# **Execute Tests**

- Overview •
- Navigation and Actions bar
  - Export Automated Test Definition
    - Export to Cucumber
    - Generic
    - Import Execution Results
- Dataset
- Execution Status
- Affected Requirements
- . Comment
- **Execution Defects** 
  - Global and Test Step Defects
- Execution Evidence Global and Test Step Evidence
- **Issue Details** 
  - Test Description
  - Test Issue Links
  - Test Issue Attachments
- Pre-Conditions
- Pre-Condition Attachments
- **Custom Fields**
- Test Details
  - Manual Test Step Results Table
  - Gherkin Test Details
    - Examples
  - Unstructured Test Details
  - Iterations
    - Filtering iterations
    - Status calculation
- Automated Results
- Activity
- Attaching Screenshots
- Updating the definition of the Test after the execution started
  - Reset Execution
  - Merge Execution

# Overview

You can either execute your tests manually or automatically. Even if it is an automated test, you can manually set the test status for that execution. You can also create custom statuses.

Tests are always executed within a Test Execution context, even if it's an ad hoc execution. You can execute tests inline (i.e., define the test run status), directly in the Test Execution issue screen, or you can use the Execution Screen which is detailed extensively below.

A Test Execution is validated if all the Tests that verify the specific environment target passed. In order to execute, monitor the progress, and report the results, each Test has its own Execution page details. Each Test associated with a Test Execution is called a Test Run. A Test Run is like an instance of the Test that contains a copy of the test definition (e.g., description, steps) and the result of that test in the context of that Test Execution.

When a Test definition is modified, the respective Test Runs aren't automatically updated. This happens because the execution of a Test depends directly on its definition. If the Test definition is changed, the executions might not be consistent with the definition anymore. Each time a Test Run is created, the Test definition is copied to it. This guarantees that when the Test definition changes, the Test Runs are not affected and will always contain the original (i. e., when it was added to the Test Execution) Test definition.

You are allowed to execute a Test if:

- you have permission to "Browse" the Test Execution issue
  you have permission to "Resolve" the Test Execution issue
- the Test Execution issue is not in a status configured to disallow executions
- the Test issue is not in a status configured to disallow executions

#### Please note (i)

Find more about how you can disallow executions based on the workflow status of Test or Test Execution issues at:

- Miscellaneous
- Using Jira workflows for testing purposes

Even though you might not have permission to execute a Test Run and if the execution has already been started, you can see the execution details page in **read-only** mode. An informative message will be shown to at the top of the execution page if the current Test Run is in read-only mode.

When you execute a Test, the Xray Execution Screen is shown. This screen is accessible from the Test Execution issue view page and the Test issue view page (Test Runs section), and this is where the execution results are displayed and registered. This page contains information about the Test definition and the Test Execution issue context to allow you to execute the Test without exiting this page.

The execution screen is composed of the following sections:

- Navigation and Actions bar
- Execution Status and Test Execution fields

> Iteration 1 - admin configure reports and ...

Ö

> Iteration 2 - project admin configure project repor...

- Affected Requirements
- Comments
- Defects
- Evidence
- Test issue details
- Custom Fields
- Preconditions
- Test details (script or steps)
- Result contexts
- Activity

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<b>?</b> *	HELDER0 / Test Execution: HELD Check user privileges	DER0-6048 / Test: HELDE	ER0-6047		📭 🖬 Dataset 🔺 Re	eturn to Test Execution
III 3 55 6 00	Execution Status TODO (===================================	6:18 PM 🗃 Finished	On: -		Assignee: None Executed By: - Tests - environments:	Versions: - Revision: -
	☆ Comment	Preview Comment	^ Execution Defects (0) $\oplus$	•••	$\ensuremath{^{\wedge}}$ Execution Evidence (0) $\oplus$	
	Click to add comment		No defects yet.		No evidence	) ) yet
	<ul> <li>Custom Fields</li> <li>run of 1</li> <li>Test Description</li> <li>Test Issue Links 1</li> <li>tests</li> </ul>	SEARCH2-1709 As an ac	run cf2 None dmin I can manage configuration of reports		OPE	Ν
	Iterations 476					Ŧ

Test St	st Steps (3)									
1	Step I choose the square root operation on the calculator	Data	Expected Result The operation must appear selected							
	Actual Result ¥ Comment 🔲 🕀 Defects	(0) (+) Evidence ◎ (0) (+)	Step State PASS							
2	Step	Data	Expected Result							
	I enter an integer into the calculator	I = 9								
	Actual Result ¥ Comment 🔲 🕀 Defects	○ (0)	Step State PASS							
3	Step	Data	Expected Result							
3	I press the Calculate button		The result <b>3</b> must be displayed in the screen, at the right of the "=" sign							
	Actual Result ¥ Comment 🔲 🕀 Defects	(0) (+) Evidence ◎ (0) (+)	Step State PASS							

# Navigation and Actions bar

Always available, the navigation bar contains breadcrumbs to allow easy navigation between the Test issue hierarchy. It also contains a toolbar with the **Re turn to Test Execution** button that allows you to jump to the current Test Execution issue page, as well as the **Next** and **Previous** buttons, to quickly navigate to the execution screen of the other Tests included on the same Test Execution, if applicable.

On this bar, you can also find actions to **Export test definitions** and **Import execution results**. This is useful if you need to do an ad-hoc execution for an automated Test. Usually, automated tests are executed in a Continuos Integrating platform and the results are imported automatically into Xray (creating new Test Execution issues for the results) but you can also execute each automated Test individually and import the execution result.

🔶 Ji	ra Software Dashboards - Projects - Issues - Boards - Tests - Create			Search	۹	迚	<del>4</del> ° (	0	6
<b>9</b>	Book Store / Test Execution: STORE-424 / Test: STORE-14 Test a visitor can do a valid search with multiple keywords	ę	Import Execution Results	Export to Cucumber	▲ F	teturn 1	o Test E	xecutio	on

### Export Automated Test Definition

If you are executing an automated Test, you can export its definition right from the execution screen.

### Export to Cucumber

If you're executing a Cucumber Test, an option to export the Test as a feature file will appear.



#### Generic

If you're executing a Generic Test, then an option to export the Test as text will appear.



### Import Execution Results

If you already have the test results, just use this action to import the report files into Xray and update a specific Test Run.

#### Dataset

If you want to edit a test run dataset, you can do it by clicking on the Dataset button. To learn more about it click on Parameterized Tests.

# **Execution Status**

The Execution Status describes the current Test progress. The possible (native) status for a Test Run are TODO, EXECUTING, FAIL, ABORTED, and P ASS. You can also create custom statuses in the Xray Execute Tests administration page.

You can change the status of the execution directly through this field. It supports inline editing and once activated, it will display a set of statuses that you can set the Test Run. If the option for setting the Test Run status manually without having to execute all Test Steps (or Examples, as in the case of Cucumber Tests) is enabled in the Xray administration page, then you can set the Test Run Status to any status, independent of the current aggregate status of the Test Steps (or Examples). If this option is disabled, then the status that you can set through this field will be limited to the available transitions based on the current Steps or Examples aggregated statuses.

The status section contains other relevant fields such as:

- Assignee the User assigned to perform the current test execution
- · Executed By the last User that changed the status of the current test run
- Versions the target release version tested by the current test execution
- Revision the source code and documentation version used in the current test execution
- Started On the date and time the execution of the current test started
- Finished On the date and time the execution of the current test finished

Execution Status PASS	2 🔲 🔲 🔳 🔳	Assignee:	Administrator Ver	rsions:	v1.0
		Executed By:	Administrator Rev	vision: I	r12324
Started On: 28/Aug/14 1:57 P	M Finished On: 29/Sep/14 10:21 PM	Tests environments:	-		

You can change the Test Run assignee directly on the field. It supports inline editing and once activated, you can filter by the user and then select the one you wish to assign to the Test Run.



If the dates are configured to be edited, you can edit the Started On date by clicking in the calendar icon and choosing the date and time. You can check your configurations by going to Jira Administration > Add-ons > Global Preferences.



Note: The Jira jira.date.time.picker.java.format and jira.date.time.picker.javascript.format properties in Jira Administration advanced settings should belong to the same pair of properties in order for the datetime picker work properly. See the following link for more information

https://confluence.atlassian.com/jira/changing-the-due-date-input-format-192536.html

### Affected Requirements

This section provides the ability to manually set the status for Requirement issues that are tested by the current Test issue. By default, the requirement status is calculated based on the latest Test Run of each Test associated with a given requirement. Even though the Test Run status is **FAILED**, not all requirement issues associated with the Test issue might have failed. Some of these requirements can, for instance, be **PASSED**, if the tester chooses to explicitly set the requirement status. This functionality makes it possible for a single Test issue to test multiple requirement issues with different concerns and functionalities. These requirement statuses that are explicitly set in a Test Run will then be considered when calculating the Requirement Status and Requirement Coverage.

(1) This section is only visible if the "Separation of Concerns" option is disabled in Coverage Settings settings page.								
<ul> <li>^ Affected Requirements</li> <li>CALC-2441 Square root operation</li> <li>★ DPEN</li> <li>OK</li> <li>↓ OK</li> </ul>								
Circk to add comment	Preview Comment	^ Execution Defects (0) ⊕	^ Execution Evidence (0) ③	••••				

All affected requirement statuses will be updated whenever a step (or example in the case of Cucumber automated Tests) status is changed. The status for any affected requirement can always be changed by clicking on the status and choosing the desired option.

### Comment

The Comment field is inline editable to input overall appreciations about the current execution without reloading the page

The field supports the Jira markup wiki language.

∧ Comment	Preview Comment
Click to add comment	!
Click to e	dit

# **Execution Defects**

The Execution Defects field lists the defects related to the current execution. It is possible to create a new Defect issue, create a new Sub-task or Add existing Defects by clicking on the respective option.

∧ Execution Defects (0)	$\oplus$	•••
	Create Defect	
	Create Sub-Task	
	Add Defects	
	(+)	
Ν	lo defects yet	

#### **Global and Test Step Defects**

The options menu on the right top corner appears for Manual Tests only, it changes the presentation of the defects list.

By enabling the Show Step Defects option, besides the Global Defects, the Test Step Defects will be shown in this list along with the index of the Step it belongs to.



# **Execution Evidence**

The Execution Evidences field lists the attachments related to the current execution and by clicking on the Add Evidence Icon, opens the Attach Files dial og box.

^ Execution Evidence (1) $\oplus$	***
ITERATION 1 STEP 1 📄 junit.log	470 kB

#### **Global and Test Step Evidence**

The options menu on the right top corner appears for Manual Tests only, it changes the presentation of the evidence list.

By enabling the Show Step Evidence option, besides the Global Evidence, the Test Step Evidence will be shown in this list along with the index of the Step it belongs to.

# **Issue Details**

This section includes some fields present on the Test issue. It often contains useful information for testers to execute the Test.

### **Test Description**

This section includes the current Test issue description. The Test issue description often contains useful information for testers to execute the Test.

The field supports the Jira markup wiki language.

Test Details MANUAL			
run cf 1	run cf2		
	None		
> Test Description			
🗠 Test Issue Links 🙎			
created	IT-4 User with no privileges can access other user's profiles	=	OPEN
tests	SEARCH2-1709 As an admin I can manage configuration of reports		OPEN

### **Test Issue Links**

This section shows all links associated with the Test.

Test Issue Links (2)					^
created		CALC-52	Error calculating the square root of integers	*	OPEN
tests		CALC-33	Square root operation	*	OPEN

### **Test Issue Attachments**

This section shows all attachments associated with the Test.

Test Issue Attachments (1)	^
🆒 ForTest.json	47 kB Today 5:26 PM

# **Pre-Conditions**

The Pre-Condition field shows the Pre-Conditions issues associated with the current Test.

Pre-Conditions (1)										
CALC-297 @(4) Turn on Calculator										
1 Given that i'm in the Test Environment 2 Then turn on the Calculator										

### **Pre-Condition Attachments**

The Pre-Condition field also shows the Pre-Conditions attachment in a inline dialog.

~	CALC	-297	0(4)	1	
	Turn o	n Cal			
	1	Give	-	C.png	
	2	Then		IC_Clear.png	or
				IC_Passed.png	
				LINKS_IC.png	

# **Custom Fields**

You define additional custom fields for Test Runs. These fields can be useful to add extra information to Test Runs, usually only available when or after executing Tests.

Test Run custom fields can be configured by project and by Test Type. Therefore, these settings will not affect other projects within your Jira instance. For instance, it is possible to have custom fields just for Manual Tests within a project.

If there are any custom fields defined for the scope of the Test Run, they will appear on the "Custom Fields" section.

Custom Fields				
Avg CPU usage*	Requests per second 🗓	Error rate* 🗅		
Negligent 0% - 20%	45	0.02		

It is also possible to define custom fields that are **mandatory**. If this is the case, users will not be able to set a final status on the Test Run if there is any required custom field that is not populated.

Book Store / Test Execution: STO Load testing subscript	DRE-432 / Test: STORE-430	
Execution Status TODO Final statu Run i Started On: - 📆	s transitions are disabled, Test s missing required fields.	
Comment	Preview Comment	Execution Defects (0)
Click to add comment		Cre

**Test Details** 

Within the Test Details section, you will find the Test script to execute. Depending on the Test Type, this section can display Test Steps, a Generic Definition field (for unstructured Tests), and Gherkin scenarios.

### Manual Test Step Results Table

A Manual Test execution screen contains the Test Steps field, listing the Steps, Data, Expected Result and Attachments to be used as reference while testing.

By clicking on each step, the following fields become editable:

- the Actual Result field which contains the actual result of the execution of the step;
  - This field can be edited using the wiki markup toolbar from Jira
  - ° It's possible to refer to an Evidence previously added to any Step or Global execution
- the Comment field which contains any notes about the corresponding step;
- the Defects field which contains any defect associated with the corresponding step. It is also possible to input new defects by:
- Clicking on the Create Defect to create a new Defect
- Clicking on the Create Sub-Task to create a new Sub-Task
- Clicking on the Add Defects to add an already existing defect
- the Evidences field which contains any attachment associated with the corresponding step. It is also possible to input new
- attachments by clicking on the + button, which opens the Attach Files dialogue box
- the Status which contains the current step testing status. This can be changed by clicking on any of the status in front of your Step Status.

Note: Changing the Status on the each Step will affect the Execution Status field on the Execution Screen.

Test S	est Steps (3)						
1	Step I choose the square root operation on the calculator	Data	Expected Result The operation must appear selected				
	Actual Result * Comment 📮 🕀 Defects 🕧	0 (0) ⊕ Evidence © (0) ⊕	Step State PASS 4=+ I III				
2	Step I enter an integer into the calculator	Data I = 9	Expected Result				
	Actual Result ¥ Comment 🔲 🔶 Defects (	0 (0) ⊕ Evidence ● (0) ⊕	Step State PASS 😅				
3	Step I press the <i>Calculate</i> button	Data	Expected Result The result 3 must be displayed in the screen, at the right of the "=" sign				
	Actual Result						
	Style $\vee$ B $I \ \underline{\cup} \ \underline{A} \ \cdot \ \underline{c}^*  \mathscr{O} \ \cdot \ \underline{\bigcup}  : \equiv \ \Box \ \Box \ \cdot \ \cdot \ \cdot $						
	The result was 5. Please see attachment:						
	Visual Text		G Save Cancel				
	Actual Result 2 Comment 📮 💮 Defects 🕧	□ (0)	Step State FAIL 47				

#### **Gherkin Test Details**

Gherkin Tests always display the Test scenario on the execution page. Usually, these tests are automated and their result can be imported into Xray. However, it is also possible to execute these Tests manually by setting the overall result of the Test Run, or by setting the result of each example (in case of scenario outlines).

Test Details		^
Test Details Test Type: Scenario Type: Scenario:	Automated[Cucumber] Scenario Outline	^

#### **Examples**

A scenario outline of an automated Cucumber test will normally contain an "examples" table containing several inputs and outputs for the given scenario.

The examples section details these examples, containing an overall status bar in the header and a table with all the examples below. Each example can have the status: PASS, FAIL or TODO.

A scenario outline test is PASS only if all examples passed.

A scenario outline test is FAIL if at least one of the examples failed.

A scenario outline test is TODO if at least one of the examples did not run and all the other examples passed or todo.

Examples				^
<input_1></input_1>	<input_2></input_2>	<button></button>	<output></output>	Status
30	20	sub	10	PASS
5	2	sub	3	FAIL
40	0	sub	0	торо

#### **Unstructured Test Details**

Unstructured Tests only contain the generic **definition field** on the Test Details section. This field can specify a test script, an ID to an external (automated) test case, or an Exploratory Test charter. Similar to Gherkin Tests, most unstructured test results will be imported or set by another tool. However, it is also possible to set the status of unstructured tests manually.

Test Details		~
Test Type:	Generic	
Definition:	jmeter.bookstore.newsletter.subscription	

#### Iterations

When this is a test run of a data-driven test, this field shows all the iterations corresponding to the rows of the dataset closest to the test run. For each iteration, the preconditions and steps appear with the expected parameter values for it. To learn more about it click on Parameterized Tests.

All operations for test steps are also available within an iteration, namely adding defects, evidence, and the actual result.

This section also features a progress bar displaying the status of all iterations.

#### **Filtering iterations**

It is also possible to filter the iterations by status. A filter button is provided next to the iterations progress bar. Clicking on this button will open a panel with all the available statuses. Choose one or more statuses and press Apply.

#### Status calculation

When a step status is changed, the iteration status will be updated automatically, according to the step statuses and, in turn, the overall test status will also be updated based on all iterations statuses.

Test Details	MANUAL					
<ul> <li>Iterations (</li> </ul>	18					Ŧ
> Iteration 1	- In Search of Lost Time \$34 5 Marcel Proust Yes New Paperback Yes 1				PASSED	95
> Iteration 2	Iteration 2 - One Hundred Years of Solitude \$20 4.9 Gabriel Garcia Marquez Yes Used Paperback Yes 1				PASSED	\$5
> Iteration 3	- The Great Gatsby \$39 4.7 F. Scott Fitzgerald No New Kindle Yes 1				PASSED	\$5
> Iteration 4	- In Search of Lost Time \$34 5 Marcel Proust Yes New Paperback No 1				PASSED	95
> Iteration E	- One Hundred Years of Solitude \$20 4.9 Gabriel Garcia Marquez Yes Used Pr	aperback No 1			PASSED	\$5
> Iteration 6	- The Great Gatsby \$39 4.7 F. Scott Fitzgerald No New Kindle No 1				PASSED	\$5
<ul> <li>Iteration 7</li> </ul>	- In Search of Lost Time \$34 5 Marcel Proust Yes New Paperback Yes 2				EXECUTING	\$%
✓ Steps	12					
1	Action	Data		Expected Result		
	Add 2 books of In Search of Lost Time into the basket.	None		After items are added, a confirmation mes	sage appears mentioning e basket.	2 items of
	Actual Result 3 Comment 🖋 Defec	ts 🕂	Evidence 📀	Step State	PASSED 5	
2	Action	Data		Expected Result		
	Click on the basket icon located on the top right toolbar of the app.	None		The basket page is displayed containing al	II 5 items.	
	Actual Result # Comment / Defec	ts 🛨	Evidence 🚯	Step State	PASSED %	
з	Action Attachments @ (1)	Data		Expected Result		
	Press the Checkout button to start the checkout process.	None		The checkout process is initiated asking the	ne user the address detai	ls.

# **Automated Results**

Xray for Jira supports the import of multiple execution results for the same Test Run. Multiple executions for the same Test Run specifies different results for different contexts/environments. Multiple executions are only supported for Automated Tests. Manual Tests do not have this concept.

When a Test Run contains multiple executions imported from external sources like Calabash and Xamarin Test Cloud, these executions are presented in a "Results" section on the execution page.

This section contains a Table with all executions for the same Test Run. The table has the following columns:

- Context: An execution context name (in the case of Xamarin Test Cloud results, the mobile device, and operating system version)
- Error Message: A possible error message if the result has failed.
- Duration: The complete duration of an execution result.
- Status: The execution results status.

~ Results

Context	Error Message			Duration	Status
HTC One (4.3)				16 millisec	PASS
<input_1></input_1>	<input_2></input_2>	<button></button>	<output></output>		Status
20	30	add	50		PASS
2	5	add	7		PASS
0	40	add	40		PASS
Samsung Galaxy S III Mini (NFC) (4.1	.2)			16 millisec	PASS

# Activity

The Activity field lists all the activities related to the current execution.

#### Activity



# Attaching Screenshots

To attach a screenshot, paste the image from your clipboard using the relevant keyboard shortcut. (For Mac OSX, use CMD+V; for Windows, use Ctrl+V.)

₩JIRA Dashboards - Projects - Issues - Boards - Tests - Create	Search 🔍 🔞 🕈 🧟 ד
Xray for JIRA / Sub-Task Test Execution: XRAV-7 / Test XRAYTEST-1 As a user, I can create a Test Execution as a sub-task issue type	Return to Test Execution
Execution Status: PASS Attach Screenshot	
Assignee:         Nuno Santos         Started On:         Today 10:20 Al         Paste the image:         Orf         + v           User assigned to this text execution         Date of which the resource         Date of which the resource         Orf         + v	
Executed By: Nuno Santos Finished On. Today 10:20 Al Last user hal changed he status of his list run. Date of when the status of his list run. Date of when the status of his list run.	
Execution Defects	+
Comment 2 Comment	
Click to add comment	
✓ Test Description	
None	
File Italite Scheension-1 A file name to be used as attached image name	
V Test Issue Links     Overall Evidences	
tests III XRAM2 As a user, I can create a Test Execution as a sub-task iss Attach execution evidences in the global context of the execution of or each step (manual tests only).	
Pra-Condition Cancel	
None	
✓ Test Steps	
Step         Data         Expected Result         Attachments         Comment         Defects	Evidences Status

Enter a file name for the screenshot you are attaching (defaults to "screenshot-" concatenated with the next number available) and choose where you want to place the evidence (Overall Execution or Test Steps).

XJIRA         Dashboards +         Projects +         Issues +         Boards +         Tests +         Create         Sear	rch q 🕜 - 🌣 - 💽 -
Xray for JIRA / Sub-Task Test Execution: XRAY-7 / Test XRAYTEST-1 As a user, I can create a Test Execution as a sub-task issue type	Return to Test Execution
Contraction of the second seco	
V Test Description  None  File name Create Issue Dialog  A file name to be used as attached image name	
V Pre-Condition     Step #4 Evidences     Oproad     Cancer  None	
	Status

Click Upload to attach the captured image to your Test Run.

# Updating the definition of the Test after the execution started

When a Test definition has changed, a new dialog box will appear on the top of the Execution page informing you that the current execution is obsolete, and will prompt you with Reset or Merge buttons that, when pressed, will load the updated definition as well as delete all the execution data or merge the new Test definition into the current state of execution.



### **Reset Execution**

You can choose to reset the Execution or keep it for historic record. If you reset the execution, all information previously saved (status, evidence, defects) will be erased.

### Merge Execution

You can choose to merge the new Test definition into the current status of execution. This will keep steps that weren't changed along with the associated results/comments/evidence. It will also load new steps (moved, erased, or created), pre-conditions, or attachments definitions. This will always force a recalculation of Test Run Status. For instance, if the current Test Run Status is FAIL because of a step and this step is removed from Test, if you merge, then the Test Run Status will change to whatever the value combination of the others steps returns.