

## INDEX

S.NO	DATE	TITLE
1.	21/1/25	<b>Azure DevOps Environment Setup</b>
2.	21/1/25	<b>Azure DevOps Project Setup and User Story Management</b>
3.	28/1/25	<b>Setting Up Epics, Features and User Stories for Project Planning</b>
4.	11/2/25	<b>Sprint Planning</b>
5.	18/2/25	<b>Poker Estimation</b>
6.	25/2/25	<b>Designing Class and Sequence Diagrams for Project Architecture</b>
7.	04/3/25	<b>Designing Use-Case and Activity Diagrams for Project Architecture</b>
8.	25/3/25	<b>Testing – Test Plans and Test Cases</b>
9.	15/4/25	<b>CI/CD Pipelines in Azure</b>
10.	22/4/25	<b>GitHub: Project Structure &amp; Naming Convention</b>

**EXP NO: 1**  
**DATE: 21/1/25**

## **AZURE DEVOPS ENVIRONMENT SETUP**

### **AIM:-**

To set up and access the Azure DevOps environment by creating an organization through the Azure portal.

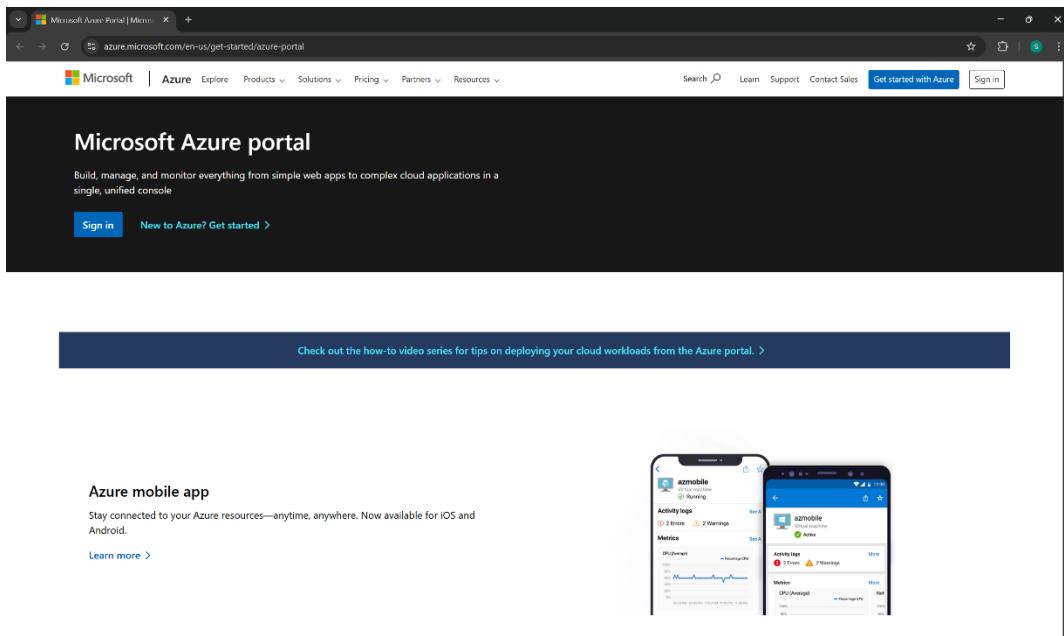
### **INSTALLATION:-**

1. Open your web browser and go to the Azure website:

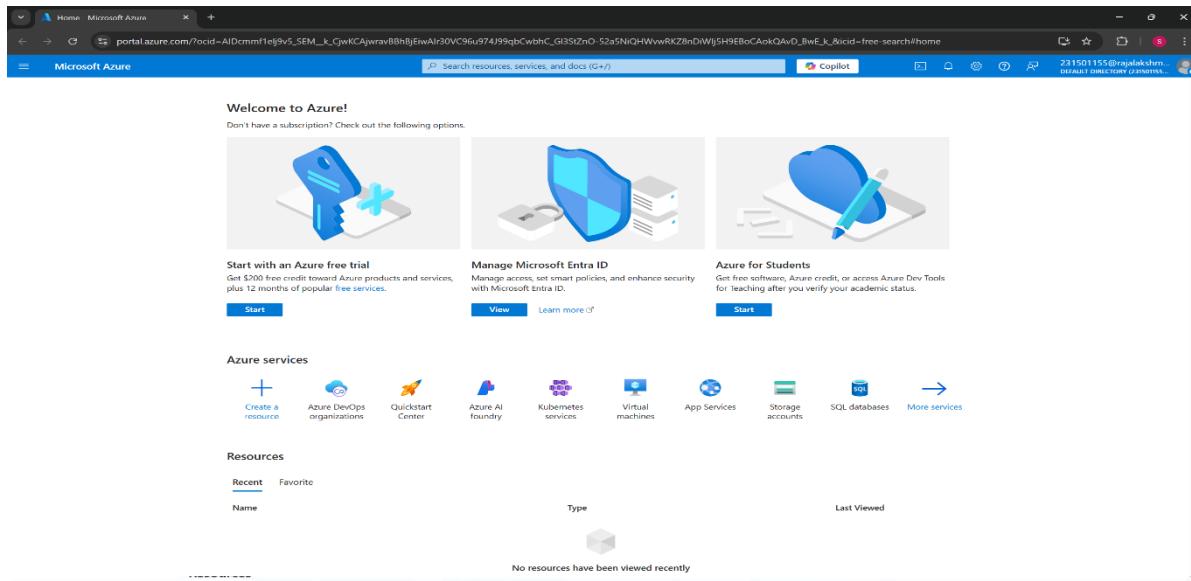
<https://azure.microsoft.com/en-us/get-started/azure-portal>.

Sign in using your Microsoft account credentials.

If you don't have a Microsoft account, you can create one here: <https://signup.live.com/?lic=1>

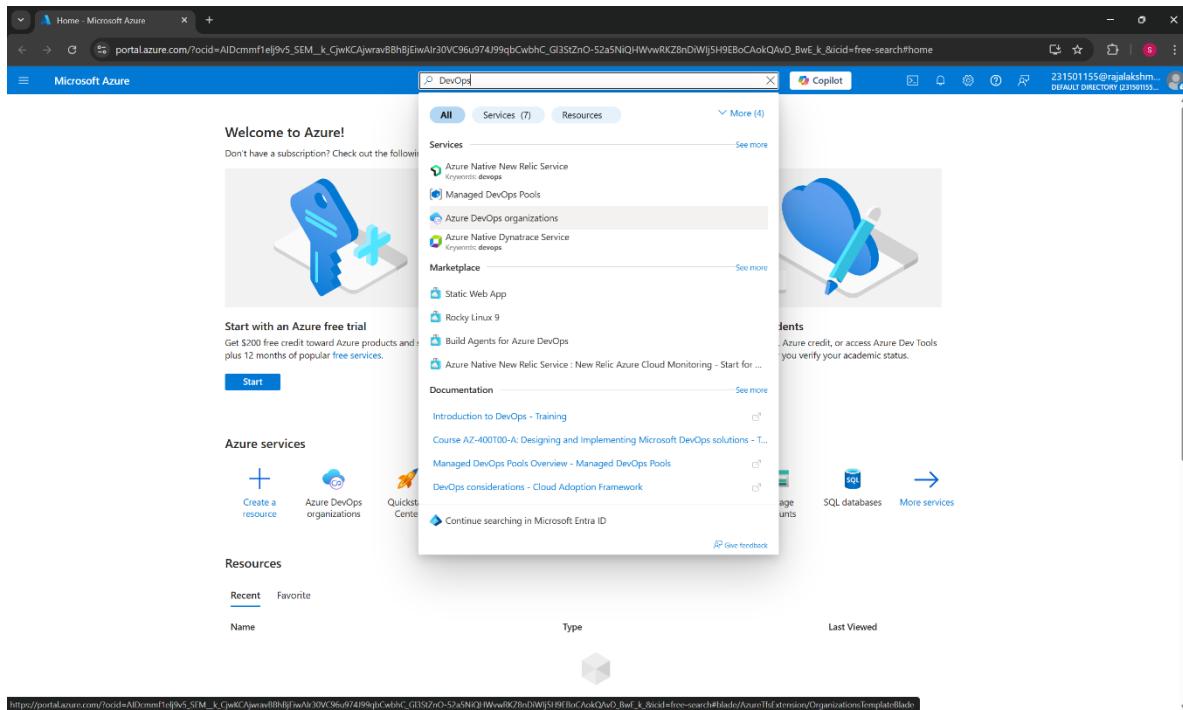


## 2. Azure home page



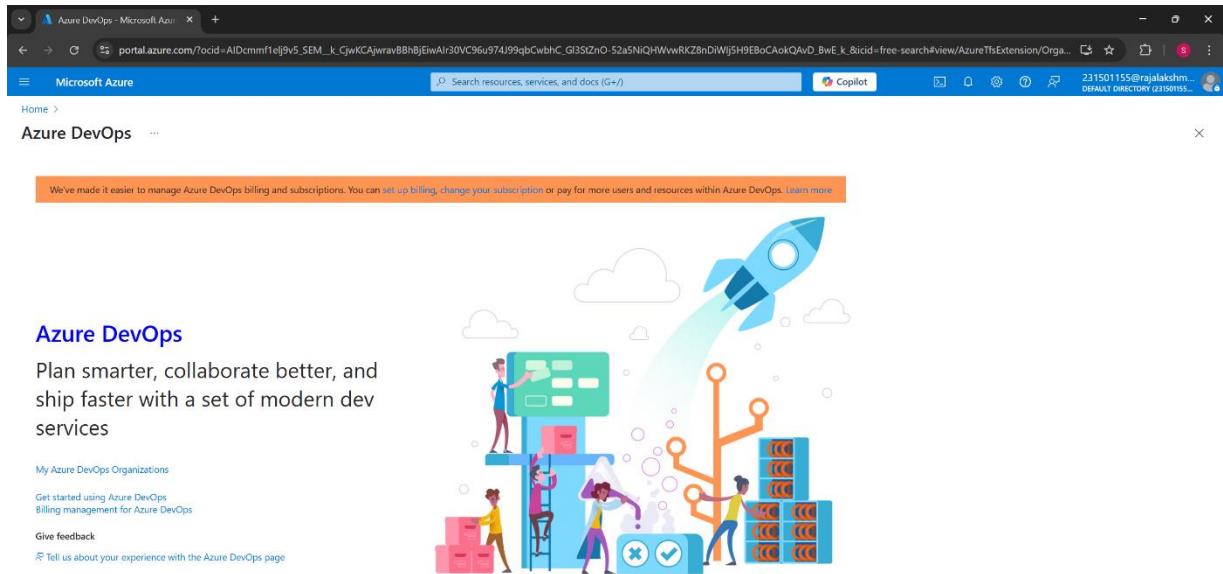
The screenshot shows the Microsoft Azure home page. At the top, there's a search bar with the placeholder "Search resources, services, and docs (G+)". Below the search bar, the "Copilot" button is visible. The main content area starts with the "Welcome to Azure!" message and a "Don't have a subscription? Check out the following options:" section. It features three cards: "Start with an Azure free trial" (Get \$200 free credit toward Azure products and services, plus 12 months of popular free services), "Manage Microsoft Entra ID" (Manage access, set smart policies, and enhance security with Microsoft Entra ID), and "Azure for Students" (Get free software, Azure credit, or access Azure Dev Tools for teaching after you verify your academic status). Below these are sections for "Azure services" (with links to Create a resource, Azure DevOps organizations, Quickstart Center, Azure AI foundry, Kubernetes services, Virtual machines, App Services, Storage accounts, SQL databases, and More services) and "Resources" (Recent, Favorite, Name, Type, Last Viewed, and a note that "No resources have been viewed recently").

## 3. Open DevOps environment in the Azure platform by typing *Azure DevOps Organizations* in the search bar.



The screenshot shows the Microsoft Azure home page with a search bar containing the text "DevOps". The search results are displayed in a modal window. The "All" tab is selected, showing "Services (7)" and "Resources". The "Services" section lists "Azure Native New Relic Service", "Managed DevOps Pools", "Azure DevOps organizations", and "Azure Native Dynatrace Service". The "Resources" section lists "Static Web App", "Rocky Linux 9", "Build Agents for Azure DevOps", and "Azure Native New Relic Service : New Relic Azure Cloud Monitoring - Start for ...". Below the search results, there are sections for "Documentation" (with links to "Introduction to DevOps - Training" and "Course A2-400100-A: Designing and Implementing Microsoft DevOps solutions - T..."), "Marketplace" (with links to "Managed DevOps Pools Overview - Managed DevOps Pools", "DevOps considerations - Cloud Adoption Framework", and "Continue searching in Microsoft Entra ID"), and "Feedback" (with a "Give feedback" button). The main content area of the page is partially visible, showing the "Welcome to Azure!" section and the "Azure services" and "Resources" sections.

4. Click on the ***My Azure DevOps Organization*** link and create an organization and you should be taken to the Azure DevOps Organization Home page.



## **RESULT:**

Successfully accessed the Azure DevOps environment and created a new organization through the Azure portal.

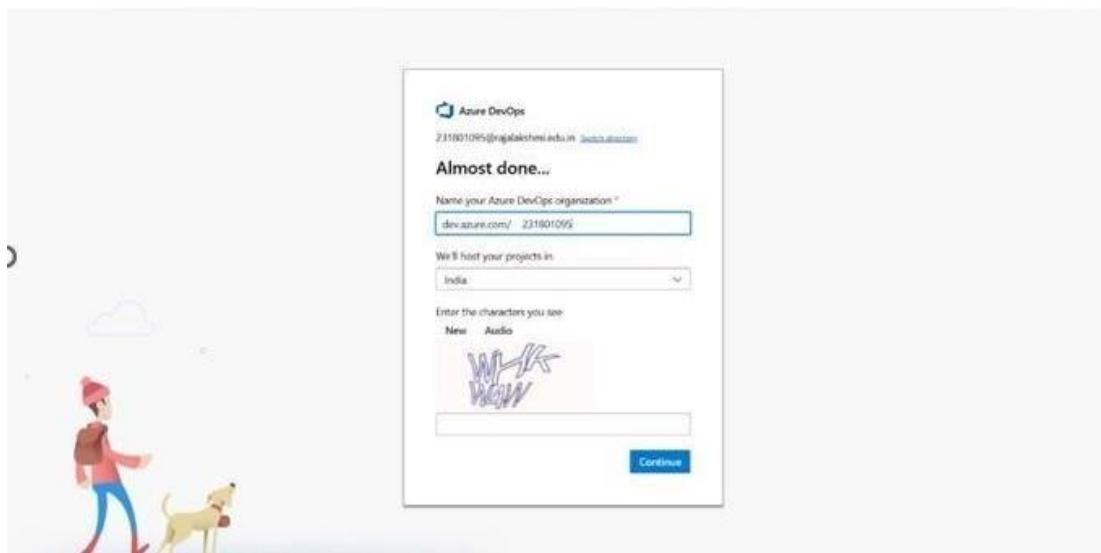
**EXP NO: 2**  
**DATE: 21/1/25**

## **AZURE DEVOPS PROJECT SETUP AND USER STORY MANAGEMENT**

### **AIM:-**

To set up an Azure DevOps project for efficient collaboration and agile work management.

#### **1. Create An Azure Account**



#### **2. Create the First Project in Your Organization**

- a) After the organization is set up, you'll need to create your first **project**. This is where you'll begin to manage code, pipelines, work items, and more.
- b) On the organization's **Home page**, click on the **New Project** button.
- c) Enter the project name, description, and visibility options:  
**Name:** Choose a name for the project (e.g., **LMS**).  
**Description:** Optionally, add a description to provide more context about the project.  
**Visibility:** Choose whether you want the project to be **Private** (accessible only to those invited) or **Public** (accessible to anyone).
- d) Once you've filled out the details, click **Create** to set up your first project.

## Create new project

X

Project name \*

Online .Banking System

Description

Visibility



Public

Anyone on the internet can view the project. Certain features like TFVC are not supported.



Private

Only people you give access to will be able to view this project.



Public projects are disabled for your organization. You can turn on public visibility with [organization policies](#).

Advanced

Version control

Git

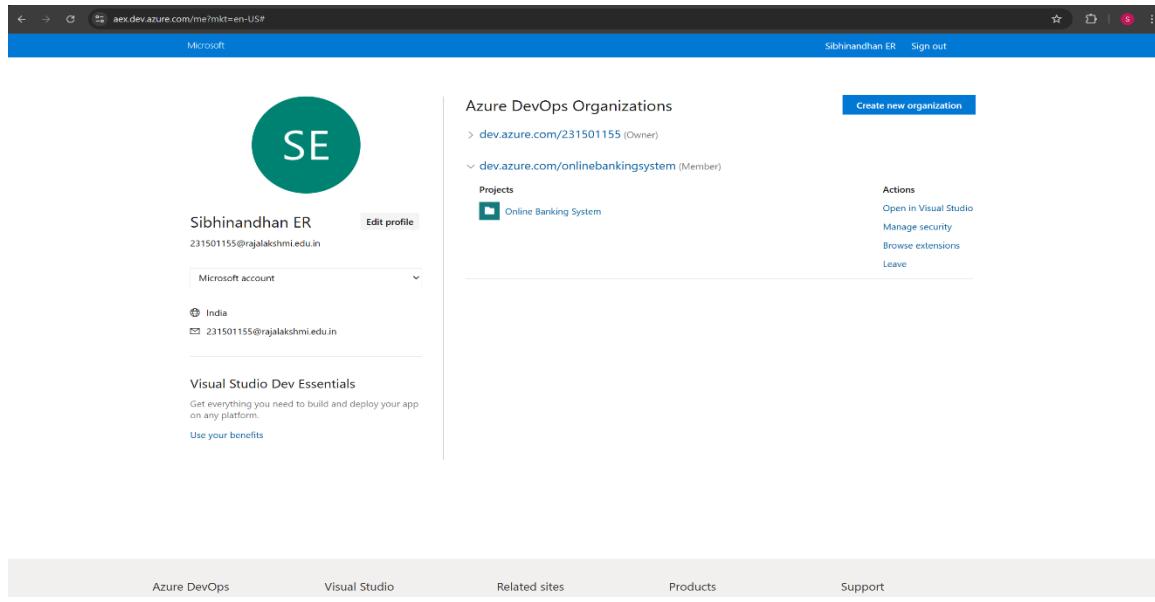
Work item process

Agile

Cancel

Create

3. Once logged in, ensure you are in the correct organization. If you're part of multiple organizations, you can switch between them from the top left corner (next to your user profile). Click on the Organization name, and you should be taken to the Azure DevOps Organization Home page.



Sibhinandhan ER Sign out

**Sibhinandhan ER**  
231501155@rajalakshmi.edu.in

Microsoft account  
India  
231501155@rajalakshmi.edu.in

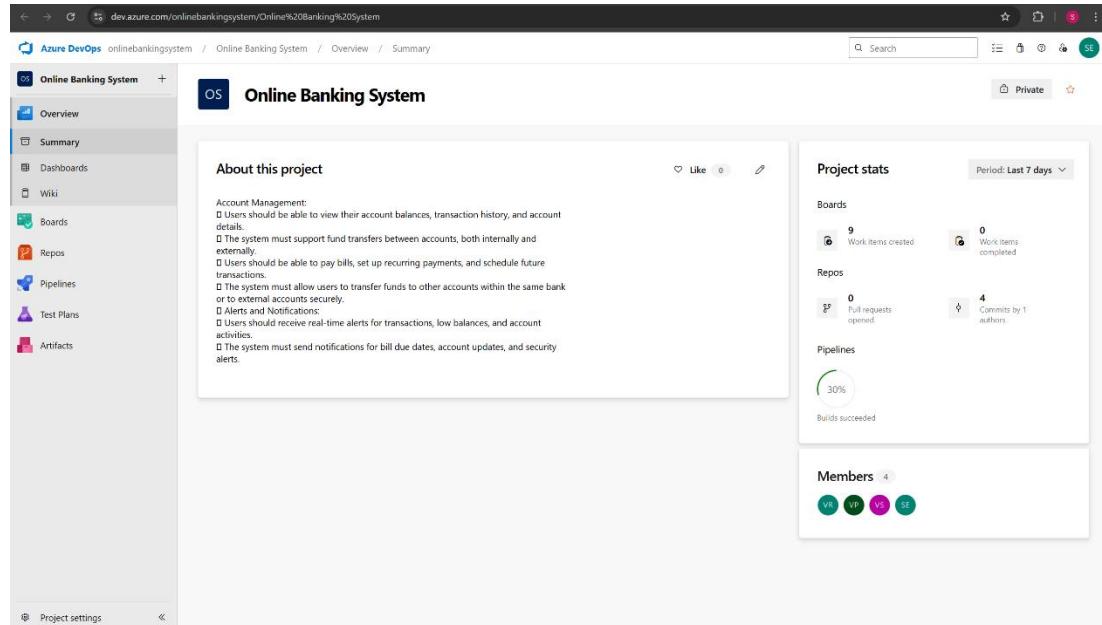
**Visual Studio Dev Essentials**  
Get everything you need to build and deploy your app on any platform.  
Use your benefits

**Azure DevOps Organizations**  
dev.azure.com/231501155 (Owner)  
dev.azure.com/onlinebankingsystem (Member)  
Online Banking System

**Actions**  
Open in Visual Studio  
Manage security  
Browse extensions  
Leave

Create new organization

#### 4. Project dashboard



dev.azure.com/onlinebankingsystem/Online%20Banking%20System

**Online Banking System**

**About this project**

Account Management:  
Users should be able to view their account balances, transaction history, and account details.  
The system must support fund transfers between accounts, both internally and externally.  
Users should be able to pay bills, set up recurring payments, and schedule future transactions.  
The system must allow users to transfer funds to other accounts within the same bank or to external accounts securely.  
Activity and Notifications:  
Users should receive real-time alerts for transactions, low balances, and account activities.  
The system must send notifications for bill due dates, account updates, and security alerts.

**Project stats**

Period: Last 7 days

**Boards**  
9 Work items created  
0 Work items completed

**Repos**  
0 Pull requests opened  
4 Commits by 1 author

**Pipelines**  
30% Builds succeeded

**Members** 4

Project settings

## 5. To manage user stories:

- From the **left-hand navigation menu**, click on **Boards**. This will take you to the main **Boards** page, where you can manage work items, backlogs, and sprints.

- On the **work items** page, you'll see the option to **Add a work item** at the top.

Alternatively, you can find a + button or **Add New Work Item** depending on the view you're in. From the **Add a work item** dropdown, select **User Story**. This will open a form to enter details for the new User Story.

c.

Order	work item Type	Title	State	Story...	Value Area	Iteration Path	Tags
1	User Story	As a user, I want to view my account balance and transaction history.	New		Business	Online Banking System\Sprint 1	
2	User Story	As a user, I want to transfer funds between my accounts or to other accounts (internal or external), so that I can manage my payments and finances efficiently.	New		Business	Online Banking System\Sprint 1	
3	User Story	As a user, I want to pay bills, schedule future payments, and track my spending.	New		Business	Online Banking System\Sprint 1	
4	User Story	As a user, I want to receive real-time alerts for transactions (internal or external), so that I can manage my payments and finances efficiently.	New		Business	Online Banking System\Sprint 1	
5	User Story	As a user, I want to receive notifications for bill due dates and payment reminders.	New		Business	Online Banking System\Sprint 1	
6	User Story	As a user, I want to log in securely using multi-factor authentication.	New		Business	Online Banking System\Sprint 1	
7	User Story	As a user, I want to update my personal details and change my password.	New		Business	Online Banking System\Sprint 1	
8	User Story	As a user, I want to view and manage devices logged into my account.	New		Business	Online Banking System\Sprint 1	
9	User Story	As a user, I want to receive real-time alerts for transactions (internal or external), so that I can manage my payments and finances efficiently.	New		Business	Online Banking System\Sprint 2	
10	User Story	As a user, I want to view my account balance and transaction history.	New		Business	Online Banking System\Sprint 3	

The screenshot shows the Azure DevOps interface. At the top, there is a search bar with the placeholder "Search" and a "Microsoft" logo. To the right of the search bar are several icons: a list, a shopping bag, a question mark, a gear, and a user profile icon with the letters "SE". The user profile is for "Sibhinandhan ER" with the email "231501155@rajalakshmi.edu.in". Below the profile, there are links for "My Microsoft account", "Switch directory", and an ellipsis. A "Sign out" link is also visible. In the center, there is a "New Work Item" button and a "View" button. Below these buttons, there is a table with three columns: "State", "Story...", "Value Area", and "Iteration Path". The table contains two rows, both of which are "New" and belong to the "Business" category. The iteration paths are "Online Banking System\Sprint 1" and "Online Banking System\Sprint 1".

State	Story...	Value Area	Iteration Path
▶ New		Business	Online Banking System\Sprint 1
▶ New		Business	Online Banking System\Sprint 1

**Result:**

Successfully created an Azure DevOps project with user story management and agile workflow setup.

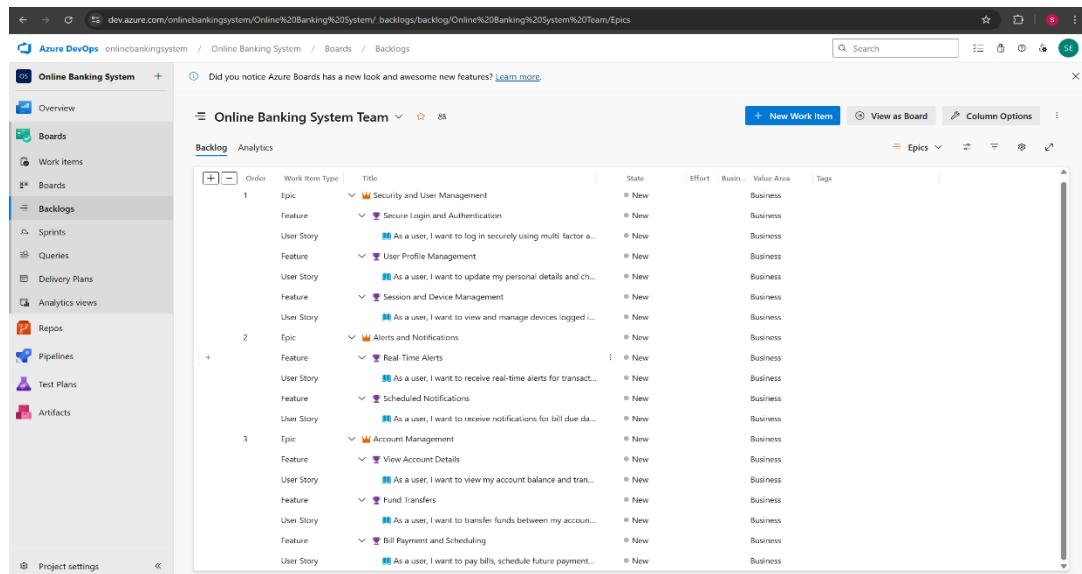
**EXP NO: 3**  
**DATE: 28/1/25**

## **SETTING UP EPICS, FEATURES, AND USER STORIES FOR PROJECT PLANNING**

### **AIM:-**

To learn about how to create epics, user story, features, backlog for your assigned project.

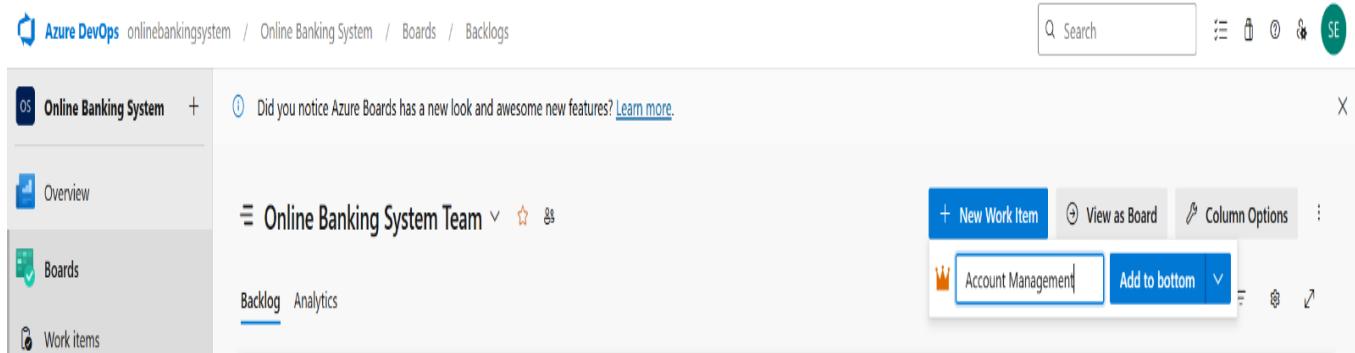
### **Create Epic, Features, User Stories, Task**



Order	Work Item Type	Title	State	Effort	Business Area	Tags
1	Epic	Security and User Management	New	Business		
	Feature	Secure Login and Authentication	New	Business		
	User Story	As a user, I want to log in securely using multi-factor authentication.	New	Business		
	Feature	User Profile Management	New	Business		
	User Story	As a user, I want to update my personal details and change my password.	New	Business		
	Feature	Session and Device Management	New	Business		
	User Story	As a user, I want to view and manage devices logged into my account.	New	Business		
2	Epic	Alerts and Notifications	New	Business		
	Feature	Real Time Alerts	New	Business		
	User Story	As a user, I want to receive real-time alerts for transactions.	New	Business		
	Feature	Scheduled Notifications	New	Business		
	User Story	As a user, I want to receive notifications for bill due dates.	New	Business		
3	Epic	Account Management	New	Business		
	Feature	View Account Details	New	Business		
	User Story	As a user, I want to view my account balance and transaction history.	New	Business		
	Feature	Fund Transfers	New	Business		
	User Story	As a user, I want to transfer funds between my accounts.	New	Business		
	Feature	Bill Payment and Scheduling	New	Business		
	User Story	As a user, I want to pay bills, schedule future payments, and receive notifications.	New	Business		

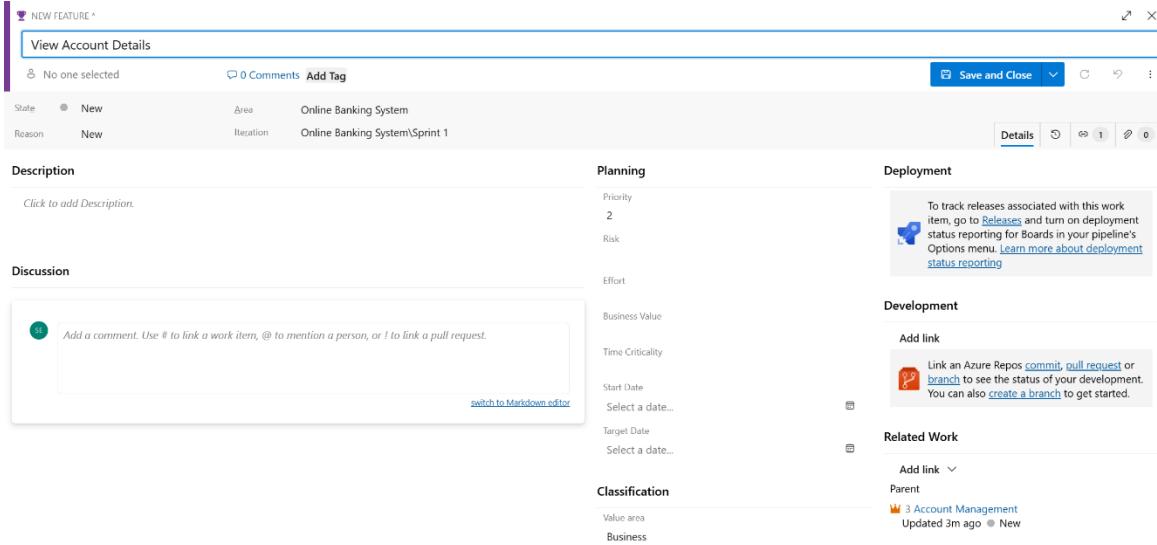
### **1. Fill in Epics**

2.



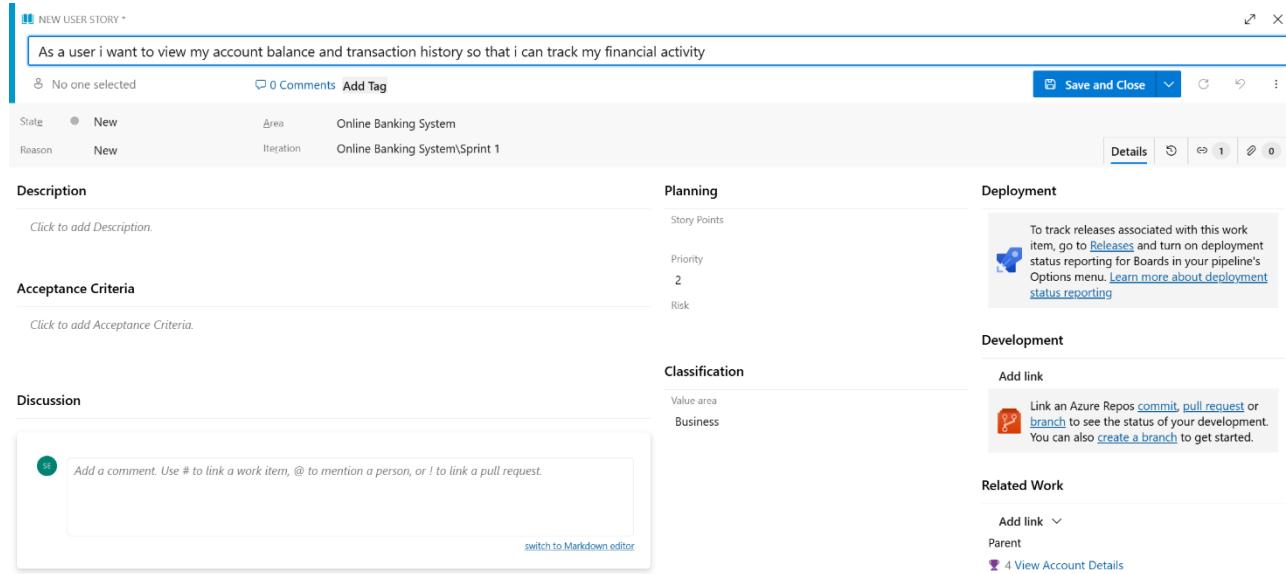
Order	Work Item Type	Title	State	Effort	Business Area	Tags
1	Epic	Account Management	New	Business		
	Feature	View Account Details	New	Business		
	User Story	As a user, I want to view my account balance and transaction history.	New	Business		
	Feature	Fund Transfers	New	Business		
	User Story	As a user, I want to transfer funds between my accounts.	New	Business		
	Feature	Bill Payment and Scheduling	New	Business		
	User Story	As a user, I want to pay bills, schedule future payments, and receive notifications.	New	Business		

### 3. Fill in Features



The screenshot shows the 'New Feature' creation page in Azure DevOps. The top navigation bar includes 'View Account Details', 'Save and Close', and a 'Details' button. The main form has sections for 'Description' (with placeholder 'Click to add Description'), 'Planning' (Priority: 2, Risk), 'Deployment' (with a note about tracking releases via Releases and Options menu), 'Development' (with a note about linking to Azure Repos), and 'Related Work' (listing a '3 Account Management' item). The bottom left shows 'Discussion' and 'Acceptance Criteria' sections, and the bottom right shows a 'switch to Markdown editor' link.

### 4. Fill in User Story Details



The screenshot shows the 'New User Story' creation page in Azure DevOps. The top navigation bar includes 'Save and Close', and the main form has sections for 'Description' (placeholder 'Click to add Description'), 'Acceptance Criteria' (placeholder 'Click to add Acceptance Criteria.'), 'Planning' (Story Points: 2, Priority: 2, Risk), 'Deployment' (with a note about tracking releases via Releases and Options menu), 'Development' (with a note about linking to Azure Repos), and 'Related Work' (listing a '4 View Account Details' item). The bottom left shows 'Discussion' and 'Acceptance Criteria' sections, and the bottom right shows a 'switch to Markdown editor' link.

## **RESULT:-**

Thus, the creation of epics, features, user story and task has been created successfully.

**EXP NO: 4**  
**DATE: 11/2/25**

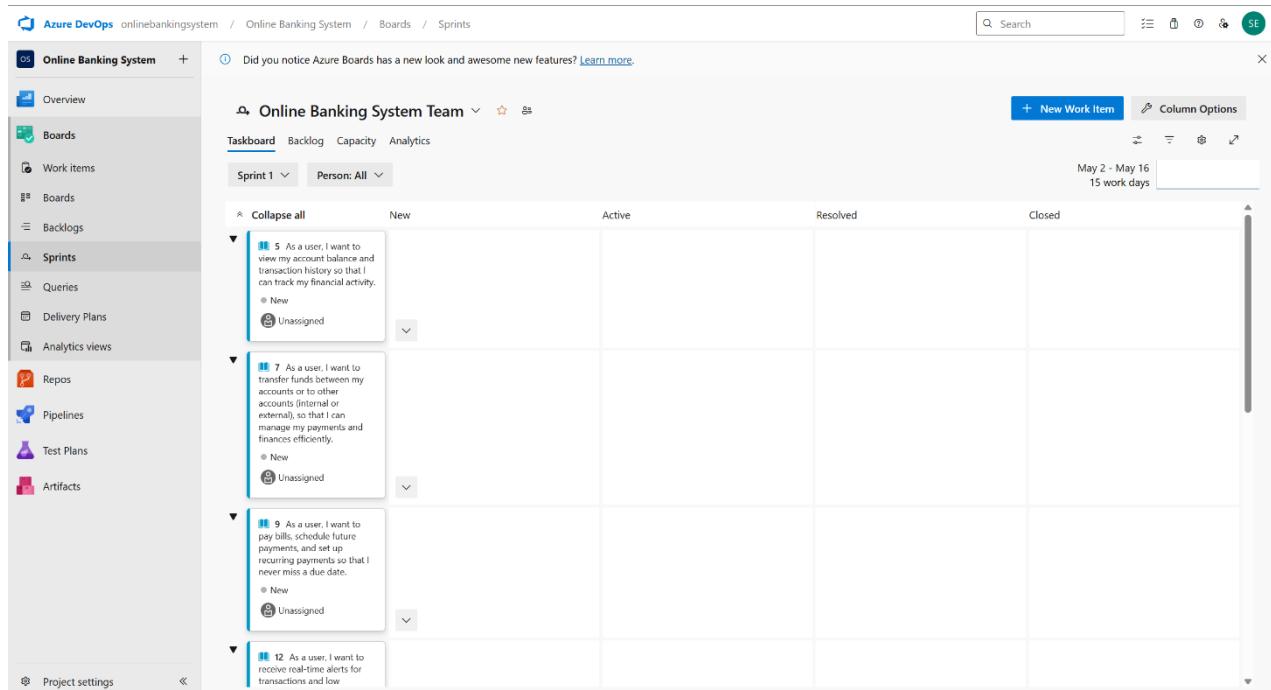
## **SPRINT PLANNING**

### **AIM:-**

To assign user story to specific sprint for the Online Banking System Project.

### **Sprint Planning:-**

#### **Sprint 1**



The screenshot shows the Azure DevOps Boards interface for the 'Online Banking System' project. The left sidebar navigation includes 'Overview', 'Boards', 'Work items', 'Backlogs', 'Sprints' (which is selected), 'Queries', 'Delivery Plans', and 'Analytics views'. The main area displays the 'Online Banking System Team' backlog for 'Sprint 1'. The backlog is organized into columns: New, Active, Resolved, and Closed. The 'New' column contains several user stories, each with a small icon and a brief description. For example, story 5: 'As a user, I want to view my account balance and transaction history so that I can track my financial activity.' and story 7: 'As a user, I want to transfer funds between my accounts or to other accounts (internal or external), so that I can manage my payments and finances efficiently.' The 'Active' column is empty. The 'Resolved' and 'Closed' columns also contain empty rows. At the top right, there are buttons for 'New Work Item' and 'Column Options'. A status bar at the bottom indicates the sprint duration: 'May 2 - May 16, 15 work days'.

## Sprint 2

Did you notice Azure Boards has a new look and awesome new features? [Learn more](#).

Online Banking System Team

Sprint 2 Person: All

May 19 - June 2  
14 work days remaining

New	Active	Resolved	Closed
27 As a user, I want to receive real time alerts for transactions and low balances so that I am always informed about my account status. ● New ● Unassigned			

## Sprint 3

The screenshot shows the Azure DevOps interface for the 'Online Banking System' project. The left sidebar navigation includes 'Overview', 'Boards', 'Work items', 'Backlogs', 'Sprints' (which is selected), 'Queries', 'Delivery Plans', and 'Analytics views'. The main content area displays a 'System Team' board for 'Sprint 3'. The board has columns for 'New', 'Active', 'Resolved', and 'Closed'. A single work item is visible in the 'New' column, titled 'As a user, I want to view my account balance and transaction history so that I can track my financial activity.' with the status 'Unassigned'. The top right of the board shows the sprint duration as 'June 3 - June 17' and '15 work days'. A 'New Work Item' button is located in the top right corner of the board area.

## RESULT:-

The Sprints are created for the Online Banking System.

**EXP NO: 5**  
**DATE: 18/2/25**

## **POKER ESTIMATION**

### **AIM:-**

Create Poker Estimation for the user stories -Online Banking System.

### **Poker Estimation:-**

USER STORY 5\*

5 As a user, I want to view my account balance and transaction history so that I can track my financial activity.

Sibhinandhan ER 0 Comments Add Tag

State: Resolved (dropdown menu showing 'Resolved' selected, 'New', 'Active', 'Resolved', 'Closed', 'Removed')

Reason: New

Description: Active

Iteration: Online Banking System\Sprint 1

Planning: Story Points, Priority 2

Deployment: To track releases associated with this work item, go to [Releases](#) and turn on deployment status reporting for Boards in your pipeline's Options menu. [Learn more about deployment status reporting](#)

Classification: Value area Business

Development: Add link

Related Work: Add link, Parent, [View Account Details](#) (Updated 2 May, New)

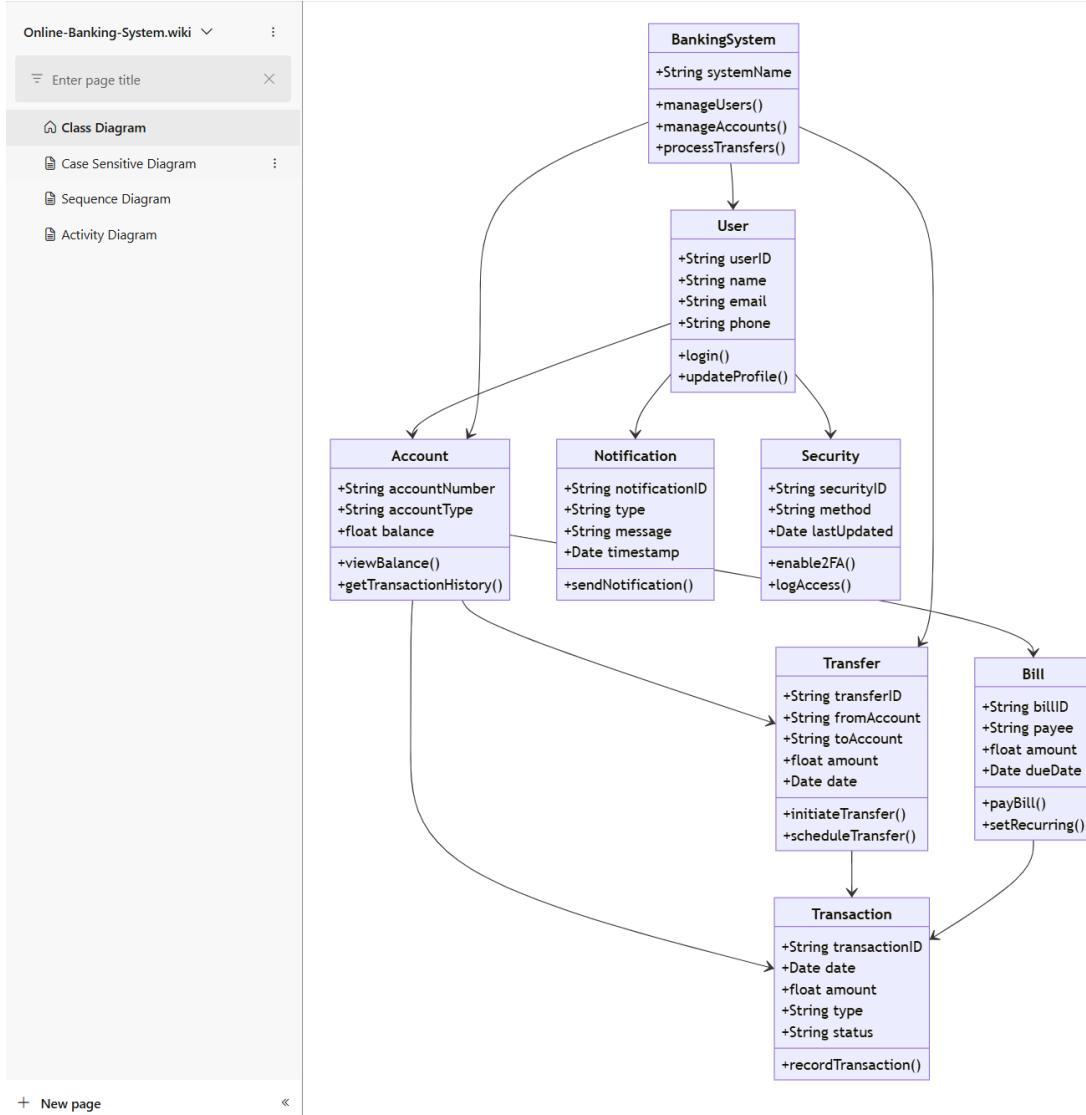
### **RESULT:-**

The Estimation/Story Points is created for the project using Poker Estimation.

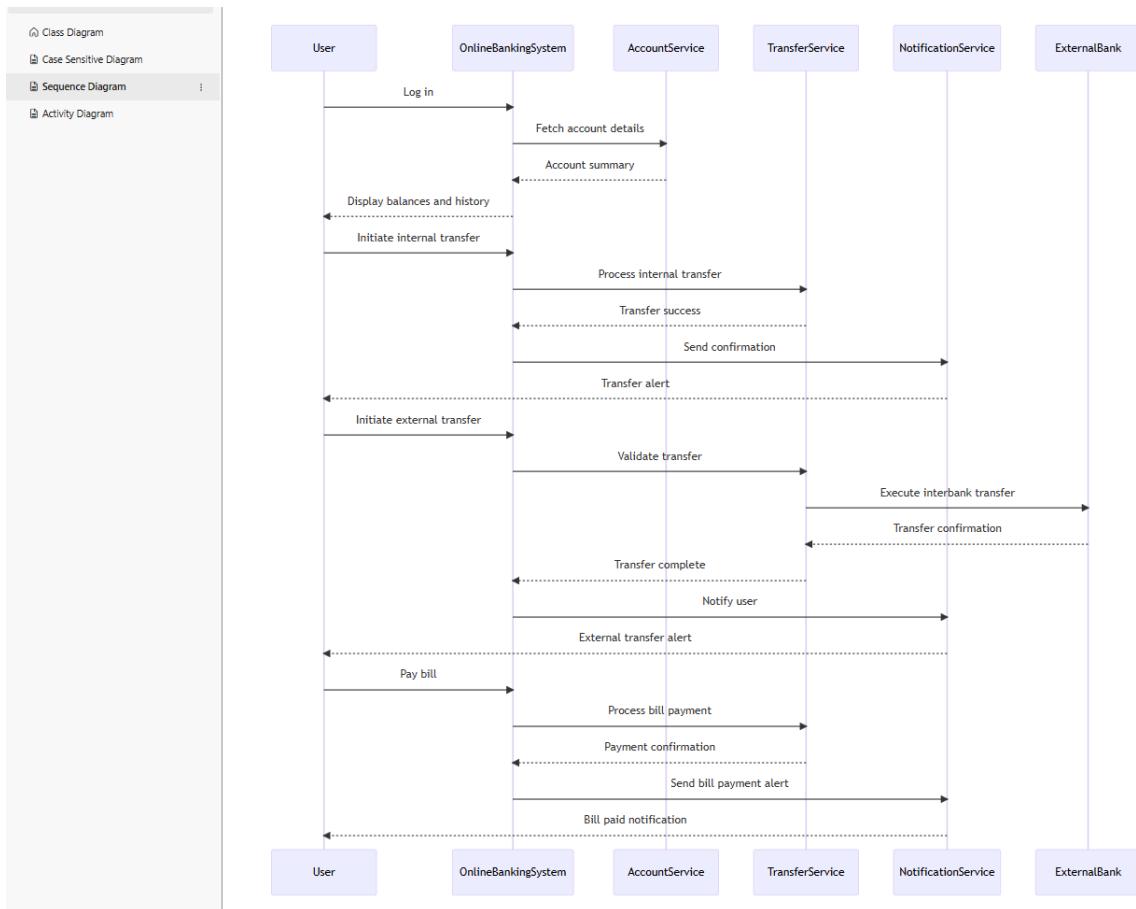
**AIM:-**

To Design a Class Diagram and Sequence Diagram for the given Project.

**6A. CLASS DIAGRAM:-**



## **6B. SEQUENCE DIAGRAM:-**



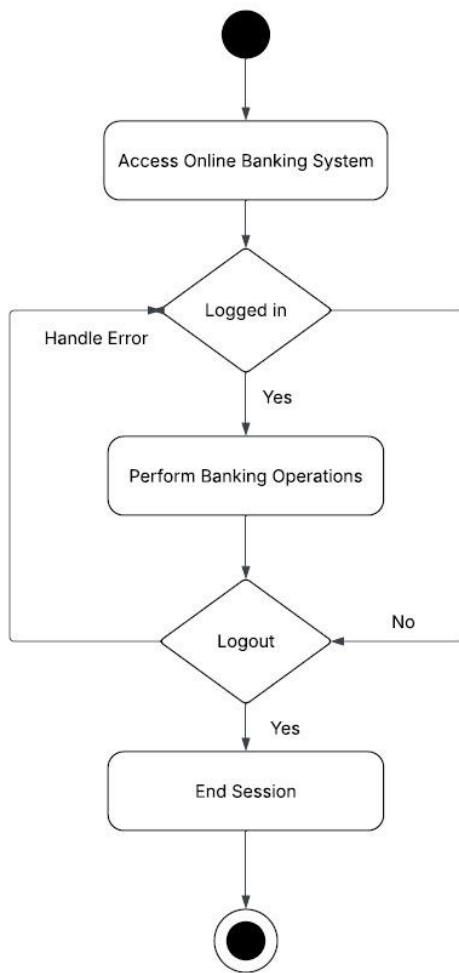
**Result:**

The Class Diagram and Sequence Diagram is designed Successfully for the Online Banking System.

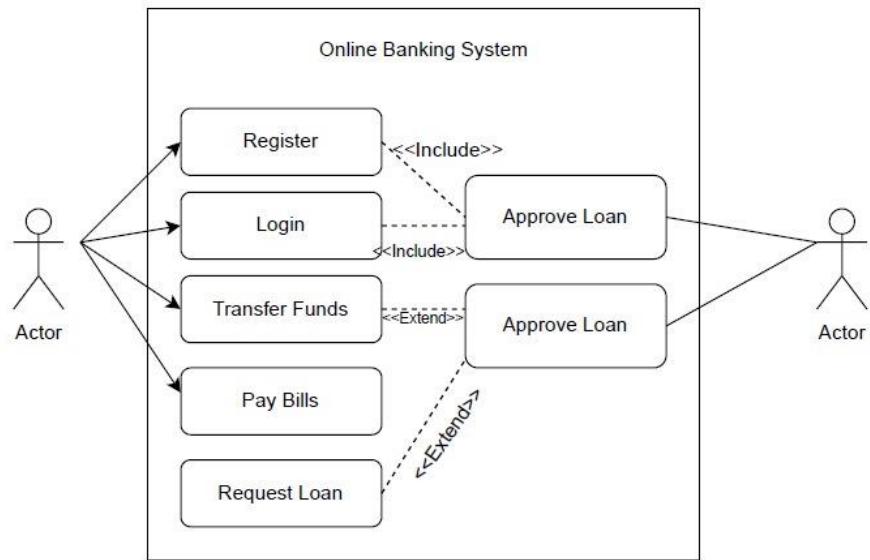
**AIM:-**

To Design an activity Diagram and use case Diagram for the given Project.

**7A. Activity Diagram:-**



## 7B. USE CASE DIAGRAM:-



**RESULT:-**

Thus activity and use case diagram has been designed successfully for Online Banking System

**AIM:-**

Test Plans and Test Case and write two test cases for at least five user stories showcasing the happy path and error scenarios in azure DevOps platform.

**Test Planning and Test Case**

**Test Case Design Procedure**

**1. Understand Core Features of the Application**

- User Signup & Login
- Student Enrollment in Courses
- Assignment Submission & Evaluation
- Viewing Grades and Attendance
- Admin Role Management and Report Generation

**2. Define User Interactions**

- Each test case simulates a real user behavior (e.g., logging in, submitting an assignment, viewing results).

**3. Design Happy Path Test Cases**

- Focused on validating that all core functionalities work correctly under normal conditions.
- **Example:** Student registers and logs in, enrolls in a course, submits assignment, and views grades.

**4. Design Error Path Test Cases**

- Simulate invalid inputs, system issues, or failed actions to ensure proper error handling.
- **Example:** Login with wrong credentials, submission without attachment, unauthorized access to admin panel.

**5. Break Down Steps and Expected Results**

- Each test case includes a clear sequence of actions and expected results.
- Ensures both manual testers and automation tools can follow the process easily.

**6. Use Clear Naming and IDs**

- Test cases are uniquely identified (e.g., TC01 – Student Login Success, TC12 – Invalid Assignment Submission).
- Facilitates easy mapping to features and tracking in Azure DevOps.

**7. Separate Test Suites**

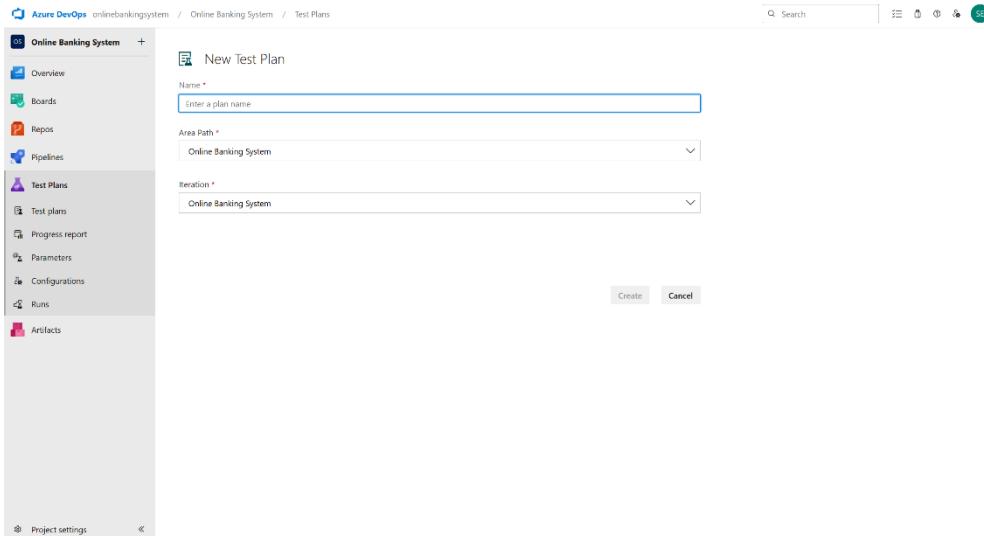
- Grouped by functionality such as:
  - Login and Registration
  - Course Enrollment

- Assignment Submission
- Report Generation
- Admin Functions
- Improves organization and enables focused execution in Azure DevOps.

## 8. Prioritize and Review

- High-priority assigned to critical workflows like login, course access, and grading.
- Reviewed for completeness, accuracy, and alignment with user stories and feature definitions.

## 1. New test plan



## 2. Test suite

Title	Outcome	Order	Test Case Id	Configuration	Tester
Login Authentication	Passed	2	24	Windows 10	vasantha.kuma
Current Balance Checking	Failed	3	25	Windows 10	vasantha.kuma
Fund Transfers	Passed	4	26	Windows 10	vasantha.kuma

### 3. Test case

Give two test cases for at least five user stories showcasing the happy path and error scenarios in azure DevOps platform.

Online Banking System– Test Plans

#### **USER STORIES:-**

- As a student, I want to sign up and log in securely so I can access academic services. (*ID: 101*)
- As a student, I need to enroll in courses to participate in classes. (*ID: 102*)
- As a student, I should be able to submit assignments online for evaluation. (*ID: 103*)
- As a student, I want to view grades and attendance in one place. (*ID: 104*)
- As an admin, I want to manage users and generate performance reports. (*ID: 105*)

#### **Test Suites:-**

**Test suit : TS01 – User Login & Registration (*ID: 201*)**

##### **1. TC01 – Successful Student Sign-Up**

- **Action:**
  - Go to the Sign-Up page
  - Enter valid name, email, and password
  - Click "Sign Up"
- **Expected Result:**
  - Student account is created and redirected to dashboard
- **Type:** Happy Path

##### **2. TC02 – Login with Valid Credentials**

- **Action:**
  - Go to Login page
  - Enter valid student email & password
  - Click "Login"
- **Expected Result:**
  - Logged in and taken to student dashboard
- **Type:** Happy Path

##### **3. TC03 – Sign-Up with Existing Email**

- **Action:**
  - Go to Sign-Up
  - Enter already registered email
  - Click "Sign Up"
- **Expected Result:**
  - Error message: "Email already registered"
- **Type:** Error Path

4. **TC04 – Login with Incorrect Password**

- **Action:**
  - Enter wrong password
  - Click "Login"
- **Expected Result:**
  - Error: "Invalid username or password"
- **Type:** Error Path

**Test Suite: TS02 – Course Enrollment (ID: 202)**

1. **TC05 – Enroll in Available Course**

- **Action:**
  - Login → Navigate to Course List
  - Select a course → Click "Enroll"
- **Expected Result:**
  - Enrollment confirmation shown
- **Type:** Happy Path

2. **TC06 – Try Enrolling in a Full Course**

- **Action:**
  - Select a course with no seats available
  - Click "Enroll"
- **Expected Result:**
  - Error: "Enrollment failed – course full"
- **Type:** Error Path

**Test Suite: TS03 – Assignment Submission (ID: 203)**

1. **TC07 – Submit Assignment Successfully**

- **Action:**
  - Login → Go to Assignments
  - Upload file and click "Submit"
- **Expected Result:**
  - Submission confirmation message shown
- **Type:** Happy Path

2. **TC08 – Submit Without Uploading File**

- **Action:**
  - Open assignment submission
  - Click "Submit" without file
- **Expected Result:**
  - Error: "Please upload a file before submitting"
- **Type:** Error Path

## Test Suite: TS04 – View Grades & Attendance (ID: 204)

### 1. TC09 – View Grades Dashboard

- **Action:**
  - Login → Go to "My Grades"
- **Expected Result:**
  - All grades are displayed by subject
- **Type:** Happy Path

### 2. TC10 – Fail to Fetch Grades (Offline Scenario)

- **Action:**
  - Disconnect network → Go to "My Grades"
- **Expected Result:**
  - Error: "Unable to fetch data – check connection"
- **Type:** Error Path

## Test Suite: TS05 – Admin Management (ID: 205)

### 1. TC11 – Assign Role to New User

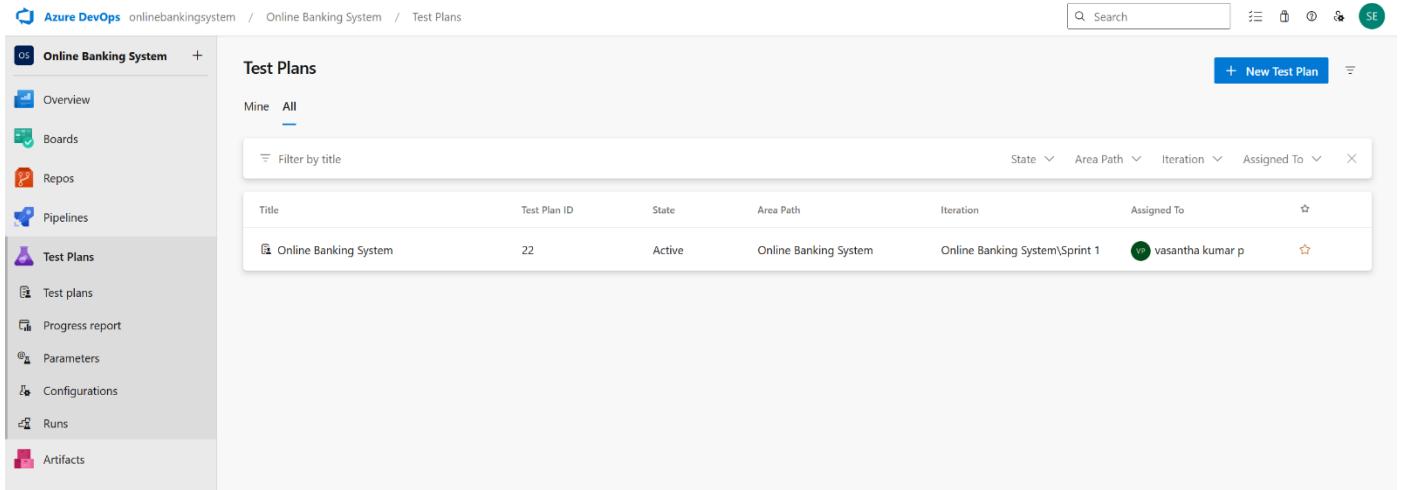
- **Action:**
  - Login as Admin → Navigate to User Management
  - Select user and assign role
- **Expected Result:**
  - Confirmation: "Role assigned successfully"
- **Type:** Happy Path

### 2. TC12 – Generate Report with No Data

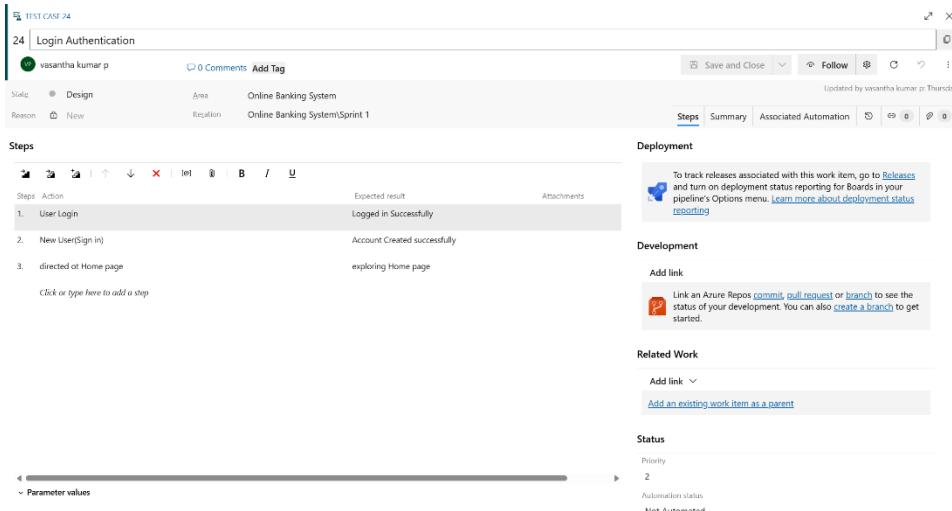
- **Action:**
  - Navigate to Reports → Choose empty semester
  - Click "Generate"
- **Expected Result:**
  - Message: "No data available to generate report"
- **Type:** Error Path

### 3. Test Cases

4.



The screenshot shows the 'Test Plans' page in Azure DevOps. The left sidebar is for the 'Online Banking System' project, with sections for Overview, Boards, Repos, Pipelines, Test Plans, and Artifacts. The 'Test Plans' section is currently selected. The main area displays a table of test plans. One row is selected, showing the title 'Online Banking System', Test Plan ID '22', State 'Active', Area Path 'Online Banking System', Iteration 'Online Banking System\Sprint 1', and Assigned To 'vasantha kumar p'. A 'New Test Plan' button is in the top right.



The screenshot shows the details of 'TEST CASE 24' for 'Login Authentication'. The top bar shows the title, a user profile, and buttons for 'Save and Close', 'Follow', and 'Comments'. The main area is divided into 'Steps' and 'Deployment'. The 'Steps' section contains three steps: 'User Login' (Expected result: Logged in Successfully), 'New User(Sign in)' (Expected result: Account Created successfully), and 'directed on Home page' (Expected result: exploring Home page). Below the steps is a note: 'Click or type here to add a step'. The 'Deployment' section includes a note about tracking releases and a 'Development' section with a note about linking to Azure Repos. The 'Related Work' section has a 'Add link' button. The 'Status' section shows a priority of '2' and an automation status of 'Not Automated'.

### Online Banking System (ID: 23)

Define Execute Chart

#### Test Cases (3 items)

New Test Case

	Title	Order	Test Case Id	Assigned To	State
<input type="checkbox"/>	Login Authentication	2	24	vasantha kumar p	Design
<input type="checkbox"/>	Current Balance Checking	3	25	vasantha kumar p	Design
<input type="checkbox"/>	Fund Transfers	4	26	vasantha kumar p	Design

TEST CASE 25

25 Current Balance Checking

vasantha kumar p 0 Comments Add Tag

Status: Design Area: Online Banking System  
Reason: New Iteration: Online Banking System\Sprint 1

Steps

Steps	Action	Expected result	Attachments
1.	Account Balance		
2.	Updation on usage		

Click or type here to add a step

Parameter values

Save and Close Follow Updated by vasantha kumar p: Thursday

Steps Summary Associated Automation

Deployment

To track releases associated with this work item, go to [Releases](#) and turn on deployment status reporting for Boards in your pipeline's Options menu. [Learn more about deployment status reporting](#)

Development

Add link

Link an Azure Repos [commit](#), [pull request](#) or [branch](#) to see the status of your development. You can also [create a branch](#) to get started.

Related Work

Add link

Add an existing work item as a parent

Status

Priority: 2  
Automation status: Not Automated

TEST CASE 26

26 Fund Transfers

vasantha kumar p 0 Comments Add Tag

Status: Design Area: Online Banking System  
Reason: New Iteration: Online Banking System\Sprint 1

Steps

Steps	Action	Expected result	Attachments
1.	Fund Debited from your account		
2.	Fund created in other account		

Click or type here to add a step

Parameter values

Save and Close Follow Updated by vasantha kumar p: Thursday

Steps Summary Associated Automation

Deployment

To track releases associated with this work item, go to [Releases](#) and turn on deployment status reporting for Boards in your pipeline's Options menu. [Learn more about deployment status reporting](#)

Development

Add link

Link an Azure Repos [commit](#), [pull request](#) or [branch](#) to see the status of your development. You can also [create a branch](#) to get started.

Related Work

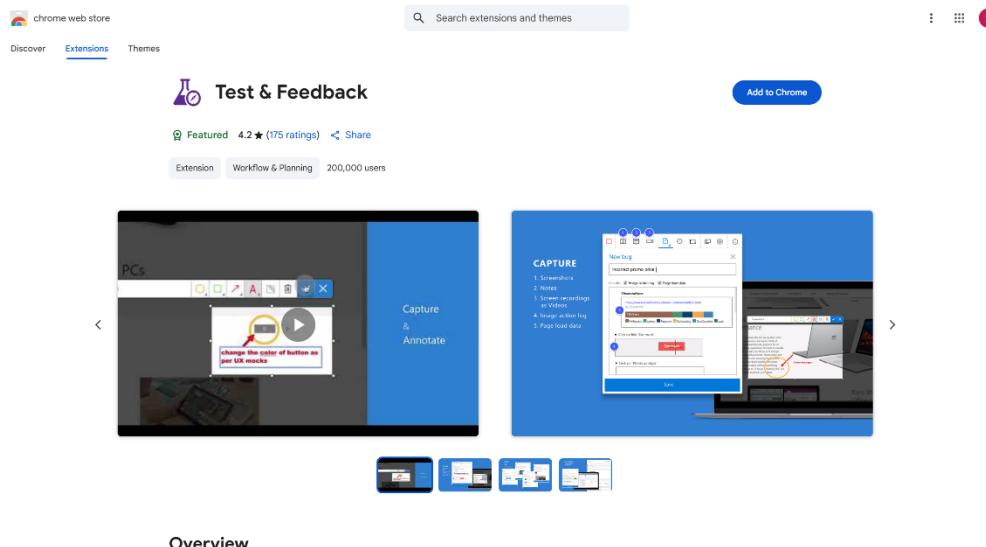
Add link

Add an existing work item as a parent

Status

Priority: 2  
Automation status: Not Automated

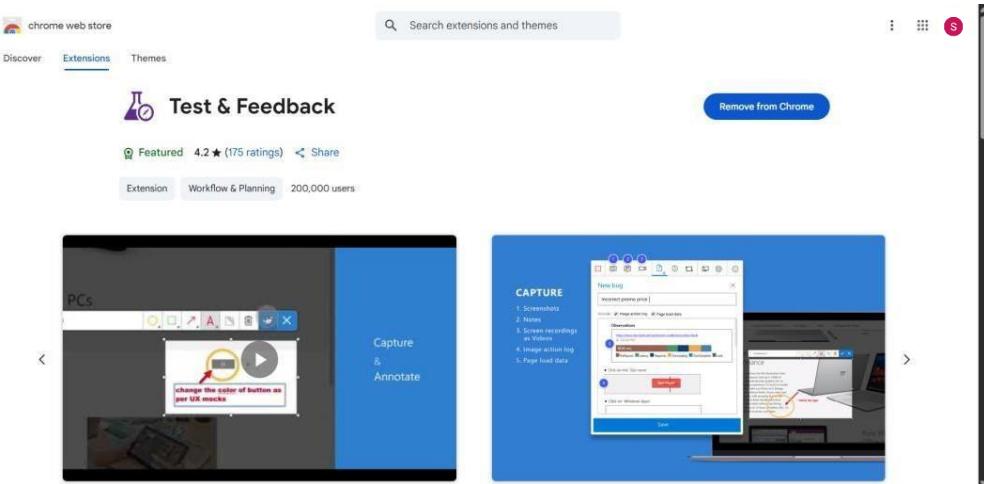
## 5. Installation of test



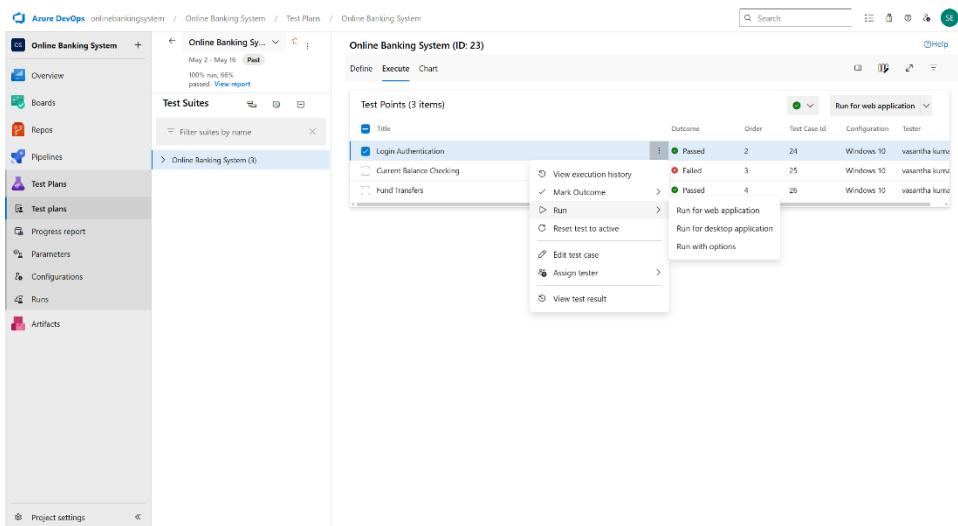
### Overview

6.

7.

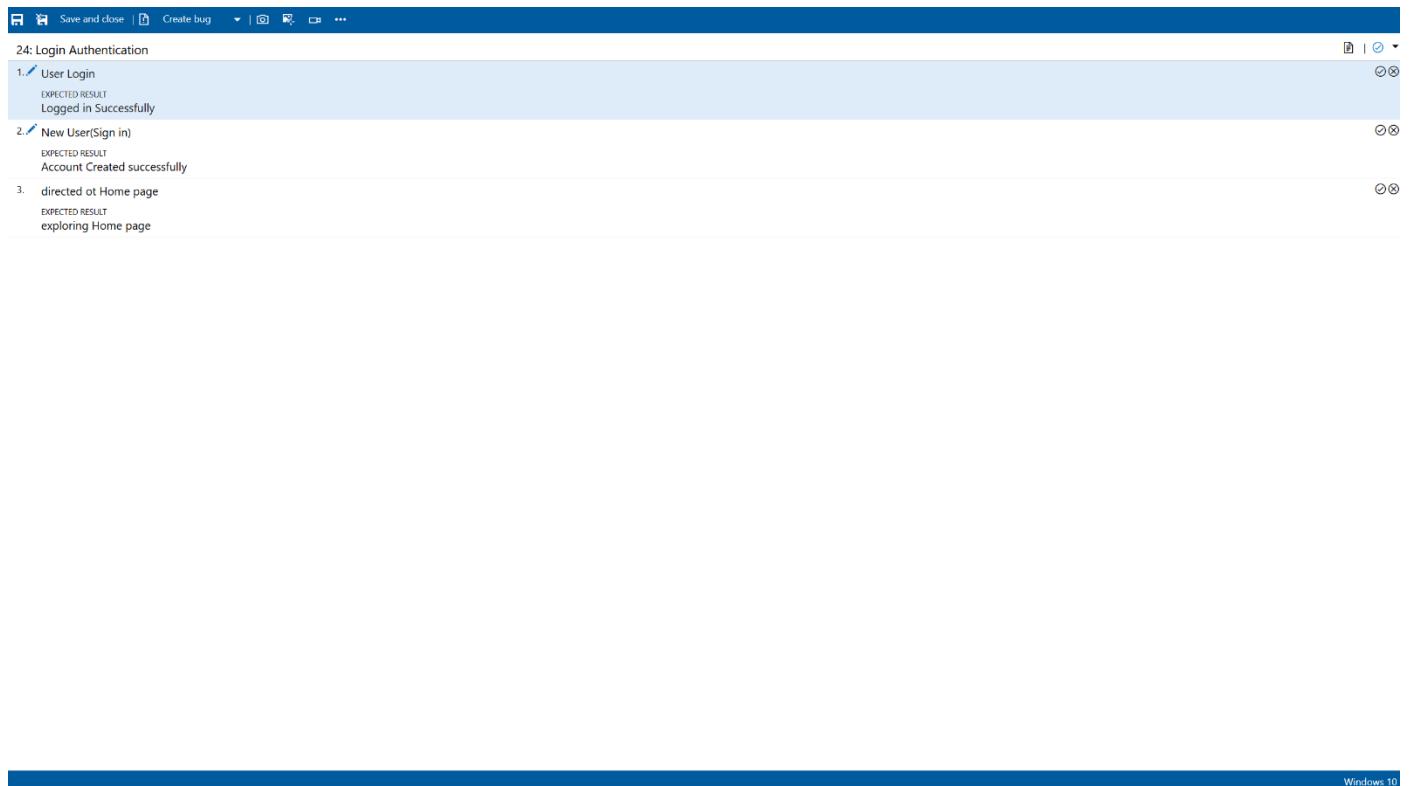


## 8. Running the test cases



The screenshot shows the Azure DevOps Test Plans interface for the 'Online Banking System'. The left sidebar is open, showing 'Test Plans' selected. The main area displays a table of 'Test Points (3 items)'. A context menu is open over the first row, which includes options like 'View execution history', 'Mark outcome', 'Run', 'Reset test to active', 'Edit test case', 'Assign tester', and 'View test result'. The table has columns for 'Title', 'Outcome', 'Order', 'Test Case Id', 'Configuration', and 'Tester'. The first row shows 'Login Authentication' with 'Passed' as the outcome, '2' as the order, '24' as the test case id, 'Windows 10' as the configuration, and 'vasantha.kurni' as the tester.

## 9.

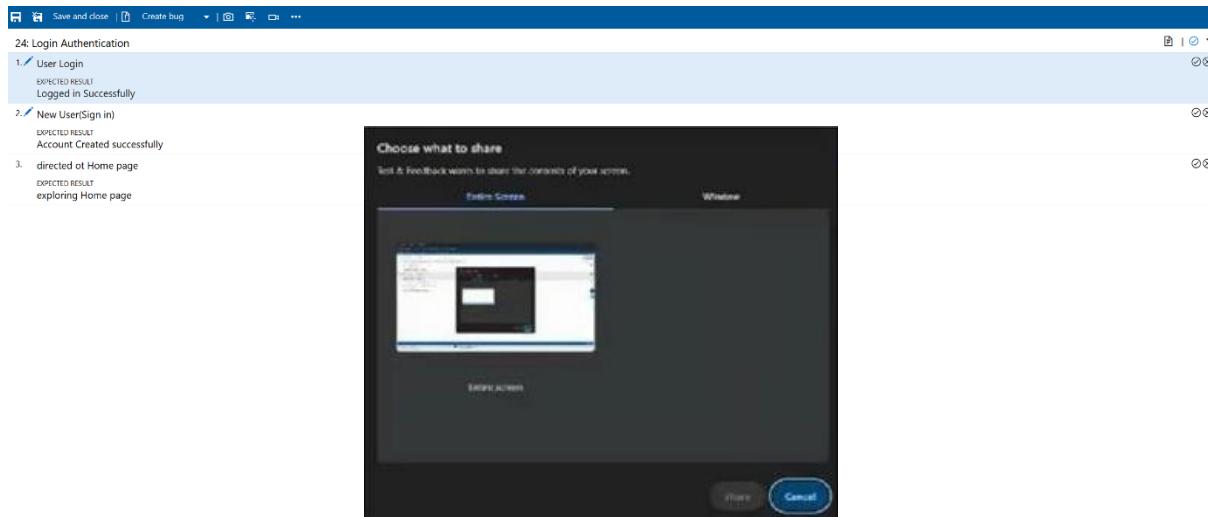


The screenshot shows a test case details page for '24: Login Authentication'. The page has a header with 'Save and close', 'Create bug', and a '...' button. The main content area is titled '24: Login Authentication' and contains three test steps:

1. User Login  
EXPECTED RESULT  
Logged in Successfully
2. New User(Sign in)  
EXPECTED RESULT  
Account Created successfully
3. directed at Home page  
EXPECTED RESULT  
exploring Home page

At the bottom of the page, there is a note 'Windows 10'.

## 10. Recording the test case



## 11. Creating the bug

The screenshot shows a 'NEW BUG' form. The main title is 'If consumer cant transfer funds due to insufficient balance, then print low balance'. The form includes the following fields:

- Repro Steps:** Click to add Repro Steps.
- System Info:** Click to add System Info.
- Discussion:** A text input field with placeholder text: 'Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.' and a 'switch to Markdown editor' link.
- Planning:** Resolved Reason (dropdown), Story Points (dropdown), Priority (dropdown), Severity (dropdown), and Activity (dropdown).
- Effort (Hours):** Original Estimate, Remaining, and Completed.
- Deployment:** A note: 'To track releases associated with this work item, go to [Releases](#) and turn on deployment status reporting for Boards in your pipeline's Options menu. [Learn more about deployment status reporting](#)'.
- Development:** Add link (dropdown), a note: 'Link an Azure Repos [commit](#), [pull request](#) or [branch](#) to see the status of your development. You can also [create a branch](#) to get started.', and a list of related work items.
- Related Work:** A list of work items, including one with the title 'As a user, I want to transfer funds between my a...' and status 'Updated 2 May'.
- System Info:** A note: 'Found in Build'.

12.

NEW BUG \*

If consumer cant transfer funds due to insufficient balance, then print low balance

No one selected 0 Comments Add Tag

Save and Close

State: New Area: Online Banking System  
Reason: New Iteration: Online Banking System\Sprint 1

System Info

Browser - Name	Google Chrome 136
Browser - Language	en-US
Browser - Height	816
Browser - Width	1536
Browser - User agent	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36
Operating system - Name	Windows NT 10.0; Win64; x64
Operating system - Architecture	x86_64
Operating system - Processor model	12th Gen Intel(R) Core(TM) i5-1235U
Operating system - Number of processors	12
Memory - Available	1231306752
Memory - Capacity	8301043712
Display - Pixels per inch (X axis)	120
Display - Pixels per inch (Y axis)	120
Display - Device pixel ratio	1.25

System Info

Found in Build

Integrated in Build

Details

Updated Sunday, 0 Design

## Test Results

Azure DevOps onlinebankingsystem / Online Banking System / Test Plans / Online Banking System

Online Banking System + May 2 - May 16 Past 0% run. View report

Test Suites

Filter suites by name

Online Banking System (3)

New Suite

Online Banking System (ID: 23)

Define Execute Chart

Test Points (3 items)

Title

Login Authentication

Current Balance Checking

Fund Transfers

Login Authentication

Test Case Results

Outcome	TimeSta...	Configuration	Run by	Tester	Test
Passed	Just now	Windows 10	Sibhinandan ER	vasantha kuma...	Online
Passed	4m ago	Windows 10	Sibhinandan ER	vasantha kuma...	Online
Passed	Yesterd...	Windows 10	vasantha kuma...	vasantha kuma...	Online
Passed	Thursd...	Windows 10	vasantha kuma...	vasantha kuma...	Online

Open execution history for current test point

## 13. Progress report

Azure DevOps onlinebankingsystem / Online Banking System / Test Plans / Progress report

Progress report

Online Banking System Test Suites Outcome Configuration Tester Priority Assigned To

Last 14 Days

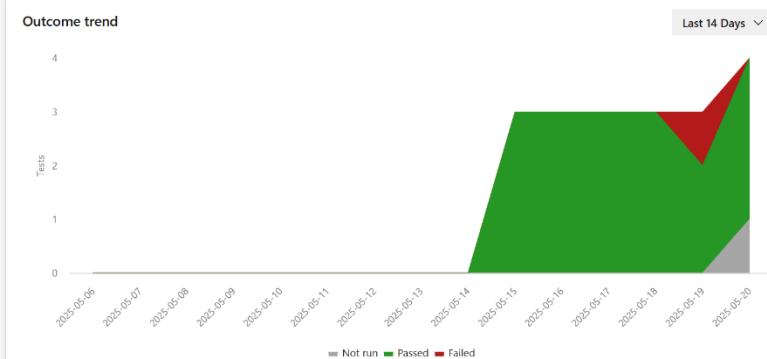
### Summary

1 Test plans 4 Test points

3 (3 / 4) Test points run 75% Run

100% (3 / 3) Pass rate 3 Passed

### Outcome trend



Date	Not run	Passed	Failed
2025-05-06	4	0	0
2025-05-07	3	0	0
2025-05-08	2	0	0
2025-05-09	1	0	0
2025-05-10	0	0	0
2025-05-11	0	0	0
2025-05-12	0	0	0
2025-05-13	0	0	0
2025-05-14	0	0	0
2025-05-15	0	3	0
2025-05-16	0	3	0
2025-05-17	0	3	0
2025-05-18	0	3	0
2025-05-19	0	3	0
2025-05-20	0	3	0

### Details

Test plan name	Test points	Run %	Passed %	Failed %	Not run count
Online Banking System	4	75	100	0	1

Project settings

Azure DevOps onlinebankingsystem / Online Banking System / Test Plans / Progress report

Azure DevOps Student-management-SC / student management sc / Test Plans / Progress report

Progress report

Online Banking System Test Suites Outcome Configuration Tester Priority Assigned To

Last 14 Days

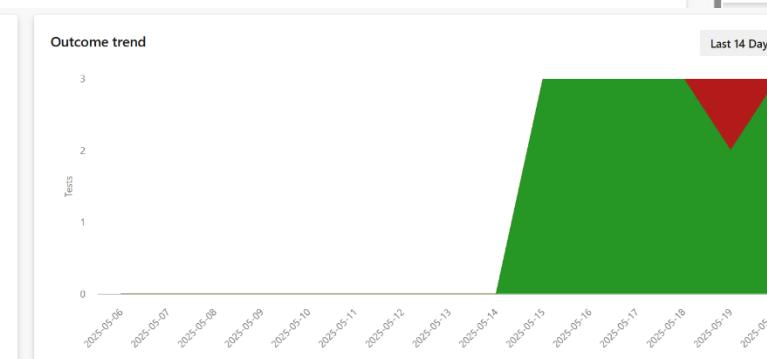
### Summary

1 Test plans 3 Test points

3 (3 / 3) Test points run 100% Run

100% (3 / 3) Pass rate 3 Passed

### Outcome trend



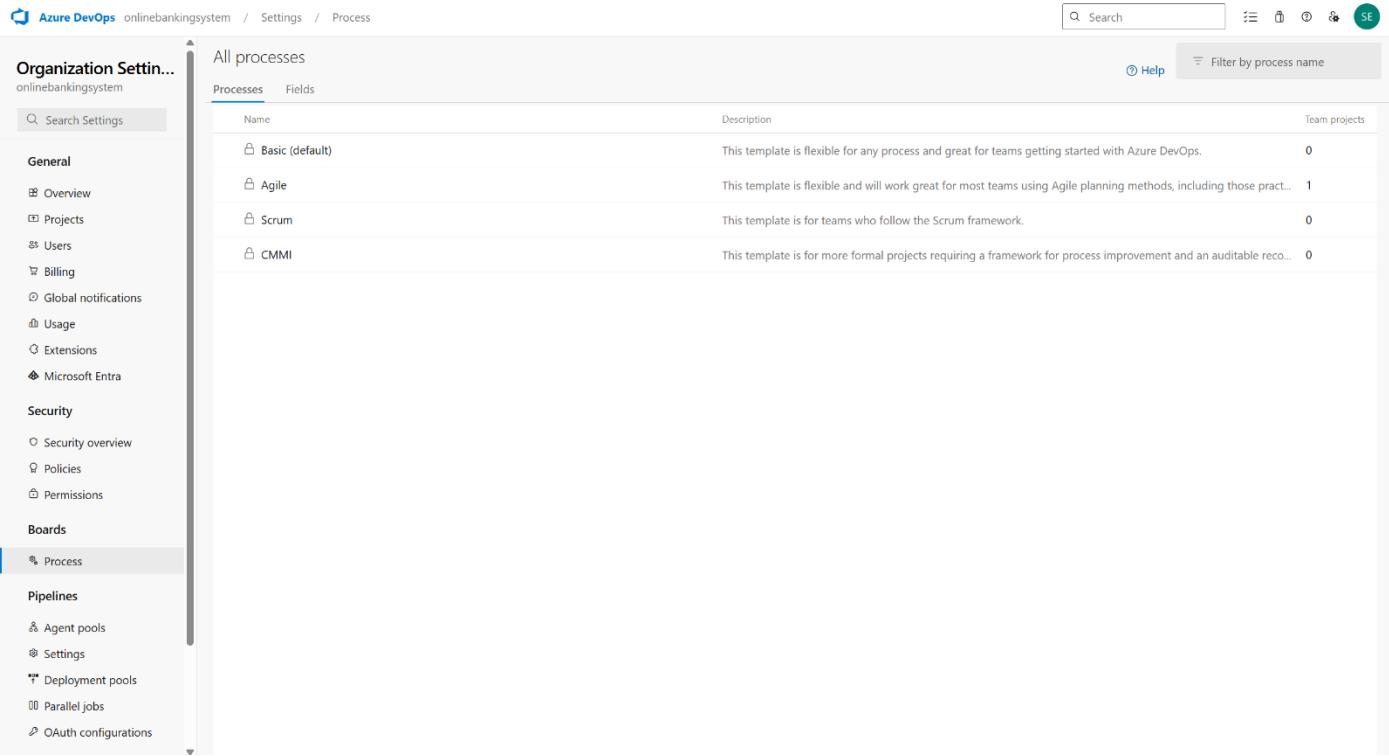
Date	Passed	Failed
2025-05-06	1	0
2025-05-07	1	0
2025-05-08	1	0
2025-05-09	1	0
2025-05-10	1	0
2025-05-11	1	0
2025-05-12	1	0
2025-05-13	1	0
2025-05-14	1	0
2025-05-15	1	0
2025-05-16	1	0
2025-05-17	1	0
2025-05-18	1	0
2025-05-19	1	0
2025-05-20	1	0

### Details

Test plan name	Test points	Run %	Passed %	Failed %	Not run count
Online Banking System	3	100	100	0	0

Project settings

## 14. Changing the test template



The screenshot shows the 'All processes' page in Azure DevOps. The left sidebar is titled 'Organization Settings' for the 'onlinebankingsystem' project. The 'Process' section is selected, indicated by a blue border. The main table lists four process templates: 'Basic (default)', 'Agile', 'Scrum', and 'CMMI'. Each row includes a description and a 'Team projects' column showing the count of projects using that template.

Name	Description	Team projects
Basic (default)	This template is flexible for any process and great for teams getting started with Azure DevOps.	0
Agile	This template is flexible and will work great for most teams using Agile planning methods, including those pract...	1
Scrum	This template is for teams who follow the Scrum framework.	0
CMMI	This template is for more formal projects requiring a framework for process improvement and an auditable reco...	0

**Result:**

The test plans and test cases for the user stories is created in Azure DevOps with Happy Path and Error Path

**AIM:**

To implement a Continuous Integration and Continuous Deployment (CI/CD) pipeline in Azure DevOps for automating the build, testing, and deployment process of the Online Banking System, ensuring faster delivery and improved software quality.

**PROCEDURE:**

**Steps to Create and implement pipelines in Azure:**

1. Sign in to Azure DevOps and Navigate to Your Project  
Log in to [dev.azure.com](https://dev.azure.com), select your organization, and open the project where your Online Banking System code resides.
2. Connect a Code Repository (Azure Repos or GitHub)  
Ensure your application code is stored in a Git-based repository such as Azure Repos or GitHub. This will be the source for triggering builds and deployments in your pipeline.
3. Create a New Pipeline  
Go to the Pipelines section on the left panel and click “Create Pipeline”. Choose your source (e.g., Azure Repos Git or GitHub), and then select the repository containing your project code.
4. Choose the Pipeline Configuration  
You can select either the YAML-based pipeline (recommended for version control and automation) or the Classic Editor for a GUI-based setup.  
If using YAML, Azure DevOps will suggest a template or allow you to define your own.
5. Define Build Stage (CI - Continuous Integration) from YAML file
6. Install dependencies (e.g., npm install, dotnet restore)
7. Build the application (dotnet build, npm run build)
8. Run unit tests (dotnet test, npm test)
9. Publish build artifacts to be used in the release stage

10. Save and Run the Pipeline for the First Time

Save the YAML or build definition and click “Run”.

Azure will fetch the latest code and execute the defined build and test stages.

11. Configure Continuous Deployment (CD)

Navigate to the Releases tab under Pipelines and click “New Release Pipeline”.

Add an Artifact (from the build stage) and create a new Stage (e.g., Development, Production).

12. Configure the CD stage with deployment tasks such as deploying to Azure App Service, running database migrations or scripts, and restarting services using the Azure App Service Deploy task linked to your subscription and app details.

13. Set Triggers and Approvals

Enable continuous deployment trigger so the release pipeline runs automatically after a successful build.

For production environments, configure pre-deployment approvals to ensure manual verification before release.

14. Monitor Pipelines and Manage Logs

View all pipeline runs under the Runs section.

Check logs for build/test/deploy stages to debug any errors.

You can also integrate email alerts or Microsoft Teams notifications for build failures.

15. Review and Maintain Pipelines

Regularly update your pipeline tasks or YAML configurations as your application grows.

Ensure pipeline runs are clean and artifacts are stored securely.

Integrate quality gates and code coverage policies to maintain code quality.

Azure DevOps onlinebankingsystem / Online Banking System / Pipelines

**Pipelines**

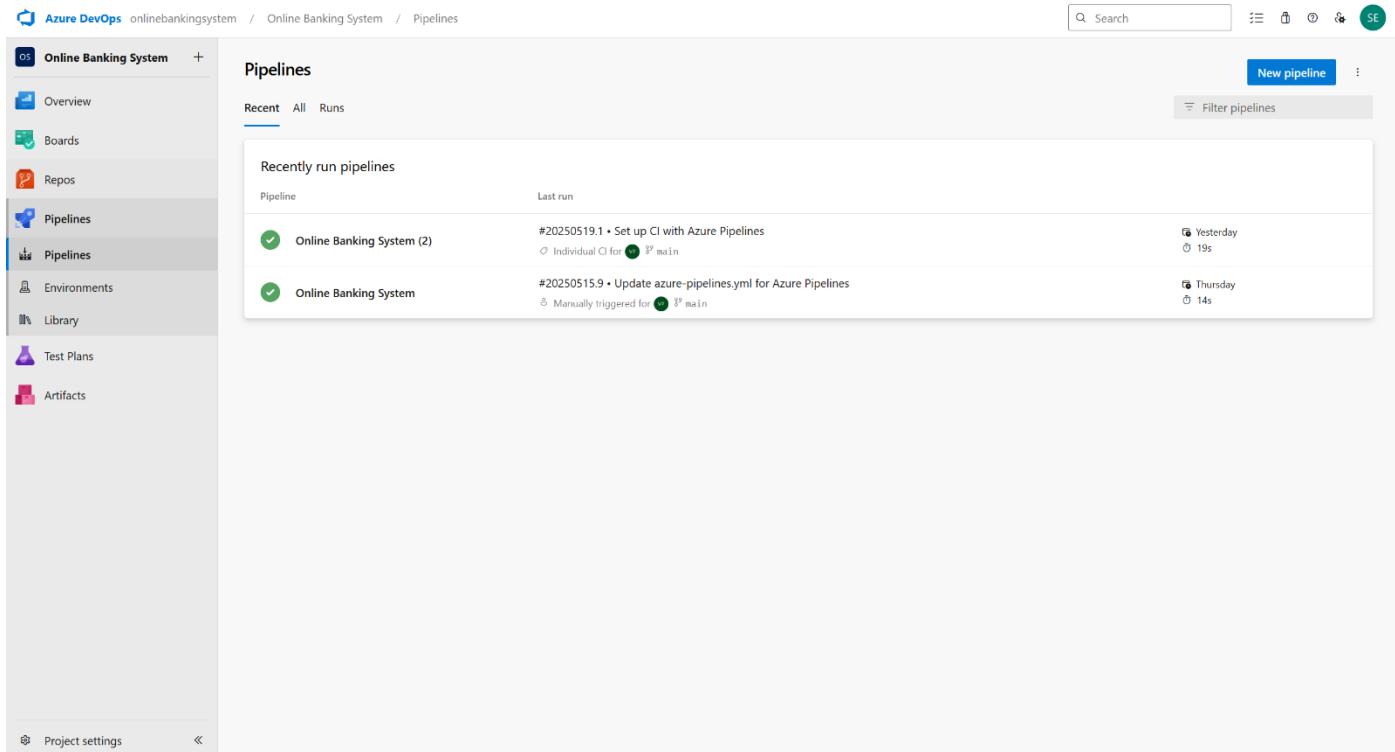
Recent All Runs

Filter pipelines

Recently run pipelines

Pipeline	Last run	
Online Banking System (2)	#20250519.1 • Set up CI with Azure Pipelines Individual CI for 3 <sup>rd</sup> main	Yesterday 19s
Online Banking System	#20250515.9 • Update azure-pipelines.yml for Azure Pipelines Manually triggered for 3 <sup>rd</sup> main	Thursday 14s

Project settings



Azure DevOps onlinebankingsystem / Online Banking System / Pipelines / Online Banking System (2) / 20250519.1

**#20250519.1 • Set up CI with Azure Pipelines**

Run new

This run is being retained as one of 3 recent runs by main (Branch). View retention leases

**Summary** Code Coverage

Individual CI by vasantha kumar p

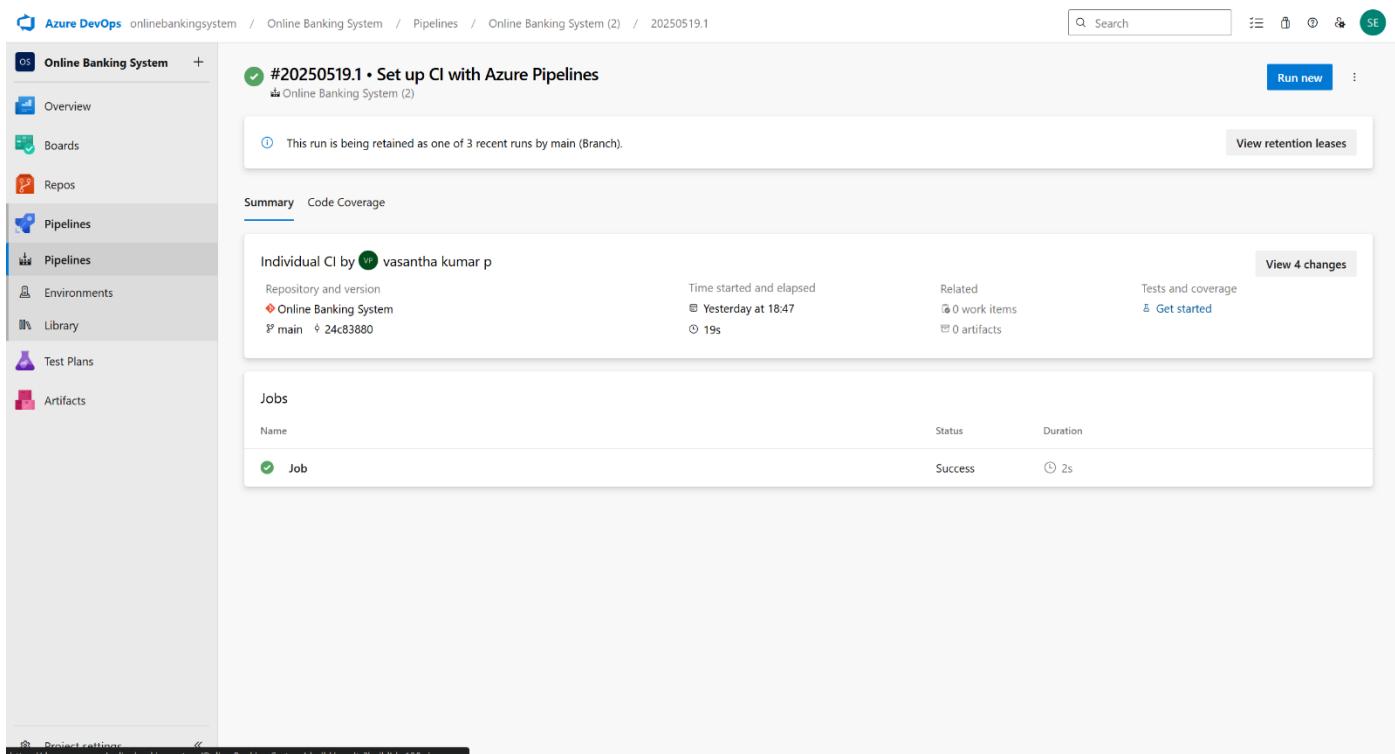
Repository and version	Time started and elapsed	Related	Tests and coverage
Online Banking System 3 <sup>rd</sup> main 24c83880	Yesterday at 18:47 19s	0 work items 0 artifacts	Get started

**Jobs**

Name	Status	Duration
Job	Success	2s

Project settings

[https://dev.azure.com/onlinebankingsystem/Online Banking System/\\_build/results?buildId=105&view=re...](https://dev.azure.com/onlinebankingsystem/Online Banking System/_build/results?buildId=105&view=re...)



Azure DevOps onlinebankingsystem / Online Banking System / Pipelines / Online Banking System / 20250515.9

Search Run new ⋮

Online Banking System +

Overview Boards Repos Pipelines Pipelines Environments Library Test Plans Artifacts

#20250515.9 • Update azure-pipelines.yml for Azure Pipelines

Online Banking System

This run is being retained as one of 3 recent runs by main (Branch). View retention leases

Summary Code Coverage

Manually run by  vasantha kumar p

Repository and version

Online Banking System  
main 8438959c

Time started and elapsed

Thu at 17:14 14s

Related 0 work items 0 artifacts

Tests and coverage

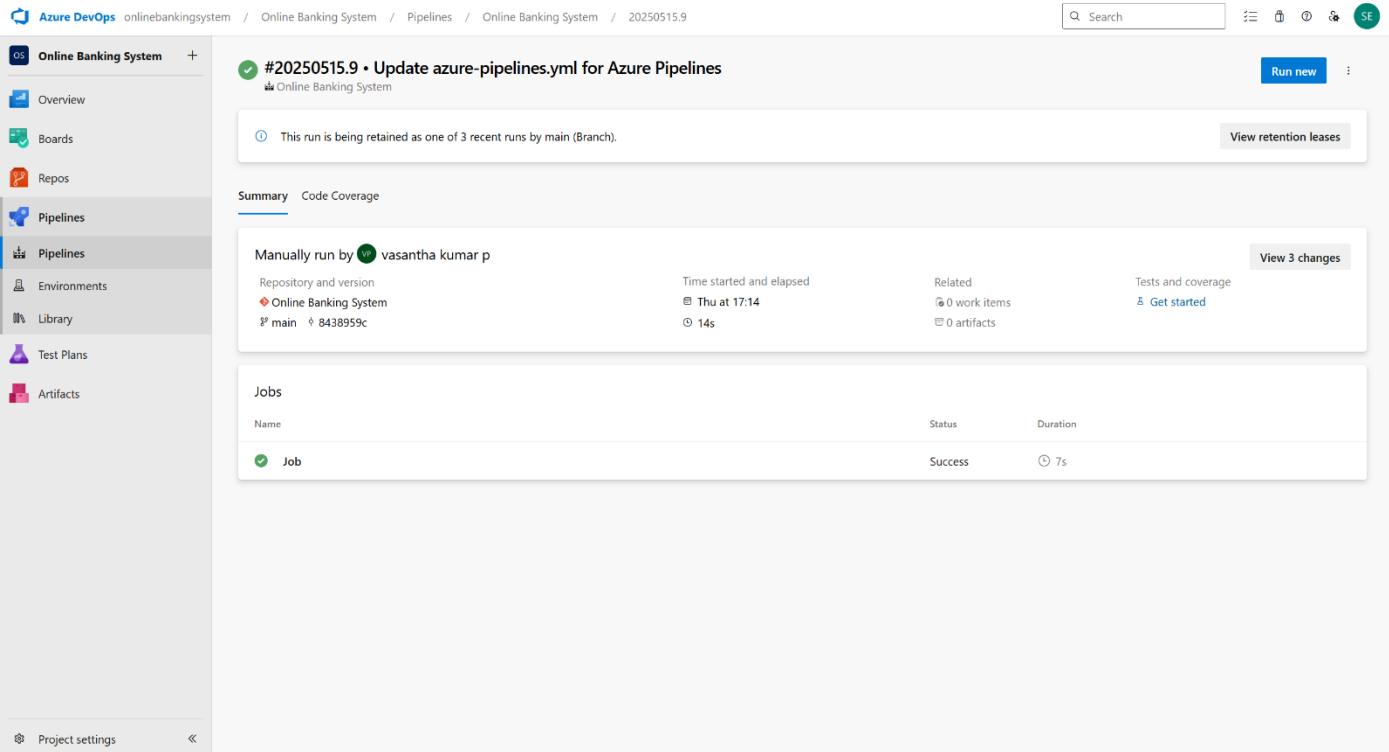
Get started

View 3 changes

Jobs

Name	Status	Duration
Job	Success	7s

Project settings



## **RESULT:**

Thus the pipelines for the given project “Online Banking System has been executed successfully

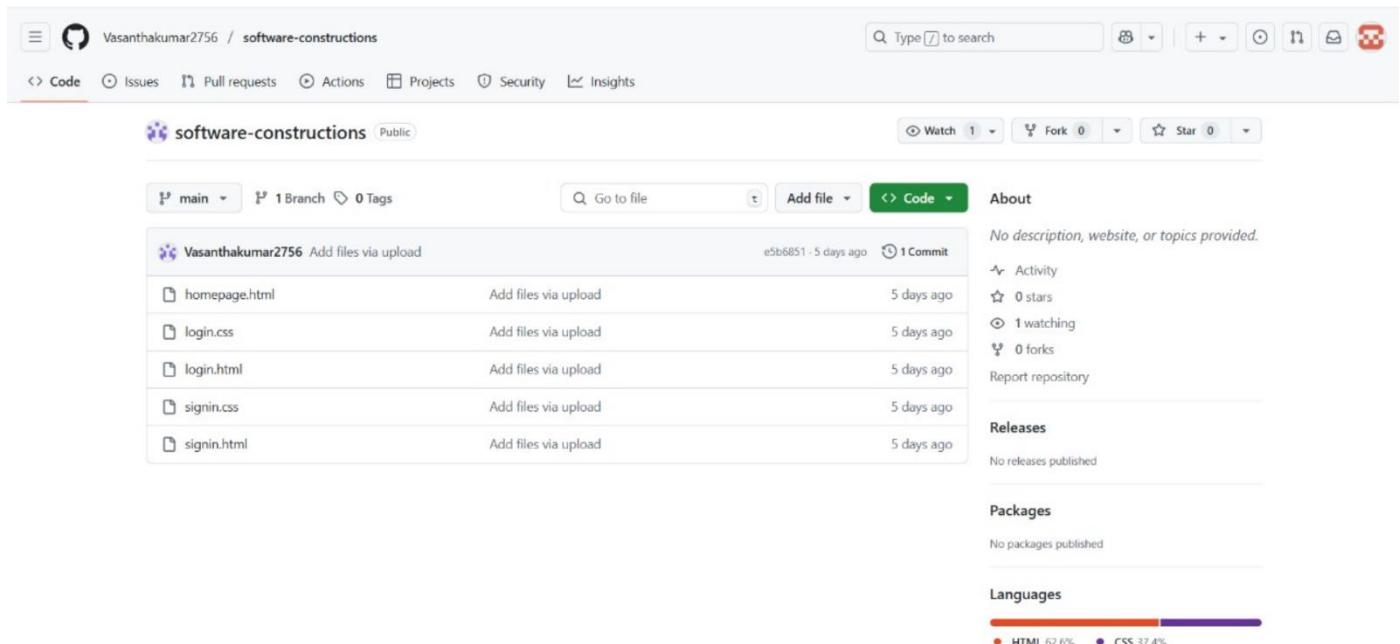
**EXP NO: 10**  
**DATE: 22/4/25**

## **GITHUB: PROJECT STRUCTURE & NAMING CONVENTIONS**

### **Aim:**

To provide a clear and organized view of the project's folder structure and file naming conventions, helping contributors and users easily understand, navigate, and extend the Online Banking System project.

### **GitHub Project Structure**



The screenshot shows a GitHub repository page for a public repository named 'software-constructions'. The repository was created by 'Vasanthakumar2756' and has 1 branch and 0 tags. The main branch contains 6 files: 'homepage.html', 'login.css', 'login.html', 'signin.css', and 'signin.html', all added via upload 5 days ago. The repository has 1 commit, 0 stars, 1 watching, and 0 forks. It has no releases or packages published. The Languages section shows a breakdown: HTML 62.6% and CSS 37.4%.

File	Added	Commit
homepage.html	5 days ago	
login.css	5 days ago	
login.html	5 days ago	
signin.css	5 days ago	
signin.html	5 days ago	

### **Result:**

The GitHub repository clearly displays the organized project structure and consistent naming conventions, making it easy for users and contributors to understand and navigate the codebase.