JIRA Fundamentals



Learning Objectives

Learning Objectives



JIRA core concepts

JIRA Interface walkthrough,

Create Project Categories, Create Project, Project

Configuration Walkthrough,

JIRA Scheme

JIRA Issues and Issue types

What is JIRA Issue?

Issue Types

JIRA Components

JIRA screen

Issue Attributes

Issue Security Schemes

System Administration

How to create an issue in JIRA

Sub-Task

WorkFlows

Plug-ins in JIRA

Reports in JIRA

Kanban Board and Managing issues

JIRA Scrum Vs JIRA Kanban

What is JIRA?



JIRA is a software testing tool developed by the Australian Company Atlassian. It is a bug tracking tool that reports all the issues related to your software or mobile apps. The word JIRA comes from the Japanese word, i.e., "Gojira" which means Godzilla.

What is JIRA?



JIRA is an Incident Management Tool used for Project Management, Bug Tracking, Issue Tracking and Workflow. JIRA is based on the following three concepts – **Project, Issue and Workflow.**

What is JIRA?



Important Points to Note

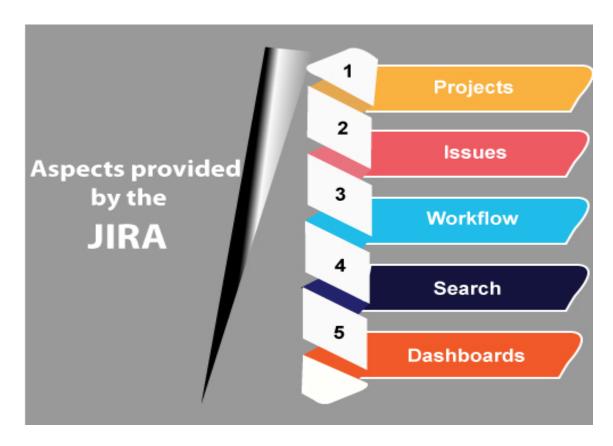
The following points explain some interesting details of JIRA.

- JIRA is an incident management tool.
- JIRA is developed by Atlassian Inc., an Australian Company.
- JIRA is a platform independent tool; it can be used with any OS.
- JIRA is multi-lingual tool English, French, German, Japanese, Spanish, etc.
- JIRA supports MySQL, Oracle, PostgreSQL and SQL server in the backend.

JIRA can be integrated with many other tools – Subversion, GIT, Clearcase, Team Foundation Software, Mercury, Concurrent Version System and many more.

The following are the useful aspects provided by the JIRA:





The following are the useful aspects provided by the JIRA:



Projects: It is used to manage the defects very effectively.

Issue: It is used to track and manage the defects/issues.

Workflow: Processes the Issue/Defect life cycle. Suppose we have a business requirement, we create the technical design and from the technical design, we create the test cases. After creating the test cases, coding is done, and then testing is performed on the project. This design workflow is possible by using Jira.

The following are the useful aspects provided by the JIRA:



Search: Find with ease. Suppose we have done with a project at the beginning of the December and its version is 1.0. Now, we move to version 1.1 and completed at the end of December. What we are doing is that we are adding new versions. Through Jira, we can get to know that what happened in the earlier versions, how many defects occurred in the earlier projects and the learning we achieve from the earlier projects.

Dashboards: Dashboard is a display which you see when you log in to the Jira. You can create multiple dashboards for multiple projects. You can create the personal dashboard and can add the gadgets in a dashboard so that you can keep track of the assignments and issues that you are working on.



Plan, Track and Work Faster

JIRA is a bug-tracking tool mainly used to track, organize, and prioritize the bugs, newly added features, improvements for certain software releases. Projects are subdivided into issues and issues can be of multiple types such as bug, new feature, improvement, and documentation tasks. When the release date of software comes near, then software developers need to focus on the remaining issues which are to be fixed before the specified date. It also becomes difficult for the QA to maintain the status of the documentation, i.e., sometimes it becomes hard to keep track of everything.

JIRA is a good choice for handling the above issues. It enables software developers to track issues and improvements. It manages the projects as well as maintain the technical documentation.



The main source of information

JIRA is the primary source of information for the next software release. On JIRA, the whole team of the software developers can plan for the new features which are to be added and bugs to be fixed in the next release.

It also helps the QA team in writing the technical documentation. Through JIRA, the QA team can check the status of each feature that is newly added by the software developers, and according to that, they can plan how to document for the new version.



Organize the documentation tasks

JIRA tool is used to organize the documentation tasks. It is useful in grouping the multiple tasks by using the component functionality, and even you can create your own documentation. In this way, you can create a structured way of documentation.



Track the progress of our documentation

It is a very useful tool in tracking the progress of our documentation. JIRA tool provides a very important feature, i.e., pie chart macro. In the pie chart macro, you can view tasks such as Open tasks, Closed tasks, Resolved tasks.

Helps to meet the deadlines of a documentation release.

You can define the specific due date or deadline for the release of documentation, and even you can configure the JIRA tool with the notifications so that you can finish your documentation in time.



Measures the time spent on documentation

JIRA tool does not have the default functionality for measuring the time spent on documentation.

JIRA tool is bundled with the Tempo Timesheets, which measures how much time has been spent on the documentation.



Provides feedback faster

JIRA tool provides the Confluence pages where you can connect to the issues in just a few clicks. If something needs to be updated, then you can create the issues directly from the Confluence page.

JIRA Login



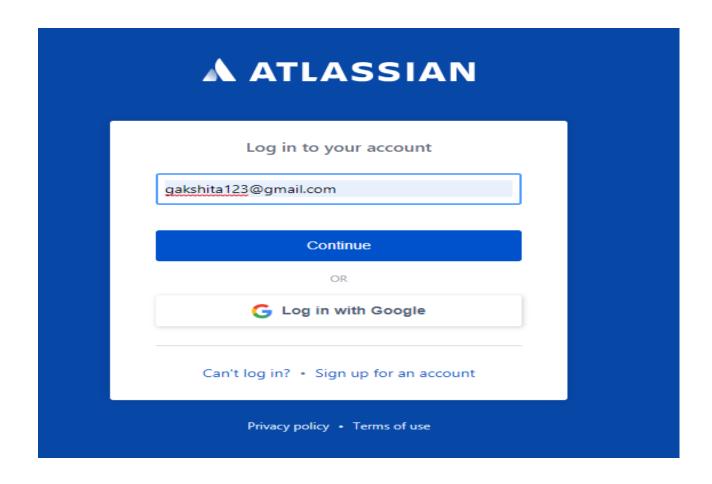
The following are the steps to login to Jira:

To Login to Jira, move to the website that we created in Jira. The login page appears and then you need to fill the credentials such as **username and password**.

Click on the continue button.

JIRA Login

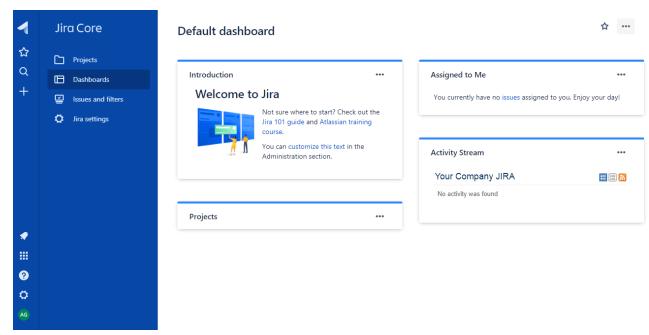




JIRA Login



On successful login, your jira account will get opened and the screen appears which is shown below:



JIRA - Project



A Project contains issues; a JIRA project can be called as a collection of issues. A JIRA Project can be of several types. For example –

Software Development Project

Marketing Project

Migration to other platform project

Help Desk Tracking Project

Leave Request Management System

Employee Performance System

Website Enhancement

JIRA - Project



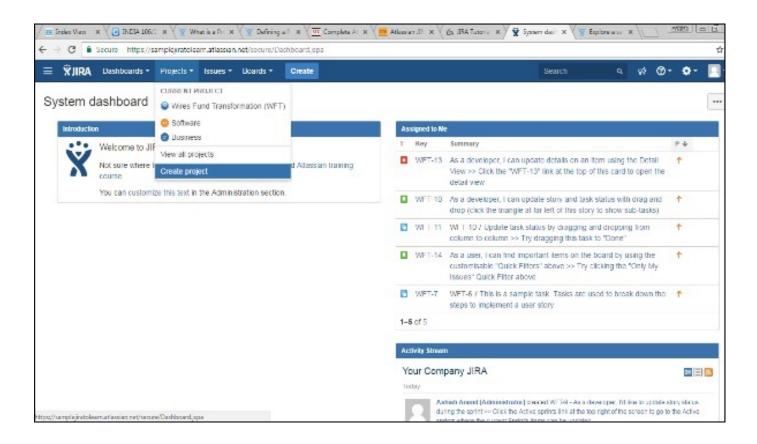
Create a New Project

To create a project, the user should login as a JIRA Service Desk Admin and then Click on Project

 \rightarrow Create Project.

The following screenshot shows how to reach to the Create Project button from the Dashboard.

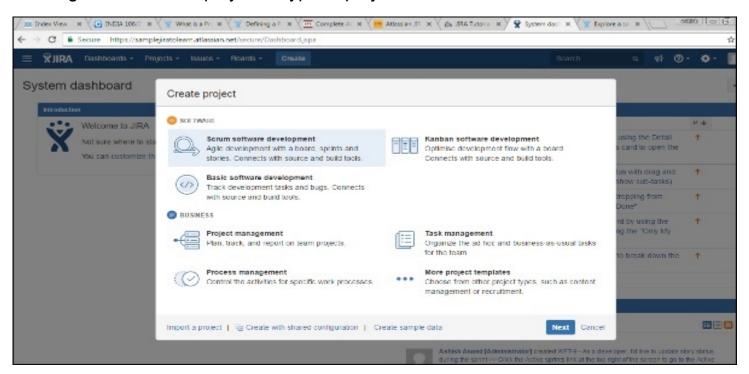






Choose the type of Project that suits your requirement and the process it should follow.

The following screenshot displays the type of projects available in JIRA.

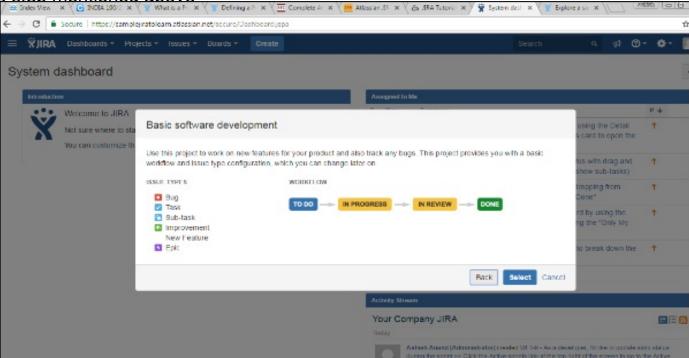




Once the type of project is selected, click on Next. The user will see the flow of the project based on the selection. Here, we have selected Basic Software development.

The following screenshot displays the available issue types and the workflow for the chosen

project in the step mentioned above -



Create Project (contd..)

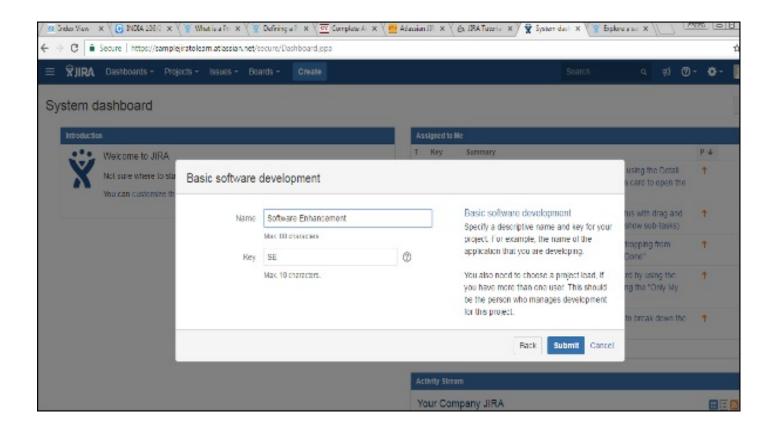


Click on the Select button, enter the name of the project and confirm the Key that the user wants to display as a reference in all the issues. Once this is done, click on the Submit button.

The following screenshot displays the fields to provide details before the creation of a project.





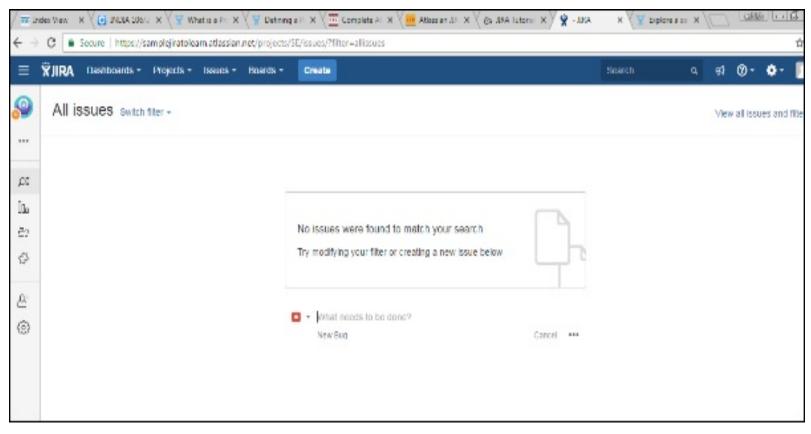


Create Project (Contd..)



The page having issues will display. The following screenshot displays whether any issues are linked with a new created project.





Use of JIRA?



The basic use of this tool is to track issue 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. Let's learn JIRA Defect and Project tracking software with this..

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
- Let see JIRA Issue in detail

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



ISSUE TYPES	Issue Types		
Issue Types	Name	Туре	Related Schemes
Issue Type Schemes Sub-Tasks	Sub-task The sub-task of the issue	Sub-Task	Default Issue Type Scheme
WORKFLOWS Workflows	Technical task Created by JIRA Agile - do not edit or delete. I for a technical task.	Sub-Task ssue type	Default Issue Type Scheme Agile Scrum Issue Type Scheme
Workflow Schemes SCREENS	Bug A problem which impairs or prevents the function product.	Standard ions of the	Default Issue Type Scheme Agile Scrum Issue Type Schem
Screen Schemes	Epic Created by JIRA Agile - do not edit or delete. I for a big user story that needs to be broken do		Default Issue Type Scheme Agile Scrum Issue Type Schem
Issue Type Screen Schemes FIELDS	Improvement An improvement or enhancement to an existin or task.	Standard g feature	Default Issue Type Scheme Agile Scrum Issue Type Scheme
Custom Fields Field Configurations Field Configuration Schemes	New Feature A new feature of the product, which has yet to developed.	Standard be	Default Issue Type Scheme
ISSUE ATTRIBUTES Statuses	Story Created by JIRA Agile - do not edit or delete. I for a user story.	Standard ssue type	Default Issue Type Scheme Agile Scrum Issue Type Schem
Resolutions	Task A task that needs to be done	Standard	Default Issue Type Scheme

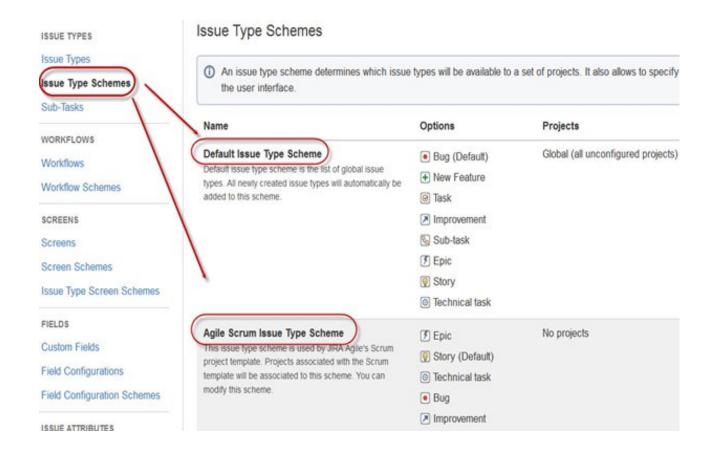


There are two types of Issue types schemes in JIRA, one is

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







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



PES	Add Issue Type Scheme		
pes			
ype Schemes	Scheme Name* IT & Support		
	Description		
WS	Default issue Type None		
		pping the option into the desired order. Simil	arly, drag and drop the option from one list to the other to add or remove the
Schemes			
	Issue Types for Current Scheme	Available Issue Types	
	Remove all	Add all	
hemes	Sub-task (sub-task)	Technical task (sub-task)	
Screen Schemes		● Bug	
pe delicen delicines	_	(f) Epic	
	Drag & Drop	Improvement	
Fields	Diag & Diop	© Story	
ntigurations		⊚ Task	
Fauration		1.0	
nfiguration s			
	Save Cancel		

JIRA Components

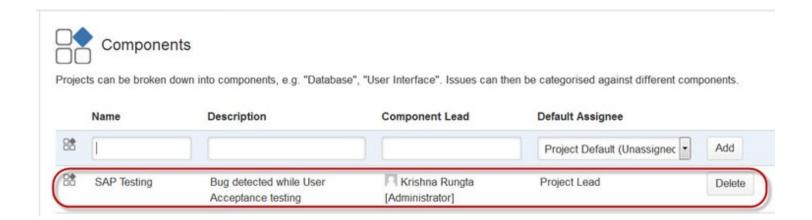


Components are sub-sections of a project; they are used to group issues within a project into smaller parts. Components add some structures to the projects, breaking it up into features, teams, modules, subprojects and more. Using components you can generate reports, collect statistics, and display it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





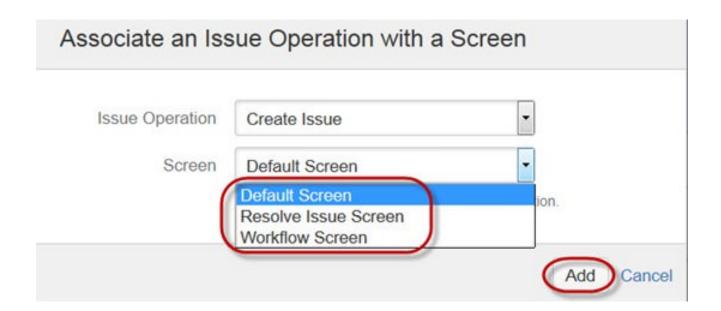
JIRA screen



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.

JIRA screen





Issue Attributes



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 Attributes



SCREENS

Screens

Screen Schemes

Issue Type Screen Schemes

FIELDS

Custom Fields

Field Configurations

Field Configuration Schemes

ISSUE ATTRIBUTES

Statuses

Resolutions

Priorities

Issue Security Schemes

Notification Schemes

Permission Schemes

Status Details

OPEN

The issue is open and ready for the assignee to start work on it.

IN PROGRESS

This issue is being actively worked on at the moment by the assignee.

REOPENED

This issue was once resolved, but the resolution was deemed incorrect. From here issues are either marked assigned or resolved.

RESOLVED

A resolution has been taken, and it is awaiting verification by reporter. From here issues are either reopened, or are closed.

CLOSED

The issue is considered finished, the resolution is correct. Issues which are closed can be reopened.

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.

System Administration



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.

System Administration



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



Select Project Type



Simple Issue Tracking

Track your issues with a basic workflow using a few issue types.



Project Management

Track the issues in your project from start to finish.



Agile Kanban

Constrain work-in-progress and manage your task flow



Software Development

Track development tasks and bugs. Optionally connect your source and build managers.



Agile Scrum

Manage your product development with backlogs, stories, and sprints



Demo Project

Guide new users through JIRA with this project that has sample data.



JIRA Classic

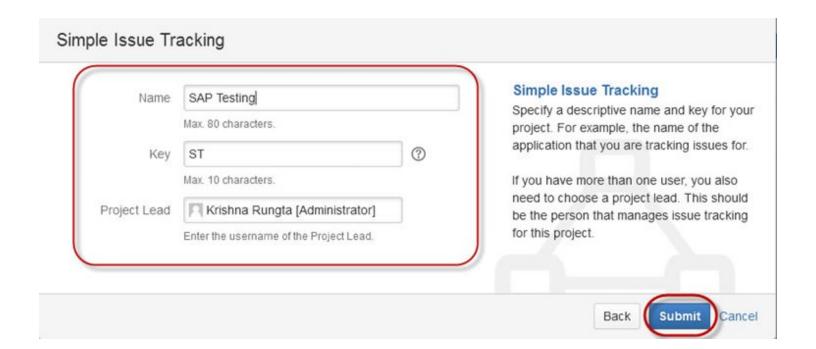
Import from external system





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.

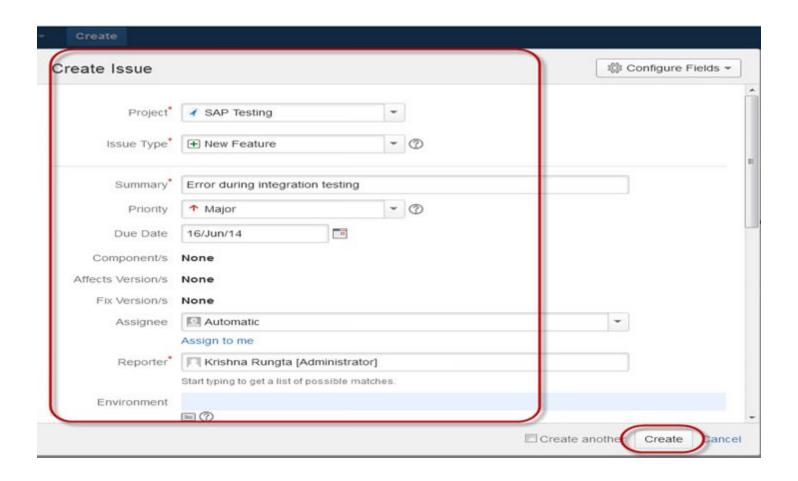






When you click on "Submit" button, a window will open where you can perform a list of work like creating issues, assigning issues, check the status of issues like- resolved, In-Progress or closed and so on.







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



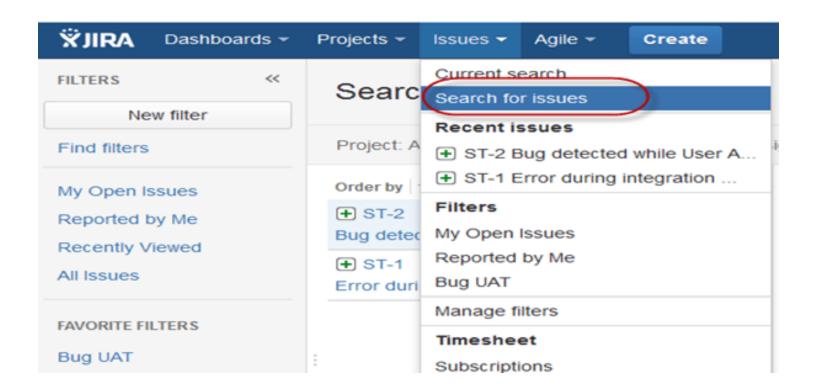
How to create an issue in JIRA and Search an Issue



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.

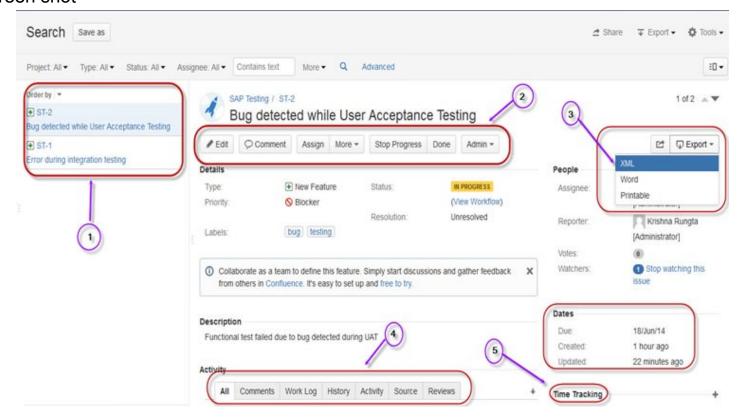
How to create an issue in JIRA and Search an Issue







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



Search Issues (Explained)



- 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

Search Issues (Explained)



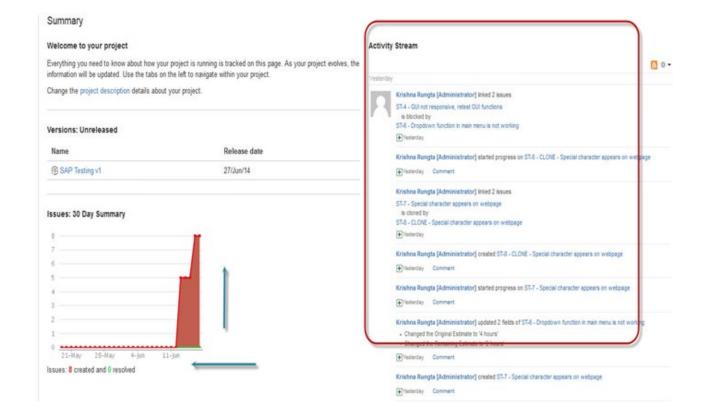
In the same window, you can set a filter for the issue and save them under Favorite Filters, so when you want to search or view a particular issue you can locate it using the filter.

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.

Search Issues (Explained)







How to create 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.

Sub-Task can be created in two ways

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

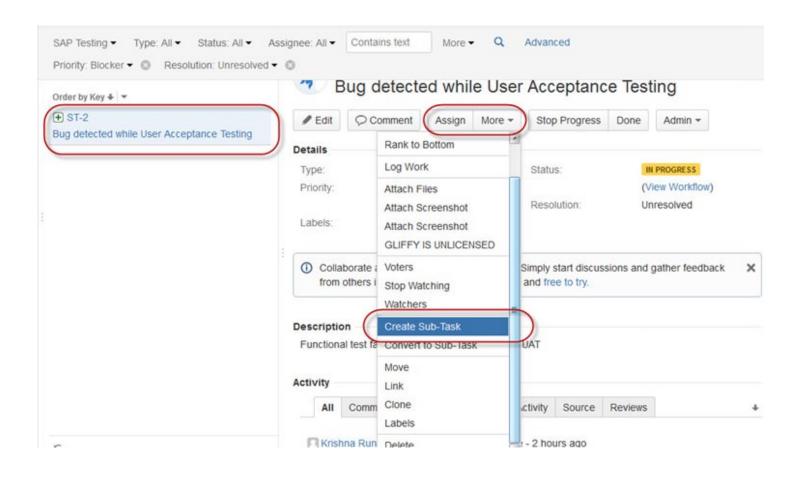
How to create Sub-Task



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.

How to create Sub-Task





Create 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 Sub-Task

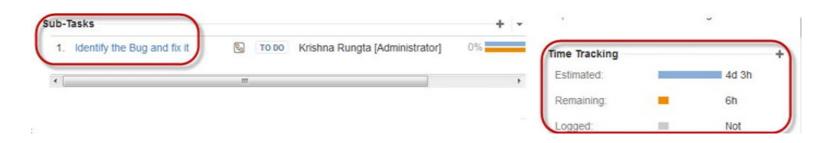


Issue Type	Sub-task	- ②	
Summary	Identify the Bug and fix it		
Priority	⊗ Blocker	- 0	
Due Date	20/Jun/14		
Component/s	None		
Affects Version/s	None		
Fix Version/s	None		
Assignee	Automatic		-
	Assign to me		
Reporter	Krishna Rungta [Administrator]		
	Start typing to get a list of possible matches.		
Environment	m ②		
		vare platform and/or hardware specifications (i	

Create Sub-Task



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 sub-task, 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-Task



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



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

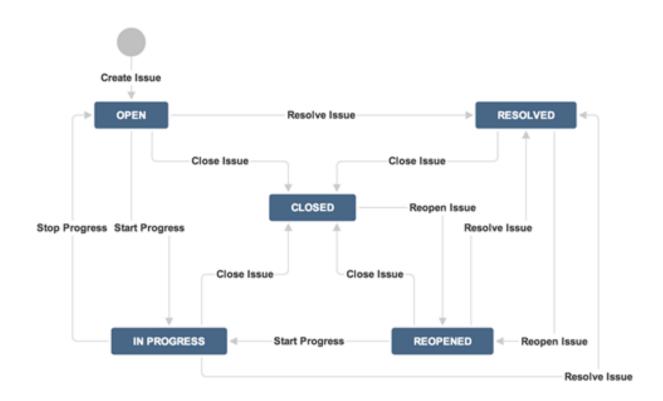
Resolved Issue

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

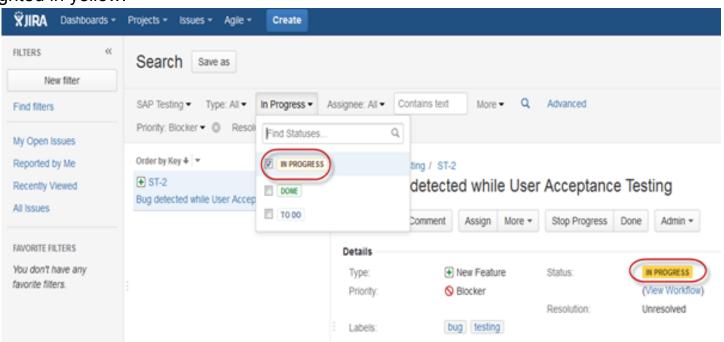
Conditions: Conditions control who can perform a transition

Validators: It can ensure that the transition can happen given the state of the issue

Properties: JIRA recognizes some properties on transitions

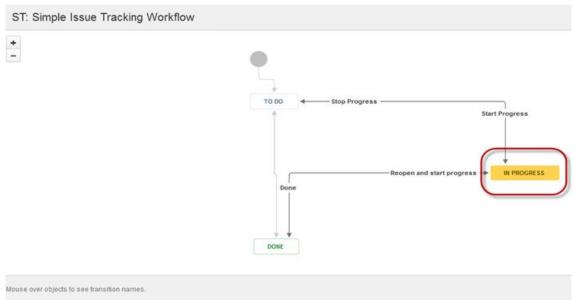


You can assign the status of the issue from the window itself, when you click on the check box for **IN Progress** status as shown in screen shot below, it will reflect the status in the issue panel highlighted in yellow.





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.



JIRA Bug Life Cycle



A bug can be generated at any stage of the SDLC(Software Development Life Cycle), it could exist in requirements gathering, designing phase where SRS document is designed, development phase, testing phase or user acceptance testing done by the end-user at the time of using the application.



A bug has its life cycle from the point when the bug is logged in to the point the bug is closed. Bug undergoes the following states:

- New
- Assigned
- Open
- Fixed
- Retesting
- Reopen
- Verified
- Closed



New

During the time of the testing phase, the bug or defect is identified by the tester and it is logged in to the bug tracking tool such as Jira, Bugzilla, etc. The bug which is detected by the tester will be posted for the first time in a bug tracking tool. This status is assigned as a New status.

Assigned

Bug with New status is assigned to the software developers and they will look into the bug to check whether the bug is valid or invalid. If the bug is invalid then they change the status to invalid. If the bug is valid then the status is changed to assigned then the software developers start working on the defect to get fixed.



Open

When the bug is assigned to the software developers then they start analyzing on it and works on the defect fix. The bug or defect can be opened in three stages:

Duplicate

If the defect is repeated twice or the defect corresponds to the same concept of the previous bug, then it changes the status to Duplicate.

Rejected

If the developer feels that the defect is not a genuine defect, then it changes the status to Rejected.

Deferred

If the bug is not of higher priority and can be solved in the next release, then the status changes to Deferred. The deferred state is also known as postpone state.



Fixed

When a developer makes a necessary code changes and verifies the change, then he/she can make the bug status as fixed. When the bug is fixed by the developers then the status is changed to either Reopened or Verified.

Retest

Once the bug is fixed by the software developers then it is assigned back to the testing team to check whether the bug has been fixed or not.



Reopen

If the bug persists even after the developer has fixed the bug, then tester changes the status to Reopen and once again bug goes through the whole bug life cycle.

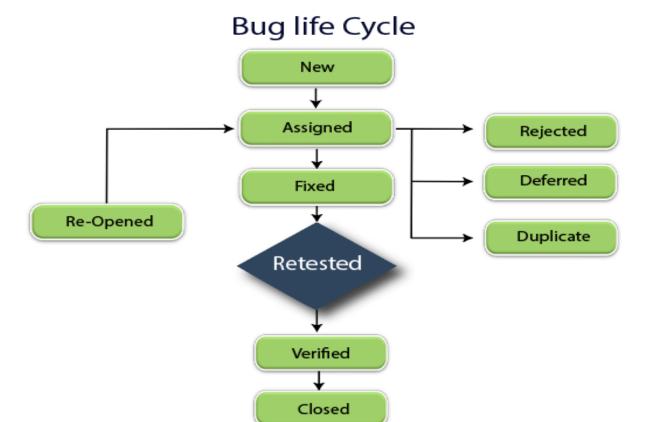
Verified

The tester retests the bug after it got fixed by the developer if no bug found then it changes the status to Verified.

Closed

If the bug is no longer exists, then it changes the status to Closed.





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 test management support, etc.



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 Cloud Testing Change Filter or Project... Project or saved filter to use as the basis for Statistic Type Assignee 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

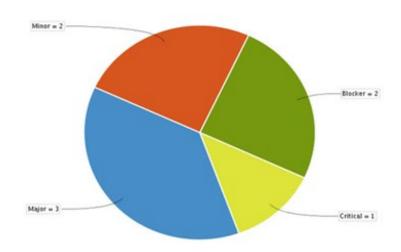
Creator Epic Status Epic/Theme Flagged

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.





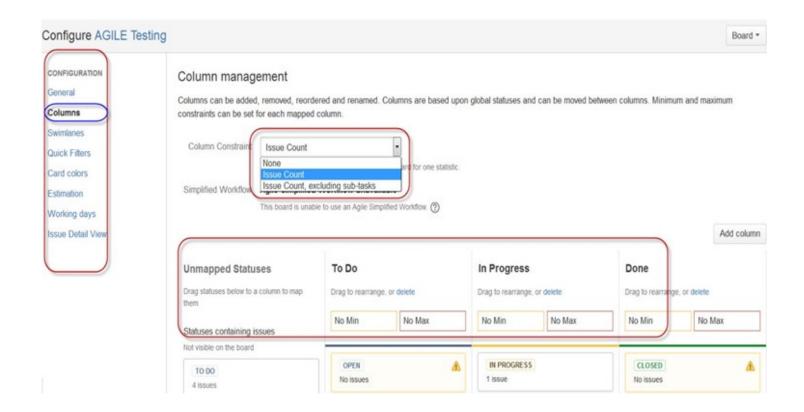
Data Table

	Issues	%
Major	3	379
Minor	2	259
Blocker	2	259
Critical	1	129



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 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.

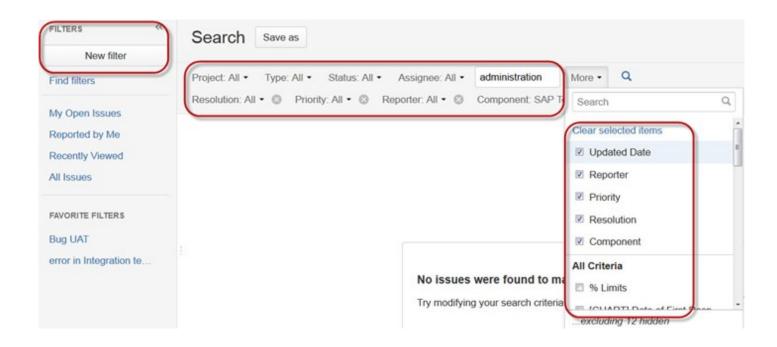




JIRA Filters



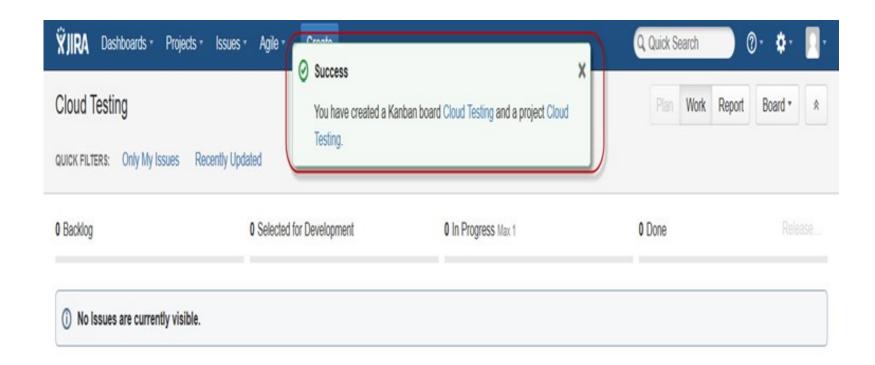
You can also set filters other than default filters to filter the issues. The filters that you can use are date, component, priority, resolution and so on.





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.

- Visualize your workflow
- Limit the work in progress
- Work on Issues
- Measure the cycle time

JIRA Scrum vs. JIRA Kanban



Scrum	Kanban
Reports	Reports
Burndown Chart: The chart shows all the changes and scope changed while the sprint is still on, other charts include Sprint Report, Velocity Chart, Epic Report, etc.	Control Chart: It allows you to measure the cycle time for issues, showing the mean time and actual time taken to complete issues
Agile Board	Constraints
It allows the team to see the progress of sprints. This is the work mode, where you can see the board itself broken down into different statuses.	Team can decide whether to increase or decrease the number of issues that should be displayed in each status.
Backlog	Workflow
This is where team will plan sprints and estimate stories that will go into each sprint	You can map columns to the statuses of your workflow. Simply by adding or removing columns the workflow can be changed when required.



thank you!

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