group, the users are User L and User N.



User L signs in, opens the workflow, and navigates to the object by clicking the ID link. A user can claim tasks in the STEP Workflow editor and also in the object editor, as shown below.

STEP Workflow
✕

Tasks
Profile

Shipment Order Process

Filter by Collection

Initiate Data 5

Review Data 2

### ADD\_187526

Address • 11% Complete

STEP Workflow Items   Address   Data Containers   References   Referenced By   Mat...

	Workflow Task Column	Assignee	ID
ADD_187526		Group : Super Users	<a href="#">ADD_187526</a>

**Note:** If a task is initiated into a workflow by a user, the task is assigned to the User Group in which the user resides.

For User L to claim the state, they click on the Claim icon () , claim the task () , and the assignee changes to User L, the user who is signed in.

### ADD\_187526

Address • 11% Complete

STEP Workflow Items   Address   Data Containers   References   Referenced By   Mat...

	Workflow Task Column	Assignee	ID
ADD_187526		User : User L	ADD_187526

If the 'View tasks assigned to other users in my group(s)' setup action is set for the group, all users in the group can view all tasks assigned to any user in the group.

## Releasing a Task in a Workflow

To release a task, click on the Release icon () , and the Claim icon () displays. The Assignee column changes back to the user group the user is a part of, and another individual in the same user group can now claim the task.

### STEP Workflow Items

STEP Workflow Items   Multi Editor   References   Referenced By

	Workflow Task ...	Assignee
ADD_187526		Group : Super Users

## Workflow Re-assignments

Sometimes it is necessary for an individual user or user group to be assigned a task in a workflow to complete before the task can move on to the next state. For example, a task may be assigned a 24 hour deadline to be picked up by a particular user. If the task is not picked by the user in that time period, then a business rule can be configured in such a way that when the deadline is met, either an email can be sent to a manager to re-assign the task to other user in the user group, or it can be programmed to automatically assign the task to a different user in the group.

Re-assignments might also be helpful if a task needs to be reassigned from one user to another user when a task moves from one state to the next.

There are two ways that a re-assignment of a task can take place. Re-assignments can be performed by a user with the STEP Workflow Administrator privilege either from view and mapping via the 'WorkflowAssignee' Component or via the API Task interface (Task.re-assign(assignee)).

Users without the STEP Workflow Administrator privilege will only be able to complete and edit workflow data for tasks assigned directly to them. Thus if a task initially is assigned to a user group but a user needs to work with it, the user must be provided with an option for claiming the tasks, and reassigning it to themselves.

For tasks handled in the workbench, a special task view component called 'Workflow Task Column' exists for this purpose. The component lets users claim a task and also assign it back, or release it, to the initial group assignee. More information about this is provided in the Claiming and Releasing Tasks in Workflows topic.

STEP Workflow Items		
STEP Workflow Items	Multi Editor	References Referenced By
	Workflow Task Column	Assignee
ADD_187526		Group : Super Users
3550 George Busbee Pkwy		User : User
Axel Kiers Vej 11		Group : Super Users Group : User Group User : User User : User L User : User23

Discussed below is the setup for STEP Workflow Administrators to perform when configuring re-assignment via the views and mappings option.

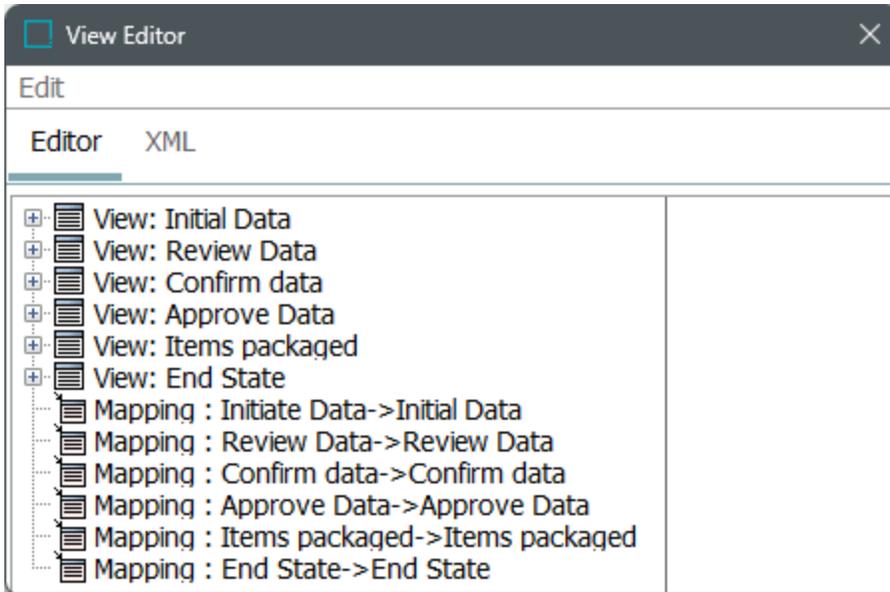
For more on API task re-assignment refer to the API documentation, accessed by clicking the Technical Documentation accessible at [system]/sdk or from the Resources section of the system's Start Page.

### Administrator Privilege Setup for Workflow Assignee

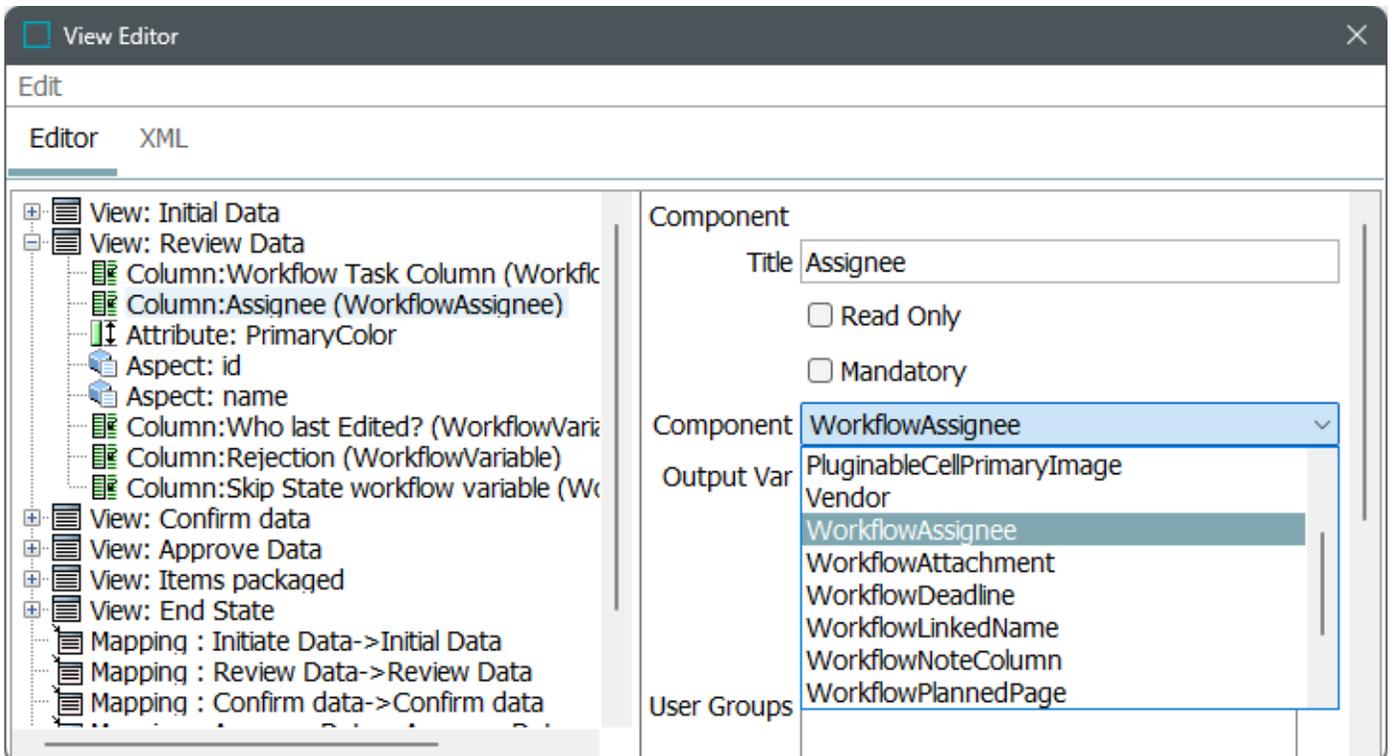
For a user with STEP Workflow Administrator privilege to assign the tasks to different users in a user group, the component 'Workflow Assignee' should be added in the view and mapped to the required workflow state.

For more information, refer to Views and Mappings for Workflows.

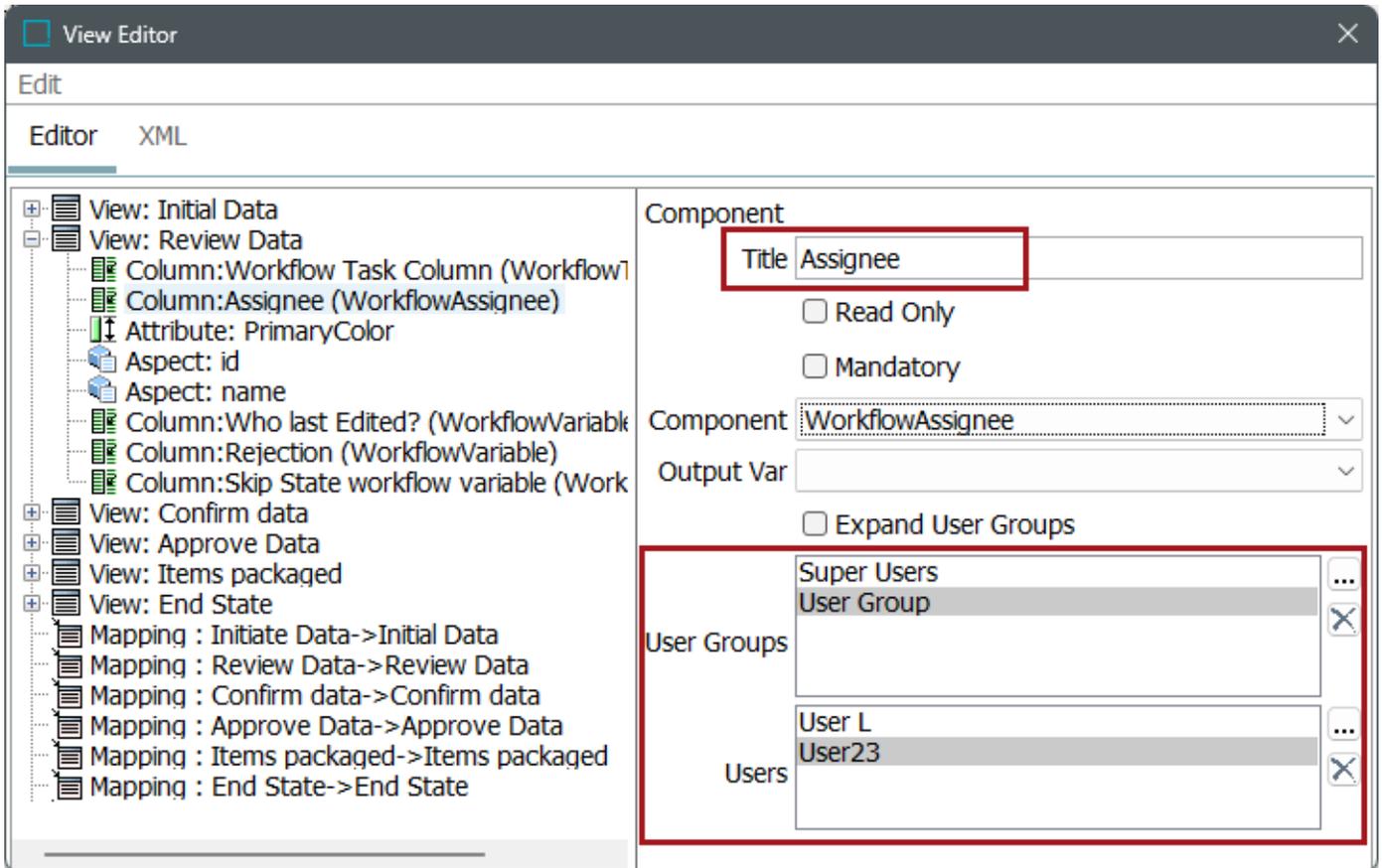
1. Navigate to System Setup and select the desired workflow.
2. Right-click the workflow and select Edit STEP Workflow > **Edit Workbench Views and Mappings**.



3. Right-click the view that needs assignees and select Add Column > Component > **WorkflowAssignee**.



4. Add any user groups and Users to the component as needed, and title appropriately.



If the option 'Read Only' is checked, the Workflow Assignee column cannot be edited and the user with STEP Workflow Administrator privilege is longer allowed to assign the task to other users.

The screenshot shows the 'View Editor' window with a tree view on the left and a configuration panel on the right. The configuration panel includes fields for 'Title' (Assignee), 'Read Only' (checked), 'Mandatory' (unchecked), and 'Component' (WorkflowAssignee). Below this is a 'STEP Workflow Items' table with columns for 'STEP Workflow Items', 'Multi Editor', 'References', and 'Referenced By'. The table contains one row with the ID 'ADD\_187526' and the assignee 'Group : Super Users'. A red arrow points from the 'Read Only' checkbox to the 'Assignee' column header.

## Re-assignment Procedures for STEP Workflow Administrators

To assign a particular task to a user, the user with STEP Workflow Administrator privilege can do so manually on the STEP Workflow tab and the object's Tasks tab, or by creating a business rule. For task reassignment using business rules, refer to the Assigning Tasks Using Business Rules topic.

### STEP Workflow Tab

1. Go to STEP Workflow Tab and select the relevant workflow.
2. Click on the particular state in the workflow, and navigate to the 'Assignee' column in STEP Workflow Items tab.
3. On the 'Assignee' column, click on the dropdown so that assigned user is visible.

- Select the user from the dropdown in parallel with the task to be assigned.

**STEP Workflow** ✕

Tasks Profile

---

> Shade Specification Workflow

▼ Shipment Order Process

🔄 ⓘ 👤 👤 👤

Filter by Collection 🗃️

Initiate Data	5
<a href="#">Review Data</a>	2
Confirm data	2

**STEP Workflow Items**

STEP Workflow Items [Multi Editor](#) [References](#) [Referenced By](#)

	Workflow Task Column	Assignee
ADD_187526	📁	Group : Super Users
3550 George Busbee Pkwy	📁	User : User <span style="float: right;">▼</span>
		Group : Super Users
		Group : User Group
		User : User
		User : User L
		User : User23

### Object's Task Tab

Similarly to how an assignment to a user is performed on the STEP Workflow tab, a task can also be assigned on an object's Tasks tab.

- Click on the object and navigate to the Tasks tab.
- Locate the workflow the object is in that needs a task assignment and select the user it should be assigned to from the 'Assignee' column.

**3550 George Busbee Pkwy**  
Address • Revision: 0.14

References Referenced By Matching Proof View Status Log State Log **Tasks**

---

▼ **Shipment Order Process/Review Data (USER)**

	3550 George Busbee Pkwy
Workflow Task Column	📁
Assignee <span style="color: red; font-size: 2em;">→</span>	User : User
ID	Group : Super Users Group : User Group
Name	User : User
Who last Edited?*	User : User L User : User23

## Auto-Initiation of Tasks in Workflows

Automatic initiation is used to automatically initiate an object into the desired workflow, otherwise a manual action is required. With auto-initiation, items can be pushed through automatically, making it much simpler and more time effective.

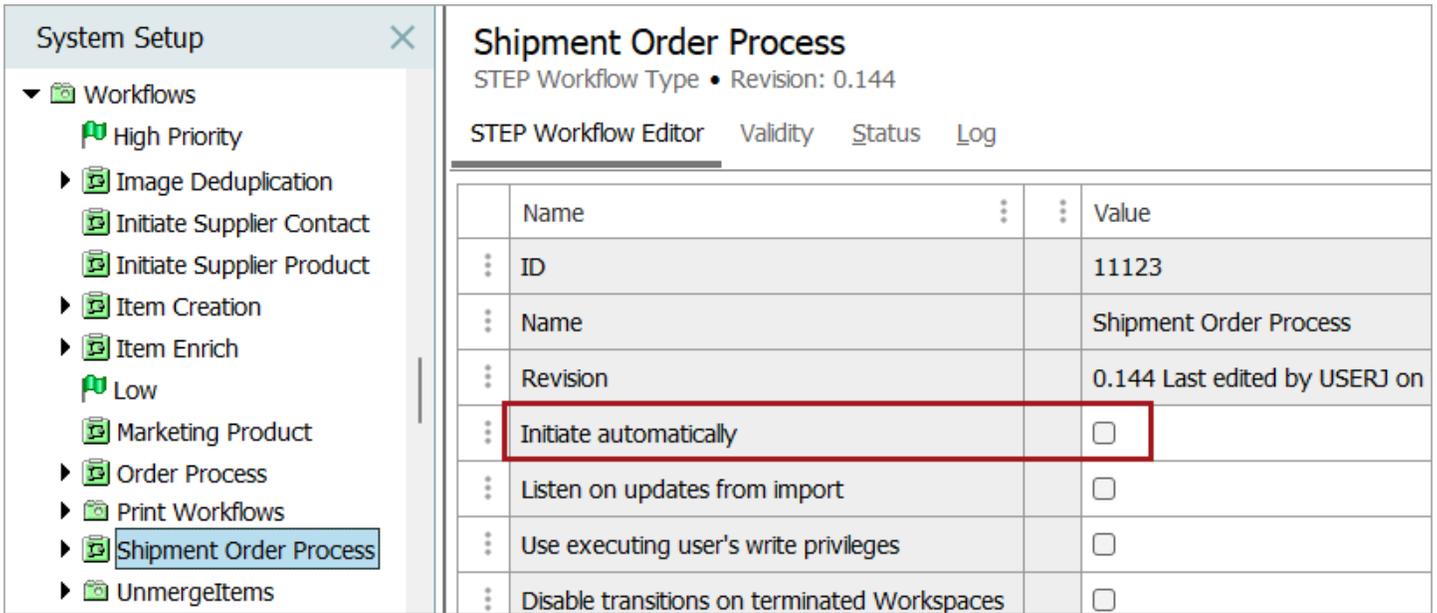
Two common scenarios for auto-initiation are:

1. Once a user creates an object in the workbench or Web UI, the object can be initiated automatically in the specific workflow.
2. When new objects are imported, the object can be initiated automatically in the specific workflow.

For example, if a workflow is valid for Products, Classifications, Assets, Entities, Publications, Publication Sections, or Flatplanner Planned Pages, it is possible to have an instance of a given workflow created whenever an object of the valid object type(s) is created. In other words, a workflow is automatically started when the object is created.

## Setting Automatic Initiation of Tasks in Workflows

1. To set up auto-initiation, select the System Setup tab and expand the folder that houses workflows.
2. Select the desired workflow (in this example, Shipment Order Process will be used) and check the 'Initiate automatically' checkbox on the STEP Workflows Editor tab.



The screenshot shows the 'System Setup' window with a tree view on the left containing various workflow categories. The 'Shipment Order Process' workflow is selected. The main panel displays the 'STEP Workflow Editor' for this workflow, showing details like ID (11123), Name (Shipment Order Process), and Revision (0.144). A table lists several configuration options, with the 'Initiate automatically' checkbox checked.

Name	Value
ID	11123
Name	Shipment Order Process
Revision	0.144 Last edited by USERJ on
Initiate automatically	<input checked="" type="checkbox"/>
Listen on updates from import	<input type="checkbox"/>
Use executing user's write privileges	<input type="checkbox"/>
Disable transitions on terminated Workspaces	<input type="checkbox"/>

Whenever an object of a type valid for the workflow is created, a workflow is started. This could happen via the workbench, Web UI, web services, or through an import.

**Note:** When initiating products via import, if business actions are to be applied to the products prior to their being initiated into a workflow, do not check the 'Initiate automatically' checkbox as this may interfere with the proper import of values. Instead, configure the business action to also direct the imported object into the desired workflow.

## Initiating an Object Automatically in Workflows

Before creating an object, it is important to know what the desired workflow is valid for, otherwise the object will not be able to automatically initiate. To check the validity type, view the workflow and select the Validity tab. In this example, the Shipment Order Process workflow is valid for products that have one of the three object types below.

### Shipment Order Process

STEP Workflow Type

STEP Workflow Editor   **Validity**   Status   Log

---

▼ **Valid for Product Types**

- All
- Item
- Item Family
- Item Folder

**Note:** Object types / names will vary according to user setup.

### Create and Initiate from STEP Workbench

Once the validity type is verified, a product can be created in the workbench by entering an ID and name, as well as any other required data. The following image shows that a Supplier Part Number is required to create an item.

☐ Create Product
✕

**Object Type**

- Item
- Item Family
- Item Folder

**Attributes**

	Name			Value	
⋮	Supplier Part No.	12		1325648	⋮

ID

Name

For more information on creating new objects refer to the Creating Objects in the Tree Tab topic in the Getting Started documentation.

There are a number of ways to verifying that the product was automatically initiated into the desired workflow. A few are:

- On the Advanced Search tab, search the workflow to verify the object is displayed as a result.

The screenshot shows two side-by-side panels. The left panel is titled 'Advanced Search' and contains a search filter configuration. A red box highlights the 'STEP Workflow' dropdown menu, which is set to 'Item Creation', and the 'State' dropdown menu, which is set to 'Supplier Enrichment'. Below the filters are 'Reset' and 'Search' buttons. The right panel is titled 'Search Result Profiling' and shows '3 hit(s)' with a link to narrow down search. It includes sections for 'Results by Object Type' (listing Product (3) and Item (3)) and 'Results by Position in Tree Hierarchy' (listing Surround Speakers - Zeta (3) and Products (1)).

- Navigate to the STEP Workflow tab, open the workflow, and verify that the object appears in the first state in STEP Workflows Items tab.

The screenshot shows two side-by-side panels. The left panel is titled 'STEP Workflow' and has tabs for 'Tasks' and 'Profile'. Under the 'Tasks' tab, the 'Item Creation' workflow is expanded, showing a 'Filter by Collection' section with 'Final Item Review' (0) and 'Supplier Enrichment' (3). The right panel is titled 'STEP Workflow Items' and has tabs for 'STEP Workflow Items', 'Products', and 'References'. It displays a table with the following data:

	ID
Rear Right Speaker	5995400
Center Speaker	267853
Front Left Speaker	267850

- Navigate to the item's Task tab and verify that the object appears in the desired workflow flipper.

**Tree**

- Surround Speaker Systems
  - Surround Speakers - Acme
  - Surround Speakers - OMEGA
  - Surround Speakers - Zeta
    - Front Left Speaker
    - Front Right Speaker
    - Rear Left Speaker
    - Center Speaker
    - Subwoofer
    - Rear Right Speaker

**Rear Right Speaker**  
Item • Revision: 0.1

Proof View Classification Rules Status Log State Log **Tasks**

▼ **Item Creation/Supplier Enrichment (USERJ)**

	Rear Right Speaker
ID	5995400
Name	Rear Right Speaker

Proceed Submit

**Note:** If an object in the Recycle Bin (and thus taken out of any workflow) is revived, it will be re-initiated in the workflows with auto-initiation turned on and that match the object's validity.

### Create and Initiate from Import

Another way to create and initiate objects into a workflow automatically is to do so via an import, where product information, such as that below, is uploaded to the STEP Workbench.

	A	B	C	D
	<ID>	<Name>	<Parent ID>	<Object Type Name>
1	179835	Ski Hat	20436	Item
2				
3				

To automatically initiate items upon import, in the Import Manager wizard, under 'Advanced Settings' check the **Auto-Initiate STEP Workflow on Item Creation** option as defined in the Import Manager - Advanced Settings topic.

When the import is run, a background process is created and the user can view the object(s) initiated into the workflow in the background process.

**Execution Report**

- 1 Retrieval started (Tue May 31 12:15:48 EDT 2016)
- 2 Retrieved 9402 bytes (Tue May 31 12:15:48 EDT 2016)
- 3 Conversion started (Tue May 31 12:15:48 EDT 2016)
- 4 Converted 1 objects (Tue May 31 12:15:48 EDT 2016)
- 5 Logged on
- 6 Mapping started (Tue May 31 12:15:48 EDT 2016)
- 7 Mapping completed (Tue May 31 12:15:48 EDT 2016)
- 8 Import Started (Tue May 31 12:15:48 EDT 2016)
- 9 Logged On
- 10 Using import mode "domain"
- 11 Starting first import pass (creating system setup objects)
- 12 Starting second import pass (importing data)
- 13 Started 1 objects in Workflow '[11123](#)' (0 failed).
- 14 Imported 1 new products, 0 new classifications, 0 new entities and 0 new assets.
- 15 Processed 1 existing products, 0 existing classifications, 0 existing entities and 0 existing assets.
- 16 Skipped 0 products, 0 classifications, 0 entities and 0 assets.
- 17 Deleted 0 products, 0 classifications, 0 entities and 0 assets.
- 18 Found 0 warnings
- 19 Found 0 errors
- 20 Import completed (Tue May 31 12:15:48 EDT 2016)




For more details on the Import Manager functionality and the Import Manager wizard, refer to [Creating a Data Import in the Data Exchange](#) documentation.

## Disabling Auto-Initiation

If a user has the 'Disable STEP Workflow Auto-initiation in Imports' privilege for a workflow, they are allowed to disable auto-initiation in the Import Manager (column based Imports) or directly in the XML for XML imports (by setting `AutoInitiate="N"` in the `STEPProductInformation` tag as shown below).

```
<?xml version="1.0" encoding="utf-8"?>
<STEP-ProductInformation ContextID="Context1" workspaceID="Main" AutoInitiate="N">
<Products ID="179859" DefaultParentID="20436" DefaultUserTypeID="Item">
<Product/>
</Products>
</STEP-ProductInformation>
```

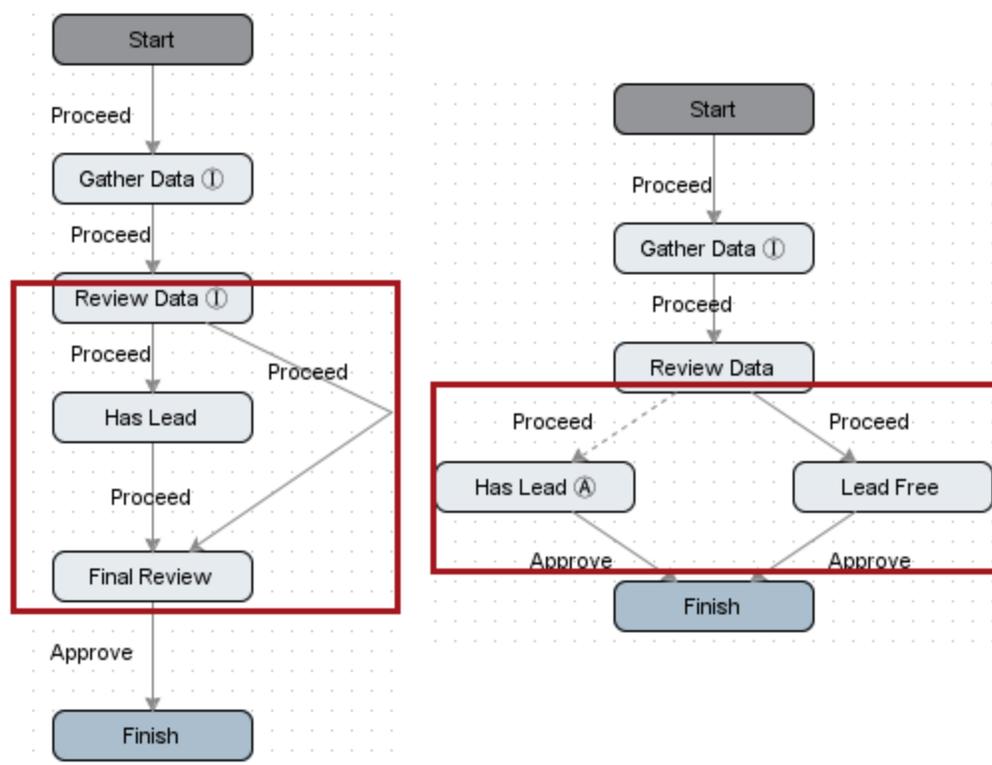
## Auto-Routing Tasks in a Workflow

In workflows, there may be cases where the system (via business rules) should make the decision for the path a task takes through the workflow, rather than a user. While there are many use cases for this, a simple scenario is the 'if X, then Y' reasoning. For example, a user may have a workflow set up that evaluates each product that passes through a particular state to identify if it includes lead. If so, special handling instructions need to be applied, whereas this is not required for items that are lead-free. Therefore, tasks are automatically routed to differing states based on the presence / absence of lead, which is determined by an attribute value.

This topic describes the preferred method for basic auto-routing of tasks, and allows for users to submit a task without requiring any knowledge of where it needs to go next, as this is evaluated and determined via a series of conditions on the available transitions. There are additional methods available for auto-routing of tasks, including via use of the Scripting API Task interface and the triggerByID() and triggerLaterByID() methods.

Auto-routing using conditions requires that all transitions from the state have the same event name applied. It is also important to remember that all conditions return either true or false, and that a condition evaluating to true on a transition means that the transition can be taken, while a condition evaluating to false means that the transition cannot be taken.

This setup can be used to skip states, as well as to select between one of two states. Therefore, either of the below workflows could utilize it, and in both cases the outcome will be that the task is sent to the Has Lead state from the Review Data state, if needed. In all cases, all transitions out of the Review Data state have the Proceed event. With this setup, the end user will view only a single selection option (Proceed) when submitting the task, allowing the system to make the decision, while keeping things simple for the end user.

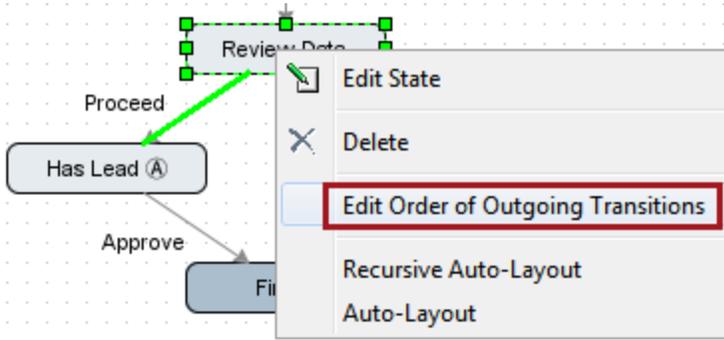


In order to determine where the task should go, an attribute with ID=HasLead is evaluated. If the value is Yes, the task must go to the Has Lead state. If the value is No, the task must take the other transition. We could set up a "Yes" condition and a "No" condition, applying one to each transition out of the state as appropriate, and that would accomplish the end result. However, if an object did not have the HasLead attribute populated, it would not have a viable transition, unless we wrote a condition to account for a null value. Assuming

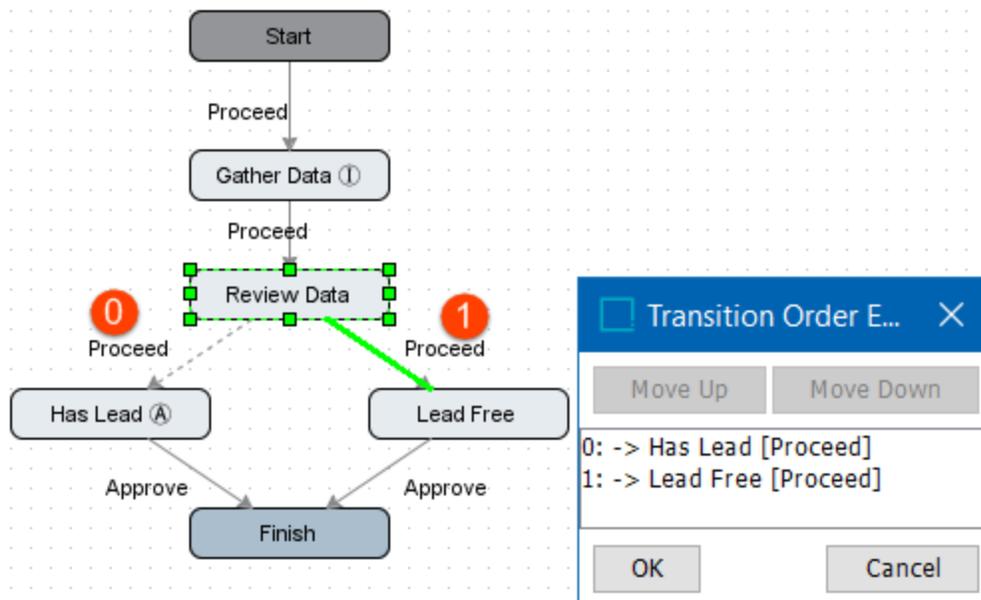
mandatory attribute functionality was applied and we could ensure a value was present, there is however still an easier way to do it using only a single condition, which evaluates to true if HasLead=Yes. By leaving another transition with no conditions applied, and instructing the system to always evaluate the conditioned transition first, all tasks with the Yes value are caught first and appropriately routed, and all tasks with a 'No' or null value take the other (unimpeded) option.

Detailed instructions and additional considerations for this setup are below.

1. Set the order in which outgoing transitions are attempted by right-clicking on the state that has the multiple transitions with the same name coming out of it, and selecting **Edit Order of Outgoing Transitions**.

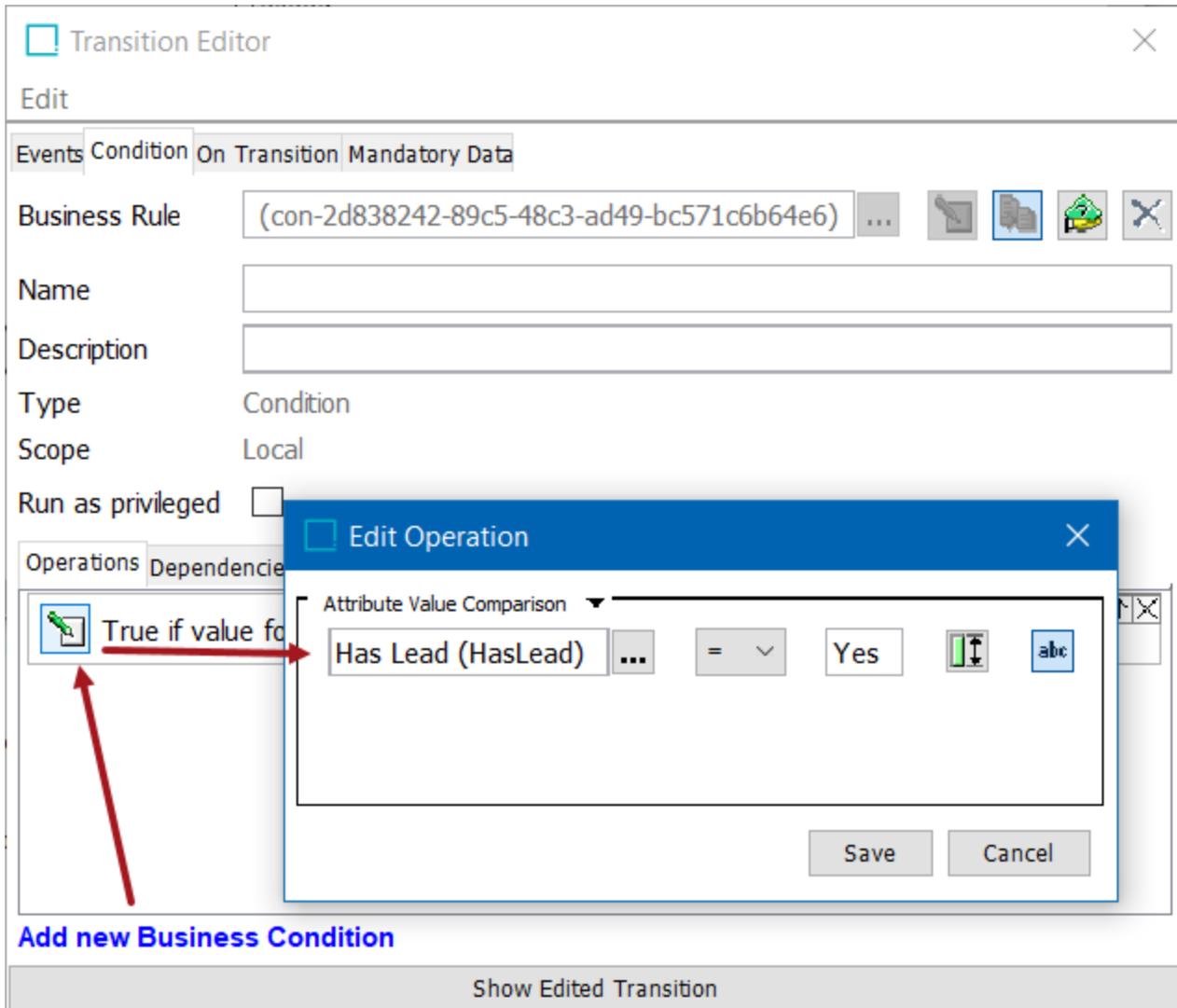


2. In the dialog that appears, select any entry and use the **Move Up** or **Move Down** buttons to set the appropriate order. This example uses only two transitions, but this method works for any number of transitions. The '0' transition is evaluated first, and subsequent transitions are evaluated in sequential order. The system will send the object via the first transition it finds that evaluates as true.



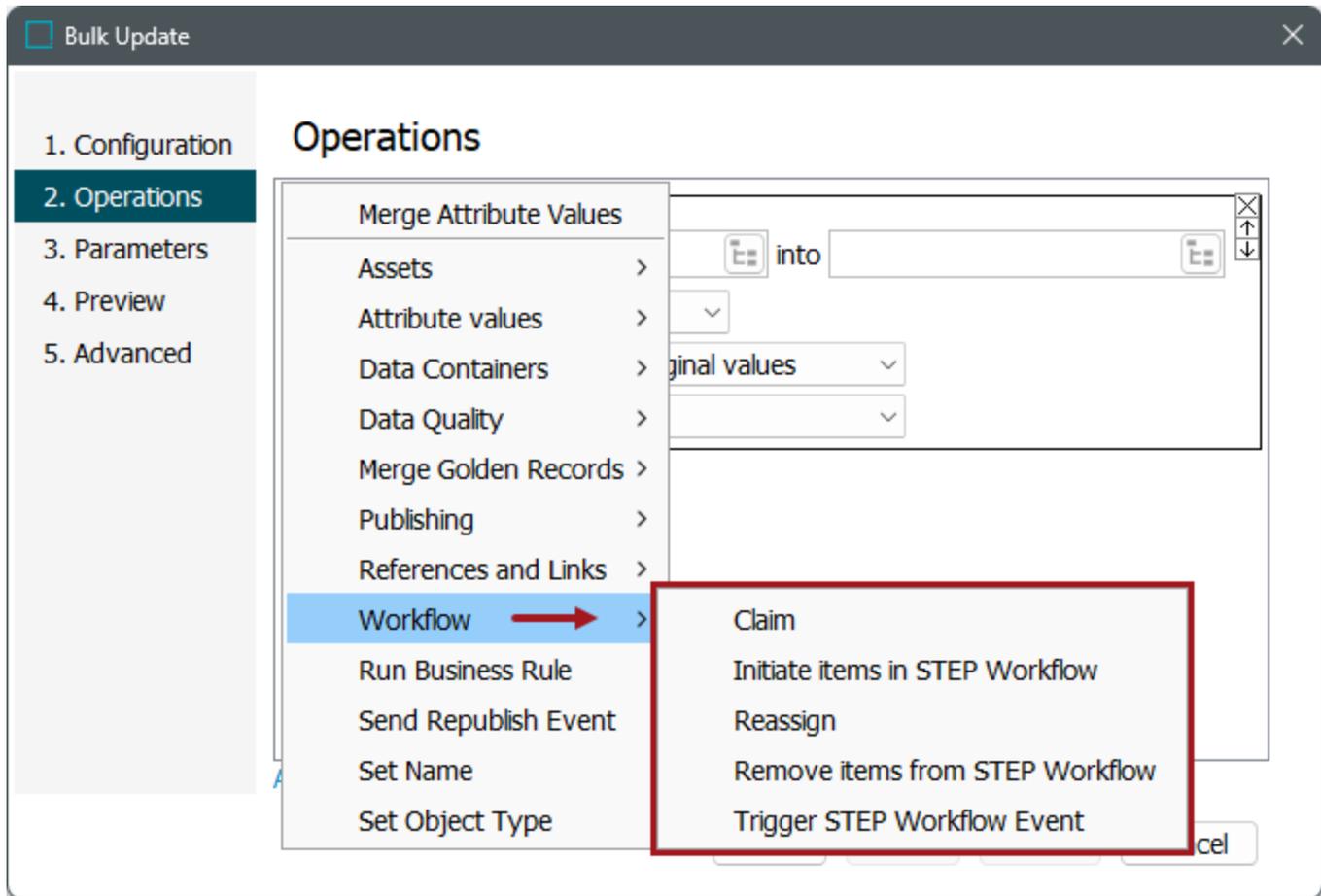
If multiple transitions will exist with conditions applied, care should be taken to ensure that they are sequenced properly, that they do not overlap unless intended (and managed via sequencing), and that all tasks have a way to exit the state. With that in mind, it is generally advised to ensure that conditions are exclusive (e.g., a task is not likely to evaluate true for more than one transition), and that one transition exists unimpeded (e.g., without a condition). However, there are exceptions, so carefully test the design and outcome.

- Set a condition on the transition to be evaluated first. For the purposes of the example, a basic attribute value comparison will be done, but any condition could be used. Double-click on the order zero transition to open the Transition Editor. Select the **Condition** tab and click the **Add new Business Condition** link. Click the **Edit** icon to open the Edit Operation dialog and select **Attribute Value Comparison** from the dropdown. Select the appropriate attribute, operator, and value. Click **Save** to close the Edit Operation dialog, and click the **X** in the upper right corner to close the Transition Editor.



## Bulk Update Operations for Workflows

The STEP Bulk Update operations is an efficient way of updating multiple objects in a single operation. For workflows it can be used to claim multiple objects in a specific state in a specific workflow, initiate multiple objects into a specific workflow, remove multiple objects from a specific workflow, or trigger a specific event for multiple objects in a specific workflow.



For more on bulk updates refer to the Bulk Updates documentation.

The table below defines how each operation is expected to perform. Additionally, the next proceeding sections of this document will explain how each operation works more precisely.

Operation	Description
Claim	Assigning a workflow task to a specific user
Initiate items in STEP Workflow	Bulk update is performed on the objects to initiate them into a selected Workflow.
Remove items from STEP Workflow	Removes all objects from the selected workflow.
Trigger STEP Workflow Event	Triggers a selected workflow event.

## Claiming a Task in a Workflow

The 'Claim' bulk update operation allows the user to claim multiple tasks in a state at one time. For example, if there are 10 tasks in one state, instead of a user having to navigate to the STEP Workflow tab, opening up the desired workflow and clicking each individual task using the claim button, , in the STEP Workflow Items tab, a user can claim all the tasks at once using bulk updates.

### Claiming a Task

To claim tasks, the following steps need to be followed by the user who wishes to claim the tasks. In this case it is User J.

1. Ensure that the tasks are initially unassigned to any user in a state.

The screenshot shows the 'STEP Workflow Items' interface. On the left is a sidebar for the 'Shipment Order Process' workflow, listing steps like 'Initiate Data' (5), 'Review Data' (3), 'Confirm data' (2), and 'Approve Data' (1). The main area displays a table of items with columns for ID, Name, and Assignee. A red box highlights the 'Workflow Task Column' and 'Assignee' rows in the table.

Workflow Task Column	ID	Name	Assignee
	ADD_187526	3550 George Busbee Pk...	Axel Kiers Vej 11
Assignee	Group : User Group	Group : User Group	Group : User Group
ID	ADD_187526	ADD_120042	ADD_135924
Name	ADD_187526	3550 George Busbee Pkwy	Axel Kiers Vej 11

2. Go to the Advanced Search tab, select STEP Workflow from the dropdown and select the desired workflow and state to display the objects present in that particular state. Click the bulk update button  to open the Bulk Update wizard.

The screenshot shows the 'Advanced Search' dialog box. The search criteria are: STEP Workflow: Shipment Order Process, State: Review Data. Below the search criteria are 'Reset' and 'Search' buttons. The results section shows 'Displaying 3 of 3 results' and lists three items: '3550 George Busbee Pkwy (ADD\_120042)', 'ADD\_187526 (ADD\_187526)', and 'Axel Kiers Vej 11 (ADD\_135924)'. At the bottom, there is a section for 'Operations on Entire Result' with icons for add, refresh, and bulk update (highlighted with a red box).

This will create a bulk update for all of the objects in that particular state. Additionally, it is also possible to save the search results as a collection, and schedule a bulk update by selecting the saved configurations. This also saves all tasks that show up in the state in the collection.

**Note:** If a user wishes to only claim certain tasks that show up in the search, use the Ctrl key and select the desired tasks, then from the File menu, select Bulk Update and Run Bulk Update.

3. Select the workflow and the state from the dropdown.

The screenshot shows a 'Bulk Update' dialog box with a sidebar on the left containing five steps: 1. Configuration, 2. Operations (highlighted), 3. Parameters, 4. Preview, and 5. Advanced. The main content area is titled 'Operations' and contains a 'Claim' dropdown menu, a 'STEP Workflow' dropdown menu set to 'Shipment Order Process', and a 'Current State' dropdown menu set to 'Review Data'. Below these fields is a blue link labeled 'Add Operation'. At the bottom of the dialog are four buttons: 'Back', 'Next', 'Finish', and 'Cancel'.

4. Navigate through the succeeding windows, and click on **Finish**.
5. A background process, BGP, will run and when clicked upon, will display the report of the bulk update process.

# Bulk Update

Background Process

▼ **Properties**

Property	Value
Started by	USERJ
Id	BGP_5995440
Description	Bulk Update
Execution Server	doc-dev.stibo.com
Progress	Done
Status	succeeded
Priority	Medium
Created	Thu Jan 02 15:33:00 EST 2025
Started	Thu Jan 02 15:33:01 EST 2025
Finished	Thu Jan 02 15:33:01 EST 2025
Processing Time	0 m 0 s
Time in Queue	0 m 1 s
# of warnings	0
# of errors	0

▼ **Execution Report**

- 1 **Bulk update background process started** (Thu Jan 02 15:33:01 EST 2025)
- 2 Context: Context1
- 3 Workspace: Main
- 4 Commit Mode: Commit
- 5 Auto Approve: No
- 6 Collection: [BGP\\_5995440 tmp\\_input](#)
- 7 Configuration: temporary configuration
- 8 Read bulk update operation configuration successfully (Thu Jan 02 15:33:01 EST 2025)
- 9 Created temporary collection: [BGP\\_5995440 tmp\\_fail](#) (Thu Jan 02 15:33:01 EST 2025)
- 10 **Applying operations to dataset** (Thu Jan 02 15:33:01 EST 2025)
- 11 **Summary** (Thu Jan 02 15:33:01 EST 2025)
- 12 3 objects OK. 0 objects failed.
- 13 0 info messages. 0 warning messages. 0 Error messages.
- 14 End of Summary



Save...

Truncate

▼ **Bulk Update Actions**

- If the BGP was successful, navigate to the STEP Workflows tab again and check to if the items are now claimed and assigned to the appropriate user, in this case User J.

STEP Workflow Items 			
STEP Workflow Items	Multi Editor	References	Referenced By
	3550 George Busbee Pk... 	Axel Kiers Vej 11 	ADD_187526 
Workflow Task Column 			
Assignee 	User : User J	User : User J	User : User J
ID 	ADD_120042	ADD_135924	ADD_187526

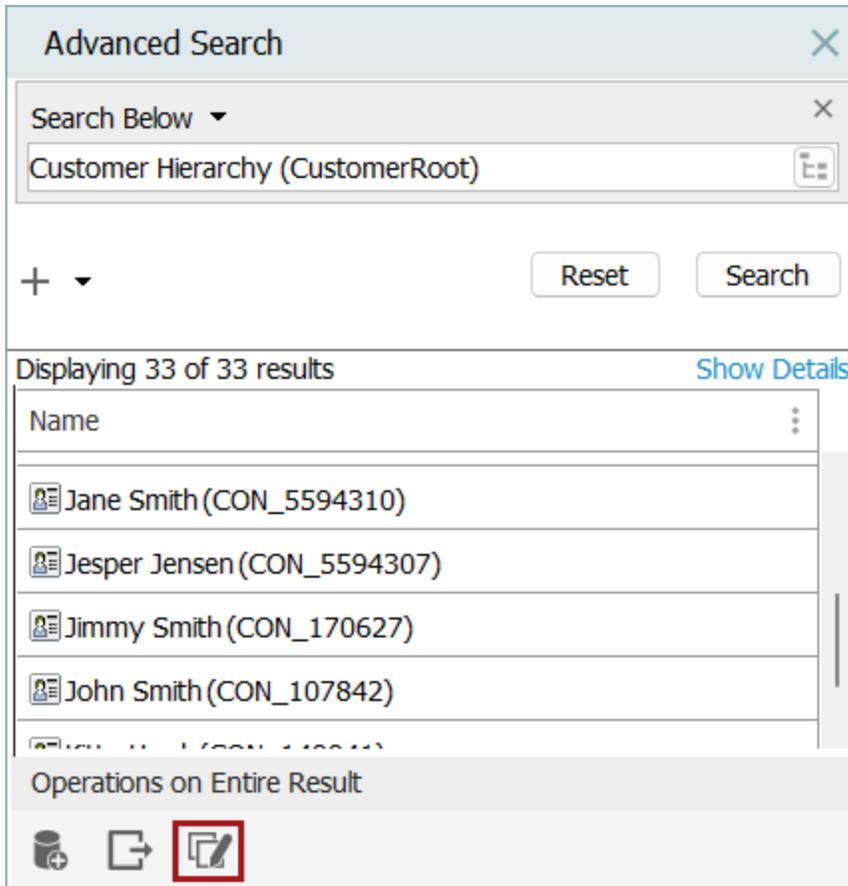
## Initiate Items in STEP Workflows

Whenever new objects / products / items / or tasks are created or on-boarded, it has to be processed via the workflow. Instead of initiating each item individually, a user can save time by initiating them all at once in a bulk update.

Use the following steps to initiate tasks in a STEP Workflow.

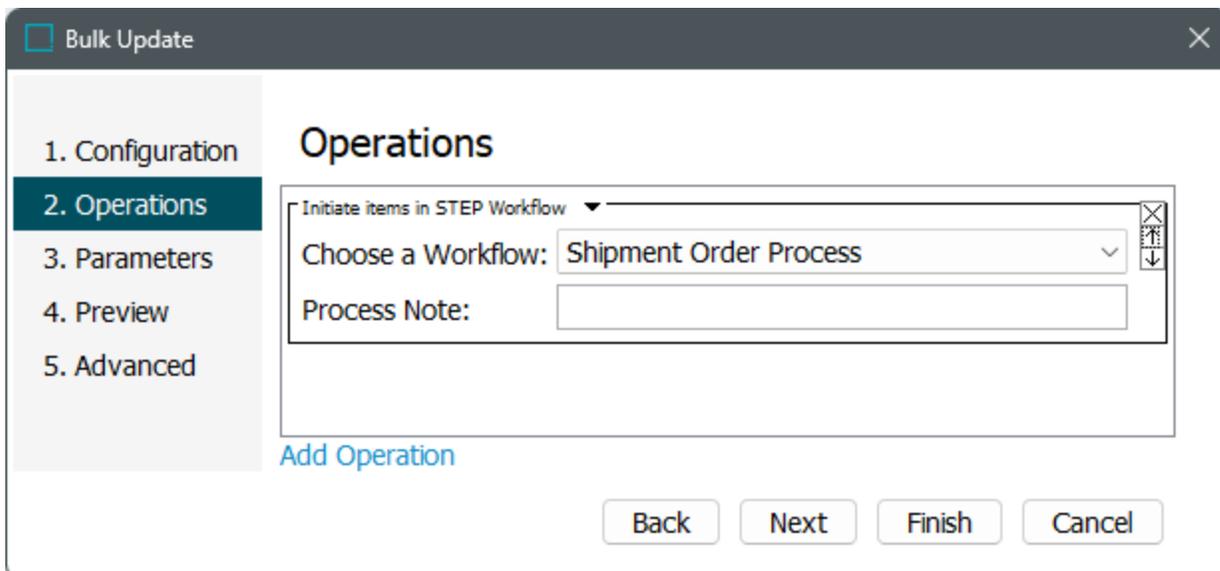
**Note:** A workflow must be valid for the objects being initiated into it.

- Search for the objects that are to be initiated into the desired workflow and select the bulk update button .

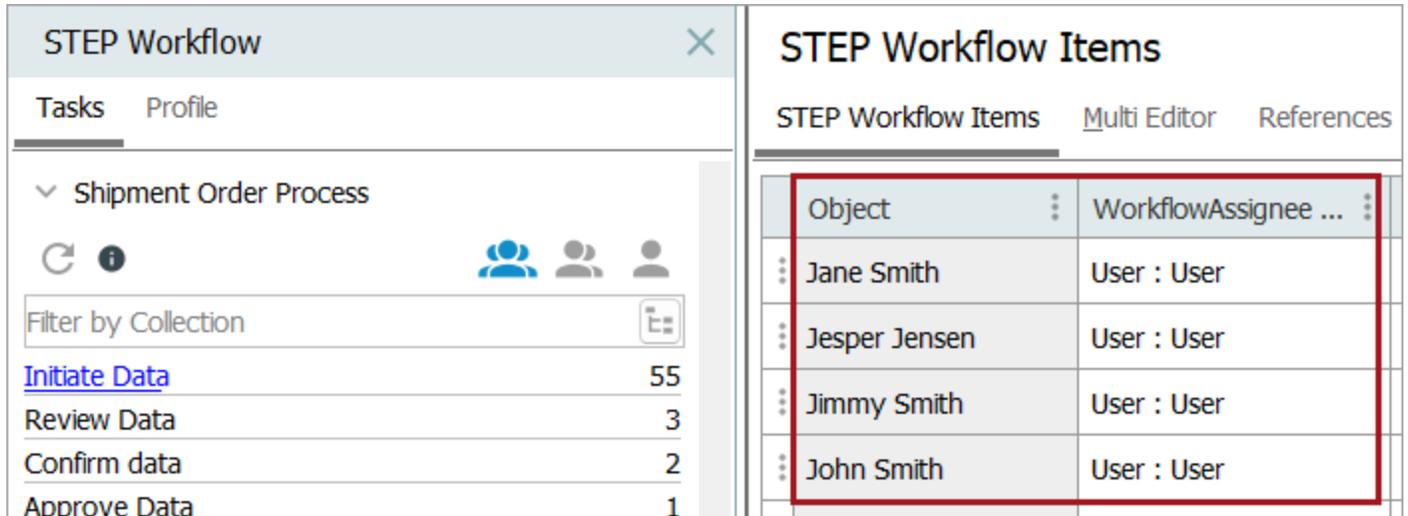


Alternatively, you could click on the objects in tree and go up to File > Bulk Update > Run Bulk Update.

- In the Bulk Update wizard that appears, navigate to the Operations window and select Workflow > **Initiate items in STEP Workflow**. Select the correct workflow from the dropdown, and add a process note if desired.



3. Navigate through the succeeding steps, and click on **Finish**.
4. A background process runs and when reviewed, displays the report of the bulk update process.
5. If the BGP was successful, navigate to the STEP Workflows tab again and view the items that were initiated in the workflow. The assignee of all of these items will be the user who is logged in and performed the bulk update.



Object	WorkflowAssignee ...
Jane Smith	User : User
Jesper Jensen	User : User
Jimmy Smith	User : User
John Smith	User : User

## Removing Items from STEP Workflow

A bulk update can be used to remove all objects from one state in a workflow if the user has the ability to search the STEP workflow tab, and have the 'Perform Bulk Update' privilege.

For complete directions on how to use bulk updates to remove items from STEP Workflows, refer to the Remove Objects from Workflows topic in the Workflows documentation.

## Trigger STEP Workflow Event

This function is useful when a user completes multiple tasks and needs to trigger multiple tasks from one state to another at one time

For example, if a workflow has a state called Confirm Data with 2 tasks that need to be moved to the next state, called Approve Data, the user would follow the steps below to perform this action.

### STEP Workflow

Tasks Profile

Shipment Order Process

Filter by Collection

Initiate Data	55
Review Data	3
Confirm data	2
Approve Data	1
Items packaged	0

### STEP Workflow Items

STEP Workflow Items Multi Editor References Refer

	Object	ID
Customer A	Customer A	CUS_229519
ADD_191384	ADD_191384	ADD_191384

Use the following steps to trigger a STEP Workflow event.

1. On the Advanced Search tab, and select STEP Workflow from the dropdown. Next select the desired workflow and state to display the products present in that particular state, and click the bulk update button, .

### Advanced Search

STEP Workflow ×

STEP Workflow Shipment Order Process ▼

State Confirm data ▼

+ ▼ Reset Search

Displaying 2 of 2 results Show Details

Name <span style="float: right;">⋮</span>
ADD_191384(ADD_191384)
Customer A(CUS_229519)

Operations on Entire Result

2. In the Bulk Update wizard that appears, navigate to the Operations window and select Workflow > **Trigger STEP Workflow Event**. Select the correct workflow, state, and event to be performed. Add a process note if needed (process notes are the information for the users in the next state.).

Bulk Update
✕

1. Configuration
2. Operations
3. Parameters
4. Preview
5. Advanced

## Operations

Trigger STEP Workflow Event
✕

STEP Workflow:

Shipment Order Process

⌵

Current State:

Confirm data

⌵

Event:

Proceed 3

⌵

Process Note:

All are ready for approval

Add Operation

Back
Next
Finish
Cancel

3. Navigate through the succeeding windows, and click on **Finish**.
4. Click 'Go to process' to display the results of the background process.
5. If the BGP succeeded, navigate to the STEP Workflows tab and view the items that were moved from one state to the next in the workflow.

### STEP Workflow

✕

Tasks
Profile

⌵
Shipment Order Process

↻
i
👤 👤 👤

Filter by Collection ⌵

Initiate Data	55
Review Data	3
Confirm data	0
Approve Data	3
Items packaged	0

### STEP Workflow Items

STEP Workflow Items
Multi Editor
References
Ref

	Object	ID
Customer A	Customer A	CUS_229519
ADD_191384	ADD_191384	ADD_191384
Customer C	Customer C	CUS_412830

**Note:** If the Bulk Update is run on objects not in the specified state in the specified workflow, warnings are generated in the Bulk Update Background Process and the objects are left unchanged.

## Business Rules and Workflows

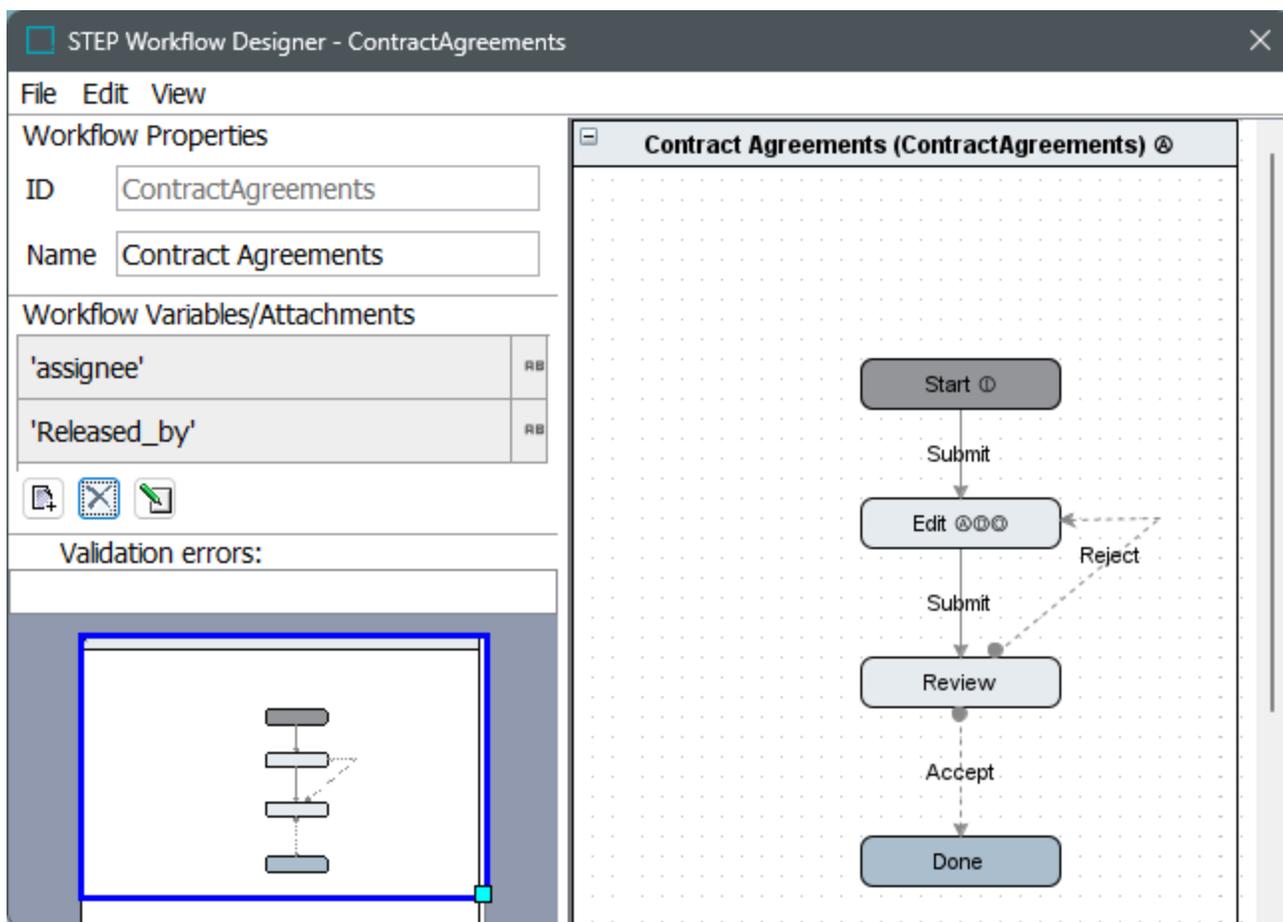
When working with workflows, it is very common to use business rules. They can help with a number of functions, such as sending email, validating data, moving a task through a workflow, assigning tasks in a workflow to particular users, among many other actions. It is important to know that business actions can take actions in a workflow, while business conditions are able only to check and/or validate data.

This topic provides a general introduction to some overall functionality specific to business rules *in workflows*. Much more information regarding business rules in general (applicable to rules used both within workflows and external to workflows) is available in the Business Rules documentation.

### Example

Below is a simple example of how a number of business rules can work together to make a coherent and functioning workflow. You can define business actions to be executed as part of the workflow on states or transitions, and to define conditions to be tested before transitions between states are performed.

**Note:** If a state has both an exit action and a transition condition, the transition condition is evaluated first.



Consider that a company needs a number of documents signed and agreed upon before they can proceed with their new business partners. To ensure that the documents were reviewed and signed to exact specifications, the workflow above was created to help with the process.

For this workflow a document, or task, enters into the Start state where it is picked up by an assigned user, **A**. After all assignments are completed they submit the task to the Edit state. Next, a user claims the task, completes any assignments regarding the task on time, **D**, and then submits it to the Review state. As they submit it to the Review state, a business rule captures the ID of the user who submitted the task, **C**.

Once in the Review state, a new user claims the task. If however, they do not think that it is ready for review, they have the option to send it back to the Edit state. If they choose to do this, as the task enters into the Edit state again, there are business rules in place to send the task back to the user who originally worked on it in this state, **T**, and sends them an email to notify them it was rejected back to them.

However, if the task enters the Review state and the user who picks it up does think it is ready to be delivered, they can choose to accept it, and submit it to the Done state. Notice that a condition is in place on the transition from the Review State to the Done state. This condition makes it so that the reviewer has to populate an attribute field on the task called 'Approved' to 'Yes' in order for it to be submitted to the Done state successfully.

A few items to note:

- If a script exception is thrown during the transaction, or the assignee for the Edit state cannot be set, the entire transaction including any changes made is rolled back
- When the On Transition Action is executed the task is not in any state, any attempt to manipulate a task will cause an error to be thrown, and again the transaction will be rolled back

## Applying Rules in a Workflow

Business **actions** can be executed from workflow **states** at these points:

- Entering a state (On Entry)
- Exiting a state (On Exit)
- As part of an escalation when a deadline for a state has been met (refer to Deadlines and Escalations in Workflows for more details).

□ State Editor
✕

---

Edit
1
2
3
On Entry
On Exit
Assignee
Deadline/Escalation
Com...
< >

---

Deadline \_\_\_\_\_

Hour(s) ▾

Escalation \_\_\_\_\_

Business Rule

Name

Description

Type Action

Scope None

Run as privileged

Operations
Dependencies
Applies if

[Add new Business Action](#)

Show Edited State

Business **actions** can also be executed on **transitions** between states:

Transition Editor

Edit

Events Condition **On Transition** Mandatory Data

Business Rule      

Name

Description

Type Action

Scope None

Run as privileged

Operations Dependencies Applies if

[Add new Business Action](#)

Show Edited Transition

Business **conditions** can be executed only on **transitions**:

Transition Editor

Edit

Events **Condition** On Transition Mandatory Data

Business Rule      

Name

Description

Type Condition

Scope None

Run as privileged

Operations Dependencies Applies if

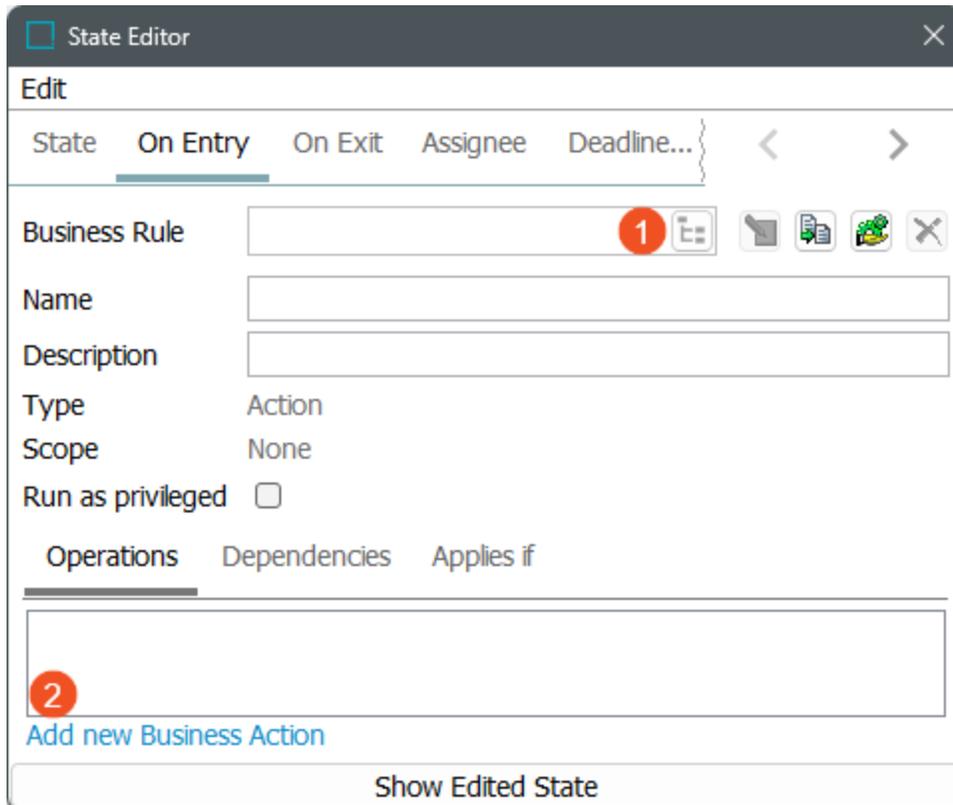
[Add new Business Condition](#)

Show Edited Transition

Regardless of the place the rule is applied, or whether it is a condition or an action, a few things are common to the editors and specific to the business rule editors within workflows.

To add a business rule to a workflow from *within* the STEP Workflow Designer:

- Click the ellipsis button () and select an existing rule (1) which allows users to choose from global rules.
- Click the **Add new Business Action / Add new Business Condition** link (2) to create a local business action



**Important:** Local business rules can only be used in the workflow where they were created.

If a rule could be re-used, it is generally better to create it as a global rule.

If a local rule has been created, it can be promoted to a global rule using the hand icon . This creates a global copy of the rule so that it can be used elsewhere.

If a global rule is selected, it can be edited using the edit icon , though care should be take with this as it results in changing the rule in *all* places where it is used.

If a global rule should be changed, it is often better to make a local copy of the rule using the copy button , ensuring that any changes made to the rule will only affect the current workflow.

Local business rules created or edited through the STEP Workflow Designer are saved when the workflow is saved. Global business rules are saved when changes are saved within the business rule editor.

## Workflow Business Rules in Operation

Each time a business action or condition is configured on a state or on a transition, the workflow has indicators to signal to the user where these business rules have been applied. The indicators are the following:

Indicator	Description
A (A)	A default assignee for a particular state (or workflow) has been assigned.
D (D)	A default deadline has been selected.
I (I)	Signals the configuration of an 'On Entry' action. It may help to remember this as 'I' for 'In' (e.g., into the state).
O (O)	Signals the configuration of an 'On Exit' action. It may help to remember this as 'O' for 'Out' (e.g., out of the state).
dotted transition line	Indicates a condition has been placed on the transition.
rounded end on transition	Indicates an action has been placed on the transition.

## Order of Operation

It is important to note the order of operation of the various rule types (condition or action) and where they are applied (entry, exit, transition, or deadline).

Consider an object going from a current state to a next state. Business rules are evaluated in this order:

1. Condition on transition exiting current state

**Note:** If more than one condition is present, they are evaluated in order. Multiple conditions could be present at exit from a single state using multiple events on a single transition, or by having multiple transitions exiting the same state. If a condition evaluates to false, additional conditions are evaluated (if present). The first event with a condition that returns true is the event / transition that is taken. If a condition returns false (and no subsequent transitions evaluate to true), the transaction is stopped and the task does not exit the state.

2. On exit action from current state
3. On transition action between current and next state
4. Default assignee on entry to next state (if assignee is set in workflow designer rather than using business rules)
5. Deadline set in next state
6. On entry action in next state

## More Information

This topic has provided a basic introduction to how business rules can be used in conjunction with workflows. Topics covering how to carry out all of the functions described in the above example can be found throughout the **Advanced Workflow Topics** section, in addition to other use cases and topics, including:

- Assigning Tasks Using Business Rules
- Auto-Routing Tasks in a Workflow
- Configuring Status Flags in Workflows
- Deadlines and Escalations in Workflows
- e-Signature in the Business Rules documentation(used to re-authenticate in a workflow)

*e-Signature functionality has been deprecated and is no longer supported and/or available for new installations. Additionally, the functionality is not available for SaaS customers (regardless of their version).*

- Java API for Workflows
- Remove Objects from Workflows
- Running Background Processes from Workflows
- Send Email from a Workflow
- Validate Data in a Workflow

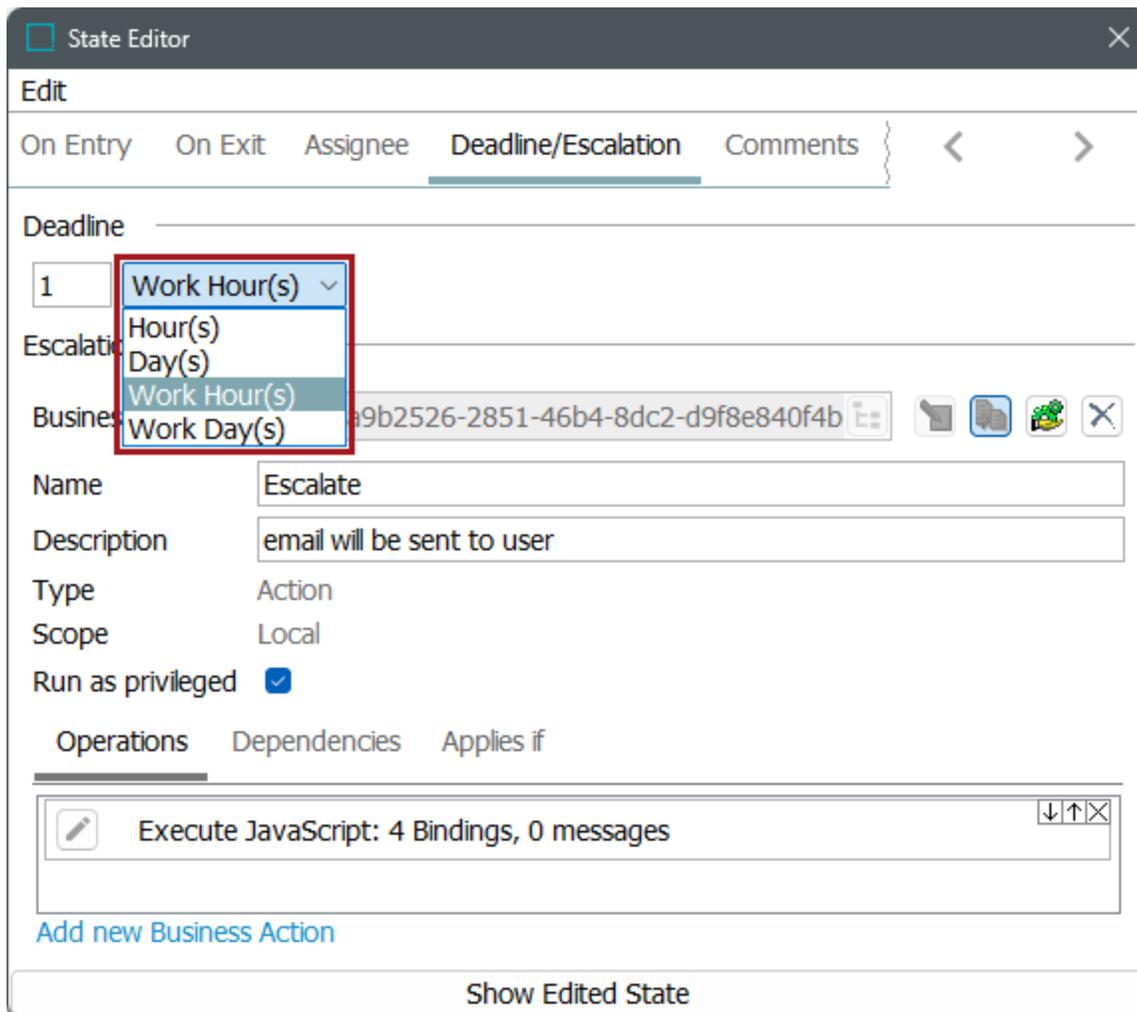
As business rules provide robust functionality to meet the individual needs of each customer, it will also be useful to view the Business Rules documentation to understand more advanced features, as well as the Scripting API section of the Technical Documentation accessible at [system]/sdk or from the Resources section of the system's Start Page.

## Deadlines and Escalations in Workflows

In the Workflow Designer a user can define a deadline for a state via the State Editor Deadline/Escalation tab. This is useful for a number of reasons, one of which might be to notify a supervisor, or task manager, if a deadline is not met for a particular task in a particular state. This may be important to know because if the task is late, it could impact many steps that come after it.

### Understanding Deadlines in the Workflow State Editor

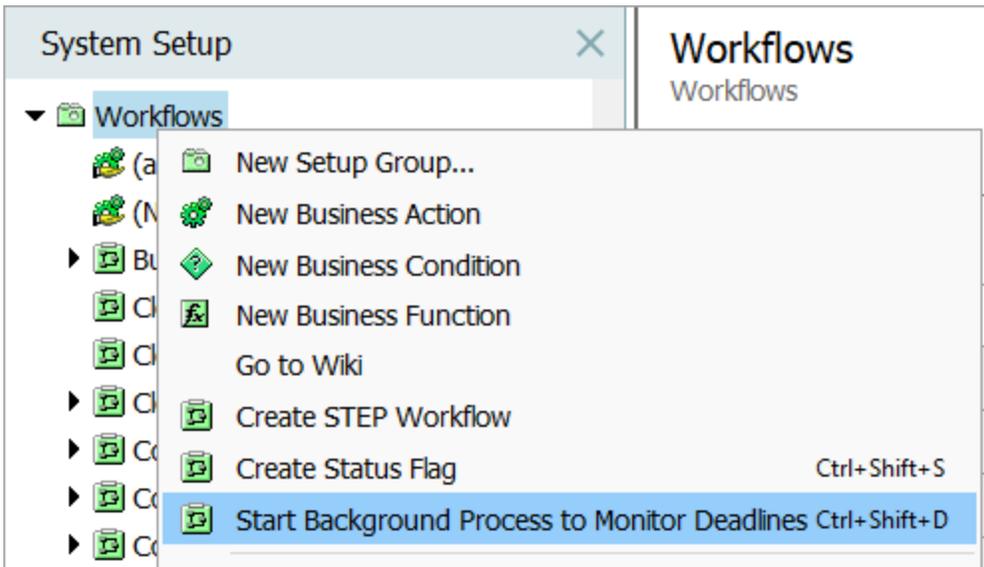
The deadline is set relative to the time an object enters the state. For example, if the deadline is set to '5 Hour(s)', an object entering the state at 6 a.m. will get the deadline set to 11 a.m. The available time periods are: Hour(s), Day(s), Work Hour(s), and Work Day(s). Work hours are hard-coded to be from 8 a.m. to 4 p.m., with work days being Monday to Friday (bank holidays and the like are not taken into consideration).



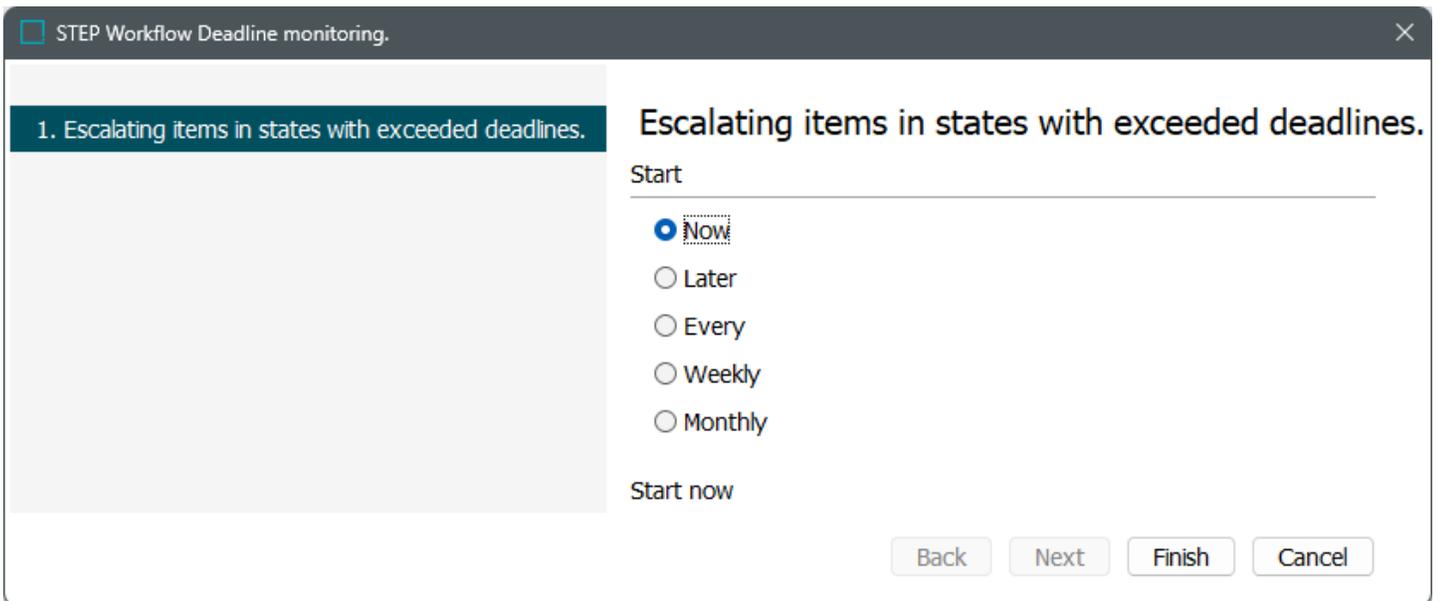
### Setting Up Deadlines for Workflows

1. In System Setup, navigate to the desired workflow, right-click on it, and select Edit STEP Workflow.
2. Right-click on the desired state and select Edit State.
3. In the State Editor dialog, select the Deadline/Escalation tab.

- Select a business action to be executed if the deadline is met and the background process for monitoring deadlines is run, then Save and Close the workflow.
- Run the monitoring background process: right-click the Workflows folder in System Setup and click 'Start Background Process to Monitor Deadlines.'



- On the 'Deadline monitoring' dialog, set the frequency to monitor deadlines.



This background process (BGP), which can be scheduled to run at specific intervals, can be started from any Setup Group in System Setup that can hold workflow objects and applies to all workflows.

- Navigate to the BG Processes tab to review the results of the monitoring in the StateflowDeadline node.

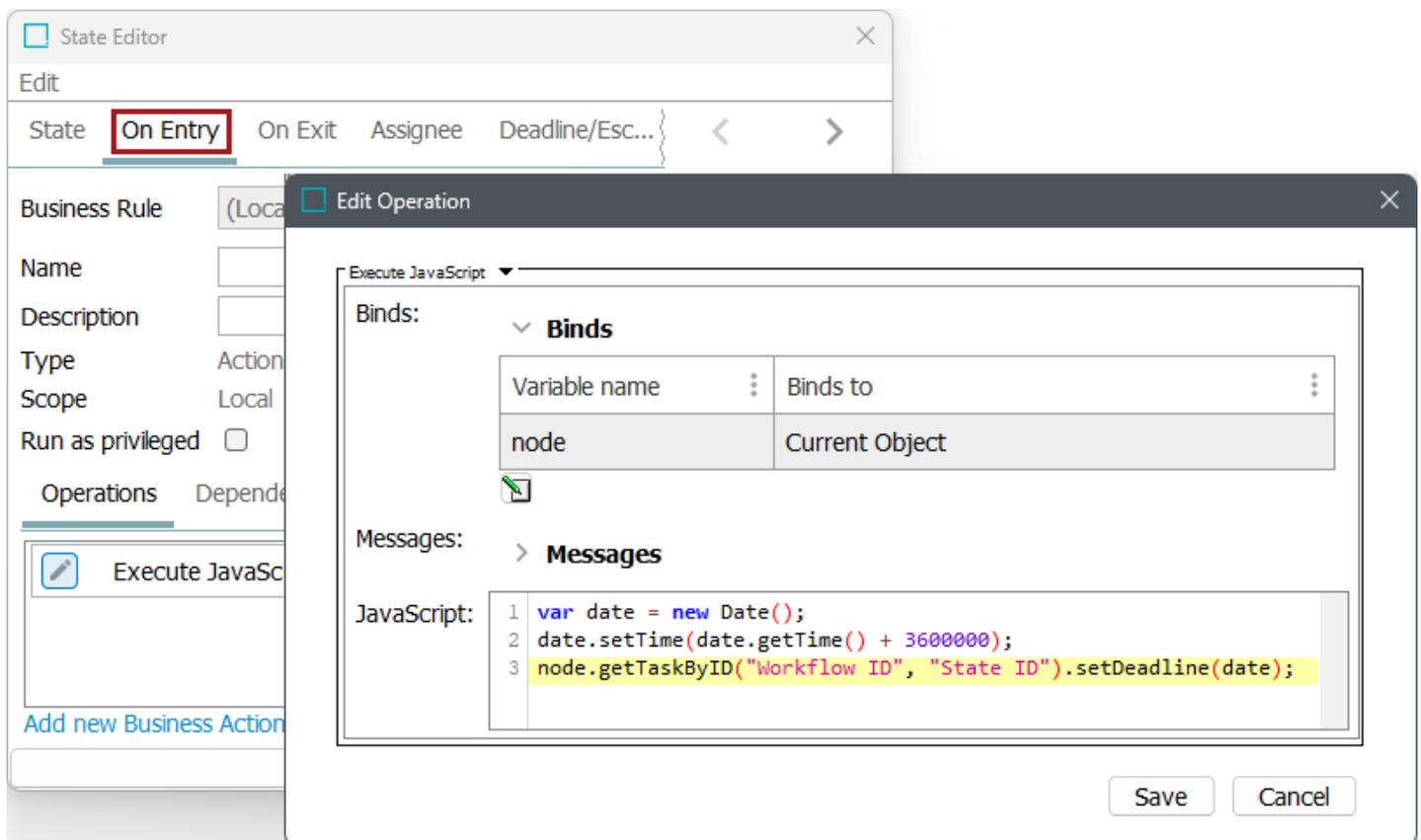
**Note:** Once the deadline has elapsed, the escalation rules will run every time the BGP set in the previous image looks for passed deadlines. For example, with a four-hour deadline and an 'Escalating Items' BGP set to start every 30 minutes, the escalation rules run with four hours have elapsed, and then again every 30 minutes until the object in this escalated status is moved to a new state.

## Business Actions for the Workflow On Entry Tab

As described in the Views and Mappings for Workflows topic, deadlines can be viewed and manipulated in views via the 'WorkflowDeadline' Component. In the public API, methods for getting and setting deadlines are available via the Task interface. Below is an example of how a deadline can be set to an hour from now in a business action in the On Entry tab.

```
var date = new Date();
date.setTime(date.getTime() + 3600000);
node.getTaskByID("Workflow ID", "State ID").setDeadline(date);
```

As the deadline is set via the Task interface, the above will only work from the state with ID 'State ID'. An example can be found in the image below:



When viewed in STEP Workflow, if a deadline is not yet met it looks like the image below:

The screenshot shows the 'STEP Workflow' window with two tabs: 'Tasks' and 'Profile'. The 'Tasks' tab is active, displaying a list of tasks under the heading 'Sample Workflow (3 states) with Variables':

Start	4
Do Work	2
Finish	0

Below this list is a section for 'Sample Workflow with Parallels'. To the right, the 'Mens T POY' item details are shown, including 'Revision: 0.3' and navigation options like 'Proof View', 'Classification Rules', 'Status', 'Log', 'State Log', and 'Tasks'. A table below lists properties for 'Mens T POY':

Name	Mens T POY
Object Type	Item
Deadline	The deadline: 2026-01-03 08:47:49 not reached

To remove a deadline from a business rule, set the deadline to null, as shown below:

```
node.getTaskByID("Workflow ID", "State ID").setDeadline(null);
```

## Editing Deadlines through Workflow Views and Mappings

Deadlines can also be set by editing the workbench views and mapping for a given workflow. To do so:

1. Open the desired workflow designer and go to Edit > **Edit Workflow Views and Mappings**.
2. On the applicable view, right-click the view and select **Add Column**.
3. In the Component dropdown, select **WorkflowDeadline**.

The screenshot shows the 'View Editor' window with the 'Edit' tab selected. The left pane shows a tree view of workflow components, including 'View: Copy Writing' with sub-items 'Aspect: id' and 'Aspect: name', and 'Column:Deadline (WorkflowDeadline)'. The right pane shows the 'Component' configuration for the selected 'Deadline' column:

- Title: Deadline
- Read Only
- Mandatory
- Component: WorkflowDeadline (selected from a dropdown menu)

The dropdown menu lists other available components: WorkflowAttachment, WorkflowDeadline, WorkflowLinkedName, WorkflowNoteColumn, WorkflowPlannedPage, WorkflowTaskColumn, WorkflowVariable, and WorkflowVariableUserList.

Once selected, the deadline can be set manually in the object itself via the object's Task tab, or in the STEP Workflows navigator tab.

**12-GGK79**  
Item • Revision: 0.4

its Commercial Tables Proof View Classification Rules Status Log State Log **Tasks**

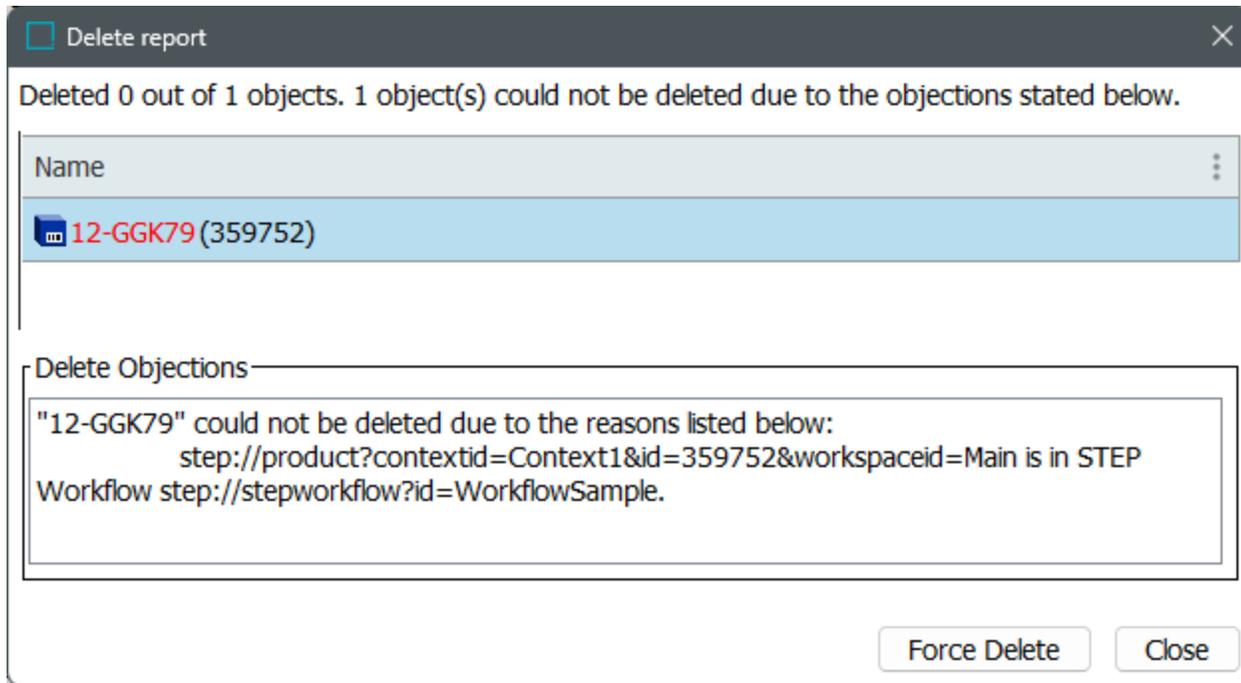
▼ **Sample Workflow (3 states) with Variables/Start (Super user)**

	12-GGK79	▼
Name	⋮	12-GGK79
Object Type	⋮	Item
Assignee	⋮	Group : Super Users
Deadline	⋮	No deadline has been set for this task 

**Note:** State Editor Deadline/Escalation tab allows a user to set the deadline for all the products in a particular state within the workflow, but the deadline set using the workbench views and mappings will apply for a particular product in a particular state in a workflow.

## Deleting Objects in Workflows

It is sometimes necessary to delete a product that is in a workflow. This could be for many reasons, including that the product is no longer needed or is discontinued. However, if the product is currently in a workflow and a user is trying to delete an object in a workflow, the user will be prohibited from doing so unless they 'force delete' the object.



The above message will include the list of workflows in which the product or entity exists. If the user chooses to force a deletion, it will not only delete the product / entity from the hierarchy but will also take it out from all workflows it is currently in.

**Note:** For objects that are not deleted directly, but put into the Recycle Bin, they will not be inserted into the states they were in prior to the deletion if revived.

A force deletion of a product that is currently in a workflow should only be done when a user is sure that the product / entity is no longer required.

Moving a product / entity to the Recycle Bin also takes the product / entity out of any workflows. However, if the product / entity needs to be revived from the recycle bin, once revived, it will not automatically be restored into any workflows and states that it was in initially. If it is desired that the product / entity that was revived from the Recycle Bin go back into any workflows it once was in, check the 'Initiate automatically' option in System Setup on the STEP Workflow Editor tab for all workflows that need that particular product / entity again.

**System Setup** ✕

- ▼ Workflows
  - High Priority
  - ▶ Image Deduplication
  - ▶ Initiate Supplier Contact
  - ▶ Initiate Supplier Product
  - ▶ Item Creation
  - ▶ Item Enrich
  - Low
  - Marketing Product
  - ▶ Order Process
  - ▶ Print Workflows
  - ▶ **Shipment Order Process**
  - ▶ UnmergeItems

### Shipment Order Process

STEP Workflow Type • Revision: 0.144

STEP Workflow Editor    Validity    Status    Log

	Name		Value
⋮	ID		11123
⋮	Name		Shipment Order Process
⋮	Revision		0.144 Last edited by USERJ on
⋮	Initiate automatically		<input type="checkbox"/>
⋮	Listen on updates from import		<input type="checkbox"/>
⋮	Use executing user's write privileges		<input type="checkbox"/>
⋮	Disable transitions on terminated Workspaces		<input type="checkbox"/>

If auto-initiation is turned on for the workflow, a new instance will be created when a product / entity has an object type that is valid for a particular workflow, and the product / entity is automatically initiated into that workflow.

## Edit a Workflow in Use

Once a workflow has been created and is in use, it may be necessary to change it. If the workflow is not yet in use (e.g., there are no active tasks for the workflow, or the workflow is in a test state only and not yet released for production), editing a workflow does not require any special considerations.

General information on creating and editing workflows can be found in the Getting Started with STEP Workflows documentation, specifically in the Creating a Workflow and STEP Workflow Designer topics.

This topic provides guidance specifically on editing workflows that are already in production and/or contain active tasks.

### Important considerations before editing a workflow in use

- When there are objects in a workflow, certain changes to the workflow are prohibited as they could cause disruption to the tasks within them. Thus it is not possible to rename, delete, or change the state characteristics of any states that have tasks within them. In addition, states with active tasks cannot be moved inside or taken out of a cluster or parallel, and parallels may not have new clusters added.
- It is best to receive advice and guidance from a STEP expert before making changes to a live workflow.
- It is always recommended to duplicate the existing workflow, do the necessary modifications in the duplication, test it, and then apply the same changes to the workflow in use.
- If the required changes are significant, it may be best to process all existing tasks in the workflow, and make sure that no new tasks are added, before the changes are made to the workflow.
- Already existing business rules should be taken into consideration when editing a workflow. It is possible for a rule to rely on a state that is deleted, event that is changed, etc that could prevent the rule from working following updates to the workflow. It is important to evaluate all existing business rules following changes to a workflow, and to test those that may have been impacted.

## Exporting Workflow Definitions

To move workflow configurations between systems and/or to compare workflow definitions using external source control systems, workflow definitions can be exported using STEPXML and Advanced STEPXML. Depending on the intended use of the output file, the appropriate method should be selected.

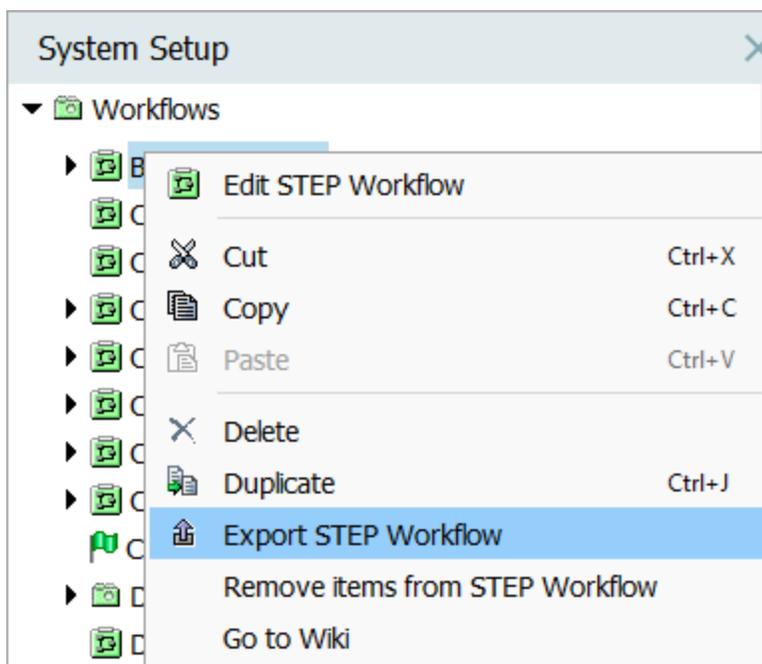
**Note:** Workflow definitions can be exported as comments and submitted to an external source control system for comparison purposes. For details, refer to the Configuration Management documentation.

## Loading Workflow Configurations on Another System

Workflow definitions (including global and local business rules used by the workflow) can be exported in several ways. The simplest of these is described. Exports carried out in this manner provide an encoded workflow definition that, while not necessarily human-readable, provides all necessary information to replicate the workflow on another STEP system.

A workflow definition (including used global and local business rules) can be exported in STEPXML.

1. Right-click on the workflow object in System Setup and selecting **Export STEP Workflow** from the menu.



2. In the pre-configured Export Manager wizard, proceed to the Select Format step and select **STEPXML** from the dropdown.

Alternatively, select **Advanced STEPXML** from the dropdown to display a pre-populated Template that produces the same results.

3. Set the Configuration > **Include Business Rules (Global) and Libraries** parameter to 'Referenced' so that all global business rules used in the workflow will be included in the export.

**Export Manager** [Close]

1. Select Configuration  
2. Select Objects  
**3. Select Format**  
4. Map Data  
5. Advanced  
6. Select Delivery Method

### Select Format

STEPXML

Exports data in a STEP Product Information XML format. Note that this format ignores the leaf products only setting.

Include Attribute Transformations	No
Include Bulk Update Configurations	No
Include Business Rules (Global) and Libraries	Referenced
Include Collection Definitions	No

Back Next Finish Cancel

**Note:** Local business rules are exported nested in the STEP Workflow element and will always be included.

- Set the Configuration > **Include Workflows** parameter to 'All' so that the selected workflow is exported.

**Export Manager** [Close]

1. Select Configuration  
2. Select Objects  
**3. Select Format**  
4. Map Data  
5. Advanced  
6. Select Delivery Method

### Select Format

STEPXML

Exports data in a STEP Product Information XML format. Note that this format ignores the leaf products only setting.

Include Web UI Configurations	None
Include Workflows	All
Include Workflow Profiles	None
Include Publishing	
Include Publication Groups	

Back Next Finish Cancel

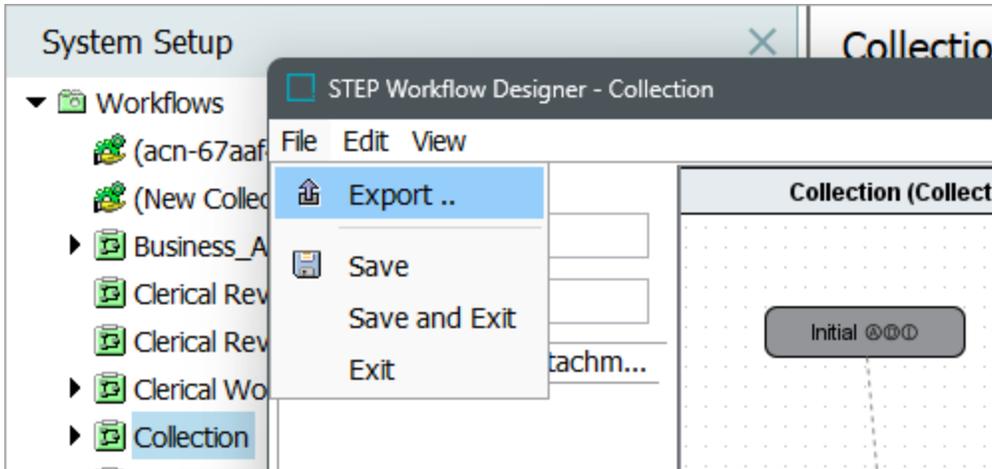
- Navigate through the wizard, making any other required settings, and click **Finish**.

The exported STEPXML file can be imported on another STEP system via the standard Import Manager.

## Export in the SCXML Format

**Note:** The export option on the workflow designer File menu exports the SCXML on which the workflow is based. This option is for debugging only and should not be used to transfer workflow configurations between systems.

1. On the System Setup tab, right-click the workflow and click the Edit STEP Workflow option.
2. In the STEP Workflow Designer window, click File and click Export.
3. Select the path in which the file is to be saved



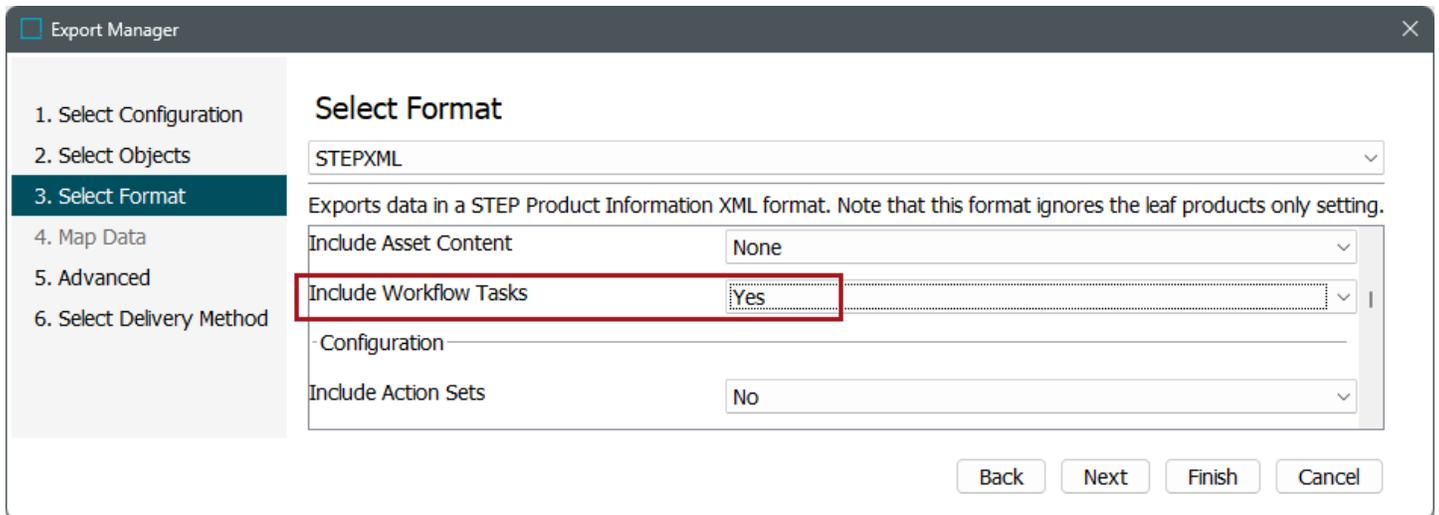
## Exporting Workflow Statuses

When exporting products, classifications, assets, and entities it is possible to have workflow related information included in the exported file.

Workflow status export (STEPXML or Excel) is a kind of meta data information to communicate with the other systems. For example, in the case of translation XML, the workflow states will act as a flag to match the status in other systems.

When exporting STEPXML, the option to include the information is found on the Select Format page, using the Data Objects > **Include Workflow Tasks** parameter. If set to 'yes', then each object in the exported STEPXML will have a CurrentTasks element with information similar to what is shown below.

```
<CurrentTasks>
  <Task STEPWorkflowID="Item Introduction" StateID="Technical_Specifications"
AssigneeID="Technical Writers" AssignedToGroup="true" EntryTime="2012-10-18 11:31:39"
Priority="-1"/>
  <Task STEPWorkflowID="StateReporting1" StateID="A_Parallel" AssigneeID="Super user"
AssignedToGroup="true" EntryTime="2012-10-31 12:30:56" Priority="-1"/>
  <Task STEPWorkflowID="StateReporting1" StateID="C1" AssigneeID="Super user"
AssignedToGroup="true" EntryTime="2012-10-31 12:30:56" Priority="-1"/>
  <Task STEPWorkflowID="StateReporting1" StateID="C1-Final" AssigneeID="Super user"
AssignedToGroup="true" EntryTime="2012-11-06 12:48:50" Priority="-1"/>
  <Task STEPWorkflowID="StateReporting1" StateID="C2" AssigneeID="Super user"
AssignedToGroup="true" EntryTime="2012-10-31 12:30:56" Priority="-1"/>
  <Task STEPWorkflowID="StateReporting1" StateID="C2-Initial" AssigneeID="Super user"
AssignedToGroup="true" EntryTime="2012-10-31 12:30:56" Priority="-1"/>
  <Task STEPWorkflowID="StateReporting2" StateID="Some_State" AssigneeID="Super user"
AssignedToGroup="true" EntryTime="2012-11-05 14:45:18" Priority="-1"/>
</CurrentTasks>
```



The screenshot shows the 'Export Manager' dialog box with the 'Select Format' tab selected. The format is set to 'STEPXML'. Below the format selection, there are several configuration options:

- Include Asset Content: None
- Include Workflow Tasks: Yes** (highlighted with a red box)
- Configuration: (collapsed)
- Include Action Sets: No

At the bottom of the dialog, there are four buttons: Back, Next, Finish, and Cancel.

For more information about exporting in STEPXML format, refer to STEPXML Outbound Parameters in the Data Exchange documentation.

The same information can be included in column based exports, but data must be mapped into columns for each workflow of interest. When exporting in Excel format, to specify the type of workflow related data goes into a column, on the Map Data step, use the transform button for the value part. For details on this setup, refer to the STEP Workflow Task Info - Data Source Outbound topic in the Data Exchange documentation. For more information about exporting data in Excel format, refer to the Excel Format topic of the Data Exchange documentation.

## Workflows and LOVs

An LOV can be initiated into and/or removed from a workflow the same way as products, classification, entities, and assets. LOVs can be assigned to a respective user or user group to update the LOV values, similar to the enrichment of product attributes.

The workflow must be valid for the LOV object type 'Domains' as shown in the image below.

### Contract Agreements

STEP Workflow Type

STEP Workflow Editor   Validity   Status   Log

---

- > **Valid for Attribute Types**
- > **Valid for Classification Types**
- > **Valid for Entity Types**
- ▼ **Valid for List of Values Types**

- All**
- Domains

- > **Valid for Asset Types**
- > **Valid for Product Types**
- > **Valid for Publication Types**
- > **Valid for Publication Planned Page Types**
- > **Valid for Publication Section Types**

Domains are the only object type for LOVs and are found in the workbench in System Setup > Object Types & Structures > Basic Object Types > List Of Values Group Type (as shown in the image below).

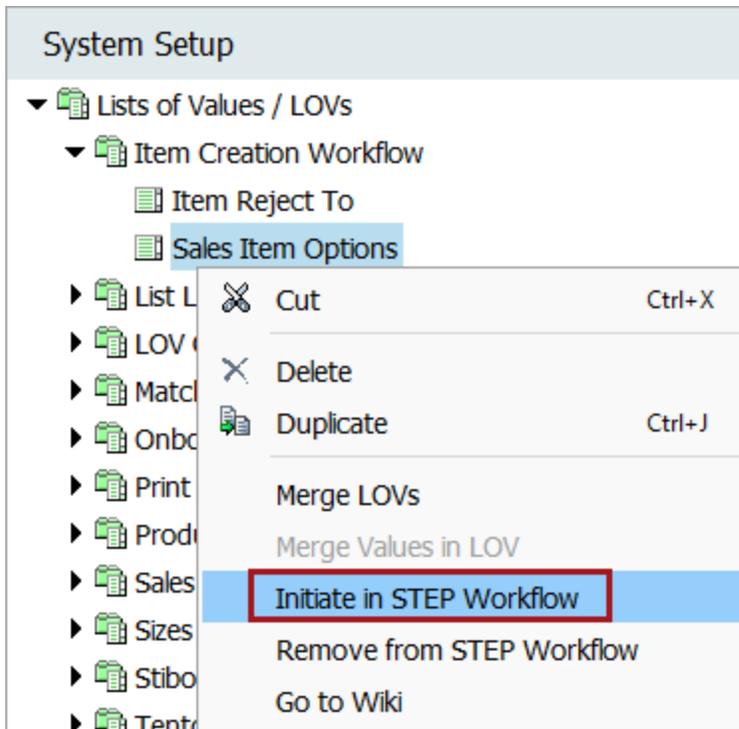
### System Setup

-  Inbound Integration Endpoint Type
-  Incoming Entity Data Quality Policy
- ▶  InDesign Document
-  Key
- ▼  List Of Values Group Type
  -  Domains
-  List Processing Configuration

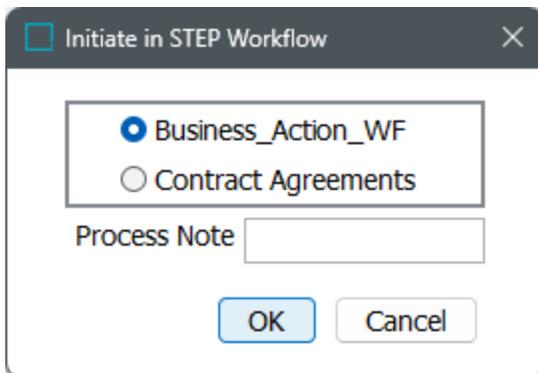
## Initiate an LOV in a Workflow

Below are steps to initiate one LOV to a workflow, however more than one LOV can be initiated to the same workflow.

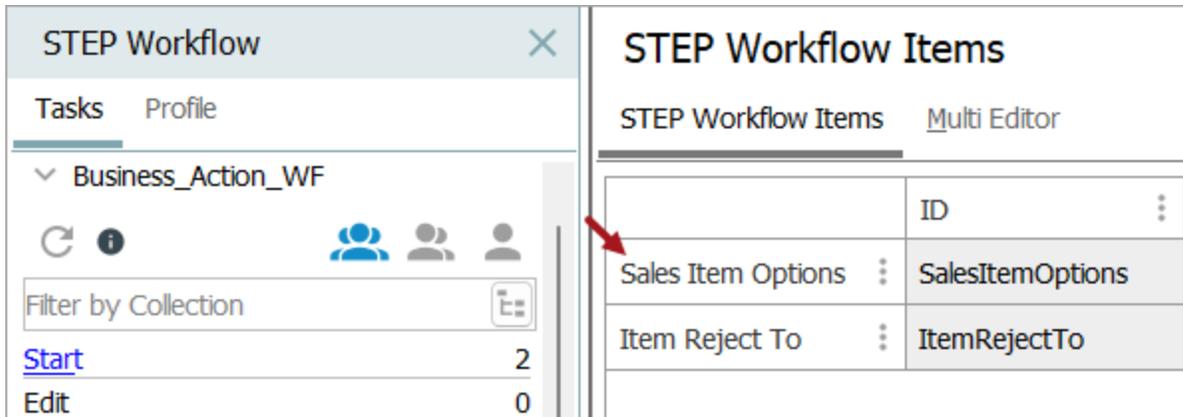
- Right-click on an LOV, and select 'Initiate in STEP Workflow.'



- In the STEP Workflow dialog, only those workflows configured with validity for Domains (LOVs) are displayed. Select the appropriate workflow, optionally enter text within the Process Note parameter, and click the **OK** button.



The LOV has now been initiated into the workflow. This can be viewed by going to STEP Workflow > Expanding the respective workflow section and selecting the workflow state. The workflow editor will display. Click the STEP Workflow Items tab and the LOV will display.

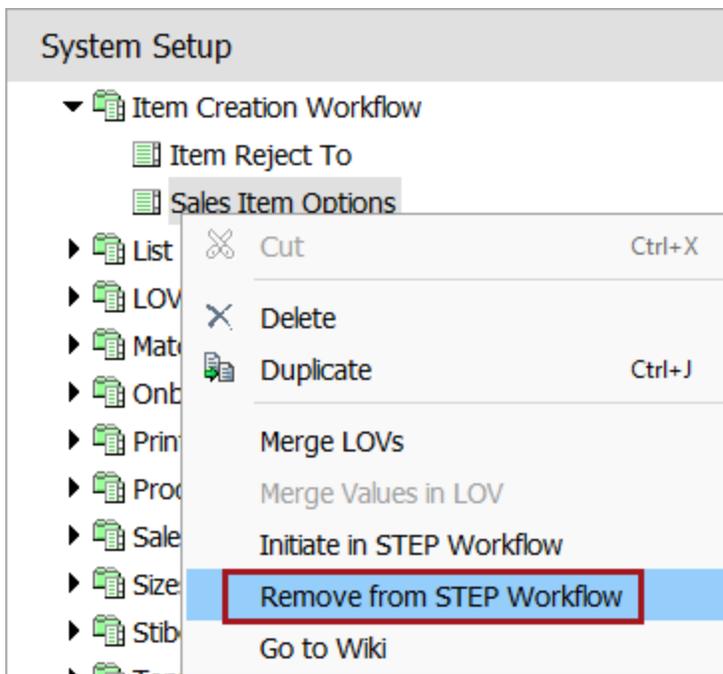


For more information, refer to the Working with Tasks in Workflows topic of the Workflows documentation.

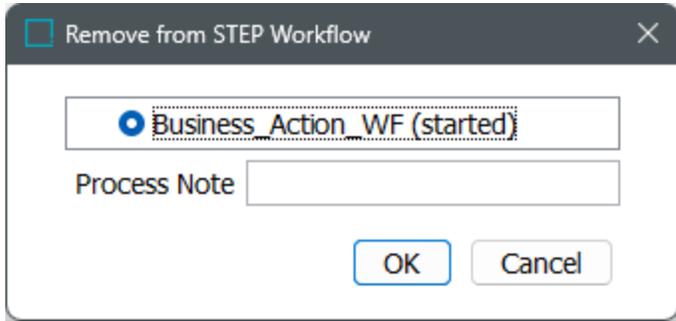
### Remove an LOV from a Workflow

Below are steps to remove an LOV from a Workflow.

- Right-click on the LOV which is already in a workflow, and select the option 'Remove from the STEP Workflow' as shown below.



- The Remove from STEP Workflow dialog will display with the workflow in which the LOV has been initiated for. If required add text to the Process Note parameter, then click the **OK** button to remove the LOV from the workflow.



For more information on workflows, refer to the Workflows documentation.

## Java API for Workflows

Complete documentation for API functionality related to workflows can be found in the API documentation accessible at [system]/sdk or by clicking the **Technical Documentation** button on the Start Page. This topic provides some introductory information and simple examples, but should not be considered comprehensive.

In the Public Java API "WorkflowableNode" is the main interface for Workflow related functionality. All the "workflowable" node types inherit the interface and thus you can call the available methods from the node shorthand.

If, for instance, you wanted to get the time where an object entered a specific state, on entry to the state you could have a business action with a script like the one below, storing the entry time in the script variable "entryTime".

```
var entryTime = node.getTaskByID("Workflow ID", "State ID").getEntryTime();
```

The getTaskByID() method from the WorkflowableNode interface is called on node. This returns a Task that has the getEntryTime() method (refer to the Task interface).

This script only works if the object is actually in the workflow with the specified ID and in the state with the specified ID.

From a business rule used in a workflow (e.g., a local rule within the workflow itself), you can typically be pretty sure that the object is in fact in the workflow. However, if you run from a business rule used elsewhere in STEP and wanted to check whether an object was in a given flow, you could write something like:

```
if(node.getWorkflowInstanceByID("Workflow ID")) {  
    // Object is in Workflow - do something  
}  
else {  
    // Object is not in Workflow - do something else  
}
```

Thus, if the object is not in the workflow, the method returns "null" - a "false" value in JavaScript.

While in the entry time example above you could be sure that you were in the workflow, likewise if you ran the script on entry to the state referenced with "State ID", you could be sure that you were in that state. However, if you are working with parallels, to do something with a task on a state that is not the same as the one you are running the business rule from. In that case it would make sense to start your script with a check for whether your object is actually in that other state:

```
var task = node.getTaskByID("Workflow ID", "ID of another State");  
if(task) {  
    var entryTime = task.getEntryTime();  
}  
else {  
    logger.warning("Object with ID '" + node.getID() + "' is not in expected State");  
}
```

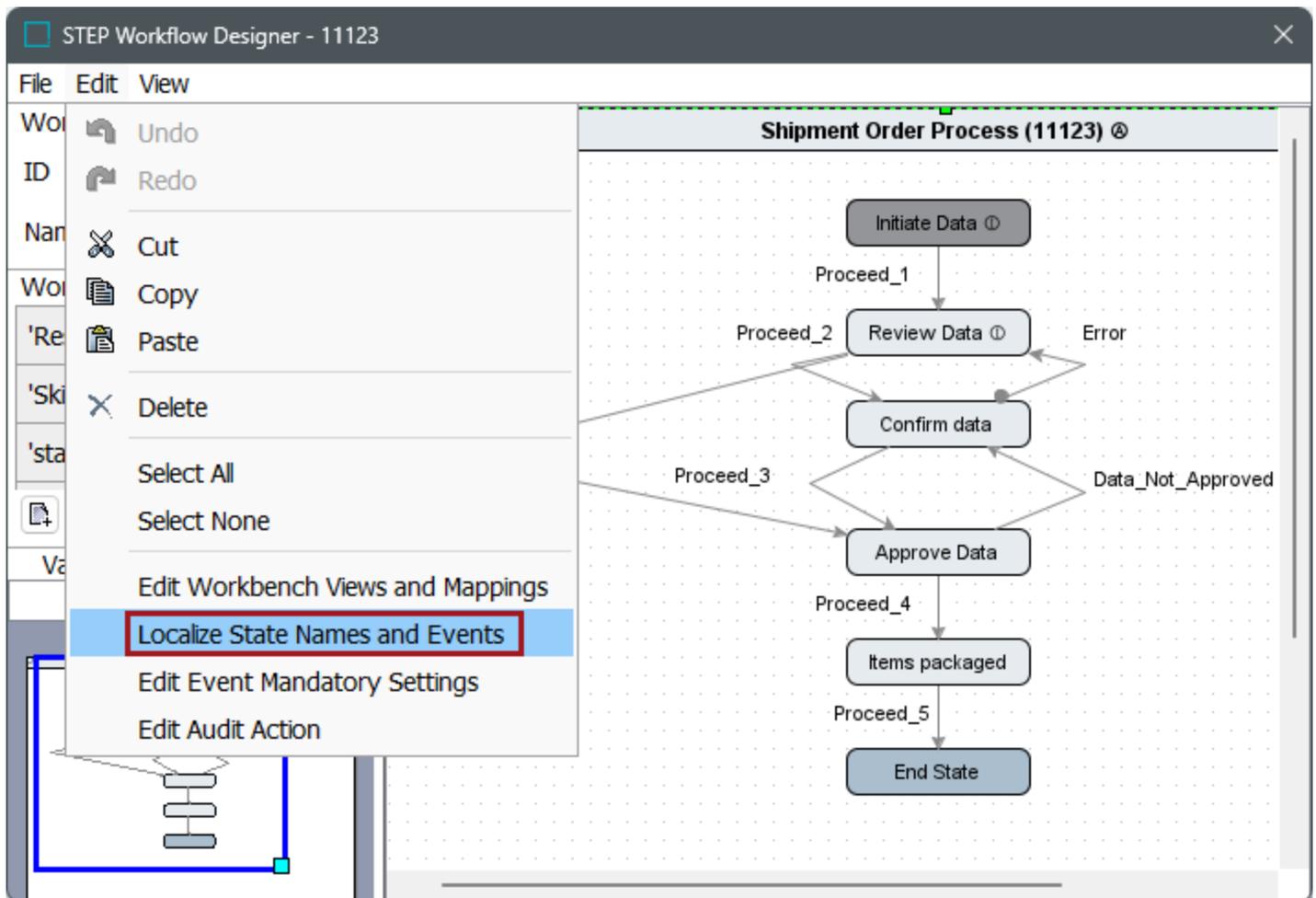
The two primary interfaces available through the WorkflowableNode interface are Task and WorkflowInstance. Via the Task interface you have methods available that relate to a given object-in-state-in-workflow relation. WorkflowInstance meanwhile gives you access to the methods relating to the object-in-workflow relation. In the Workflow Variables topic, the concept of workflow variables is described. These variables live on the object-in-workflow relation and can thus be manipulated via the WorkflowInstance interface.

## Localizing Workflow State Names and Events

End users interact with STEP in many languages. Though a workflow may be initially created in one language, end users may use a different language and would therefore prefer to view workflow state names and events in a different language. This is possible using the Localize State Names and Events options in the STEP Workflow Designer. With this functionality, workflow designers can create a single workflow that includes localized workflow state names and events, thus eliminating the need to maintain multiple workflows for localization purposes.

To localize workflow state names or events:

1. From the System Setup tab, select the relevant workflow, right-click, and select **Edit STEP Workflow**.
2. From the Edit menu in the STEP Workflow Designer, select **Localize State Names and Events**.



3. Enter the localized values for each state name and/or event, as shown with the Spanish entries below.

☐ Localize State Names and Events			
State Names		Events	
ID	Name	sp	
State-1	Initiate Data	Empezar	
State-2	Review Data	Revision	
State-3	Confirm data		
State-4	End State	Fin	
State-6	Approve Data		
State-7	Items packaged		

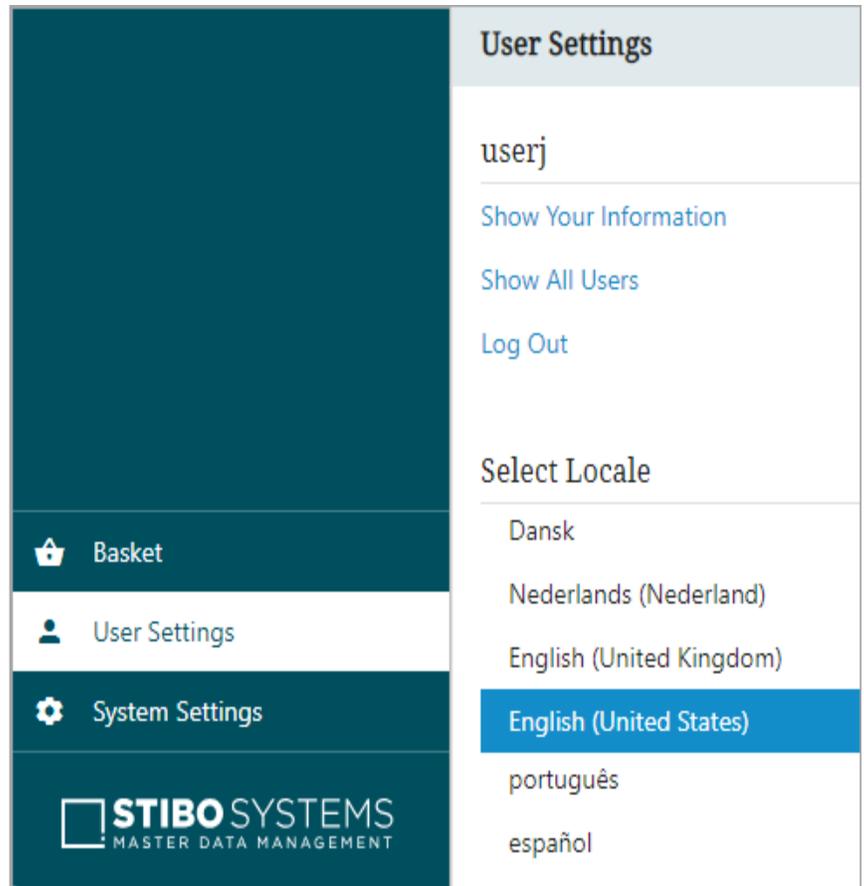
**Note:** The languages available for translation are determined by two things: Translated the workbench instances and the locales available in the Web UI. Web UI locales are determined by the portal messages files in the PortalLocales folder. The PortalLocales folder can be found on the application server in the location specified by the Portal.Localizer.Folder property in the shared-config.properties file.

Localized values entered in the workflow designer appear when users access a workflow in the relevant locale-specific Web UI or in a translated instance of the STEP Workbench. Within the workbench, this includes but is not limited to: STEP Workflow tab, object Status and State Log tabs, and dropdown search options when using a STEP Workflow search criteria.

For example, a user logging in to the Spanish workbench or Web UI locale (or selecting a locale from the Web UI User Settings menu) would view the corresponding localized values entered in the workflow designer.

### Resources

- STEP workbench (Danish)
- STEP workbench (English)
- STEP workbench (French)
- STEP workbench (Spanish)

**Note:** Changing the Context selection in the workbench does not have any impact on the display of localized state names or events.

## Considerations and Limitations

- The name of the workflow itself is not translatable via this feature as this is driven by context. If the context being viewed employs a different language than the translated workbench instance or selected Web UI locale, this could result in displaying the name of the workflow itself and the states and/or events within the workflow in different languages.
- Offline translation of state names and events via export / import is not supported. Exports of workflows with localized state names or events include the localized values and import to new systems will reflect the localizations. If an imported workflow contains *more* locales than the target system, only locales common to both systems are displayed. If a new locale is later added on the target system and localized values exist for it via previous import, the localized values will display. If an imported workflow contains *fewer* locales than the target system, translations on the target system that are existing will be deleted, since the imported workflow definition will be identified as the governing workflow.

## Mandatory Attributes, References, and Variables in Workflows

Workflow mandatory attributes and references are one of the most common ways to set up mandatory attributes. The primary benefits to using this functionality are:

- Designers are given the freedom to make the right data mandatory at the right time (as opposed to using approval mandatory settings)
- Mandatory settings are configured a single time in the STEP Workflow Designer and take effect across all interfaces (the workbench, Web UI, and Smartsheets), without requiring any additional configuration
- Functionality includes both visual indicators and user-facing messages at the time of enforcement (e.g., when a task is submitted from a state)

Essentially, workflow mandatory attributes provide a combination of the functionalities described above as they provide both visual indicators and enforcement, and do so across the workbench, Web UI, and Smartsheets, as well as allowing for attributes to be conditionally mandatory in all of these interfaces. Because of this, workflow mandatory is the preferred method for handling mandatory attributes. However, this method is of course only available when data is being populated within a workflow, so when this is not the case, the other mandatory attribute settings described in this topic can be used.

This topic describes the functionality for making attributes, attribute groups, and references mandatory specifically within a workflow state or for a particular workflow transition.

Additionally, this topic also describes how to make workflow variables mandatory. Workflow variables configured in the workflow designer will be applied to the workbench, the Web UI, and Instrument, but only in Instrument, and only when configured on workflow states, will the workflow variable be accompanied with a red asterisk. In the workbench and the Web UI, a mandatory workflow variable will not display with a red asterisk, but attempts to submit an object into the next workflow state will be unsuccessful if no value has been added for the variable.

### Prerequisites

In using this functionality, it may also be helpful to understand the other mandatory attribute settings (e.g., those that are *not* specific to objects within a workflow). For more information on general mandatory attribute settings, refer to the Mandatory Attributes topic in the System Setup documentation.

For mandatory **references**, there is no general functionality, other than business rules, to make references mandatory for objects that are not specifically in a workflow. However, references can be made mandatory in **Smartsheets** without the need for business rules to enforce their population. For more information on mandatory references in Smartsheets, refer to the Mandatory Attributes and References in Smartsheets topic in the Data Exchange documentation.

## Setting up Workflow State Mandatory Data

Users can specify which **attributes**, **attribute groups**, and **references** are mandatory for a selected workflow state via the State Editor.

### Setting up Workflow State Mandatory Attributes

The following steps describe how to specify which attributes and attribute groups are mandatory for a workflow state via the State Editor.

Mandatory attributes configured on a state will be marked with an asterisk when working in the Web UI. Mandatory attributes configured on a state will be marked with an asterisk in the *workbench* **only** if the 'Mandatory' checkbox is selected when adding the attribute to the workbench view. For more information, refer to the Configuring Views for Workflows topic.

**Note:** No markers are displayed to indicate mandatory attributes for workflow *transitions*.

1. In **System Setup**, locate and select the desired workflow.
2. Right-click and select **Edit STEP Workflow**.
3. In the STEP Workflow Designer, select the relevant state, then right-click and select **Edit State** to edit the state.
4. Select the **Mandatory Data** tab in the State Editor.

The screenshot shows the 'State Editor' window with the 'Mandatory Data' tab selected. The interface is divided into several sections:

- Mandatory Attribute Groups:** A table with columns: ID, Name, Include Referen..., and Condition. One row is visible: 'Marketing Approver...' with a checked checkbox in the 'Include Referen...' column. Below the table is a button labeled 'Add Attribute Group'.
- Mandatory Attributes:** A table with columns: ID, Name, and Condition. Three rows are visible: 'Date', 'Co-op', and 'PvP'. Each row has an ellipsis button in the 'Condition' column. Below the table is a button labeled 'Add Attribute'.
- Mandatory References:** A section with a right-pointing chevron and the text 'Mandatory References'.
- Mandatory Workflow Variables:** A section with a right-pointing chevron and the text 'Mandatory Workflow Variables'.
- At the bottom of the editor is a button labeled 'Show Edited State'.

5. Click **Add Attribute Group** or **Add Attribute** to add an attribute or attribute group to the list of mandatory attributes.
6. If the mandatory status of an attribute or attribute group needs to be determined by a business condition, click the ellipsis button (⋮) next to the applicable attribute or attribute group. In the Mandatory Condition editor, configure an appropriate business condition or select a global business rule.

**Note:** Unless the condition returns 'False,' the attribute will remain mandatory.

For more information about conditionally mandatory attributes, refer to the Conditionally Mandatory Attributes and References in Workflows topic.

7. **Save** the workflow.

If any mandatory attributes are missing when submitting an object in the workbench or the Web UI, an error message listing all missing mandatory attributes will appear, preventing the user from progressing through the workflow. For more information on how the Web UI handles this, refer to the Workflow Mandatory Attributes in Web UI topic in the Web User Interfaces documentation.

In Excel Smartsheets, users will receive an error message when validating a sheet with missing mandatory attributes. For more information, refer to the Mandatory Attributes and References in Smartsheets topic in the 'Excel Smartsheet Format' section of the Data Exchange documentation.

## Setting up Workflow State Mandatory References

Mandatory references are set up in a similar way to mandatory attributes in the State Editor. Mandatory references configured on a state will be marked with an asterisk in the following Web UI components:

- References
- Reference Value
- Reference Header
- Referenced Asset Representation
- Classification Links
- Classification Product Links

**Note:** No markers are displayed to indicate mandatory references for workflow *transitions*.

1. In **System Setup**, locate and select the desired workflow.
2. Right-click and select **Edit STEP Workflow**.
3. In the STEP Workflow Designer, select the relevant state, then right-click and select **Edit State** to edit the state.
4. Select the **Mandatory Data** tab in the State Editor.

State Editor

Edit

Deadline/Escalation Comments Web UI Screen Mapping **Mandatory Data**

▼ **Mandatory Attribute Groups**

ID	Name	Include References	Condition
MarketingApproverA...	Marketing Approver,...	<input checked="" type="checkbox"/>	
<a href="#">Add Attribute Group</a>			

> **Mandatory Attributes**

▼ **Mandatory References**

ID	Name	Condition
MerchandisingLink	Merchandising Link	
ProductImage	Product Image	Multiplayer Condition
Additional Digital Assets and ...	Additional Digital Assets and ...	
<a href="#">Add Reference</a>		

> **Mandatory Workflow Variables**

Show Edited State

5. Click **Add Attribute Group**, then check the **Include References** box to make all references contained in the attribute group mandatory for the workflow state.
6. Click **Add Reference** to add a reference to the list of mandatory references.
7. If the mandatory status of a reference or references within an attribute group need to be determined by a business condition, click the ellipsis button (  ) next to the applicable reference or attribute group. In the Mandatory Condition editor, configure an appropriate business condition or select a global business rule.

**Note:** Unless the condition returns 'False,' the reference will remain mandatory.

For more information about conditionally mandatory references, refer to the Conditionally Mandatory Attributes and References in Workflows topic.

8. **Save** the workflow.

If any mandatory references are missing when submitting an object in the workbench or Web UI, an error message listing all missing mandatory references will appear, preventing the user from progressing through the workflow.

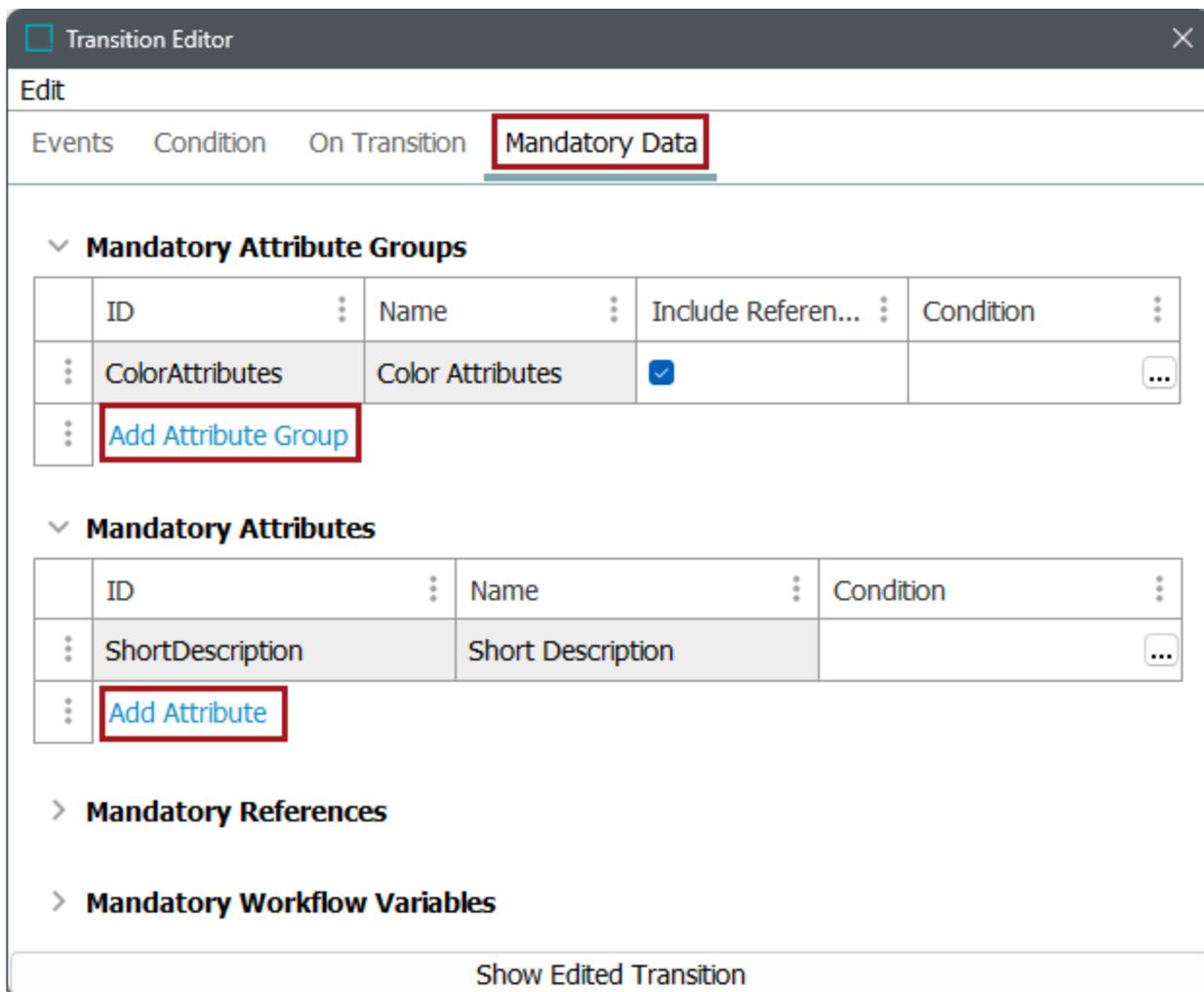
In Excel Smartsheets, users will receive an error message when validating a sheet with missing mandatory references. For more information, refer to the Mandatory Attributes and References in Smartsheets topic in the Data Exchange documentation.

## Setting up Workflow Transition Mandatory Data

Users can specify which **attributes**, **attribute groups**, and **references** are mandatory on workflow transitions via the Transition Editor.

### Setting up Workflow Transition Mandatory Attributes

1. In **System Setup**, locate and select the desired workflow.
2. Right-click and select **Edit STEP Workflow**.
3. In the STEP Workflow Designer, select the relevant transition, then right-click and select **Edit Transition** to edit the transition.
4. Select the **Mandatory Data** tab in the **Transition Editor**.



**Transition Editor**

Edit

Events Condition On Transition **Mandatory Data**

▼ **Mandatory Attribute Groups**

ID	Name	Include Referen...	Condition
ColorAttributes	Color Attributes	<input checked="" type="checkbox"/>	
<a href="#">Add Attribute Group</a>			

▼ **Mandatory Attributes**

ID	Name	Condition
ShortDescription	Short Description	
<a href="#">Add Attribute</a>		

> **Mandatory References**

> **Mandatory Workflow Variables**

Show Edited Transition

5. Click **Add Attribute Group** or **Add Attribute** to add an attribute group / attribute to the list of mandatory attributes.
6. If the mandatory status of an attribute needs to be determined by a business condition, click the ellipsis button () next to the applicable attribute. In the Mandatory Condition editor, configure an appropriate business condition or select a global business rule.

**Note:** Unless the condition returns 'False,' the attribute will remain mandatory.

For more information about conditionally mandatory attributes, refer to the Conditionally Mandatory Attributes and References in Workflows topic.

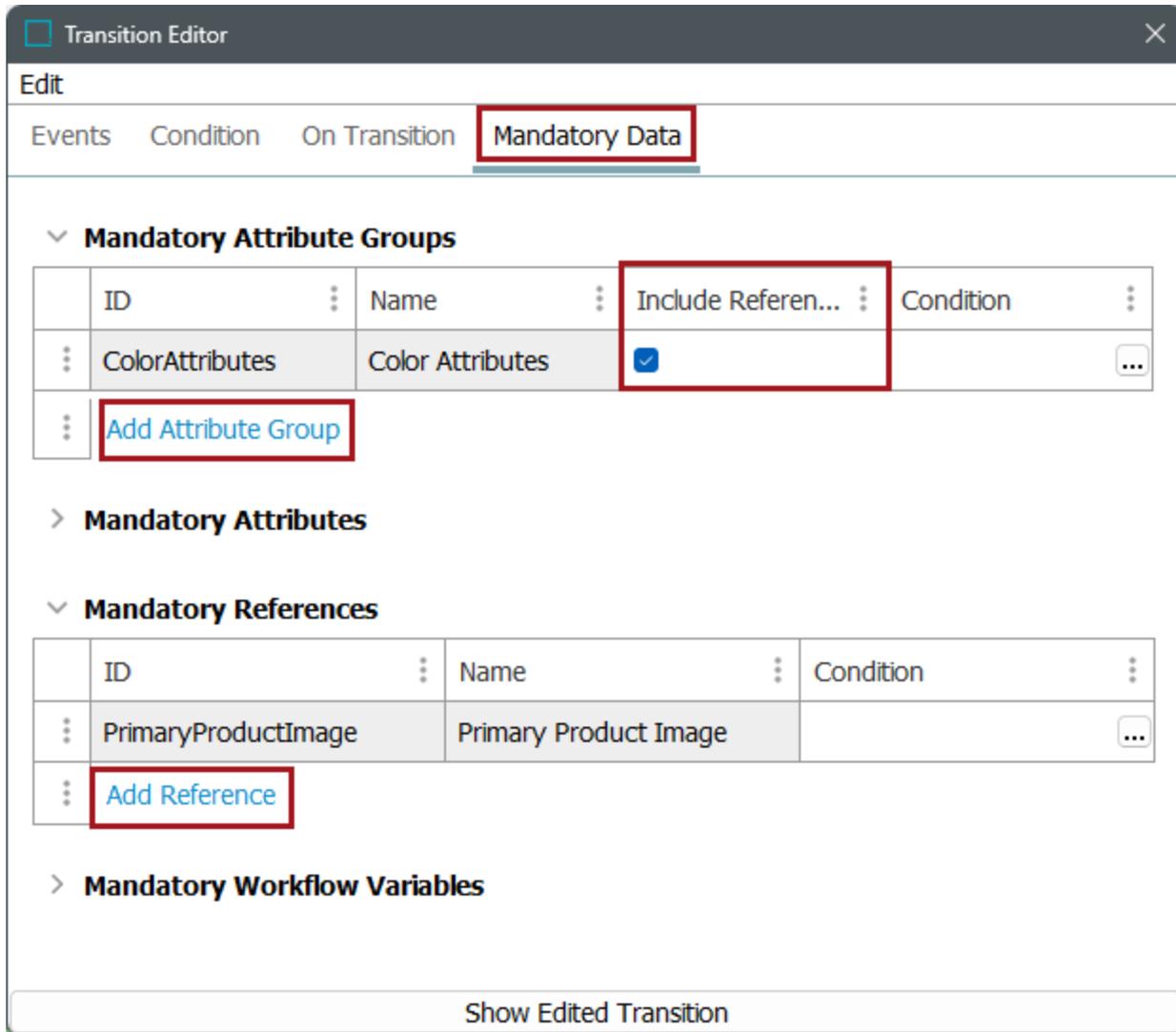
7. **Save** the workflow.

If any mandatory attributes are missing when submitting an object in the workbench or the Web UI, an error message listing all missing mandatory attributes will appear, preventing the user from progressing through the workflow. For more information on how Web UI handles this, refer to the Workflow Mandatory Attributes in Web UI topic in the Web User Interfaces documentation.

## Setting up Workflow Transition Mandatory References

Mandatory references are set up in a similar way to mandatory attributes in the Transition Editor.

1. In **System Setup**, locate and select the desired workflow.
2. Right-click and select **Edit STEP Workflow**.
3. In the STEP Workflow Designer, select the relevant transition, then right-click and select **Edit Transition** to edit the transition.
4. Select the **Mandatory Data** tab in the **Transition Editor**.



5. Click **Add Attribute Group**, then check the **Include References** box to make all references contained in the attribute group mandatory for the workflow transition.
6. Click **Add Reference** to add a reference to the list of mandatory references.
7. If the mandatory status of a reference needs to be determined by a business condition, click the ellipsis button  next to the applicable attribute group or reference. In the Mandatory Condition editor, configure an appropriate business condition or select a global business rule.

## Setting up Dynamic Mandatory Data on Workflow Transition

Users can set up **attributes** and **references** to be *dynamically* mandatory on workflow transitions. This means that they are based on another setting in the node that makes the data required.

To implement dynamic mandatory settings for attributes or references on a workflow transition, a mandatory bind is used within a business condition. This bind sets the selected attributes or references as mandatory, and the condition validates the data for the attributes or references as the user enters it. If the entered values fail to meet the specified rule requirements, the transition is prevented, and the user is immediately notified. Additionally, the field containing the missing mandatory data is highlighted.

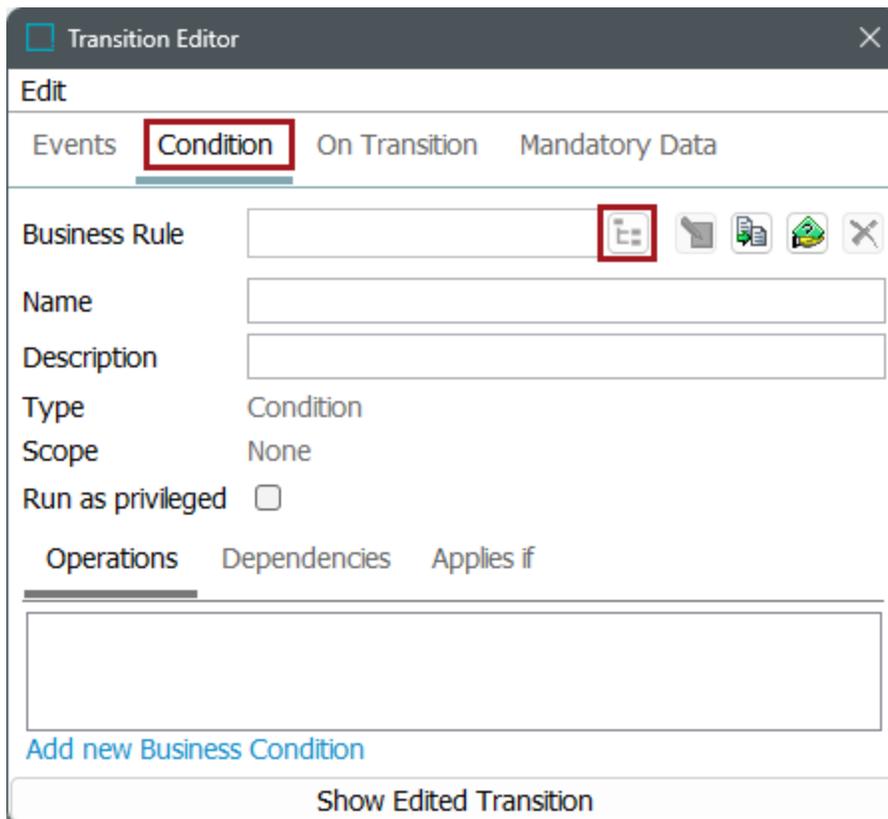
For detailed information about mandatory binds, refer to the Mandatory Bind topic in the Resource Materials online help documentation.

Dynamic mandatory attributes and references are set up in the Transition Editor.

## Setting up Dynamic Workflow Transition Mandatory Attributes and References

1. In **System Setup**, locate and select the desired workflow.
2. Right-click and select **Edit STEP Workflow**.
3. In the STEP Workflow Designer, select the relevant transition, then right-click and select **Edit Transition** to edit the transition.
4. In the **Transition Editor**, select the **Condition** tab and click the ellipsis button (  ) to select a business rule that should determine the mandatory status of the specified

attributes or references.



5. Configure the business condition to return 'False' to prevent transition if the mandatory data is missing.
6. **Save** the workflow.

Using the mandatory bind with a business condition set to return 'False' on the transition will prevent users from proceeding through the workflow until the mandatory data is provided. In the Web UI, mandatory attributes or references configured on the transition will highlight the input field with missing data and display any customized warning message specified in the business condition.

In the below example, 'Legal Name' is configured as a dynamic mandatory attribute on the transition. When the user attempts to submit to the next state without populating this value, the input field is highlighted, and the user receives a warning message informing them that 'Legal Name is mandatory'.

Find Similar <sup>1</sup>	Potential Duplicates	Confirmed Non Duplicates
Legal Name	<input type="text"/>	
	⚠ Legal Name is mandatory	

## Smartsheets State Mandatory Attributes and References

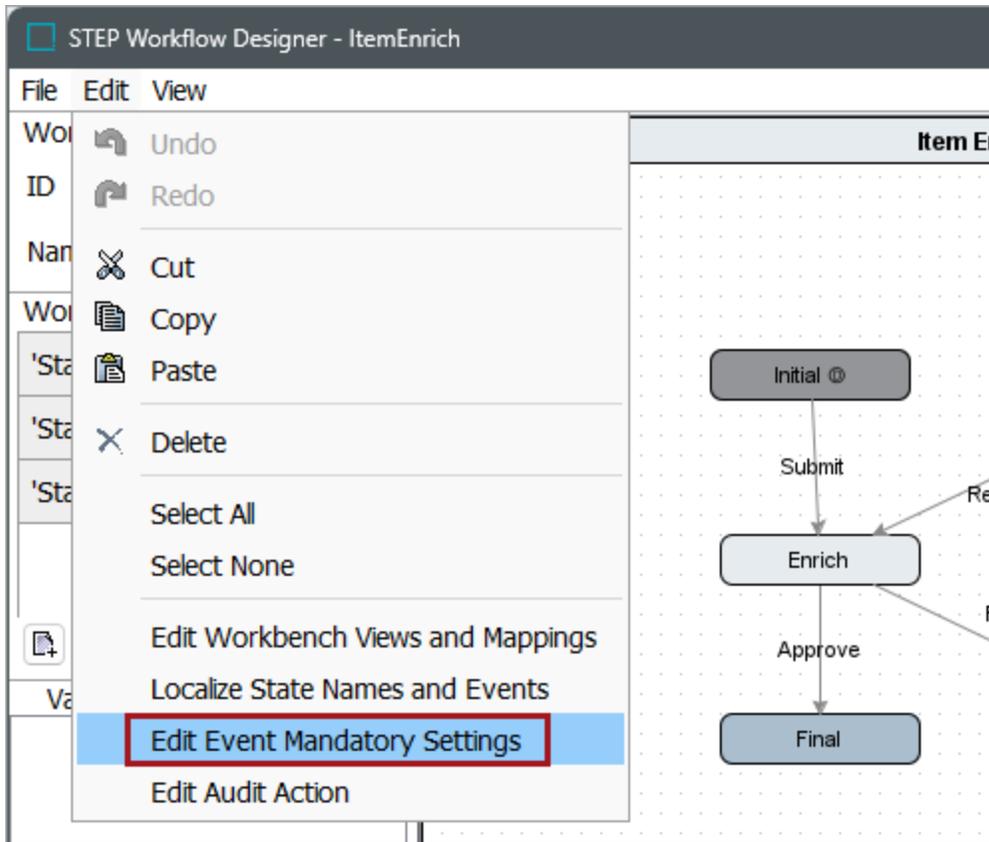
In Smartsheets, it is possible to enforce the mandatory status of attributes, attribute groups, and/or references on workflow **states**. For more information, refer to the Mandatory Attributes and References in Smartsheets topic in the Data Exchange documentation.

## Set Workflow to Ignore Mandatory Attributes and References

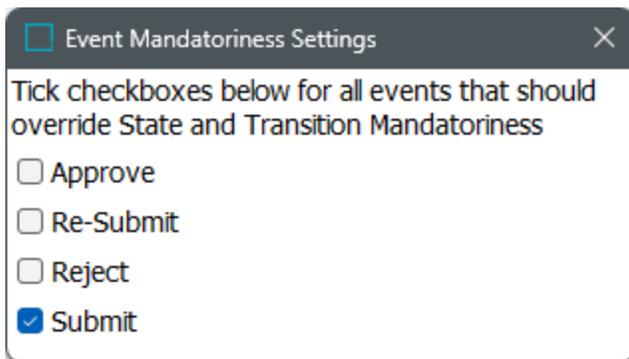
After setting mandatory attributes and/or references on a state, transition, or on a Web UI screen, specific events can be identified for which the population of the attributes and/or references should not be enforced. This allows an object to move through designated states in a workflow, even when the object is missing mandatory attribute values or linked references. The following example uses mandatory attributes, though the functionality behaves identically for mandatory references.

In the below example, 'Color' and 'Material' are set as mandatory attributes on the **Enrich** state. If the user does not populate these values on a given product and attempts to submit from the state via any transition (**Reject** or **Approve**), the object would not be able to proceed through the workflow until the missing values were provided. However, if the **Reject** event is set to ignore mandatory attributes, the user may send the product to the 'Rejected' state even if 'Color' and 'Material' have missing values.

1. In the workflow editor, navigate to Edit > **Edit Event Mandatory Settings**.



- In the 'Event Mandatoriness Settings' pop-up window, check the appropriate event(s) for which mandatory attribute and reference requirements should be ignored, then close the window.



- Save** the workflow.

**Note:** This can also be accomplished by setting mandatory attributes and references on transitions themselves. In the Web UI, mandatory attributes and references that are set in workflow *states* are visually marked with an asterisk, while those set on *transitions* will be highlighted to indicate missing data when the user attempts to submit the object to the next state in the workflow.

Mandatory attributes set on a Web UI screen are only honored if the 'Submit Action' has 'Enforced Validity' checked. For more information, refer to the Mandatory Data in Web UI topic in the Web User Interfaces documentation.

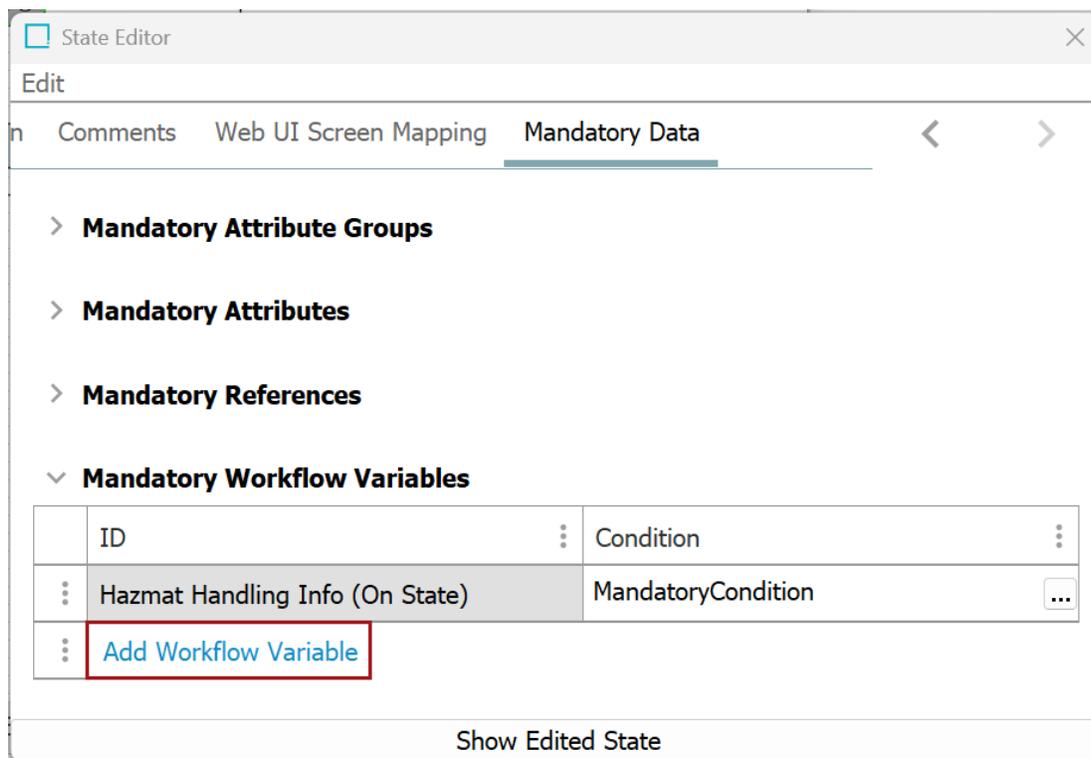
## Setting up Mandatory Workflow Variables

Users can set up **workflow variables** to be mandatory on workflow transitions and workflow states. To set up a mandatory workflow, follow the steps described below:

1. In **System Setup**, locate and select the desired workflow.
2. Right-click and select **Edit STEP Workflow**.
3. In the STEP Workflow Designer, select the relevant state or transition, then right-click and select either **Edit State** or **Edit Transition** to start editing.
4. Select the **Mandatory Data** tab in the **State Editor** or **Transition Editor**.
5. Click **Add Workflow Variable** to add a workflow variable to the list of mandatory variables. If the mandatory status of a variable needs to be determined by a business condition, click the ellipsis button (⋮) next to the applicable variable. In the Mandatory Condition editor, configure an appropriate



business condition or select a global business rule.



6. **Save** the workflow.

For more information on creating business conditions, refer to the Business Conditions topic in the Business Rules documentation.

## Conditionally Mandatory Attributes and References in Workflows

Sometimes it is essential for an attribute or reference to be populated in one or two specific cases, but is otherwise unnecessary. To account for these cases, the mandatory status of attributes and references on objects moving through a workflow can be enforced via **business conditions** set on a state or transition.

Mandatory attributes and references configured with a condition will remain mandatory unless that condition returns false, indicating that the condition was not met and the attributes in question are not required when proceeding to the next state in the workflow. Like standard mandatory attributes and references, if conditionally mandatory attributes / references are missing values when attempting to submit an object to the next state, the object is prevented from progressing through the workflow and the user receives a message listing the attributes / references that have missing mandatory values. In Web UI, these conditions can be evaluated on the fly and dynamically reflected as the user works with the data, with a change in mandatory status being reflected on the screen in real time, allowing users to react immediately, without having to submit and receive an error message.

For more information about setting mandatory attributes and references in workflows, refer to the Mandatory Attributes and References in Workflows topic.

For more information about business conditions, refer to the Business Conditions topic Business Rules documentation.

### Configuring Workflow States / Transitions with Conditionally Mandatory Attributes

A condition can be mapped to an **attribute** or a **group of attributes** on either a state or transition in a workflow.

1. Navigate to the **Mandatory Data** tab in the State / Transition Editor.
2. Locate the relevant attribute group and/or attribute(s) and click the ellipsis button  in the 'Condition' column.

State Editor

Edit

Assignee Deadline/Escalation Comments Web UI Screen Mapping **Mandatory Data**

▼ **Mandatory Attribute Groups**

ID	Name	Include References	Condition
GameAttributes	Game Attributes	<input type="checkbox"/>	Game Reference Condition
<a href="#">Add Attribute Group</a>			

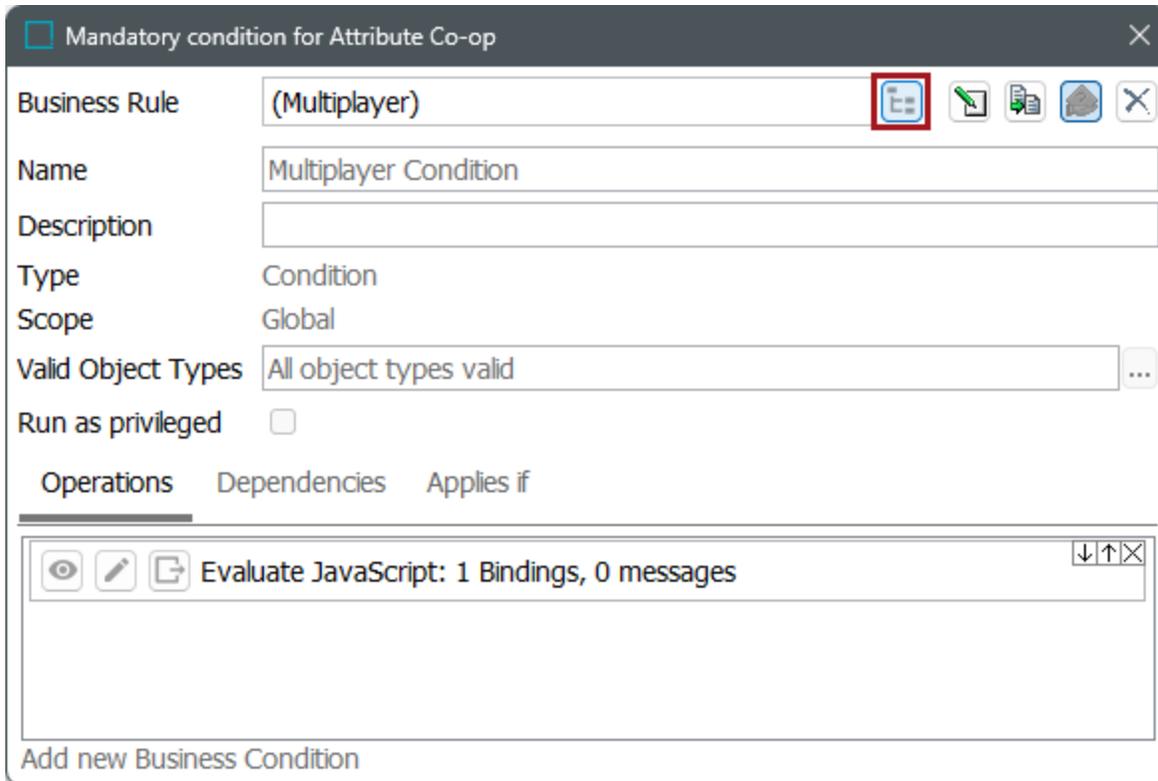
▼ **Mandatory Attributes**

ID	Name	Condition
Co-op	Co-op	Multiplayer Condition
PvP	PvP	Multiplayer Condition
<a href="#">Add Attribute</a>		

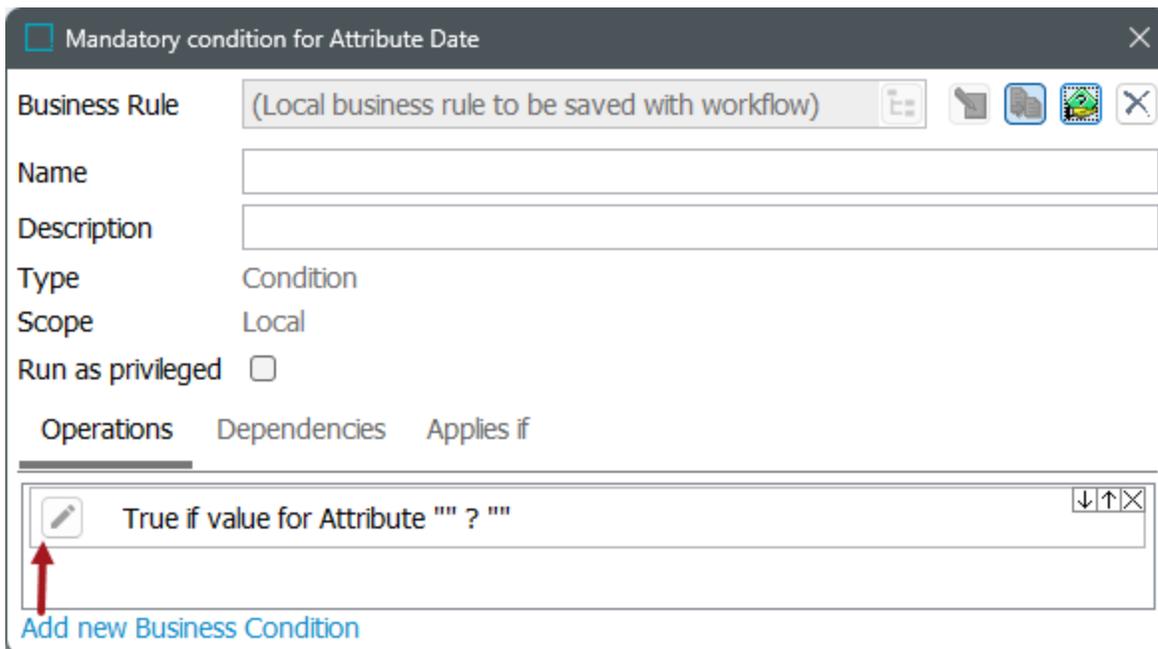
> **Mandatory References**

Show Edited State

- In the 'Mandatory condition for' editor that displays, specify the condition to use by selecting a global business rule via the 'Business Rule' selector button (⋮). Once the selection is made, close the editor.



Alternatively, you can create a new business condition by clicking the 'Add new Business Condition' link at the bottom of the editor, and then click the **Edit Operation** button that appears. From the dropdown, select 'Evaluate JavaScript,' then enter the business condition in the JavaScript area.



**Important:** For use with conditionally mandatory attributes, the business condition should only return 'True' or 'False.' If anything else is returned it will be treated as 'True'.

4. Once finished, click **Save** and close the editor.
5. Close the State / Transition Editor and Save the workflow.

## Configuring Workflow States / Transitions with Conditionally Mandatory References

Conditionally mandatory **references** on workflow states and transitions are configured similarly to conditionally mandatory attributes. Conditions can be mapped to all references listed within an attribute group or to individual references.

1. Navigate to the **Mandatory Data** tab in the State / Transition Editor.
2. Locate the relevant attribute group and/or reference and click the ellipsis button () in the 'Condition' column.

**Note:** To apply a condition to all references within an attribute group, the 'Include References' box must first be checked. When writing the condition, consider that it will apply to both the attributes and the references in the group.

State Editor

Edit

Exit Assignee Deadline/Escalation Comments Web UI Screen Mapping **Mandatory Data** < >

▼ **Mandatory Attribute Groups**

ID	Name	Include References	Condition
MarketingApproverAppr...	Marketing Approver, App...	<input checked="" type="checkbox"/>	Game Reference Condition ...
GameAttributes	Game Attributes	<input type="checkbox"/>	Game Reference Condition ...
<a href="#">Add Attribute Group</a>			

> **Mandatory Attributes**

▼ **Mandatory References**

ID	Name	Condition
MerchandisingLink	Merchandising Link	...
ProductImage	Product Image	Multiplayer Condition
Additional Digital Assets and Files	Additional Digital Assets and Files	...
<a href="#">Add Reference</a>		

Show Edited State

- In the 'Mandatory condition for' editor that displays, specify the condition to use by selecting a global business rule via the 'Business Rule' selector button (📄). Once the selection is made, close the editor. (This editor is identical to the one that displays for conditionally mandatory attributes.)

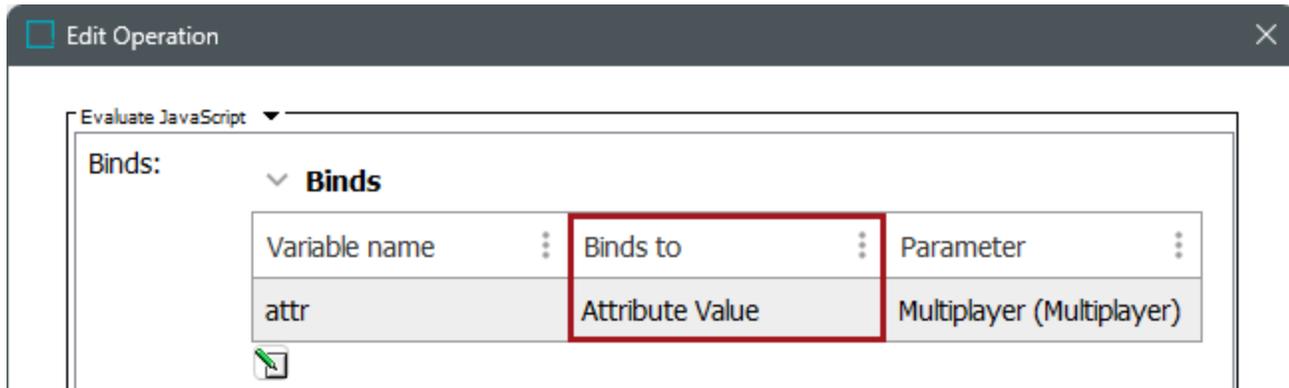
Alternatively, you can create a new business condition by clicking the 'Add new Business Condition' link at the bottom of the editor, and then click the **Edit Operation** button that appears. From the dropdown, select 'Evaluate JavaScript,' then enter the business condition in the JavaScript area.

**Important:** For use with conditionally mandatory references, the business condition should only return 'True' or 'False.' If anything else is returned it will be treated as 'True'.

- Once finished, click **Save** and close the editor.
- Close the State / Transition Editor and Save the workflow.

## Conditionally Mandatory Attribute and Reference Handling in Web UI

In **Web UI**, the mandatory status of attributes and references can be evaluated on the fly as the user works with the data, with any change in mandatory status being reflected on the screen in real time. In order to display these dynamic changes, the attribute values driving the condition must be bound to that condition in the business rule configuration. While the condition driving the mandatory status of an attribute or reference can take more than just attributes into account, if something else is driving the condition, such as a reference, the page will need to be refreshed to update the interface.



**Important:** The use of business rules to determine mandatory status of an attribute or reference should be done with care, as the performance of the dynamic behavior of the editors could be impacted if highly complex business rules are used.

When viewing a state in a Node Editor, any attributes or references that are currently mandatory are marked with an asterisk. If the condition returns false due to changes in data on the page, these indicators vanish. Additionally, if there are any missing attributes that are currently mandatory, the Submit / Approve button will be locked.

**Note:** Conditionally mandatory attributes and references that are set in workflow *states* are marked with an asterisk to end users, while those set on *transitions* will be highlighted to indicate missing data when the user attempts to submit the object to the next state in the workflow. The user is also notified of the missing data with a message in the Notification Panel.

On Node Lists using Multi-Edit Display Mode, conditionally mandatory attributes and references are indicated by highlighting the cell blue. As with the Node Editor screen, the mandatory status is dynamically evaluated so if the condition returns false, the highlighting disappears.

### Example

**Note:** This example uses conditionally mandatory attributes to describe the functionality, but the behavior is the same for conditionally mandatory references.

The business condition states that if the value of the attribute 'Multiplayer' is 'Yes', the attributes 'Co-op' and 'PvP' are mandatory. Otherwise, 'Co-op' and 'PvP' are not mandatory.

In the image below, the condition is returning true for the Space Adventure Game, so 'Co-op' and 'PvP' are mandatory (and are highlighted blue). Clicking Submit / Approve if either mandatory value is missing will result in an error message listing which mandatory attribute(s) are missing. If both attributes have values they are free to move on to the next state.

Item Enrich - Enrich

Select all   [Submit](#)   [Export](#)   [Export Smartsheet](#)

	ID	Co-op	PvP	Multiplayer
<input type="checkbox"/> College Baseball Game	236126	2-6 Players	2-16 Players	Yes
<input type="checkbox"/> Space Adventure Game	236124	2-3 Players		Yes
<input type="checkbox"/> Cosmic Video Game	347736			No

In the image below, the condition is returning false for the Space Adventure Game, so 'Co-op' and 'PvP' are not mandatory (and are not highlighted). This object is free to move on to the next state, even if 'Co-op' and 'PvP' do not have values.

Item Enrich - Enrich

Select all   [Submit](#)   [Export](#)   [Export Smartsheet](#)

	ID	Co-op	PvP	Multiplayer
<input type="checkbox"/> College Baseball Game	236126	2-6 Players	2-16 Players	Yes
<input type="checkbox"/> Space Adventure Game	236124	2-3 Players		No
<input type="checkbox"/> Cosmic Video Game	347736			No

In the image below, the condition is returning true, so 'Co-op' and 'PvP' are mandatory (and are marked with asterisks). Since they have values, the Submit / Approve button is enabled.

Basic Information and References	Display Relations	Cost and Prices	Status
ID	236124		
Product Category <sup>fx</sup>	Products   Electronics   Game Software   Playstation 4   F		
	This attribute will show the path to the object in the Tree tab.		
Name	Space Adventure Game		
* Co-op	2-3 Players		
Disc Dimensions	<input type="text"/>		
Multiplayer	Yes		
* PvP	2-3 Players		
<div style="display: flex; justify-content: space-between; align-items: center;"> <span> Save</span> <span> Reset</span> <span style="border: 2px solid red; padding: 2px;"> Save &amp; Approve</span> </div>			

In the image below, the condition is returning false, so 'Co-op' and 'PvP' are not mandatory (and are not marked with asterisks). Since it does not matter if they have values, the Submit / Approve button is enabled.

Basic Information and References	Display Relations	Cost and Prices	Status
ID	236124		
Product Category <sup>fx</sup>	Products   Electronics   Game Software   Playstation 4   F		
	This attribute will show the path to the object in the Tree tab.		
Name	Space Adventure Game		
Co-op	<input type="text"/>		
Disc Dimensions	6.7 x 5.3 x 0.5 in		
Multiplayer	No		
PvP	<input type="text"/>		
<div style="display: flex; justify-content: space-between; align-items: center;"> <div> Save</div> <div> Reset</div> <div style="border: 2px solid red; padding: 2px;"> Save &amp; Approve</div> </div>			

In the image below, the condition is returning true, so 'Co-op' and 'PvP' are mandatory (and are marked with asterisks). Since 'Co-op' is missing a value, the Submit / Approve button is disabled.

Basic Information and References	Display Relations	Cost and Prices	Status
ID	236124		
Product Category <sup>fx</sup>	Products   Electronics   Game Software   Playstation 4		
	This attribute will show the path to the object in the Tree tab.		
Name	Space Adventure Game		
* Co-op	<input type="text"/>		
Disc Dimensions	<input type="text"/>		
Multiplayer	Yes		
* PvP	2-3 Players		
<div style="display: flex; justify-content: space-between; align-items: center;"> <span> Save</span> <span> Reset</span> <span> Save &amp; Approve</span> </div>			

## Conditionally Mandatory Attribute and Reference Handling in STEP Workbench

Support for conditionally mandatory attributes and references is also available in the workbench, though visual indicators are not managed in relation to this. When attempting to submit an object, conditionally mandatory attributes / references are evaluated and an error is presented to the user listing any missing conditionally mandatory attributes / references (in the same manner that standard mandatory attributes / references are reported).

### Determining Mandatory Status of an Attribute or Reference

Any attributes / attribute groups and/or references specified under the 'Mandatory Data' tab of a workflow state or transition are considered mandatory if:

- There is no condition set for the attribute / attribute group or reference(s)
- The condition is not applicable for the object type of the object being evaluated
- There is a pre-condition on the rule that is not met and therefore the condition is not evaluated
- The condition fails
- The condition returns 'True'

The only case in which an attribute / attribute group or reference is *not* considered mandatory is if the condition returns 'False'.

Because the mandatory status of an individual attribute or reference can be determined in a number of different ways, some methods must take priority over others:

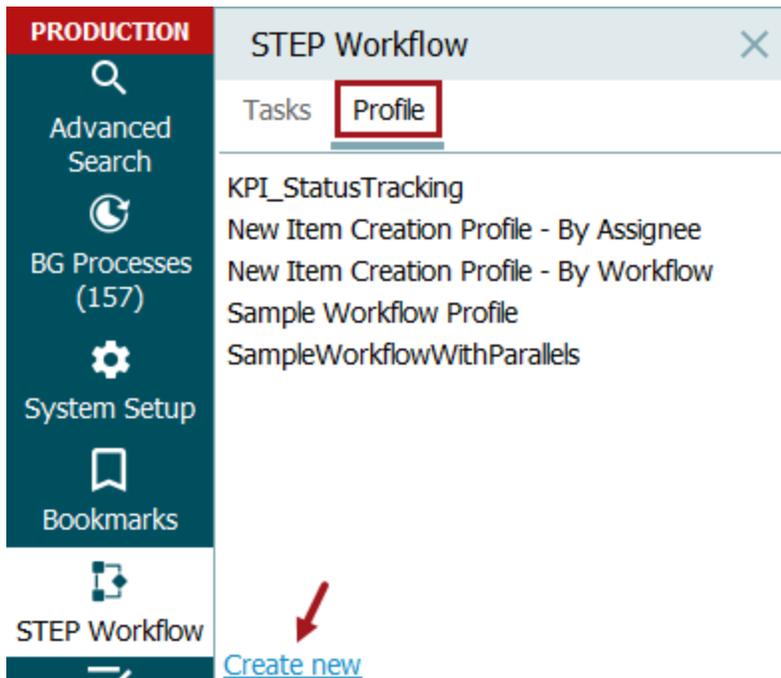
- An individual attribute or reference specified on the state / transition takes priority over attributes / references specified as part of a group.
- If an attribute / reference is listed via multiple groups, the group configured with a condition takes priority.
- If an attribute / reference is listed via multiple groups and more than one of those groups is configured with a condition, only the first condition listed is applied.
- If the attribute is explicitly defined as mandatory in Web UI via being set as mandatory on the screen, that setting overrides any conditions that may say otherwise. (This does not apply to references, which cannot be set as anything other than 'visually mandatory' on Web UI screens)

## Monitoring Workflows with a Profile

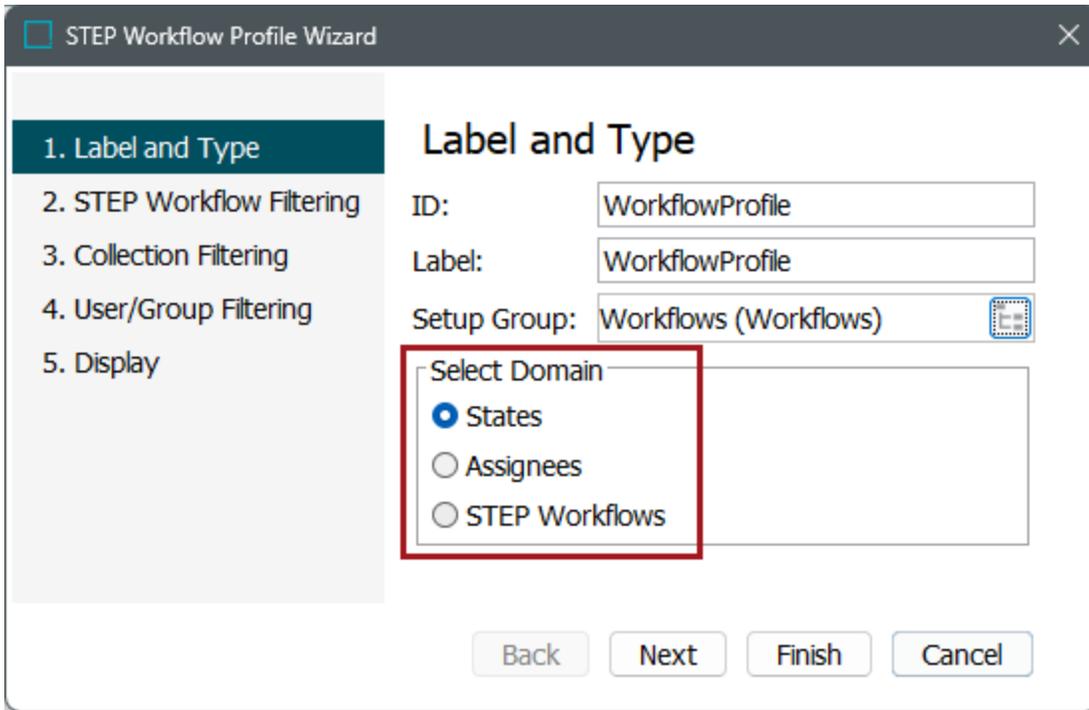
Workflows can be monitored via Workflow Profiles. Profiles are maintained on the Profile sub-tab of the STEP Workflow navigator tab. Profiles are available to users with the 'View and Maintain STEP Workflow Profile' privilege. A Profile can contain a wealth of information about workflows, such as: number of exceeded deadlines, how long the tasks have been assigned to the assignees, what is the workflow throughput this month versus the last six months, etc. This is all configured using the STEP Workflow Profile Wizard.

**Note:** A workflow profile definition can be exported as comments and submitted to an external source control system for comparison purposes. For details, refer to the Configuration Management documentation.

1. To create a new Profile, navigate to the STEP Workflow tab, select the Profile sub-tab, and click the **Create new** link at the bottom of the Profile sub-tab.



2. For Label and Type, provide an ID, Label (name), assign a Setup Group, and choose a Domain (from the options in the following table).



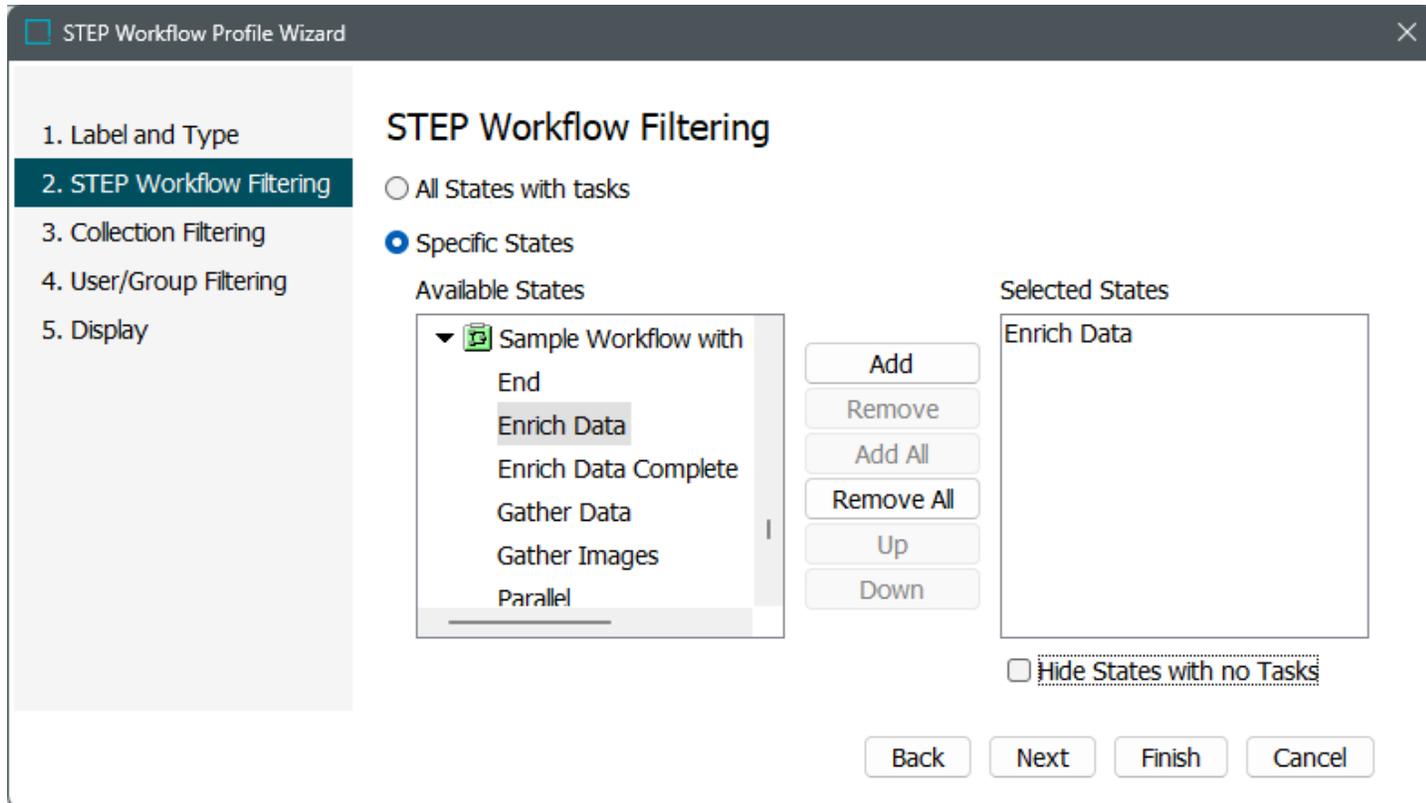
Domain	Description	Example
States	Allows a user to view data focused on workflow states.	<ul style="list-style-type: none"> <li>How many objects are in the various states of a workflow</li> <li>Who the state tasks are assigned to</li> <li>How long the objects have been in the states</li> <li>Number of exceeded deadlines</li> <li>How long the objects have been in the states that are assigned to a particular user or group</li> <li>How many objects have passed through the states today versus yesterday, versus the day before, etc.</li> </ul>
Assignee	Allows a user to view data focused on assignees.	<ul style="list-style-type: none"> <li>How many tasks are assigned to the various assignees</li> <li>How long the tasks have been assigned to the assignees</li> <li>If the assignees have tasks with exceeded deadlines</li> <li>How many tasks the assignee has completed this week versus the week before, etc.</li> </ul>
STEP Workflows	Allows a user to view data focused on entire workflows.	<ul style="list-style-type: none"> <li>How many objects are currently in the workflows</li> <li>How long the objects have been in the workflow, on average</li> <li>What is the workflow throughput this month versus the last six months, etc.</li> </ul>

- For STEP Workflow Filtering, determine the workflows or workflow states (within one or multiple workflows) that the profile should contain as defined below.

The options differ somewhat for each domain (selected in the previous step). Since profiles are not limited to a single workflow, a user could have an Assignee-domain Profile that shows information for tasks in numerous workflows.

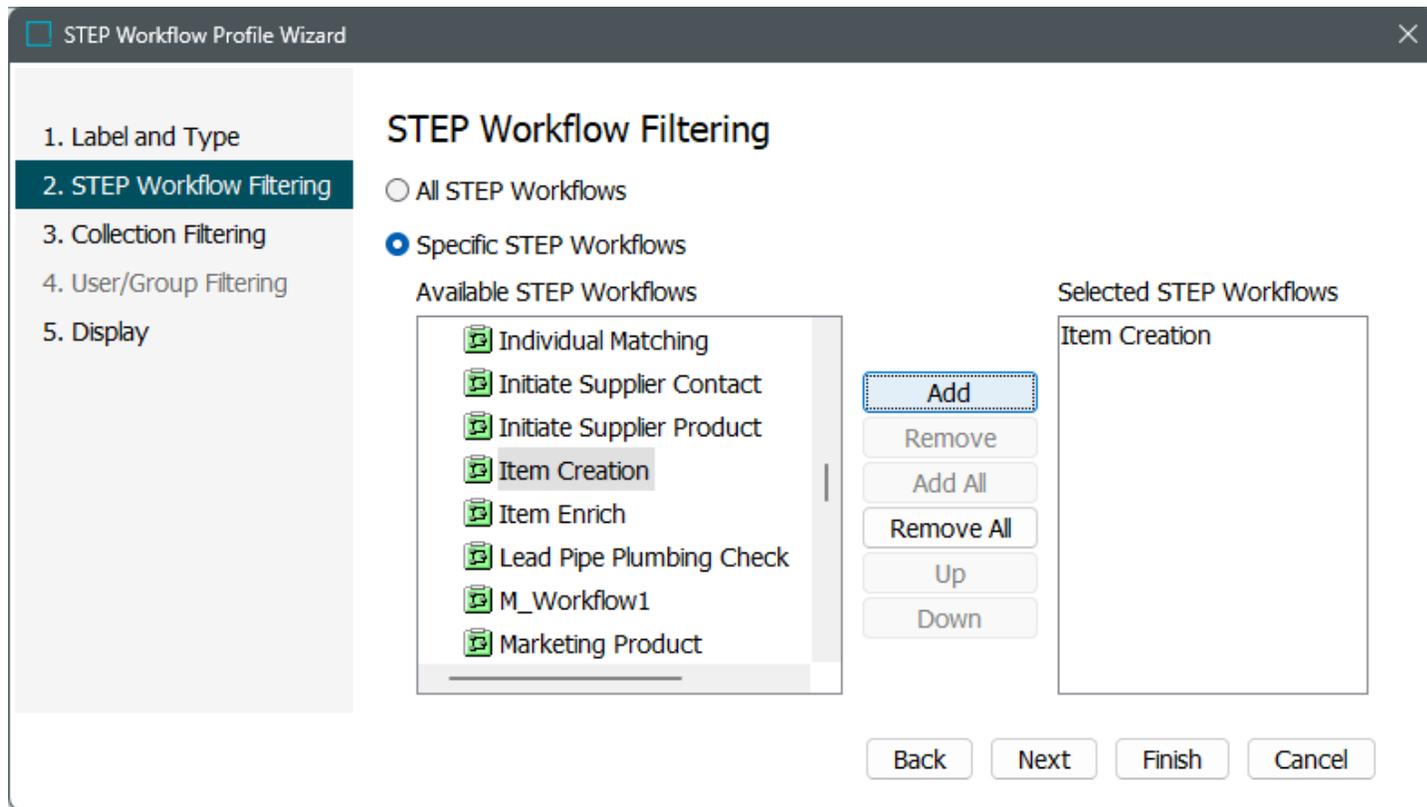
The domain chosen previously impacts the options available in this step.

- States domain or Assignee domain:** Specify whether the profile should contain data from *all* workflow states or if it should be limited to specific workflow states only. If 'All States with tasks' is selected, the profile will contain data from every workflow state, from every workflow in the system. The 'Hide States with no Tasks' checkbox is only available when Specific States are selected.



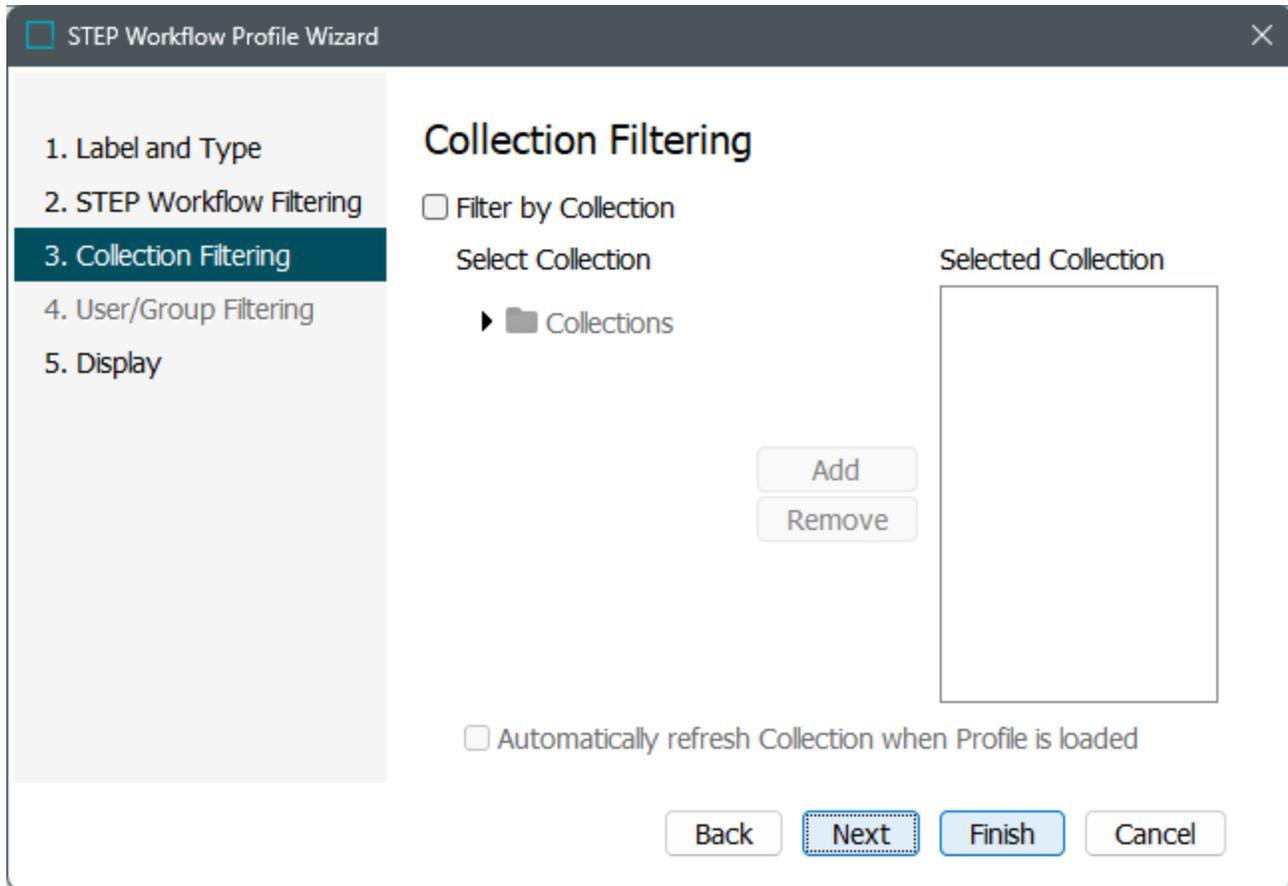
- STEP Workflows domain:** Only entire workflows can be chosen for this option. Data cannot be filtered down

to the task level.



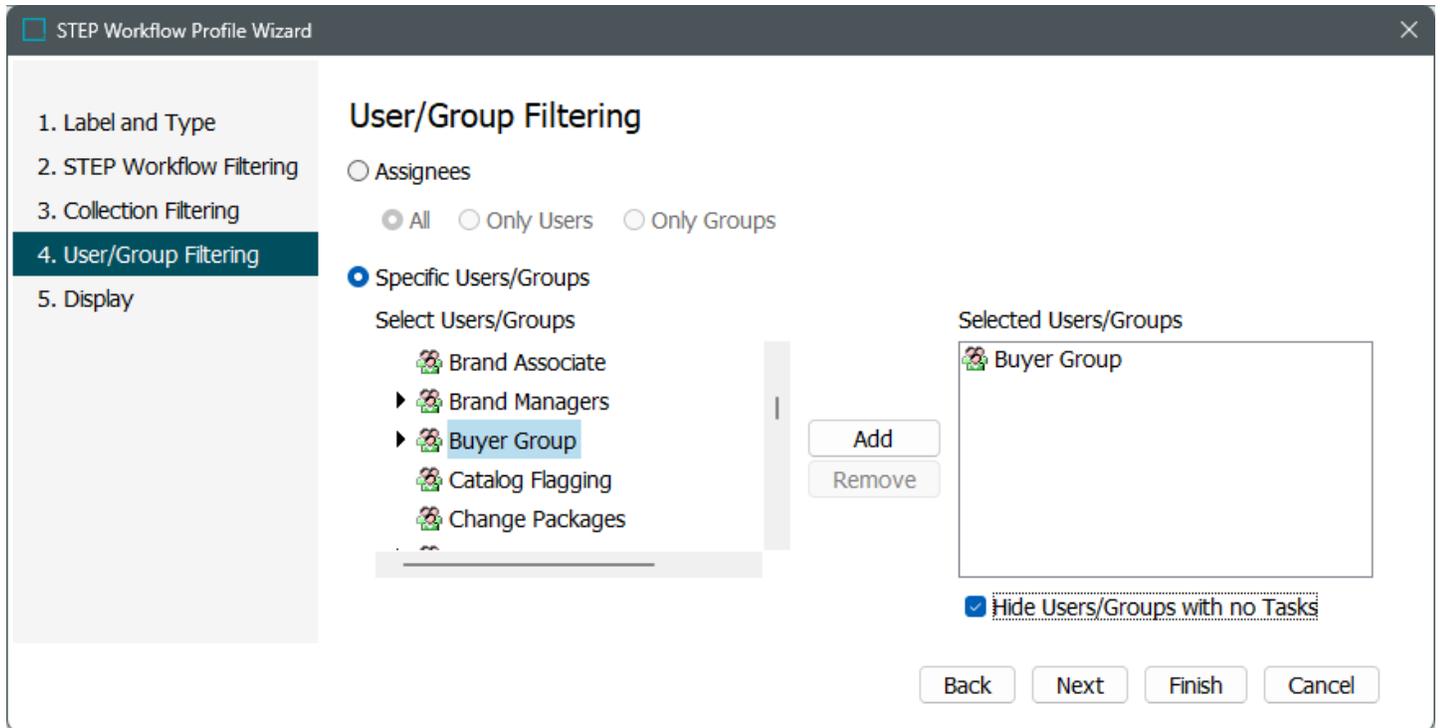
4. For Collection Filtering, a user can optionally filter the profile results to contain information only for objects in a given collection.

For example, a user could create a profile that only shows data for objects that are to go live at a certain date, or only shows data for objects in a particular part of the tree hierarchy.



- For User / Group Filtering, a user can filter the profile results to contain information only for tasks that are assigned to specific users or user groups. This step is disabled for the STEP Workflows domain.

For example, in the **Assignee** domain, the 'Specific Users / Groups' option is valuable to view the workload for a number of users. If the 'Assignees' option is selected, users with *no* tasks will also be included in the profile.



6. For Display, the profile options are different depending on the domain was selected in step 1.

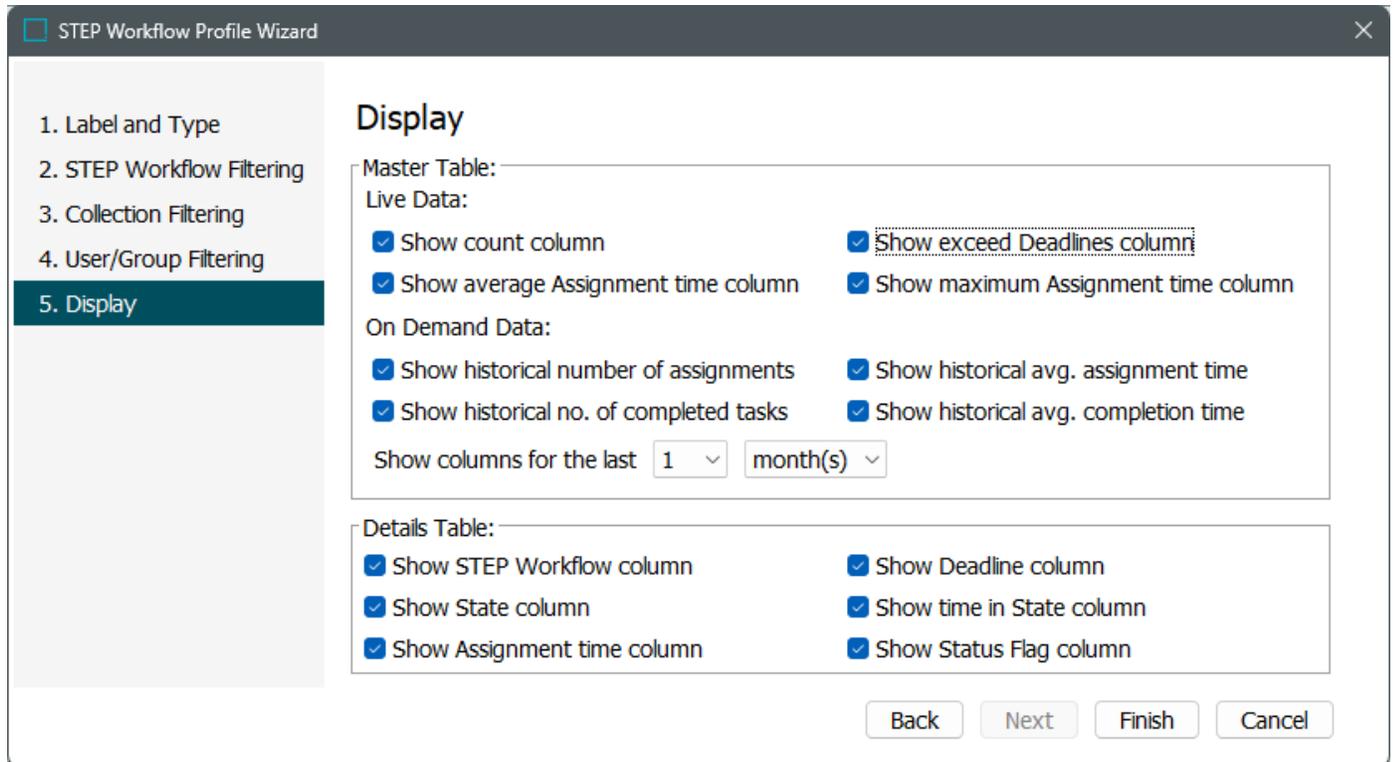
- For the **STEP Workflows** domain, there is a single Master Table. Step 5 is where a user specifies which columns should be shown in these tables. Common to all domains are the two divisions of the Master Table settings shown below.

Table Settings	Description
Live Data	Data that can be kept up to date automatically – data for workflow instances in their present state.
On Demand Data	Historical data that is retrieved from the object's State Logs.

- For the **States** and **Assignees** domains, the profile will consist of two tables: a **Master Table** and a **Details Table**.

Table	Description
Master Table	Displays more general information about the states or assignees.
Details Table	Appears when a row in the Master Table is selected—displays more specific information about the objects that are contained within a state or assigned to an assignee.

On Demand Data is generated for all three domains and allows the user to specify a time period of days, weeks, or months for which they would like to generate historical data. For example, if you select three (3) days, the generated On Demand table will display three columns, one for each selected day (e.g., "Throughput today," "Throughput yesterday," "Throughput 2 days ago.")



The following sections explain the different Display options by domain.

#### States Domain

Table Settings	Description
Master Table: Live Data	<ul style="list-style-type: none"> <li>Show count column: Number of objects currently in the state</li> <li>Show average time in State column: Average time that the objects have been in the state</li> <li>Show STEP Workflow column: Name of the workflow to which the state belongs</li> <li>Show exceeded Deadlines column: Number of exceeded deadlines for objects in the state, followed by the average exceed time</li> <li>Show maximum time in State column: The longest period an object currently in the state has been there</li> </ul>
Master Table: On Demand Data	<ul style="list-style-type: none"> <li>Show historical throughput: Number of objects that have exited the state within the given period (day / week / month). The number is increased each time an object exits the state, regardless of whether the object has been in and exited the state earlier.</li> <li>Show historical average time in state: Average time that objects—which have exited the state within the given period (day / week / month)—were in the state</li> </ul>
Details Table	<ul style="list-style-type: none"> <li>Show STEP Workflow column: Title of the workflow to which the state selected in the Master Table belongs</li> <li>Show time in State column: How long the object has been in the state</li> <li>Show Assignment time column: How long the task (which the object-in-state represents) has been assigned to the current</li> </ul>

Table Settings	Description
	<ul style="list-style-type: none"> <li>assignee</li> <li>Show Deadline column: The deadline, if any</li> <li>Show Assignee column: The assignee</li> <li>Show Status Flag column: The current status</li> </ul>

#### Assignees Domain

Table Settings	Description
Master Table: Live Data	<ul style="list-style-type: none"> <li>Show count column: Number of tasks currently assigned to the User / Group</li> <li>Show average Assignment column: Average time the current tasks have been assigned to the user / group</li> <li>Show exceeded Deadlines column: Number of exceeded Deadlines for Tasks assigned to the user / group, followed by average exceed time</li> <li>Show maximum Assignment time column: Longest period that a task has been assigned to the user / group</li> </ul>
Master Table: On Demand Data	<ul style="list-style-type: none"> <li>Show historical number of assignments: Number of assignments within the given period (day / week / month). i.e., how many times during the period have tasks been assigned to the user / group</li> <li>Show historical number of completed tasks: Number of tasks that were completed within the given period (day / week / month) while assigned to the user / group</li> <li>Show historical average assignment time: Average time tasks were assigned to the user / group within the given period (day / week / month)</li> <li>Show historical average completion time: Average time within the given period (day / week / month) that it took a user / group to complete a task, once assigned</li> </ul>
Details Table	<ul style="list-style-type: none"> <li>Show STEP Workflow column: Name of the workflow in which the task exists</li> <li>Show State column: The state in which the task exists</li> <li>Show Assignment time column: How long the task has been assigned to the current assignee</li> <li>Show Deadline column: The deadline, if any</li> <li>Show time in State column: How long the task has existed, i.e., how long the object has been in the state</li> <li>Show Status Flag column: The current status</li> </ul>

#### STEP Workflows Domain

Table Settings	Description
Master Table: Live Data	<ul style="list-style-type: none"> <li>Show count column: Number of objects currently in the workflow that are not in a final state on the outer level</li> <li>Show average time in STEP Workflow column: Average time the objects have been in the workflow</li> </ul>

Table Settings	Description
Master Table: On Demand Data	<ul style="list-style-type: none"> <li>Show historical throughput: Number of objects that have reached a final state on the outer level during the given period (day / week / month)</li> <li>Show historical avg. time in STEP Workflow: Average time that it took objects to reach a final state on the outer level (from time of workflow initiation) during the given period (day / week / month)</li> </ul>

7. Click the **Finish** button.

## Profile Editor

Once a profile has been configured, you can generate the On Demand data by clicking the 'Update on-demand data' button at the top of the Profile tab. You can also edit the configuration and copy the master table data into the clipboard, so you can paste it into a spreadsheet (e.g., Excel).

**Note:** The 'Update on-demand data' button option is available only if at least one of the 'On Demand Data' checkboxes are checked. If the button is not available, edit the configuration to enable it.

**STEP Workflow Profile Wizard**

1. Label and Type  
 2. STEP Workflow Filtering  
 3. Collection Filtering  
 4. User/Group Filtering  
 5. Display

### Display

Master Table:

Live Data:

- Show count column
- Show average Assignment time column
- Show exceed Deadlines column
- Show maximum Assignment time column

On Demand Data:

- Show historical number of assignments
- Show historical no. of completed tasks
- Show historical avg. assignment time
- Show historical avg. completion time

Show columns for the last

Details Table:

- Show STEP Workflow column
- Show State column
- Show Assignment time column
- Show Deadline column
- Show time in State column
- Show Status Flag column

Back Next Finish Cancel

Clicking the 'Update on-demand data' button creates a background process, and updates the table. This displays the number of objects that have exited the workflow (for STEP Workflow domain) within the given period or based on the average time in state.

**Note:** Data from Workflow Profiles can be represented in widgets on the Global Dashboard in the workbench. For more information, refer to the Global Dashboard topic in the Data Profiling documentation.

## Remove Objects from Workflows

There are many reasons why an object may need to be removed from a workflow. A few of the reasons for removing an object from a workflow are:

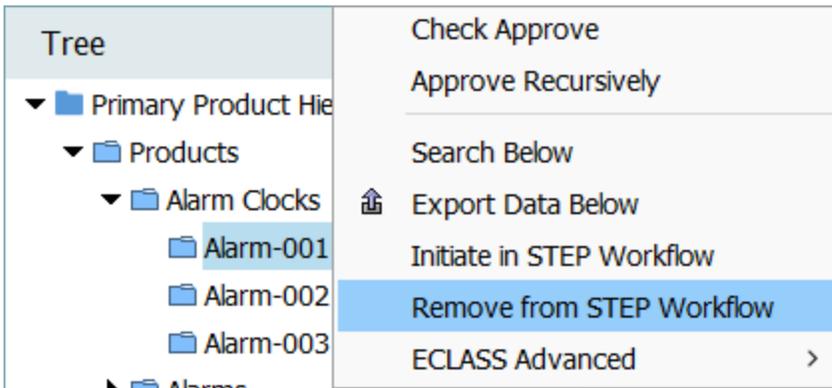
1. It has finished going through the workflow
2. The object needs to be amended before being put back into the workflow
3. The object is no longer relevant for the workflow

No matter the reason for removing an object from a workflow, objects can be removed, i.e., taken out of workflows, in several different ways.

### Remove Single Object

If a user wants to remove a single object from a workflow, and they have the 'Remove Items from STEP Workflow' privilege, this can be accomplished via the **Remove from STEP Workflow** context menu option on the object.

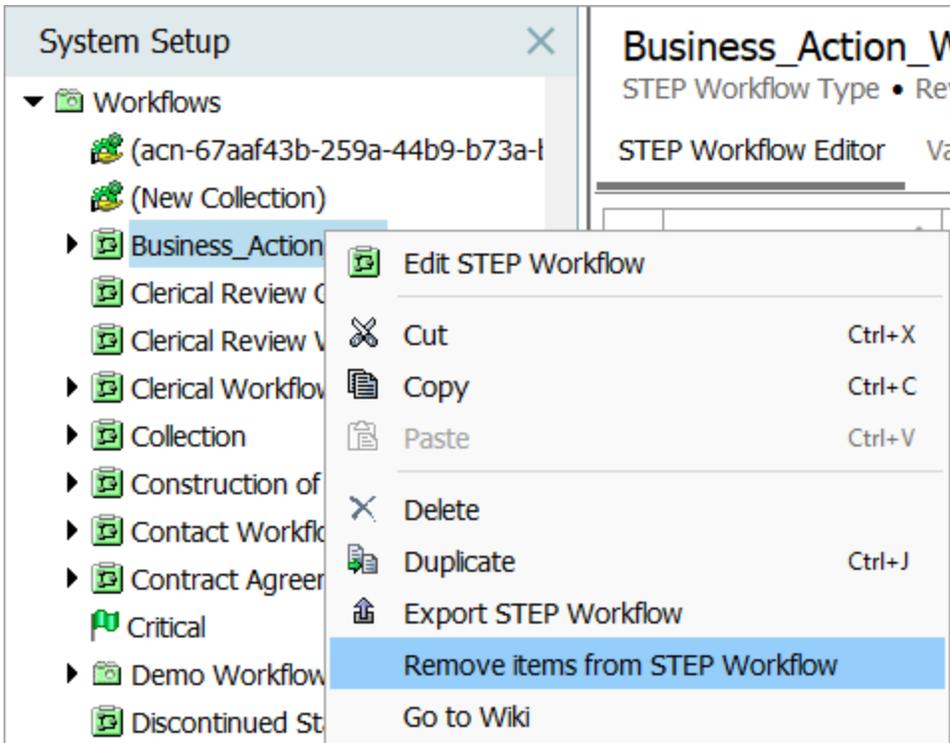
To do so, right-click on an object, or product, and select **Remove from STEP Workflow**.



### Remove All Objects from a Workflow

If a user needs to remove all objects from a workflow, and they have the 'Remove Items from STEP Workflow' privilege, this is possible via the workflow context menu option **Remove items from STEP Workflow**.

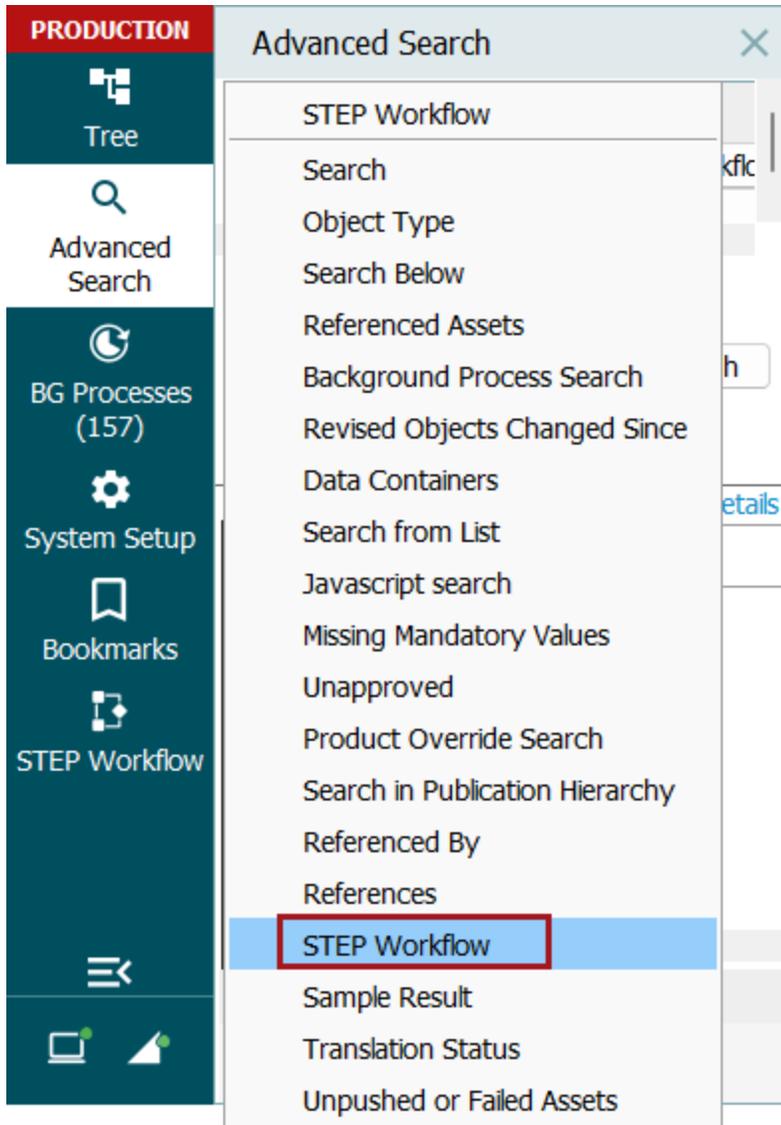
Navigate to System Setup, right-click on the workflow that needs all items removed, and select **Remove items from STEP Workflow**.



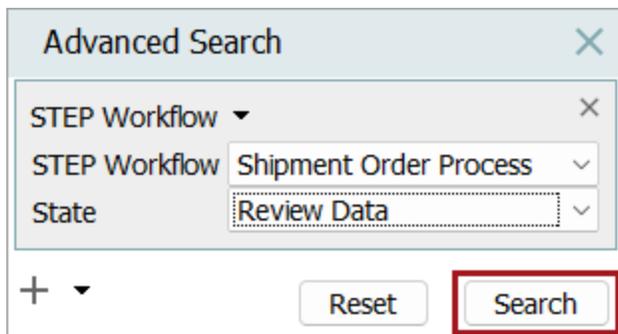
## Remove Objects from a State Using Bulk Updates

Should a user want to remove all objects from one state in a workflow, they can do so using Bulk Updates if they have the ability to search the STEP Workflow tab, and they have the 'Perform Bulk Update' privilege.

1. Navigate to the Advanced Search tab and from the Search dropdown select **STEP Workflow**.



- From the two dropdown menus, select the desired workflow and then specify which state all objects are to be removed from. Click **Search** when finished.



- Click the Bulk Updates button at the bottom of the results list to display the Bulk Updates window.

### Advanced Search ✕

STEP Workflow ✕  
STEP Workflow  ▼  
State  ▼

+ ▼

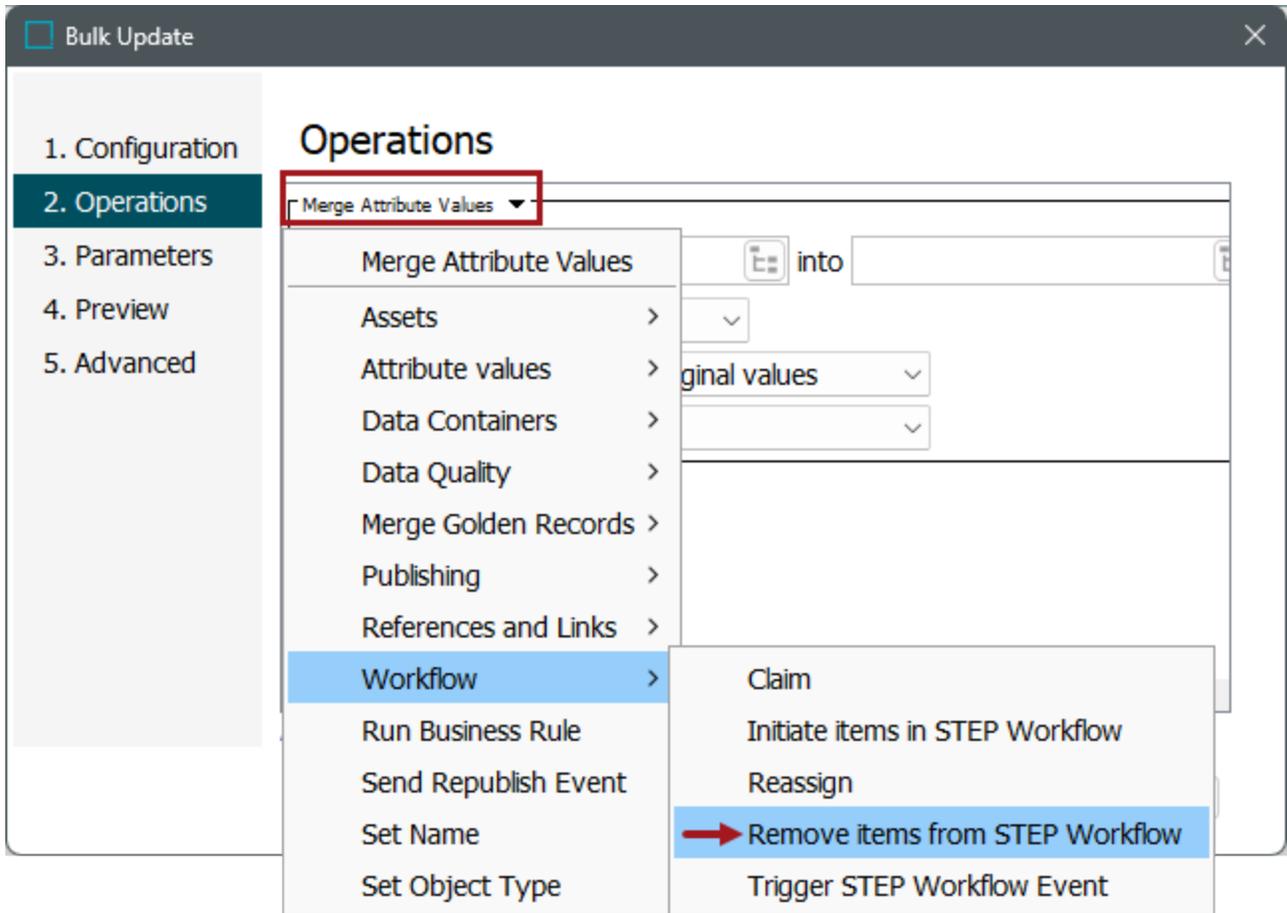
Displaying 3 of 3 results [Show Details](#)

Name	
 3550 George Busbee Pkwy (ADD_120042)	
 ADD_187526 (ADD_187526)	
 Axel Kiers Vej 11 (ADD_135924)	

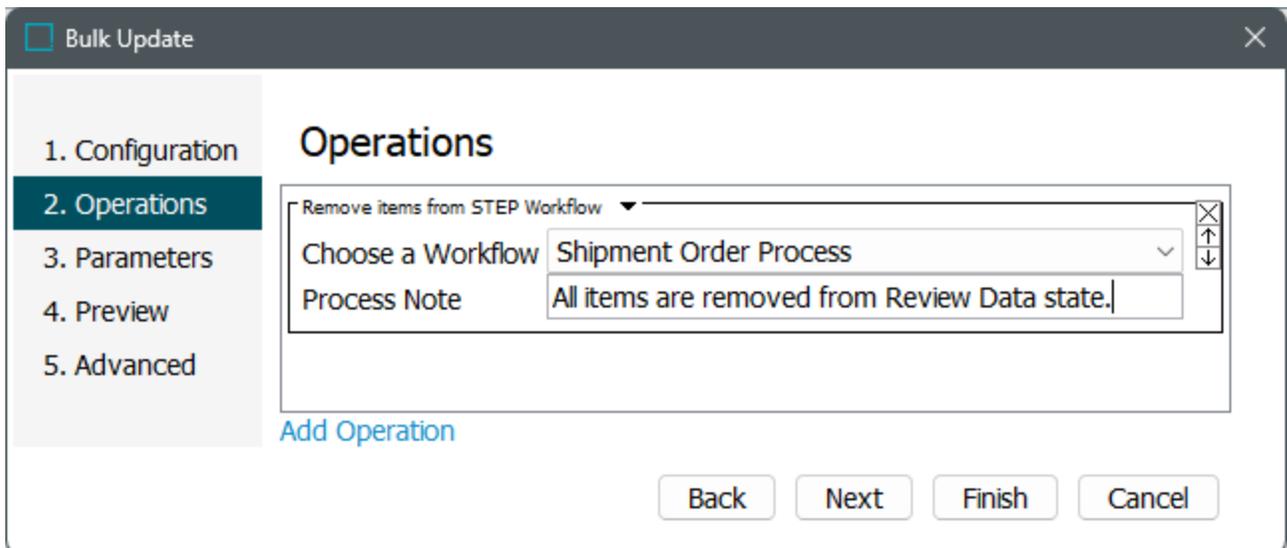
Operations on Entire Result

4. Click Next and on the **Operations** step, from the dropdown menu select Workflow > **Remove items from STEP Workflow**.



5. Select the desired workflow, enter a 'Process Note' if desired, and select **Finish** to remove all objects from the state.



## Removing Objects from the Final State

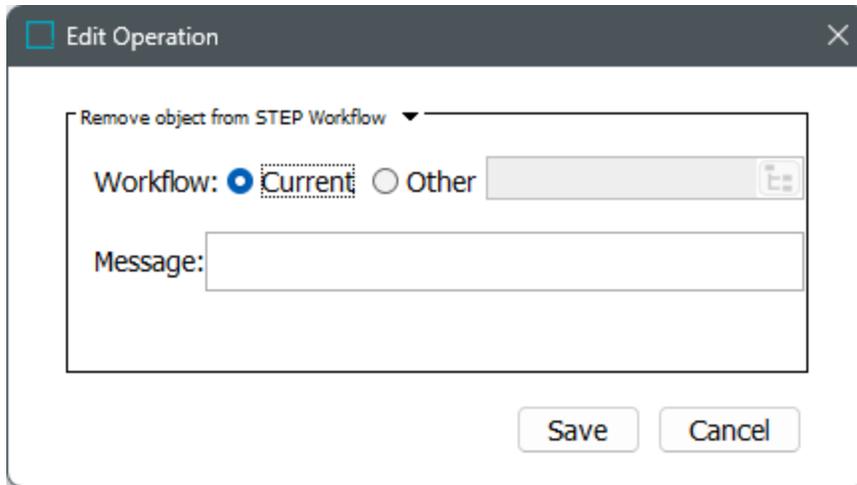
As objects by default stay in the final states of the workflow until explicitly removed, it is highly recommended to automatically take the objects out of the workflow when reaching a final state on the outer level. This can be done one of two ways: use the 'Remove object from STEP Workflow' business action or use an 'Execute JavaScript' business action. Both business actions can be used on states other than the final state, however, the information described below is the most typical scenario in which these actions are used.

### Remove object from STEP Workflow Business Action

To set up the business action:

1. Navigate to System Setup, open the STEP Workflow Designer for the desired workflow, and right-click on the outer level **Final State** (labeled 'End State').
2. In the State Editor dialog, select the On Entry tab click the 'Add new Business Action' link.

3. From the dropdown menu select 'Workflow' and the **Remove object from STEP Workflow** option.
4. The **Current** radio button is selected by default. (If using this business action to be invoked outside of a workflow or if the current action should apply to a different workflow, select Other and specify a different workflow.)
5. If desired, add a message to be logged in the Note field of the object State Log.



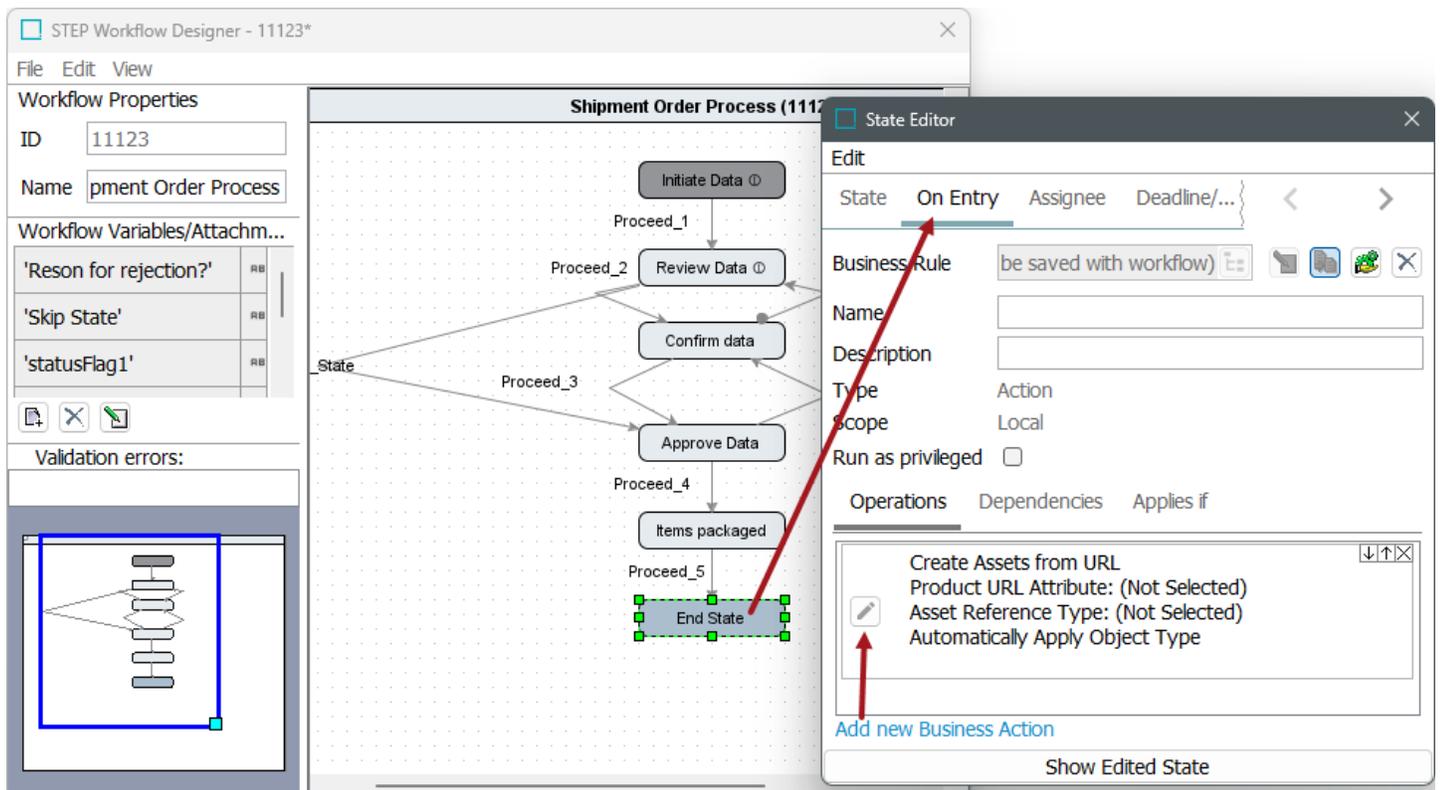
6. Click **Save** and also save your changes before exiting the STEP Workflow Designer.

## Execute JavaScript Business Action

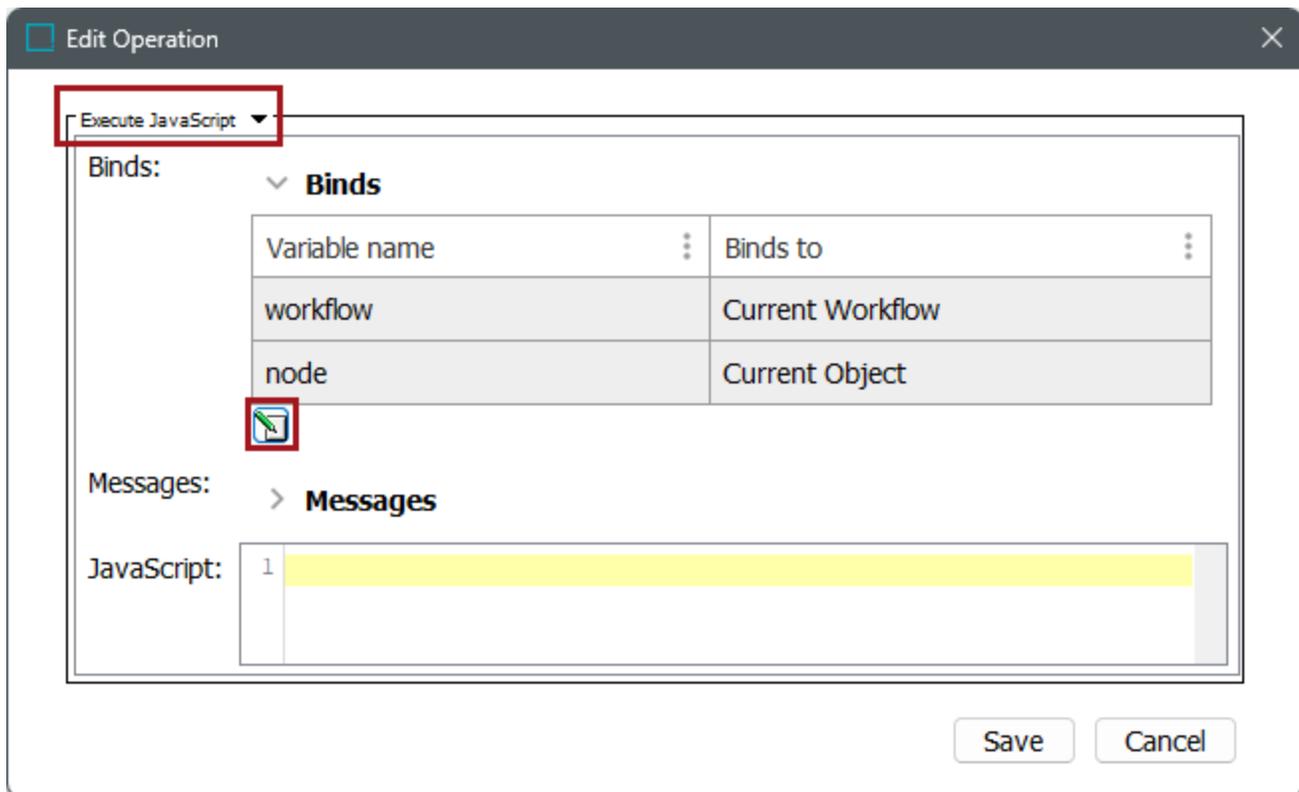
If below script is entered in a business action configured 'On Entry' to the final state, once objects enter the state, they will be removed from the workflow and the supplied process note posted to the State Log if one was entered.

```
node.getWorkflowInstance(workflow).delete("Object automatically removed from Workflow");
```

1. To add the above script to a business action, navigate to System Setup, open the STEP Workflow Designer for the desired workflow, and right-click on the outer level **Final State** (labeled 'End State').
2. In the State Editor dialog, select the On Entry tab and click the 'Add new Business Action' link.



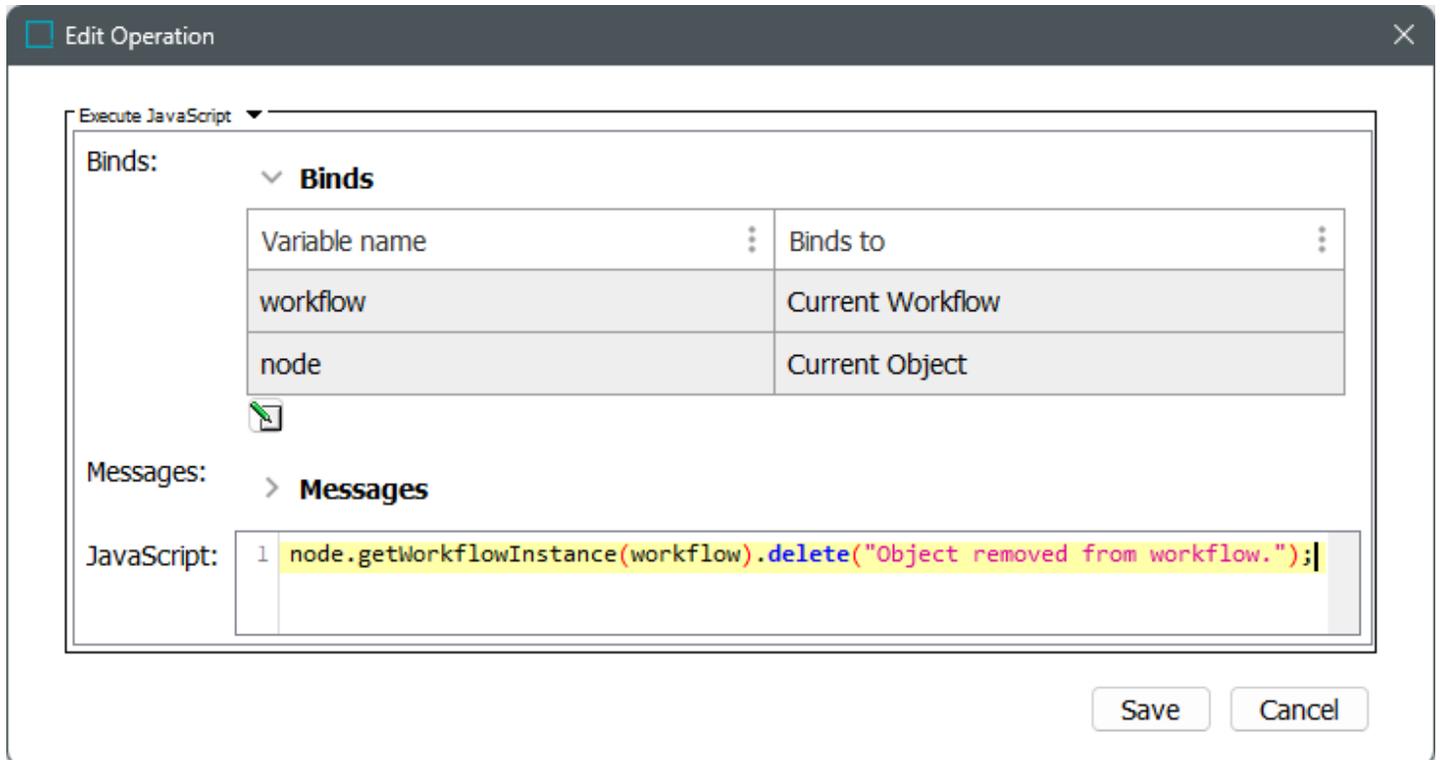
3. Select 'Execute JavaScript' from the dropdown menu, and click on the **Edit Binds** button to add any necessary binds. The two variables and binds for this example workflow are: 'workflow' to Current Workflow and 'node' to Current Object.



4. Add the following script in the JavaScript window.

```
node.getWorkflowInstance(workflow).delete("Object removed from workflow.");
```

The variable name for the Current Workflow bind is used in the script. If necessary, replace it with your own variable name.

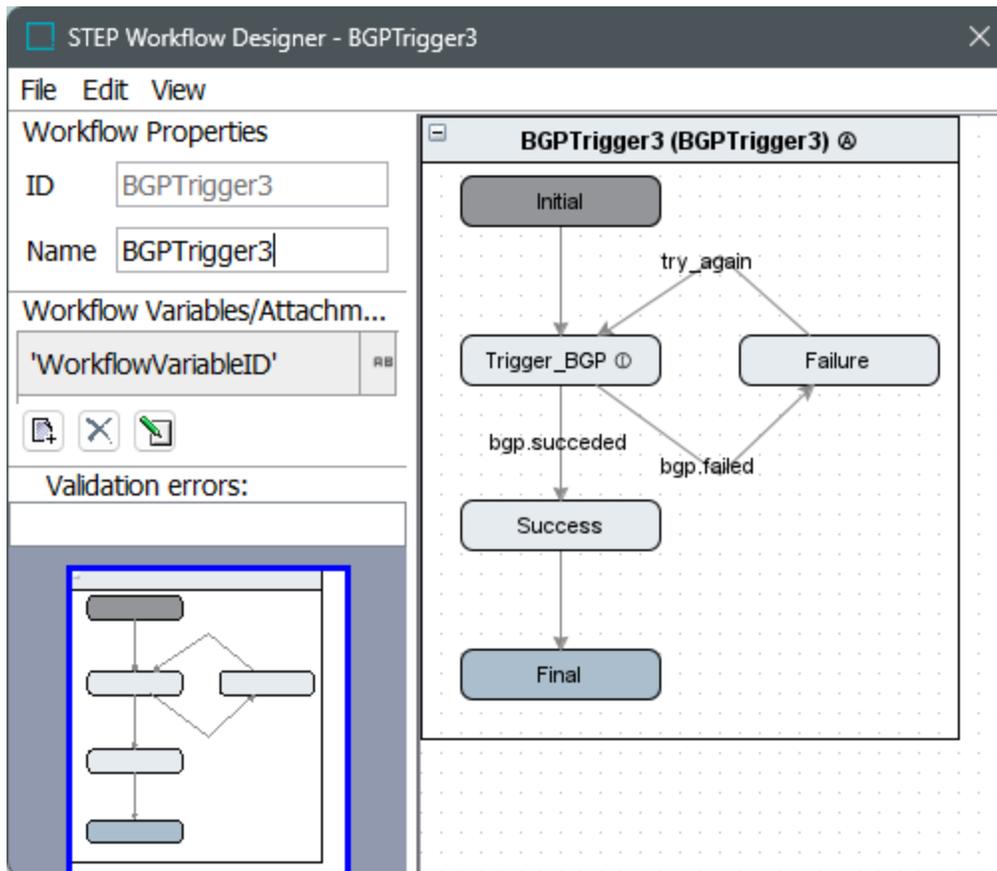


5. Click **Save** and also save your changes before exiting the STEP Workflow Designer.

## Running Background Processes from Workflows

Via the API Task interface, you can start a background process (BGP) and have events triggered on the task matching the end status of the background process. The image below shows a simple workflow where an Approve Recursively Background Process is started when entering the 'Trigger\_BGP' state. When the background process is done, one of the transitions out of the state will be performed based on the end status of the background process. For example, if the end status is 'succeeded', the "bgp.succeeded" event will be triggered. If the status fails, the "bgp.failed" event will be triggered. Similar to the 'StateID.Something' (where 'Something' stands for the user's word choice) and 'stibo.import' events, any event beginning with 'bgp.' will be hidden in the STEP Workflow Items editor and on the Object Tasks tab.

In the image below, as soon as a task is released to the 'Trigger\_BGP' state, the Approve Recursively with a BGP process script will execute.



Once a BGP has finished, if a particular task / item needs to be investigated, a user can navigate to its State Log tab and view all Background Process IDs that occurred.

## Space Adventure Game

Sales Item • 4% Complete • Revision: 0.6

STEP Workflow Items   Product   Data Containers   Sub Products   References   Referenced By   Images & Documents

### ▼ BGPTtrigger3

Show transitions    Show assignments    Show notes    Show status flag changes

	Time	User	Event	From State	To State	Note	Assign
⋮	Thu Jan 09 09:45:0...	USERJ		Success			USE
⋮	Thu Jan 09 09:45:0...	USERJ	bgp.succeeded	Trigger_BGP	Success		
⋮	Thu Jan 09 09:45:0...	USERJ		Trigger_BGP			USE
⋮	Thu Jan 09 09:45:0...	USERJ	try again	Failure	Trigger_BGP		
⋮	Thu Jan 09 09:27:2...	USERJ		Failure			USE
⋮	Thu Jan 09 09:27:2...	USERJ	bgp.failed	Trigger_BGP	Failure	Process (BGP_6005570) triggered on status failed	
⋮	Thu Jan 09 09:27:2...	USERJ		Trigger_BGP			USE
⋮	Thu Jan 09 06:51:4...	USER7		Initial	Trigger_BGP		
⋮	Thu Jan 09 06:51:3...	USER7		Initial			USE
⋮	Thu Jan 09 06:51:3...	USER7			Initial		

To examine additional background process information, go to the BG Processes tab and review the background processes for the relevant workflow or search for the Background Process ID.

**BG Processes** ✕

Execution Overview

- ▼ Approve Recursively
  - Queued Processes
  - ▼ Active Processes
    - Approve Mobile Phones
    - Approve Mobile Phones
    - Approve P7005
    - Approve P7005
    - Approve P7005
    - Approve Home Theater
    - Approve Nuts and Bolts
    - Started from Workflow
    - Started from Workflow
  - ▼ Ended Processes
    - Approve Electronics
    - Approve GDSN Products
    - Started from Workflow
- ▶ ApproveApplicationBGP
- ▶ ApprovePerspective
- ▶ Asset Export
- ▶ Asset Integrity check
- ▶ Asset importer process
- ▶ AssetDelivery
- ▶ AsyncJobRunner
- ▶ AsyncPollerRunner
- ▶ Autopage Batch Service
- ▶ BGPTest
- ▶ Bulk Update

### Started from Workflow

Background Process

---

▼ **Properties**

Property	Value
Started by	USERJ
Id	BGP_6005589
Description	Started from Workflow
Execution Server	doc-dev.stibo.com
Progress	Done
Status	succeeded
Priority	Medium
Created	Thu Jan 09 14:45:04 EST 2025
Started	Thu Jan 09 14:45:04 EST 2025
Finished	Thu Jan 09 14:45:04 EST 2025
Processing Time	0 m 0 s
Time in Queue	0 m 0 s
# of warnings	0
# of errors	0

▼ **Execution Report**

- 1 Recursive approval started on '236124' in context 'English US' (Thu Jan 09 14:45:04 EST 2025)
- 2 Approved 0 classifications; 1 products; 0 assets; 0 entities.. (Thu Jan 09 14:45:04 EST 2025)
- 3 Recursive approval of 1 objects done. 0 warnings and 0 errors. (Thu Jan 09 14:45:04 EST 2025)

If the BGP fails, review the BGP report to determine the reason.

## Started from Workflow

### Background Process

#### ▼ Properties

Property	Value
Started by	USERJ
Id	BGP_6005570
Description	Started from Workflow
Execution Server	doc-dev.stibo.com
Progress	100%
Status	failed 
Priority	Medium
Created	Thu Jan 09 14:27:24 EST 2025
Started	Thu Jan 09 14:27:26 EST 2025
Finished	Thu Jan 09 14:27:26 EST 2025
Processing Time	0 m 0 s
Time in Queue	0 m 2 s
# of warnings	0
# of errors	1

#### ▼ Execution Report

- 1 Recursive approval started on '236124' in context 'English US' (Thu Jan 09 14:27:26 EST 2025)
- 2 Approved 0 classifications; 1 products; 0 assets; 0 entities.; 1 errors (Thu Jan 09 14:27:26 EST 2025)
- 3 Approve error report for [Space Adventure Game](#)
- !4 Unable to approve object due to missing mandatory values on attribute(s): step://attribute?id=PvP<br
- 5 Recursive approval of 1 objects done. 0 warnings and 1 errors. (Thu Jan 09 14:27:26 EST 2025)

In the case of this 'Approve Recursively' workflow example, the task will be moved to the Failure state, and once the error is fixed, the task can be moved from the Failure state by selecting the event 'Try\_Again'. If the BGP is successful, it will move to the Success state.

## On Entry Background Process Script

While the script below could be used for other scenarios, two scenarios that this script can be used with workflow for are the following:

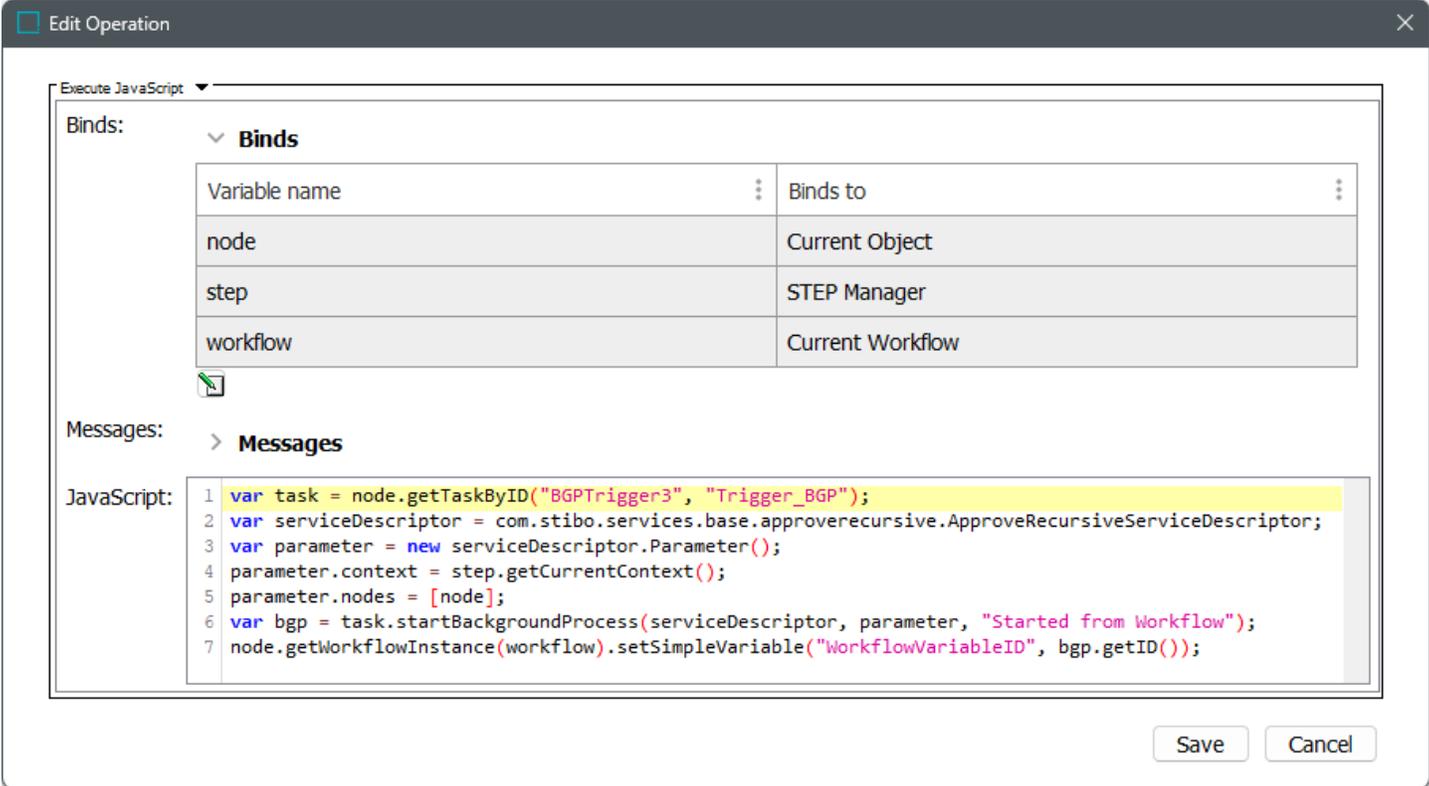
1. If an object is required to run a translation, and it is mandatory that an object is in the approved state before running the translation.
2. If there is any extraction required from the Approved workspace.

The On Entry script that starts the background process is shown below. The last line stores the ID of the started background process in a workflow variable with ID 'BGP ID'. The ApproveRecursiveServiceDescriptor is described in the public API documentation, accessed by clicking the 'Technical Documentation' button on the Start Page.

```
var task = node.getTaskByID("WorkflowID", "WorkflowStateID");
var serviceDescriptor =
com.stibo.services.base.approverecursive.ApproveRecursiveServiceDescriptor;
var parameter = new serviceDescriptor.Parameter();
parameter.context = step.getCurrentContext();
parameter.nodes = [node];
var bgp = task.startBackgroundProcess(serviceDescriptor, parameter, "Started from Workflow");
node.getWorkflowInstance(workflow).setSimpleVariable("WorkflowVariableID", bgp.getID());
```

**Note:** The 'WorkflowID' and 'WorkflowStateID' in the top line, and 'WorkflowVariableID' in the bottom should be replaced by the users desired workflow information.

The On Entry script in the state 'Trigger\_BGP' will look like the image below. Also notice that the image below has filled in the appropriate 'WorkflowID,' 'WorkflowStateID,' and 'WorkflowVariableID' in accordance to the workflow information.



The screenshot shows the 'Edit Operation' dialog box with the following content:

**Execute JavaScript**

**Binds:**

Variable name	Binds to
node	Current Object
step	STEP Manager
workflow	Current Workflow

**Messages:** > Messages

**JavaScript:**

```
1 var task = node.getTaskByID("BGPTrigger3", "Trigger_BGP");
2 var serviceDescriptor = com.stibo.services.base.approverecursive.ApproveRecursiveServiceDescriptor;
3 var parameter = new serviceDescriptor.Parameter();
4 parameter.context = step.getCurrentContext();
5 parameter.nodes = [node];
6 var bgp = task.startBackgroundProcess(serviceDescriptor, parameter, "Started from Workflow");
7 node.getWorkflowInstance(workflow).setSimpleVariable("WorkflowVariableID", bgp.getID());
```

Buttons: Save, Cancel

## Scheduling a Task Notification Email

It is possible to send an automated email notifying users of all required workflow tasks by scheduling a bulk update that uses a business action. This email notification provides users with a single location for all assigned tasks, and enables users to better prioritize which tasks need to be addressed first.

### Prerequisites

All of the configuration steps provided in this topic assume the user has knowledge of configuring collections, bulk updates, business actions, and workflows.

For more information on collections, refer to the Collections topic in the Getting Started documentation.

For more information on bulk updates, refer to the Bulk Updates topic in the in Bulk Updates documentation.

For more information on business actions, refer to the Business Actions topic in the Business Rules documentation.

For more information on workflows, refer to Workflows documentation.

### Setting Up Email Notifications

To email a user their assigned tasks from a workflow the following elements must be created: a collection, a business action, and a bulk update. Once configured, an email notification containing a consolidation of all active tasks from one or more workflows is sent to the user(s) or user group(s) that are assigned the tasks.

To configure these, follow the directions listed below.

1. Create a collection with a single object in it that is permanent. The chosen permanent object needs to be something that will never be deleted from the system because it will be used in the scheduled bulk update. Additionally, if more than one object is added to the collection, multiple email notifications could be sent, which is not the desired outcome. The 'Primary Product Hierarchy' is used in this example.

**Tree** ✕

- ▼ Collections
  - ▶ Addresses
  - ▶ alarms
  - ▶ AllItems
  - ▶ All PPH
  - ▶ auto
  - ▶ Backplate
  - ▶ Baskets
  - ▶ BatteryBackupClocks
  - ▶ Blue
  - ▶ Bottled Water
  - ▶ **Bulk Notification Object**
    - Primary Product Hierarchy
  - ▶ byName
  - ▶ byNameDK
  - ▶ Collection
  - ▶ Collection2
  - ▶ Collection-ItemColor
  - ▶ CommDataProducts
  - ▶ Copy Writing State
  - ▶ Cotton Shirts with DK Desc
  - ▶ Cotton T-shirts

### Bulk Notification Object

[Collection](#)   [Data Profile](#)   [Log](#)

---

▼ **Description**

	Name			Value
⋮	ID			6000859
⋮	Name			Bulk Notification Object
⋮	Estimated Amount ...			1
⋮	Search URL			step://search?args0.0=IncludeDataContainers%3dno%2csearchStrin
⋮	Last edited By			2025-01-06 10:13:28 by USERJ
⋮	Purpose		ABC	

▼ **Statistics**

**Collection Content**

1 object(s)  
Notice: Objects in Collection may be hidden in Tree due to Context/Workspace visibility and/or privilege checks

**Content by Object Type**

**Product (1)**

- Primary Product Classification (1)

2. Create a business action that checks the relevant workflow(s) and their state(s) for tasks. Configure the business action so that if the desired object types are in the designated workflow state(s), then an email will be created and sent to the designated user. In this example, the business action is called 'Bulk Notification.'

**Business Rule Editor - Bulk Notification**

ID: BulkNotification  
 Name: **Bulk Notification**  
 Description:  
 Type:  
 Scope:  
 On Approval:  
 Valid Objects:  
 Run as:  
 Operations:

**Edit Operation**

Execute JavaScript

**Binds:**

Variable name	Binds to
manager	STEP Manager
qh	Query Home
mh	Mail Home

**Messages:** Messages

**JavaScript:**

```

1 // Setup Query for items in a specific workflow state.
2 var workflow = manager.getWorkflowHome().getWorkflowByID("ItemCreation");
3 var supplierEnrichState = workflow.getStateByID("Supplier_Enrichment");
4 var c = com.stibo.query.condition.Conditions;
5 var querySpecification = qh.queryWorkflowTasks().where (
6   c.workflow().eq(workflow)
7   .and(c.state().eq(supplierEnrichState))
8 );
9
10 // Execute Query and create an email message with simple HTML table for items.
11 var query = querySpecification.execute();
12 var itemCount = 0;
13 var mailMessage = "Workflow: " + workflow.getTitle() + "<br/>";
14 mailMessage = mailMessage + "State: " + supplierEnrichState.getTitle() + "<br/><br/>";
  
```

Buttons: Save Test JavaScript Cancel

To create this business action, under 'Binds,' create variable names to bind to STEP Manager, Query Home, and Mail Home (in the Other category). In the example, the following binds were created:

For a full JavaScript code example, refer to the online version of this topic.

3. Create a bulk update configuration that runs the business action just created, as shown in the screenshot below. Schedule the bulk update to run with the collection that was defined using the business action.

**Bulk Update** [Close]

1. Configuration  
**2. Operations**  
 3. Parameters  
 4. Preview  
 5. Advanced

### Operations

Run Business Rule ▾

Business Rule Condition [ ] [ ] [ ] [ ]

Business Rule Action Bulk Notification (BulkNotification) [ ] [ ]

[Add Operation](#)

[ Back ] [ Next ] [ Finish ] [ Cancel ]

4. Save the Bulk Update configuration.

**Bulk Update** [Close]

1. Configuration  
 2. Operations  
 3. Parameters  
 4. Preview  
**5. Advanced**

### Advanced

Do not run now  
 Auto Approve  
 Pre-flight

Save Configuration /Bulk Update Configurations/TaskCheck [ ] [ ]

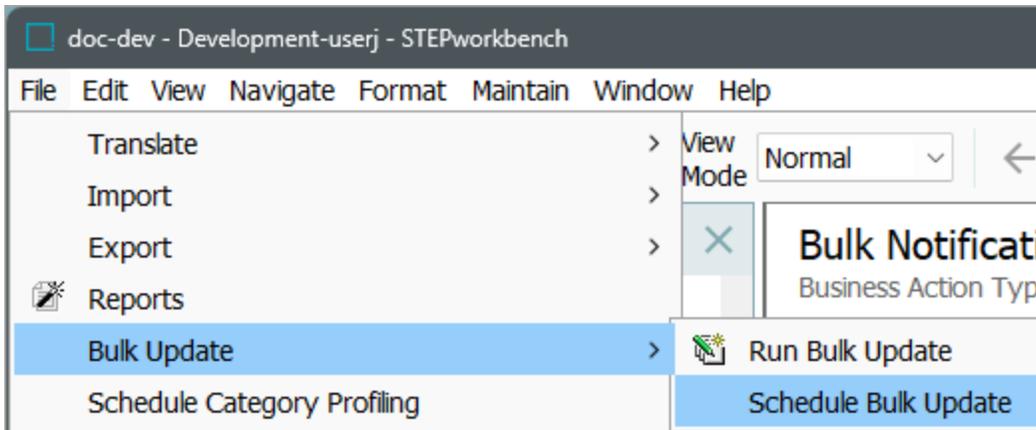
Process Description: Bulk Update [ ]

Available for object types All ▾

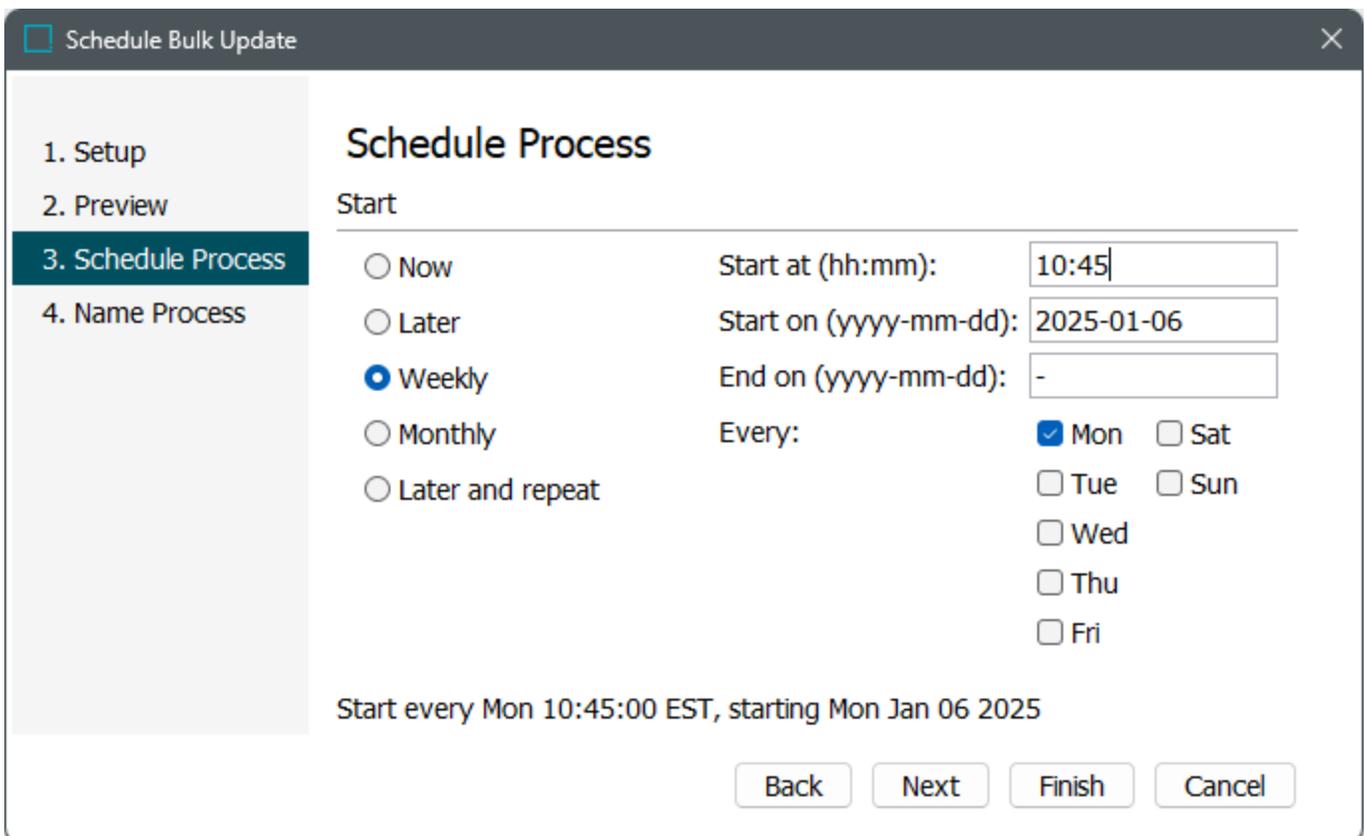
[ ] [ ... ]

[ Back ] [ Next ] [ Finish ] [ Cancel ]

5. Navigate to and select the saved collection created earlier with only one object in it. From the File menu, select Bulk Update and Schedule Bulk Update.



6. Select the bulk update configuration just created and proceed through the wizard to set the schedule. Since there is only one object in the collection configured on the bulk update, the business action will only run one single time.



7. When complete, an email is sent to the user listing the tasks they are responsible for in the designated workflow(s) and their state(s).

4 Items in Supplier\_Enrichment

      Share to Teams  Zoom 

4 Items in Supplier\_Enrichment

[noreply@stibosystems.com](mailto:noreply@stibosystems.com)  
To: Joe Buck      

Mon 1/6/2025 10:45 PM

Workflow: Item Creation  
State: Supplier Enrichment

ID	Name
267850	Front Left Speaker
267853	Center Speaker
5995400	Rear Right Speaker
359767	18210 M B

 Reply  Forward

## Send Email from a Workflow

Generally emails are sent from a workflow to a user to escalate the importance of a task as it moves during the transition from one state to another. There are a number of reasons why a workflow might be setup to do this. One reason might be that a task was rejected from a state by the 'reviewer' due to the task not being done correctly. In this case, if there was a business action set up on the transition to notify the previous user, the user then would receive an email saying that the task they had previously pushed through was sent back. No matter the reason for setting up email notifications from workflows, it is possible to set this configuration up via a business action utilizing the "Mail Home" bind. The business action can be configured or used on the State Editor screen in the 'Deadline/Escalation', 'On Entry', or 'On Exit' tabs, as well as on the Transition Editor on the 'On Transition' tab.

For information on configuring email from STEP, refer to the Email from STEP topic in the Resource Materials online help documentation.

## Dynamic Email Addresses

When sending emails from a workflow, it is often necessary to send emails to different users who interact with the same workflow. One scenario for this might be that a number of users may claim tasks from the same state. If the task is later released, and then rejected due to an error, it is important to inform the correct user who last worked on it.

## Configuring Emails from Workflows

The script example below shows how an email address defined on a STEP User can be obtained, and how an email without attachments is sent to that user. In the following example, this script is used on a Transition Editor on the 'On Transition' tab.

```
var userId = node.getWorkflowInstance(workflow).getSimpleVariable("VariableHoldingUserID");
var emailAddress = step.getUserHome().getUserById(userId).getEmail();
if(emailAddress) {
    mail.send("noreply@stibo.com", emailAddress, "From Workflow",
        "This is a mail sent from a Workflow");
}
else {
    logger.warning("No email address specified for User with ID " + userId);
}
```

## Conditions

To execute the above configuration, the following two conditions must be met for 'Sending Email from a Workflow'.

1. A Simple Mail Transfer Protocol (SMTP) server must be configured in the executing system.
2. The user who is to receive the email should be entered into the User tab under description. To do so, go to System Setup, navigate to the node that houses Users and Groups, expand the node and click on the user who will be emailed. Enter in their name and email.

**System Setup** ✕

- ▼ Super Users
  - User
  - User 11
  - User 12
  - User 2
  - User 3
  - User 4
  - User 5
  - User 6
  - User 7
  - User 8
  - User 9
  - User A
  - User B
  - User E
  - userg
  - User H
  - User J**
  - User K
  - User L

## User J

User

[User](#)   [GUI Set-Up](#)   [System Settings](#)   [Log](#)

---

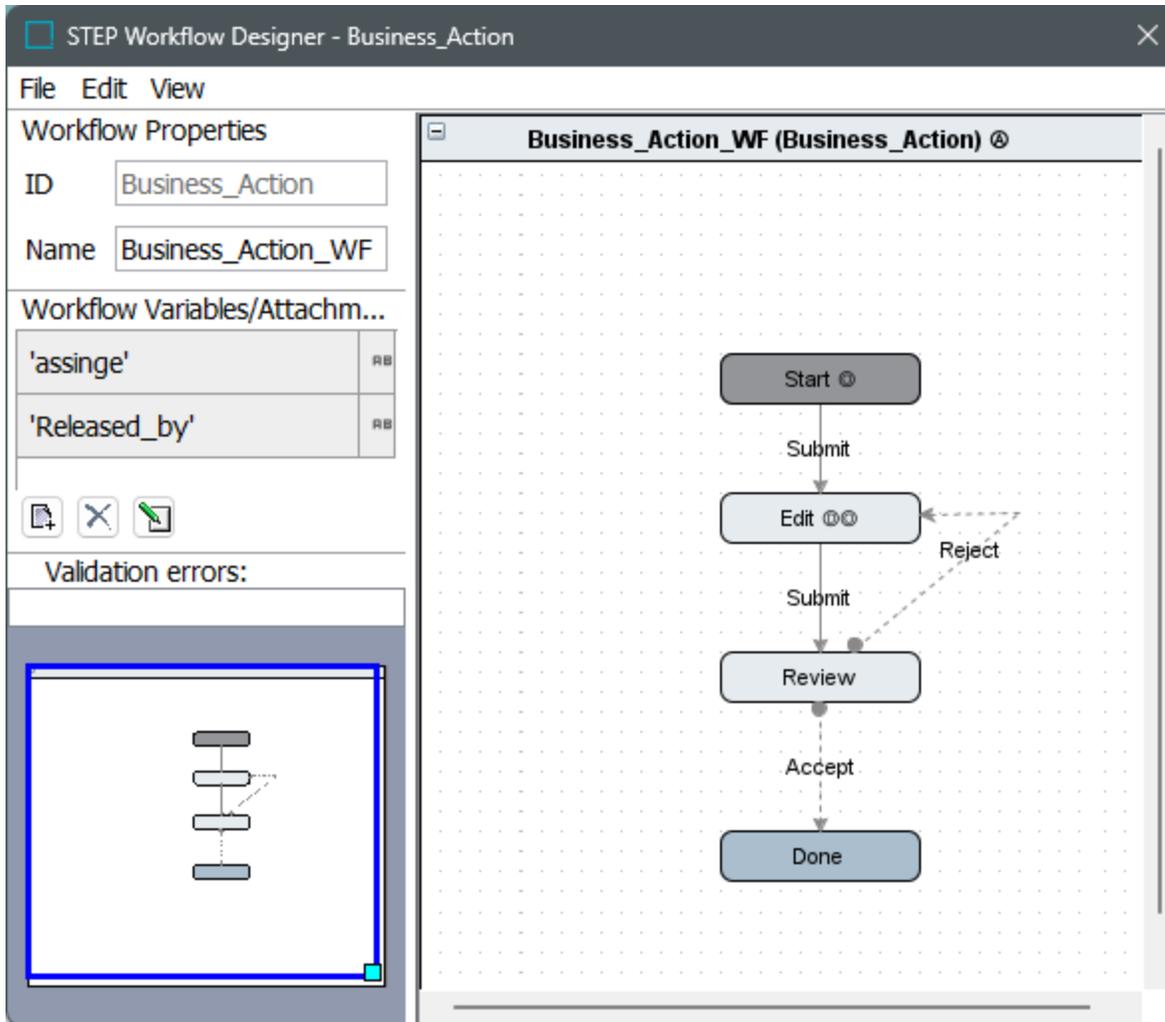
▼ **Description**

	Name	⋮	⋮	Value	⋮
⋮	ID			USERJ	
⋮	Name			User J	
⋮	E-Mail			email@domain.com	
⋮	Group Information		RBC		
⋮	User Information		RBC		
⋮	<a href="#">Change User Password</a>				

▼ **Groups**

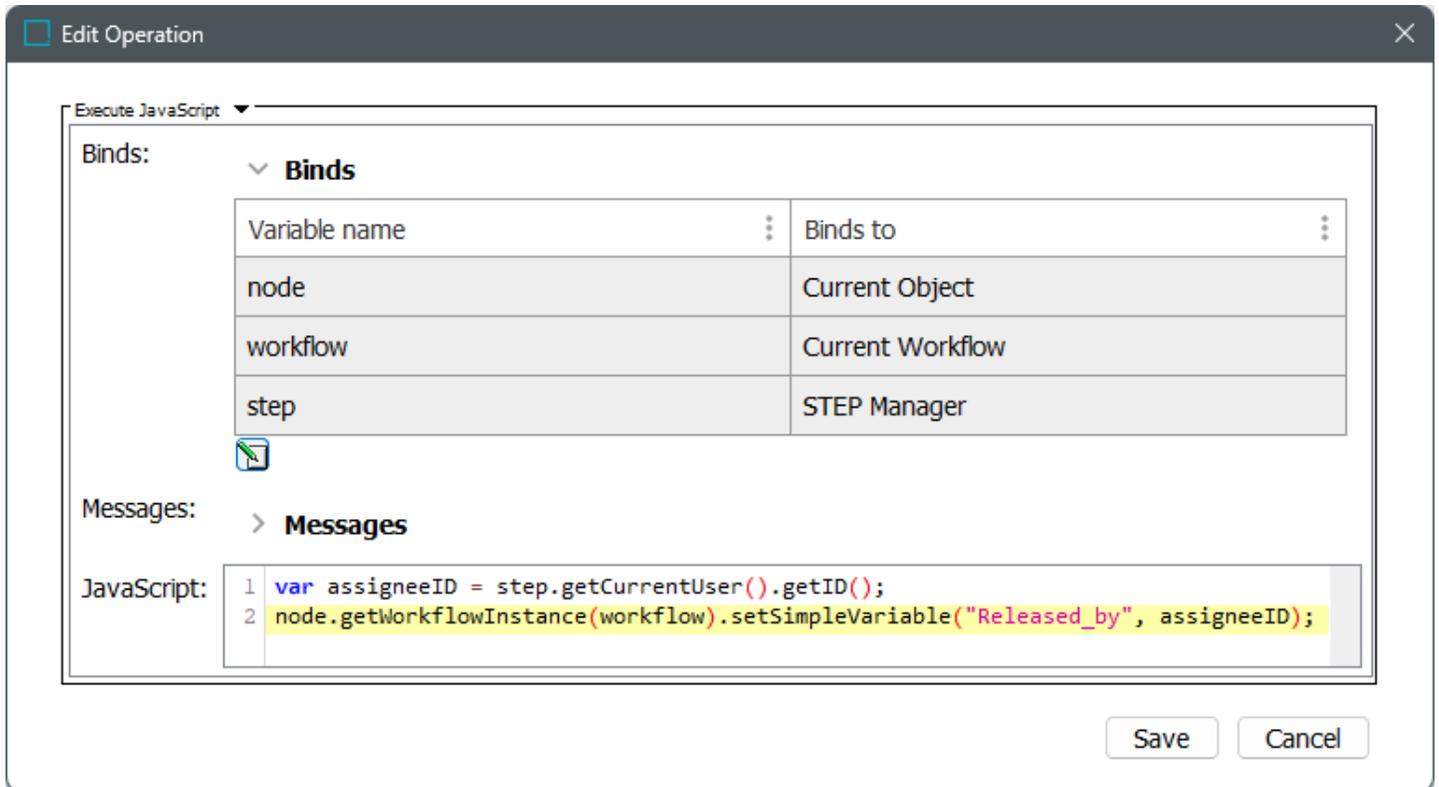
	Name	▼	Group Information	⋮
⋮	Super Users			
⋮	<a href="#">Add User to Group</a>			

In the example below, there are two business actions set up to send emails to various users.



One business rule is on the State Editor on the 'On Exit' tab coming from the Edit state going to the Review state. This business action, which is pictured below, is set up to retrieve the email ID of a user who submits a task from Edit state to the Review state as a variable. In this case, 'Released\_by' is the variable defined to retrieve the email ID.

Refer to the Workflow Variables topic for more information.



The second business action is on the Transition Editor on the 'On Transition' tab. This transition is coming from the Review state going to the Edit state and has the event name Reject.

The business action script uses the variable 'Released\_by' as well, where it is helping to identify who to send the workflow email to and notify that the task they just submitted was rejected. This script also is sending the email to the user without any attachments other than the message. Notice that the message shown in pink, can be crafted to say anything that might be helpful to the receiver whenever a task is rejected.

Edit Operation
✕

Execute JavaScript ▾

**Binds:**

▼ **Binds**

Variable name	Binds to
node	Current Object
step	STEP Manager
workflow	Current Workflow
mail	Mail Home

**Messages:**

> **Messages**

**JavaScript:**

```

1 var userId = node.getWorkflowInstance(workflow).getSimpleVariable("Released_by");
2 var emailAddress = step.getUserHome().getUserById(userId).getEmail();
3 if(emailAddress) {
4     mail.send("noreply@stibo.com", emailAddress, "From Business Action Workflow",
5         "This is a mail sent from a Workflow, as one of the tasks was rejected");
6 }
7 else {
8     logger.warning("No email address specified for User with ID " + userId);
9 }

```

If there is no email address registered, or if the email is not a valid one, the executing user is not notified (e.g., no pop-up appears). However, it is captured in the STEP system log on the application server.

If the user doing the rejecting should be notified that no email was sent and provided with an error message, then a business condition must be added to the Transition Editor on the 'Condition' tab. The following script is what should be entered in below.

```

var userId = node.getWorkflowInstance(workflow).getSimpleVariable("Released_by");
var emailAddress = step.getUserHome().getUserById(userId).getEmail();
if(emailAddress) {
    return true;
}
else {
    return "No email address specified for User with ID " + userId;
}

```

Edit Operation
✕

Execute JavaScript

**Binds:**

▼ **Binds**

Variable name	Binds to
node	Current Object
step	STEP Manager
workflow	Current Workflow

**Messages:**

> **Messages**

**JavaScript:**

```

1 var userId = node.getWorkflowInstance(workflow).getSimpleVariable("Released_by");
2 var emailAddress = step.getUserHome().getUserById(userId).getEmail();
3 if(emailAddress) {
4     return true;
5 }
6 else {
7     return "No email address specified for User with ID " + userId;
8 }
                
```

Save
Cancel

## Static Email Address

In the above scenario, STEP will trigger emails to the executing users. However, in some cases the same user will always need to be notified and never change (a static email address). In this case it is possible to send emails to the static email address with the 'Send Email' operation, and no JavaScript is needed.

This 'Send Email' operation can be added in a State Editor on the 'On Entry', 'On Exit' or 'Escalation' tabs. It can also be sent in the Transition Editor on the 'On Transition' tab. Select the appropriate Editor and tab and then select Add new Business Action > edit Operation > **Send Email**.

Edit Operation ✕

Send Email ▾



To:

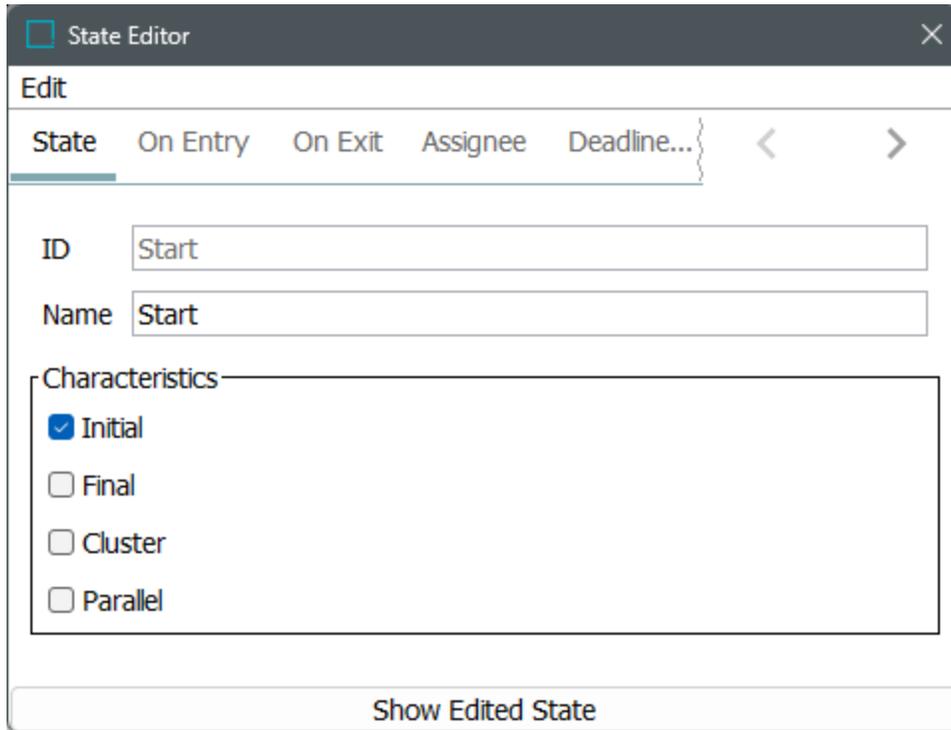
From:

Subject:

Message:

## State Characteristics in Workflows

The State tab of the State Editor allows for workflow designers to assign specific characteristics to a state.



The screenshot shows a window titled "State Editor" with a close button. Below the title bar is a tabbed interface with the "State" tab selected. Other tabs include "On Entry", "On Exit", "Assignee", and "Deadline...". The "State" tab contains two input fields: "ID" and "Name", both containing the text "Start". Below these is a "Characteristics" section with four checkboxes: "Initial" (checked), "Final", "Cluster", and "Parallel". At the bottom of the window is a button labeled "Show Edited State".

When creating states for a workflow, not all states need a characteristic assigned to them. Many states will not have any characteristics assigned, but in some cases state characteristics become very important. For example, in order for a workflow to be valid, it needs one Initial state and one Final state. Additionally, if clusters are present in a workflow, there also needs to be one Initial state inside the cluster.

This section of the documentation describes the various state characteristics and how they are used within workflows, specifically:

- [Initial and Final States in a Workflow](#)
- [Clusters in Workflows](#)
- [Parallels in Workflows](#)

An additional topic describing the ability to configure a status bar that will display in the Workflow Card in Instrument, is also included in this section:

- [Progress Bar In Workflows](#)

## Initial and Final States in a Workflow

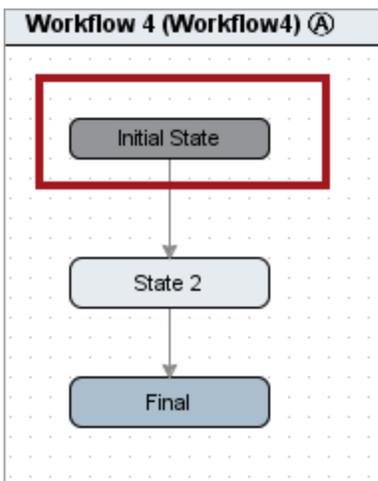
A workflow can have as many states as it needs in order to correctly depict the action or actions taking place. These states all must have at least one transition coming into the state and at least one outgoing transition from the state. However, the two states that every workflow needs, the **Initial State** and a **Final State**, do not necessarily have to abide by these transition rules depending on the workflow layer they reside in.

### Initial

Initial can be a single entry point and can also be multiple entry points that work in parallel.

#### Initial State

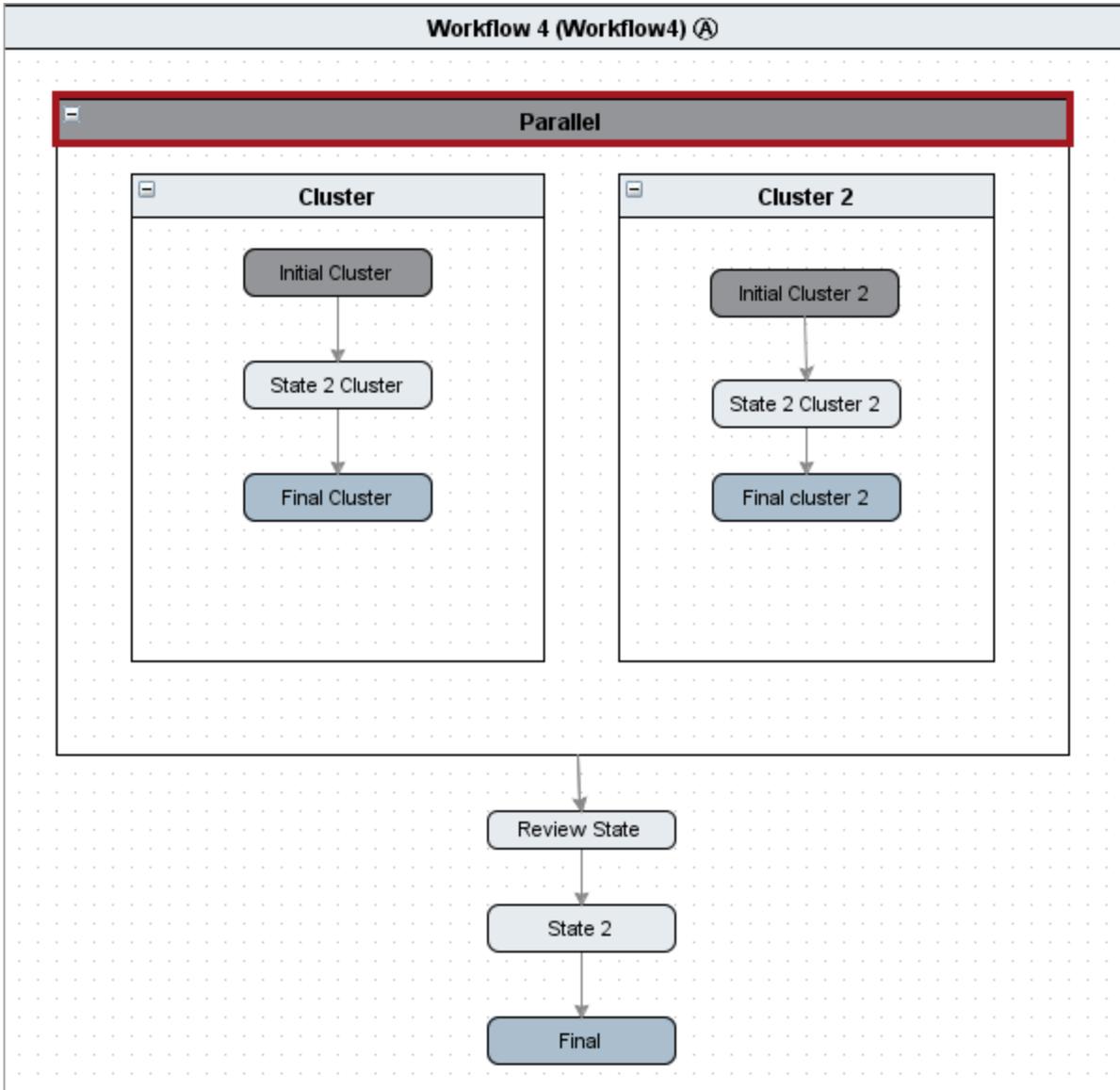
The **Initial State**, represented by a slightly darker colored state, signals to an object entering the workflow where to start. This could be in a simple workflow, such as the one pictured below, or it could be in regards to telling an object which state to start with when entering a cluster. There can only be one outer Initial State for the general workflow, and there can only be one Initial State inside each cluster. An outer layer Initial State does not have an incoming transition, only an outgoing transition. This outer Initial State signals to the object / task entering the workflow where to start. Once an object knows what state to start with, the workflow can progress.



For more on Clusters, refer to Clusters in Workflows.

#### Initial as a Parallel

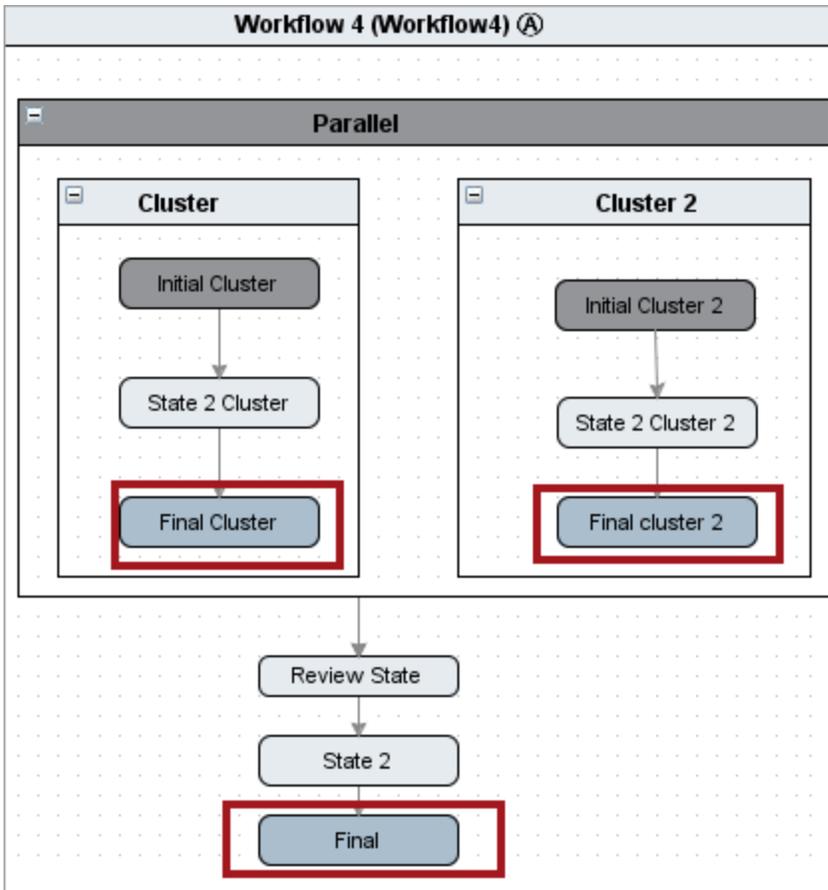
It is often necessary for more than one incident to take place at a time in a workflow. In this case, a **Parallel** structure should be used as the **Initial State**, which auto-initiates the object into the **Initial States** within each cluster simultaneously. The object only leaves the **Parallel** once the object has reached the **Final State** in each cluster.



For more on Parallels, refer to Parallels in Workflows.

## Final

States with the **Final** characteristic are used to denote the ending of either an entire Workflow or a Cluster. Only Final States within Parallels and Clusters can have an incoming and outgoing transition.



All workflows should have a reachable outer layer **Final State**. Never-ending workflows can lead to performance impacts. However, there cannot be transitions out of a outer layer **Final State** characteristic, only incoming transitions. For this reason the outer layer **Final State** rarely represents a human task. When an object reaches a **Final State** on the outer level of a workflow (not in a Parallel or Cluster), it will remain there until the object is taken out of the workflow.

For performance reasons, and because the workflow cannot be started again on an object already in the workflow, it often makes sense to automatically remove objects from the workflow as they reach a **Final State** on the outer level.

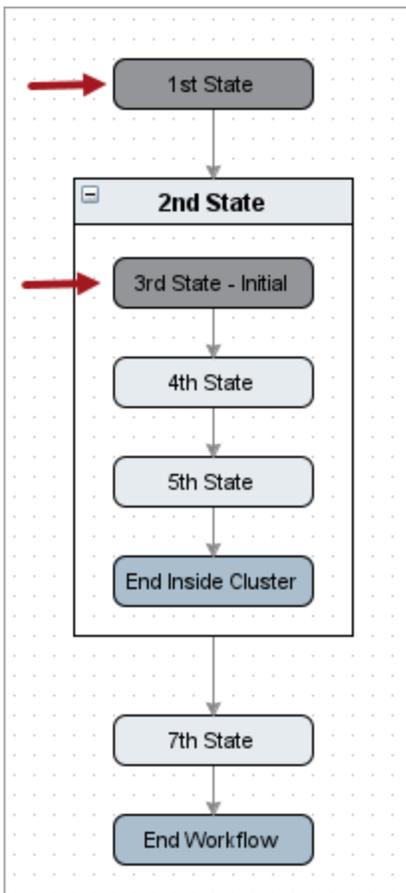
For more on how to automatically remove an object from a workflow refer to Remove Objects from Workflows.

## Clusters in Workflows

A cluster is a grouping of states. There are two main reasons why a grouping of particular states might be beneficial within a workflow. It may be useful for purely administrative reasons, making it possible to easily monitor a section in a workflow, or it may be used in conjunction with other clusters inside of a parallel, which is the more likely use case. For whatever the reason may be, it is important to know how to clusters work and how to create them.

### Creating and Entering Clusters in Workflow

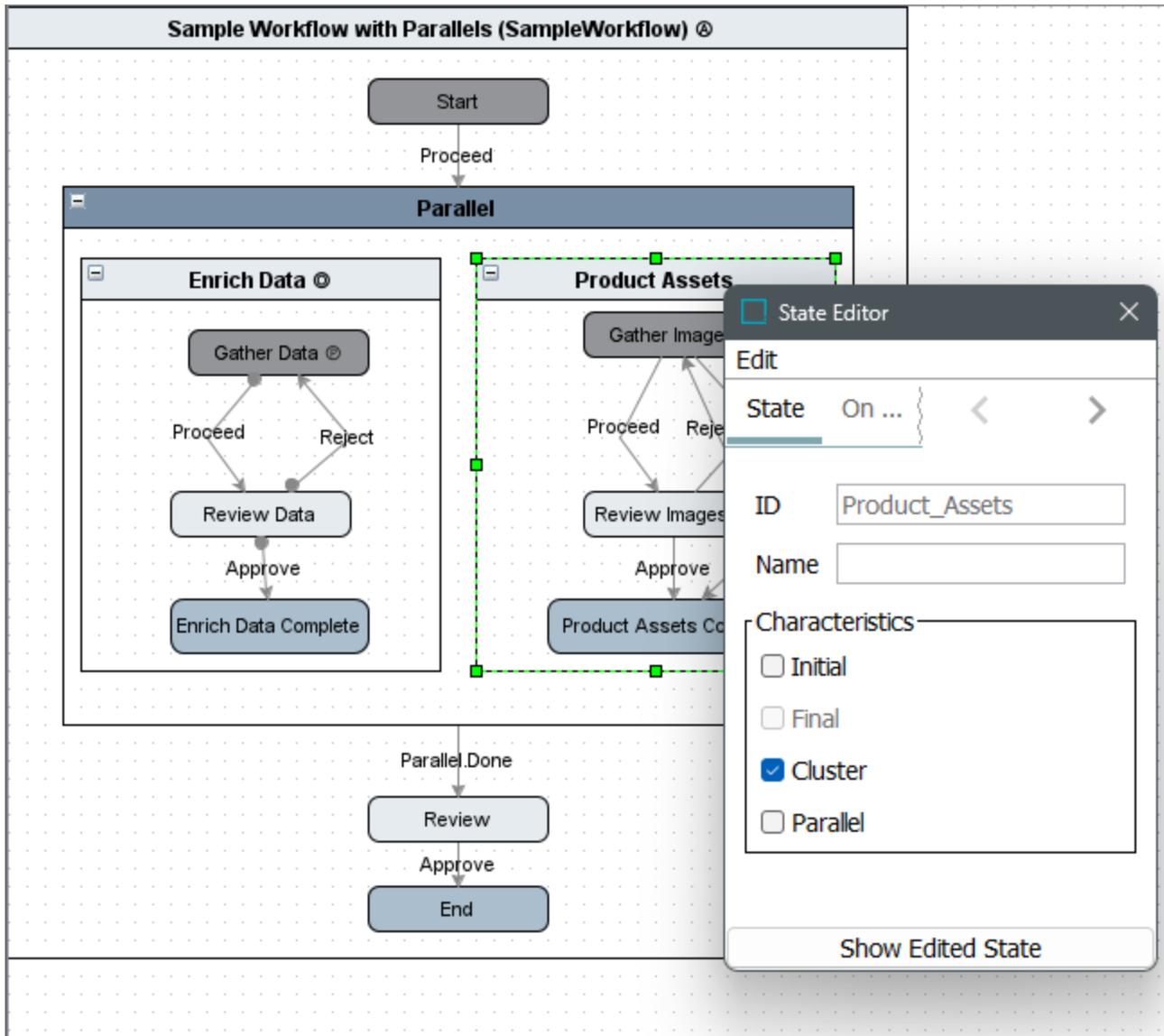
Any state can have the cluster characteristic added to it. This means that the particular state can have sub-states. The first sub-state in a cluster has to be an Initial state in order for the workflow to be valid. This means that there could be multiple states in a workflow with the characteristic of Initial state.



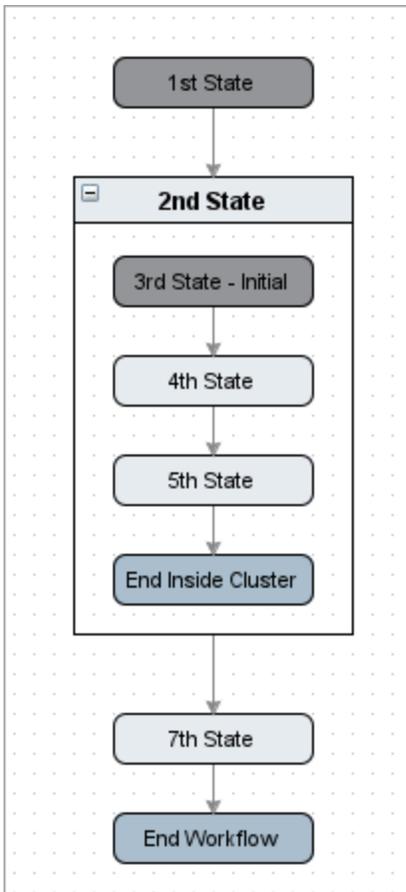
**Note:** For more on the Initial state, refer to Initial and Final States in a Workflow topic.

States with cluster characteristics are states in their own right. If an object is in a cluster sub-state, it is also at the same time in the state with the cluster characteristic.

If a state with a cluster characteristic contains sub-states, the cluster characteristic cannot be deselected in the State Editor.



In looking at the following cluster, it is important to know how an object placed into the workflow would move through it.

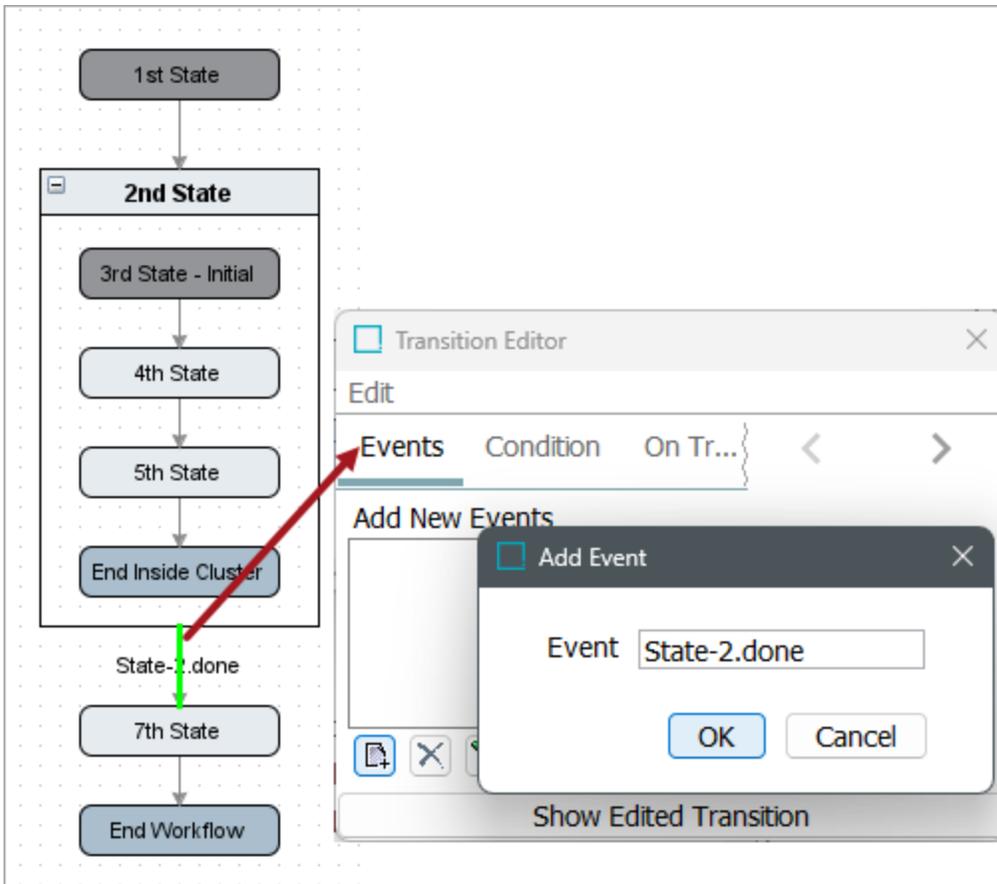


1. After entering the **1st State** (Initial) an object enters the **2nd State**, which is also a cluster.
2. Once in the cluster, the object simultaneously enters into the **3rd State-Initial**.
3. It then proceeds through the next ordered steps until it reaches the **End Inside Cluster** (Final state). Because this is inside a cluster, there is a transition allowed out of this **Final state** (which is different than what is allowed for the ultimate **Final state** of a workflow). In this case, it exits not only the **End Inside Cluster** (Final state), but it also exits the entire cluster and goes to the **7th State**.
4. When exiting the **7th State**, the object proceeds to the **End Workflow** (Final state). The object has reached the end of the workflow.

## Exiting a Cluster in a Workflow

When exiting a Final state in a cluster, the name of events on transitions can aid with the progression of the workflow. If an event on a transition has the naming formula of 'cluster state ID.done' the transition out of the Final state with the cluster characteristic to the next state will be triggered automatically.

For example, in the picture below, the name of the event on the transition from End Inside Cluster (which has the characteristic of a Final state) to 7th State is being named. Following the formula to trigger the transition automatically, the name takes on the 2nd State cluster's ID followed by '.done'.



This is useful for clusters that have their last state in the cluster with the characteristic as Final state, such as the one in the example. Normal functionality dictates that an object in a Final state would stay there until it is manually taken out or there is special coding set up to take the object out of the workflow automatically. However, with this naming system there is no need for a manual removal or special configurations to progress the object through the workflow. This naming configuration allows the object to leave the Final state within the cluster, and also leave the cluster state itself.

The system will always look for a transition out of a cluster that has an event name of 'Cluster ID.done'. If there is not a transition found with this name, the system will look for a transition out of the cluster with no named event and perform that transition.

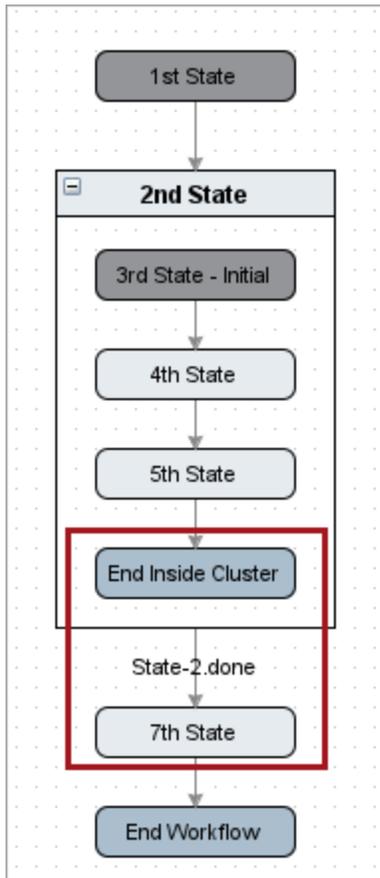
If there are two or more transitions out of the cluster that all have either the 'Cluster ID.done' event name or no named events, the system will randomly perform one of the transitions unless conditions on the transitions determine which one to perform.

If there are only transitions with named events different from 'Cluster ID.done' out of the cluster, objects will remain in the Final state and can only be progressed by triggering events on the cluster state.

**Note:** Prefixing an event on a transition with the ID of the state from which the transition goes and a dot ('.') will cause the event to be hidden to users working with the workflow in the workbench. This approach should be used whenever you have a 'system' event that must not be triggered by human users.

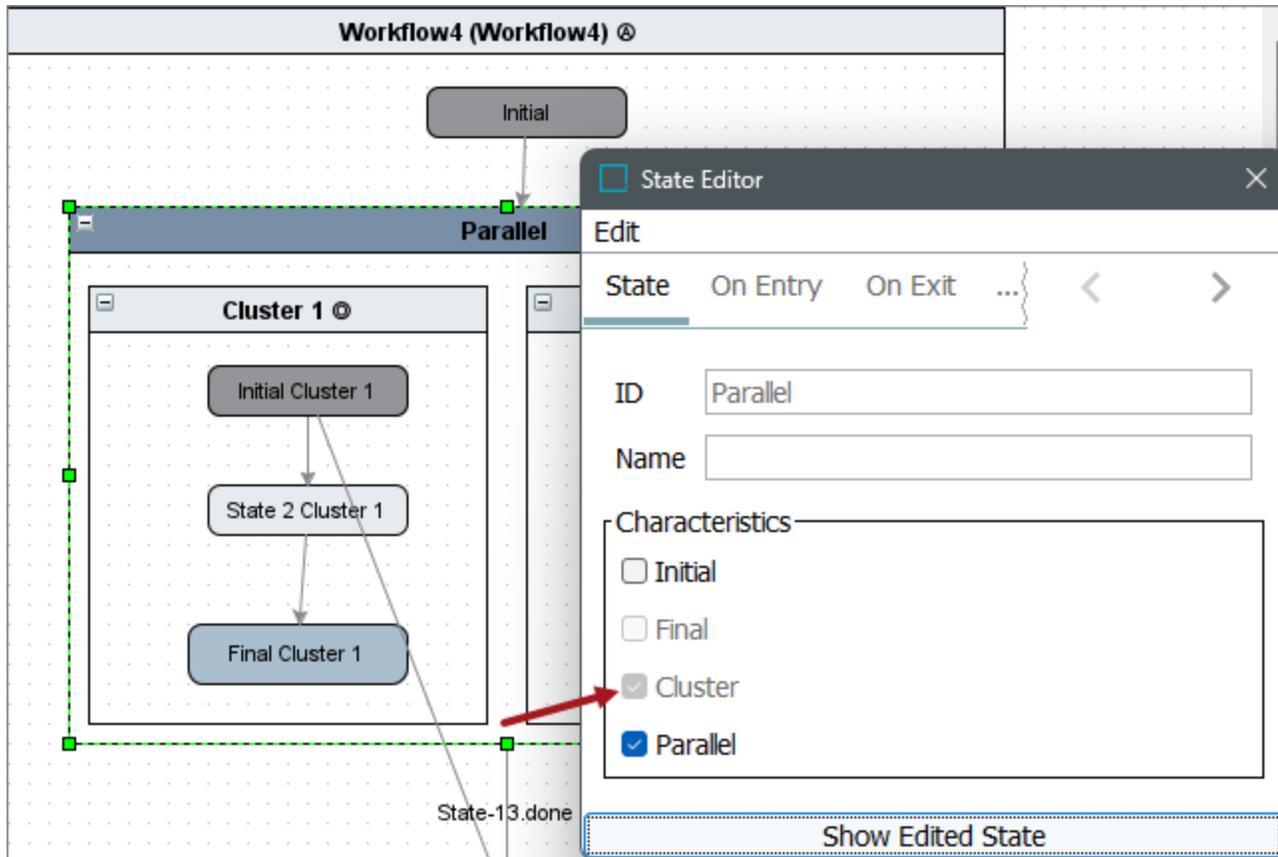
The image below shows an alternate way of configuring a cluster and transition relationship. There is no Final state inside the cluster. Instead there is a transition directly from End Inside Cluster to 7th State outside the cluster.

When this transition is performed, the object will exit both the End Inside Cluster state and the 2nd State cluster. While this configuration is perfectly valid, generally the first type of state setup with a Final state and transition is recommended.



## Parallels in Workflows

The Parallel characteristic is used for implementing two or more clusters simultaneously in the workflow. A Parallel state will automatically get the cluster characteristic indicating that it can only contain clusters as its immediate sub-states.



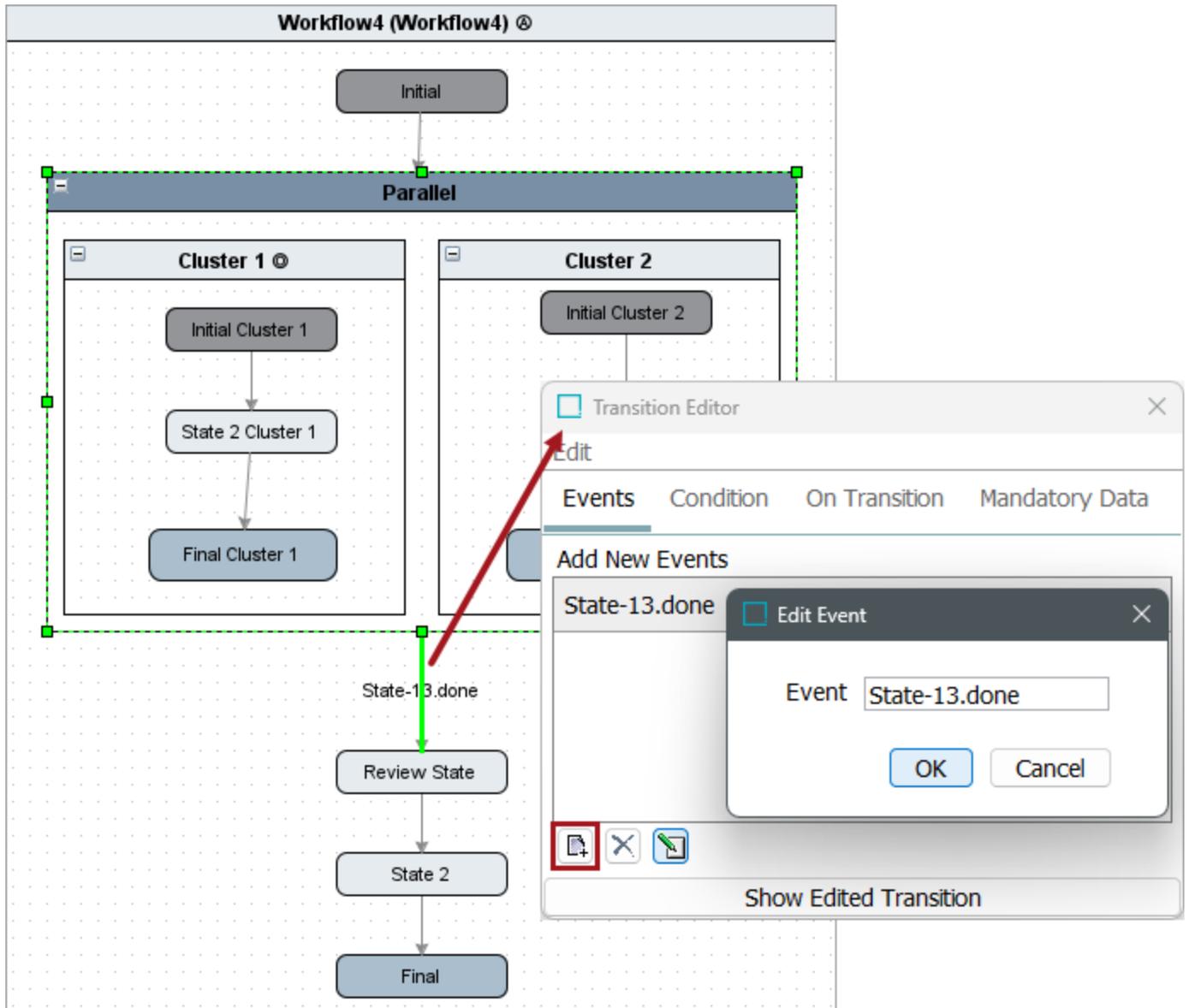
Once the Final states of all the clusters that are immediate children of a parallel have been reached, the parallel is automatically exited upon the next transition.

### Exiting a Parallel

Transitions from parallels and Final states in clusters can be simultaneously and automatically triggered by using the formula `Parallel ID.-done` to name the event. This then allows the object in the workflow to move to the next state outside of the parallel.

1. In the picture below, an object entering into the workflow would first enter into the parallel (as it is also the Initial state), and into the Initial states inside of each cluster simultaneously.
2. The object would then proceed through both clusters simultaneously until the Final state for each cluster is reached.
3. Once the object has reached the Final states in all clusters inside of the parallel, it then leaves the parallel and all clusters at the same time and enters into the first state outside of the parallel.
4. If the event on the transition out of the parallel is named with the formula of `Parallel ID.-done` (in this case `State-13.done`), the object leaves both Final states in the clusters and the parallel at the same time, and automatically goes to the Review State which is situated outside of the parallel state. If the event is unnamed, or named without this formula, it would have to be manually moved to the Review State.

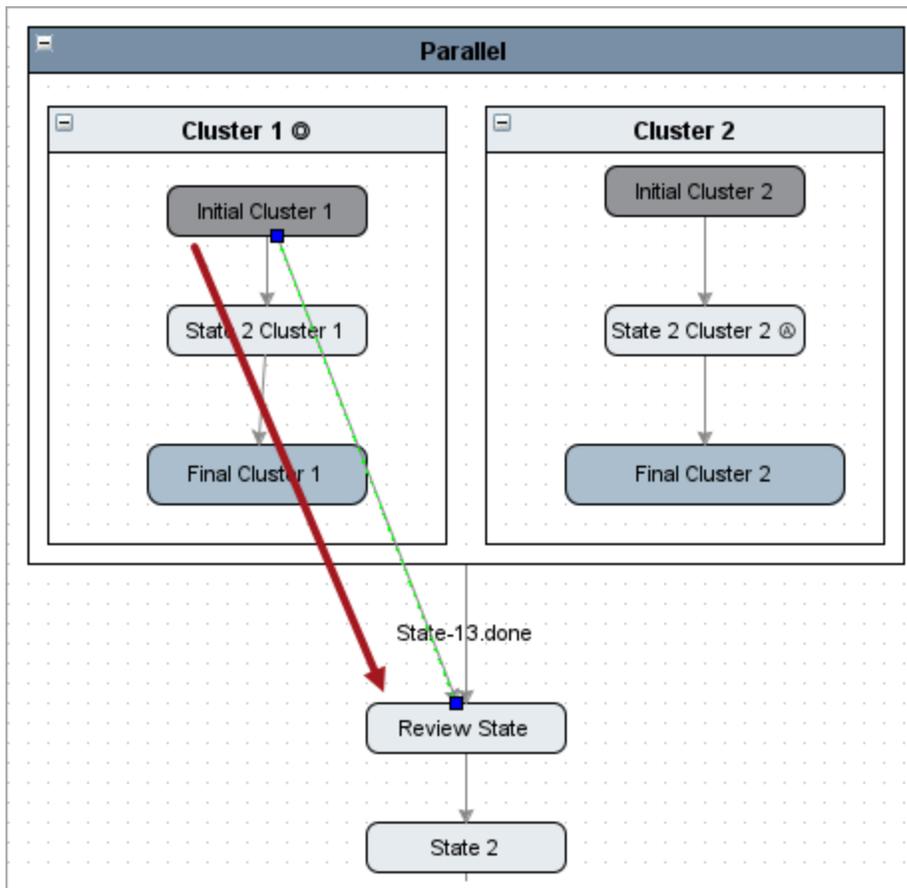
**Note:** When going through the workflow, it automatically will look for Parallel ID.done events first to be tried and performed, but if none exist it will then look for transitions with no special named events.



5. The object then continues through State 2 and ends in Final.
6. While the object is finished going through the workflow, it will not leave the workflow unless coding is in place to trigger it to leave, or the object is manually removed.

**Note:** Prefixing an event on a transition with the ID of the state from which the transition goes and a dot ('.') will cause the event to be hidden to users working with the workflow in the workbench. This approach should therefore be used whenever you have a 'system' event that should not be triggered by human users.

The image below shows an alternate way of configuring a parallel and transition relationship. There is a transition from Initial Cluster out of the parallel straight to Review State. If this transition is performed, the entire parallel and all its sub-states will be exited regardless of which state the object is in for Cluster 2.



**Note:** Parallel States are used for modeling concurrency and should only have child states with the Cluster Characteristic. Cluster and Parallel States do not typically represent human tasks.

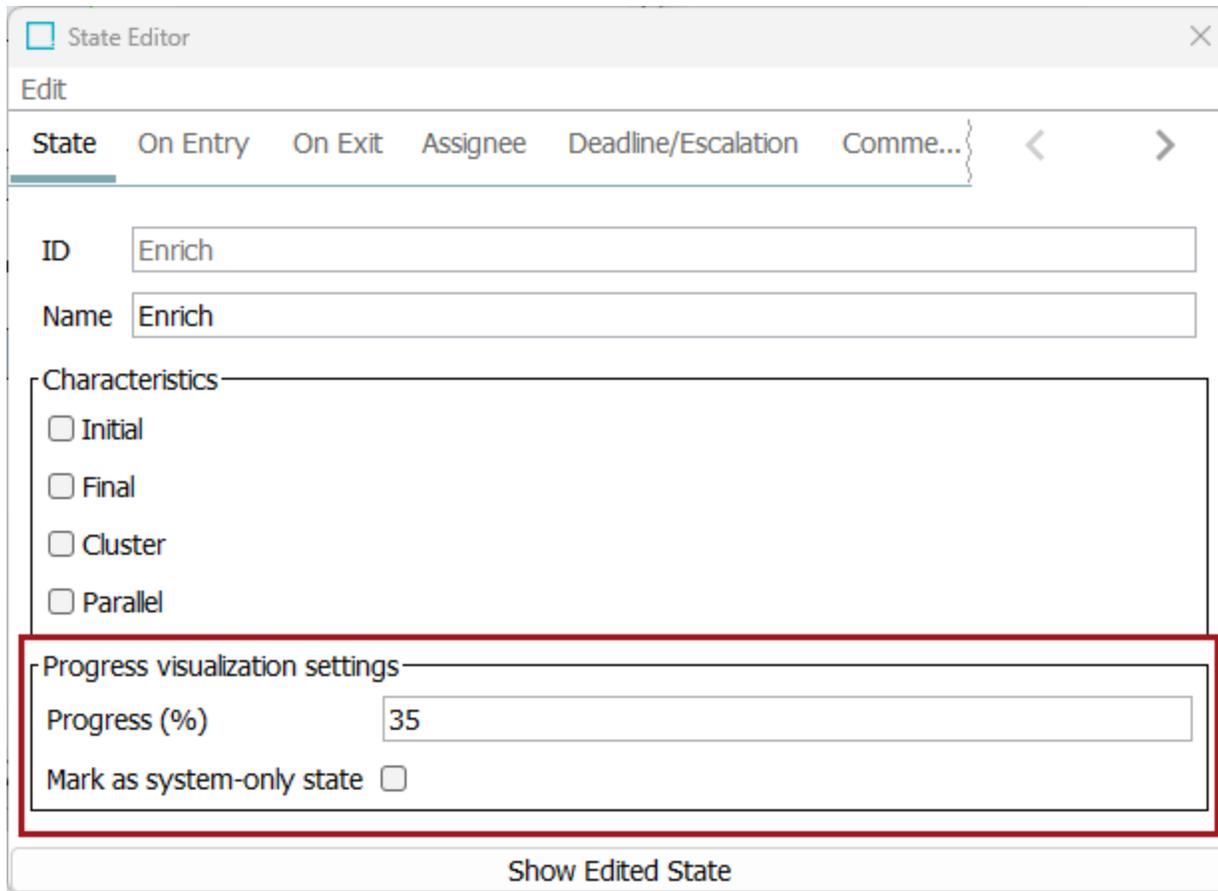
## Progress Bar In Workflows

Beneath the 'Characteristics' section in the 'State Editor' is the 'Progress visualization settings' section. These settings determine how a progress bar displays in the Workflow Tile in the New UI for STEP (also referred to as Instrument).

For more information on the Workflow Tile, refer to the Workflow Tile topic.

**Note:** The progress bar only displays in Instrument. It does not display in the STEP Workbench or in the Web UI.

There are two fields in the 'Progress visualization settings' section: 'Progress (%)' and 'Mark as system-only state.'



The screenshot shows the 'State Editor' window with the 'Edit' tab selected. The 'State' tab is active, showing fields for ID (Enrich) and Name (Enrich). Below these are the 'Characteristics' section with checkboxes for Initial, Final, Cluster, and Parallel. The 'Progress visualization settings' section is highlighted with a red box and contains a 'Progress (%)' field with the value 35 and a 'Mark as system-only state' checkbox which is unchecked. A 'Show Edited State' button is located at the bottom of the window.

**Progress (%)** – Enter a number between 1 and 100 in this field to determine what percentage of a workflow an object has progressed to if the object has reached this workflow state. For instance, adding the number '25' to the field will be read as 25 percent, which causes the progress bar to show as a quarter full in the Workflow Tile when an object in that workflow state is viewed in Instrument.

**Mark as system-only state** – Check the box to designate the workflow state as system-only. Checking the box does not change anything about the workflow state itself, it only tells the system that an object's progress through this state does not occur through direct action by a human user. This causes the system to display the workflow state and its configured status bar for the next workflow state that requires human action. For example, an object entered into a workflow state via a business action may be designed to "stay" in that workflow state only briefly. In a case like this, it is more useful for the user to see the 'next state' in the workflow as the next state that can be actioned by a human user.

If 'Mark as system-only state' is checked:

- The workflow state will not be shown in the Workflow Tile.
- The workflow state will not be shown as 'Next State' or 'Previous State' in the Workflow Details window (accessed by clicking a workflow in the Workflow Tile in Instrument).
- The percentage number set in the 'Progress (%)' field will determine the progress bar's percentage completeness shown for the workflow state that *follows* the workflow state being configured.

If the 'Cluster,' 'Parallel,' or 'Final' workflow state types in the 'Characteristics' section are checked, the fields in the "Progress Visualization Settings" section will be grayed out and inactive.

In the case of the 'Final' workflow state, objects in the 'Final' workflow state are considered complete and will automatically display with a full progress bar as 100%. However, it should be noted that, in most cases, workflows will be configured so objects move out of the 'Final' state (and the workflow) when complete, so an object is unlikely to be in the 'Final' state long enough to display a progress bar.

## Status Flags

Status flags are an aspect of tasks in a workflow that can be useful to group tasks, and are often used to indicate tasks that need a higher priority or extra attention. For example, status flags can be used to signal tasks that have been returned to a previous state, tasks that are considered critical or time-sensitive, tasks that have errors, etc.

When a status flag is applied, it is specific to the task-in-state, similar to an assignee. An assignee does not travel with an object throughout the workflow, rather it is assigned at entry to each state, and upon exit from any state the current assignee is not retained (unless business rules are set up to record this information). Furthermore, when an object exits a workflow, there is no longer any assignee associated with it.

Status flags should be thought of in the same way as assignees. Configuring status flags requires the understanding that they are specific to a task in a state, and therefore must be applied at entry to any state. In addition, tasks in parallel states of a workflow may have different status flags applied in each state.

This section of the documentation describes how to configure status flags.

First, a place must be created to store the status flags, which is described in the [Initial Setup for Status Flags in Workflows](#) topic.

Second, status flags must be configured for the particular workflow(s) in which they should be used, which is described in the [Configuring Status Flags in Workflows](#) topic.

## Initial Setup for Status Flags in Workflows

In order to use status flags for workflows, a setup group that can hold status flag objects must be configured. This only needs to be done once on any system and if already completed, this configuration is not required.

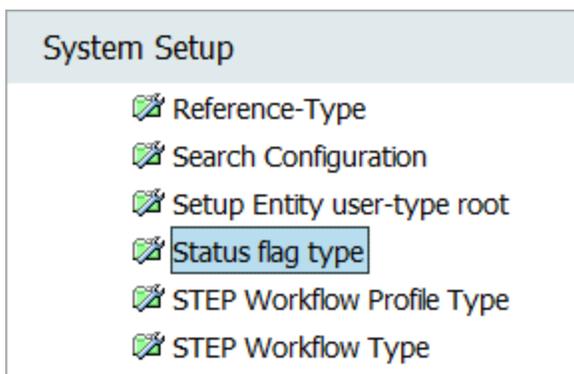
The required setup can be verified by skipping to step 3 below and checking if the option to create a status flag is available from the setup group that houses workflows or any other setup group defined as a parent on the 'Status flag type' defined in step 2 below. If you are able to create a status flag, then you may proceed directly to the Configuring Status Flags in Workflows topic to add status flags to a particular workflow.

### Prerequisites

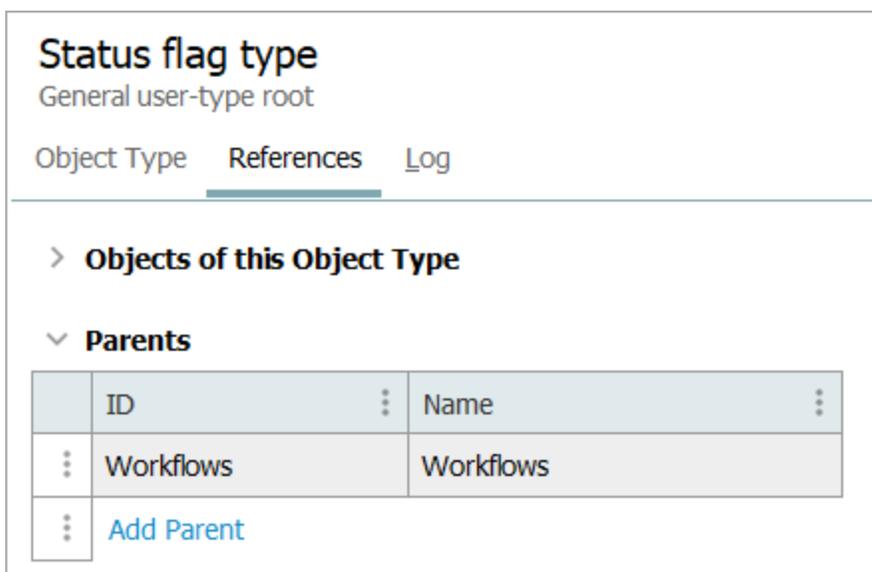
The below configuration instructions require that a setup group has first been created for workflows. If the Workflows setup group found in step 3 below is not present, refer to the Initial Setup for Status Flags in Workflows topic to configure it.

### Configuration

1. On System Setup and select **Object Types and Structures** > **Basic Object Types** to find the **Status Flags type** object type.

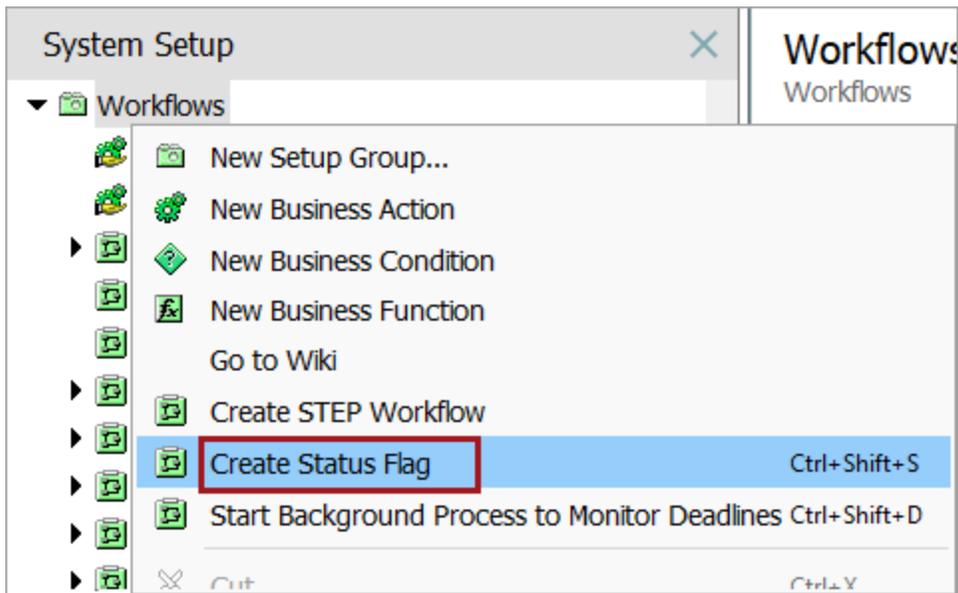


2. Select the **References** tab, click the **Add Parent** link, select the **Workflows** node (or any other node where status flags will be created) in the dialog that pops up, and click **Select** to close the dialog. The end result should appear as below:

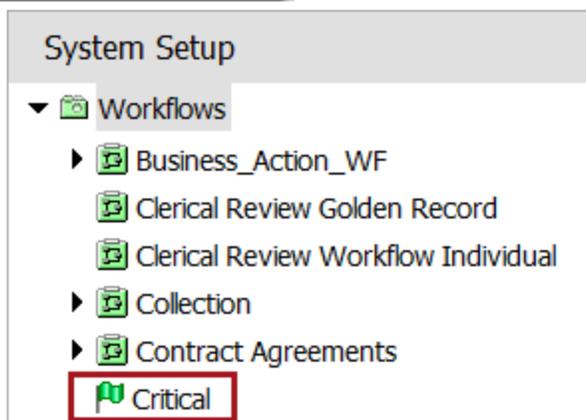
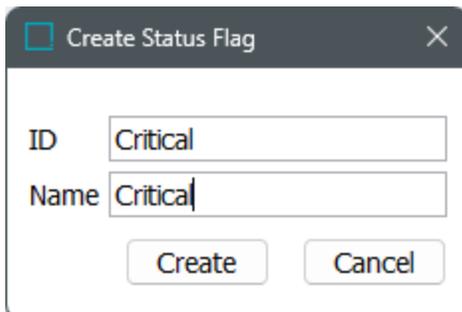


This allows status flags to be created under the selected setup group.

- To create a status flag, go to the selected setup group, right-click on it, and select **Create status flag**.



- Give it an ID, name, and click **Create**. The status flag displays under the selected node.



Create as many status flags as are needed to support the workflows that require them.

**Note:** Any workflow using status flags will automatically have a default flag applied to each task. Therefore, it is useful to create a standard or 'Normal' flag that can be applied as the default.

Status flags are global, meaning that once they are created, they can be used by any workflows in the system. However, status flags are not available in any workflows until they have been applied to each workflow in which they are needed. Refer to the Configuring Status Flags in Workflows topic for details.

## Configuring Status Flags in Workflows

Status flags are global objects that must be applied to any workflow in which they should be used. Once the needed status flags are created under the top node that houses them, they can then be associated to the desired workflow.

This topic describes how to add status flags to workflows, and how to use business rules to set status flags on tasks.

### Prerequisites

Before status flags can be added to workflows, a setup group must first exist that can hold status flags, and at least one status flag must have been created. For instructions on these processes, refer to Initial Setup for Status Flags in Workflows.

In addition, it is important to understand that status flags are specific to a task in a particular state. More information on this can be found in the introductory Status Flags topic.

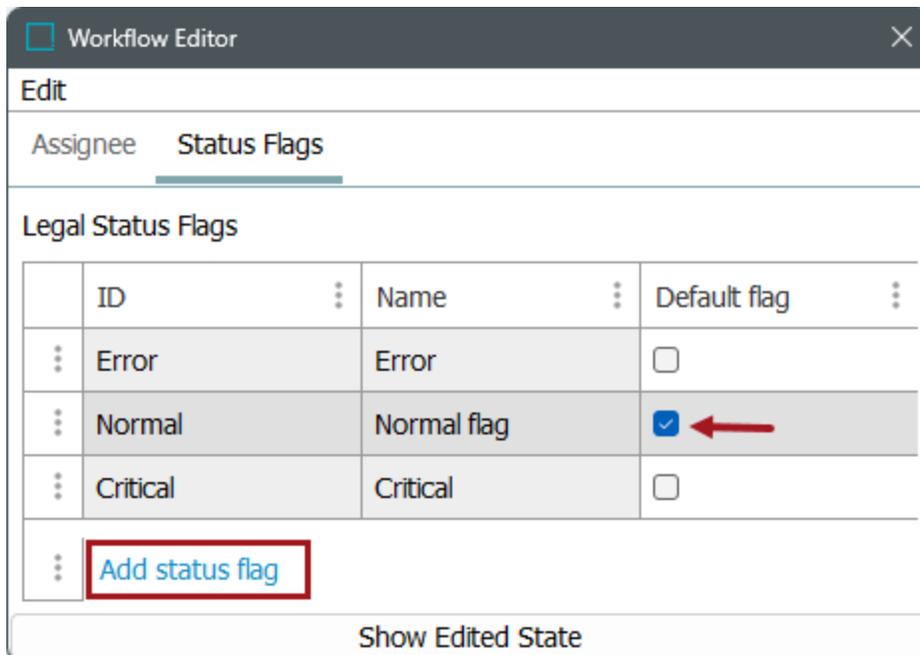
### Configuration

Use the following steps to enable status flags for a workflow.

1. Open the **STEP Workflow Designer** of the workflow that needs status flags associated to it.
2. Double-click a blank area in the workflow frame, or right-click inside the workflow frame, and select **Edit Workflow** to display the **Workflow Editor** dialog.
3. Select the **Status Flags** tab, and add any flags that are needed for the workflow. A 'default status flag' for the workflow must be selected.

**Important:** Any new tasks assigned to the workflow will be given the default status flag unless the workflow is directed to do otherwise via business rules. Any existing tasks already in the workflow will also receive the default status flag.

4. When finished, close the editor, and save your changes.



5. Aside from the default flag applied to all tasks in the workflow, status flags are not truly enabled until business rules are created to apply them to tasks. Therefore, instructions for using business rules to apply status flags are included below.

**Important:** If only one flag is configured, the workbench will consider it default and assign all items in that workflow to that flag. To circumvent this, create at least two flags with one as the default and one (or more) as the specified flag.

To learn how status flags function in a Web UI, refer to the Status Flags in Web UI topic in the Web User Interfaces documentation.

## Using Business Rules to Set Status Flags in Workflows

While it is not required to use workflow variables in conjunction with status flags, it is often useful to create workflow variables to be associated with each state in which a status flag should be applied. This allows for greater flexibility in how and when status flags can be set. This is because status flags are somewhat like workflow assignees in that they are specific to an object in a given state, and cannot be set in advance. Just as you cannot assign a task to a user until it enters the applicable state, you also cannot bind a status flag to an object's presence in a workflow until it enters the state. As it is often something from a previous state that determines what the status of the object is in a subsequent state, workflow variables can be used to capture and store what the flag should be, which can then be set on entry to the appropriate state.

The below instructions describe how to set a status flag based on a transition being taken. For example, a task that has been rejected may need to be marked as 'Critical' as it is now spending additional time in the workflow. This is not the only way to work with status flags, but serves merely as one example of one common use case. Rather than using a transition to determine the status flag for a task, any data could be used, such as an attribute value, reference value, presence or absence of particular data, etc. The options for setting status flags are limited only to what can be done within business rules.

However, the options for end users viewing and accessing status flags are limited by the interface in which they access workflows. If workflows are accessed in Web UI, it is not required that status flags be stored in workflow variables. However, if end users will interact with the workflow only in the STEP Workbench, status flag assignments must be stored in workflow variables as that is the only way to make them visible to the end user.

### Use a Workflow Variable to Capture a Status and Apply a Status Flag

The below instructions walk through an example of how to capture a desired status flag based on a particular transition being taken, store the information in a workflow variable, and subsequently apply the desired status flag at entry to a subsequent state.

1. Create a workflow variable to hold the status flag using the  button. As status flags are state-specific, it is recommended to create one workflow variable for each state in the workflow that will have a status flag determined by some factor other than entering the state, so that when the determining factor is evaluated, the resulting flag to be applied at any given state can be stored for that state.

STEP Workflow Designer - SampleWF\_Variables

File Edit View

Workflow Properties

ID

Name

Workflow Variables/Attachments	
'AssigneeGroup'	RBC
'StatusFlagDoWork'	RBC
'StatusFlagFinish'	RBC
'StatusFlagStart'	RBC

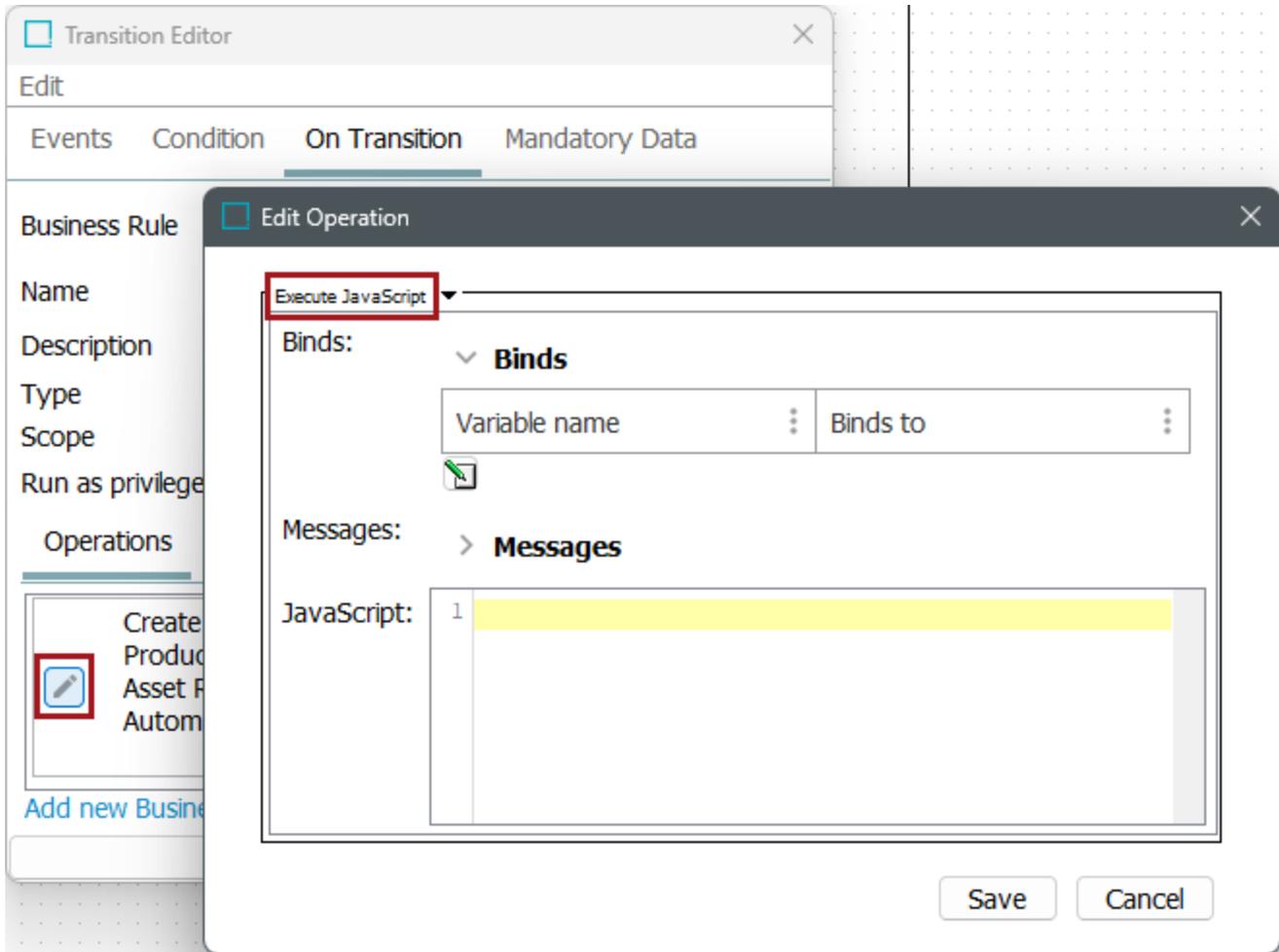
  

For additional information on workflow variables, refer to the Workflow Variables topic.

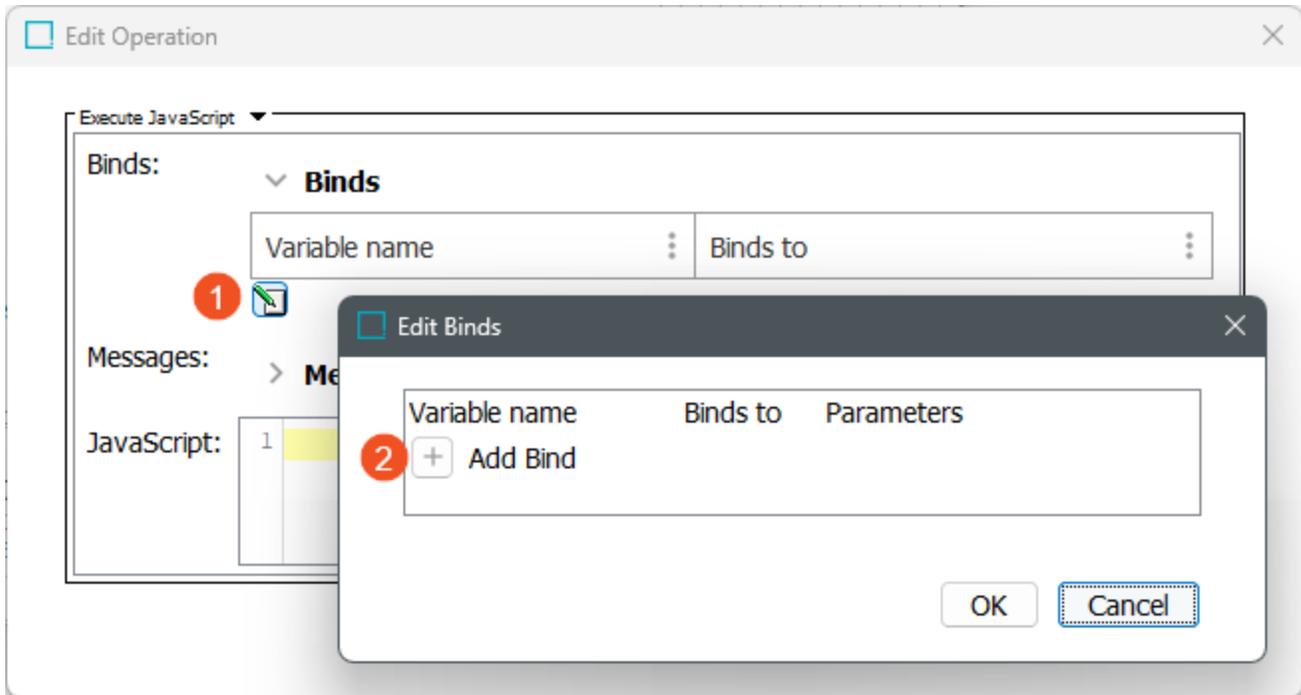
- For this example, when a task is rejected, we want to apply a Critical status flag so that users know to quickly process the task in the Start state. Therefore, we need a business rule to record that the Reject transition has been taken and store that information. As we want the task to then have a Critical status in the Start state, we will store the information in the StatusFlag\_Start workflow variable.

Right-click on the transition that should be recorded, select **Edit Transition**, click on the **On Transition** tab, and click the **Add new Business Action** link.

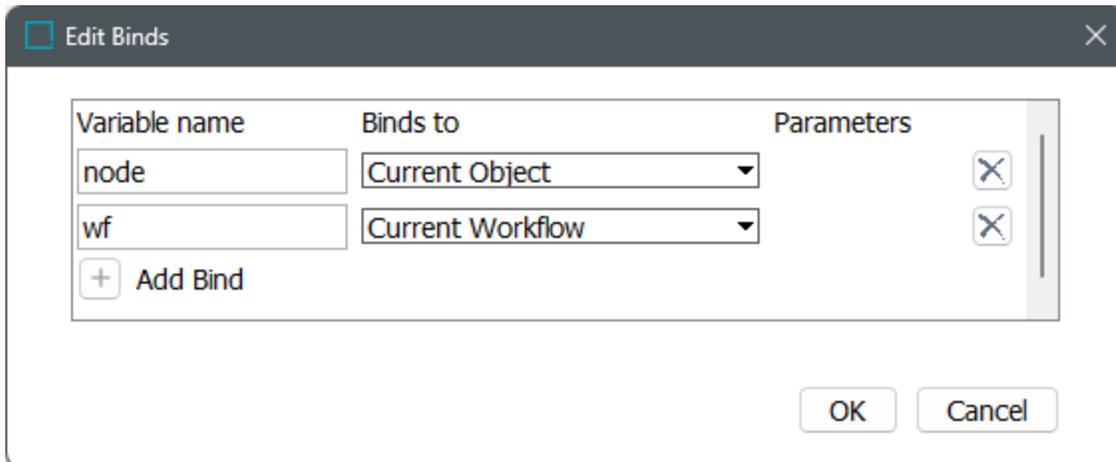
3. Click on the **Edit** icon button that appears under the **Operations** tab. This will bring up the **Edit Operation** dialog. Select the **Execute JavaScript** dropdown option.



4. Under Binds, click the **Edit Binds** button, and then click the **Add Bind** button.

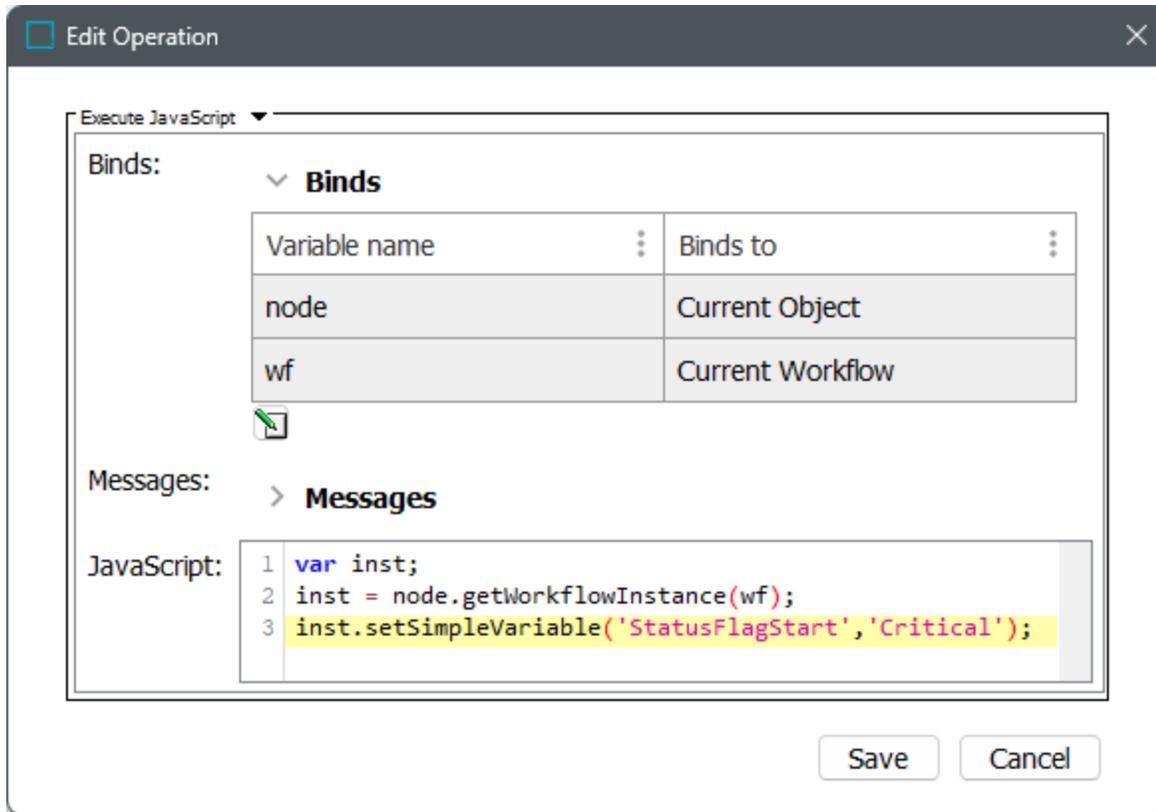


- For this example, we need to bind to both current object and current workflow. Input variable names and select the appropriate binds, as shown below. Click OK to close the Edit Binds dialog when complete.



- In the JavaScript field type in the appropriate JavaScript formula. An example is provided below that will set the value of the workflow variable 'StatusFlag\_Start' to 'Critical'. Keep in mind that what is written in the parentheses is driven by the variable name that was written in the bind, the workflow variable created to hold the status flag value, and the ID of the status flag that is to be assigned.

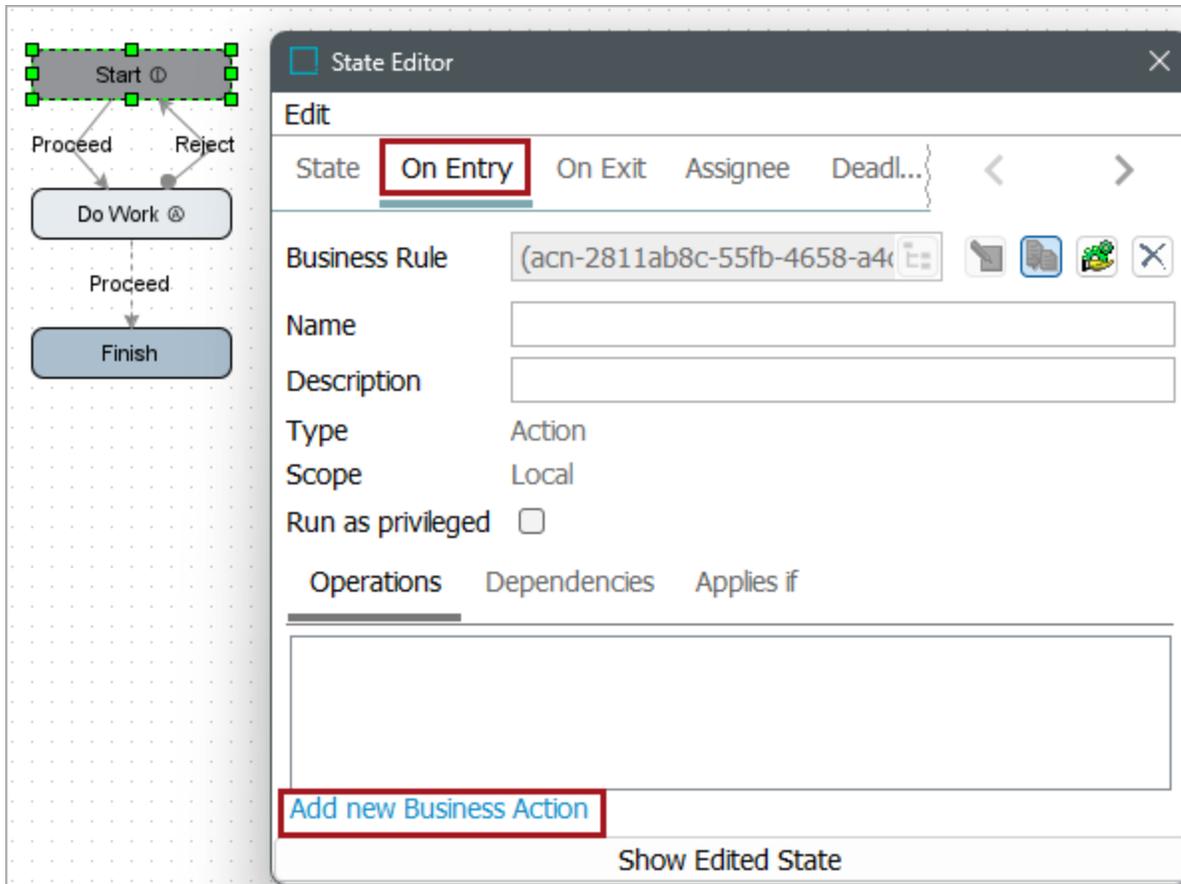
```
var inst;
inst = node.getWorkflowInstance(wf);
inst.setSimpleVariable('StatusFlagStart','Critical');
```



Click **Save** in the Edit Operation dialog when finished, and close the Transition Editor using the **X** button in the upper right corner.

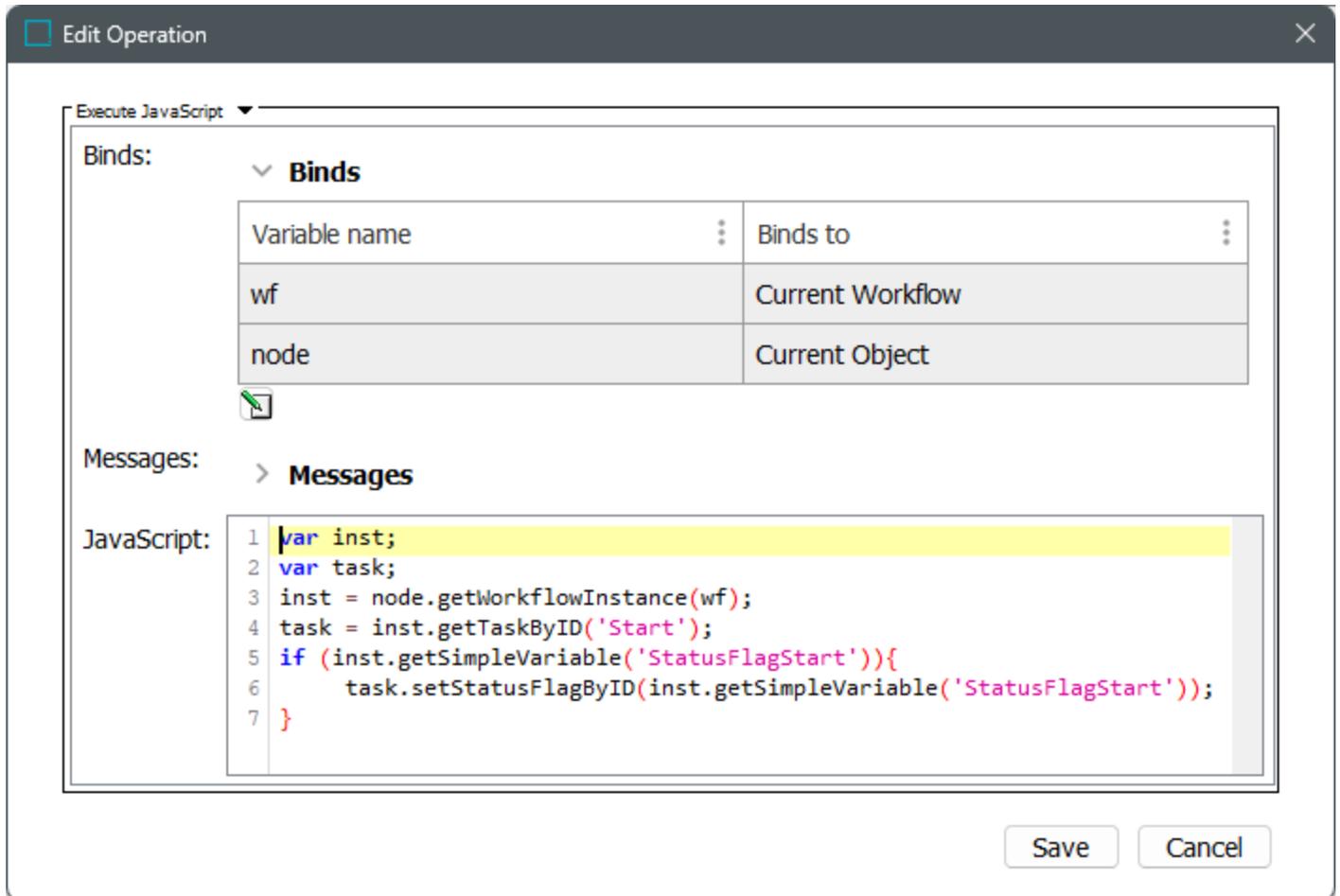
- At this point we have only stored what the status flag should be, but have not applied the status flag to any task. To do that, a rule must be added to the state in which the flag should be assigned.

Right-click on the state and select Edit State. Click on the **On Entry** tab, and click the **Add new Business Action** link.



8. Repeat steps 3 - 5 to edit the rule and add the Current Object and Current Workflow binds.
9. Enter the appropriate JavaScript formula. An example is provided below that will take the value of the previously stored workflow variable and apply it to the task entering the state.

```
var inst;
var task;
inst = node.getWorkflowInstance(wf);
task = inst.getTaskByID('Start');
if (inst.getSimpleVariable('StatusFlagStart')) {
    task.setStatusFlagByID(inst.getSimpleVariable('StatusFlagStart'));
}
```



- Click **Save** in the Edit Operation dialog when finished, and close the State Editor using the **X** button in the upper right corner.

At this point, rules have been created to capture the desired value for a status flag, and to set it upon entry to a state. However, in order to make the status flag available for end users to view when working with tasks, additional steps must be taken.

- If the user will interact with tasks in the workbench, the workbench view must be configured to include the workflow variable holding the status flag value. Additional information on configuring views is available in the Views and Mappings for Workflows topic.
- If users will interact with workflows in Web UI, the appropriate status flag components must be added to the screen. Additional information on working with status flags in Web UI is available in the Status Flags in Web UI topic in the Web User Interfaces documentation.

## Triggering Workflow Events from Imports

If a workflow is valid for either products, classifications, assets, or entities, it is possible to configure the workflow to automatically trigger certain transitions if an object in the workflow has an attribute value changed in an import as long as the event on the transition has the ID of 'stibo.import'. This is helpful in that a user does not have to recheck any existing items that are already in the desired workflow, nor do they have to take the objects out to be updated, only to put them back into the workflow again. Instead, the objects already initiated into the workflow will be updated and then be triggered to move to the next state, if the event on the transition has the proper ID.

For example, a user has Object A in their desired workflow in the Initial state. The Initial state has an event on the transition coming out of it with the ID of 'stibo.import' going to State 2. The user updates and imports objects, one of which is Object A. Due to the setup of the Initial state, Object A is updated, and an event is triggered moving Object A to State 2.

### Condition for Triggering Workflow Events from Imports

To turn on this functionality for a workflow, select the desired workflow in System Setup and check the **Listen on updates from import** checkbox on the STEP Workflow Editor tab.

### Shipment Order Process

STEP Workflow Type • Revision: 0.144

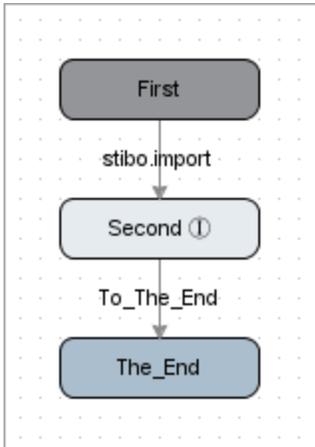
STEP Workflow Editor   Validity   Status   Log

Name	Value
ID	11123
Name	Shipment Order Process
Revision	0.144 Last edited by USERJ on Thu Jan 02 13:28:18 EST 2025
Initiate automatically	<input type="checkbox"/>
Listen on updates from import	<input checked="" type="checkbox"/>
Use executing user's write privileges	<input type="checkbox"/> Activate STEP Workflow whenever an import updates an item in the STEP Workflow
Disable transitions on terminated Workspaces	<input type="checkbox"/>
Start Condition	

Make sure that any events that should occur have the proper ID. Again, the Import Manager can only trigger events with the ID 'stibo.import'. Thus to have a transition performed for an object in a workflow when it is changed in an import, the object must be in a state out of which there is a transition with the Event 'stibo.import' (the 'stibo.import' event will not be visible in the STEP Workflow Items editor or on the Object Tasks tab).

**Note:** It is important to notice that only changes to attribute values (add, modify, remove) will trigger the 'stibo.import' event. Thus, changing a reference, re-parenting an object or similar will not cause the event.

The image below shows a simple workflow with the functionality turned on:



The 'stibo.import' event is on the transition from the First state to the Second state and thus, if an object is in the First state and an attribute value is changed in an import, the transition will be performed.

When working with events generated by imports, there is a special reserved variable named 'modifiedAttributes' available in JavaScript. This variable will hold a list of IDs of the attributes changed in the import. In looking at the example above, the variable will be available when leaving the 'First' state (On Exit), on the transition (On Transition + Condition) and when entering the state to which the transition goes (On Entry on the Second state).

Using this reserved variable, a user could, for instance, add a condition on the transition only allowing the transition if a specific attribute has been changed and has a value after the import. This could be done with a script as follows:

```

var attChanged = false;
var modArray = modifiedAttributes.toArray();
var modifiedAttributes = params.get("modifiedAttributes");
for(var i = 0; i < modArray.length; i++) {
    if(modArray[i] == "ID of Attribute") {
        attChanged = true;
        break;
    }
}
if(attChanged && node.getValue("ID of Attribute").getSimpleValue()) {
    condition = true;
}
else {
    condition = false;
}
  
```

**Note:** In the script above, the node corresponds to the Current Object bind, and the parameters correspond to the Workflow Parameters bind. Refer to the image below.

Edit Operation
✕

Execute JavaScript
▼

**Binds:**

▼ **Binds**

Variable name	Binds to
params	Workflow Parameters
node	Current Object

**Messages:**

> **Messages**

**JavaScript:**

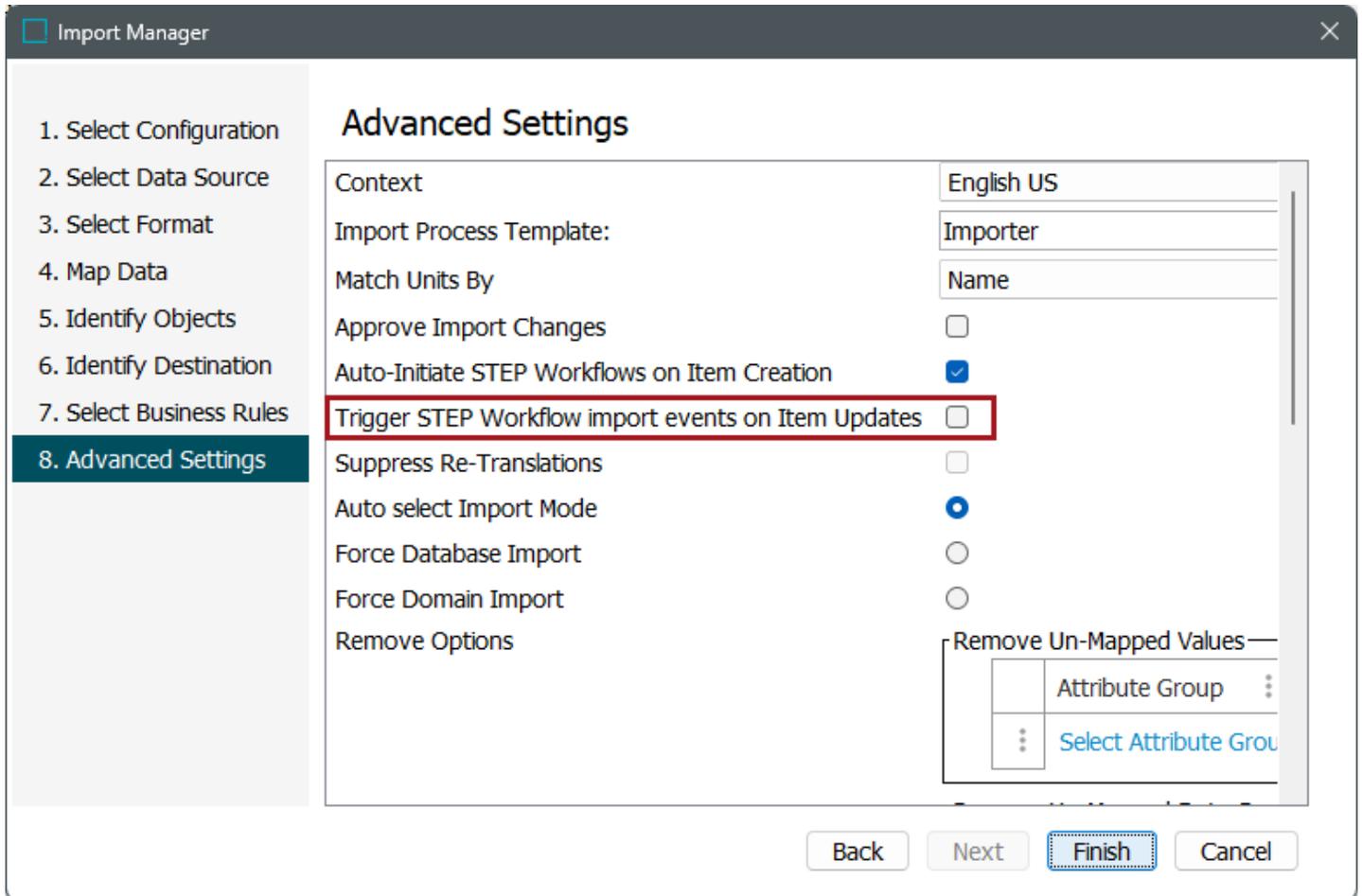
```

1 var attChanged = false;
2 var modArray = modifiedAttributes.toArray();
3 var modifiedAttributes = params.get("modifiedAttributes");
4 for(var i = 0; i < modArray.length; i++) {
5     if(modArray[i] == "ID of Attribute") {
6         attChanged = true;
7         break;
8     }
9 }
10 if(attChanged && node.getValue("ID of Attribute").getSimpleValue()) {
11     condition = true;
12 }
13 else {
14     condition = false;
15 }
```

Save

Cancel

It is optional for users running imports whether or not the import potentially should trigger events. Thus, for column based imports, in the Import Manger on the Advanced Settings page, the checkbox 'Trigger STEP Workflow import events on Item Updates' controls whether or not events should be triggered.



In XML, the functionality is enabled / disabled using the STEPProductInformation tag attribute 'STEPWorkflowImportEvent' that can be set to 'Y' or 'N'.

Since it is optional for users whether events should be triggered, the functionality is typically used in imports based on pre-configured import configurations. A use case could be one where an object is in a state waiting for data to arrive from an external system via an Inbound Integration Endpoint.

**Note:** It is only possible to trigger events from imports when running in Domain mode.

## Validate Data in a Workflow

It is common for workflows to require some basic data validation to ensure that quality standards are met for the provided data. Data validation can be easily accomplished in a workflow by applying conditions on transitions.

Business conditions will always evaluate to either true or false. In workflows they can be applied on transitions, and thus determine whether or not a transition can be performed. If a condition evaluates to true, the task may take the transition. If a condition evaluates to false, the task cannot take the transition and must attempt another transition or remain in the state until the data has been corrected and the condition evaluates to true.

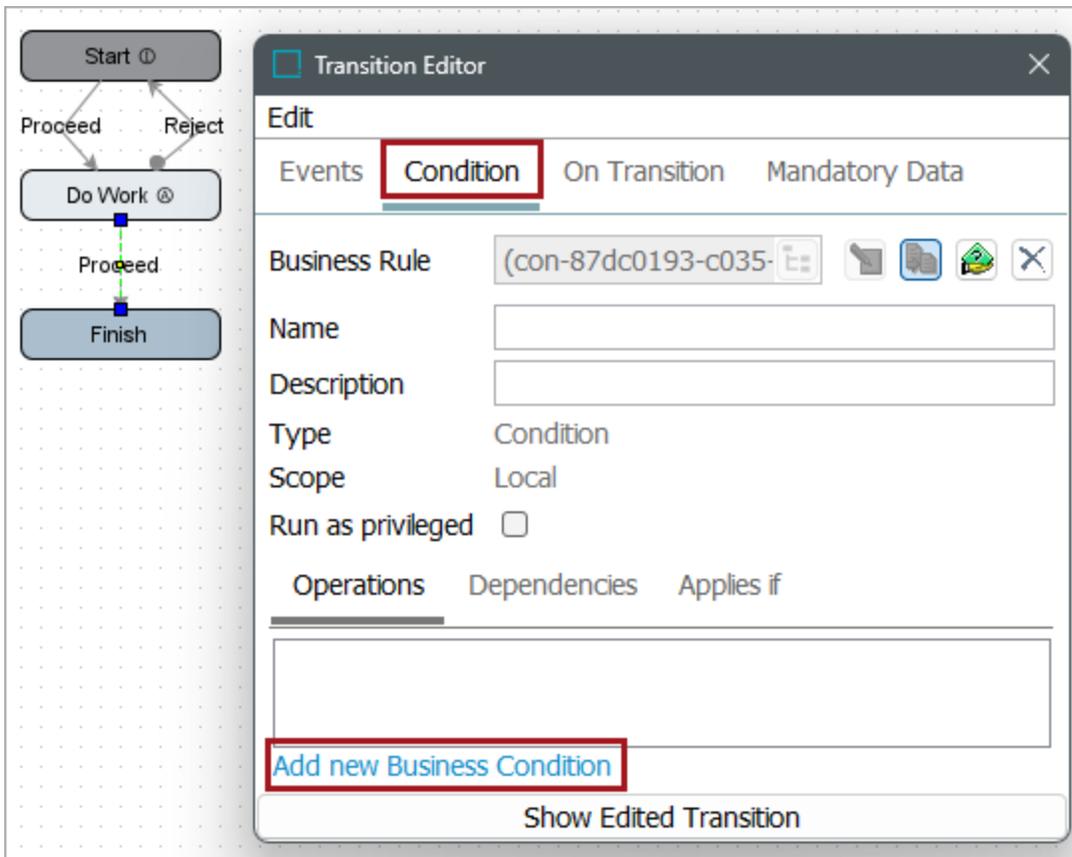
When using conditions for basic data validation, the transitions are generally applied on user-accessed states, so that the user accesses an error when attempting to submit via a particular transition if the data does not validate. Do not use conditions to validate that mandatory attributes are populated as that can be done using the built-in mandatory attribute functionality, described in the Mandatory Attributes and References in Workflows topic.

Data validation can be carried out using any number of functions and/or JavaScript. Additional information on more advanced topics can be found in the Business Rules documentation. The below provides a simple example of data validation using the attribute value comparison function.

The below example will check to ensure that an attribute, List Price, has a value greater than or equal to .99. It assumes that a workflow has already been created and a transition exists on which the condition can be added.

### Configuring Validation

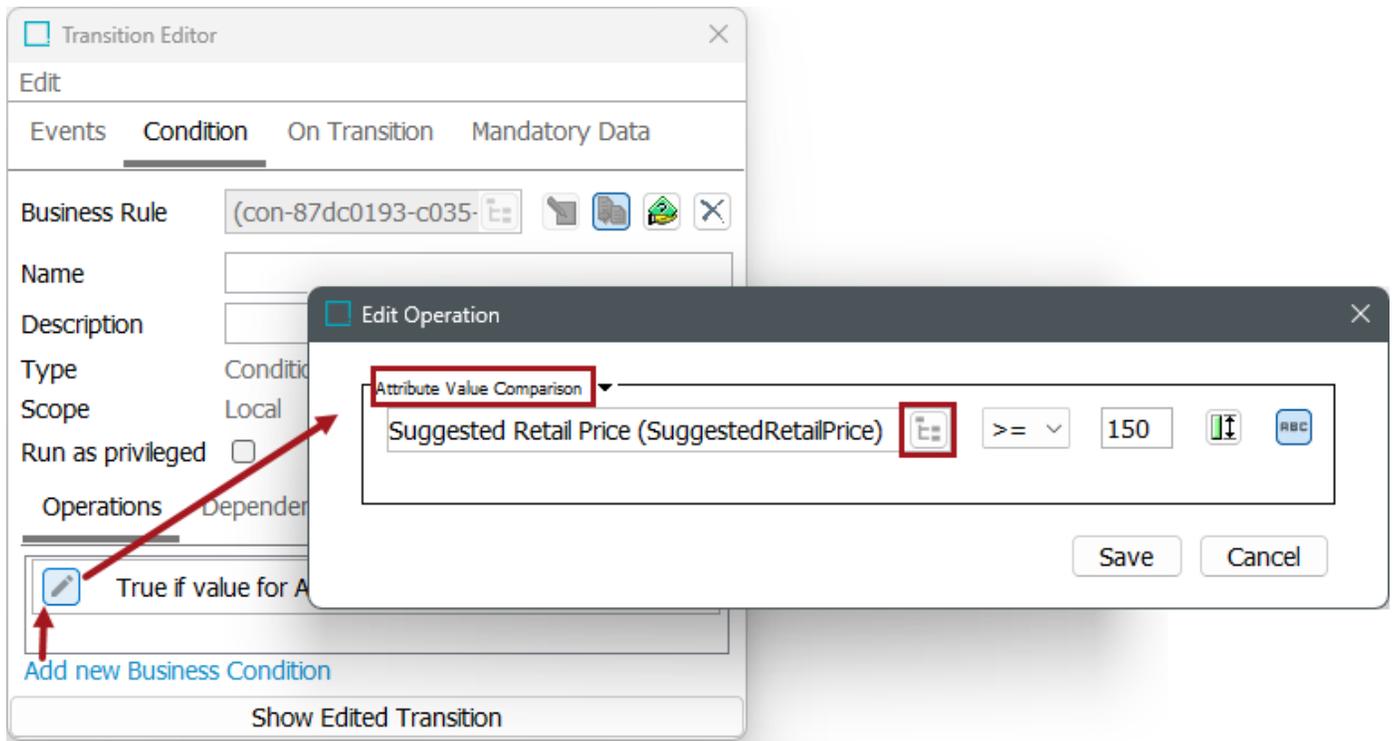
- Double-click on the transition, select the **Condition** tab, then click the **Add new Business Condition** link.



The screenshot displays a workflow editor interface. On the left, a workflow diagram shows a sequence of states: Start, Do Work, and Finish. Transitions labeled 'Proceed' and 'Reject' connect these states. A red box highlights the 'Proceed' transition between 'Do Work' and 'Finish'.

On the right, the 'Transition Editor' window is open, showing the configuration for the selected transition. The 'Condition' tab is selected and highlighted with a red box. The 'Business Rule' field contains the ID '(con-87dc0193-c035-'. Below this, there are input fields for 'Name' and 'Description'. The 'Type' is set to 'Condition' and the 'Scope' is 'Local'. There is an unchecked checkbox for 'Run as privileged'. At the bottom of the editor, there are three tabs: 'Operations', 'Dependencies', and 'Applies if'. A red box highlights the 'Add new Business Condition' link at the bottom of the editor.

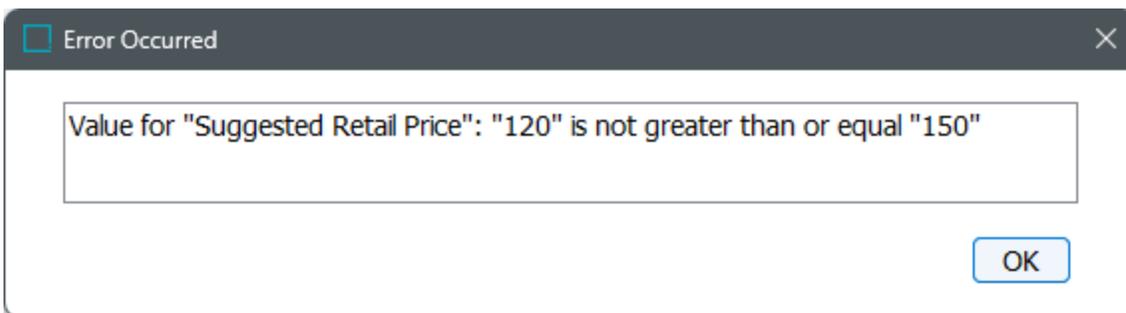
- Click the Edit Operation icon, select Attribute Value Comparison from the dropdown.



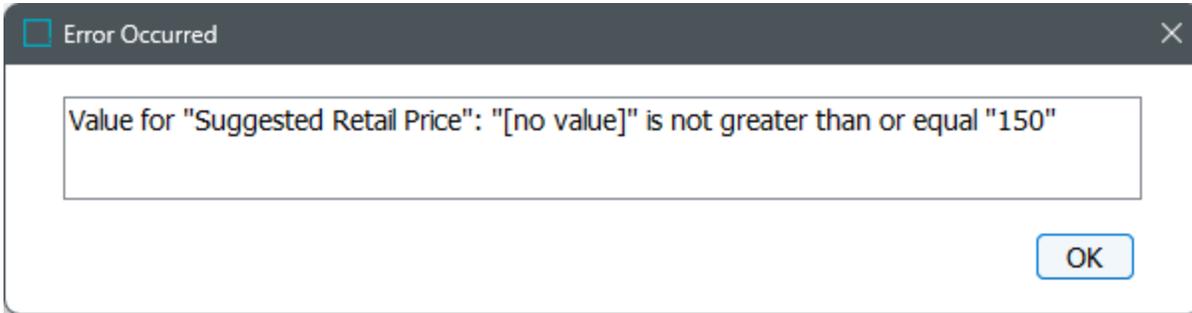
- Click the selector button  to select an attribute. Choose an operator from the dropdown, insert a value for comparison, and click **Save**.
- Click the [X] to close the Transition Editor, then save and exit the workflow.

## Applying Validation

Users attempting to submit a task that does not meet the condition will receive an error.



By default, the condition also checks for the presence of a value, returning false when no value is present.



## Workflow Variables

Workflow variables are temporary values that travel with an object as it progresses through a workflow, but only for as long as the object is in that workflow. Variables are temporary because they are relevant to the object only so long as the object is moving through the workflow. One reason an admin might create, configure, and attach a variable to a workflow is so that a user working on an object in an early workflow state can, for instance, send information to the user working on the same object in the next workflow state without having that guidance live with that product forever.

When working with Workflows there are two different types of variables available of which one comes in two variants:

**JavaScript Variables** - Normal JavaScript variables can be declared in business actions and conditions. The scope of these variables is limited to the action / condition where they are declared and they are only persisted during the execution of the action / condition.

**Workflow Variables** - Workflow variables are string variables defined in the Workflow Designer. The variables are global to the workflow instance and the values are stored on the object-in-workflow relation and thus persisted as long as this relation remains. Workflow variables come in two flavors, 'bound' and 'unbound'.

### Bound Workflow Variables

A bound workflow variable is bound to a STEP Attribute and gets its validation from the STEP Attribute. Apart from getting the validation from a STEP Attribute, bound workflow variables also get the corresponding attribute editors when a user chooses to display them in the workbench views (refer to the Views and Mappings for Workflows topic).

**Note:** The attributes to bind to must be externally maintained, non-dimension dependent description attributes and should not be valid for any object types.

### Unbound Workflow Variables

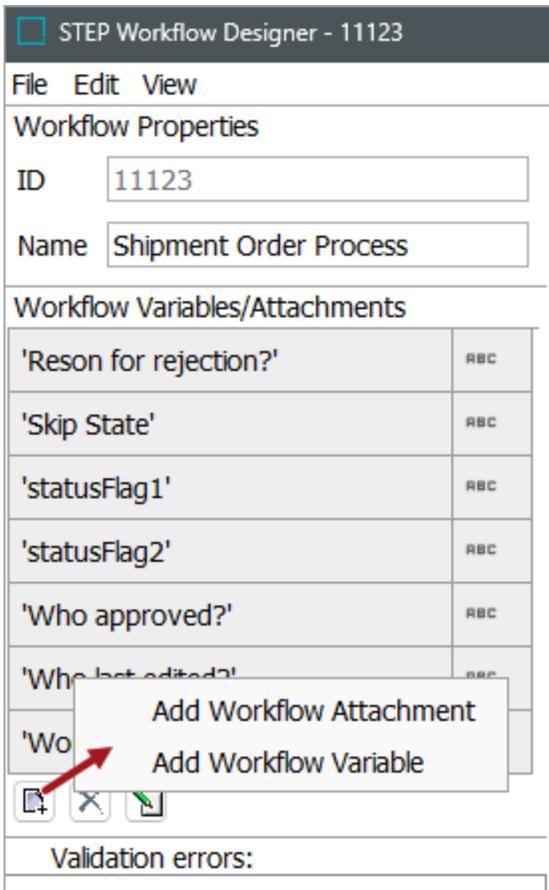
When a workflow variable is not bound to an attribute, it is a simple string variable with a default workbench view editor.

The value of unbound variables can be the result of an expression. In the expression panel, a reserved variable named 'value' is used. Below a script / expression is shown that will set the value of the variable to be the ID of the current node. Expressions are re-calculated each time the variable is used.

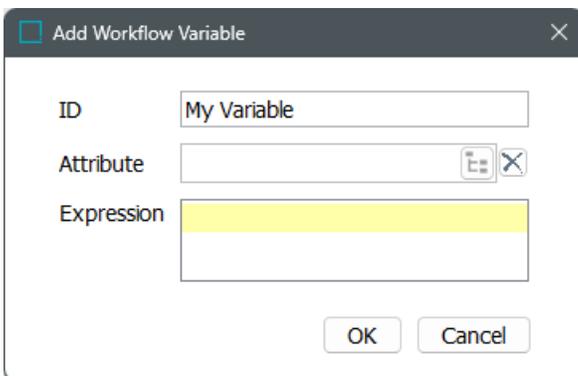
```
value = node.getID();
```

## Creating a Workflow Variable

To create a workflow variable click the add icon and select Add Workflow Variable in the 'Workflow Variables/Attachments' section in the left side of the Designer.



This will bring up a dialog where the user can enter the ID of the variable and optionally select to bind it to an 'Attribute' or add an 'Expression'.



As noted in the Business Rules and Workflows topic, workflow variables are manipulated through the WorkflowInstance interface. Thus the value of a workflow variable can be obtained from a business action as follows:

```
var valueStoredInVariable = node.getWorkflowInstance(workflow).getSimpleVariable("Variable ID");
```

And likewise a simple value for a workflow variable could be set with:

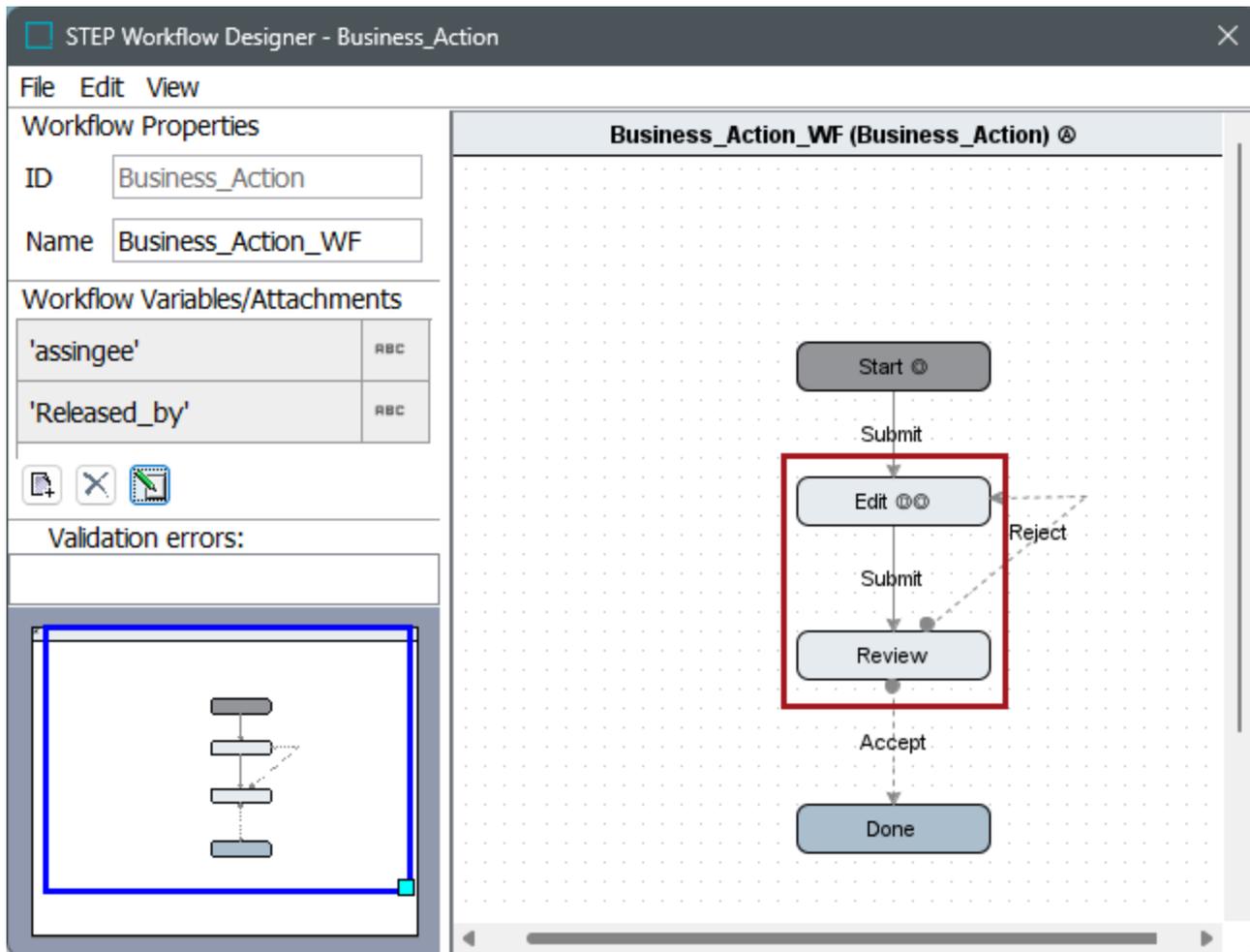
```
node.getWorkflowInstance(workflow).setSimpleVariable("Variable ID", "Value to be set");
```

While the above applies to both bound and unbound variables, for bound variables a value object can be obtained. This can be done with:

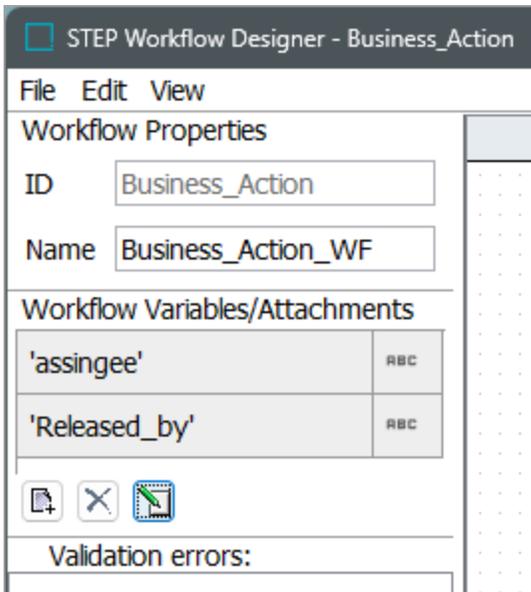
```
var valueObj = node.getWorkflowInstance(workflow).getValue("ID of Attribute the variable is bound to");
```

### Workflow Variables in Use

Consider a user group which consists of five users. All of these five users have access to a particular workflow, and can submit a product from the Edit to the Review state. For this workflow, because there is a requirement to identify which of these five users submitted a particular product, a business rule has been set up to save the details to an attribute. This business action is set on the desired state in the State Editor on the 'On Exit' tab. In this case it is on the Edit state.



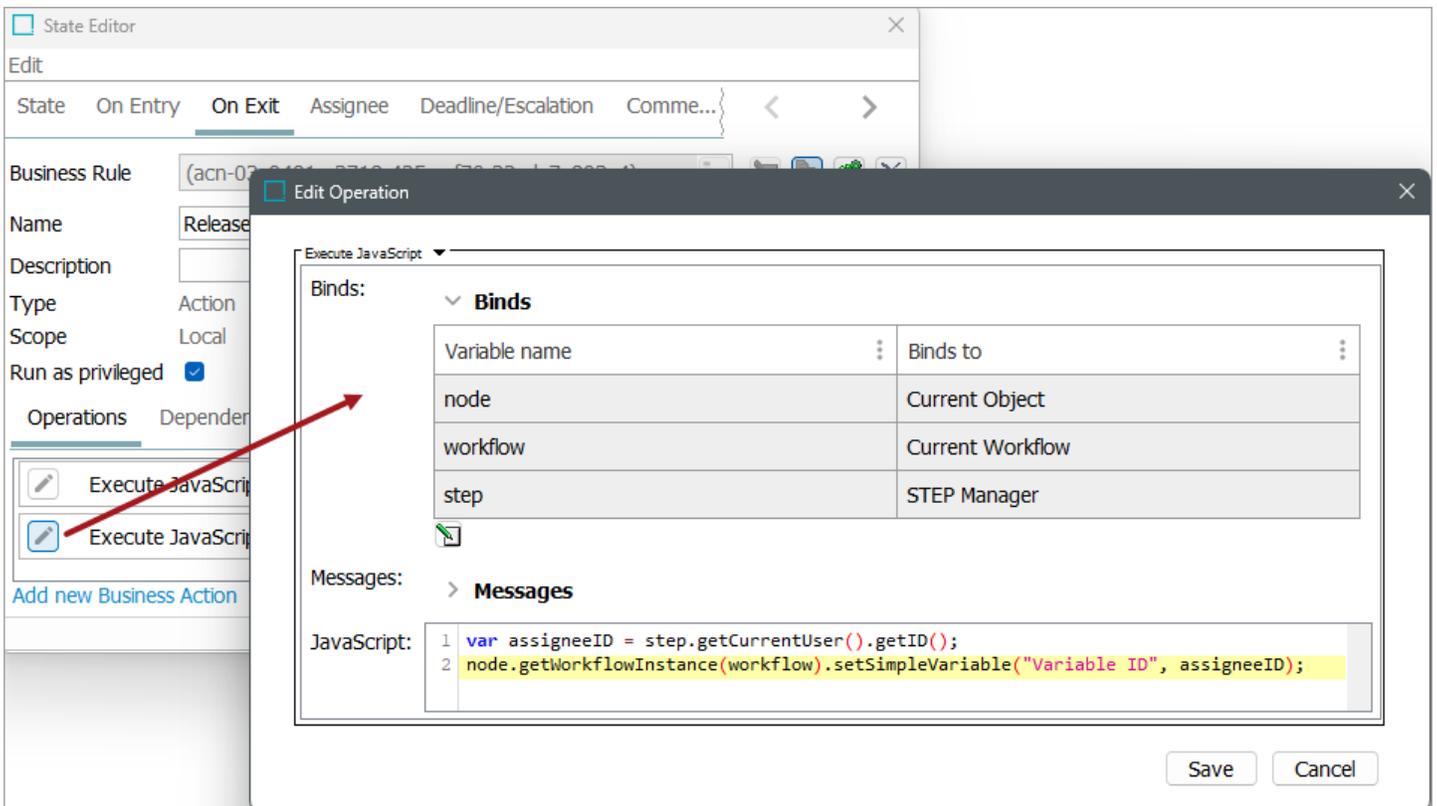
To create this business rule, a workflow variable first needs to be defined, which is 'Released by' for this workflow.



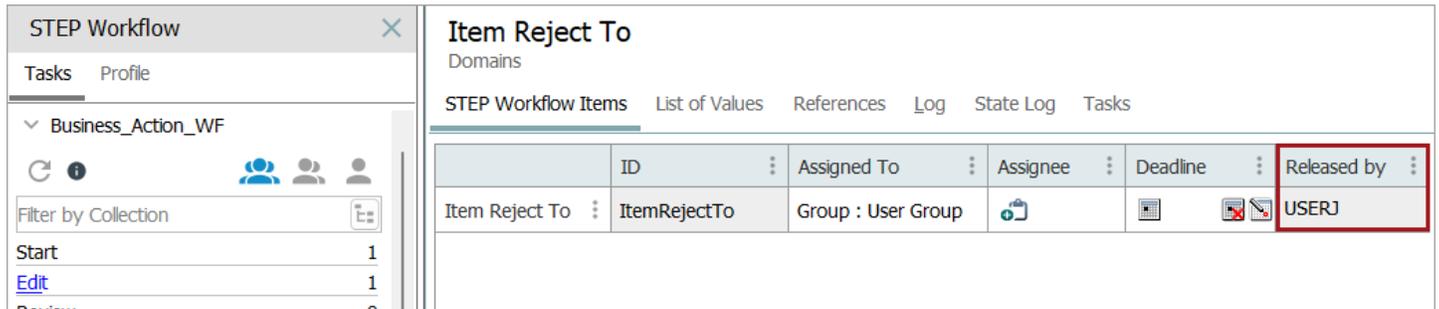
Then a business rule needs to be written to call the workflow variable as mentioned below:

```
var assigneeID = step.getCurrentUser().getID();
node.getWorkflowInstance(workflow).setSimpleVariable("Variable ID", assigneeID);
```

**Note:** In this formula, "Variable ID" should be replaced with the ID of the actual workflow variable for the workflow in use.



With this business action in place, when a product is submitted, the business rule is executed and the user ID of the user who submitted the product is stored. This is visible in the STEP Workflow Items tab if this was mapped in the views and mappings View Editor.



The screenshot shows the 'STEP Workflow' interface. On the left, there is a sidebar with 'Business\_Action\_WF' and a list of tasks: 'Start' (1), 'Edit' (1), and 'Review' (0). The main area is titled 'Item Reject To' and contains a table with the following data:

ID	Assigned To	Assignee	Deadline	Released by
ItemRejectTo	Group : User Group			USERJ

For more on setting up views and mappings, refer to the Views and Mappings for Workflows topic.

## Workflow Variables in Web UI

Workflow variables are also supported in Web UI, where they can be added to relevant components using the Workflow Variable or Workflow Variable Header components. In addition, workflow variables can be added to submit actions (Submit Action or Submit from Grid Action).

## Workflow Variables in new UI for STEP (also known as Instrument)

Workflow variables are also supported in the new UI for STEP, where workflow variables configured in the workbench will display in the UI. If a workflow variable is made mandatory on workflow states, a red asterisk will display in the new UI for STEP beside the mandatory variable; if it is configured on a workflow transition, no asterisk will display because a state may have multiple transitions and may use a transition for which the variable is not mandatory.

For more information on workflow variables in the new UI for STEP, refer to the Mandatory Attributes and References in Workflows topic.

## Web Services for SOAP Requests for Workflows

Complete documentation for Web Services functionality related to workflows can be found in the API documentation accessible at [system]/sdk or by clicking the **Technical Documentation** button on the Start Page. This topic provides some basic information and an example of a simple SOAP request, but should not be considered comprehensive.

The STEP Web Services API contains the following methods related to STEP Workflows:

**startWorkflow** - Method for starting a Workflow on an Object

**triggerWorkflowEvent** - Method for triggering a Workflow Event for an Object in a State in a Workflow

**deleteWorkflowInstance** - Method for removing an Object from a Workflow. I.e., deleting the instance.

**getTasks** - Method for retrieving information about which States an Object is in the specified Workflow. For each State apart from the ID, a STEP URL for the Assignee and the time of entering the State will be returned.

**initiateItemInStateflow** - Legacy version of startWorkflow

**triggerStateflowEvent** - Legacy version of triggerWorkflowEvent

**removeItemFromStateflow** - Legacy version of deleteWorkflowInstance

**getItemStateInfo** - Legacy version of getTasks

An example using startWorkflow is below:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ns="http://stibo.com/step/ws/step/1.0"
xmlns:ns1="http://stibo.com/step/ws/types/1.0">
  <soapenv:Header/>
  <soapenv:Body>
    <ns:startWorkflowRequest>
      <ns:accessContext>
        <ns1:userName>[Username]</ns1:userName>
        <ns1:password>[Password]</ns1:password>
        <!--Optional:-->
        <ns1:passwordType></ns1:passwordType>
        <!--Optional:-->
        <ns1:contextUrl>step://context?id=[Context ID]</ns1:contextUrl>
        <!--Optional:-->
        <ns1:workspaceUrl>step://workspace?id=[Workspace ID]</ns1:workspaceUrl>
      </ns:accessContext>
      <ns:nodeURL>step://product?[Node ID]</ns:nodeURL>
      <ns:WorkflowID>[Workflow ID]</ns:WorkflowID>
      <!--Optional:-->
      <ns:message>[Message]</ns:message>
    </ns:startWorkflowRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

## Workflow Attachments

While not the only reason, 'Workflow Attachments' are typically used for holding files that are necessary for users handling tasks in states. This could be written instructions, images, data sheets etc. Once the attachment is in place, when a user receives or gets a specific task(s), they can access the attachment and follow the specified instructions / guidelines.

Using workflow attachments a user can attach files to workflow instances. Also, like the workflow variables, workflow attachments are global to the workflow instance.

**Note:** Users should be familiar with the navigation to the STEP Workflow Designer and defining the views and mappings. Refer to [Creating a Workflow](#) for more on the workflow designer. Also, refer to [Views and Mappings for Workflows](#) for additional information.

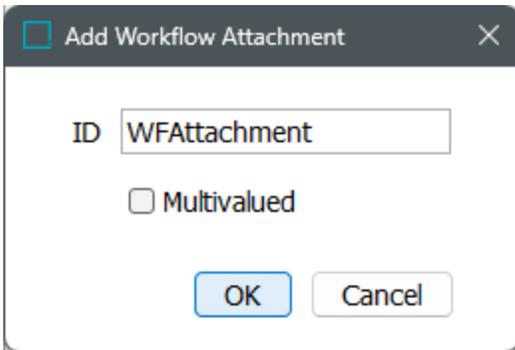
## Workflow Attachment Configurations

As described in the [Configuring Views for Workflows](#) topic, the 'WorkflowAttachment' component allows Users to add, open, download and delete workflow attachments through views.

Attachments are defined in the left pane of the Workflow Designer.

To add a workflow attachment:

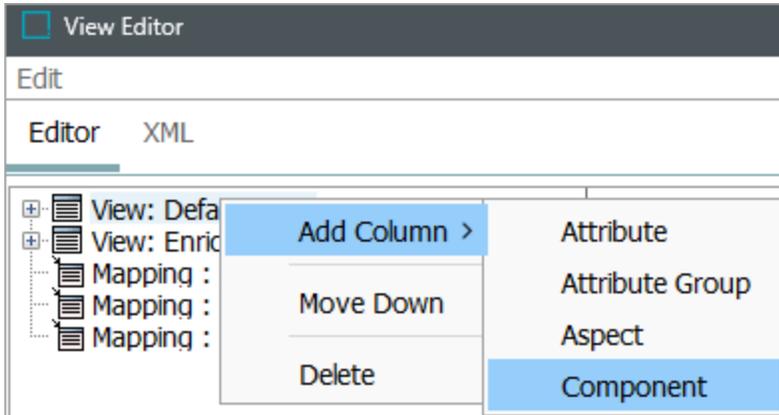
1. Click on the 'Add Workflow Variables/Attachments' icon () and select the option **Add Workflow Attachment**.
2. In the dialog that appears, enter the ID and click **OK**.



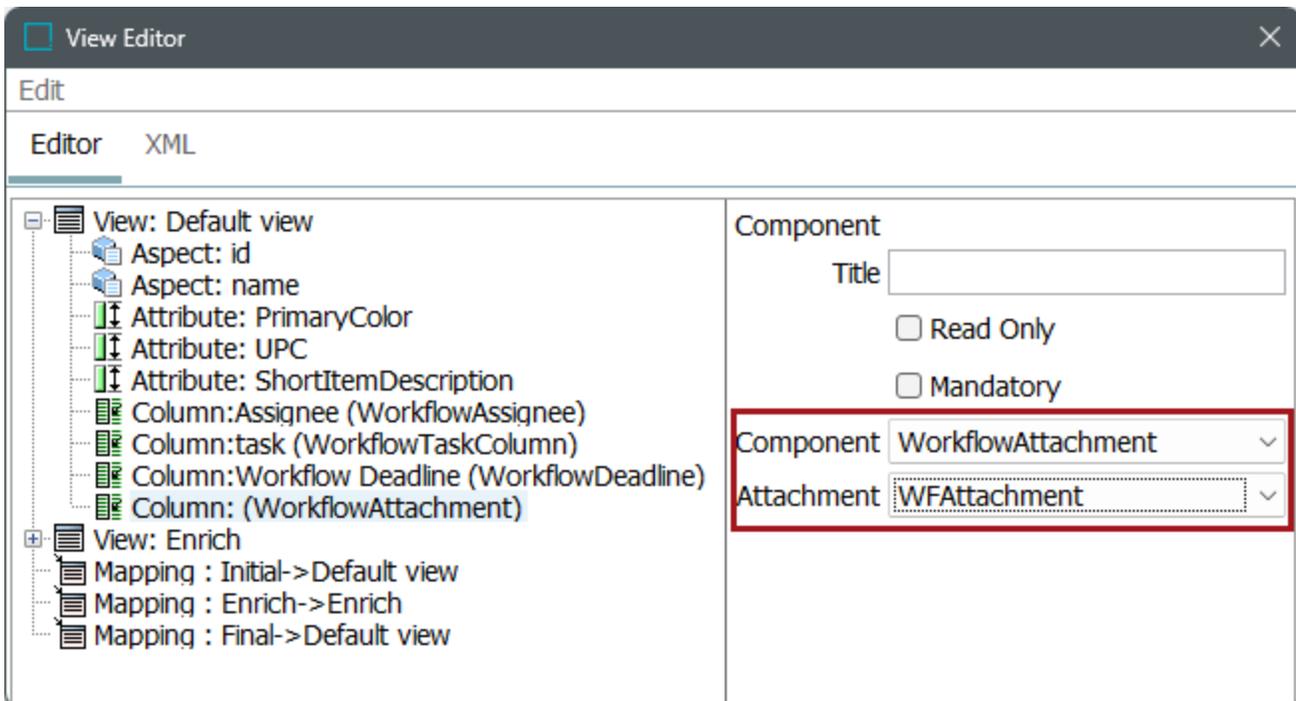
If multiple attachments are required then check the option for 'Multivalued'.

**Note:** If a user needs to edit or delete a workflow attachment added in this section, they can click on the edit icon, , or they can click on the remove icon, , to make any necessary changes.

3. From the Edit menu, select **Edit Workbench Views and Mappings**.
4. In the View Editor, right-click the view that needs an attachment added to it, and select **Add Column > Component**.



- Under the Component dropdown, select 'Workflow Attachment' and to display an 'Attachment' parameter. Select the attachment that was created. For this example it is 'Workflow Attachment.'



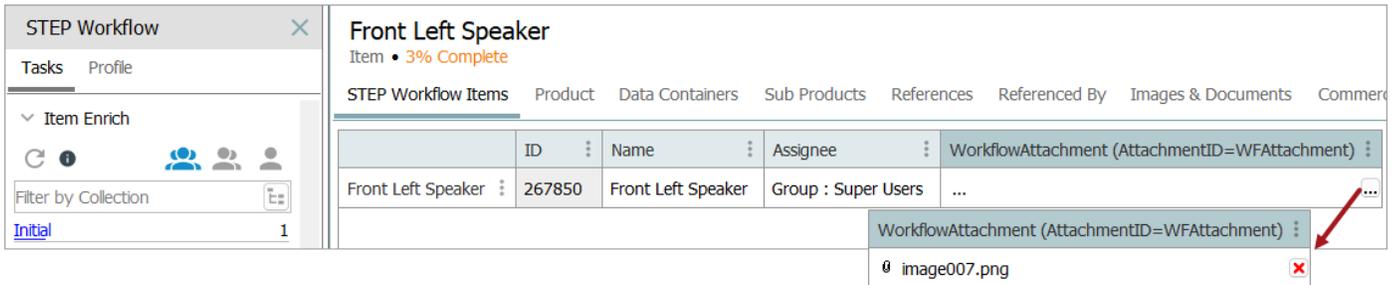
- Enter a title and decide if either of the optional 'Read Only' or 'Mandatory' parameters should be checked before exiting the View Editor and clicking 'Save and Exit' in the STEP Workflow Designer.

Component	Returned Value
Read Only	<p>If checked, the add and delete options are disabled, but users can still open and download attachments. Although uploaded files are not stored in the STEP database, but are instead on the application server file system in the path specified via the <code>Install.STEPWorkflowArea</code> property.</p> <p>If unchecked, a user can download the attachment and upload files. These files are attached to the workflow instance.</p>
Mandatory	An attachment is required.

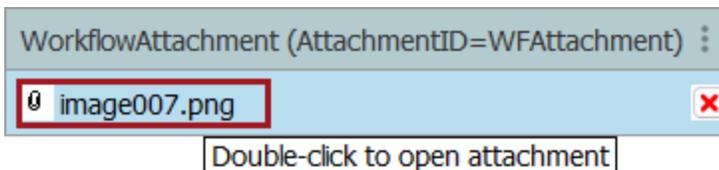
## Attaching a File in a Workflow

Once configurations are in place, the steps below show a user how to attach and remove a file.

1. Navigate to the STEP Workflow tab, select the desired workflow, and click on the corresponding state that the workflow attachment was mapped to in the above steps.
2. In the STEP Workflow Items tab, click the ellipsis button (⋮) next to the desired product and select the file from the system that is to be attached.



3. Double click on the attachment to open it.



4. To remove the attachment, click on the red 'x' button, .

**Important:** Workflow attachments are specific to the instance and values are deleted together with the instance.

In the public API you can obtain a 'WorkflowAttachment' object through the 'WorkflowInstance' interface via 'WorkflowInstance.getAttachmentByID("Attachment ID")' and have various methods available on the returned object.

**Note:** The files referenced by attachments are stored on the application server in the directory pointed to by config property `Install.STEPWorkflowArea`. If you are on a clustered environment, the directory should be on a shared drive. Workflow attachments are not stored as assets in STEP.