

# Requirements and Defects

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## Definition

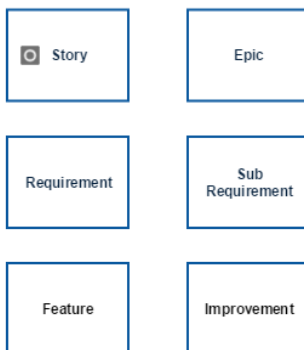
Requirements and Defects are two concepts commonly related to Tests.

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



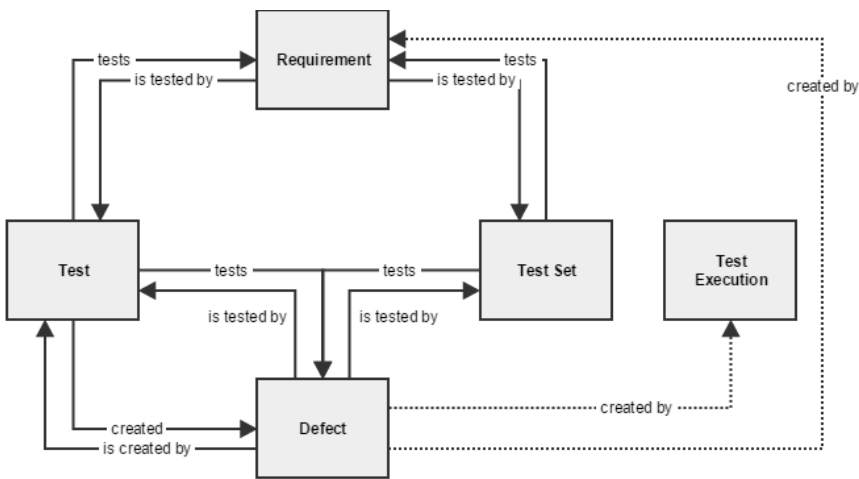
Typical "defect" issues



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

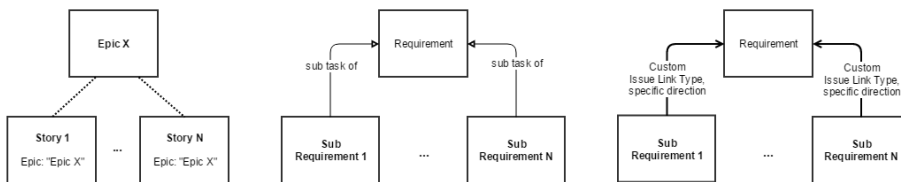


## Sub-Requirements

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".



For more information on Requirement Status and coverage, please go to the [Requirements 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.



**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 interface for an issue titled "Divide two numbers" (CALC-10). The "More" menu is open, and the "Link" option is highlighted with a red circle. The menu options include: Log Work, Attach Files, Attach Screenshot, Voters, Stop Watching, Watchers, Create Sub-Task, Convert to Sub-Task, Move, Link (highlighted), Clone, Labels, Delete, Export to Cucumber, Where is my field?, Permission Helper, and Notification Helper. The issue details show it is "Open (View Workflow)", "Unresolved", and has no fix version. The "Xporter for JIRA" section shows a template of "Raven\_PT\_Templa" and an output format of "PDF". The "People" section shows the assignee and reporter as "Administrator", with 0 votes and 1 watcher. The "Dates" section shows it was created on 26/Nov/13 at 10:49 AM and updated at 2:16 PM. The "Steps" section shows a table with 3 steps: 1. Input <input\_1> into the calculator, 2. Input <input\_2> into the calculator, and 3. Click <button> on the screen.

**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:

Description

Contains the tests

Tests

Show

Log Work
Attach Files
Attach Screenshot
Voters
Stop Watching
Watchers
Create Sub-Task
Convert to Sub-Task
Move
**Link**
Clone
Labels
Delete
Export to Cucumber

Status: **OPEN** (View Workflow)  
Resolution: Unresolved  
Fix Version/s: v2.0

Create Test

Add Tests

Search

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