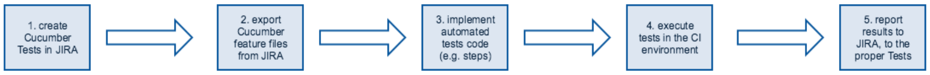
Testing with Cucumber

Cucumber is a framework for behavior-driven development (BDD), where the test specification is done in natural language, while the implementation of each specification's phrase (i.e., step) is done in code (e.g., Java, Ruby, C#, or some other language).

Xray provides the tool to create the specification inside Jira, although the implementation code itself is outside of Xray's scope.

Standard Cucumber workflow

In this workflow, Tests are created and managed in Jira.


1. create Cucumber Tests in JIRA
2. export Cucumber feature files from JIRA
3. implement automated tests code (e.g. steps)
4. execute tests in the CI environment
5. report results to JIRA, to the proper Tests

1. Specify Cucumber tests using natural language, in Jira.
2. Export Cucumber features from Jira to the CI environment, using the REST API.
3. Implement tests in code and commit them to the source code versioning system.
4. Execute tests in the CI environment.
5. Report results to Xray, using the REST API.

Note that Cucumber steps and related code may, in fact, be implemented before the first step, or may not even be needed to be implemented for a given Test if all the sentences are already implemented as code.

Learn more

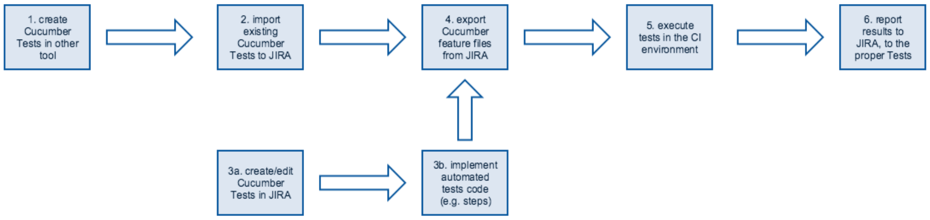
See Automated Tests (Import/Export) for more information on how Cucumber feature files are generated and how to import back results to Xray.

Legacy Cucumber workflow

The workflow below applies to legacy/existing projects that already have Cucumber tests in some version control system (e.g., GIT, SVN), possibly alongside the software's implementation.

There are also cases where users prefer to edit Cucumber tests using another tool; even so, they can take advantage of Xray.

Existing Cucumber tests are initially imported to Jira, or they can be imported at a regular basis, if needed. Editing the tests can then proceed on the Jira side. While test editing can also occur simultaneously in Jira and in some other tool, it is recommended to keep it only on one side, preferably Jira.


1. create Cucumber Tests in other tool
2. import existing Cucumber Tests to JIRA
4. export Cucumber feature files from JIRA
5. execute tests in the CI environment
6. report results to JIRA, to the proper Tests
3a. create/edit Cucumber Tests in JIRA
3b. implement automated tests code (e.g. steps)

1. Create Cucumber tests (e.g., Scenario/Scenario Outlines) and their respective step code in some other tool.
2. Import existing Cucumber tests using the REST API (e.g., from an existing code base which may have tests, and their corresponding step implementation)
3. Optionally, and in parallel,
    a. Specify additional or edit existing Cucumber tests in natural language, in Jira.
    b. Implement remaining tests in code and commit them to the source code versioning system.
4. Export Cucumber features from Jira to the CI environment, using the REST API or the Jenkins/Bamboo plugins.
5. Execute tests in the CI environment.

6. Report results to Xray, using the REST API or the Jenkins/Bamboo plugins.
7. Repeat from step 3 onwards.

⚠ **Please note**

As of Xray v2.3.x, step 2 is not idempotent, i.e., if you try to import Cucumber Tests multiple times using the endpoint Importing Cucumber Tests - REST, you may end up with repeated entities in Jira.

Common problems

Submission of Cucumber results says "No tests found in execution result"

Most probably you're trying to submit a Cucumber JSON results file without having previously created the Cucumber Tests (e.g., Scenario/Scenario Outline) in Jira.

You need to first have these Test issues created in Jira, with the correct specification. Then, you need to export those Tests to one or more Cucumber . feature files, so you're able to run them in your CI environment.

Following this workflow is important because whenever you export the features from Jira, along with the corresponding Cucumber Scenarios/Scenario Outlines, the Scenarios will be tagged with labels that will allow Xray to map the results back to the proper entities in Jira.

Is it possible to create of Cucumber tests automatically when submitting Cucumber results?

No. It's not possible to properly recreate the Cucumber Scenario/Scenario Outline/Background from a Cucumber result file in JSON format.

Where is the master of information for Cucumber Tests?

Our recommendation is to manage it in Jira and always edit the Cucumber Scenarios/Scenario Outlines/Backgrounds there.