

Automated Steps Library

The **Automated Steps Library** is a project-level steps library organization for Cucumber Tests/Pre-Conditions, containing all the Gherkin steps referred by all those Tests/Pre-Conditions belonging to that project.

Thus, it provides an overview of all the automated (Gherkin) steps used in the context of each project, allowing users to easily refactor the steps.

The library is automatically populated with all the steps upon the creation/update of Cucumber Tests/Pre-Conditions.

Gherkin reserved keywords (e.g. *Given*, *When*, *Then*, *And*) are not stored in the library.

Learn more

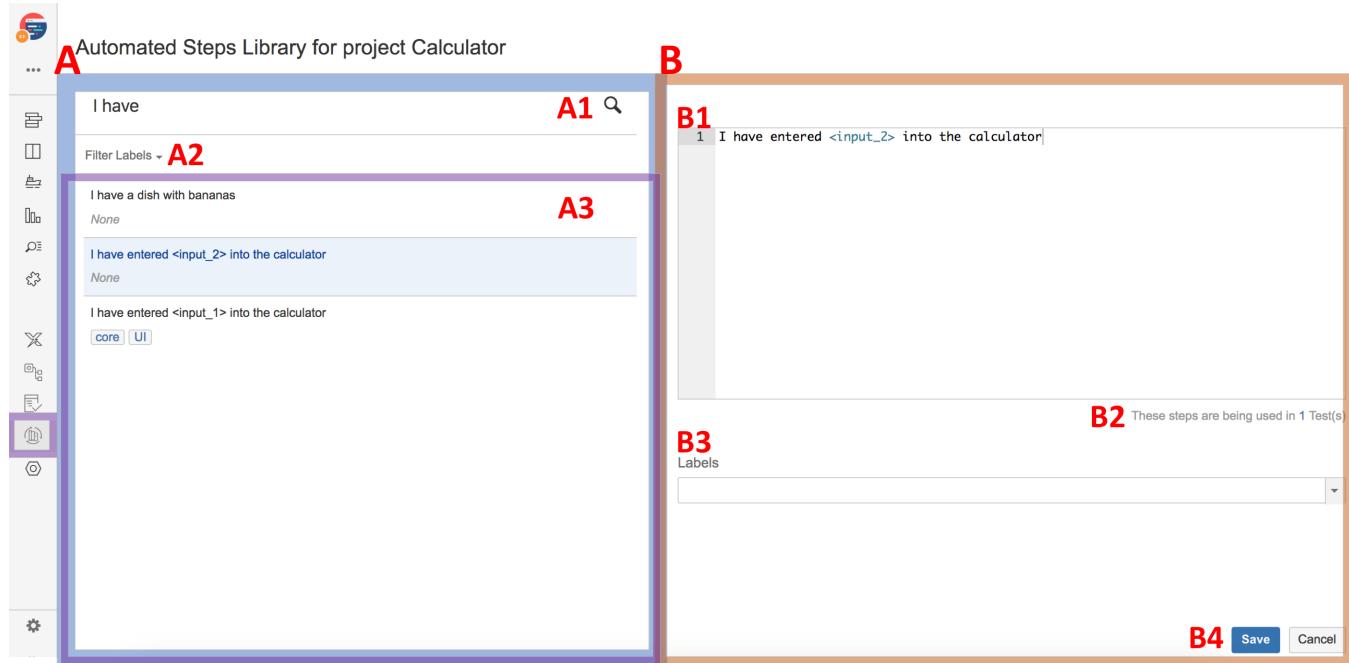
Please refer to [Gherkin Tests](#) on how to define Gherkin Tests using the Automated Steps Library

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Overview of the Automated Steps UI

The [Automated Steps Library screen](#) can be accessed from the project left sidebar by choosing the Automated Steps Library icon.

The image below depicts the several key areas of the [Automated Steps Library screen](#).



A: Steps section

- **A1:** search step based on given content
- **A2:** restrict searching of steps to the given labels
- **A3:** list of steps matching search criteria defined by A1 and A2

B: Step content section

- **B1:** step content (i.e. Gherkin sentence without the Gherkin reserved keywords)
- **B2:** information about the Test(s)/Pre-Condition(s) using the selected step
- **B3:** labels assigned to the step

Actions

A step can be selected by clicking on it. Once selected, you may update it, for example.

Multiple selection is possible by using the "Ctrl" key (on Windows) or the "Cmd" key (on OS X). If you want to select more than one step and the steps are listed consecutively, use the "Shift" key to quickly select an entire group. Click the first step in the list you want to select, hold down the "Shift" key, scroll down to the last step you want and click it. This selects the first item, the last item and all items in between.

Search steps

Steps can easily be searched using autocomplete, further restricted by some given labels.

Step 1: Write part of the step content (you may click on the search icon to enforce a search if needed).

Automated Steps Library for project Calculator

calc ←

Filter Labels ▾

I press <button> on the calc
None

I have entered <input_1> into the calculator
core

Given I have entered <input_2> into the calculator
None

Step 2: Select the labels to filter out the steps just containing the identified labels; this can be done before or after writing the step content to search for.

If more than one label is specified, then only steps containing all those labels are shown.

Automated Steps Library for project Calculator

The screenshot shows the 'core' category selected in the sidebar. The sidebar also includes a search bar labeled 'Find more...', a checkbox for 'core', and a 'Recent Labels' section with 'tiiming' and 'operations'.

Automated Steps Library for project Calculator

The screenshot shows a single step: '1 I have entered <input_1> into the calculator'. Below the steps, it says 'These steps are being used in 2 Test(s)'. A 'Labels' section at the bottom shows 'core' selected.

Merge / Refactor multiple steps

In order to keep your Automated Steps Library clean and sane, you'll need to do refactoring quite often

It may happen that you have redundant, similar steps. Thus, you may merge those steps and avoid duplicated specification & related code.



Please note

Upon a steps merge operation, all Tests and Pre-Conditions using it are updated accordingly.

Only non-readonly Tests/Pre-Conditions that the user is allowed to edit are updated; the other ones will remain as-is, leading to the simultaneous existence of original steps along with the merged one in the library, in this case.

A merge operation may require some manual reviewing on the destination affected Tests/Pre-Conditions.

Example: two steps are merged to one having the content: "Given I have a turned on calculator"

Original Test/Pre-Condition content	Updated Test/Pre-Condition content
Given I have a calculator	Given I have a turned on calculator
And the calculator is turned on	Given I have a turned on calculator

As you can see from this example, in which the original Test/Pre-Condition contains the original steps, the merge operation does not remove duplicated steps in the destination Cucumber Scenario/Background.

Thus, a manual process should be done on the affected issues in order to review the specification and remove the steps where desired.

To merge similar redundant steps:

Step 1: Select the steps (see Actions above for information on multi-selection).

Automated Steps Library for project Calculator



core ▾

I have written <input_2> in the screen of the calculator

core

I have entered <input_1> into the calculator

core

Step 2: Use the context action "Merge".

Automated Steps Library for project Calculator

I have written <input_2> in the screen of the calculator
core

I have entered <input_1> into the calculator
core

Merge

1 I have written <input_2> in the screen of the calculator

These steps are being used in 1 Test(s)

Labels
core

Step 3: Edit the merged step content on the right side; on the left side you can see the temporary merged step until you save it.

Automated Steps Library for project Calculator

I have written <input_2> in the screen of the calculator
core

1 I have written <input_2> in the screen of the calculator

2 I have entered <input_1> into the calculator

These steps are being used in 3 Test(s)

Step 4: Click on Save.

Automated Steps Library for project Calculator

I have entered <input_value> into the calculator
core

1 I have entered <input_value> into the calculator

These steps are being used in 3 Test(s)

Labels
core

Save Cancel

Find Tests and Pre-Conditions using a step

To find all the Tests or Pre-Conditions using a given step:

Step 1: Click on the step.

Step 2: Click on the number shown below the step content box.

Automated Steps Library for project Calculator

The screenshot shows a search interface with a magnifying glass icon. Below it is a list of steps under the heading "core". One step is highlighted: "I have entered <input_value> into the calculator". A note at the bottom right says "These steps are being used in 3 Test(s) or Pre-Condition".

Step 3: The issues search will show all related issues.

The screenshot shows a JIRA search results page. The search query is "id in (21104,21303,21300)". The results table has columns: T, Key, Summary, P, Status, Created, Due, Components. Three issues are listed:

T	Key	Summary	P	Status	Created	Due	Components
	CALC-2707	CLONE - cuke		OPEN	06/Aug/18		
	CALC-2704	cuke		OPEN	01/Aug/18		
	CALC-2633	Cucumber Test As a user, I can calculate the sum of two numbers		OPEN	05/Jun/18		

Update / Refactor a step

The step content can be updated (i.e. renaming the step) directly in the Automated Steps Library for easy refactoring; all updatable Tests/Pre-Conditions will be updated accordingly.

Only non-readonly Tests/Pre-Conditions that the user is allowed to edit are updated; the other ones will remain as-is, leading to the simultaneous existence of original step along with the updated one in the library, in this case.

Please note

It is also possible to indirectly update steps during the edition of Cucumber Tests/Pre-Conditions; however, this inhibits refactoring.

Whenever editing Cucumber Tests/Pre-Conditions, if the changed steps aren't being used elsewhere, then the existing steps will be updated accordingly; otherwise, new steps will be created. In other words, the library will contain all the steps, including the new/changed ones along with the "original" ones that being used in other issues. Thus, some care should be taken whenever editing Cucumber Tests/Pre-Conditions in order to avoid proliferation of similar steps.

To update the content of an existing step (i.e. refactor it):

Step 1: Click on the step.

Automated Steps Library for project Calculator

The screenshot shows the 'Automated Steps Library' interface. On the left, there's a sidebar with a search icon and a 'Filter Labels' dropdown. Below it are several step entries with labels:

- I wait 10 seconds [timing]
- I press <button> on the calc [None]
- I have a browser [None]
- I have entered <input_1> into the calculator [core]
- the result should be <output> on the screen [operations]** (This step is highlighted with a red arrow pointing to its content area.)
- Given I have entered <input_2> into the calculator [None]

On the right, a large text input field contains the step content: "1 the result should be <output> on the screen". Below the input field, a message says "These steps are being used in 2 Test(s)". A 'Labels' section shows the label "operations" with a delete button. At the bottom right are "Save" and "Cancel" buttons.

Step 2: Edit the step content on the right side.

This screenshot shows the step content editor for the step "the result should be <output> on the screen". The content area contains the text "1 the result should be <output> on the screen". A red arrow points to this text. Below the content area, a message says "These steps are being used in 2 Test(s)". A 'Labels' section shows the label "operations" with a delete button. At the bottom right are "Save" and "Cancel" buttons.

Step 3: Click on Save.

Add Label

Label your steps so you can easily group similar steps and find them afterwards whenever you need them. Since steps may be related with different things simultaneously, you may add more than one label.

To add a label to an existing step:

Step 1: Click on the step.

Automated Steps Library for project Calculator

The screenshot shows the 'Automated Steps Library for project Calculator'. On the left, there is a list of steps with their descriptions and labels:

- I wait 10 seconds [Timing]
- I press <button> on the calc [None]
- I have a browser [None]
- I have entered <input_1> into the calculator [core]
- the result should be <output> on the screen [None]
- Given I have entered <input_2> into the calculator [None]

In the center, there is a large step editor window for step 1. The step description is "the result should be <output> on the screen". Below the step, it says "These steps are being used in 2 Test(s)". To the right of the step, there is a "Labels" input box with a dropdown arrow. At the bottom right of the editor are "Save" and "Cancel" buttons.

Step 2: Click on labels input box to enter a new label or use the arrow dropdown to pick an existing one.

The screenshot shows the step editor for step 1. The step description is "the result should be <output> on the screen". Below the step, it says "These steps are being used in 2 Test(s)". To the right of the step, there is a "Labels" input box containing "operations" with a dropdown arrow. A blue bar highlights the "operations" option in the dropdown menu. At the bottom right of the editor are "Save" and "Cancel" buttons.

Step 3: Click on Save.

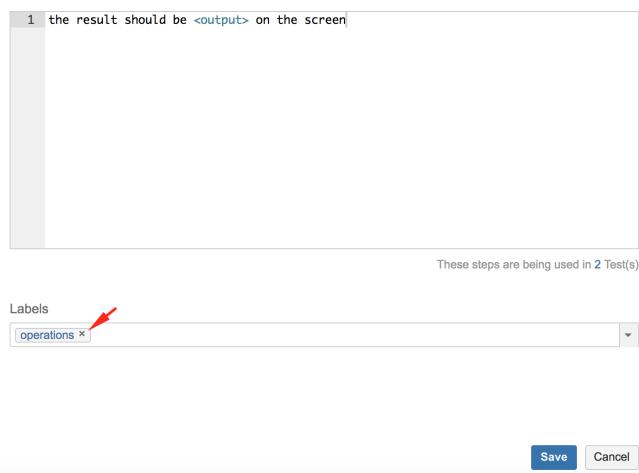
Remove Label

To remove a label from an existing step:

Step 1: Click on the step.

The screenshot shows the step editor for step 1. The step description is "the result should be <output> on the screen". Below the step, it says "These steps are being used in 2 Test(s)". To the right of the step, there is a "Labels" input box containing "operations X" with a dropdown arrow. A red arrow points to the "operations" label in the dropdown menu, indicating it has been removed. At the bottom right of the editor are "Save" and "Cancel" buttons.

Step 2: Click on the cross of the label in the labels input box or use the backspace after positioning the cursor after the desired label.



Step 3: Click on Save.

Settings

Enable/Disable

Upon installation of Xray or the upgrade from an earlier version of Xray, the Automated Steps Library is enabled by default.

Xray allows you to globally enable/disable the Automated Steps Library though.

A setting available in Xray [Miscellaneous](#) allows the administrator to enable/disable the library.

Automated Steps Library

[Enable Automated Steps Library](#)

When this option is enabled, The Automated Steps Library will be accessible from the side bar and from the Tests menu.

Whenever enabled, there's an additional performance overhead on the creation/update of Cucumber Tests/Pre-Conditions and upon the refactoring of existing steps within the Automated Steps Library UI.

On the other hand, disabling the library will avoid that additional processing overhead.

Please note

If you disable the Automated Steps Library, all new steps that you added meanwhile or, in general, any changes that you have made to your existing Cucumber Tests/Pre-Conditions afterwards will not be synchronized to the library. This means that the Automated Steps Library may be out-of-synch.

Synchronizing your existing steps with the library can be done with the [Integrity Checker](#).

Maintenance

Using the JIRA administration

[Integrity Checker](#) may be used to force a per-project synchronization of steps, in case you find [orphaned](#) or missing steps in the library.

Using project settings

An action is available in the project settings to force a per-project synchronization of steps.

Step 1: Go to project settings, Summary section.

Step 2: Go to Actions, at the top-right corner and choose "[Import Automated Steps to Library](#)".