

Requirements and Defects

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Definition

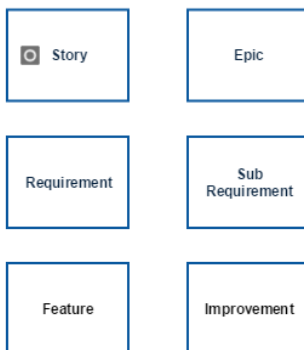
Requirements and Defects are two concepts commonly related to Tests.

A Requirement represents a singular documented physical and functional need that a particular product or process must be able to perform. They are also an important input into the verification process, since tests should trace back to specific requirements, showing what elements and functions are necessary for the particular project.

A Defect represents a condition in a software product which does not meet a software requirement (as stated in the requirement specifications) or end-user expectations (which may not be specified but are reasonable). It can be displayed as an error, flaw, failure, or fault in a computer program or system that produces an incorrect or unexpected result, or causes it to behave in unintended ways.

These two concepts can be mapped to different issue types in organizations.

Typical "requirement" issues



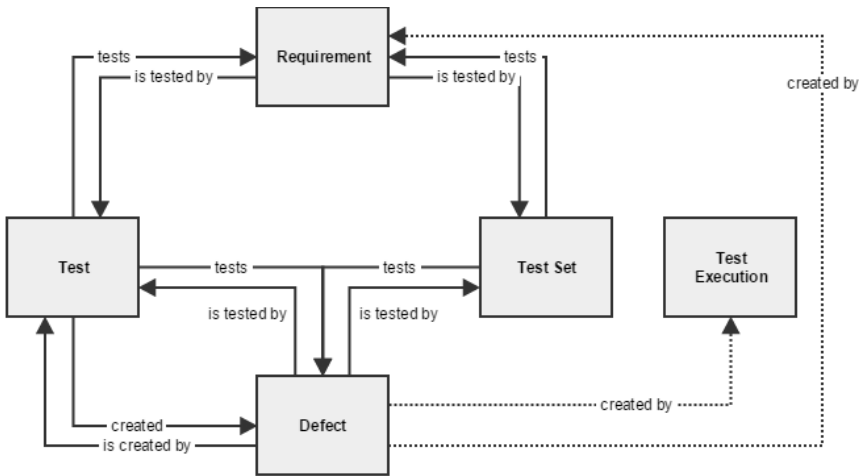
Typical "defect" issues



Often, a Defect issue type is also used as a Requirement. To assert that a Defect does not occur again, it can be also considered for testing. Xray allows the same issue type to be mapped as a Requirement and a Defect. So, a Defect can also be associated with Test issues and be considered for Requirement Coverage charts and Custom Fields.

Requirements and Defect issues can be associated with **Tests** and **Test Set** issues with the Jira default linking mechanism. There are specific issue link types for associating these issue types:

- Requirement R **"is tested by"** test T (or test set TS)
- Test T (or test set TS) **"tests"** requirement R
- Defect D **"is created by"** test T
- Defect D **"is tested by"** test T (or test set TS)
- Test T **"created"** defect D
- Test T (or test set TS) **"tests"** defect D



Customizing the "Tests" Issue Link Type: During the installation of Xray, the Issue Link Type "Tests" that is used in the associations between Tests/Test Sets and requirements is automatically configured. You can customize the default name, outward and inward description of this Issue Link Type, but after that, it is required to disable and then enable the add-on in the 'Manage add-ons' page.

Issue link "Test" has by default "tests" and "tested by" as outward and inward descriptions, respectively.

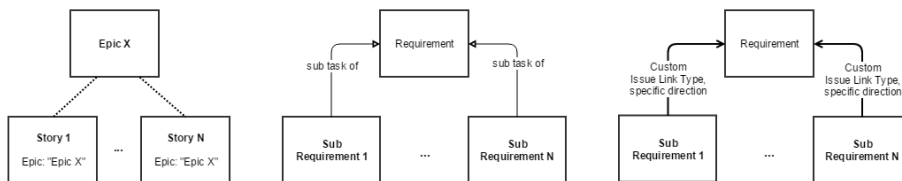
If you decide to downgrade to a version <= 3.0.x, make sure you restore the default Issue Link Type names and descriptions; otherwise Xray will create new Issue Link Types.

Sub-Requirements

A requirement can be associated with sub-requirements, resulting in a hierarchy of requirement issues. "Epic" requirements can thus be decomposed into smaller requirements, each associated with specific tests. This decomposition of requirements facilitates the management of epic requirements and makes their coverage analysis easier.

The requirement > sub-requirement (i.e., parent > child) relation can be defined in the ["Issue Type Mapping" configuration section](#) of Xray. Sub-Requirements can be associated with requirements using the Jira linking mechanism or using "Sub-Task" requirement issues.

Below are the different ways Xray considers issues as sub-requirements of a given "requirement".



i For more information on Requirement Status and coverage, please go to the [Coverage Analysis](#) page.

Associating a Requirement

There are several ways to associate a Requirement issue with a Test issue.

From the Requirement issue view screen

Step 1: Open the Requirement you wish to associate a Test with. In the given example, New Feature issue types are mapped as Requirements.

Step 2: Select **More > Link**. The **Link** screen will appear.

The screenshot shows the JIRA interface for an issue titled 'Parentheses priority' (CALC-19). The 'More' dropdown menu is open, and the 'Link' option is highlighted with a red circle. The issue details show it is 'Open' with 'Unresolved' status and 'v1.0' fix version. The 'Issue Links' section shows a list of related issues, including 'Link this issue to another issue or item'.

Step 3: On the **This issue** field, select the **tested by** option.

Step 4: In order to select the **Tests or Test Sets** to be associated, you can:

- Input the desired Test/Test Set **Issue Key** on the **Issue** field;
- Click on the **Down Arrow** on the Issue field and select the Test from its **History Search** list;
- Click on the **search for an issue** link to use the **Find Jira issues** browser;

Step 5: Click **Link**.

The screenshot shows the 'Link' screen in JIRA. The 'This issue' dropdown menu is open, and the 'tested by' option is selected, highlighted with a red circle. The 'Issue' field is empty, and the 'Comment' field is also empty. The 'Link' button is visible at the bottom right.

From the Test issue view screen

Step 1: Open the **Test** you wish to associate a **Requirement** with.

Step 2: Select **More > Link**. The **Link** screen will appear.

The screenshot shows the JIRA issue view screen for an issue titled "Divide two numbers" (key: CALC-10). The issue is in the "Open" status and is unresolved. The "More" menu is open, and the "Link" option is highlighted with a red circle. The "Link" option is described as "Link this issue to another issue or item". The "Test Details" section shows the issue type as "Test" and the cucumber type as "Labels". The "Steps" section shows a list of steps for the test. The "Xporter for JIRA" section shows the template as "Raven_PT_Templa" and the output format as "PDF". The "People" section shows the assignee as "Administrator" and the reporter as "Administrator". The "Dates" section shows the issue was created on 26/Nov/13 10:49 AM and updated on 26/Nov/13 2:16 PM.

Step 3: On the **This issue** field, select the **tests** option.

Step 4: In order to select the **Requirements** to be associated, you can:

- Input the desired Requirement **Issue Key** on the **Issue** field;
- Click on the **Down Arrow** on the Issue field and select the Requirement from its **History Search** list;
- Click on the **search for an issue** link to use the **Find Jira issues** browser;

Step 5: Click **Link**.

Link

JIRA Issue

Web Link

Select a JIRA issue to link this issue to

This issue

tests

Issue

or search for an issue

Begin typing to find recently viewed issues

Comment

?

Viewable by All Users


Link

Cancel


From the Test Set issue view screen


Step 1: Open the **Test Set** you wish to associate a **Requirement** with.

Step 2: Select **More > Link**. The **Link** screen will appear.


Calculator / CALC-5

Addition Tests

 Edit

 Comment

Assign

More ▾

Start Progress

Resolve Issue

Close Issue

Admin ▾

Details

Type:

Priority:

Affects Version/s:

Labels:

Log Work

Attach Files

Attach Screenshot

Voters

Stop Watching

Watchers

Description

Contains the tests

Create Sub-Task

Convert to Sub-Task

Move

Link

Clone

Labels

Delete

Export to Cucumber

Status:

Resolution:

Fix Version/s:

OPEN (View Workflow)

Unresolved

v2.0

Tests

Create Test

Add Tests

Search

Show ▾

1

CALC-2

Subtract two numbers

2

CALC-1

Add two numbers

Showing 1 to 2 of 2 entries

First

Previous

1

Next

Last

Activity

All

Comments

Work Log

History

Activity

Step 3: On the **This issue** field, select the **tests** option.

Step 4: In order to select the **Requirements** to be associated, you can:

- Input the desired Requirement **Issue Key** on the **Issue** field;
- Click on the **Down Arrow** on the Issue field and select the Requirement from its **History Search** list;
- Click on the **search for an issue** link to use the **Find Jira issues** browser;

Step 5: Click **Link**.

Link

JIRA Issue

Web Link

Select a JIRA issue to link this issue to

This issue

tests

Issue

or search for an issue

Begin typing to find recently viewed issues

Comment

Viewable by All Users

Link

Cancel

Associating a Defect

There are two ways to associate a Defect issue with a Test issue.

From the Defect issue view screen

Step 1: Open the **Defect** you wish to associate a **Test** with.

Step 2: Select **More > Link**. The **Link** screen will appear.

JIRA

Dashboards Projects Issues Tests Create issue

Quick Search

Calculator / CALC-20

Failed

1 of 3

Return to Search

Edit Comment Assign More

Start Progress Resolve Issue Workflow

Export

Details

Type: Attach Files Attach Screenshot

Priority: Voters

Affects Version/s: Stop Watching

Labels: Watchers

Description

Click to add desc

Create Sub-Task

Convert to Sub-Task

Issue Links

Link

created by

Clone

Labels

Delete

Activity

All

Comm

Where is my field?

Permission Helper

Notification Helper

Status: Open (View Workflow)

Resolution: Unresolved

Fix Version/s: None

Xporter for JIRA

Template: Raven_PT_Templa

Output format: PDF

Export

People

Assignee: Administrator

Reporter: Administrator

Votes: Vote for this issue

Watchers: Stop watching this issue

Dates

Created: 26/Nov/13 4:39 PM

Updated: 29/Nov/13 4:15 PM

Step 3: On the **This issue** field, select either the **created by** or the **tested by** option.

Step 4: In order to select the **Tests** to be associated, you can:

- Input the desired Test **Issue Key** on the **Issue** field;
- Click on the **Down Arrow** on the Issue field and select the Test from its **History Search** list;
- Click on the **search for an issue** link to use the **Find Jira issues** browser;

Step 5: Click **Link**.

Link

JIRA Issue

[Web Link](#)

Select a JIRA issue to link this issue to

This issue **created by** ▼

Issue ▼

[or search for an issue](#)

Begin typing to find recently viewed issues

Comment

Viewable by All Users

[Link](#) [Cancel](#)

From the Test issue view screen

Step 1: Open the **Test** you wish to associate a **Defect** with.

Step 2: Select **More > Link**. The **Link** screen will appear.

JIRA Dashboards ▾ Projects ▾ Issues ▾ Tests ▾ **Create issue** Quick Search ? ⚙ 👤

Calculator / CALC-10 3 of 5 Return to Search

Divide two numbers

Edit Comment Assign More ▾ Start Progress Resolve Issue Workflow ▾ Export ▾

Details

Type: Log Work

Priority: Attach Files

Affects Version/s: Attach Screenshot

Labels: Voters

Stop Watching

Watchers

Description

This tests the div

Create Sub-Task

Convert to Sub-Task

Test Details

Type: Link

Cucumber Type: Clone

Steps: Labels

Delete

Export to Cucumber

Where is my field?

Permission Helper

Notification Helper

Status: Open (View Workflow)

Resolution: Unresolved

Fix Version/s: None

Xporter for JIRA

Template: Raven_PT_Templa ▾

Output format: PDF ▾

Export

People

Assignee: Administrator

Reporter: Administrator

Votes: 0 Vote for this issue

Watchers: 1 Stop watching this issue

Dates

Created: 26/Nov/13 10:49 AM

Updated: 26/Nov/13 2:16 PM

Link this issue to another issue or item

`d <input_1> into the calculator`

`<input_2> into the calculator`

`n>`

`uld be <output> on the screen`

ut_2	button	output
divide	2	
divide	4	

Step 3: On the **This issue** field, select the **created** or **tests** option.

Step 4: In order to select the **Defects** to be associated, you can:

- Input the desired Defect **Issue Key** on the **Issue** field;
- Click on the **Down Arrow** on the Issue field and select the Defect from its **History Search** list;
- Click on the **search for an issue** link to use the **Find Jira issues** browser;

Step 5: Click **Link**.

Link

JIRA Issue

[Web Link](#)

Select a JIRA issue to link this issue to

This issue created ▾

Issue ▾

[or search for an issue](#)

Begin typing to find recently viewed issues

Comment

🔒 ? Viewable by All Users

Link Cancel