

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.

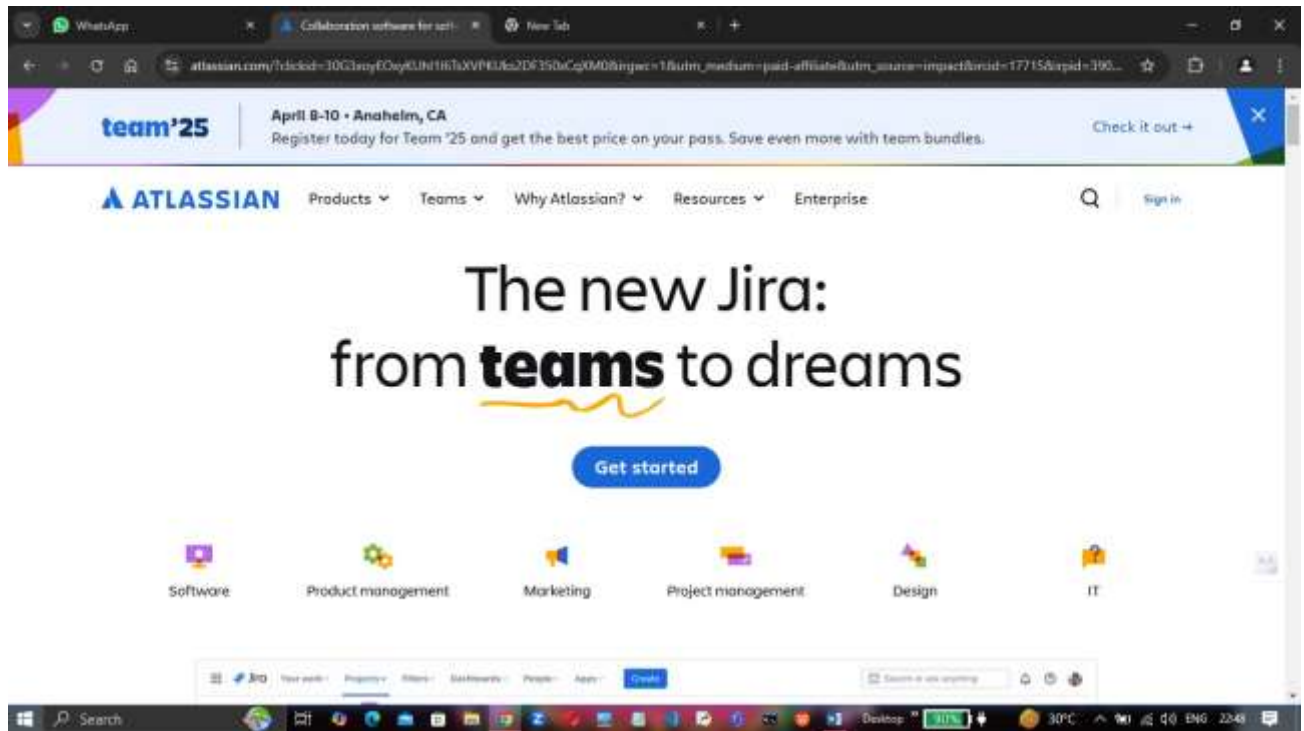
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Implementation:

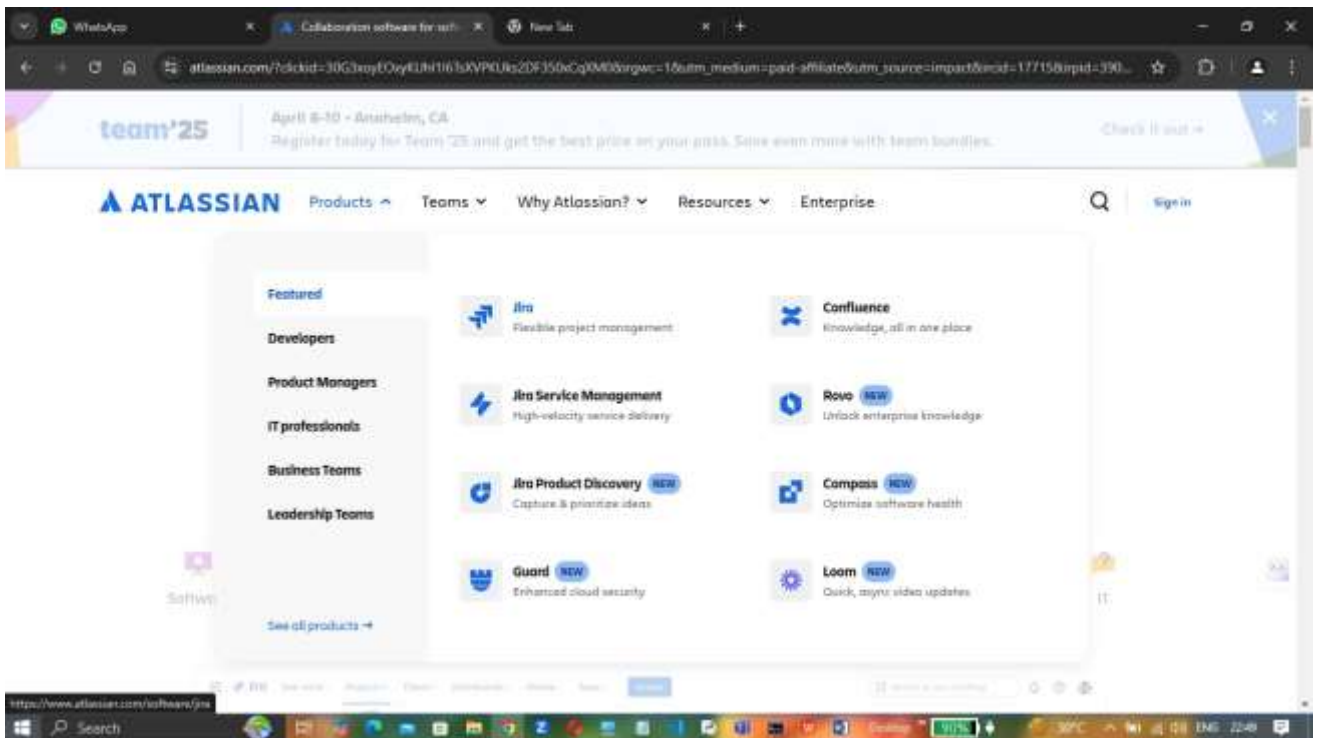
JIRA Account Creation:

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

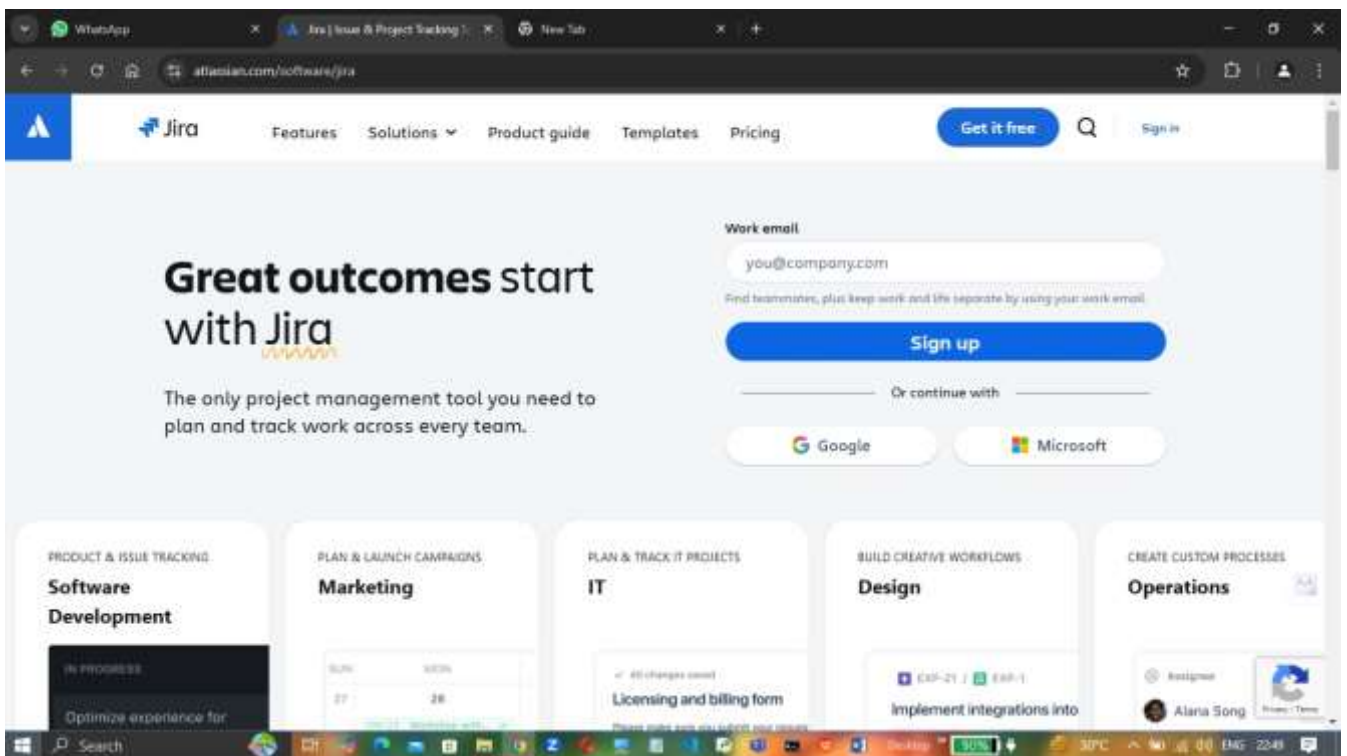


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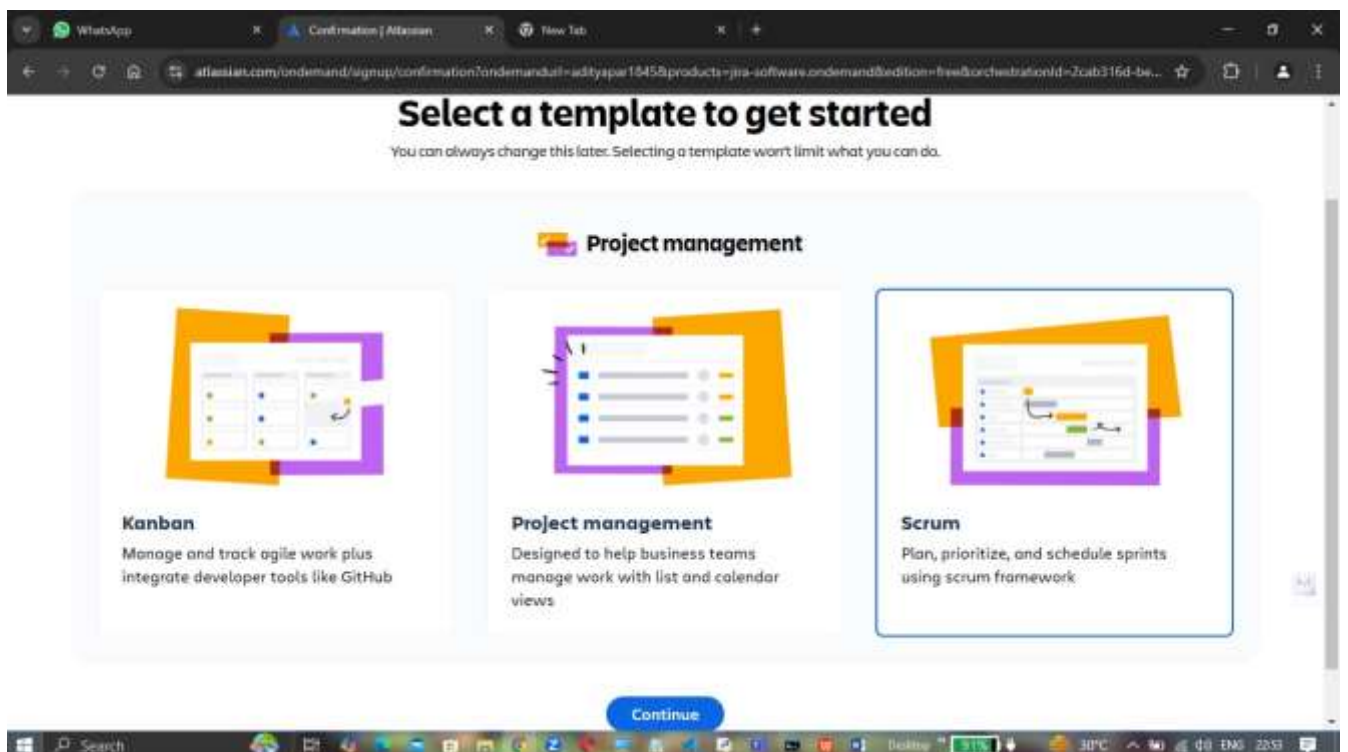
4) Select Continue with Google



5) Give a name to your site.

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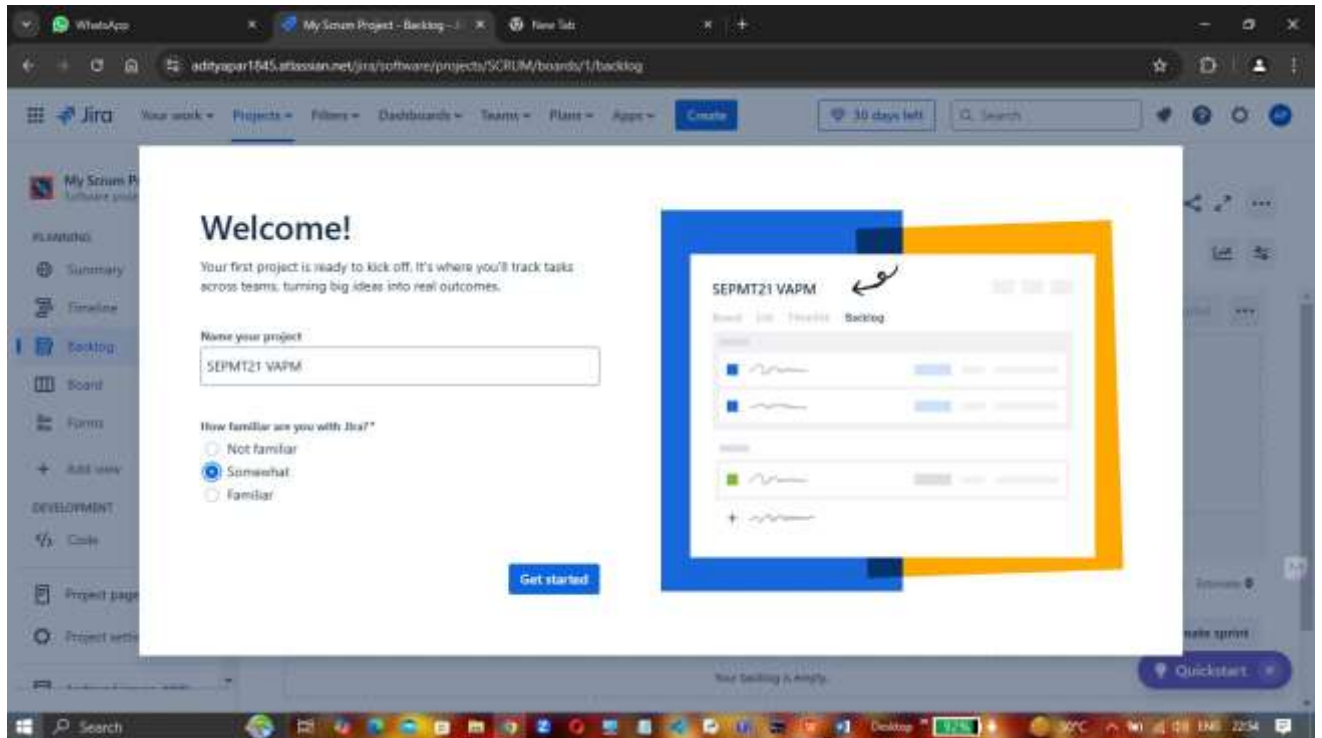
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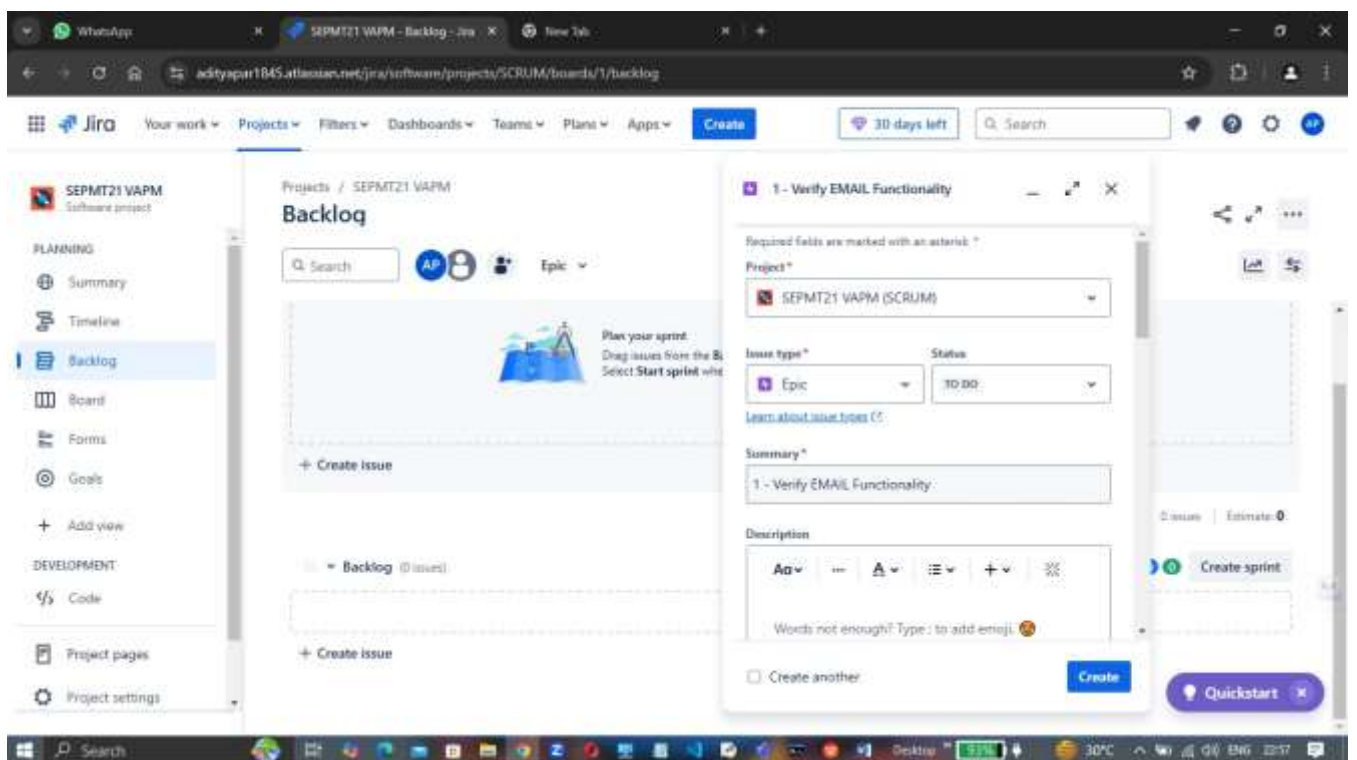
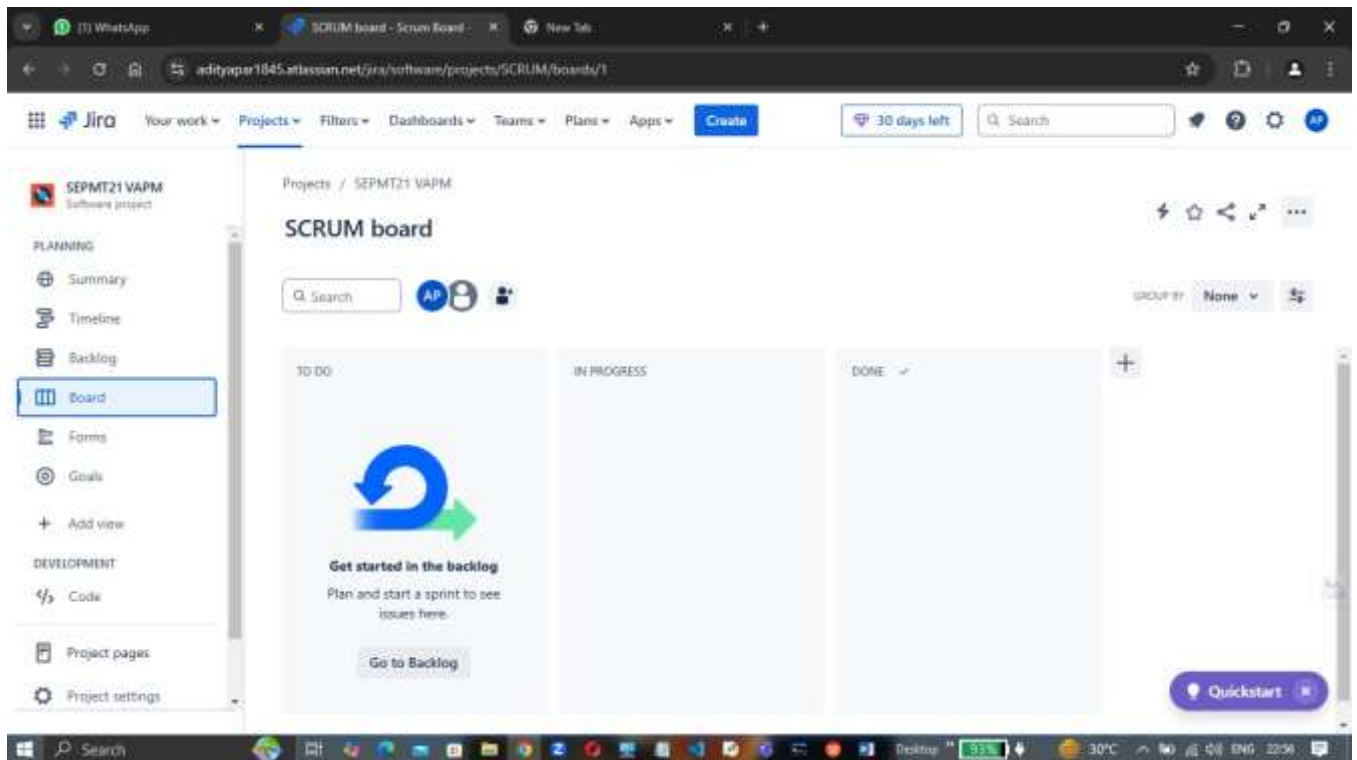
6) Add project details



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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The image displays two screenshots of the JIRA project summary page for 'My Scrum Project'. The top screenshot shows the initial state with 1 total issue (To Do: 1). The bottom screenshot shows the state after creating 6 more issues, resulting in 7 total issues (To Do: 6, In Progress: 1). A notification is visible in the bottom screenshot: 'You've created "SCRUM-5" issue'.

Top Screenshot Data:

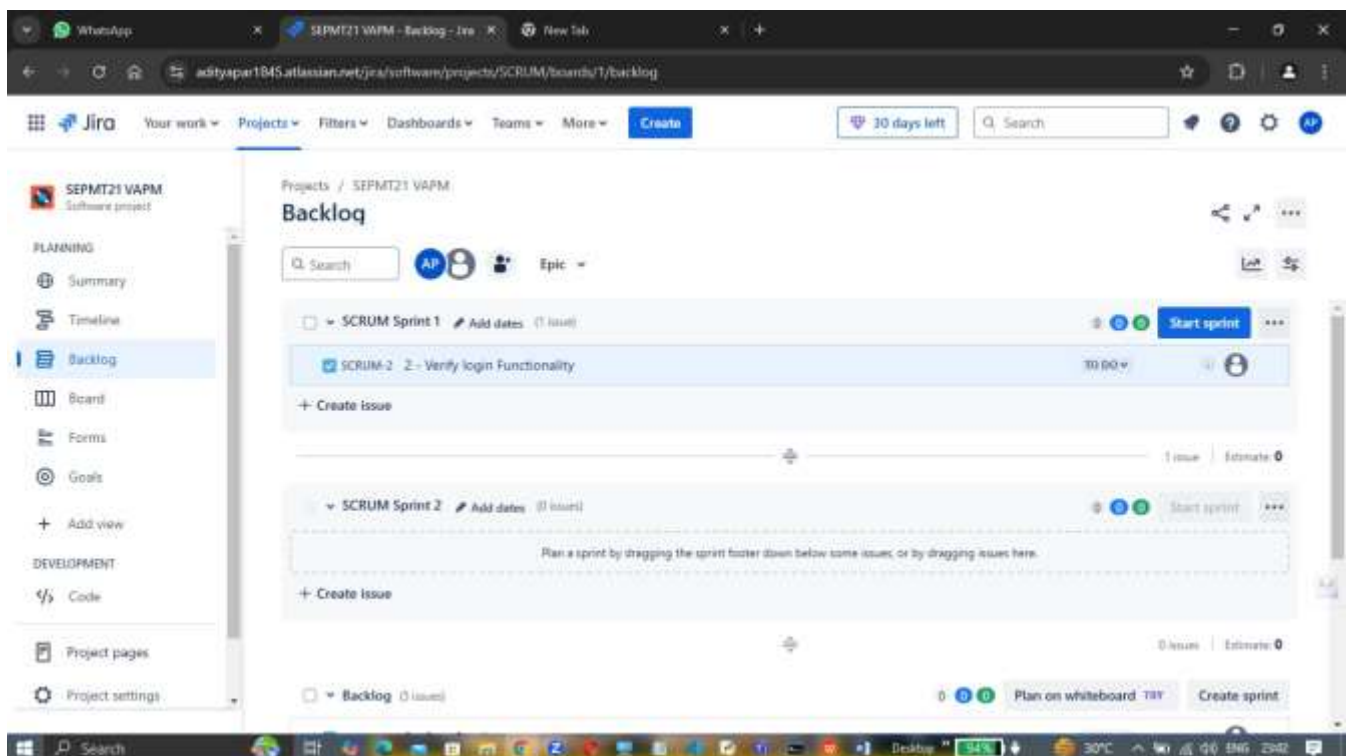
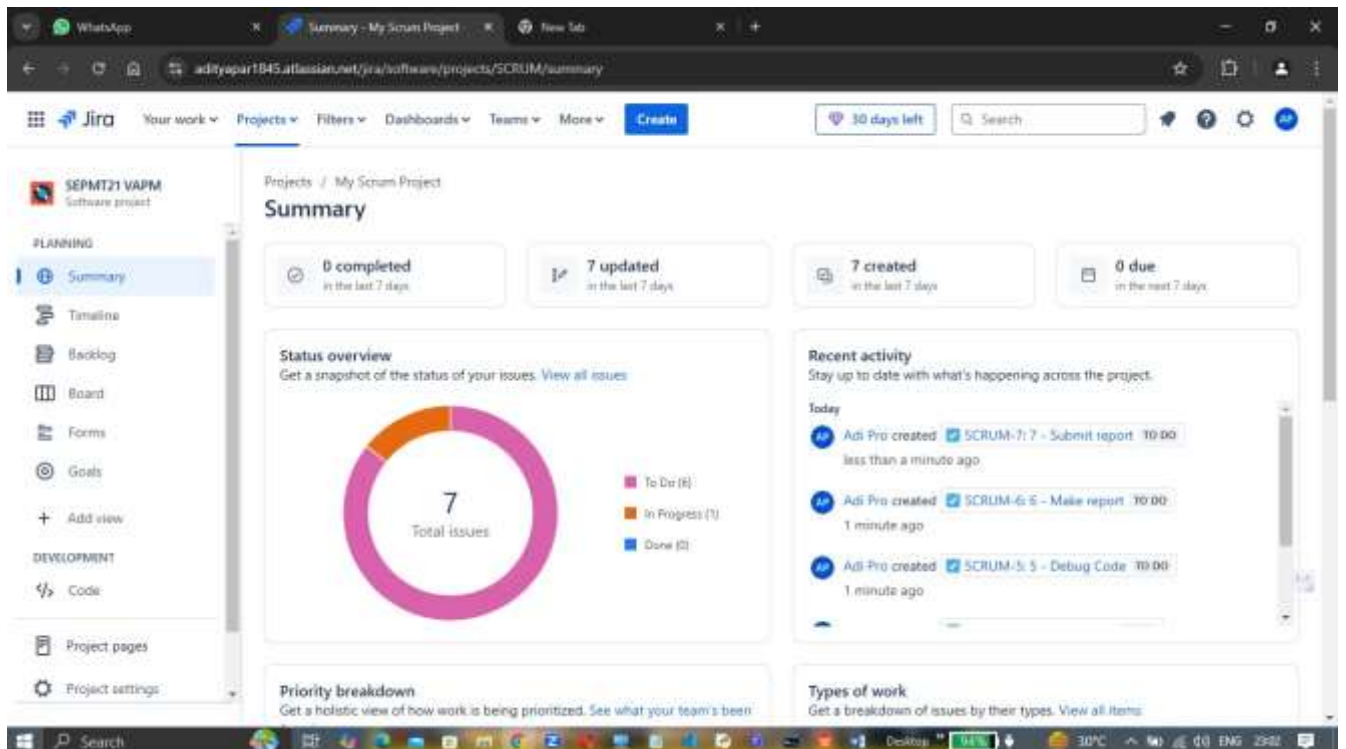
- 0 completed in the last 7 days
- 1 updated in the last 7 days
- 1 created in the last 7 days
- 0 due in the next 7 days
- Status overview: 1 Total issues (To Do: 1, In Progress: 0, Done: 0)
- Recent activity: Adi Pro created SCRUM-1: 1 - Verify EMAIL Functionality (10:00, 1 minute ago)

Bottom Screenshot Data:

- 0 completed in the last 7 days
- 7 updated in the last 7 days
- 7 created in the last 7 days
- 0 due in the next 7 days
- Status overview: 7 Total issues (To Do: 6, In Progress: 1, Done: 0)
- Recent activity: Adi Pro created SCRUM-7: 7 - Submit report (10:00, less than a minute ago), Adi Pro created SCRUM-6: 6 - Make report (10:00, 1 minute ago), Adi Pro created SCRUM-5: 5 - Debug Code (10:00, 1 minute ago)

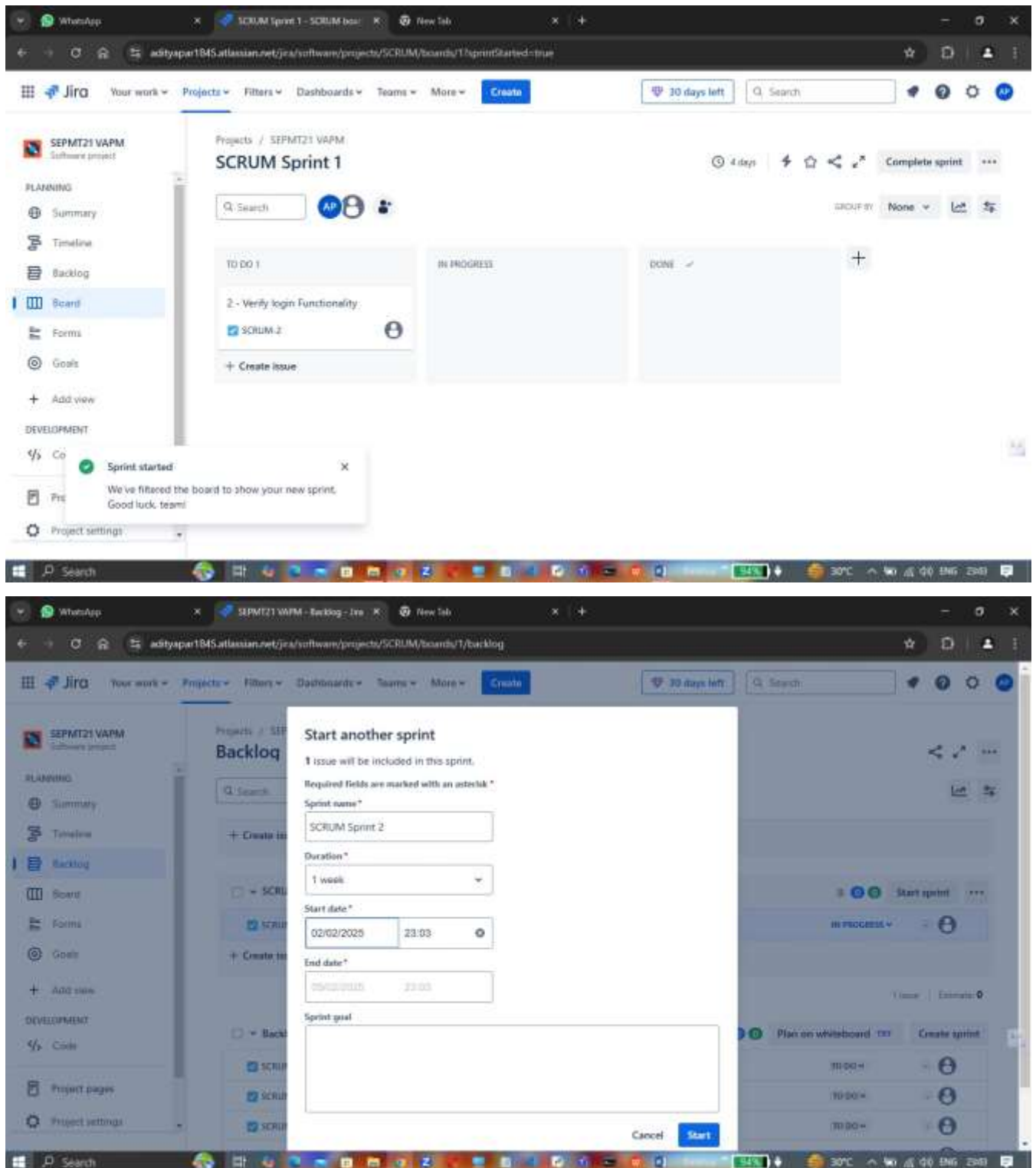
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The image displays two screenshots of the JIRA web interface, illustrating the setup and management of a Scrum project.

Top Screenshot: Scrum Sprint 2 Board

- The browser address bar shows the URL: `adityagar1845.atlassian.net/jira/software/projects/SCRUM/boards/1?sprintStarted=true&sprints=2`.
- The JIRA navigation bar includes "Your work", "Projects", "Filters", "Dashboards", "Teams", and "More". A "Create" button is visible.
- The left sidebar shows the project "SEPMT21 VAPM" with a "Software project" icon. The "Board" view is selected under the "PLANNING" section.
- The main content area displays the "SCRUM Sprint 2" board. It includes a search bar, a "Sprint 1" dropdown, and a "Clear filters" button. The board is divided into three columns: "TO DO", "IN PROGRESS 1 OF 1", and "DONE".
- The "IN PROGRESS" column contains one issue: "3 - Sent Email" with a sub-issue "SCRUM-3".
- A notification banner at the bottom of the board states: "Sprint started. We've filtered the board to show your new sprint. Good luck, team!"
- The Windows taskbar at the bottom shows the system clock as 30°C and 23:03.

Bottom Screenshot: Backlog View

- The browser address bar shows the URL: `adityagar1845.atlassian.net/jira/software/projects/SCRUM/boards/1/backlog`.
- The JIRA navigation bar is identical to the top screenshot.
- The left sidebar shows the "Backlog" view selected under the "PLANNING" section.
- The main content area displays the "Backlog" view. It includes a search bar, a "Epic" dropdown, and a "Create issue" button.
- The backlog items are listed in a table:

Issue	Status	Assignee
SCRUM-3 3 - Sent Email	IN PROGRESS	AP
SCRUM-5 5 - Debug Code	TO DO	AP
SCRUM-4 4 - Do coding	TO DO	AP

Below the backlog items, there are sections for "SCRUM Sprint 3" and "SCRUM Sprint 4", each with a "Start sprint" button. The "SCRUM Sprint 3" section shows "2 issues" and "Estimate 0".

The Windows taskbar at the bottom shows the system clock as 30°C and 23:03.

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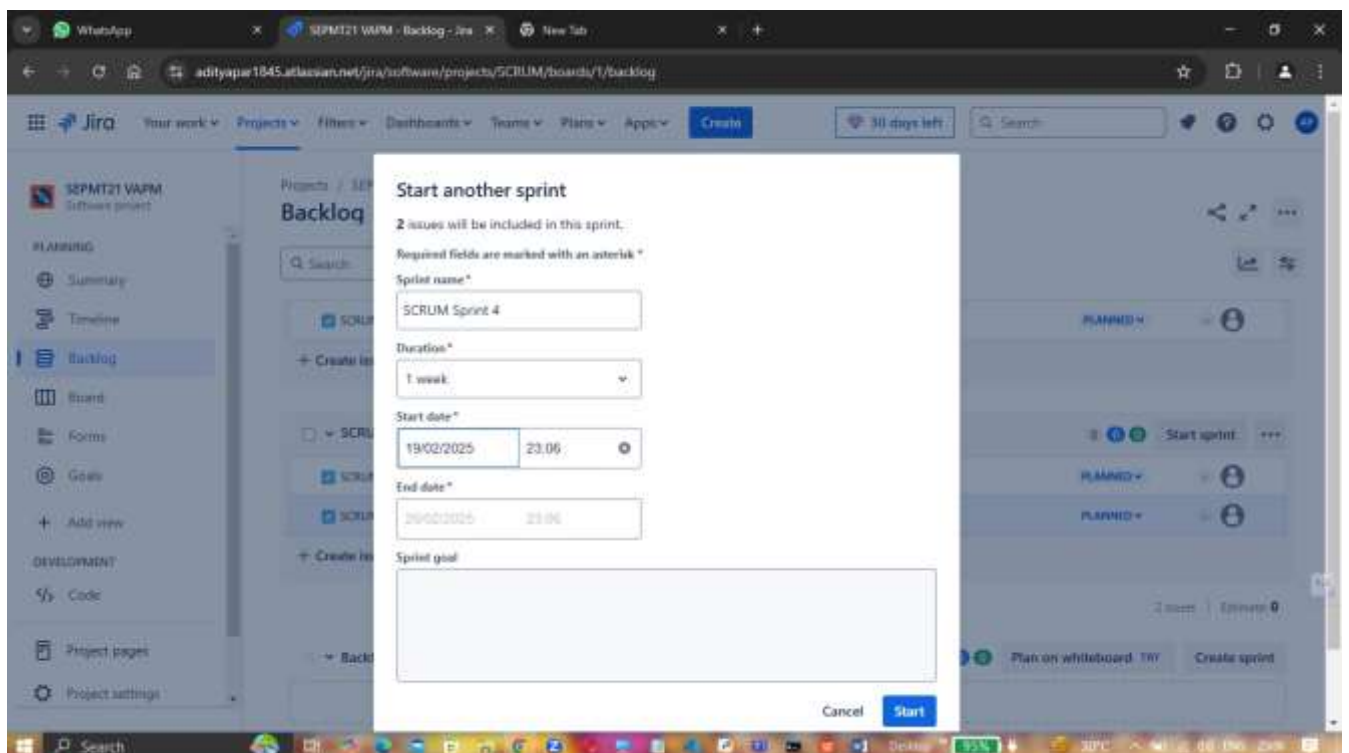
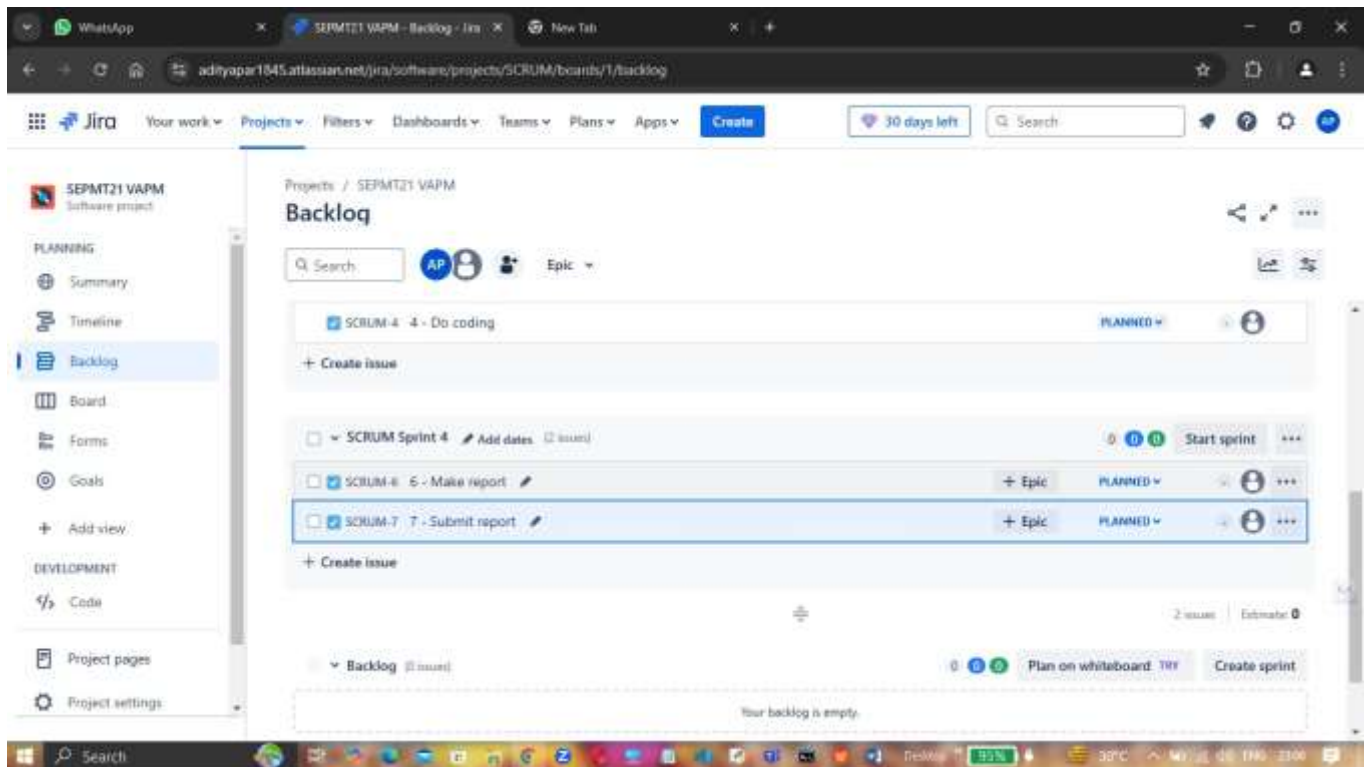
The image displays two screenshots of the JIRA web interface, specifically the Scrum board for the project 'SEPMT21 VAPM'.

Top Screenshot: All sprints
This view shows the 'All sprints' board. The left sidebar contains navigation options: PLANNING (Summary, Timeline, Backlog, Board, Forms, Goals, Add view), DEVELOPMENT (Code, Project pages, Project settings), and a 'Board' section. The main area displays four columns: 'TO DO 1' with one issue '2 - Verify login Functionality' (SCRUM-2), 'PLANNED', 'IN PROGRESS 1' with one issue '3 - Sent Email' (SCRUM-3), and 'DONE'. A search bar and a 'Create issue' button are visible in the 'TO DO' column.

Bottom Screenshot: SCRUM Sprint 3
This view shows the 'SCRUM Sprint 3' board. The left sidebar is identical to the top screenshot. The main area displays four columns: 'TO DO' with a '+ Create issue' button, 'PLANNED 2 OF 2' with two issues '5 - Debug Code' (SCRUM-5) and '4 - Do coding' (SCRUM-4), 'IN PROGRESS', and 'DONE'. A search bar and a 'Clear filters' button are visible in the 'TO DO' column. A notification pop-up in the bottom left corner states: 'Sprint started. We've filtered the board to show your new sprint. Good luck, team!'.

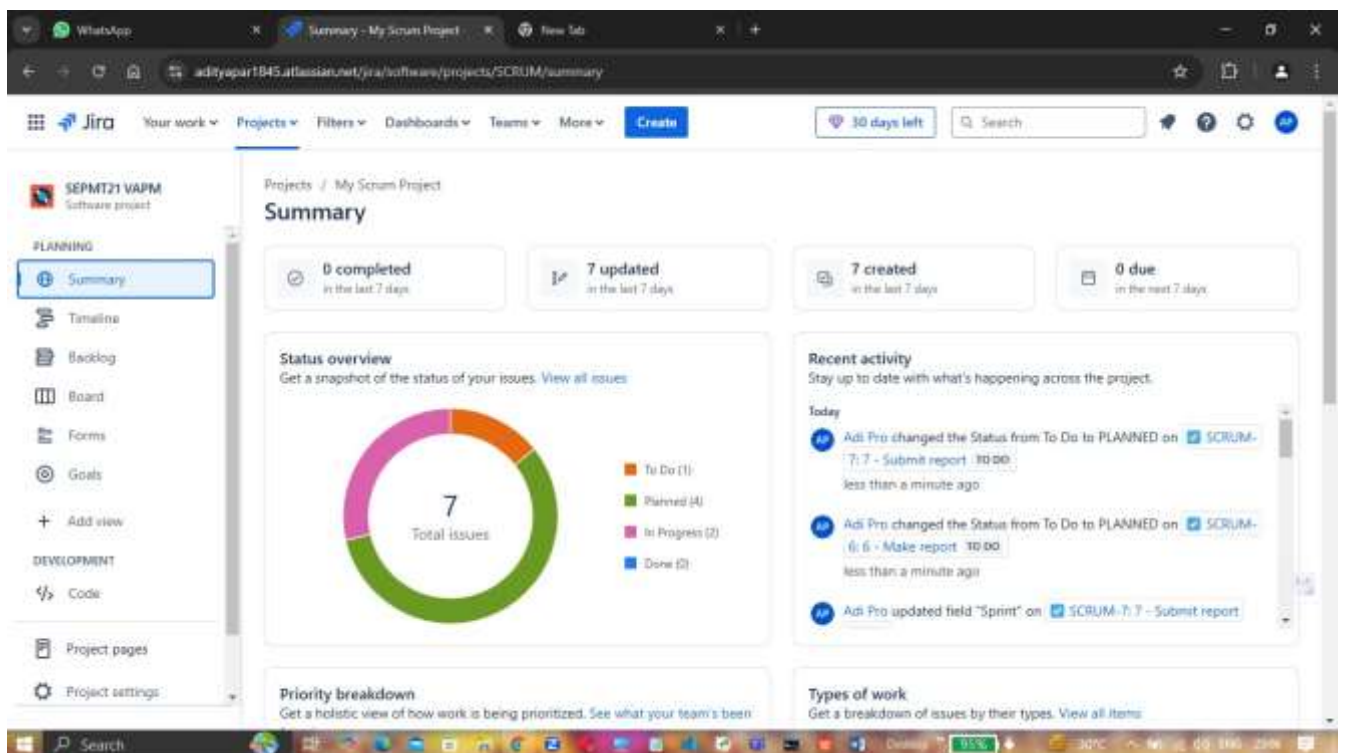
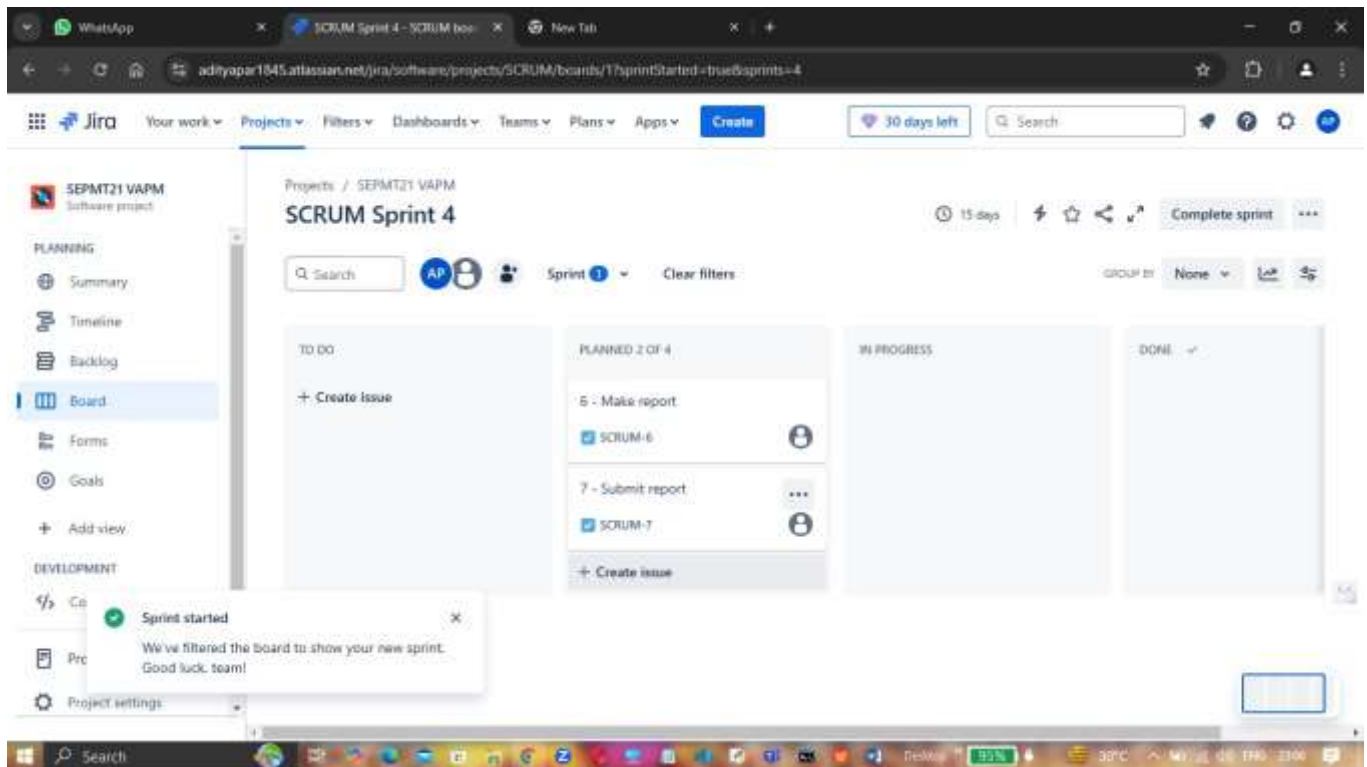
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The image displays two screenshots of the JIRA web interface, specifically for a project named 'SEPMT21 VAPM'.

Top Screenshot: Timeline View

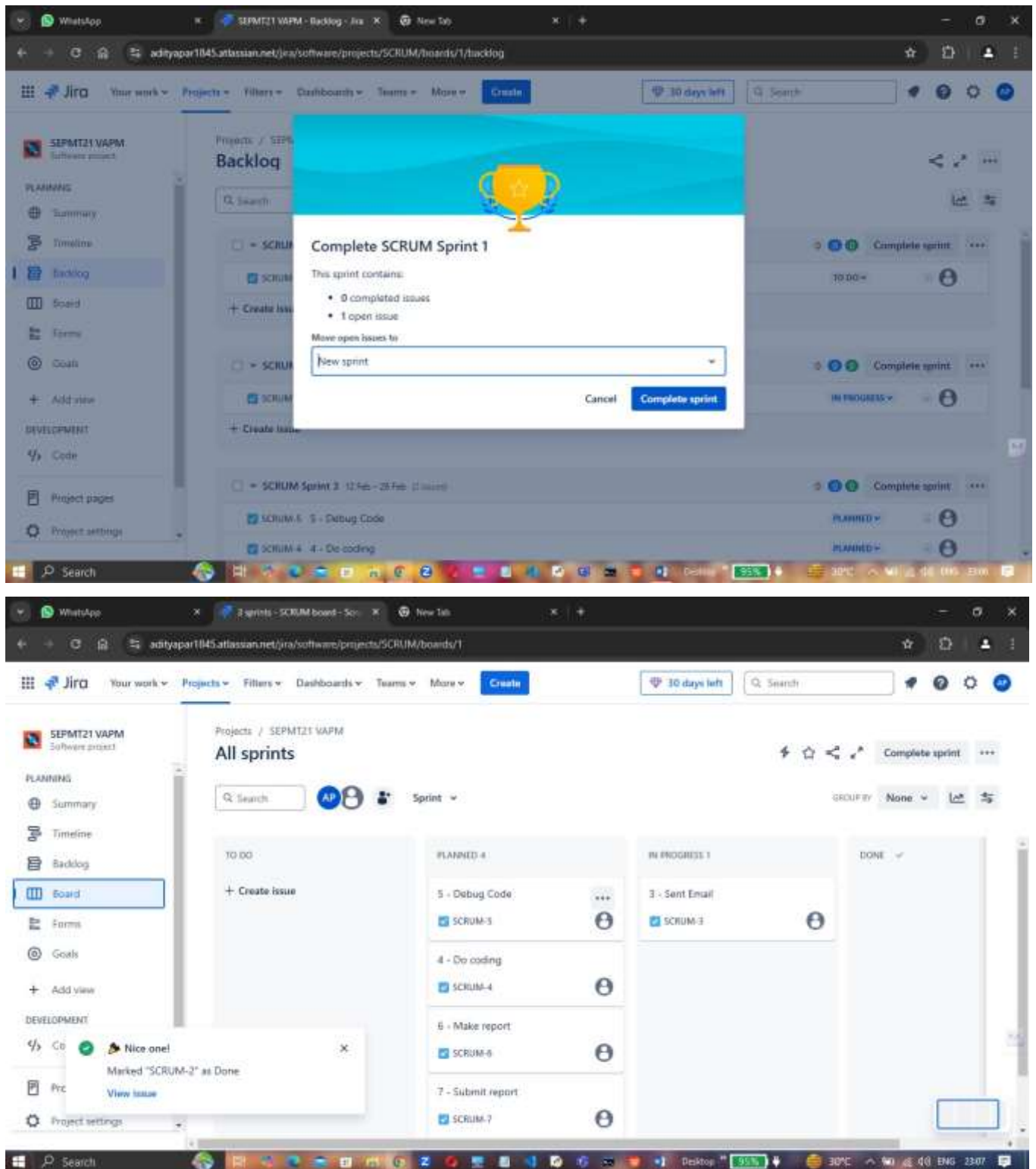
- The left sidebar shows the 'Timeline' view selected under the 'PLANNING' section.
- The main area is titled 'Timeline' and shows a calendar view for the months of January, February, and March.
- A sprint named 'SCRUM-1 1 - Verify EMAIL Functionality' is visible, spanning from late January into February.
- Below the calendar, there is a '+ Create Epic' button.
- The bottom of the interface shows a taskbar with various application icons and system status indicators.

Bottom Screenshot: All sprints View

- The left sidebar shows the 'Board' view selected under the 'PLANNING' section.
- The main area is titled 'All sprints' and displays a Kanban-style board with four columns: 'TO DO 1', 'PLANNED 4', 'IN PROGRESS 1', and 'DONE'.
- The 'TO DO 1' column contains the task '2 - Verify login Functionality' (SCRUM-2).
- The 'PLANNED 4' column contains tasks: '5 - Debug Code' (SCRUM-5), '4 - Do coding' (SCRUM-4), '6 - Make report' (SCRUM-6), and '7 - Submit report' (SCRUM-7).
- The 'IN PROGRESS 1' column contains the task '3 - Sent Email' (SCRUM-3).
- The 'DONE' column is currently empty and has a '+ Create issue' button.
- The bottom of the interface shows the same Windows taskbar as the top screenshot.

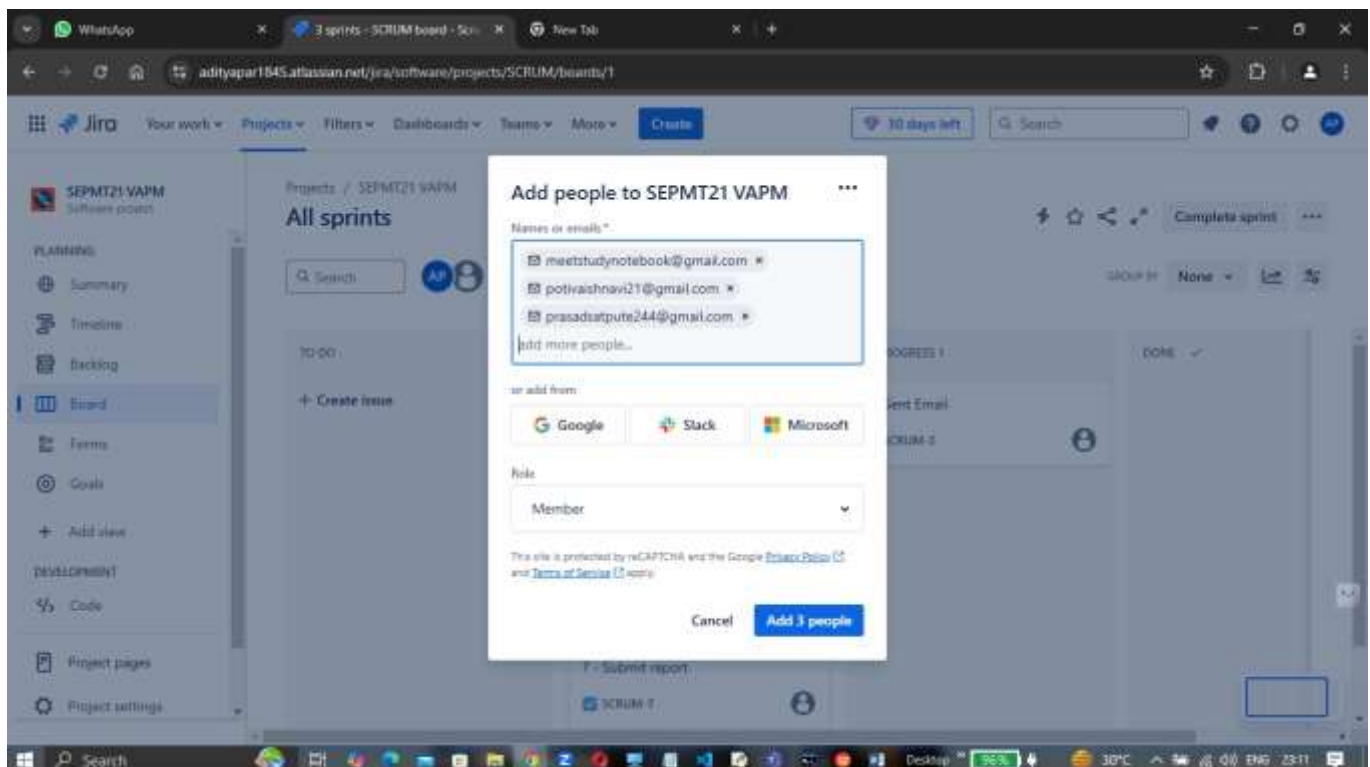
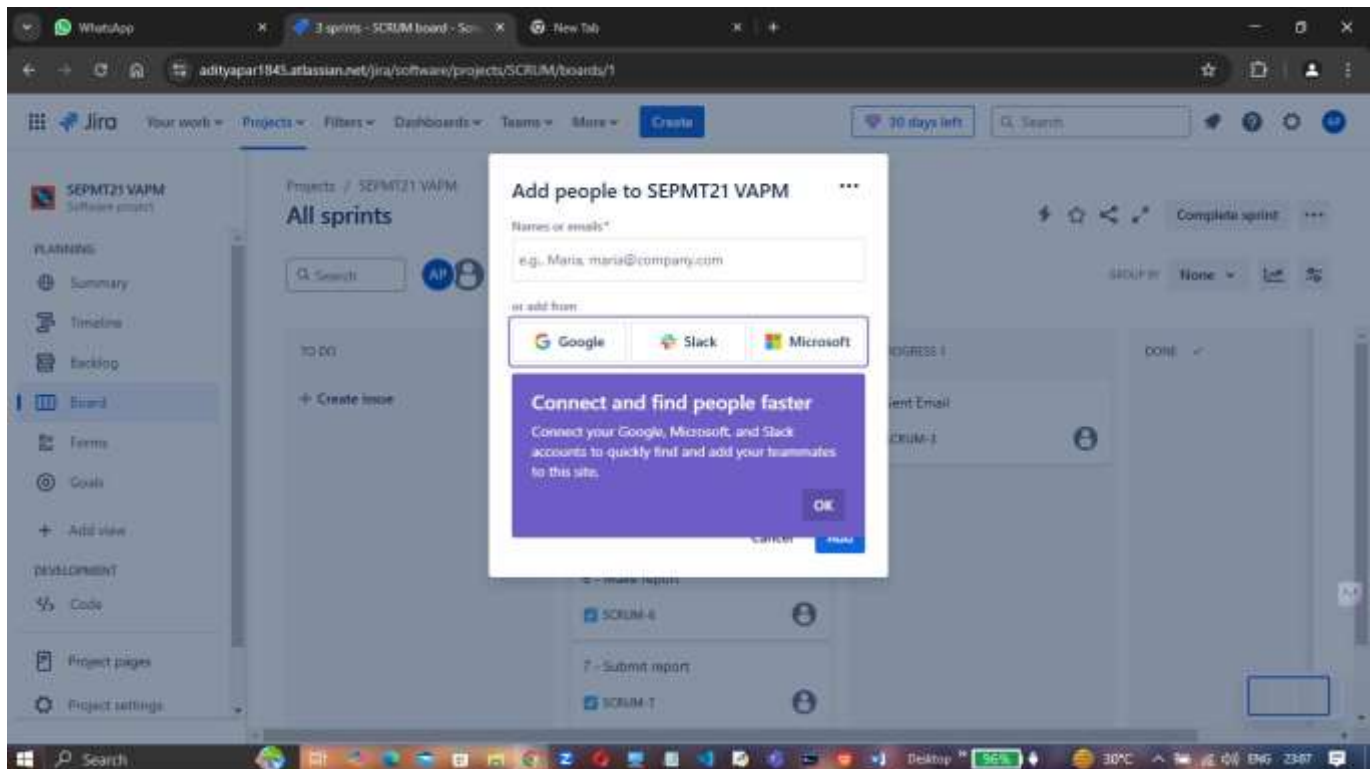
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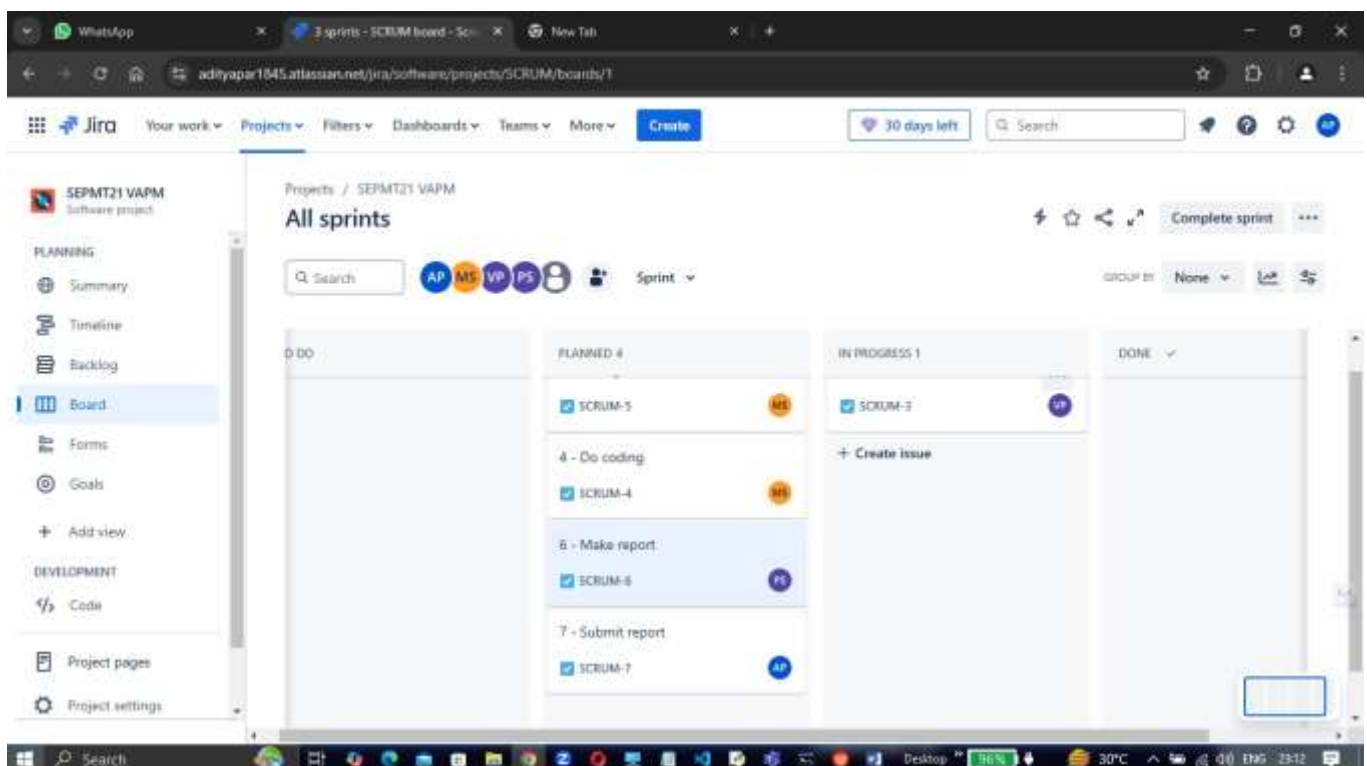
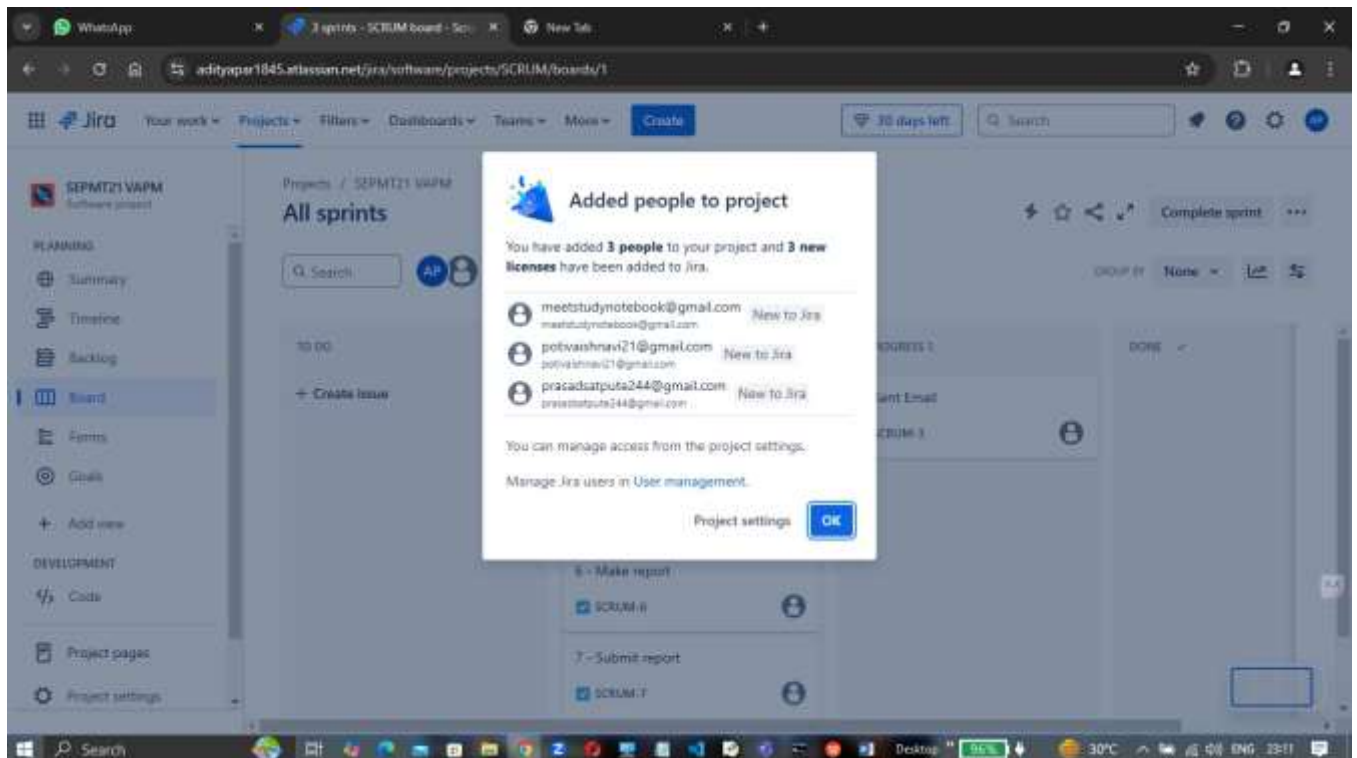
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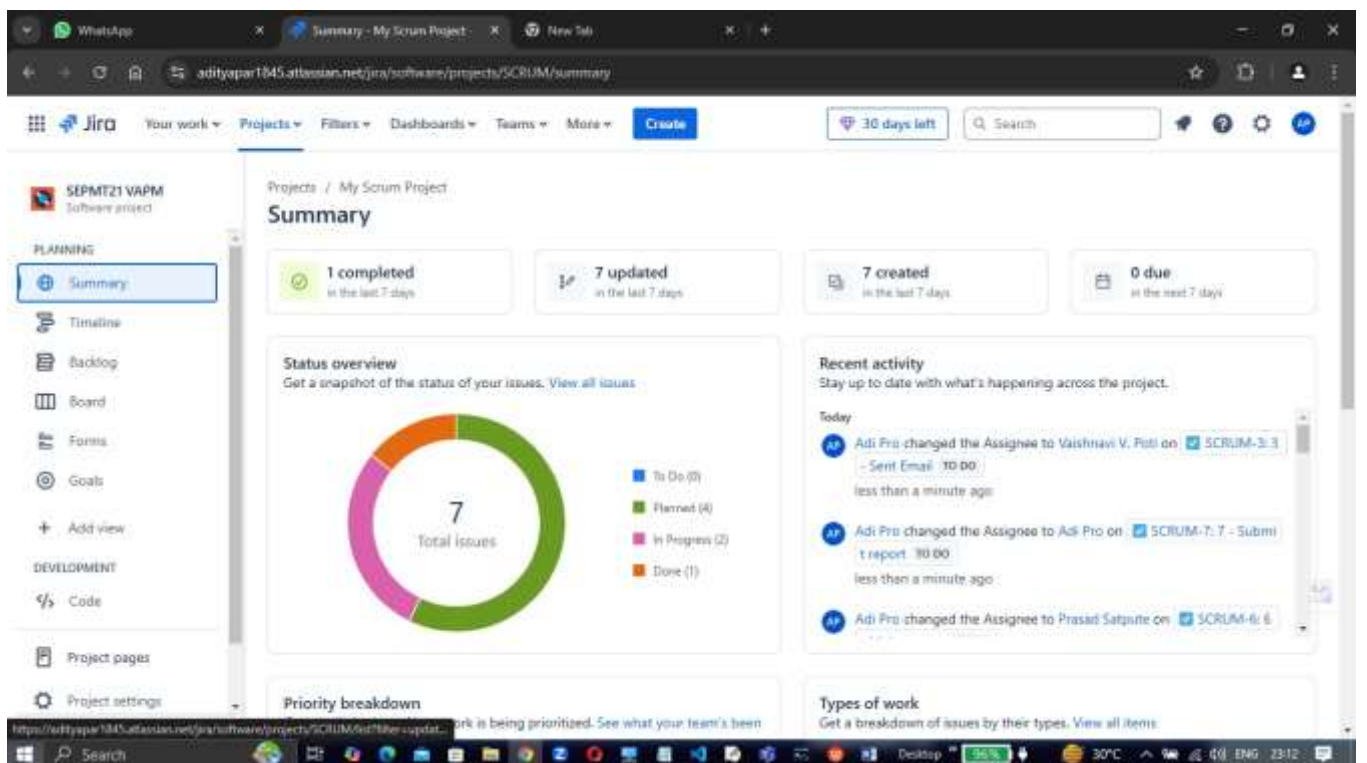
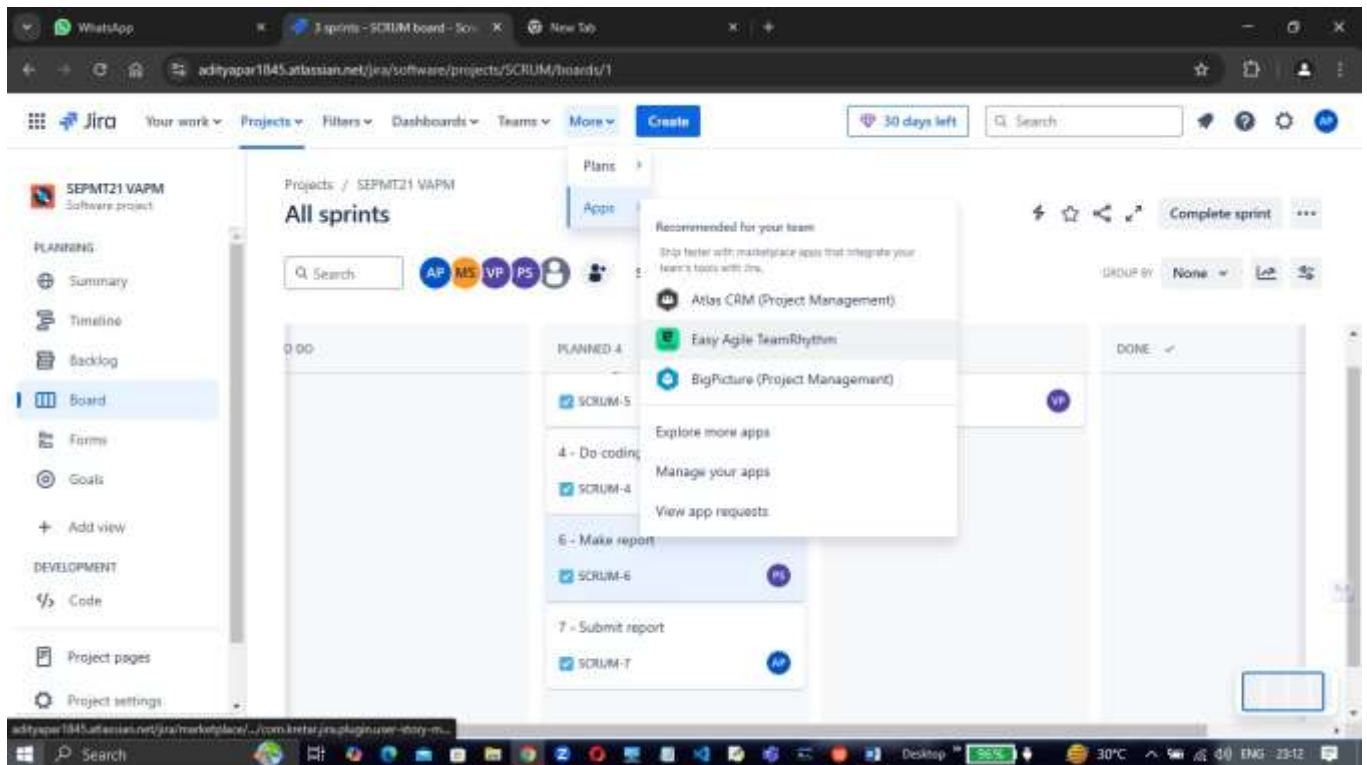
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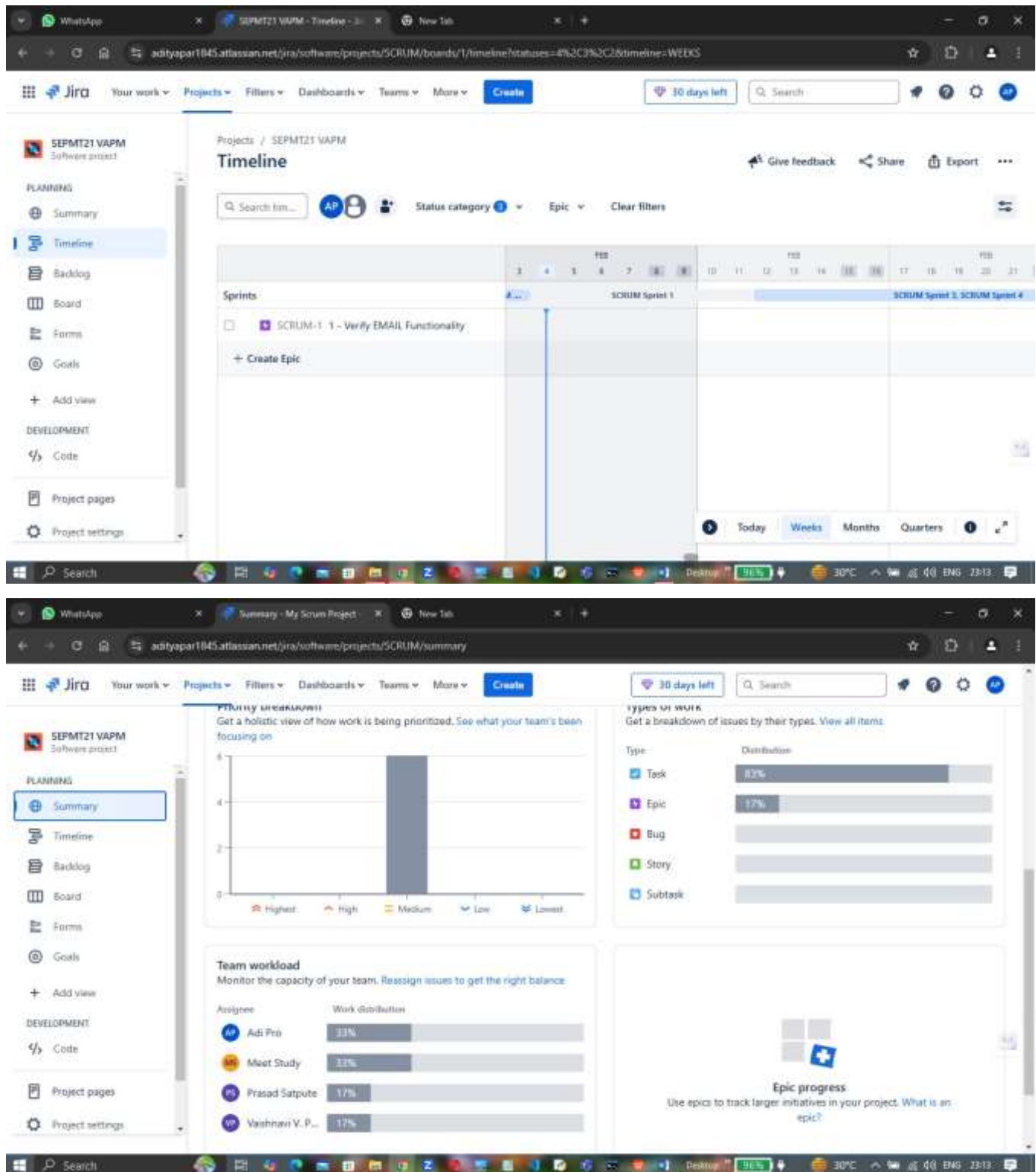
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Plans / SEPM DEMO

Timeline

Give feedback Unsaved changes

Warnings TIMELINE LIST View settings

Issue	Priority	Start date (d)	Due date (d)	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	

Plans / SEPM DEMO

Timeline

Give feedback Unsaved changes

Warnings TIMELINE LIST View settings

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

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

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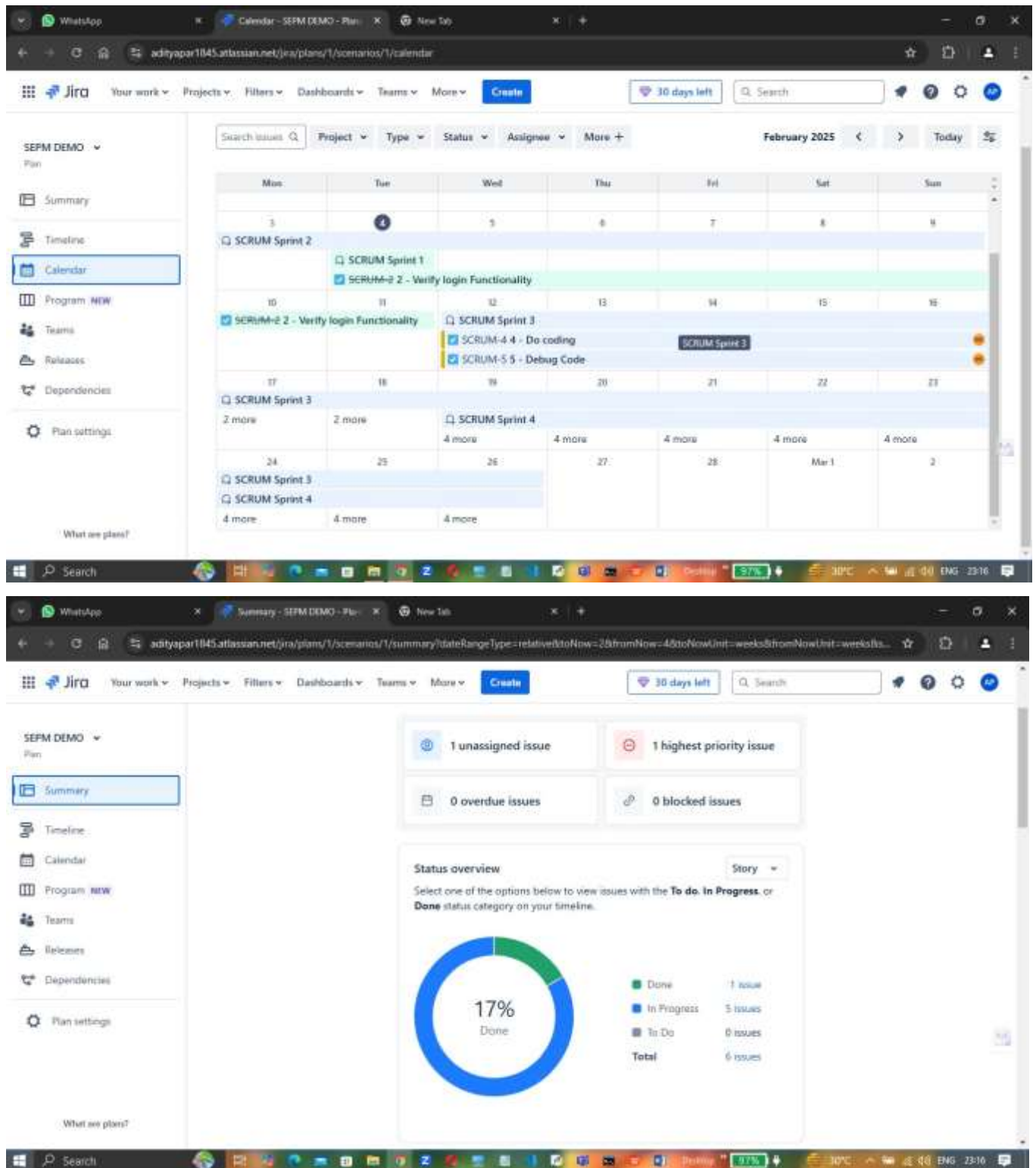
The screenshot shows the Jira interface with the 'Timeline' view selected for the 'SEPM DEMO' plan. The left sidebar contains navigation options: Summary, Timeline (selected), Calendar, Program NEW, Teams, Releases, Dependencies, and Plan settings. The main area displays a table of issues with columns for Issue, Priority, Start date, Due date, Status, and Progress (days). The issues are grouped under 'Story - 6 Issues'.

Issue	Priority	Start date	Due date	Status	Progress (days)
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	DONE	
SCRUM-5 5 - Debug Code	High	12 Feb 2025	26 Feb 2025	IN PROGRESS	
SCRUM-4 4 - Do coding	Highest	12 Feb 2025	26 Feb 2025	IN PROGRESS	
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	

The screenshot shows the Jira interface with the 'Calendar' view selected for the 'SEPM DEMO' plan. The left sidebar is the same as the previous screenshot. The main area displays a calendar for February 2025. Issues are represented as colored bars across the calendar days, indicating their duration. The issues include 'SCRUM Sprint 1', 'SCRUM-2 2 - Verify login Functionality', 'SCRUM Sprint 2', 'SCRUM-4 4 - Do coding', 'SCRUM-5 5 - Debug Code', and 'SCRUM Sprint 3'.

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The top screenshot displays the Jira 'All sprints' board for the project 'SEPMT21 VAPM'. The board is organized into columns: 'PLANNED 2', 'IN PROGRESS 2', and 'DONE 1'. Tasks are represented as cards with labels like 'SCRUM-6', 'SCRUM-7', 'SCRUM-5', 'SCRUM-4', and 'SCRUM-3'. The left sidebar shows navigation options like 'Summary', 'Timeline', 'Backlog', and 'Board'. The bottom screenshot shows the 'Explore apps for Jira' marketplace. It features a search bar and filters for pricing, trust signals, categories, use cases, and more filters. Three featured apps are shown: 'ScriptRunner for Jira' by Adaptavist, 'Xray Test Management for Jira' by Xblend, and 'Timesheets by Tempo - Jira Time Tracking' by Tempo Software. Each app card includes a rating, number of reviews, and download count.

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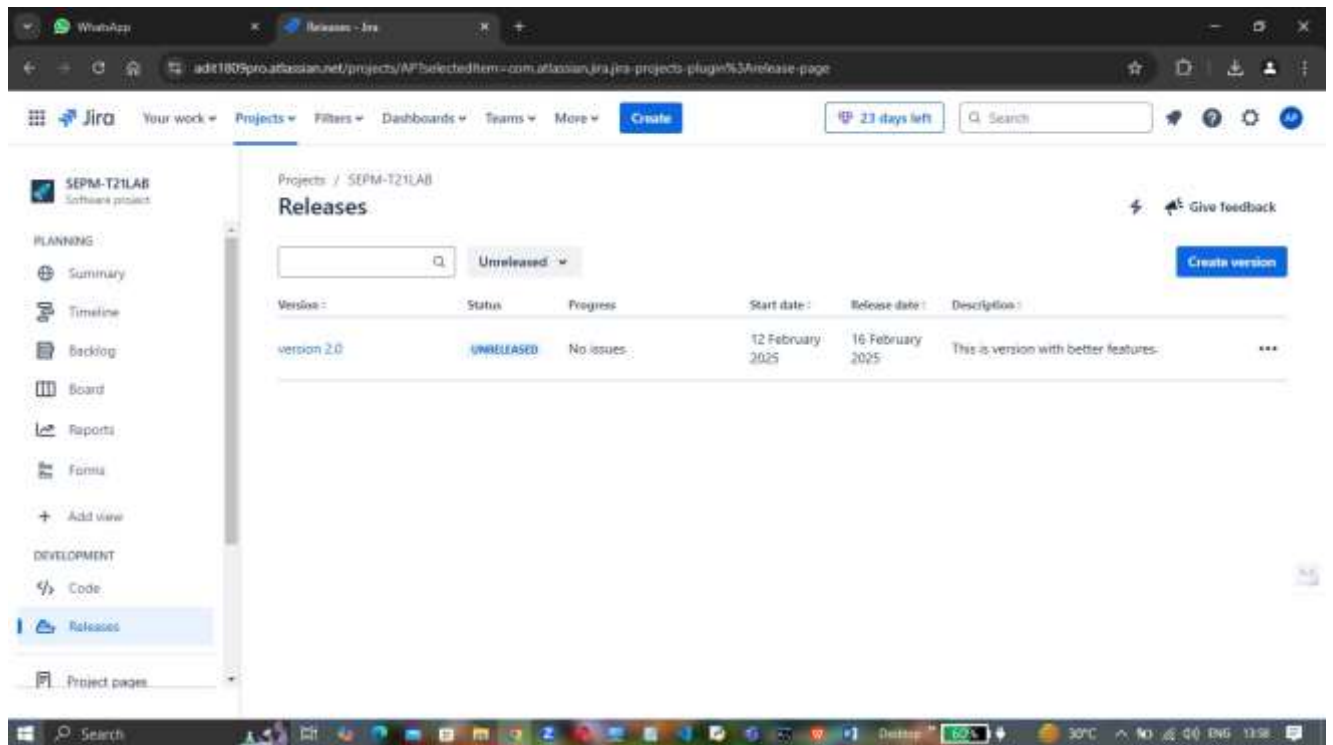
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8) Version Creation

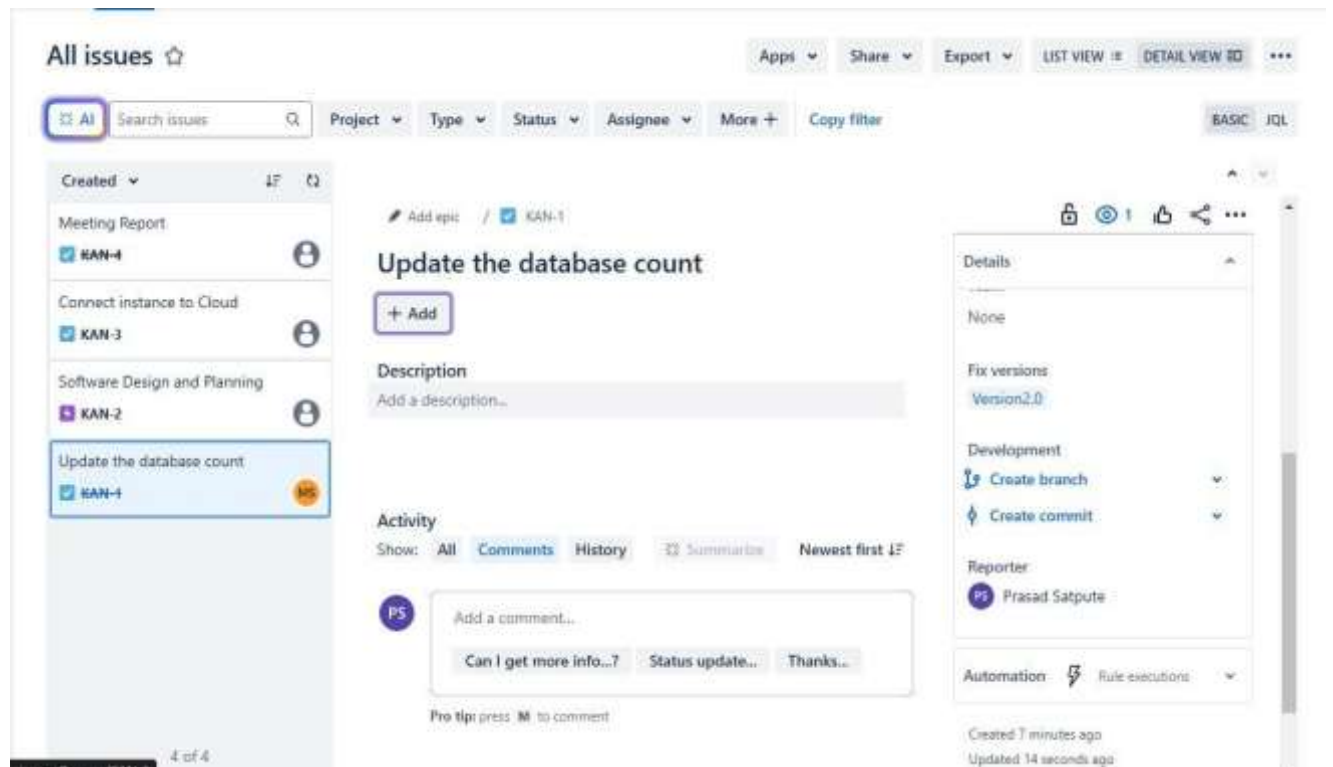
The screenshot displays the JIRA web interface. The top navigation bar includes 'Your work', 'Projects', 'Filters', 'Dashboards', 'Teams', 'Plans', and 'Apps'. A 'Create' button is visible. The 'Projects' section shows a table with columns: Name, Key, Type, Lead, Project URL, and More actions. The table lists a project named 'SEPM-T21LAB' with key 'AP' and type 'Team-managed software'. A 'Create project' button and a 'Templates' sidebar are also present. The 'Create version' dialog box is open, showing fields for Name (version 2.0), Start Date (12/02/2025), Release date (16/02/2025), Driver (Adi Pro), and Description (This is version with better features). The dialog has 'Cancel' and 'Save' buttons.

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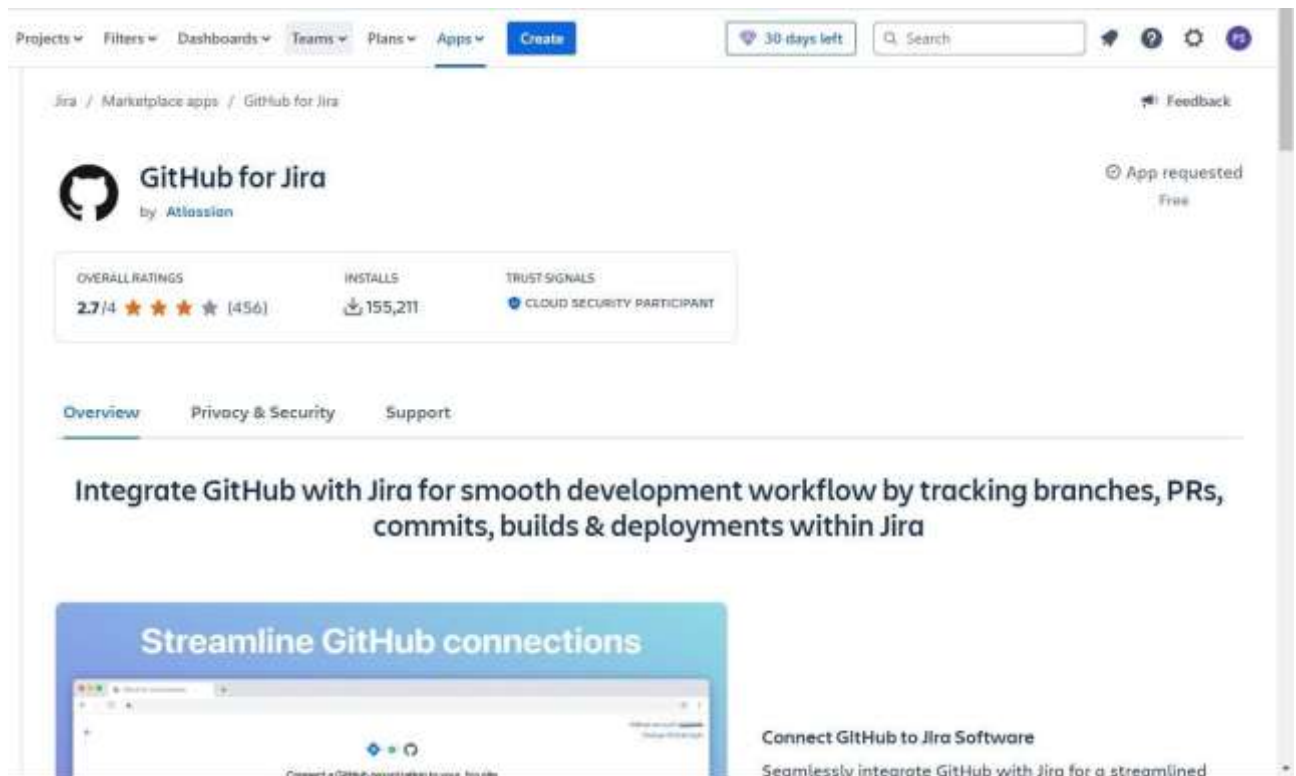
9) Creating Issues for new Version



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10) GitHub connection



GitHub Repo Link:- <https://github.com/RandDomCODEr>

Conclusion:

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