

EXPERIMENT 7

TO CREATE SCRUM BOARD FOR SCRUM MASTER USING JIRA TOOL

Theory:

1. Introduction to Agile Methodology

Agile methodology is an iterative approach to software development and project management that emphasizes flexibility, collaboration, and customer feedback. It helps teams deliver high-quality software in incremental steps rather than following a rigid plan.

1.1 Agile Manifesto

Agile is based on four core values:

1. **Individuals and interactions** over processes and tools.
2. **Working software** over comprehensive documentation.
3. **Customer collaboration** over contract negotiation.
4. **Responding to change** over following a plan.

1.2 Agile Principles

Agile follows 12 principles, including:

- Customer satisfaction through early and continuous delivery.
- Embracing changing requirements for the customer's competitive advantage.
- Delivering working software frequently.
- Close collaboration between business and development teams.
- Motivated individuals and self-organizing teams.
- Continuous attention to technical excellence.

2. Agile Frameworks

Several frameworks exist under Agile, including:

1. **Scrum** – A framework for iterative and incremental product development.
2. **Kanban** – A visual workflow management system.
3. **Extreme Programming (XP)** – Focuses on engineering practices.
4. **Lean Software Development** – Focuses on minimizing waste and maximizing value.

2.1 Scrum Framework

Scrum is one of the most popular Agile frameworks. It consists of:

- **Scrum Team:** Product Owner, Scrum Master, Development Team.
- **Scrum Artifacts:** Product Backlog, Sprint Backlog, Increment.
- **Scrum Events:** Sprint Planning, Daily Stand-ups, Sprint Review, Sprint Retrospective.

- **Sprint Cycle:** A time-boxed period (usually 2-4 weeks) where a team completes selected backlog items.
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3. Introduction to Jira

Jira is a popular tool developed by Atlassian for Agile project management, issue tracking, and test case management. It helps teams plan, track, and manage software development projects efficiently.

3.1 Features of Jira

- **Customizable dashboards** for tracking project progress.
 - **Issue tracking** for creating, assigning, and monitoring tasks.
 - **Workflow automation** to improve efficiency.
 - **Integration** with various development and testing tools.
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4. Test Case Management Using Jira

Jira can be used to manage test cases effectively by integrating with testing plugins like Zephyr and Xray.

4.1 Steps to Manage Test Cases in Jira

1. **Creating a Test Case:**
 - Navigate to the Jira project.
 - Click on **Create Issue** and select **Test Case** (if using Zephyr/Xray).
 - Define the test case with details such as Test Summary, Preconditions, Test Steps, and Expected Results.
 - Click **Create** to save the test case.
 2. **Executing a Test Case:**
 - Open the created test case.
 - Click **Execute** and select the test cycle.
 - Update the test execution status (Pass, Fail, In Progress, Blocked).
 3. **Tracking Test Results:**
 - Use Jira dashboards to generate reports on test execution progress.
 - Analyze defects by linking test cases to bug reports.
 4. **Integrating Jira with CI/CD Pipelines:**
 - Jira can integrate with Jenkins, Bamboo, and other DevOps tools to automate testing workflows.
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5. Creating a Scrum Board for Scrum Master Using Jira

A Scrum board helps Scrum Masters and teams visualize and track sprint progress effectively.

5.1 Steps to Create a Scrum Board in Jira

1. **Log in to Jira and Navigate to the Project Dashboard.**

2. Create a New Scrum Board:

- Click on **Projects** > Select your project.
- Navigate to **Boards** and select **Create Board**.
- Choose **Scrum Board** and select **Create from an existing project** or **Create a new project**.
- Name your board and associate it with a project.

3. Configure the Scrum Board:

- Define columns such as **To Do, In Progress, Done**.
- Customize workflows based on team requirements.
- Set up backlog and sprint planning options.

4. Add Issues to the Backlog:

- Create user stories, tasks, and bugs.
- Prioritize backlog items and assign them to sprints.

5. Start a Sprint:

- Navigate to the backlog.
- Select sprint items and click **Start Sprint**.
- Define sprint duration and goals.

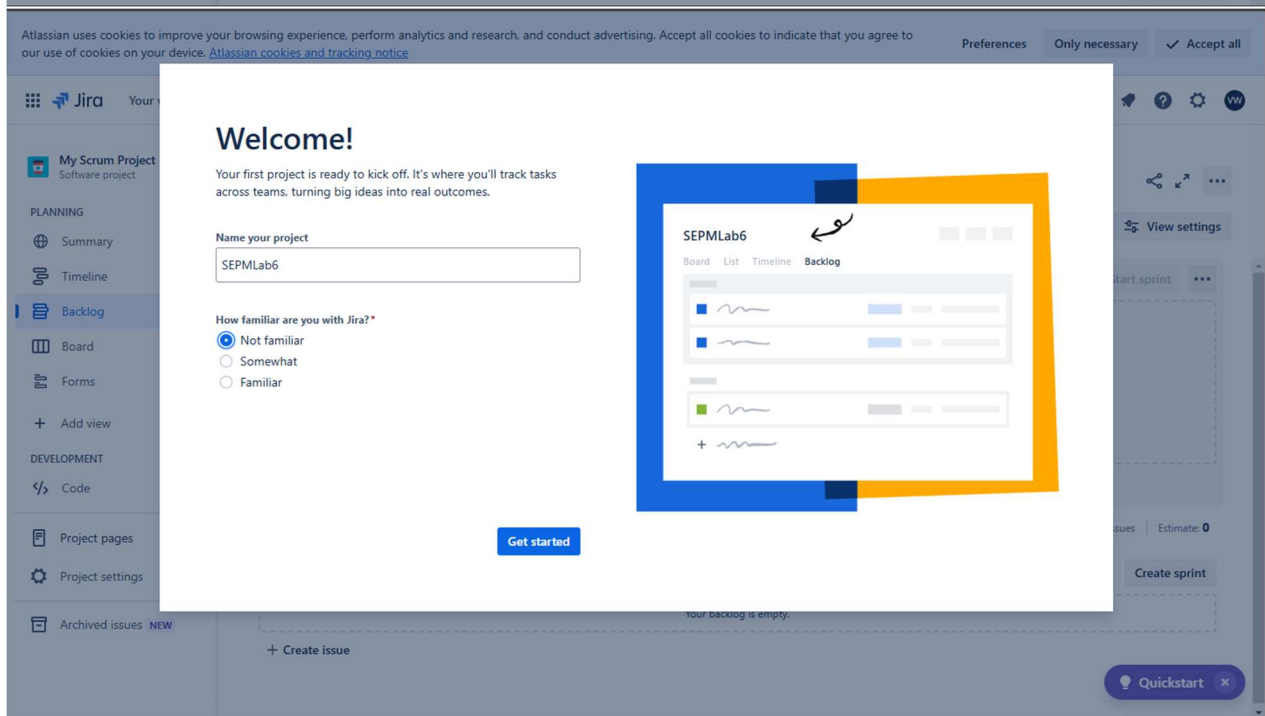
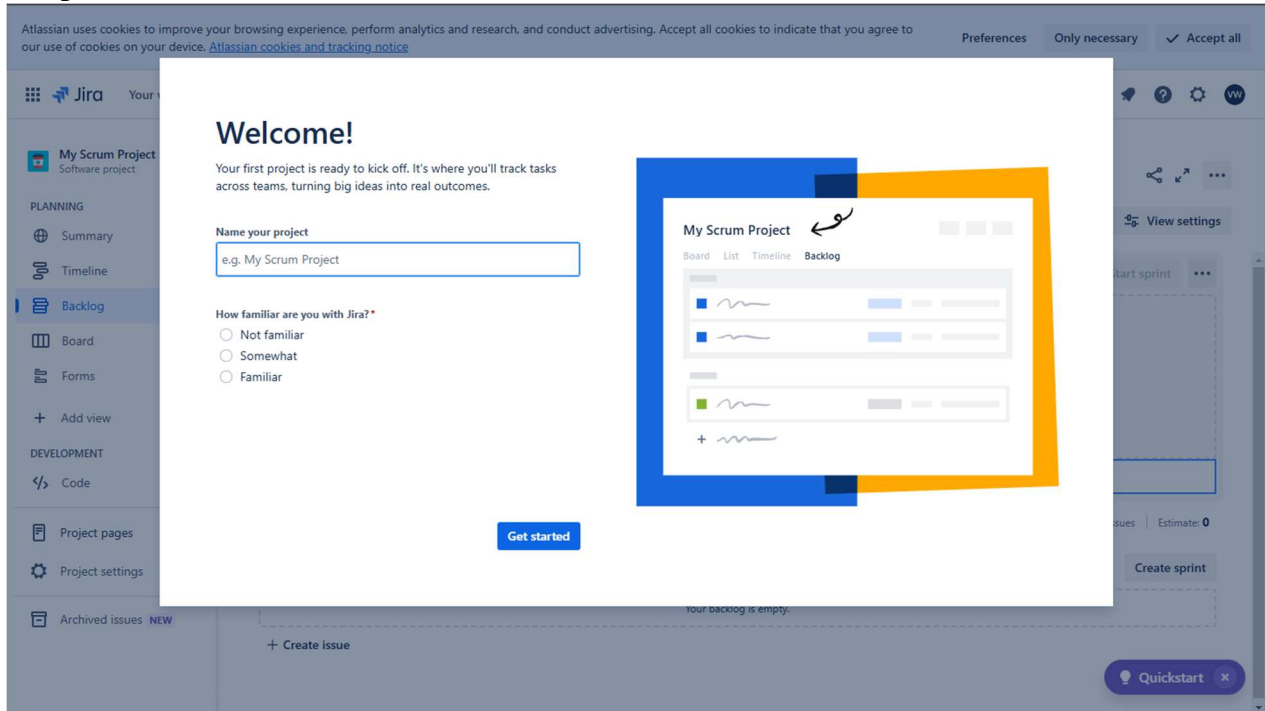
6. Monitor Sprint Progress:

- Use the Scrum board to track task movement across columns.
- Conduct daily stand-ups for status updates.
- Use Jira reports (Burndown Chart, Velocity Chart) to analyze sprint performance.

6. Benefits of Using Jira for Agile and Test Case Management

- **Centralized Tracking:** All tasks, sprints, and test cases are managed in one place.
 - **Collaboration:** Teams can communicate and update task statuses in real-time.
 - **Customization:** Jira can be tailored to fit any workflow.
 - **Automation:** Reduces manual effort through workflow automation and integration with DevOps tools.
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Output:



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Jira

Your work

Projects

Filters

Dashboards

Teams

Plans

Apps

Create

30 days left

Search

?

Settings

VW

SEPMLab6

Software project

PLANNING

Summary

Timeline

Backlog

Board

Forms

Goals

Add view

DEVELOPMENT

Code

Project pages

Project settings

Archived issues NEW

Projects / My Scrum Project

Backlog

Search

VW

Epics

Insights

View settings

SCRUM Sprint 1

Add dates

0 issues

000

Start sprint

...

Plan your sprint

Drag issues from the **Backlog** section, or create new issues, to plan the work for this sprint.

Select **Start sprint** when you're ready.

+ Create issue

0 issues

Estimate: 0

Backlog

0 issues

000

Create sprint

Your backlog is empty.

+ Create issue

0.46%

Quickstart

Create a project

Create an issue

Create Issue | ...

Issues are individual pieces of work that you assign to teammates.

Show meView issue tutorial

Start with the basics

Invite your teammates

Dismiss Quickstart

Jira

Your work

Projects

Filters

Dashboards

Teams

Plans

Apps

Create

30 days left

Search

?

Settings

VW

SEPMLab6

Software project

PLANNING

Summary

Timeline

Backlog

Board

Forms

Goals

Add view

DEVELOPMENT

Code

Project pages

Project settings

Archived issues NEW

Projects / SEPMLab6

Timeline

Search timeline

VWRFVVK

Status category

Epics

Give feedback

Share

Export

...

Sprints

SCRUM-1 Web Development

SCRUM-2 Flutter

SCRUM-3 API_Gangster

SCRUM-4 Data Science

+ Create Epic

Today

Weeks

Months

Quarters

1

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Quickstart

Create a project

Map out your project goals

Identify small chunks of work

Monitor and manage risk

Create an issue

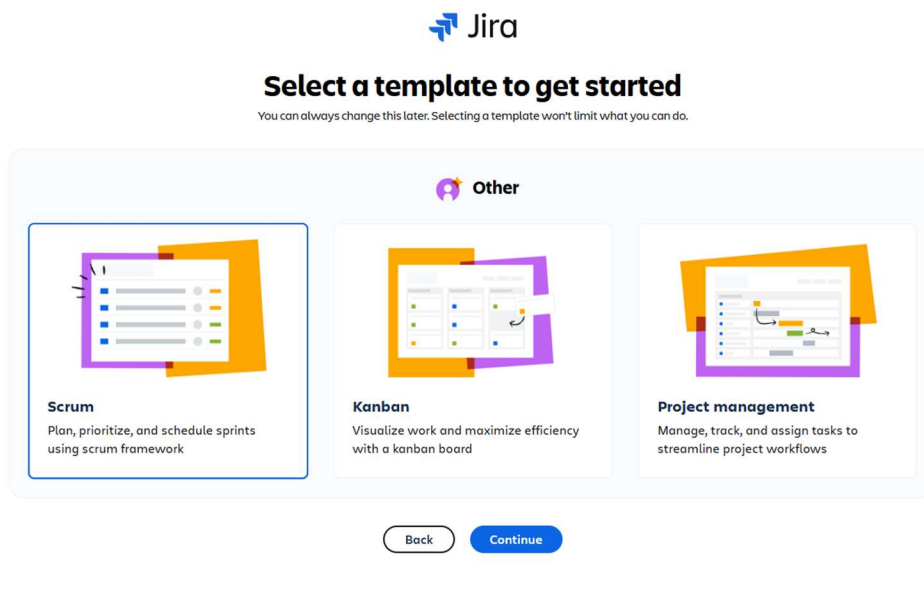
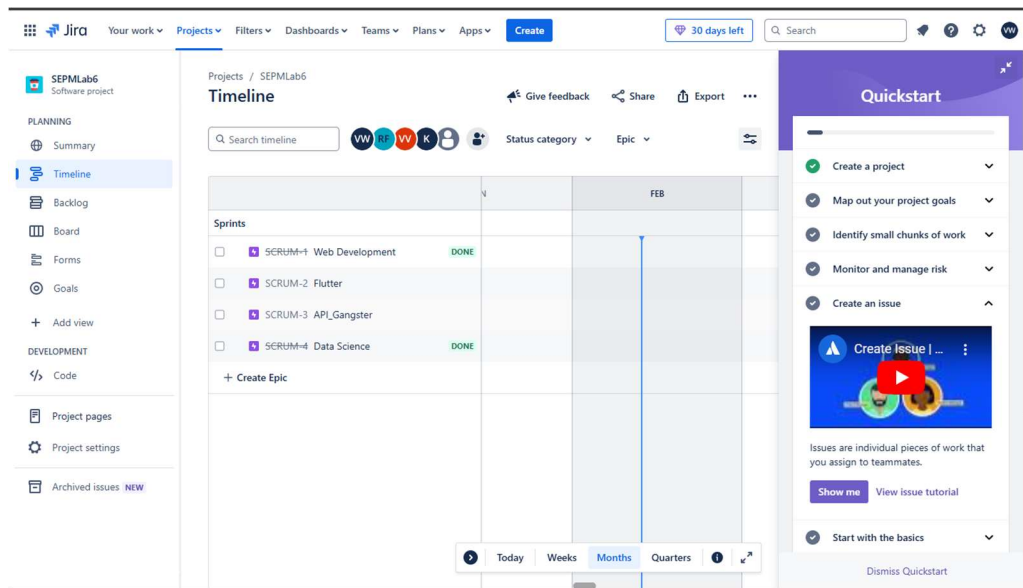
Create Issue | ...

Issues are individual pieces of work that you assign to teammates.

Show meView issue tutorial

Start with the basics

Dismiss Quickstart



Conclusion

This experiment provided an overview of Agile methodology and how Jira is used for project and test case management. Additionally, we learned how to create a Scrum board for a Scrum Master, helping to visualize and track sprint progress effectively. Jira enhances Agile practices by improving workflow efficiency, collaboration, and test case execution tracking, making it a valuable tool in modern software development.