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About the Tutorial

JIRA is a project management tool used for issues and bugs tracking system. It is widely used as an issue-tracking tool for all types of testing. This tutorial introduces the readers to the fundamental features, usage, and advantages of JIRA.

This tutorial will guide the users on how to utilize this tool to track and report bugs in different applications.

Audience

This tutorial has been prepared for professionals who want to learn the uses of the JIRA tool. It will provide the readers enough understanding on the various components of JIRA with suitable examples.

Prerequisites

As a reader of this tutorial, you should be aware of the contents that have to be provided in a bug. Additionally, it will help if you have knowledge of the bug and testing lifecycle as well.

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1. JIRA – Overview

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.

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.

License and Free Trial

The following points describes the legalities of the JIRA Tool.

- JIRA is a commercial tool and available as a Trial version for a limited time.
- To utilize JIRA services, a license is required.
- JIRA provides free license for academic projects.
- A 15-day trial version is available for an individual person to use.

Use of JIRA

Following are some of the most significant uses of JIRA.

- JIRA is used in Bugs, Issues and Change Request Tracking.
- JIRA can be used in Helpdesk, Support and Customer Services to create tickets and track the resolution and status of the created tickets.
- JIRA is useful in Project Management, Task Tracking and Requirement Management.
- JIRA is very useful in Workflow and Process management.



JIRA — Core Features

The following table explains some of the most important and commonly used features in detail for better understanding.

| S. No. | Core Features | Description |
|--------|---------------------------------|--|
| 1 | Boards | JIRA supports Scrum and Kanban boards. These boards provide an immediate snapshot of the project to the team. Helps to quickly review the progress of the project and see the status of the individual tasks. Board workflow can be customized to fulfil the way a team wants to proceed. |
| 2 | Business Project Template | JIRA supports n number of business templates to manage simple tasks and complex tasks like workflow. Template can be customized based on the team and their approach. Ex: Workflow can be customized based on each team's approach. Every step is accounted and team can move to achieve their goals. |
| 3 | Task Details | Tasks can be defined at the individual level to track the progress. Status of every task, comment, attachment and due dates are stored in one place. |
| 4 | Notifications | An email can be sent for a particular task to the users. Voting and watching features to keep an eye on the progress for the stakeholders. Use @mention to get the attention of a specific team member at Comments/Description. User will instantly notify if something is assigned or if any feedback is required. |
| 5 | Power Search | JIRA supports a powerful search functionality with Basic, Quick and Advanced features. Use the search tool to find answers like due date, when a task was last updated, what items a team member still needs to finish. Project information at one place, search within a project. |



| 6 | Reports | JIRA supports more than a dozen reports to track progress over a specific timeframe, deadlines, individual's contribution, etc. Easy to understand and generate different reports those help to analyse how the team is going on. |
|----|------------------------------|--|
| | | Easy to configure these reports and display the matrices to the stakeholders. |
| 7 | Scale with Team Growth | JIRA supports any business team and any project irrespective of size and complexity. |
| 8 | Add -Ins | JIRA supports more than 100 add-ins to connect with different software to make work easy. |
| | | Wide range of add-ins makes it as universal across the globe. |
| 9 | Multilingual | JIRA supports more than 10 languages those are widely used as English (US, UK, India), French, German, Portuguese, Spanish, Korean, Japanese and Russian. |
| | Mobile App | JIRA is available as a Mobile Application as well. |
| 10 | | It is available on Google Play Store and App Store (iTunes) of Apple. |
| | | Easy to stay connected with the team while moving anywhere with notification, comments and project activity. |



2. JIRA – Project

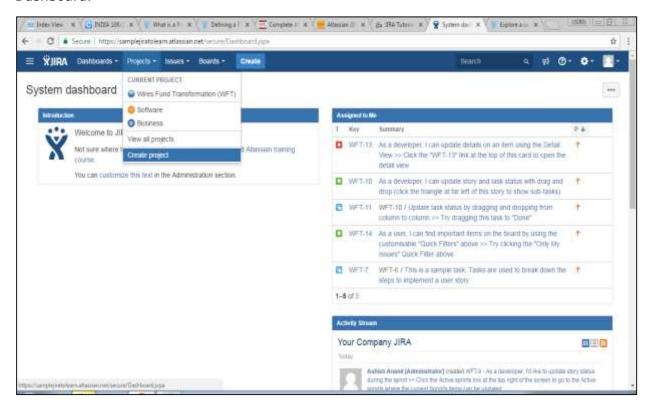
A Project contains issues; a JIRA project can be called as a collection of issues. A JIRA Project can be of several types. For example –

- Software Development Project
- Marketing Project
- Migration to other platform project
- Help Desk Tracking Project
- Leave Request Management System
- Employee Performance System
- Website Enhancement

Create a New Project

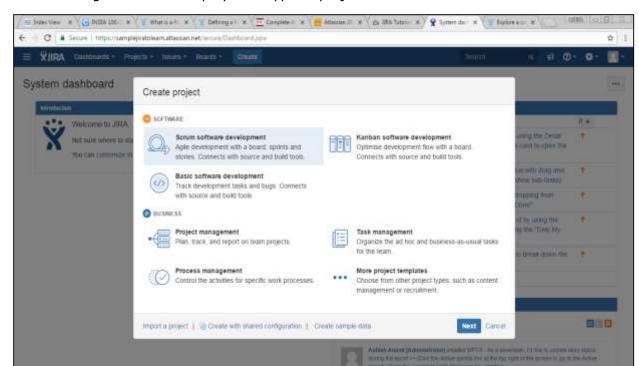
To create a project, the user should login as a JIRA Service Desk Admin and then Click on Project \rightarrow Create Project.

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.

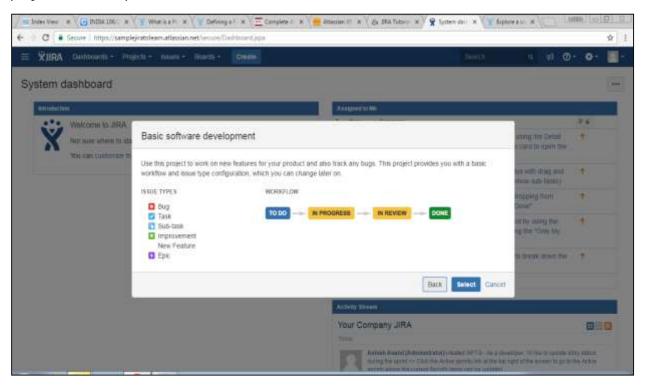




The following screenshot displays the type of projects available in JIRA.

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**.

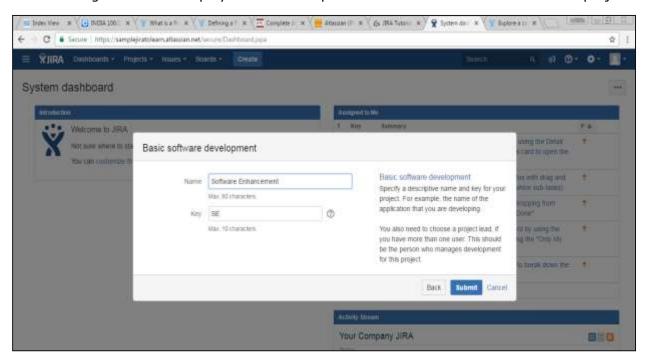
The following screenshot displays the available issue types and the workflow for the chosen project in the step mentioned above:



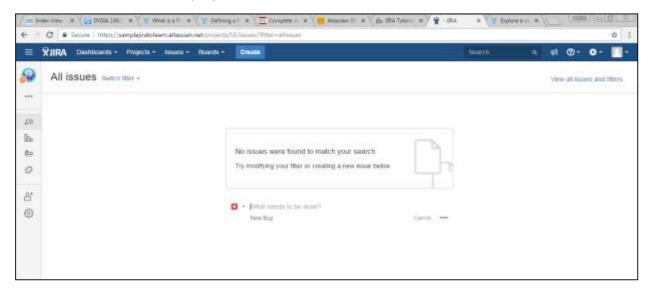


Click on the Select button, enter the name of the project and confirm the Key that the user wants to display as a reference in all the issues. Once this is done, click on the Submit button.

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



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





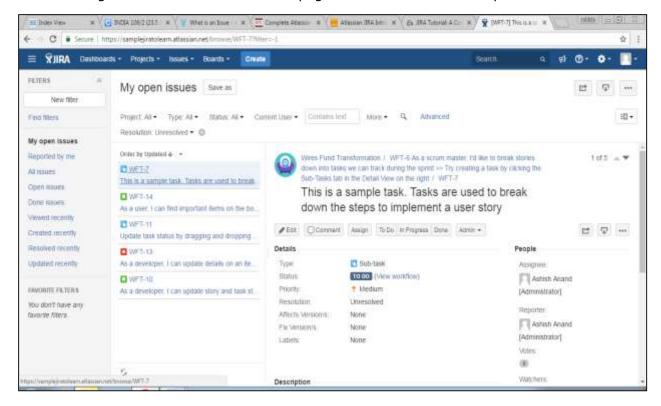
3. JIRA – Issues

JIRA is a project management tool and uses issues to track all the tasks. An issue helps to track all works that underlie in a project. In real time, every work or task either technical, non-technical, support or any other type of a project in JIRA are logged as an issue.

An issue can be dependent on the organization and requirements:

- Story of a project
- Task of a story
- Sub-task of a story
- · A defect or bug can be an issue
- Helpdesk Ticket can be logged as issue
- Leave Request

The following screenshot shows the basic page and information of an open issue.





4. JIRA – Workflow

In JIRA, workflow is used to **track the lifecycle of an Issue**. Workflow is a record of statuses and transitions of an issue during its lifecycle. A status represents the stage of an issue at a particular point. An issue can be in only one status at a given point of time like Opened, To Do, Done, Closed, Assigned, etc.

A transition is a link between two statuses when an issue moves from one status to another. For an issue to move between two statuses, a transition must exist. In a simple way, a transition is some kind of work done on the issue, while status is the impact of work on that issue.

Example

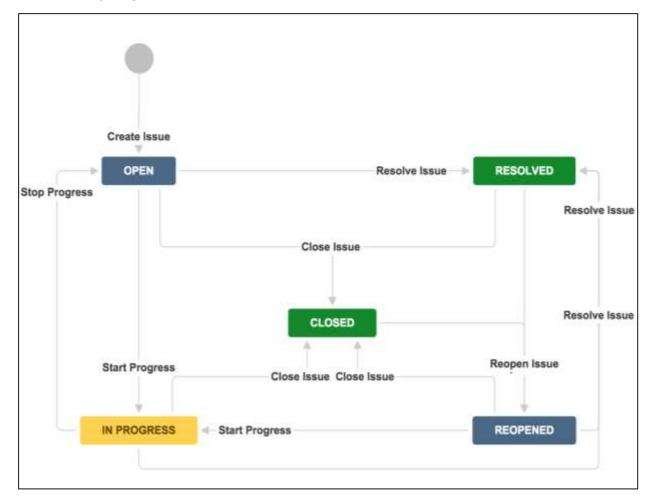
As of now, an issue is created and opened. When the assignee starts working on the issue, the issue moves to the **In Progress status**. Here, the transition is starting the work, while the status of the issue is now progressive.

JIRA workflow has the following stages to track as soon as an issue is created:

- **Open Issue:** After creation, the issue is open and can be assigned to the assignee to start working on it.
- **In Progress Issue:** The assignee has actively started to work on the issue.
- Resolved Issue: All sub-tasks and works of that Issue are completed. Now, the issue
 is waiting to be verified by the reporter. If verification is successful, it will be closed or
 re-opened, if any further changes are required.
- **Reopened Issue**: This issue was resolved previously, but the resolution was either incorrect or missed a few things or some modifications are required. From Reopened stage, issues are marked either as assigned or resolved.
- **Close Issue:** The issue is considered as finished, resolution is correct as of now. Closed issues can be re-opened later based on the requirement.

JIRA Workflow can be referred as a **Defect Lifecycle**. It follows the same concepts; the only difference is that it is generic for all issues rather than limited to Defects only.





The following diagram shows a standard workflow:

A transition is a one-way link, if an issue moves back and forth between two statuses; two transitions should be created.

Example: There are two-way transitions between closed and re-opened statuses. A closed issue can be reopened if any modifications are required at any time until the project completes, while a re-opened issue can be closed directly if additional work is taken care in another issue and no specific work has been done on the re-opened issue.



5. JIRA – Installation

In this chapter, we will learn how to install JIRA on your system.

Important Points to Note

- JIRA is a web application that provides a private website to an individual or a set of requested users belonging to the same company/project.
- JIRA can be run as a Windows Service at the server side.
- JIRA is a pure Java based application and supports all OS platforms like Windows, Linux of different versions or MAC, etc., those satisfy JDK/JRE requirements.
- JIRA supports all famous browsers like Chrome, IE, Mozilla and Safari.
- It supports Mobile browsers as well in mobile views.

System Requirements

Since JIRA is a web-application, it follows the concept of client/server. It means that JIRA can be installed centrally on a server and users can interact with it through web-browsers using a website from any computer.

- **Browser:** JavaScript should be enabled, the user is recommended not to use any script-blocking tool like **NoScript** to access full functionality of JIRA.
- **JDK/JRE:** It is recommended to update JRE/JDK with the latest version. JIRA 6.4 recommends using JRE/JDK version 8.

Since our scope is to consume the JIRA application as end users, we can ignore the server side requirements.

Installation at the Server Side

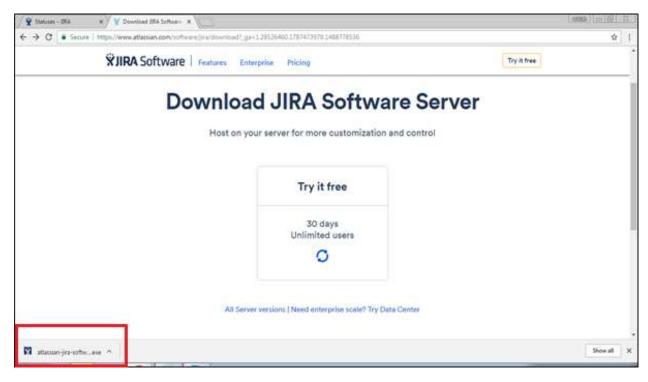
- JIRA follows the Client/Server concept. At the server side, JIRA must be installed before using it as end user.
- At the server side, JIRA must connect with relation database to store issues/application data.
- Download the JIRA Windows Installer.exe file from the following link https://www.atlassian.com/software/jira/download?ga=1.28526460.1787473978.1 <u>488778536</u>
- Select the OS type and click on Download



The following screenshot shows how to download the .exe file for a specific OS. C @ https://www.atfassian.com/

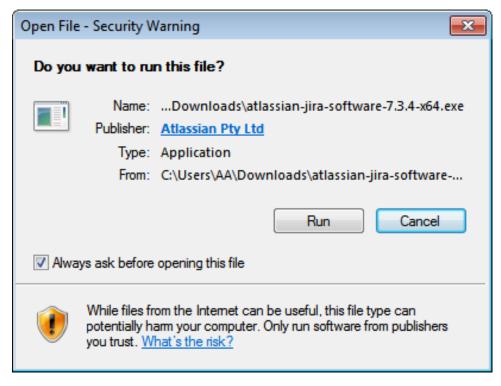


Run the .exe file to run the installation wizard. The following screenshot shows the downloaded .exe file.

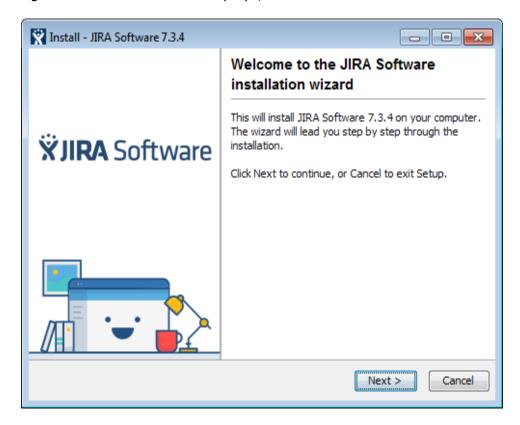




After clicking the .exe file, the **Run** confirmation pop-up displays, click on RUN. The following screenshot shows the RUN confirmation pop-up.

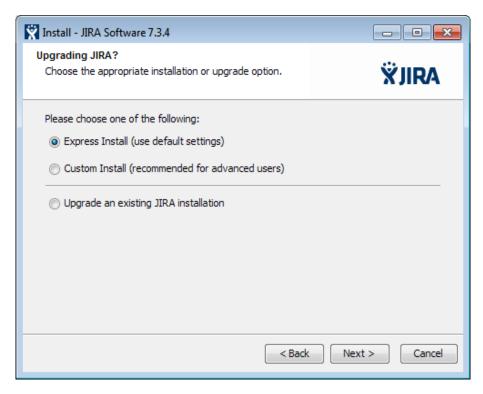


The following JIRA installation wizard displays, click on Next.

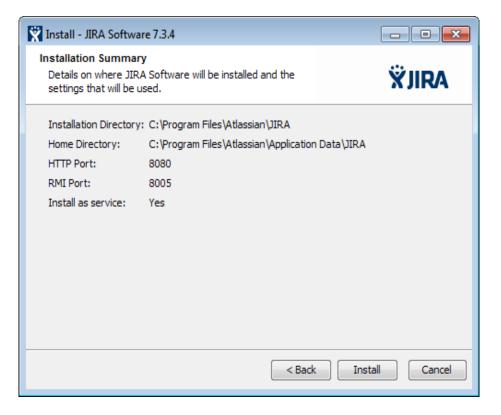




Choose the appropriate installation option as shown in following screenshot and then click on Next.

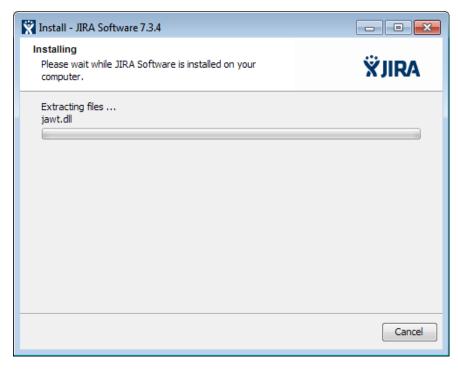


The installation summary is displayed with the Destination Directory, Home Directory, TCP Ports, etc., as shown in the following screenshot.

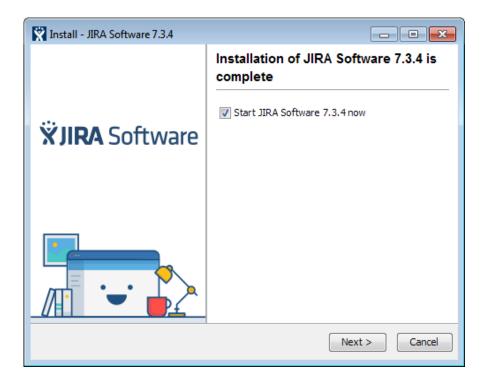




Click on Install. JIRA will start installing as displayed in following screenshot. It takes a couple of minutes to finish the installation.



After installation, JIRA will be started automatically if the check box to "Start JIRA Software 7.3.4 now" is checked. Then click on Next, if not, it can be accessed using the appropriate Windows Start Menu shortcut.





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