

**Aim: To Study Agile Methodology and Test case Management using JIRA Tool & To Create Scrum Board for Scrum Master using JIRA Tool.**

### **Theory:**

#### **Introduction to Agile Methodology**

Agile methodology is an iterative approach to software development that focuses on flexibility, collaboration, and customer feedback. It follows principles from the Agile Manifesto, emphasizing working software, customer collaboration, and responsiveness to change. Agile methodologies include Scrum, Kanban, and Extreme Programming (XP).

#### **Test Case Management in Agile**

Test case management in Agile ensures that testing is integrated throughout the development process rather than being a separate phase. JIRA, a widely used project management tool, supports test case management through plugins like Zephyr and Xray. Key aspects include:

- **Creating Test Cases:** Test cases are written in JIRA to verify software functionality.
- **Executing Tests:** Test execution is tracked within sprints to ensure quality assurance.
- **Defect Tracking:** Bugs and defects are logged and linked to user stories.
- **Continuous Integration:** Automated tests can be integrated with JIRA for real-time tracking.

#### **Creating a Scrum Board in JIRA**

A **Scrum Board** in JIRA helps Scrum Masters manage sprint tasks efficiently. The process includes:

1. **Creating a New Scrum Project:** JIRA provides templates for Agile projects.
2. **Defining Backlog Items:** Product backlog items (PBIs) or user stories are added.
3. **Sprint Planning:** Tasks are assigned to sprints, ensuring proper workload distribution.
4. **Tracking Progress:** The board visually represents tasks in "To Do," "In Progress," and "Done" columns.
5. **Sprint Review & Retrospective:** After each sprint, progress is reviewed, and improvements are discussed.

By utilizing JIRA for Agile project management, teams improve efficiency, collaboration, and project transparency.

## Software Engineering & Project Management Lab

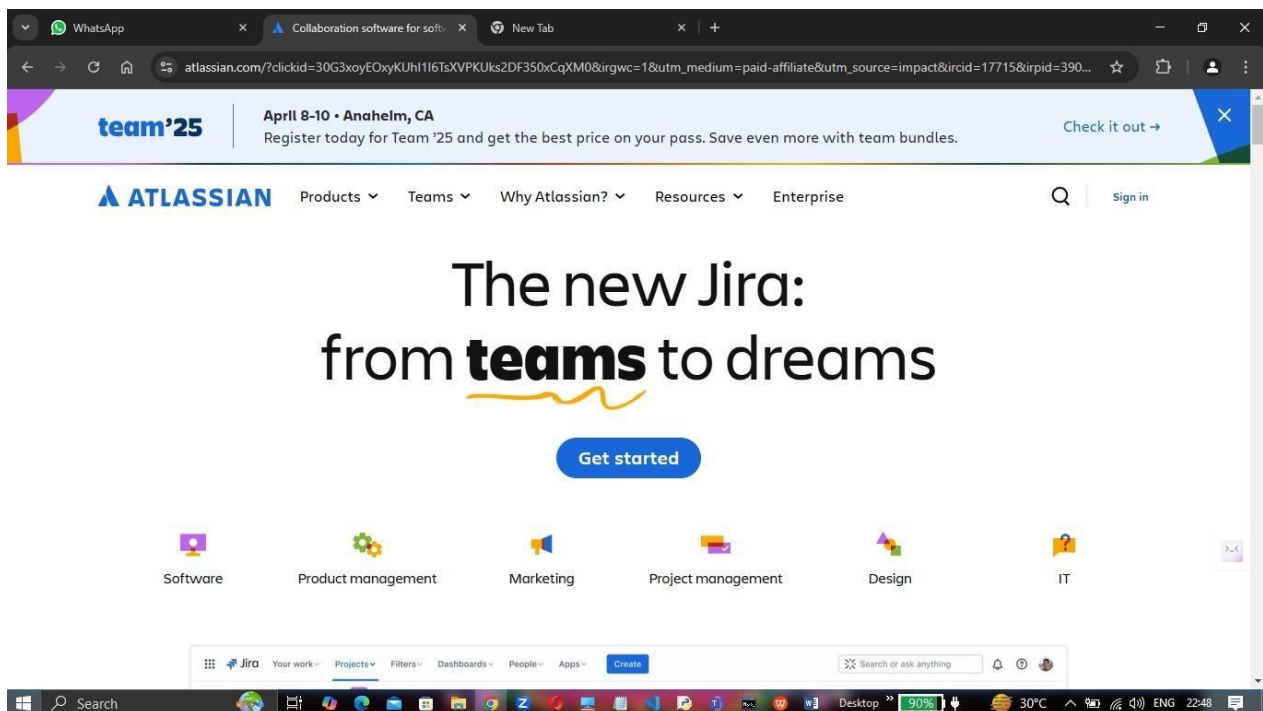
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#### ➤ Implementation:

JIRA Account Creation:

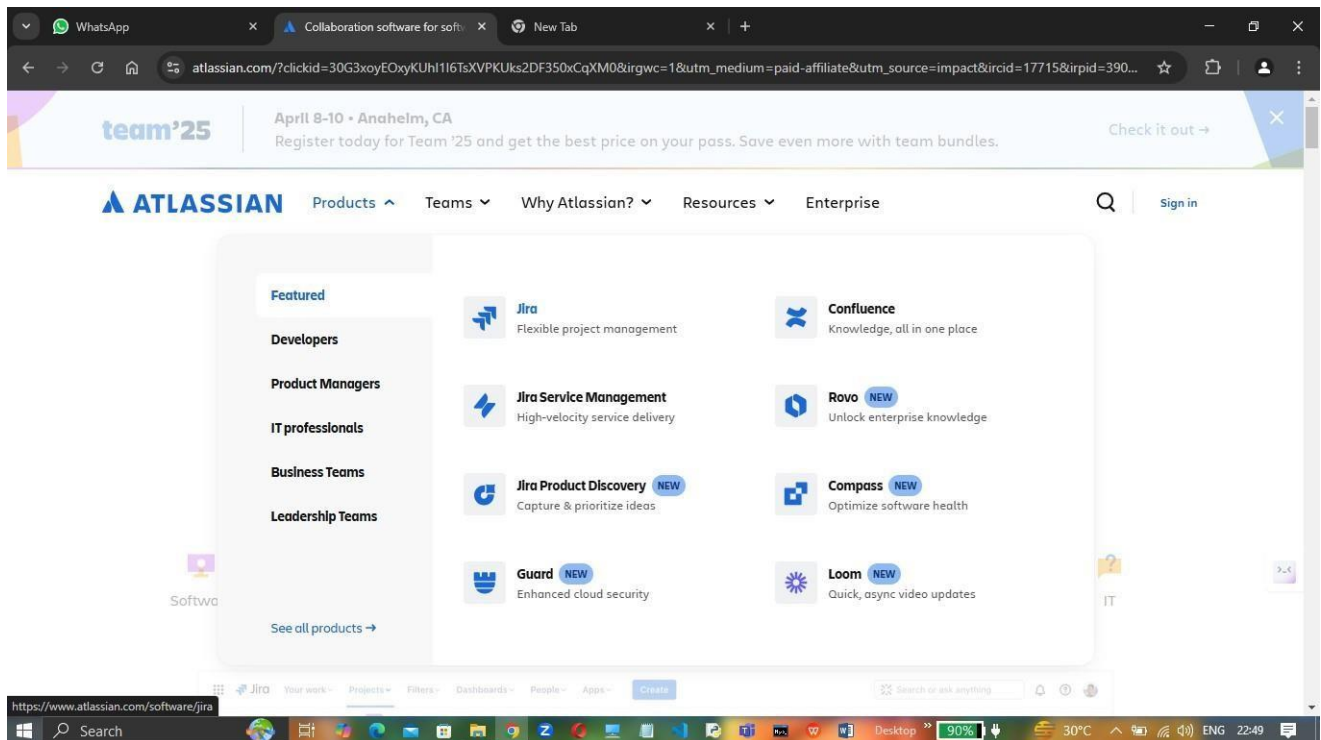
- 1) Open atlassian.com webpage
- 2) Select products and click on Jira Software
- 3) Click on “Get it free”



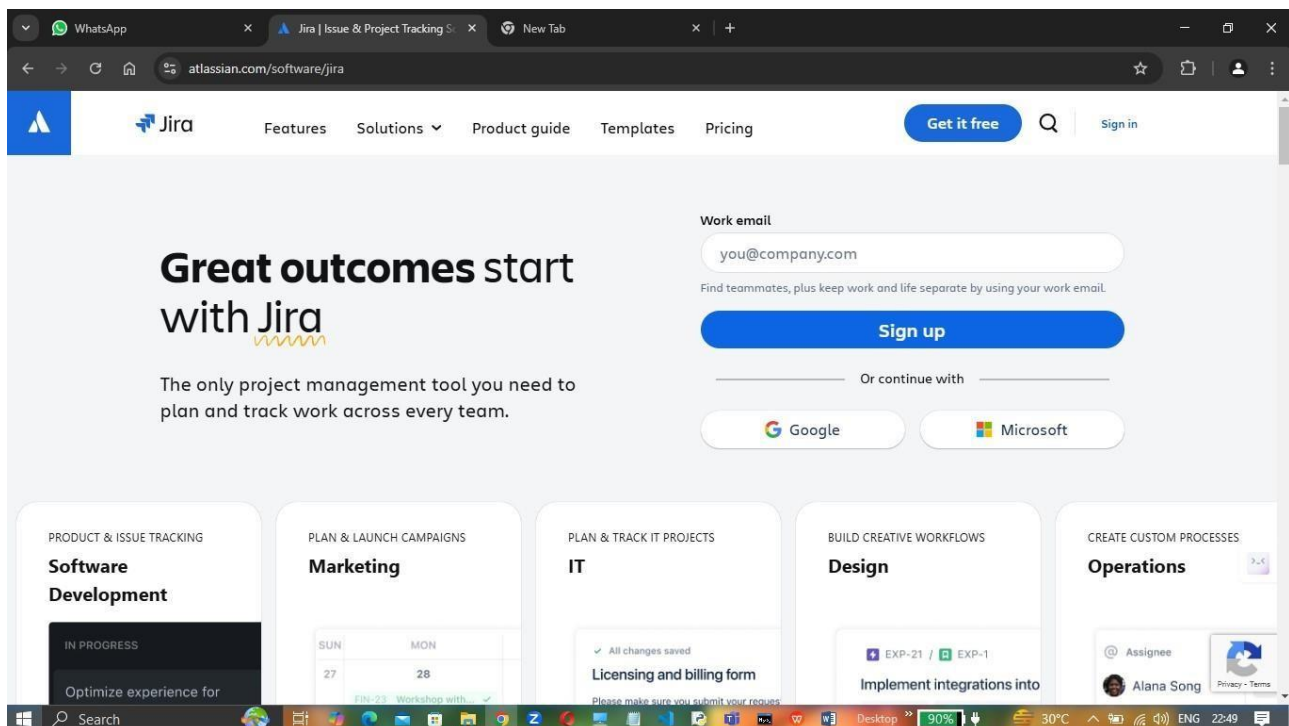
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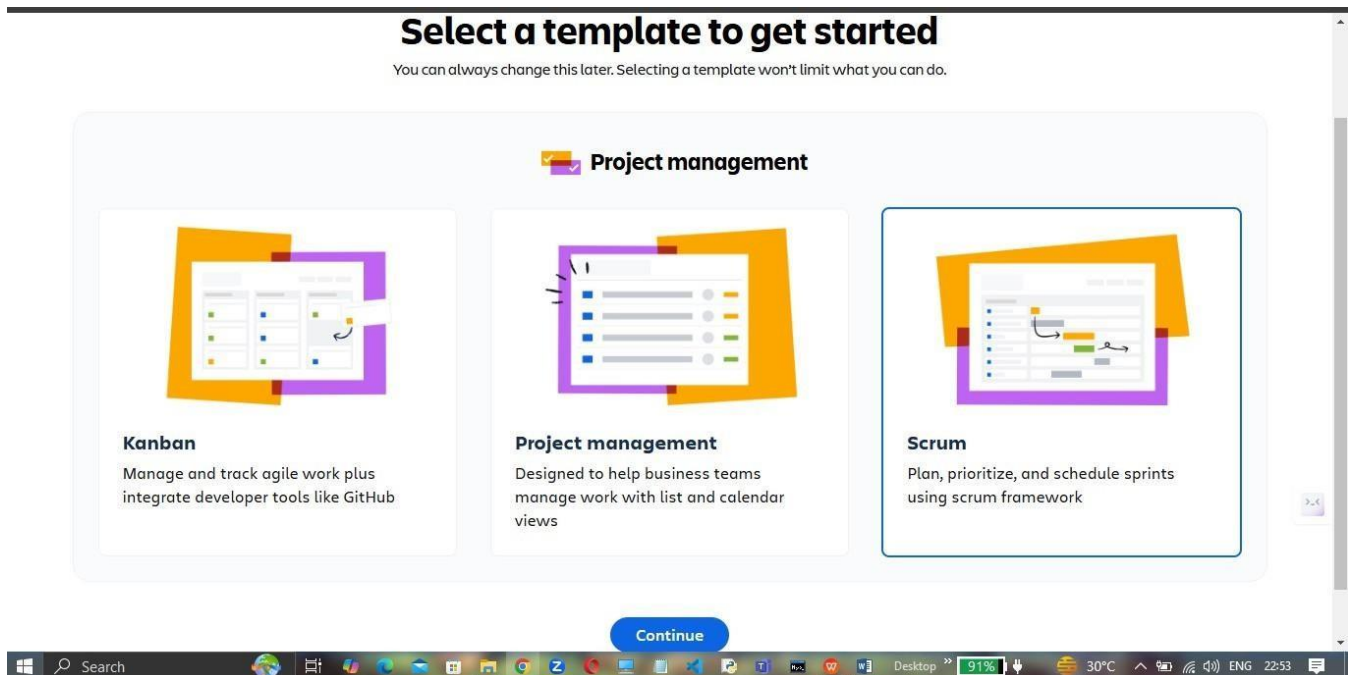
### 4) Select Continue with Google



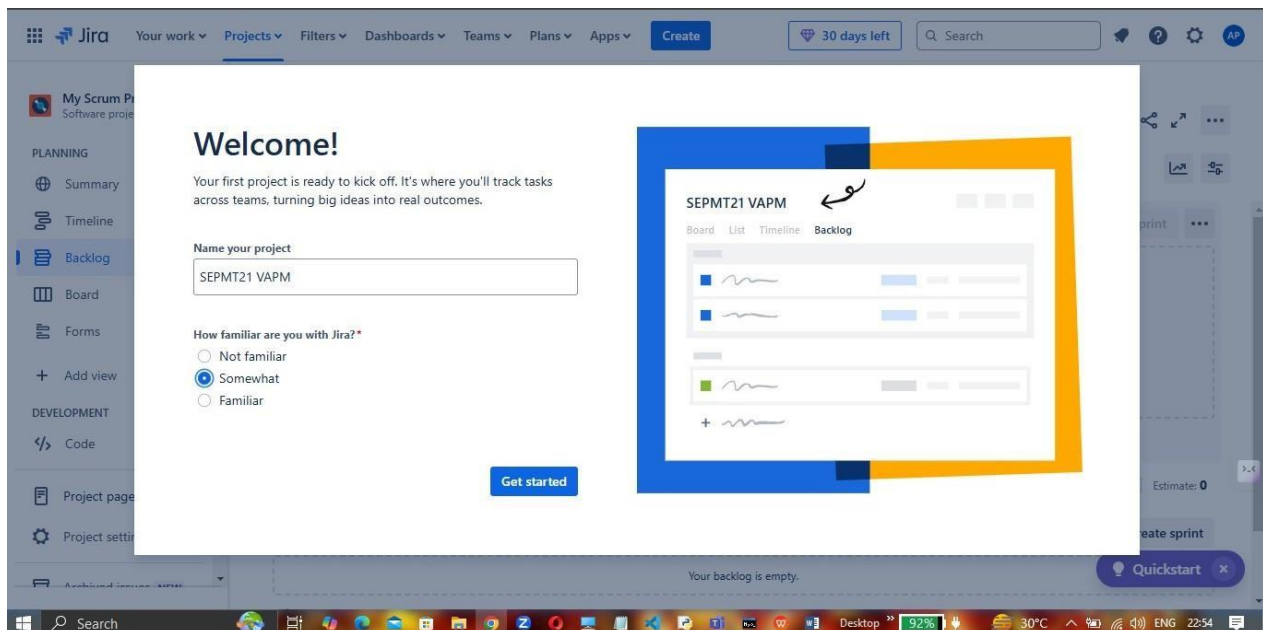
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### 6) Add project details

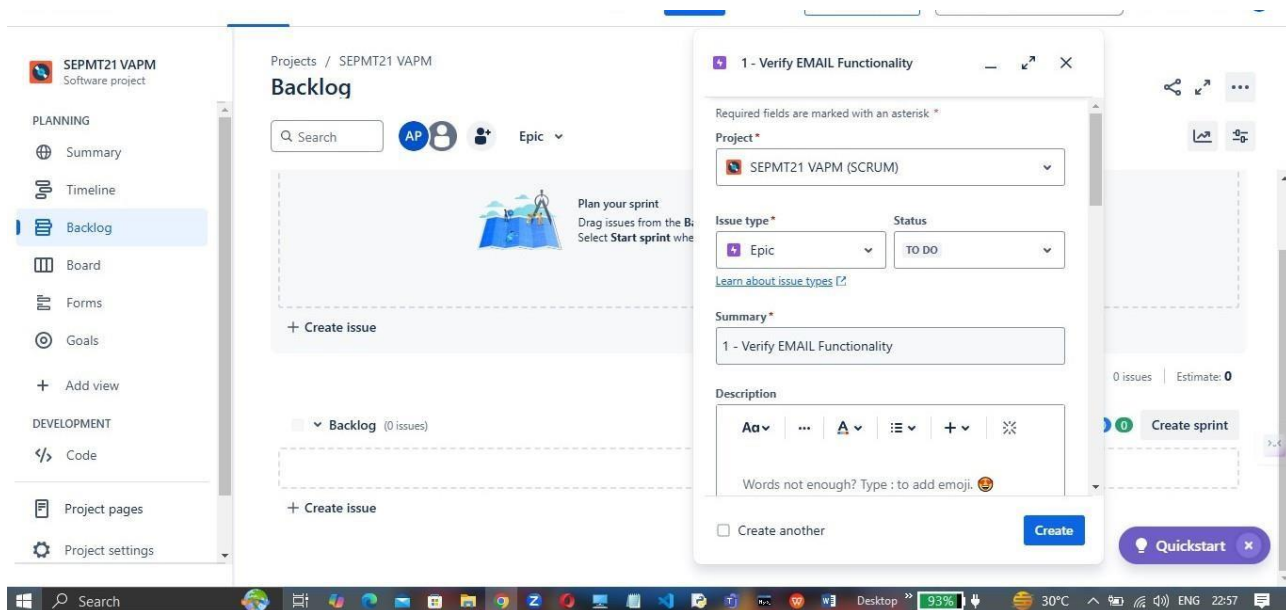
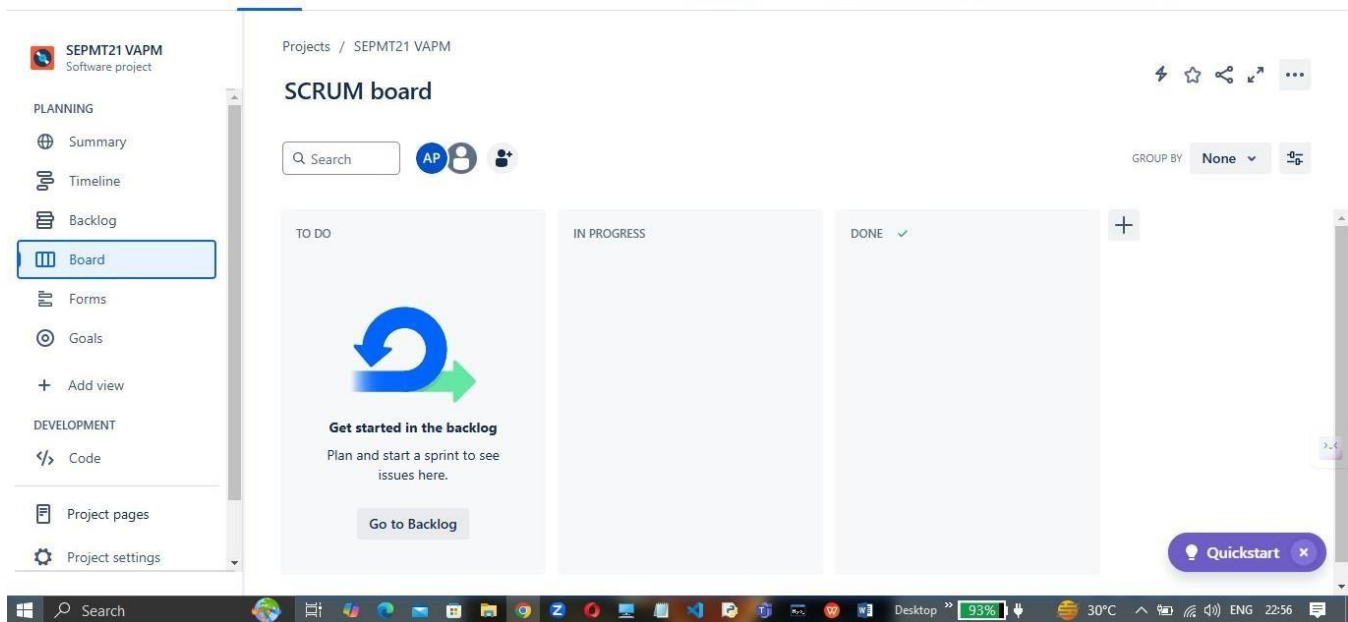


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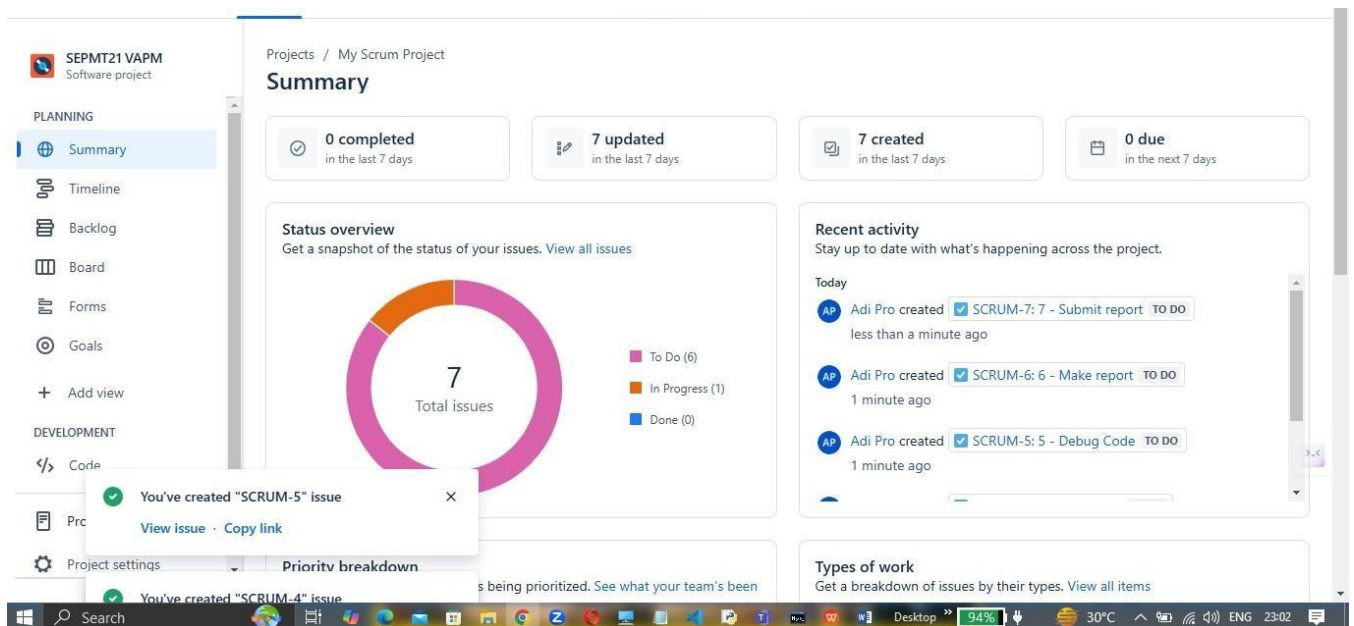
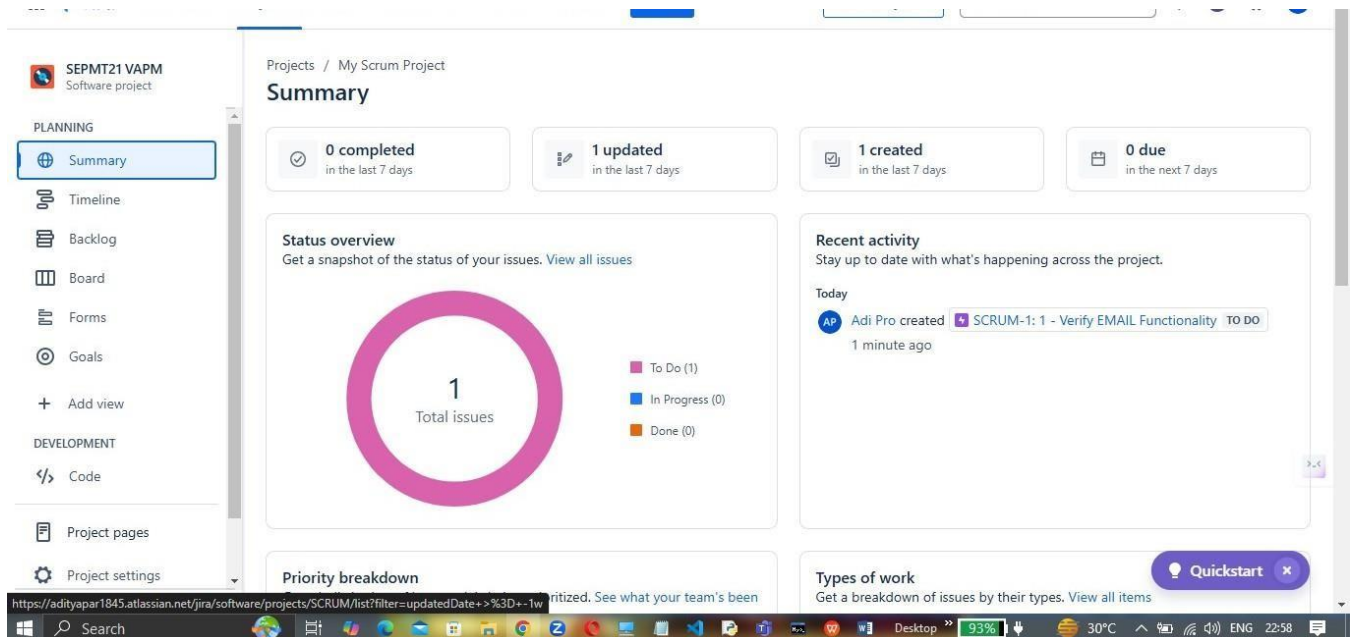
- 7) Implement Agile and Scrum using various features of JIRA tool such as sprints, timeline, scrum board, make a team and add members,etc



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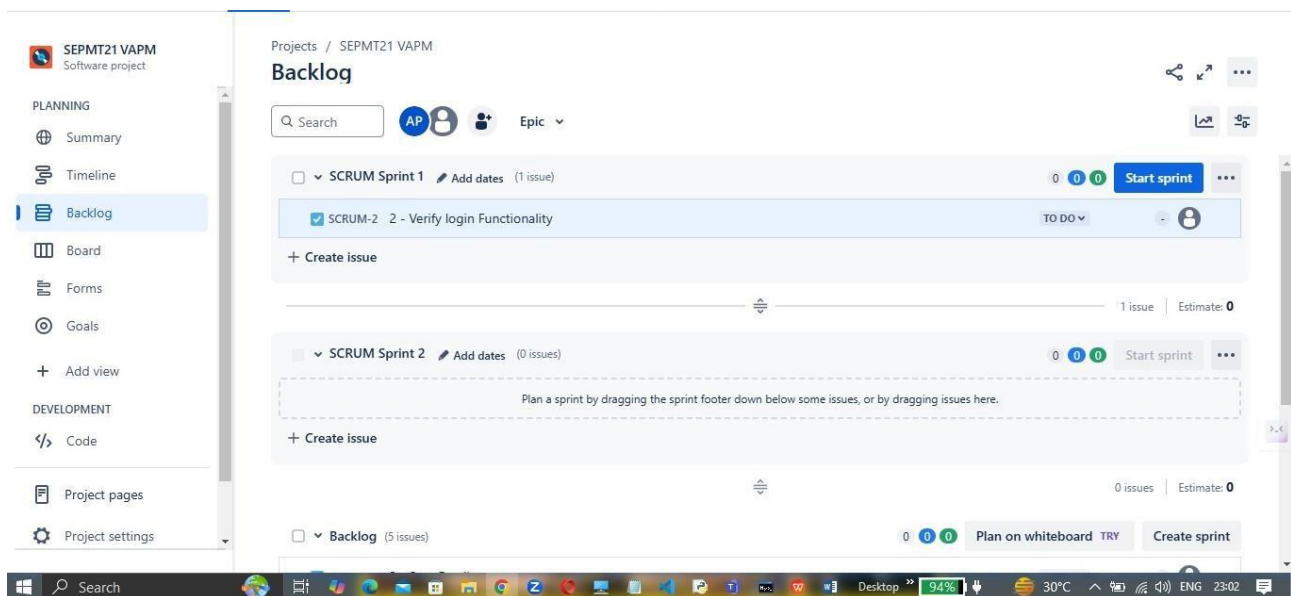
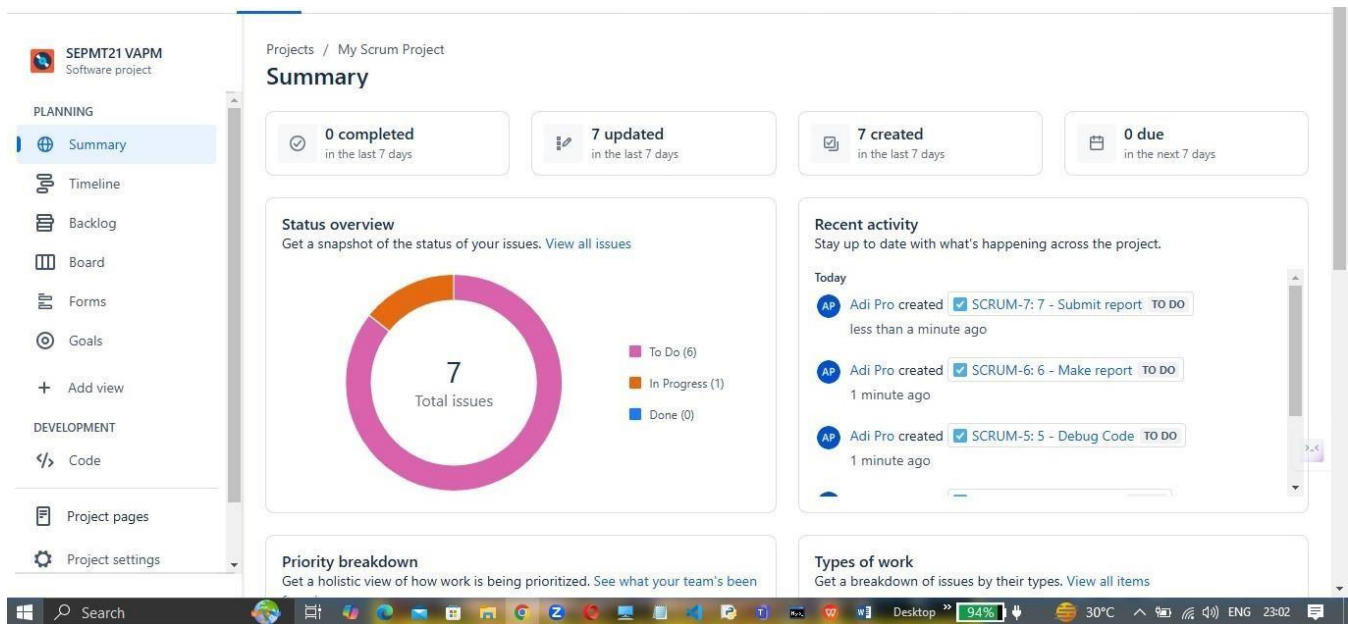




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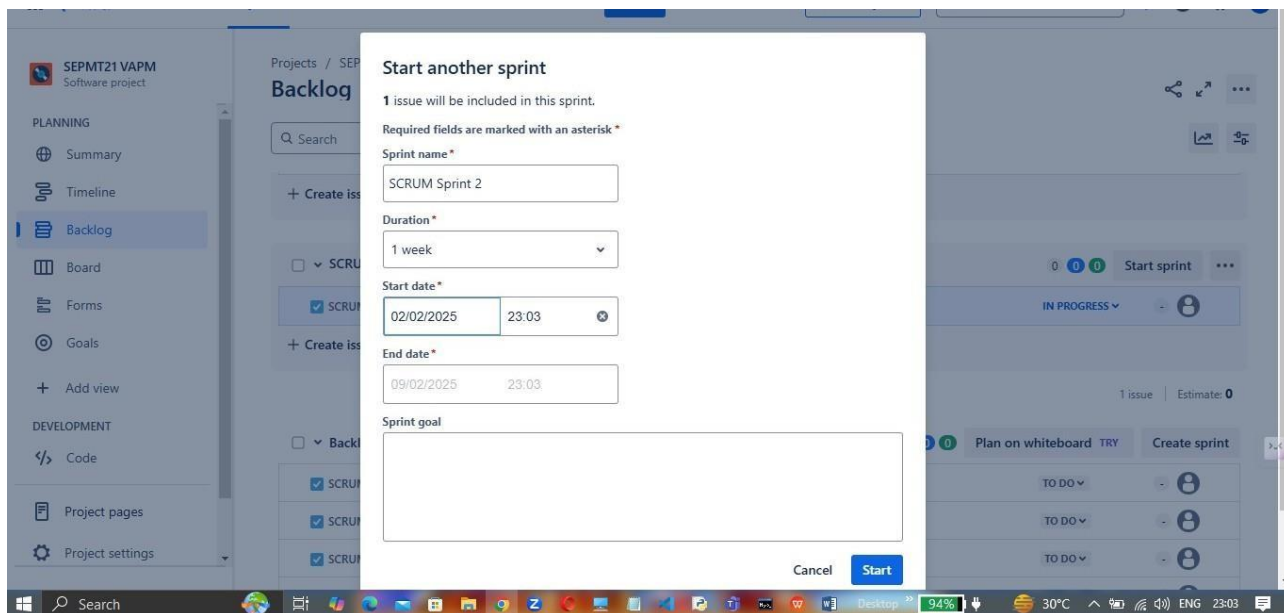
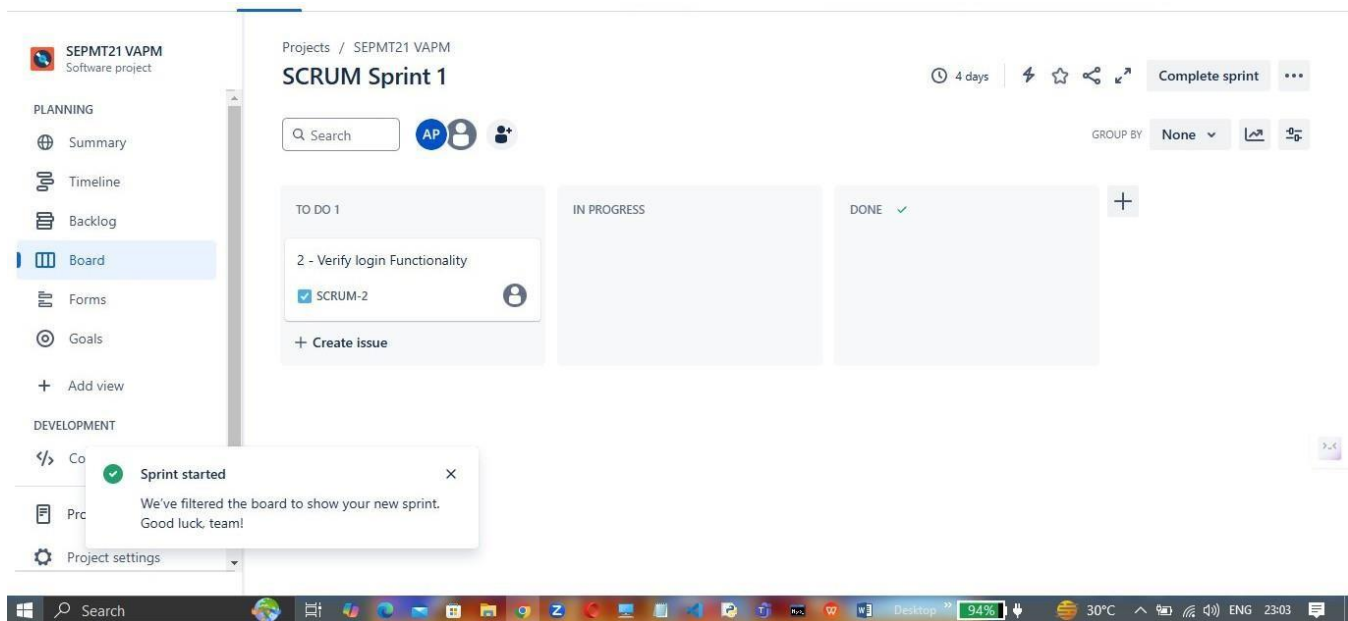
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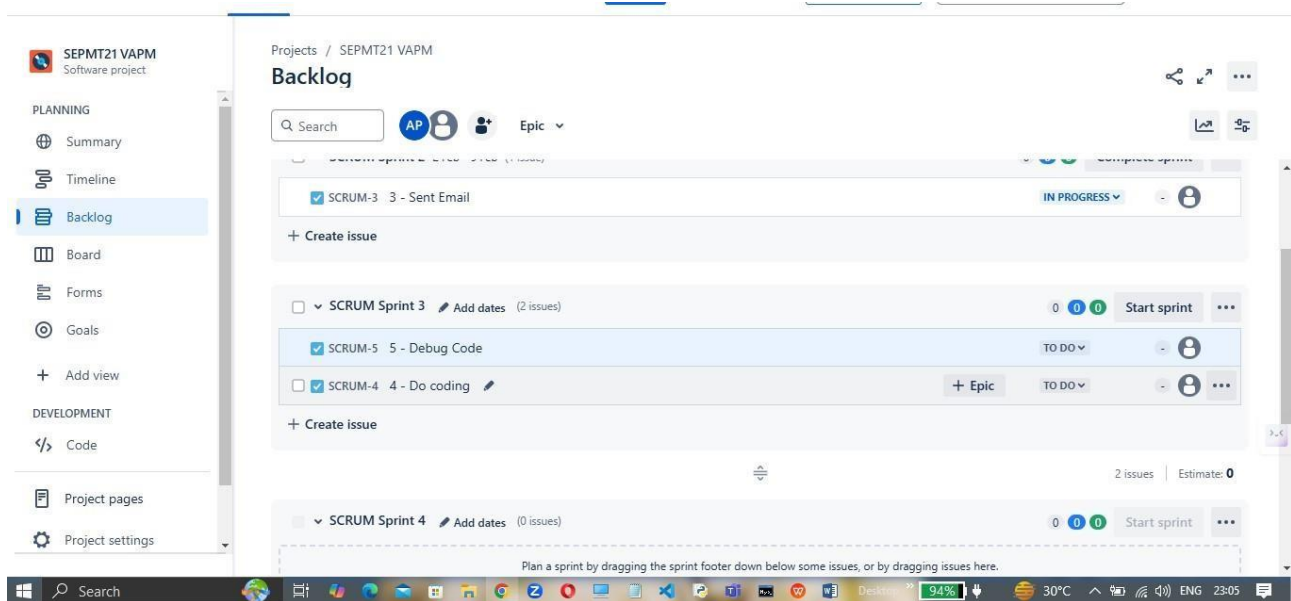
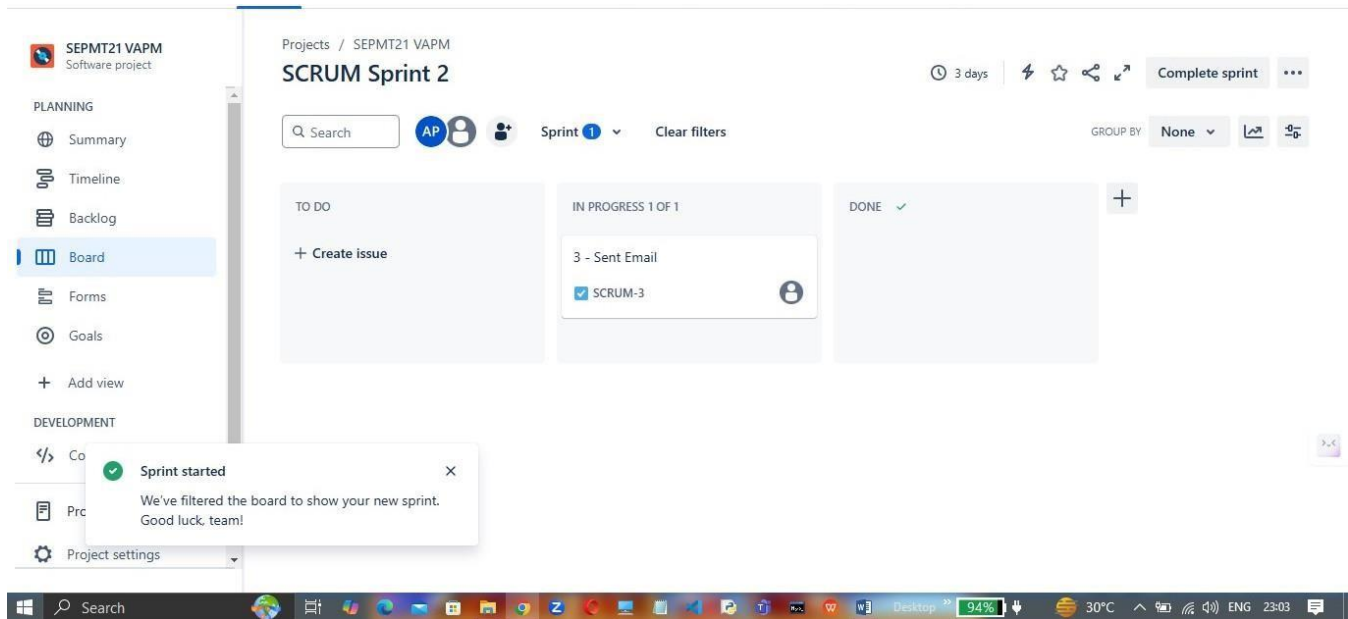




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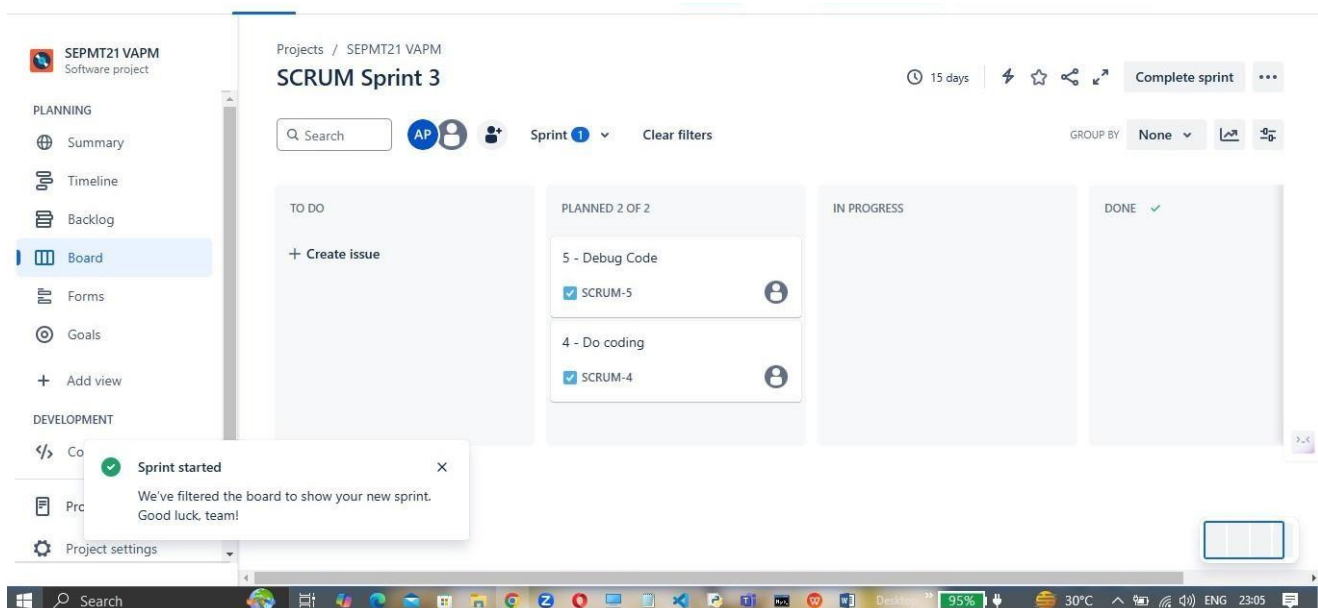
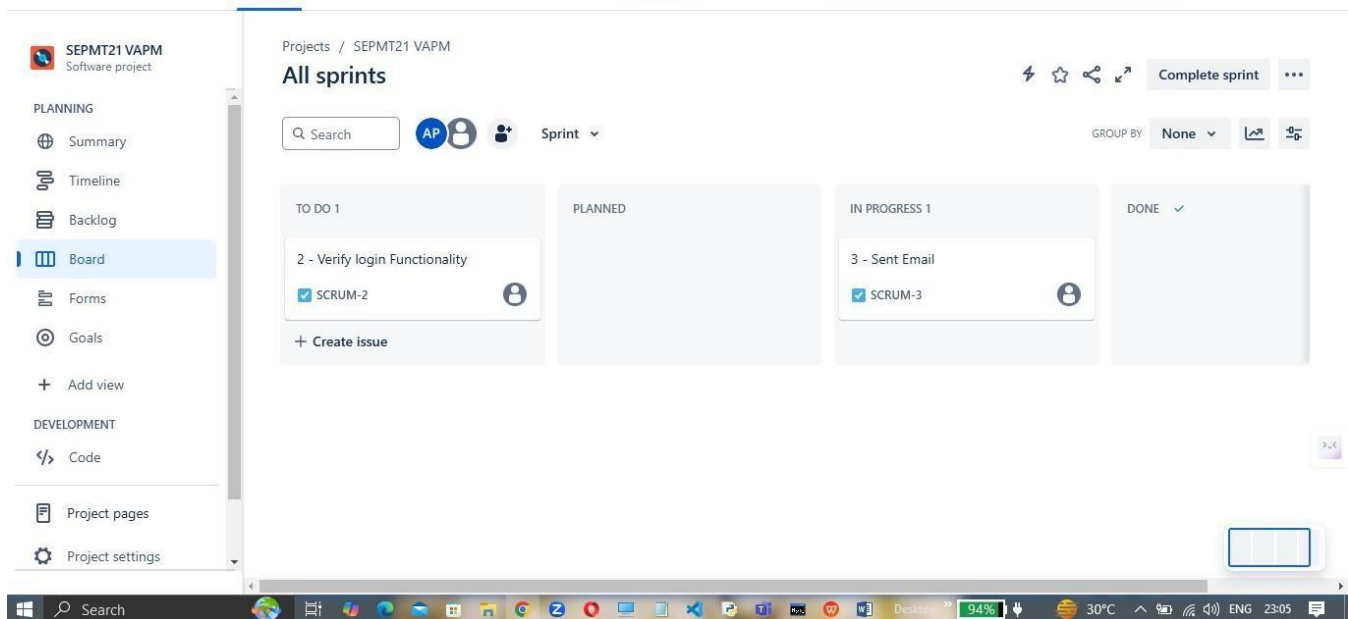
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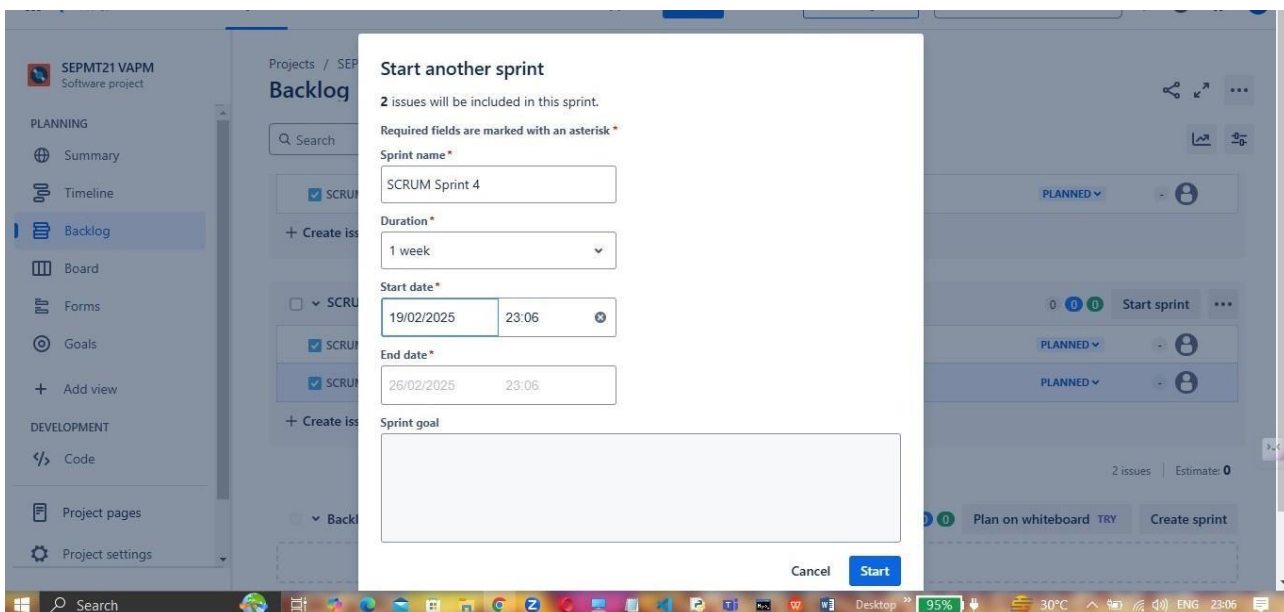
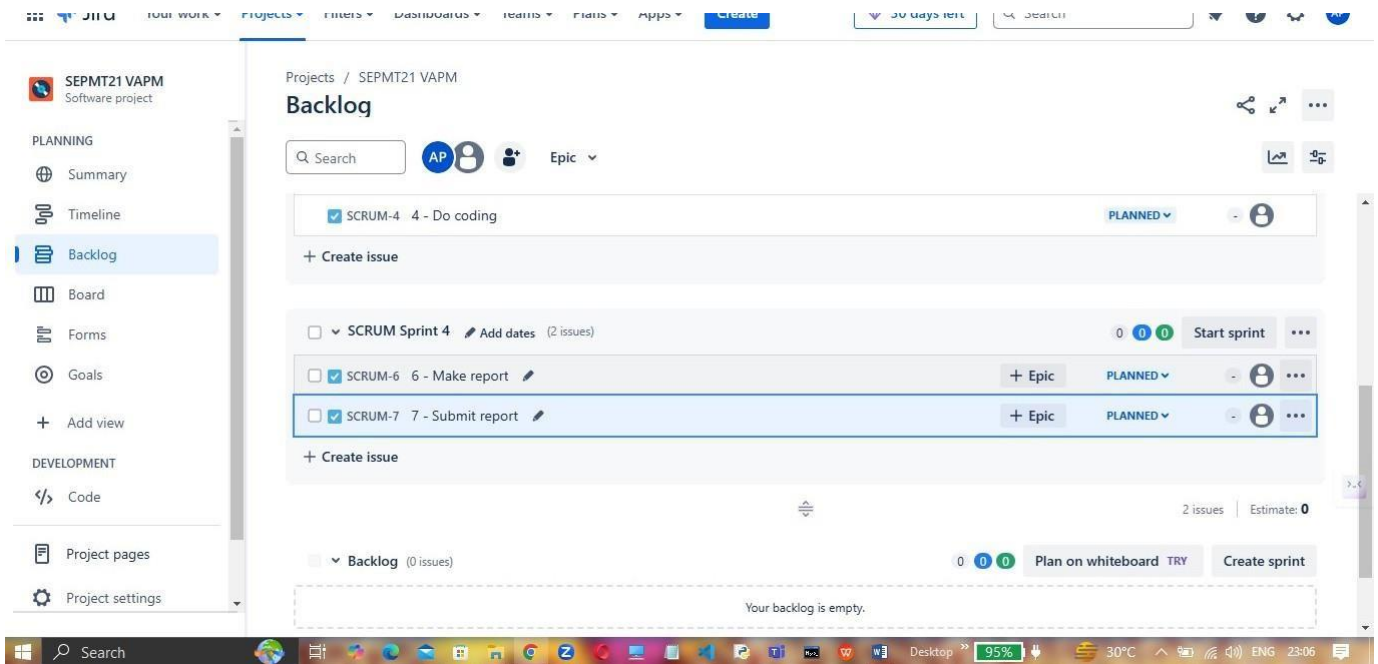
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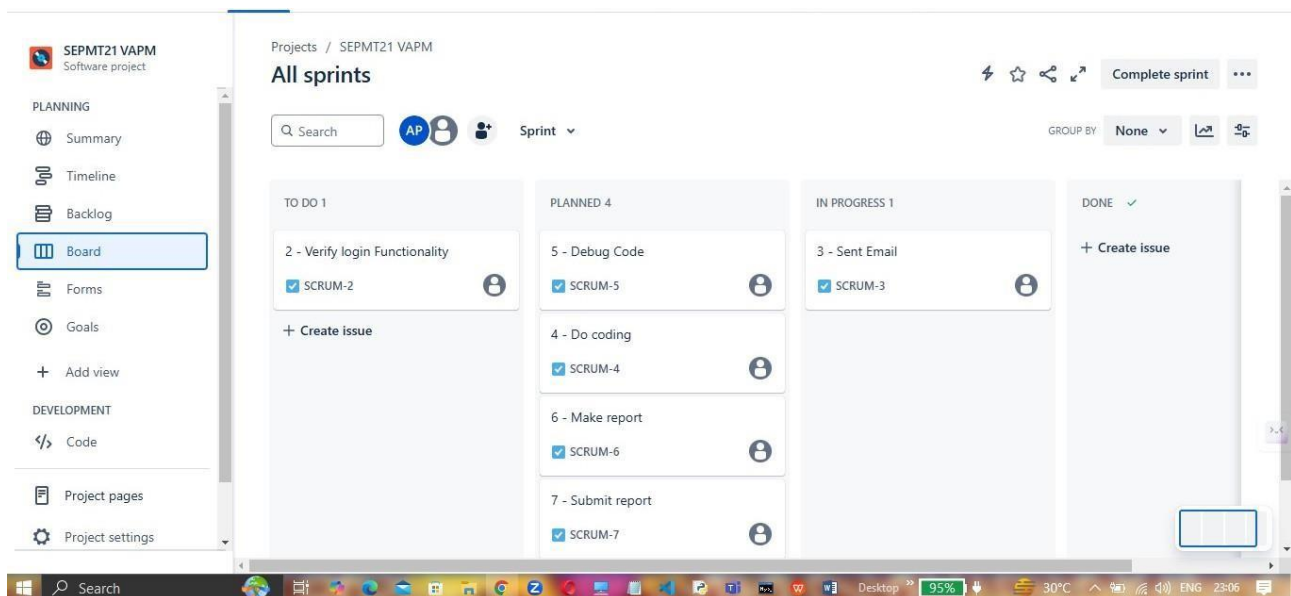
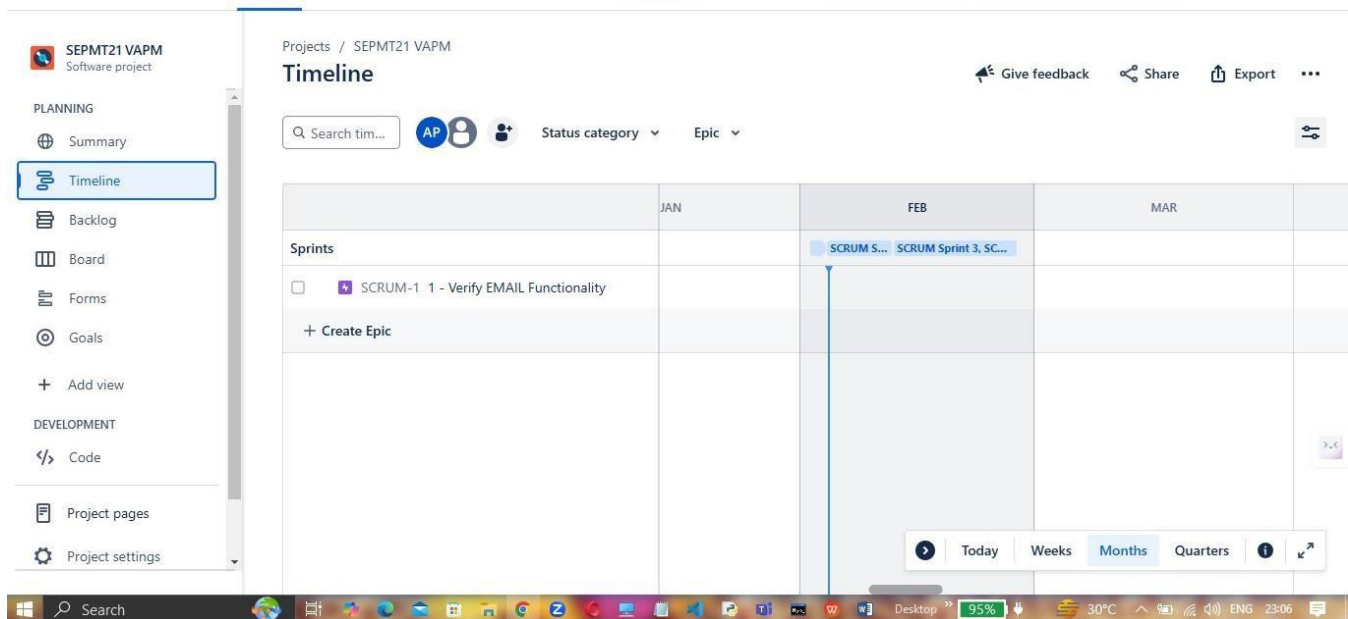
The screenshot shows the JIRA interface for a project named 'SEPMT21 VAPM'. The main view is 'SCRUM Sprint 4'. The left sidebar contains navigation options: PLANNING (Summary, Timeline, Backlog, Board, Forms, Goals, Add view), DEVELOPMENT (Code, Project pages, Project settings), and a search bar. The main content area displays the Scrum board with four columns: 'TO DO' (with a '+ Create issue' button), 'PLANNED 2 OF 4' (containing two issues: '6 - Make report' and '7 - Submit report', both with a 'SCRUM' label and a user icon), 'IN PROGRESS', and 'DONE' (with a checkmark). A notification bubble in the bottom left corner states 'Sprint started' and 'We've filtered the board to show your new sprint. Good luck, team!'. The top right corner shows '15 days' and a 'Complete sprint' button. The bottom of the image shows a Windows taskbar with various application icons and system status indicators.

The screenshot shows the 'Summary' page for 'My Scrum Project'. The left sidebar is similar to the previous image. The main content area features a 'Summary' section with four key metrics: '0 completed in the last 7 days', '7 updated in the last 7 days', '7 created in the last 7 days', and '0 due in the next 7 days'. Below this is a 'Status overview' section with a donut chart showing the distribution of 7 total issues: 1 To Do (orange), 4 Planned (green), 2 In Progress (pink), and 0 Done (blue). To the right of the chart is a 'Recent activity' section listing recent changes made by 'Adi Pro', such as changing the status of issues from 'To Do' to 'PLANNED'. At the bottom, there are sections for 'Priority breakdown' and 'Types of work'. The bottom of the image shows a Windows taskbar with various application icons and system status indicators.

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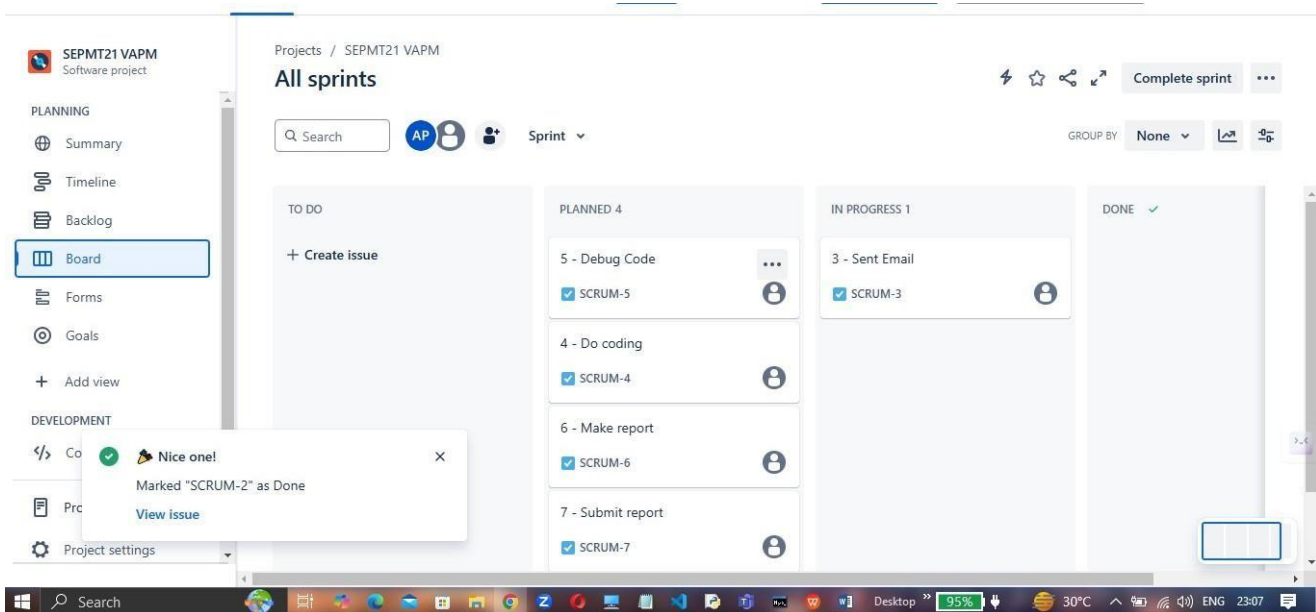
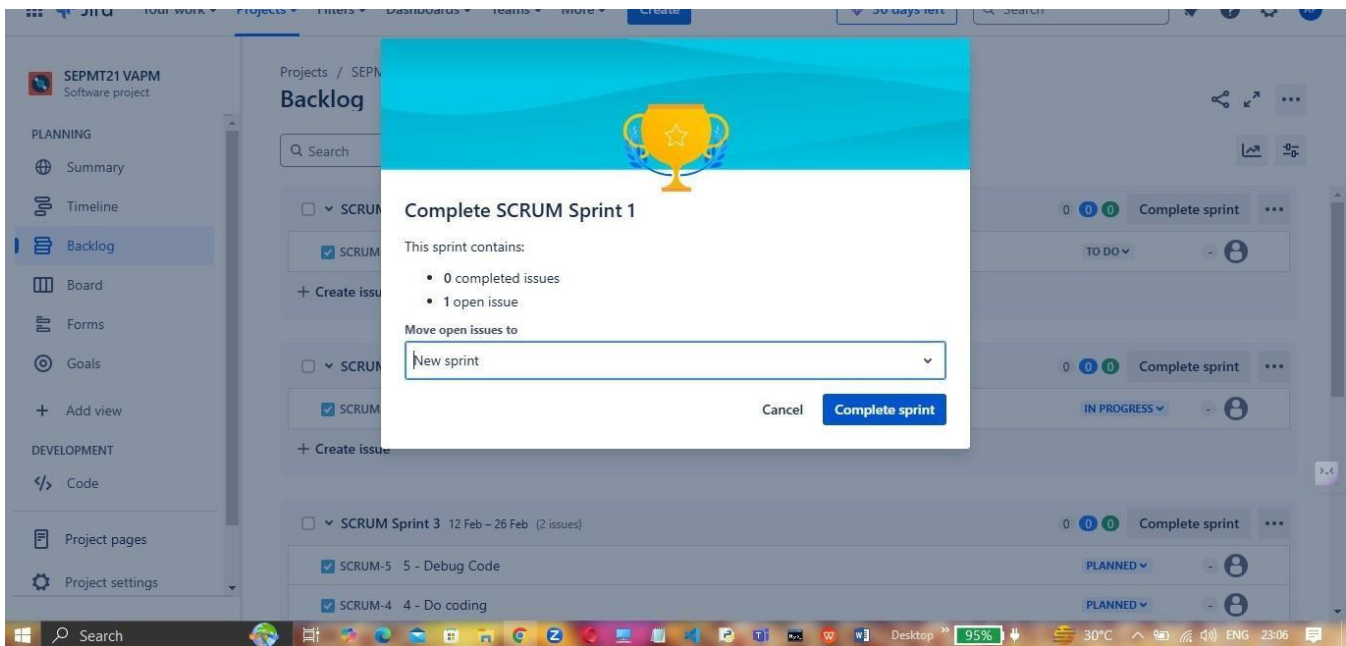
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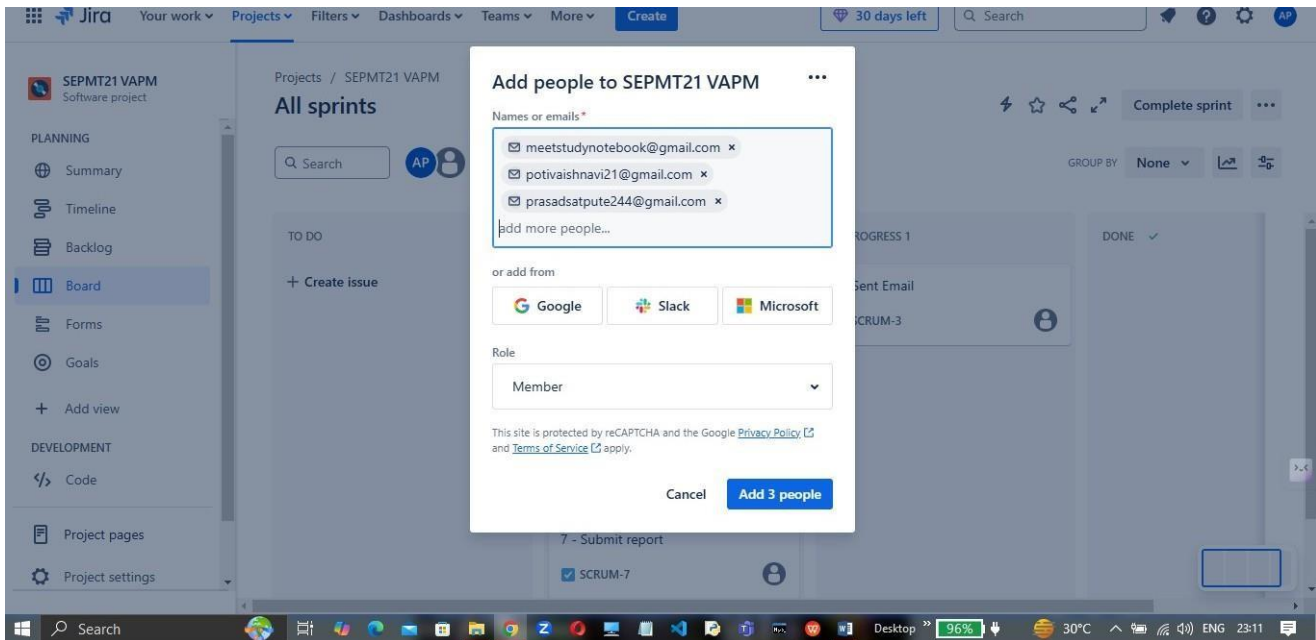




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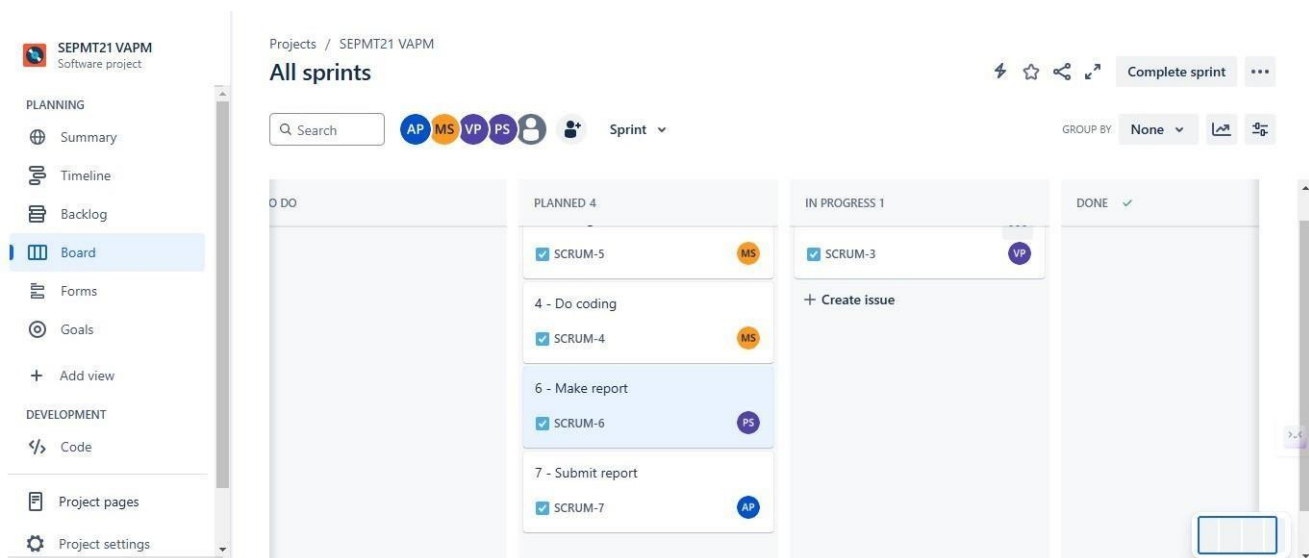
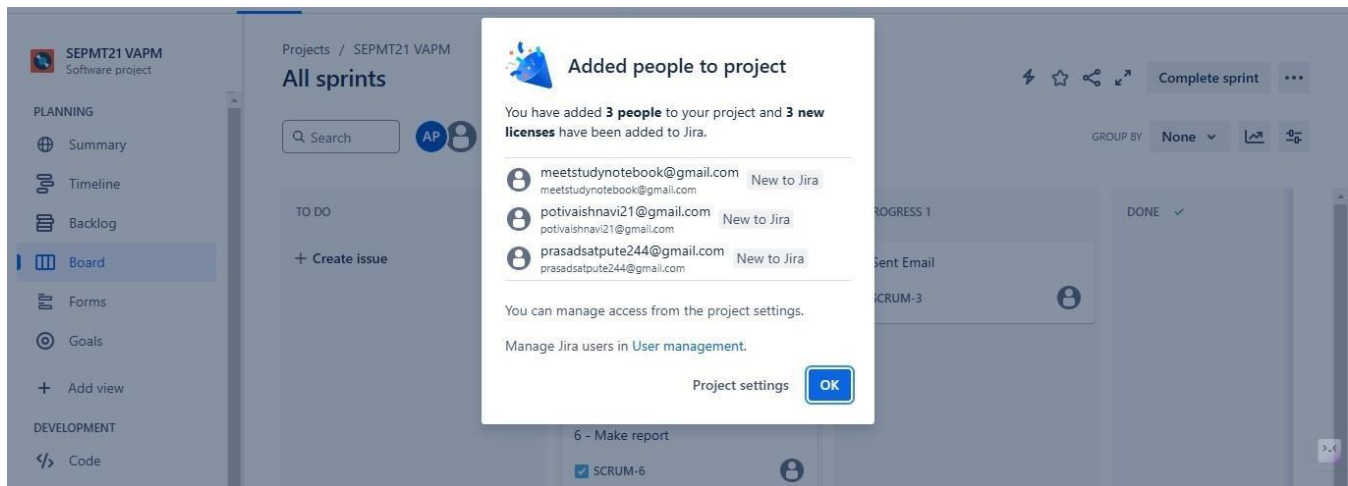
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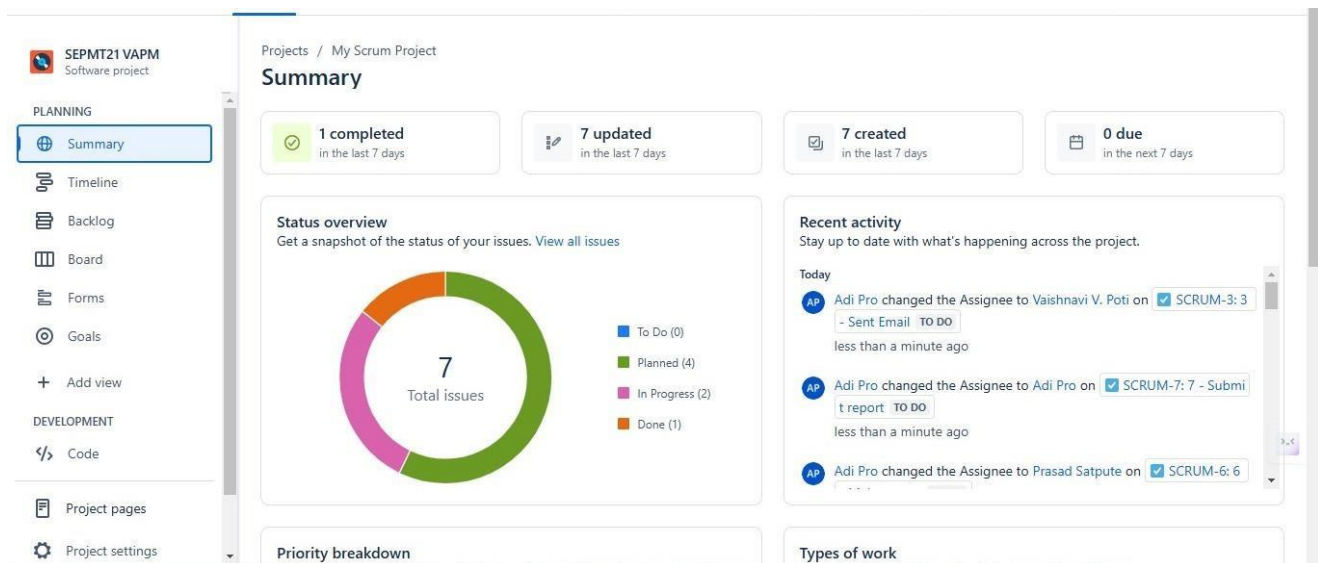
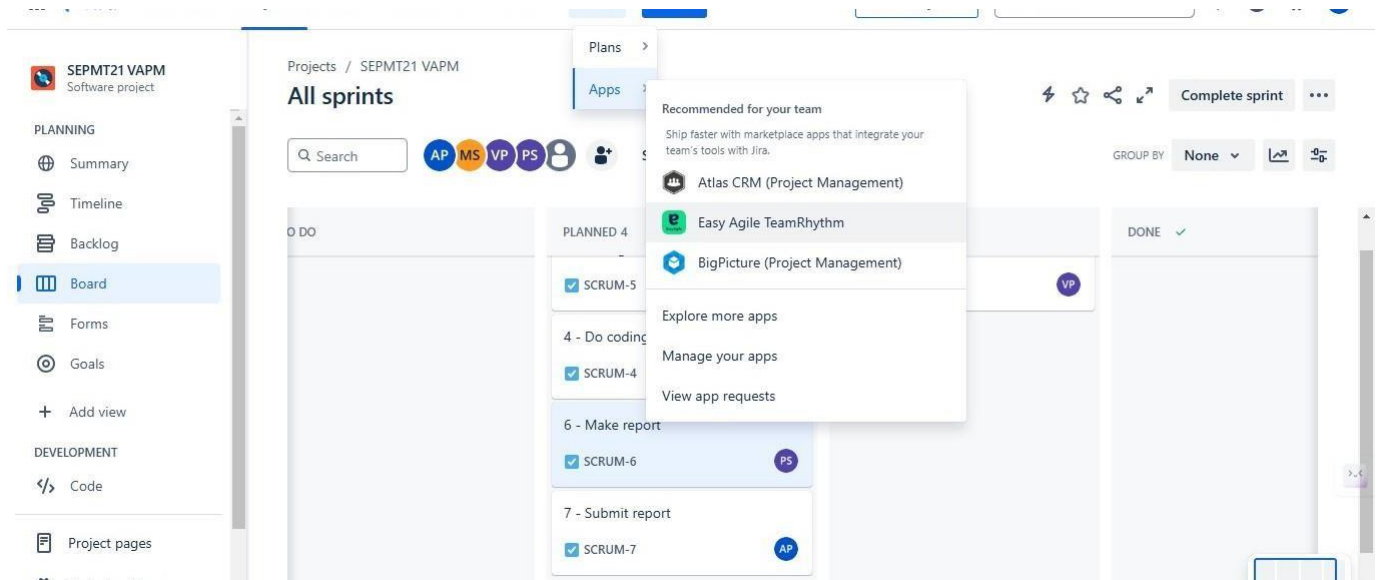
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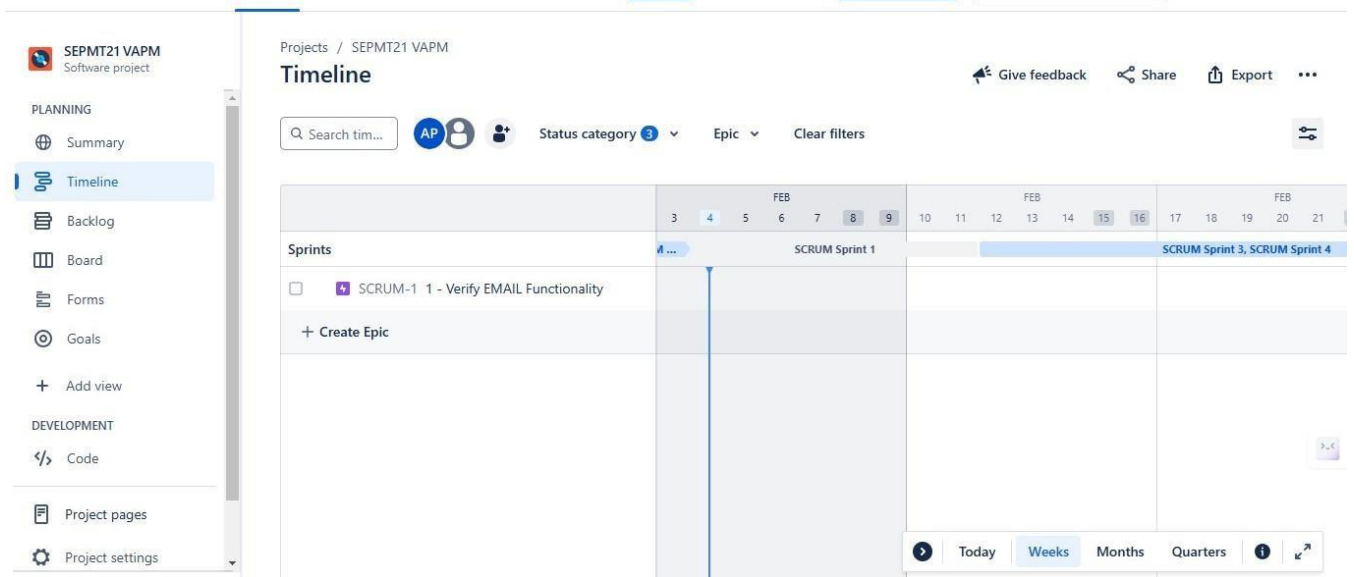
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SEPM DEMO

Plan

Summary

Timeline

Calendar

Program NEW

Teams

Releases

Dependencies

Plan settings

What are plans?

Plans / SEPM DEMO

Timeline

Give feedback

Unsaved changes

Filters

Basic view

Warnings

TIMELINE

LIST

View settings

Issue	Priority	Start date	Due date	Status	Progress (days)
1 SCRUM-1 1 - Verify EMAIL F...	Medium			IN PROGRESS	
Story - 6 issues					
SCRUM-2 2 - Verify login F...	Medium	04 Feb 2025	11 Mar 2025	DONE	
SCRUM-3 3 - Sent Email	Medium	02 Feb 2025	09 Feb 2025	IN PROGRESS	
SCRUM-5 5 - Debug Code	Medium	12 Feb 2025	26 Feb 2025	PLANNED	
SCRUM-4 4 - Do coding	Medium	12 Feb 2025	26 Feb 2025	PLANNED	
SCRUM-6 6 - Make report	Medium	19 Feb 2025	26 Feb 2025	PLANNED	
SCRUM-7 7 - Submit report	Medium	19 Feb 2025	26 Feb 2025	PLANNED	

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Issue	Priority	Start date	Due date	Status	Progress (days)
1 SCRUM-1 1 - Verify EMAIL F...	Medium			IN PROGRESS	
Story - 6 issues					
SCRUM-2 2 - Verify login F...	High	04 Feb 2025	11 Mar 2025	DONE	
SCRUM-3 3 - Sent Email	Medium	02 Feb 2025	09 Feb 2025	IN PROGRESS	
SCRUM-5 5 - Debug Code	High	12 Feb 2025	26 Feb 2025	PLANNED	
SCRUM-4 4 - Do coding	Highest	12 Feb 2025	26 Feb 2025	PLANNED	
SCRUM-6 6 - Make report	Medium	19 Feb 2025	26 Feb 2025	PLANNED	
SCRUM-7 7 - Submit report	Medium	19 Feb 2025	26 Feb 2025	PLANNED	

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Issue

+ Create issue

Fields

#	Priority	Start date	Due date	Status	Progress (days)	
Story – 6 issues						
<input type="checkbox"/> <input checked="" type="checkbox"/> SCRUM-2	2 - Verify login F...	High	S 04 Feb 2025	S 11 Mar 2025	DONE	<div></div>
<input type="checkbox"/> <input checked="" type="checkbox"/> SCRUM-3	3 - Sent Email	Medium	S 02 Feb 2025	S 09 Feb 2025	DONE	<div></div>
<input type="checkbox"/> <input checked="" type="checkbox"/> SCRUM-5	5 - Debug Code	High	S 12 Feb 2025	S 26 Feb 2025	IN PROGRESS	<div></div>
<input type="checkbox"/> <input checked="" type="checkbox"/> SCRUM-4	4 - Do coding	Highest	S 12 Feb 2025	S 26 Feb 2025	IN PROGRESS	<div></div>
<input type="checkbox"/> <input checked="" type="checkbox"/> SCRUM-6	6 - Make report	Medium	S 19 Feb 2025	S 26 Feb 2025	PLANNED	<div></div>
<input type="checkbox"/> <input checked="" type="checkbox"/> SCRUM-7	7 - Submit report	Medium	S 19 Feb 2025	S 26 Feb 2025	PLANNED	<div></div>

SEPM DEMO

Plan

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Timeline

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Plans / SEPM DEMO

Calendar

Give feedback

Unsaved changes 4

Search issues

Project

Type

Status

Assignee

More +

February 2025

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Today

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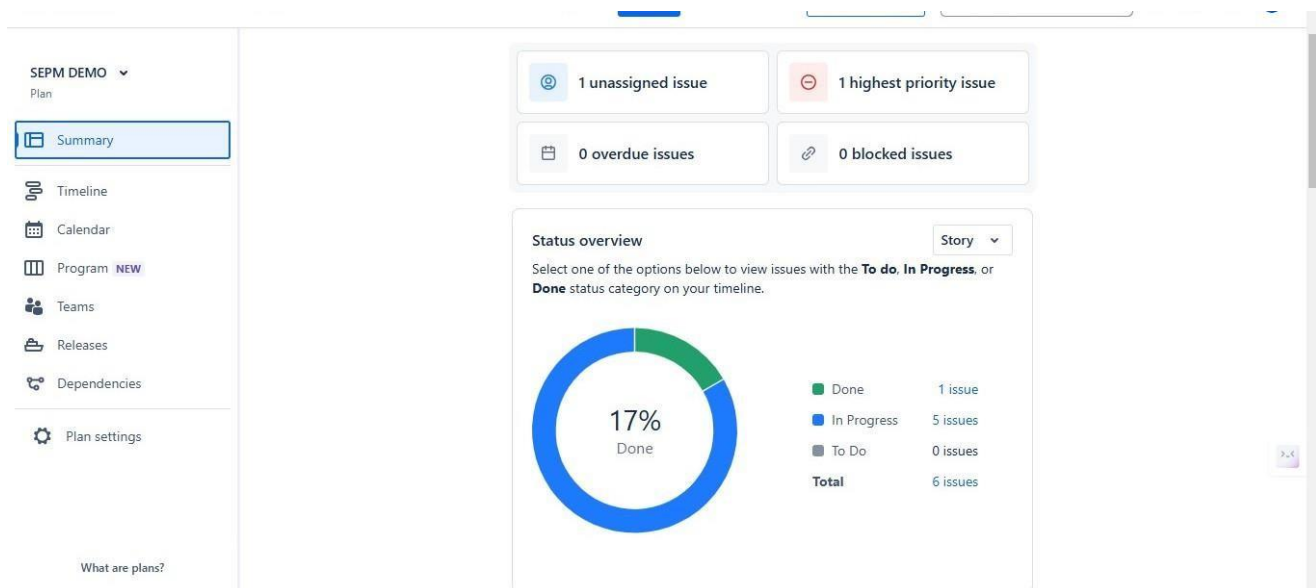
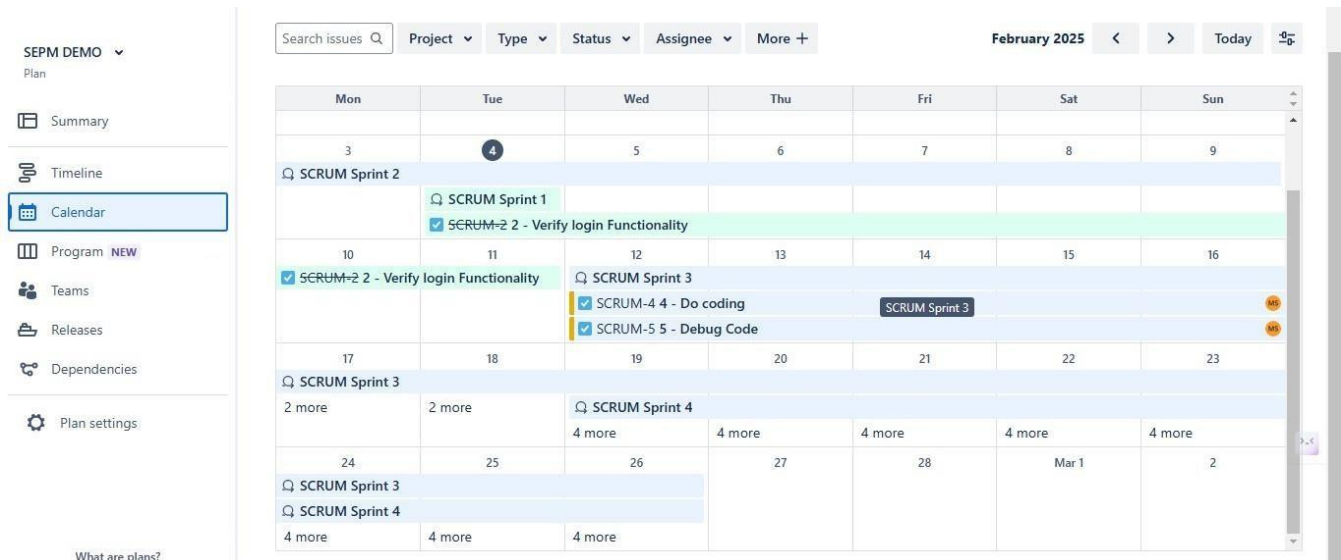
Mon	Tue	Wed	Thu	Fri	Sat	Sun
27	28	29	30	31	Feb 1	2
SCRUM Sprint 2						
3	4	5	6	7	8	9
SCRUM Sprint 1						
SCRUM-2 2 - Verify login Functionality						
10	11	12	13	14	15	16
SCRUM-2 2 - Verify login Functionality						
SCRUM Sprint 3						
SCRUM-4 4 - Do coding						
SCRUM-5 5 - Debug Code						
17	18	19	20	21	22	23
SCRUM Sprint 3						



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The screenshot displays the JIRA Scrum Board for the project 'SEPMT21 VAPM'. The interface includes a left sidebar with navigation options: PLANNING (Summary, Timeline, Backlog, Board, Forms, Goals, Add view), DEVELOPMENT (Code), and Project pages/Settings. The main area is titled 'All sprints' and features a search bar, filters for assignees (AP, MS, VP, PS), and a 'Sprint' dropdown. The board is organized into three columns: 'PLANNED 2', 'IN PROGRESS 2', and 'DONE 1'. Each column contains task cards with checkboxes and assignee avatars.

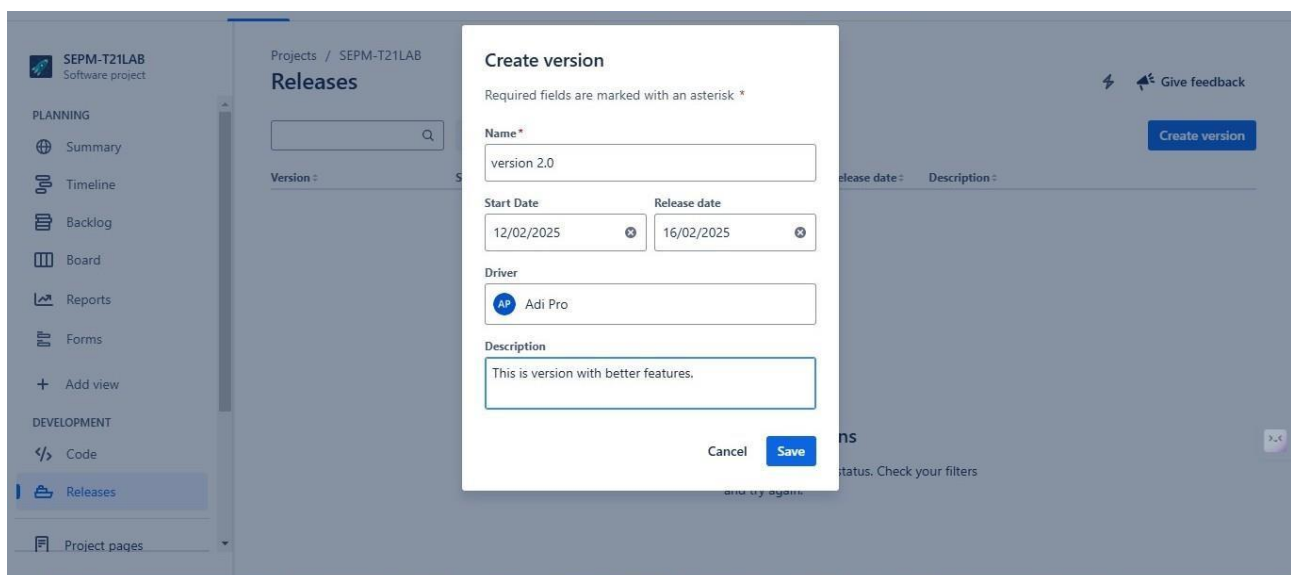
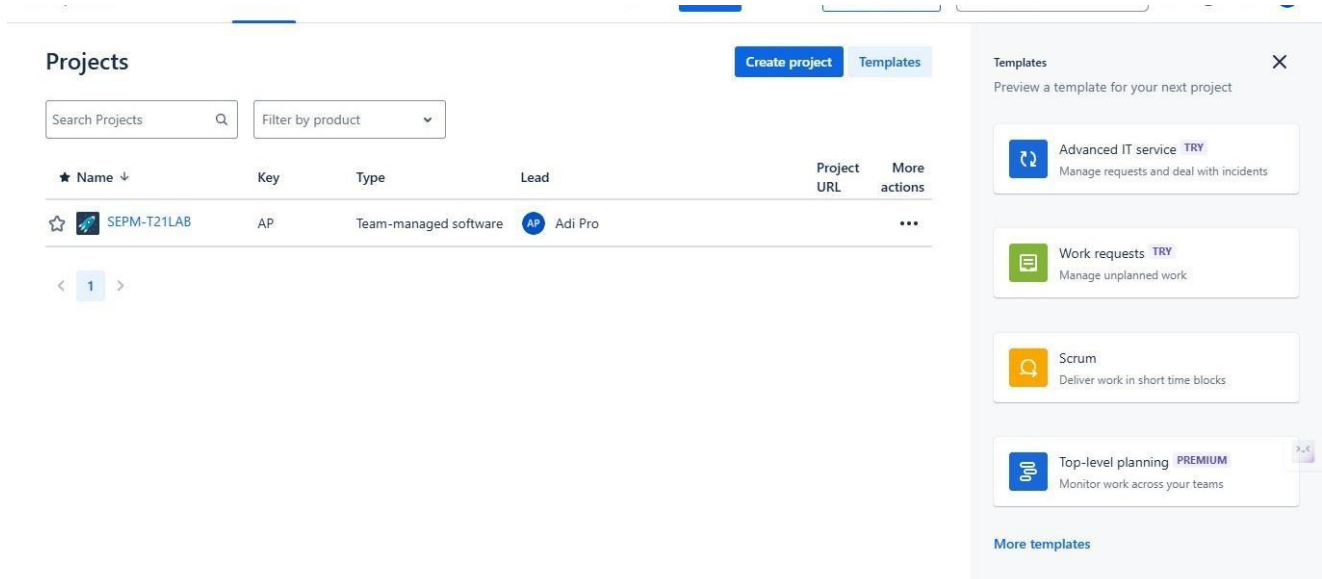
Column	Task	Assignee	Status
PLANNED 2	6 - Make report	PS	SCRUM-6
	7 - Submit report	AP	SCRUM-7
IN PROGRESS 2	5 - Debug Code	MS	SCRUM-5
	4 - Do coding	MS	SCRUM-4
DONE 1	3 - Sent Email	VP	SCRUM-3

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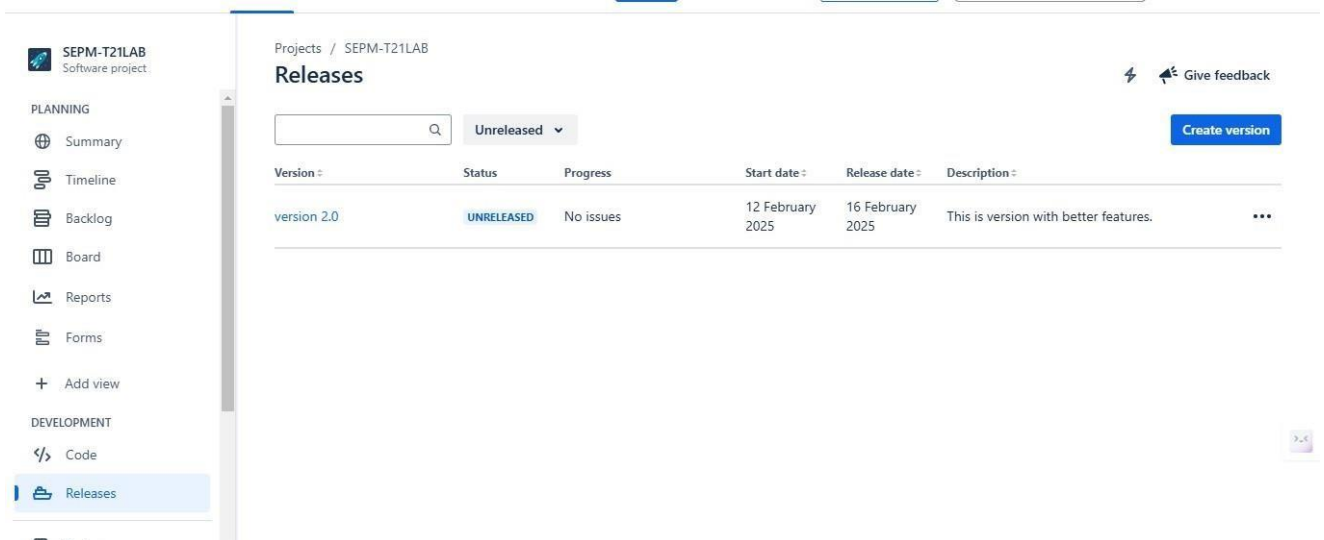
### 8) Version Creation



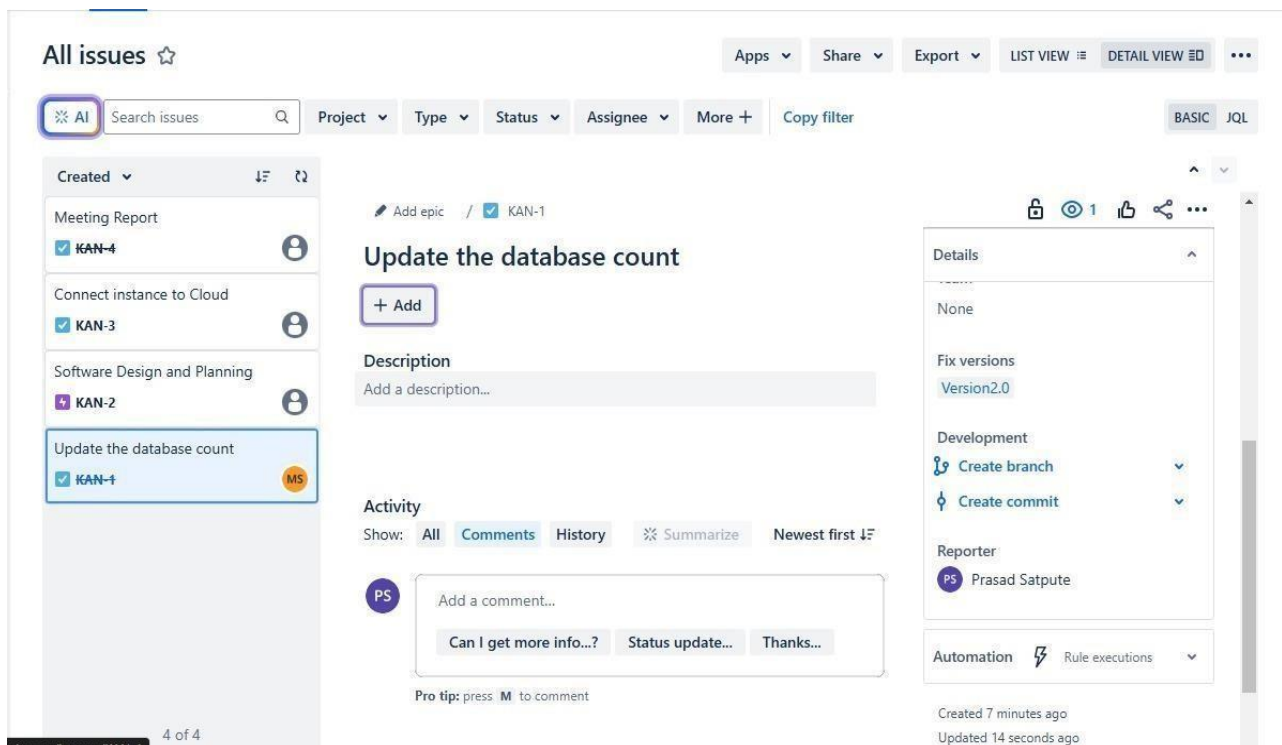
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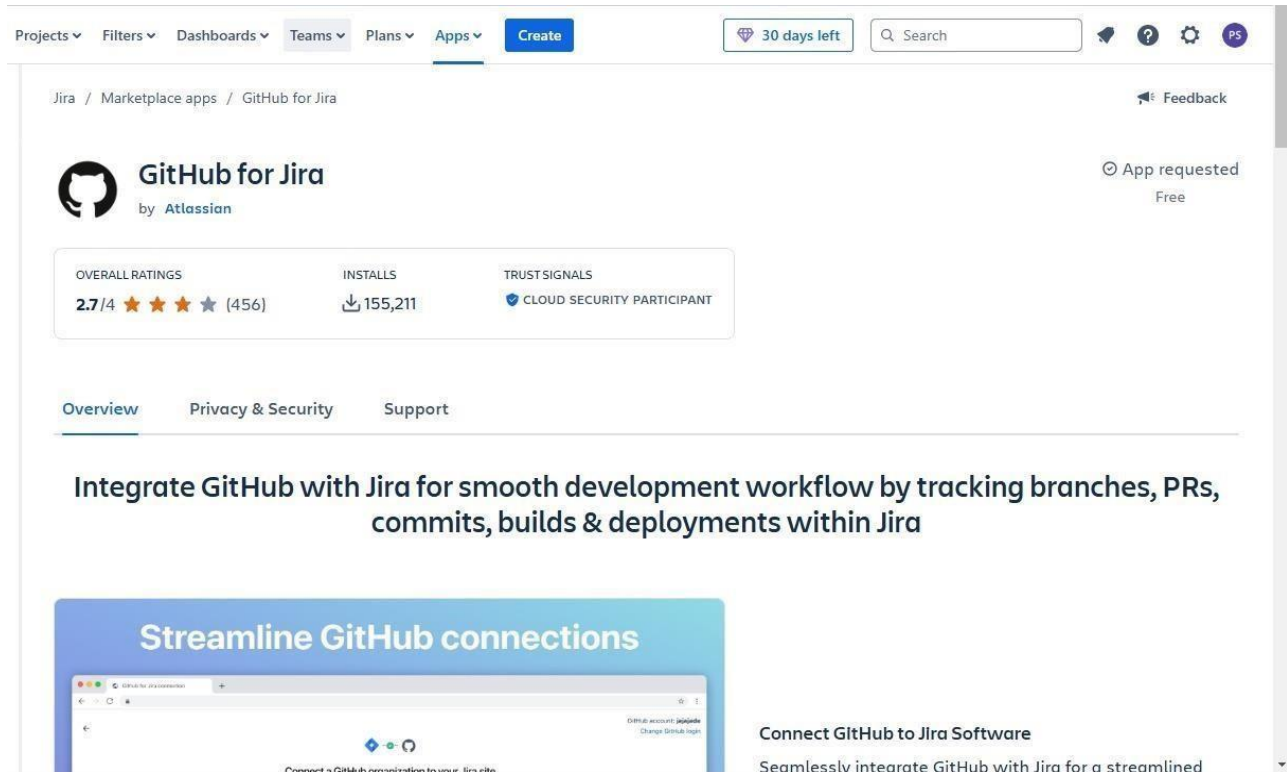
### 9) Creating Issues for new Version



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10) GitHub connection



**Conclusion:** Thus, we have successfully implemented Agile Methodology and Scrum using JIRA tool.