



JIRA

Lecture Notes

A COMPLETE GUIDE FOR BEGINNERS

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JIRA

<i>Table of Contents</i>	<i>Page</i>
<i>Introduction</i>	<i>02</i>
<i>JIRA Scheme</i>	<i>02</i>
<i>JIRA Issues and Issues Types</i>	<i>02</i>
<i>What Is JIRA Issue?</i>	<i>02</i>
<i>Issue Types</i>	<i>03</i>
<i>JIRA Components</i>	<i>05</i>
<i>JIRA Screen</i>	<i>05</i>
<i>Issue Attributes</i>	<i>06</i>
<i>Issue Security Schemes</i>	<i>06</i>
<i>System Administration</i>	<i>07</i>
<i>How to Create an Issue in JIRA</i>	<i>08</i>
<i>Sub-Task</i>	<i>11</i>
<i>Workflows</i>	<i>14</i>
<i>Plug-ins in JIRA</i>	<i>16</i>
<i>JIRA Agile</i>	<i>16</i>
<i>Create an Issue in Agile</i>	<i>17</i>
<i>How to Create an Epic in Agile</i>	<i>17</i>
<i>Use of Clone and Link in JIRA</i>	<i>18</i>
<i>Reports in JIRA</i>	<i>20</i>
<i>Kanban Board and Managing Issues</i>	<i>22</i>

Introduction

JIRA is a tool developed by Australian Company Atlassian. It is used for **bug tracking**, **issue tracking**, and **project management**. The name "JIRA" is actually inherited from the Japanese word "Gojira" which means "Godzilla".

The basic use of this tool is to track issues, and bugs related to your software and mobile apps. It is also used for project management. The JIRA dashboard consists of many useful functions and features which make handling of issues easy. Some of the key features are listed below.

JIRA Scheme

Inside JIRA scheme, everything can be configured, and it consists of

- **Workflows**
- **Issue Types**
- **Custom Fields**
- **Screens**
- **Field Configuration**
- **Notification**
- **Permissions**

JIRA Issues and Issue Types

What is JIRA Issue?

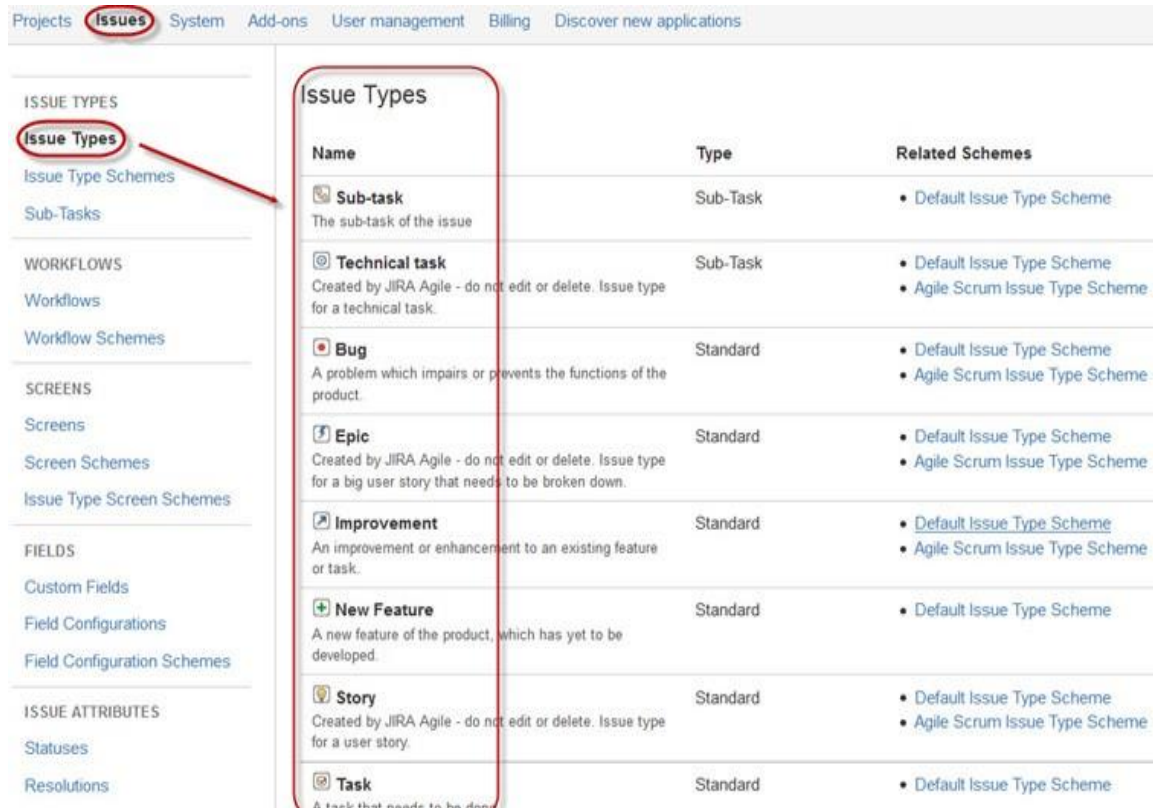
JIRA issue would track bug or issue that underlies the project. Once you have imported project then you can create issues.









Under Issues, you will find other useful features like

- Issue Types
- Workflow's
- Screens
- Fields
- Issue Attributes

JIRA Issue Types

Issue Type displays all types of items that can be created and tracked via JIRA. JIRA Issues are classified under various forms like new feature, sub-task, bug, etc. as shown in the screen shot.



Issue Types			
Name	Type	Related Schemes	
 Sub-task The sub-task of the issue	Sub-Task	• Default Issue Type Scheme	
 Technical task Created by JIRA Agile - do not edit or delete. Issue type for a technical task.	Sub-Task	• Default Issue Type Scheme • Agile Scrum Issue Type Scheme	
 Bug A problem which impairs or prevents the functions of the product.	Standard	• Default Issue Type Scheme • Agile Scrum Issue Type Scheme	
 Epic Created by JIRA Agile - do not edit or delete. Issue type for a big user story that needs to be broken down.	Standard	• Default Issue Type Scheme • Agile Scrum Issue Type Scheme	
 Improvement An improvement or enhancement to an existing feature or task.	Standard	• Default Issue Type Scheme • Agile Scrum Issue Type Scheme	
 New Feature A new feature of the product, which has yet to be developed.	Standard	• Default Issue Type Scheme	
 Story Created by JIRA Agile - do not edit or delete. Issue type for a user story.	Standard	• Default Issue Type Scheme • Agile Scrum Issue Type Scheme	
 Task A task that needs to be done	Standard	• Default Issue Type Scheme	

There are two types of Issue types schemes in JIRA, one is

- **Default Issue Type Scheme:** In default issue type scheme all newly created issues will be added automatically to this scheme
- **Agile Scrum Issue Type Scheme:** Issues and project associated with Agile Scrum will use this scheme

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Issue Type Schemes

An issue type scheme determines which issue types will be available to a set of projects. It also allows to specify the user interface.

Name	Options	Projects
Default Issue Type Scheme Default issue type scheme is the list of global issue types. All newly created issue types will automatically be added to this scheme.	<ul style="list-style-type: none">Bug (Default)New FeatureTaskImprovementSub-taskEpicStoryTechnical task	Global (all unconfigured projects)
Agile Scrum Issue Type Scheme This issue type scheme is used by JIRA Agile's Scrum project template. Projects associated with the Scrum template will be associated to this scheme. You can modify this scheme.	<ul style="list-style-type: none">EpicStory (Default)Technical taskBugImprovement	No projects

Apart from these two issue type schemes, you can also add schemes manually as per requirement, for example we have created **IT & Support** scheme, for these we will **drag and drop** the issue types from the **Available Issue type** to **Issue type for current scheme** as shown in the screen shot below

Add Issue Type Scheme

Scheme Name: IT & Support

Description:

Default Issue Type: None

Change the order of the options by **dragging and dropping** the option into the desired order. Similarly, **drag and drop** the option from one list to the other to add or remove them.

Issue Types for Current Scheme	Available Issue Types
<ul style="list-style-type: none">Sub-task (sub-task)New Feature	<ul style="list-style-type: none">Technical task (sub-task)BugEpicImprovementStoryTask

Drag & Drop

Save **Cancel**

JIRA Component

Components

Projects can be broken down into components, e.g. "Database", "User Interface". Issues can then be categorised against different components.

Name	Description	Component Lead	Default Assignee
<input type="text"/>	<input type="text"/>	<input type="text"/>	Project Default (Unassigned) <input type="button" value="Add"/>
<input checked="" type="checkbox"/> SAP Testing	Bug detected while User Acceptance testing	Krishna Rungta [Administrator]	Project Lead <input type="button" value="Delete"/>

Components are sub-sections of a project; they are used to group issues within a project into smaller parts. Components add some structures to the projects, breaking it up into features, teams, modules, subprojects and more. Using components you can generate reports, collect statistics, and display it on dashboards and so on.

To add new components, as shown in the above screen you can add **name**, **description**, **component lead** and **default assignee**.

JIRA Screen

When issue is created in JIRA, it will be arranged and represented into different fields, this display of field in JIRA is known as a screen. This field can be transitioned and edited through workflow. For each issue, you can assign the screen type as shown in the screen-shot. To add or associate an issue operation with a screen you have to go in main menu and click on **Issues** then click on Screen **Schemes** and then click on "**Associate an issue operation with a screen**" and add the screen according to the requirement.

Associate an Issue Operation with a Screen

Issue Operation:

Screen:

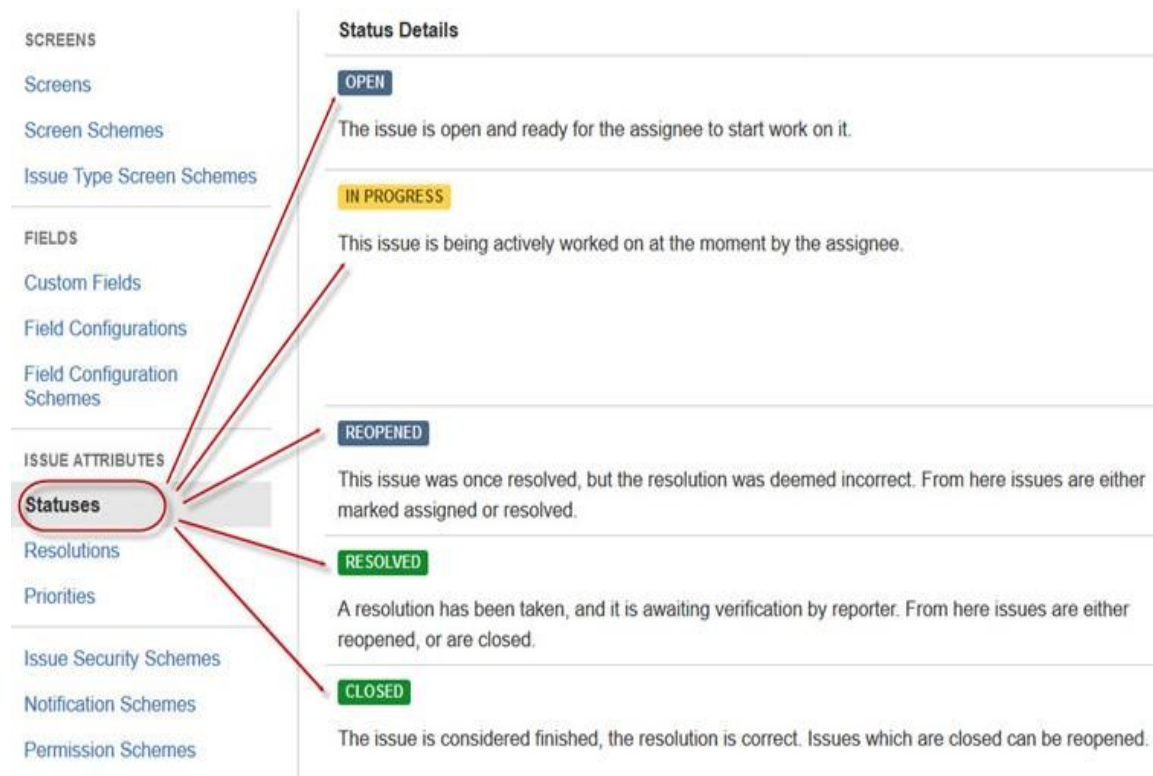
Default Screen
Resolve Issue Screen
Workflow Screen

Issue Attributes

Issue Attributes encompasses

- Statuses
- Resolutions
- Priorities

Statuses: Different statuses are used to indicate the progress of a project like **To do, InProgress, Open, Closed, ReOpened, and Resolved**. Likewise, you have resolutions and priorities, in resolution it again tells about the progress of issue like **Fixed, Won't fix, Duplicate, Incomplete, Cannot reproduce, Done** also you can set the priorities of the issue whether an issue is **critical, major, minor, blocker and Trivial**.



Issue Security Schemes

This function in JIRA allows you to control who can view the issues. It consists of a number of security levels which can have users or groups assigned to them. You can specify the level of security for the issues while creating or editing an issue.

Similarly, there is a **Default Permission Scheme** any new project that are created will be assigned to this scheme. Permission Schemes allow you to create a set of permissions and apply this set of permission to any project.

System Administration

Some of the useful features that JIRA admin provides to users are:

- **Audit Log**
Under Audit Log, you can view all the details about the issue created, and the changes made in the issues.
- **Issue Linking**
This will show whether your issues link with any other issue that is already present or created in the project also you can de-activate Issue linking from the panel itself
- **Mail in JIRA**
Using Mail system in admin you can mail issues to an account on a POP or IMAP mail server or messages written to the file system generated by an external mail service.
- **Events**
An event describes the status, the default template and the notification scheme and workflow transition post function associations for the event. The events are classified in two a System event (JIRA defined events) and Custom event (User defined events).
- **Watch list**
JIRA allows you to watch a particular issue, which tells you about the notifications of any updates relating to that issue. To watch an issue, click on the word "watch" in the issue window, and if you want to see who is watching your issues, you have to click on the number in brackets.
- **Issue Collectors**
In the form of JIRA issues, an issue collector allows you to gather feedback on any website. In administration if you click on Issue collectors an option will open asking **Add Issue Collector**. Once you have configured the look

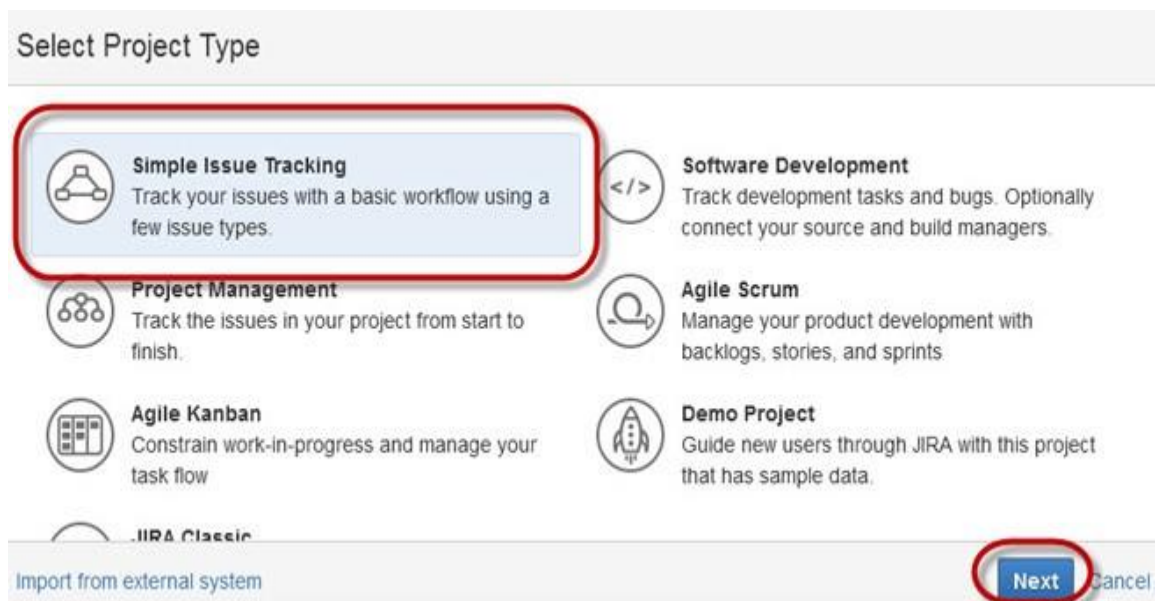
and feel of an Issue Collector, embed the generated JavaScript in any website for feedback.

- **Development Tools**

You can also connect your development tools to JIRA using this admin function. You have to enter the URL of the application to connect with JIRA.

How to Create an Issue in JIRA

JIRA Dashboard will open when you enter your user ID and password. Under JIRA dashboard you will find option **Project**, when you click on it, it will open a window that list out options like **Simple Issue Tracking**, **Project Management**, **Agile Kanban**, **Jira Classic** and so on as shown in screen shot below.



When you click on option **Simple Issue Tracking**, another window will open, where you can mention all the details about the issue and also assign the issue to the responsible person.

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Simple Issue Tracking

Name:
Max. 80 characters.

Key:
Max. 10 characters.

Project Lead:
Enter the username of the Project Lead.

Simple Issue Tracking
Specify a descriptive name and key for your project. For example, the name of the application that you are tracking issues for.

If you have more than one user, you also need to choose a project lead. This should be the person that manages issue tracking for this project.

Back **Submit** Cancel

When you click on "Submit" button, a window will open where you can perform a list of work like creating issues, assigning issues, check the status of issues like-resolved, In-Progress or closed and so on.

Create Issue

Project:

Issue Type:

Summary:

Priority:

Due Date:

Component/s:

Affects Version/s:

Fix Version/s:

Assignee:

Reporter:

Environment:

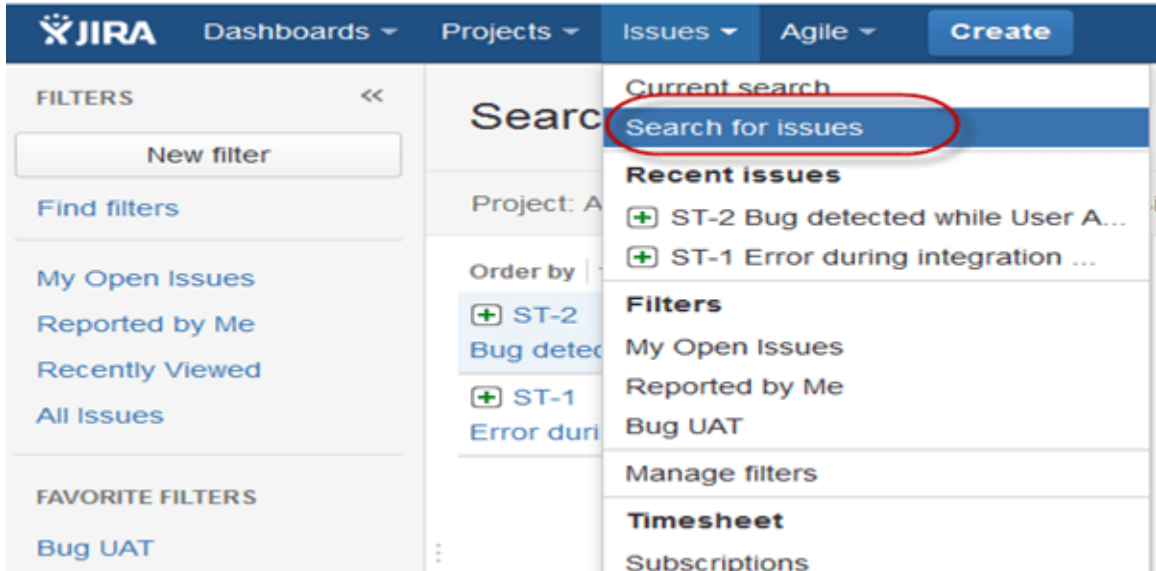
☐ Create another **Create** Cancel

Once the issue is created a pop-up will appear on your screen saying your issue is created successfully as shown in the screen shot below

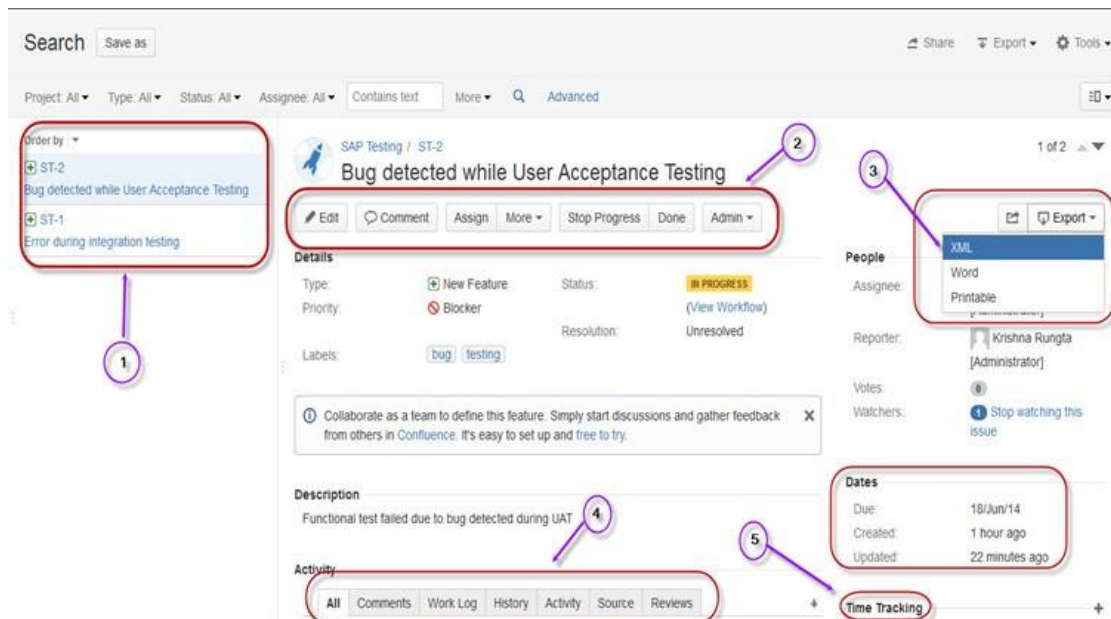


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Now if you want to edit an issue or you want to export the issue to XML or Word document, then you can hover your mouse on main panel and click on **Issues**. Under **Issues** options click on **search for issues** that will open a window from where you can locate your issues and perform multiple functions.



When you select the "**search for Issues**" under **Issues**, a window will appear as shown in the screen shot

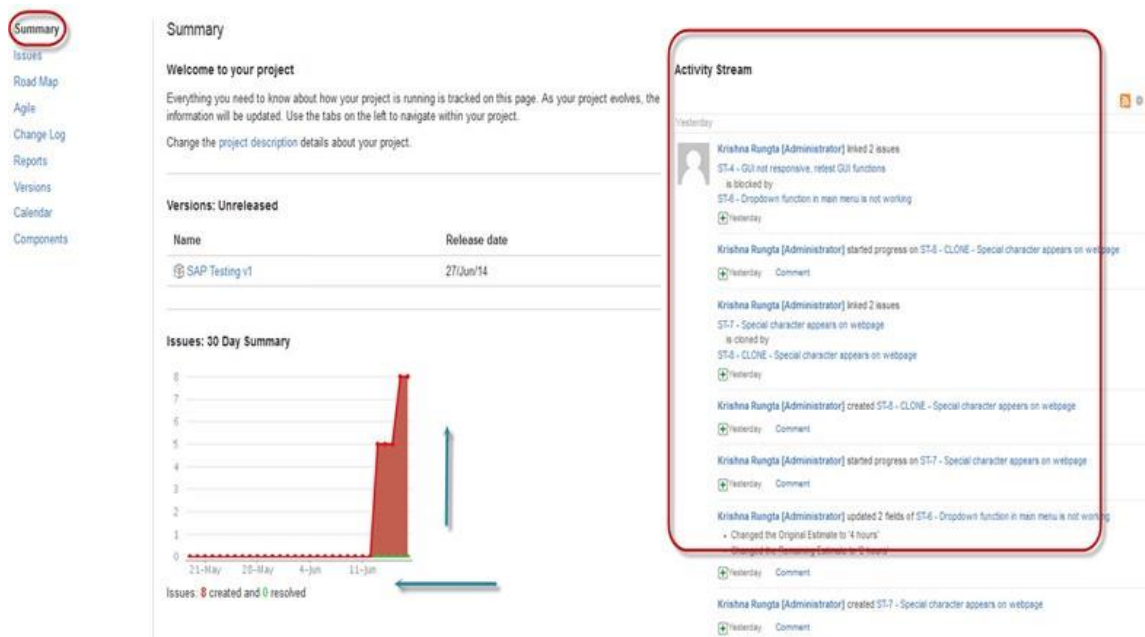


1. **Search for issues** option will bring you to a window where you can see the issues created by you like here we have issues ST1 and ST2

2. Here in the screen shot you can see the issue "**Bug detected while User Acceptance Testing**" and all the details related to it. From here, you can perform multiple tasks like you can **stop the progress on issues, edit the issues, comment on the issues, assigning issues** and so on
3. Even you can export issue details to a XML or Word document.
4. Also, you can view activity going on the issue, reviews on the issue, work log, history of the issue and so on.
5. Under the time tracking option, you can even see the estimation time to resolve the issues

In the same window, you can set a filter for the issue and save them under **Favorite Filters**, so when you want to search or view a particular issue you can locate it using the filter.

To view the summary of the issue, you can click on options **summary**, this will open a window which will show all the details of your project and progress on this chart. On the right-hand side of the summary window, there is an **Activity Stream** which gives the details about the issues and comments made by the assignee on the issue.



Sub-Task

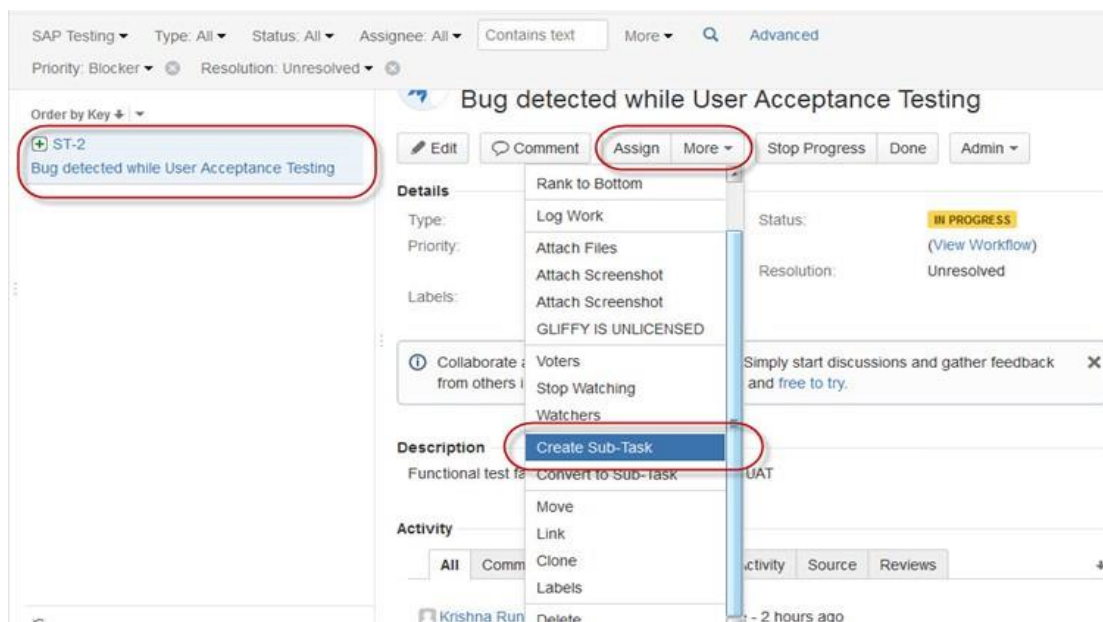
Subtask issues are useful for splitting up a parent issue into a number of smaller tasks that can be assigned and tracked separately. It addresses issues more comprehensively and segregates the task into smaller chunks of task to do.

How to create Sub-Task

Sub-Task can be created in two ways

- Create sub-task under parent issue
- Creating an issue into a sub-task

To create sub-task in JIRA, you have to select an issue in which you want to assign the sub-task. Under the issue window, click on **Assign more** option, and then click on **create sub-task** as shown in the screenshot below. You can also select **convert to sub-task** under same tab to convert the parent issue into a sub-task.



Once you click on **Create Sub-Task**, a window will pop up to add sub-task issue. Fill up the details about the sub-task and click on **Create** as shown in below screen-shot, and this will create sub-task for the parent issue.

Create Subtask : ST-2 Configure Fields

Issue Type* Sub-task

Summary*

Priority Blocker

Due Date

Component/s **None**

Affects Version/s **None**

Fix Version/s **None**

Assignee Automatic

[Assign to me](#)

Reporter* Krishna Rungta [Administrator]

Start typing to get a list of possible matches.

Environment

For example operating system, software platform and/or hardware specifications (include as appropriate for the issue).

☐ Create another **Create** [Cancel](#)

It will create a sub-task under parent issues, and details will appear about when to complete the task on the issue type page as shown in the screenshot below. If you would like to add more subtask, you can click on the plus (+) sign on the corner of the sub-task panel. Likewise, if you want to note down the time spent on the present task, click on (+) plus sign in the corner of the time tracking and put down the details in the log sheet.

Sub-Tasks +

1. [Identify the Bug and fix it](#) TO DO Krishna Rungta [Administrator] 0%

Time Tracking +

Estimated: 4d 3h

Remaining: 6h

Logged: Not

Some important points to remember while creating Sub-Task

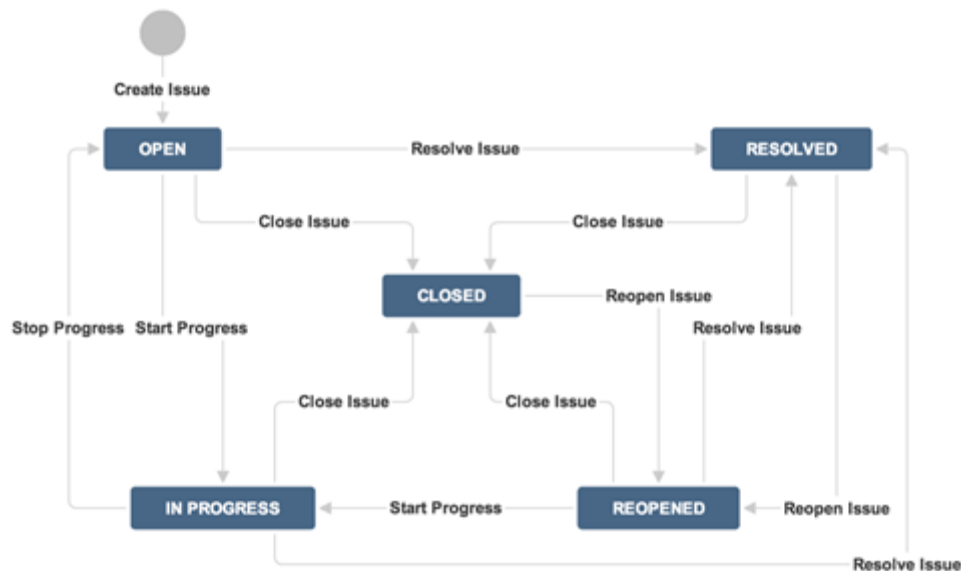
- You can have as many sub-task as needed under an Issue
- You cannot have a sub-task for a sub-task
- Once a sub-task is created under a parent, parent cannot be converted into a sub-task

- A sub-task can however be converted into a parent issue
- You can work on your sub-task without having navigating away from the parent issue

WorkFlows

A JIRA workflow is a set of statuses and transitions that an issue goes through during its lifecycle. JIRA workflow encompasses five main stages once the issue is created.

- Open Issue
- Resolved Issue
- InProgress Issue
- ReOpened Issue
- Close Issue

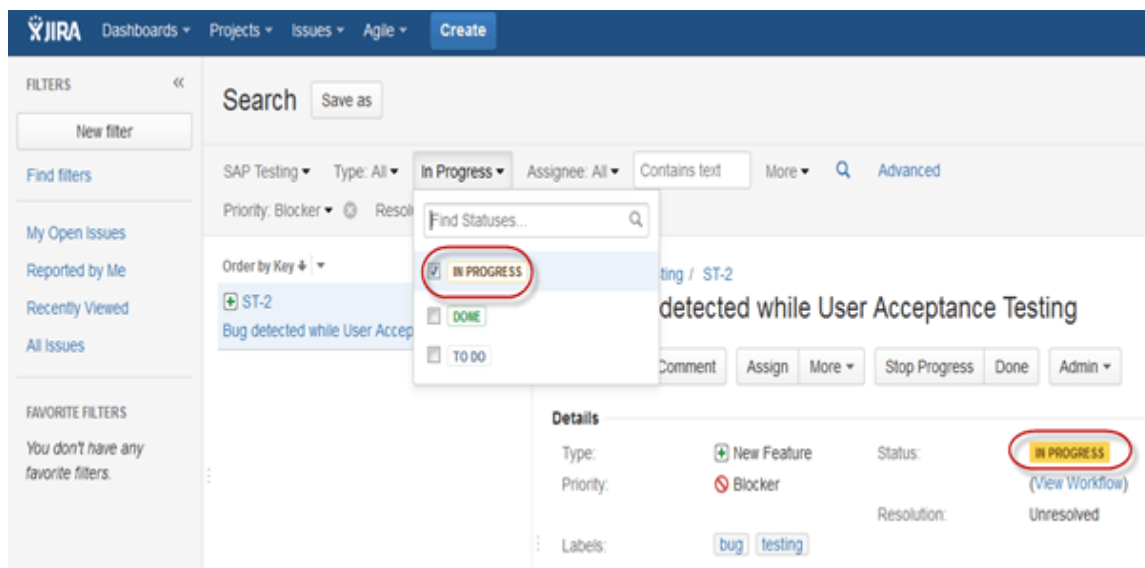


While workflow in JIRA comprises of **Statuses**, **assignee**, **resolution**, **conditions**, **validators**, **post-function's** and **properties**

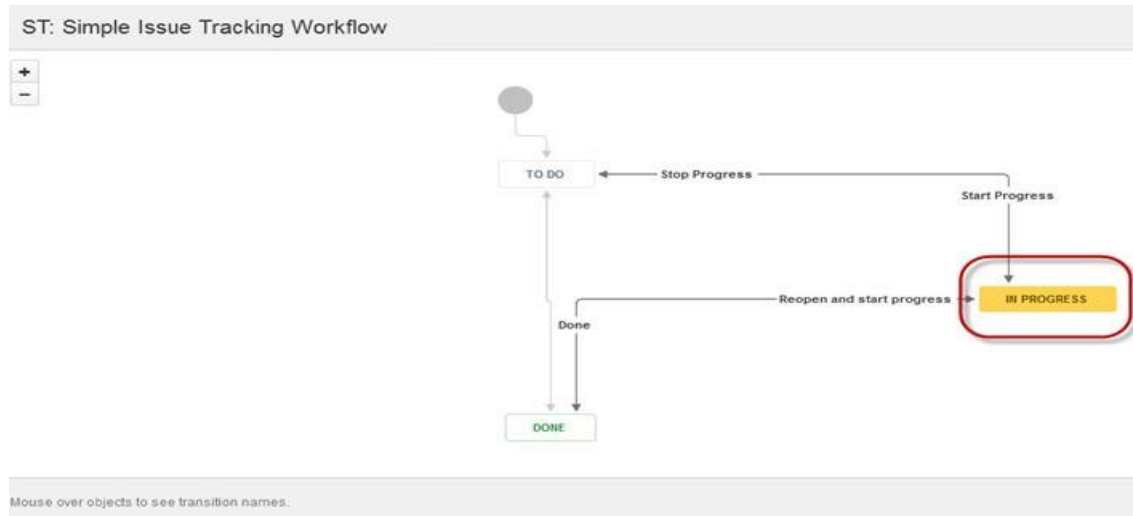
- **Statuses:** It represents the positions of the issues within a workflow

- **Transitions:** Transitions are the bridges between statuses, the way a particular issue moves from one status to another
- **Assignee:** The assignee dictates the responsible party for any given issue and determines how the task would be executed
- **Resolution:** It explains why an issue transitions from an open status to a closed one
- **Conditions:** Conditions control who can perform a transition
- **Validators:** It can ensure that the transition can happen given the state of the issue
- **Properties:** JIRA recognizes some properties on transitions.

You can assign the status of the issue from the window itself, when you click on the check box for **IN Progress** status as shown in screen shot below, it will reflect the status in the issue panel highlighted in yellow.



For the issue that we have created, JIRA will present a workflow which maps the progress of the project. As shown in screenshot whatever status that we have set in the Issue panel it will be reflected in Workflow chart, here we have set the issue status in "In Progress" and same status is updated in the workflow, highlighted in yellow. Workflow can give a quick overview of the work under process.

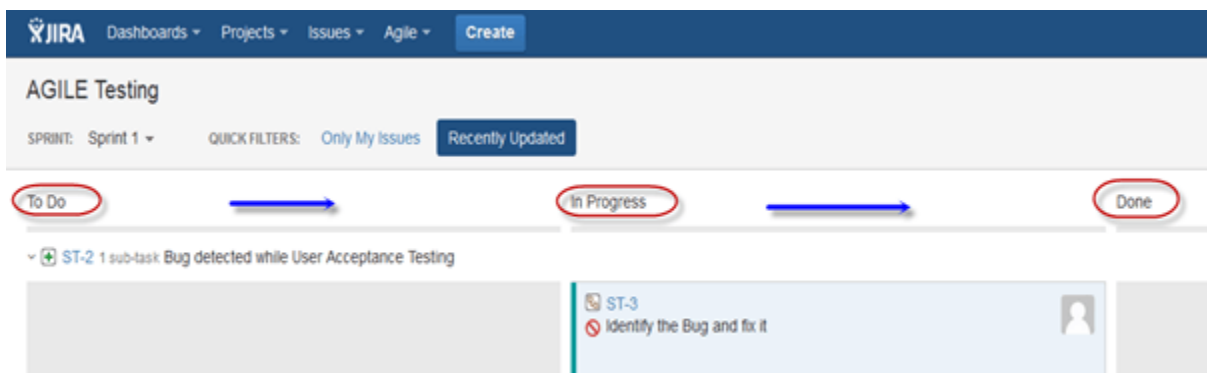


Plug-ins in JIRA

There are plug-ins available for JIRA to work more effectively, some of these plugins are Zendesk, Salesforce, GitHub, Gitbucket and so on. Some of them enables support team to report issues directly into JIRA, creates unlimited private repositories with full featured issue and project management support, etc.

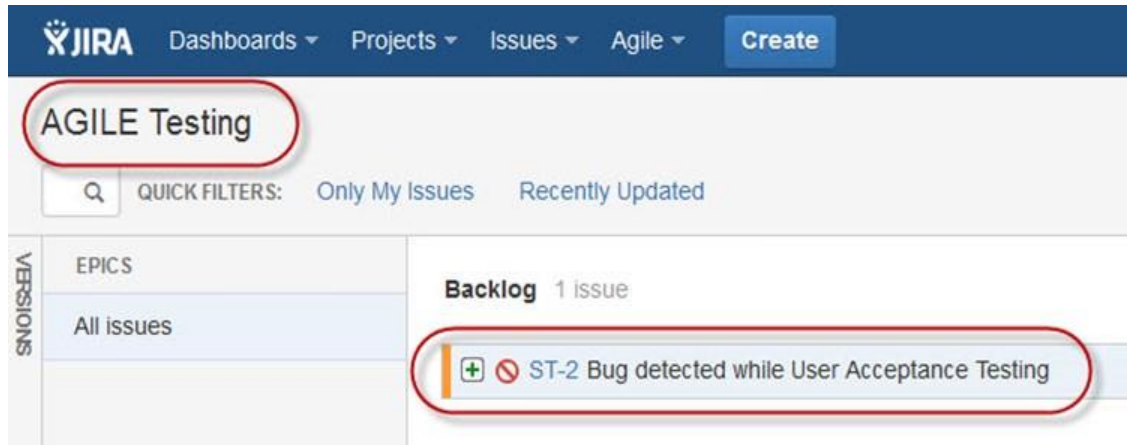
JIRA Agile

Agile or Scrum method is generally used by development teams who follows a roadmap of planned features for upcoming versions of their product. Agile follows the same roadmaps to track their issues as in other JIRA methods **To do -> In Progress -> Done**, as shown in the screen shot below, we have one issue in **To do** and the second issue in **In Progress**. Once the issue in **In Progress** will be resolved, it will move to **Done** status and in the same way the issue in **To do** will move to the next stage **In Progress**.



Creating issue in Agile

To create agile issue, go to main menu under **Agile** tab, click on "**Getting Started**", when you click on it, it will ask to create new board for the issues for **Scrum** or **Kanban**. You can choose your option as per your requirement; here we have selected Scrum method.



How to create an Epic in Agile

The screenshot shows the 'Create Epic' form in JIRA. The form has a title 'Create Epic' and a 'Configure Fields' button. It includes three main input fields: 'Project' with a dropdown menu showing 'SAP Testing', 'Issue Type' with a dropdown menu showing 'New Feature', and 'Summary' with a text input field containing 'GUI not responsive, retest GUI functions'. At the bottom, there are three buttons: 'Create another', 'Create', and 'Cancel'.

In JIRA Agile, an epic is simply an issue type. The epic captures a large body of work. It is a large user story which can be broken down into a number of small stories. To complete an epic, it may take several sprints. You can either create a new epic in agile or either use the issue you have created in normal JIRA board. Likewise, you can also create a story for agile scrum.

Plan Mode in Agile:

Plan mode displays all the user stories created for the project. You can use the left-hand side menu to decide the basis on which the issues need to be displayed.

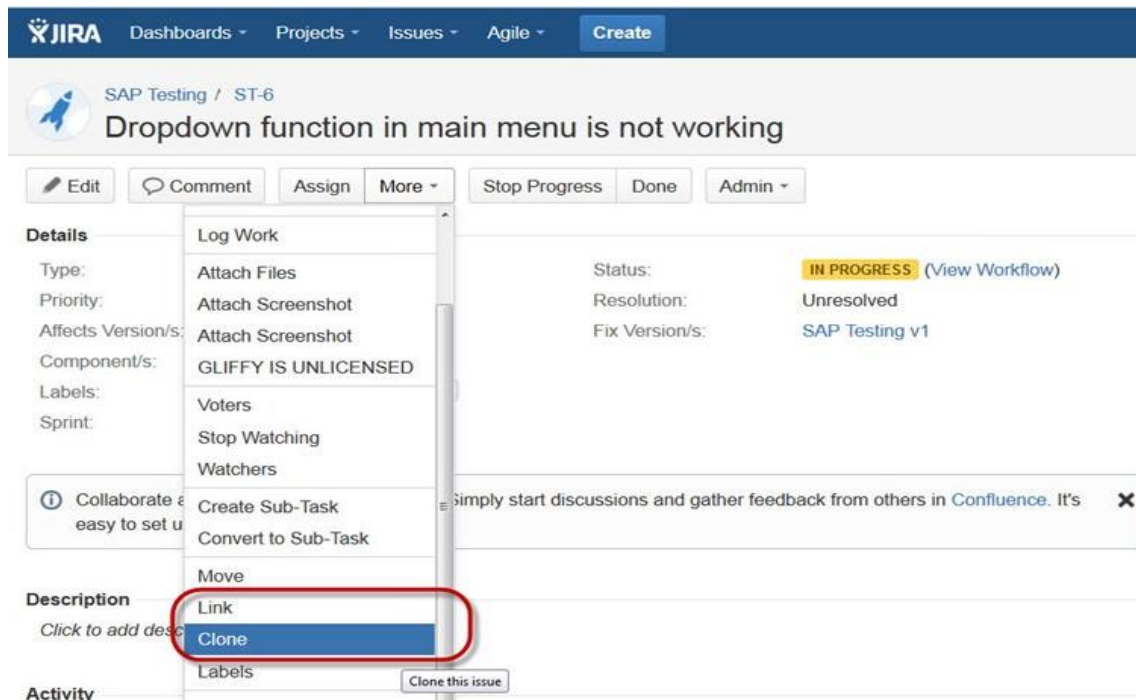
While on the right-hand side menu clicking on the issue, you can create subtasks, logwork, etc.

Work Mode in Agile

It will display the active sprint information. All the issues or users stories will be displayed into three categories as shown in the screen shot below **To do, In Progress and Done** to show the progress of the project or issues.

Use of Clone and Link in JIRA

In JIRA, you can also clone the issue, one advantage of cloning an issue is that the different team can work separately on the issue and resolve the issue quickly.



There is another useful function is JIRA **Link**, Issue linking allows you to create an association between two existing issues on either the same or different JIRA servers. As shown in the screen shot, we have linked the current issue "ST-6 Drop down menu is not working" with another issue "ST-4 GUI is not responsive-retest GUI functions".

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Link

JIRA Issue

Web Link

Select a JIRA issue to link this issue to

This issue blocks

Issue

Comment

History Search (Showing 7 of 7 matching issues)

- ST-8 - CLONE - Special character appears on webpage
- ST-7 - Special character appears on webpage
- ST-2 - Bug detected while User Acceptance Testing
- ST-3 - Identify the Bug and fix it
- ST-5 - Software is not responsive to load testing
- ST-1 - Error during integration testing
- ST-4 - GUI not responsive, retest GUI functions

Viewable by All Users

Link Cancel

JIRA Dashboards Projects Issues Agile Create

AGILE Testing

QUICK FILTERS: Only My Issues Recently Updated

EPICS

All issues

Sprint 1 1 issue

Start Sprint

ST-2 Bug detected while User Acceptance Testing

1 issue Estimate 0

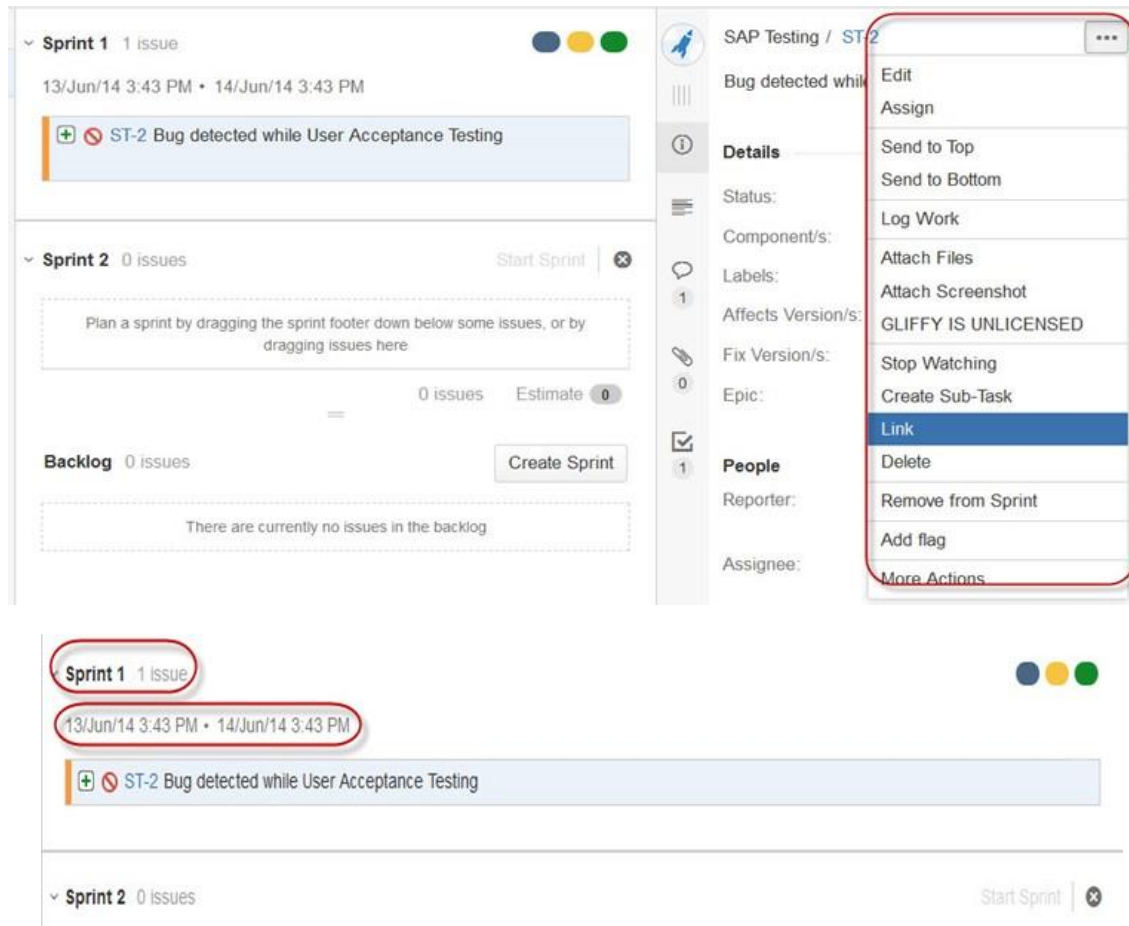
Backlog 0 issues

Create Sprint

There are currently no issues in the backlog

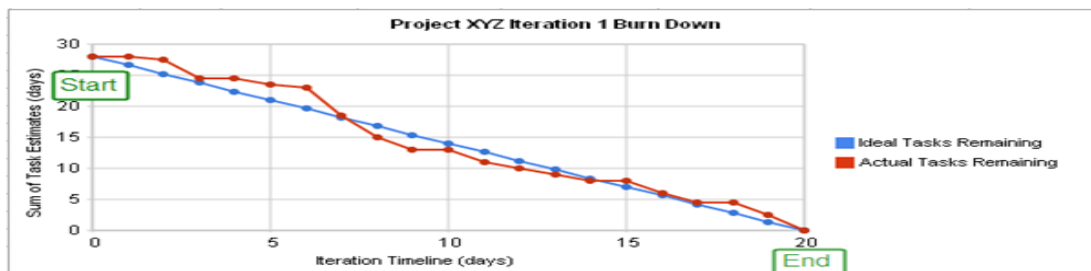
Like here we have set sprint for 1 day and it will run sprint for that specific time period as shown in the screenshot below. If you are working with scrum, and want to prioritize the issue or rank the issue then you just have to simply drag and drop the issue into the **backlog**.

Apart from this there are multiple task that you can do, for instance if you click on the right side corner of the window a list of function will pop up which you can use it as per your need.



Reports in JIRA

To track the progress in Agile, a **Burndown Chart** shows the actual and estimated amount of work to be done in the sprint. A typical burndown chart will look somewhat like this, where the red line indicates the actual task remaining while the blue line indicates ideal task remaining during the scrum cycle.



Apart from Burn down chart there are other options available in JIRA like **Sprint Report**, **Epic Report**, **Version Report**, **Velocity Chart**, **Control Chart**, **Cumulative flow diagram**. You can also use different chart option to represent the progress of your project.

Configure - Pie Chart Report

Report: Pie Chart Report

Description:

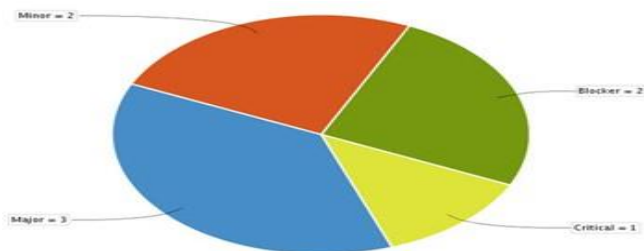
A report showing the issues for a project or filter as a pie chart.

Project or Saved Filter Project or saved filter to use as the basis for

Statistic Type

- Assignee
- Components
- Issue Type
- Fix For Versions (non-archived)
- Fix For Versions (all)
- Priority
- Project
- Raised In Versions (non-archived)
- Raised In Versions (all)
- Reporter
- Resolution
- Status
- Labels
- Creator
- Epic Status
- Epic/Theme
- Flagged
- Release Version History

Like here in the screen shot above, we have selected a pie chart for issue priorities. It will generate a Pie Chart representing the priorities and severity of the issues in percentage for the whole project as shown below. You can view the pie chart from different perspectives like **Assignee**, **Components**, **Issue Type**, **Priority**, **Resolution**, and **Status** and so on.

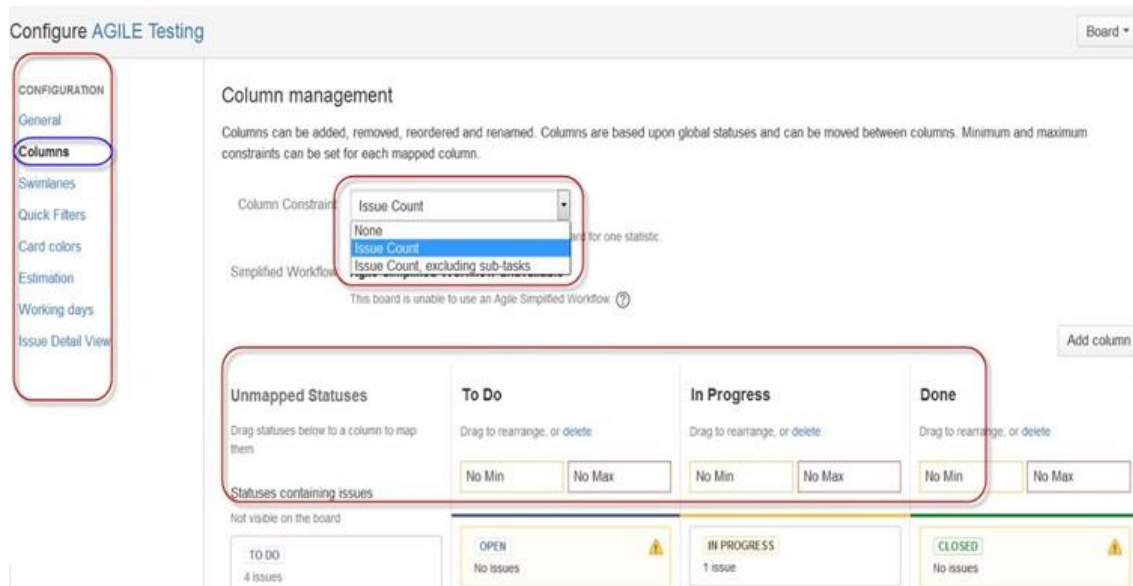


Data Table		
	Issues	%
Major	3	37%
Minor	2	25%
Blocker	2	25%
Critical	1	12%

You can also configure how you want to see the scrum board. Scrum board gives various options through which you can make changes into your board appearance. Various features you can configure using scrum are Columns, Swimlanes, Quick Filters, Card colors and so on. Here we have selected column management, and selected the options Issue count, and it will show the total number of issue in

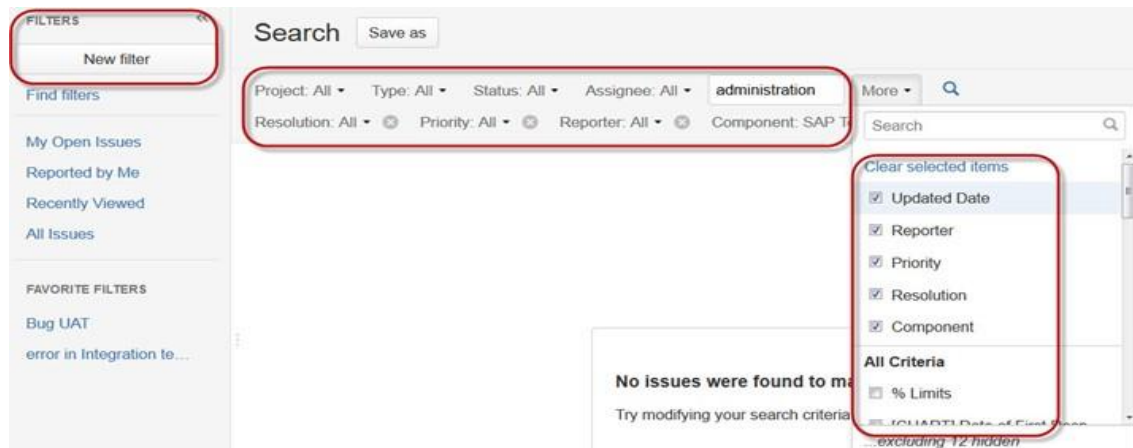
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progress, to do or done. In column management, we can add an additional column as per our requirement likewise there are different features that you can configure in board.



Filters

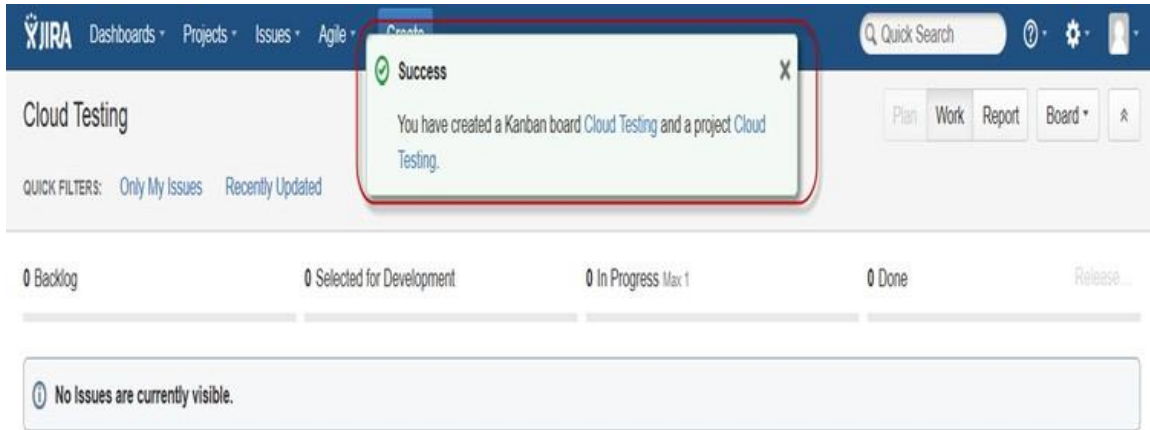
You can also set filters other than default filters to filter the issues. The filters that you can use are **date, component, priority, resolution and so on.**



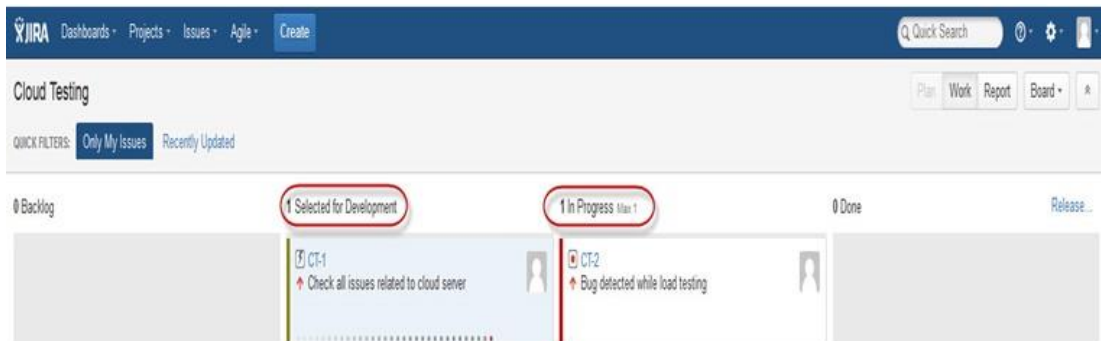
Kanban Board and Managing issues

Like Agile Scrum board, we can also create a Kanban Board, here we have created a project name Cloud Testing. Kanban board is useful for the team that managing

and constraining their work in progress. Kanban boards are visible in Work mode but not in Plan mode.



Here we have created an issue " **Bug detected while load testing**" and "**Check issues related to cloud server**" in Kanban Board as shown in the screenshot below, it also shows their status as well highlighted in red.



Kanban is considered as the best methodology for bug fixing and maintenance release, where incoming task is prioritized and then worked accordingly. There are few measures which can make Kanban more efficient.

1. Visualize your workflow
2. Limit the work in progress
3. Work on Issues
4. Measure the cycle time