

# INDEX

S.No.	Date	Title
1.	23/1/25	Azure Devops Environment Setup.
2.	30/1/25	Azure Devops Project Setup and User Story Management.
3.	06/2/25	Setting Up Epics, Features, And User Stories for Project Planning.
4.	13/2/25	Sprint Planning.
5.	20/2/25	Poker Estimation.
6.	27/2/25	Designing Class Diagram and Sequence Diagram.
7.	06/3/25	Designing Use Case Diagram and Activity Diagram.
8.	20/3/25	Testing – Test Plans and Test Cases.
9.	27/3/25	Load Testing and Pipelines.
10.	03/4/25	GitHub: Project Structure & Naming Conventions.

## AZURE DEVOPS ENVIRONMENT SETUP

**EXP NO: 1**

**Date :**

### **Aim:**

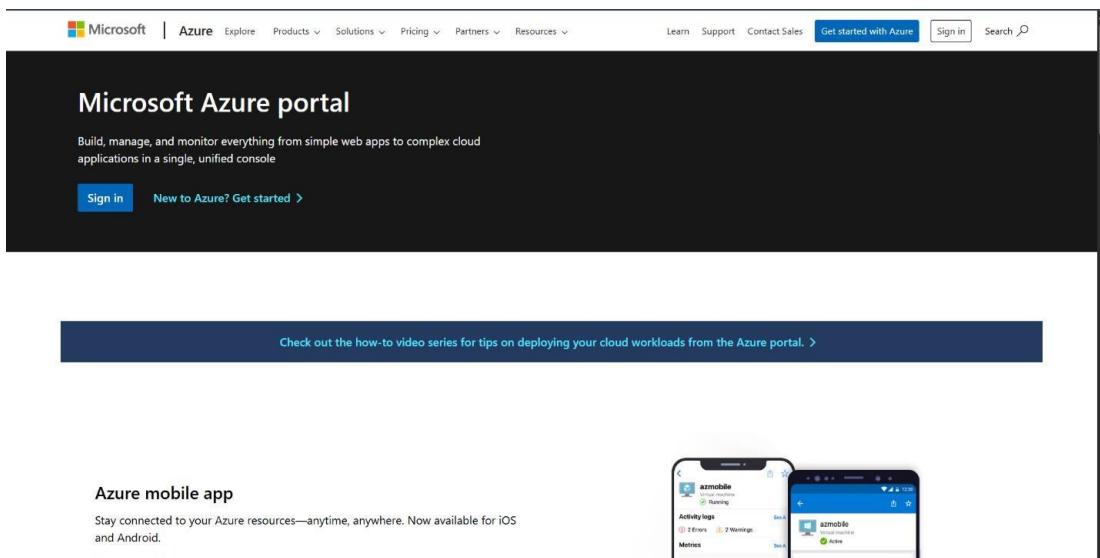
To set up and access the Azure DevOps environment by creating an organization through the Azure portal.

### **INSTALLATION**

1. Open your web browser and go to the Azure website: <https://azure.microsoft.com/en-us/getstarted/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 placeholder text "Search resources, services, and docs (G+)" and a Copilot button. The user's email "suryamv05@gmail.com" and name "DEFAULT DIRECTORY (SURYAMV...)" are visible in the top right. Below the header, the "Azure DevOps" section is highlighted. It features a central illustration of a rocket launching from a stack of boxes, with several people working on various components like a dashboard, databases, and servers. Text in the section encourages users to "Plan smarter, collaborate better, and ship faster with a set of modern dev services". Below the illustration are links for "My Azure DevOps Organizations", "Get started using Azure DevOps", "Billing management for Azure DevOps", "Give feedback", and "Tell us about your experience with the Azure DevOps page".

2. Open a DevOps environment in the Azure platform by typing *Azure DevOps Organizations* in the search bar.

The screenshot shows the Microsoft Azure search results for the query "azure devops". The search interface includes a search bar at the top with the query "azure devops", a Copilot button, and user information. The results are categorized under "All", "Services (99+)", and "Marketplace (21)". The "Services" tab is selected, displaying a list of services including "Azure DevOps organizations", "Azure Cosmos DB", "Azure Database for MySQL servers", and "Azure Deployment Environments". The "Marketplace" tab shows items like "Build Agents for Azure DevOps" and "Self Hosted Runner for Azure DevOps". The "Documentation" section provides links to "Billing overview - Azure DevOps", "Deploying to Azure VMs using deployment groups in Azure Pipelines - Azure Pipel...", and "Buy Azure DevOps for Cloud Solution Providers - Azure DevOps Services". At the bottom, there's a link to "Continue searching in Microsoft Entra ID" and a "Give feedback" button.

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

The screenshot shows the Azure DevOps Organization Home page. At the top, there's a navigation bar with 'Home > Azure DevOps ...' and a close button 'x'. Below the navigation is a banner with the text 'We've made it easier to manage Azure DevOps billing and subscriptions. You can [set up billing](#), [change your subscription](#) or pay for more users and resources within Azure DevOps. [Learn more](#)'.

The main content area features a large, colorful illustration of people working on various tasks: one person stands on a stack of pink boxes, another sits at a desk with a computer monitor, a third works on a server rack, and others interact with clouds and a rocket launching. To the left of the illustration, the text 'Azure DevOps' is displayed in blue, followed by the subtext 'Plan smarter, collaborate better, and ship faster with a set of modern dev services'. Below this are several links: 'My Azure DevOps Organizations', 'Get started using Azure DevOps', 'Billing management for Azure DevOps', 'Give feedback', and 'Tell us about your experience with the Azure DevOps page'.

## **Result:**

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

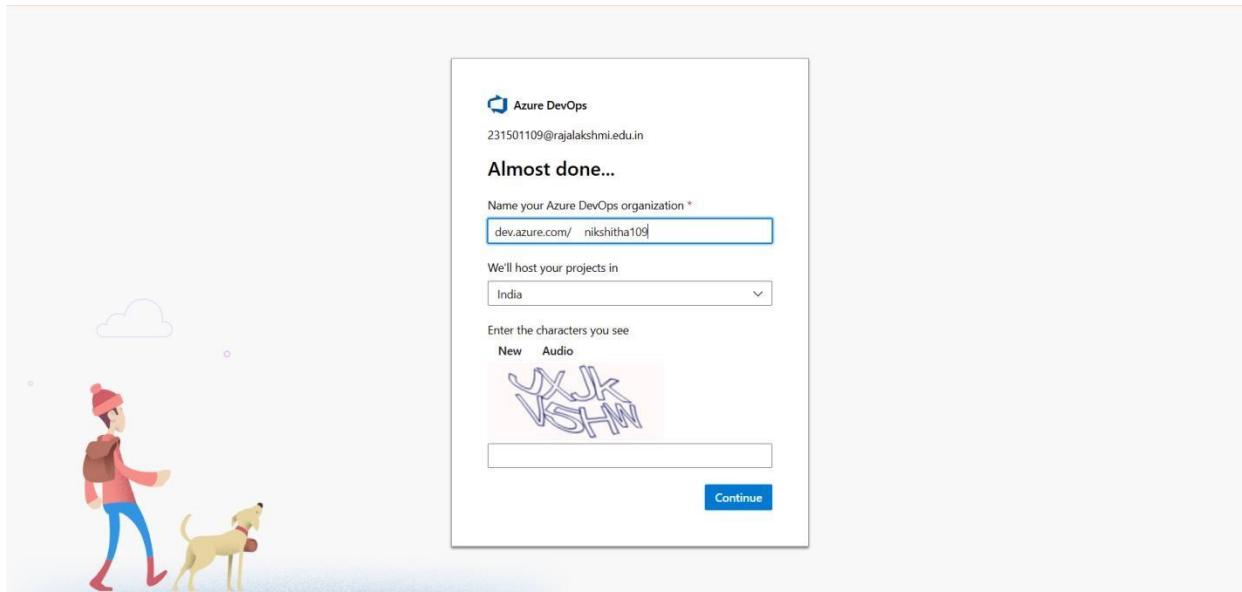
**EXP NO: 2**  
**Date :**

## **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.

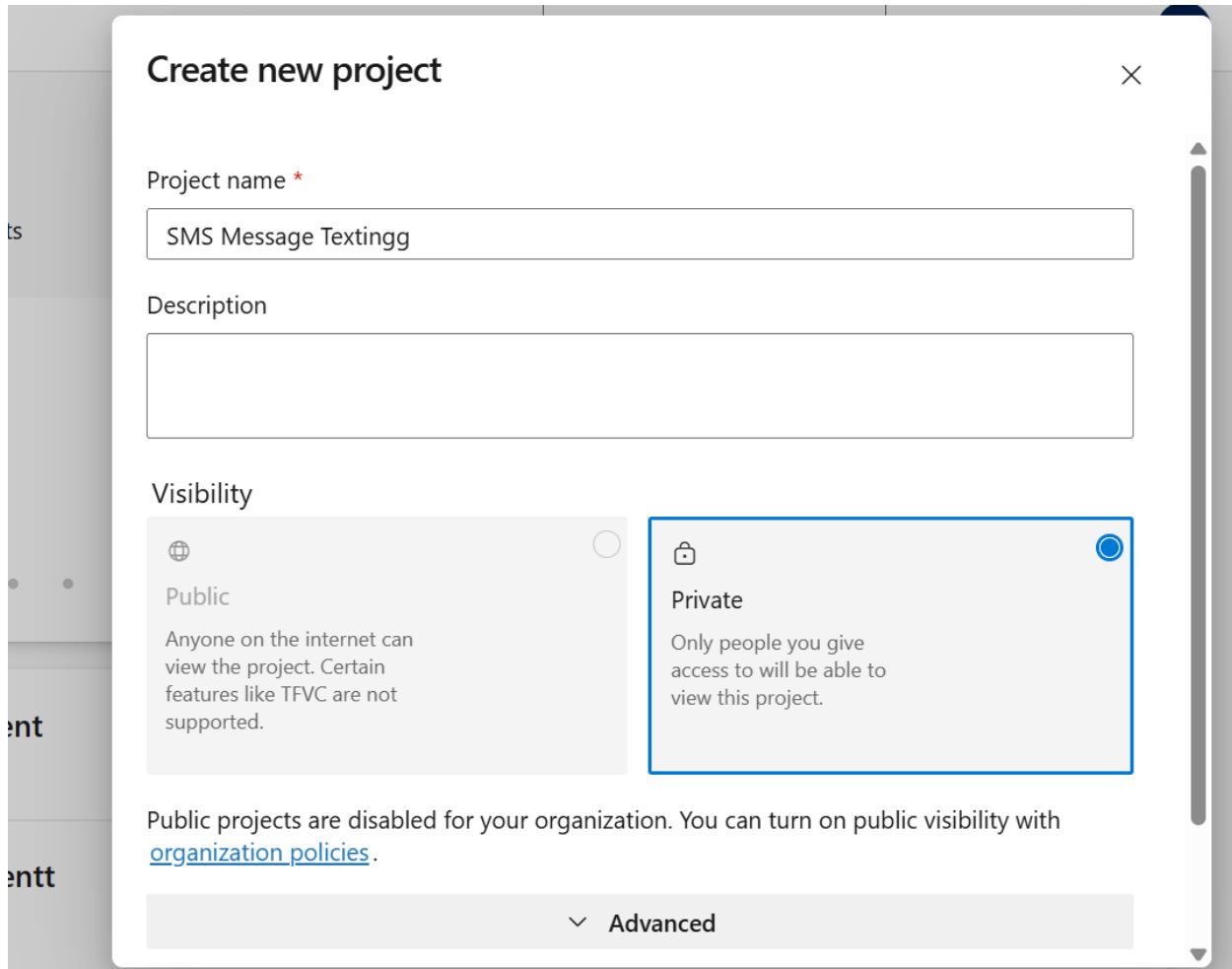
c. Enter the project name, description, and visibility options:

**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.



- 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.

## 4. Project dashboard

## 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.

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

**text messaging system Team**

**Backlog** Analytics

Order	Work Item Type	Title	State	Effort	Business Area	Tags
1	Epic	> Messaging System	New		Business	
2	Epic	> Group Messaging	New		Business	
3	Epic	> Push Notifications & Status Updates	New		Business	
	Feature	✓ Real-time push notifications	New		Business	
	User Story	As a user, I want to be notified when I receive a new message.	New		Business	
	Feature	✓ Message status indicators (like for sent, double tick for du...	New		Business	
	User Story	As a user, I want to see the delivery status of my messages.	New		Business	
4	Epic	> SMS Campaign Management	New		Business	
	Feature	✓ Campaign builder interface - Target user segmentation - ...	New		Business	
	User Story	As an admin, I want to send SMS campaigns to users.	New		Business	
	Feature	✓ Admin-only SMS control panel	New		Business	
	User Story	As an admin, I want to send messages without requiring a campaign.	New		Business	
5	Epic	> Scheduling Messages	New		Business	
	Feature	✓ Message scheduling interface - Time zone support	New		Business	
	User Story	As a user, I want to schedule my messages, so they arrive at the right time.	New		Business	
6	Epic	> User Management	New		Business	
	Feature	✓ User registration/login - Profile management - Role-based...	New		Business	
	User Story	As an admin, I want to manage user accounts, so I can...	New		Business	

**Planning**  
Drag and drop work items to include them in a sprint.

text messaging system Team backlog

sprint 1 4/14/2025 - 4/28/2025  
Planned Effort: 0 - 11 working days  
11

sprint 2 4/29/2025 - 5/13/2025  
No work scheduled yet

sprint 3 5/14/2025 - 5/28/2025  
11 working days  
No work scheduled yet

+ New Sprint

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**SMS Messaging 1 Team**

**Backlog** Analytics

Order	Work Item Type	Title	State	Effort	Business Area	Tags
1	Epic	> Group Messaging	New		Business	
	Feature	✓ Group creation and naming	New		Business	
	User Story	Creation of group chats	New		Business	
2	Epic	> Messaging System	New		Business	
	Feature	✓ Send/receive SMS messages	New		Business	
	User Story	User communication	New		Business	
3	Epic	> User Management	New		Business	
	Feature	✓ registration/login	New		Business	
	User Story	Admin access	New		Business	

**Planning**  
Drag and drop work items to include them in a sprint.

SMS Messaging 1 Team backlog

Sprint 1 5/16/2025 - 5/29/2025  
Planned Effort: 0 - 14 working days  
3

Sprint 2 5/30/2025 - 6/12/2025  
No work scheduled yet

Sprint 3 6/13/2025 - 6/26/2025  
No work scheduled yet

+ New Sprint

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

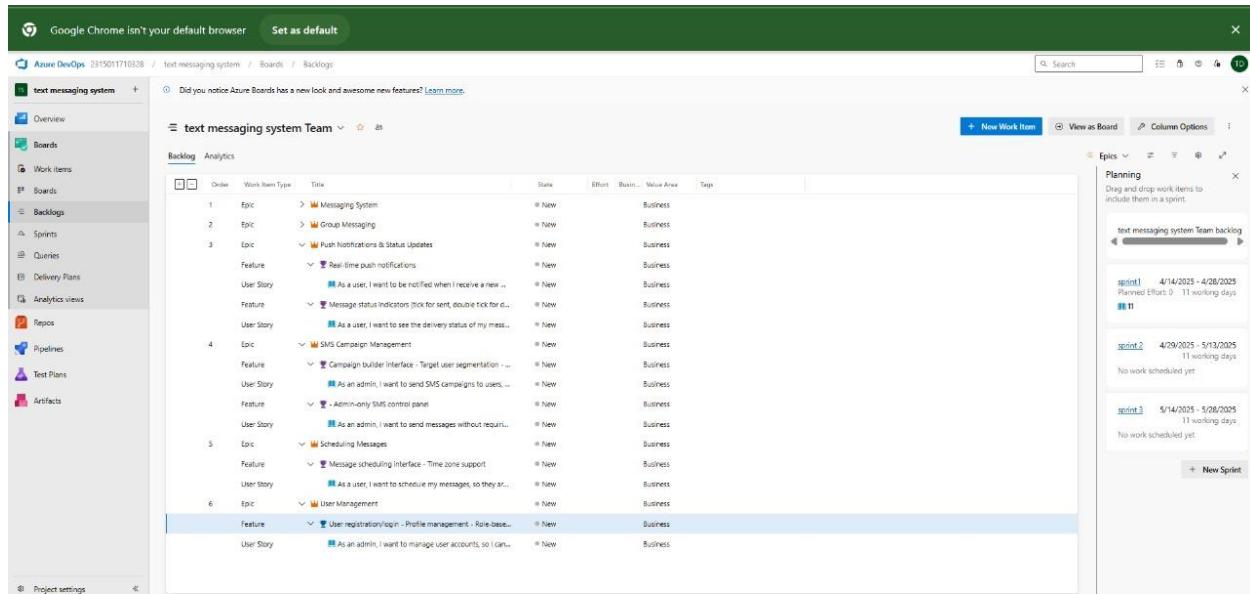
**EXP NO: 3**  
**Date :**

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

## **Aim:**

To create epics, user stories, features, and tasks for the project, Batch Data Analysis and Visualization.

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



The screenshot shows the Azure DevOps Backlog board for the 'text messaging system' project. The backlog is organized into several epics, each containing features and user stories. The epics are:

- Epic 1: Messaging System (contains Group Messaging, Push notifications & Status Updates)
- Epic 2: Group Messaging (contains Real-time push notifications, Message status indicator)
- Epic 3: SMS Campaign Management (contains Campaign builder interface, Admin-only SMS control panel)
- Epic 4: Scheduling Messages (contains Message scheduling interface, User management)
- Epic 5: User Management (contains User registration/login - Profile management, Role-based access)

The backlog table includes columns for Order, Work item Type, Title, State, Effort, Business Value Area, and Tags. Most items are marked as 'New' and belong to the 'Business' category. The right side of the screen shows the 'Planning' section with three sprints: Sprint 1 (4/14/2025 - 4/28/2025), Sprint 2 (4/29/2025 - 5/13/2025), and Sprint 3 (5/14/2025 - 5/28/2025). The backlog table has 16 rows, corresponding to the items listed above.

Order	Work item Type	Title	State	Effort	Business Value Area	Tags
1	Epic	> Messaging System	New		Business	
2	Epic	> Group Messaging	New		Business	
3	Epic	> Push notifications & Status Updates	New		Business	
	Feature	> Real-time push notifications	New		Business	
	User Story	As a user, I want to be notified when I receive a new message	New		Business	
	Feature	> Message status indicator (for sent, bounce back etc.)	New		Business	
	User Story	As a user, I want to see the delivery status of my messages	New		Business	
4	Epic	> SMS Campaign Management	New		Business	
	Feature	> Campaign builder interface - Target user segmentation	New		Business	
	User Story	As an admin, I want to send SMS campaigns to users	New		Business	
	Feature	> Admin-only SMS control panel	New		Business	
	User Story	As an admin, I want to send messages without requiring user consent	New		Business	
5	Epic	> Scheduling Messages	New		Business	
	Feature	> Message scheduling interface - Time zone support	New		Business	
	User Story	As a user, I want to schedule my messages, so they arrive at the right time	New		Business	
6	Epic	> User Management	New		Business	
	Feature	> User registration/login - Profile management - Role-based access	New		Business	
	User Story	As an admin, I want to manage user accounts, so I can assign roles	New		Business	

## 2. Fill in Epics

The screenshot shows the Azure Boards interface for the 'SMS Messaging 1' project. On the left, the navigation bar includes 'Overview', 'Boards', 'Work items', 'Backlogs', 'Sprints', 'Queries', 'Delivery Plans', 'Analytics views', 'Repos', 'Pipelines', 'Test Plans', and 'Artifacts'. The main area displays the 'SMS Messaging 1 Team backlog' under the 'Backlog' tab. The backlog is organized into three sprints:

- Sprint 1**: 5/16/2025 - 5/29/2025 (Planned Effort: 0, 14 working days). Contains 3 items.
- Sprint 2**: 5/30/2025 - 6/12/2025 (No work scheduled yet).
- Sprint 3**: 6/13/2025 - 6/26/2025 (No work scheduled yet).

The backlog table has columns for Order, Work Item Type, Title, State, Effort, Business Value Area, and Tags. The data is as follows:

Order	Work Item Type	Title	State	Effort	Business Value Area	Tags
1	Epic	Group Messaging	New		Business	
	Feature	Group creation and naming	New		Business	
	User Story	Creation of group chats	New		Business	
2	Epic	Messaging System	New		Business	
	Feature	Send/receive SMS messages	New		Business	
	User Story	User communication	New		Business	
3	Epic	User Management	New		Business	
	Feature	registration/login	New		Business	
	User Story	Admin access	New		Business	

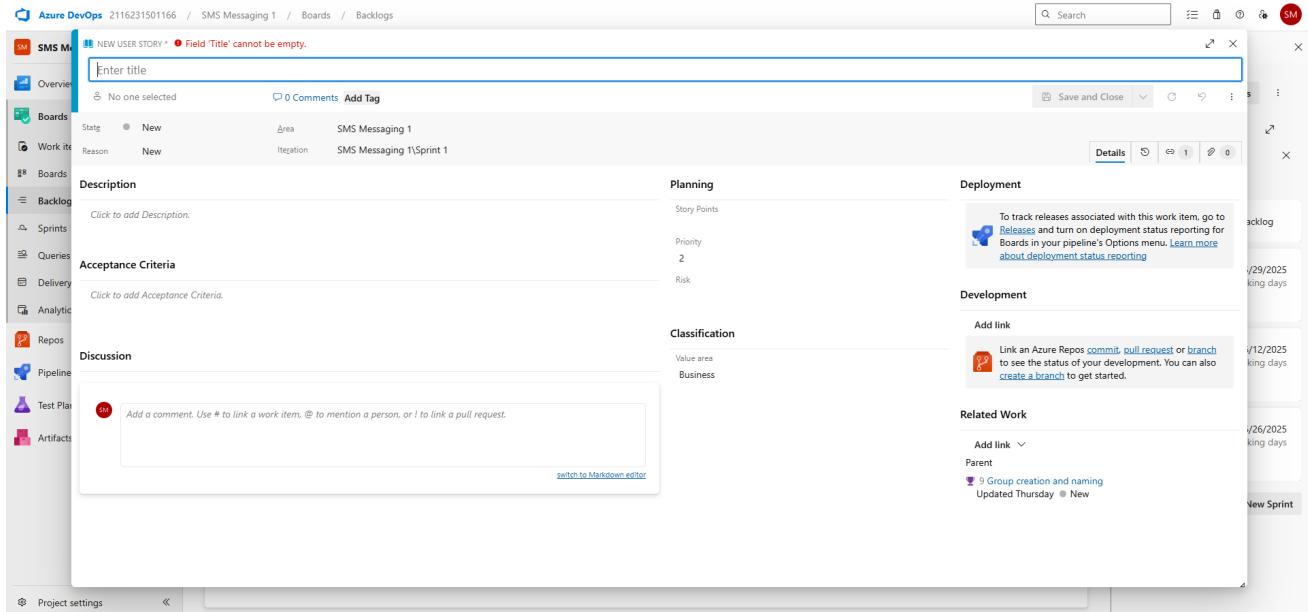
## 3. Fill in Features

The screenshot shows the 'Enter title' screen for creating a new work item. The title field is highlighted in red with the error message 'Field 'Title' cannot be empty.' The 'Description' section contains the placeholder 'Click to add Description.' The 'Planning' section includes fields for Priority (set to 2), Risk, and Effort. The 'Deployment' section provides instructions for tracking releases. The 'Development' section links to Azure Repos for committing code. The 'Related Work' section shows a link to an Epic titled 'Group Messaging'.

**Work item details:**

- Title:** (Empty)
- Description:** Click to add Description.
- Planning:**
  - Priority: 2
  - Risk:
  - Effort:
- 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:** 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 ▾ Parent: [Group Messaging](#) Updated Thursday • New

#### **4.Fill in User Stories**



**Result:** Thus, epics, features, user stories, and tasks have been created successfully.

**EXP NO: 4**

**Date :**

# SPRINTPLANNING

## Aim:

To assign a user story to a specific sprint for the project, Batch Data Analysis and Visualization.

## SPRINT PLANNING

### Sprint 1

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

**SMS Messaging 1 Team**

Sprint 1 Person: All

May 16 - May 29  
10 work days remaining

Category	Item	Status	Owner
Sprint 1	5 Admin access	New	Surya Mv
	7 User communication	New	Surya Mv
	10 Creation of group chats	New	Surya Mv

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

**SMS Messaging 1 Team**

Sprint 2 Person: All

May 30 - June 12  
14 work days remaining

Category	Item	Status	Owner
Sprint 2	17 Group Messaging	New	Surya Mv

## Sprint 3

The screenshot shows the Azure DevOps Taskboard for the project "SMS Messaging 1". The left sidebar navigation bar is visible, showing options like Overview, Boards, Work items, Backlogs, Sprints, Queries, Delivery Plans, Analytics views, Repos, Pipelines, Test Plans, and Artifacts. The "Sprints" option is currently selected. The main area displays the Taskboard for "SMS Messaging 1 Team". At the top, there are tabs for Taskboard, Backlog, Capacity, and Analytics. Below the tabs, it shows "Sprint 3" and "Person: All". A search bar at the top right contains the text "Search". On the right side of the board, there are buttons for "+ New Work Item" and "Column Options". A date range "June 13 - June 26" and "14 work days" is displayed. The taskboard itself has columns for "Active" and "Closed". A single task card is visible under the "New" column, titled "18 as a user i want to notify when i get a message". The card has three status options: "New", "In Progress", and "Unassigned".

**Result:** The Sprints are created for the project, Batch Data Analysis and Visualization.

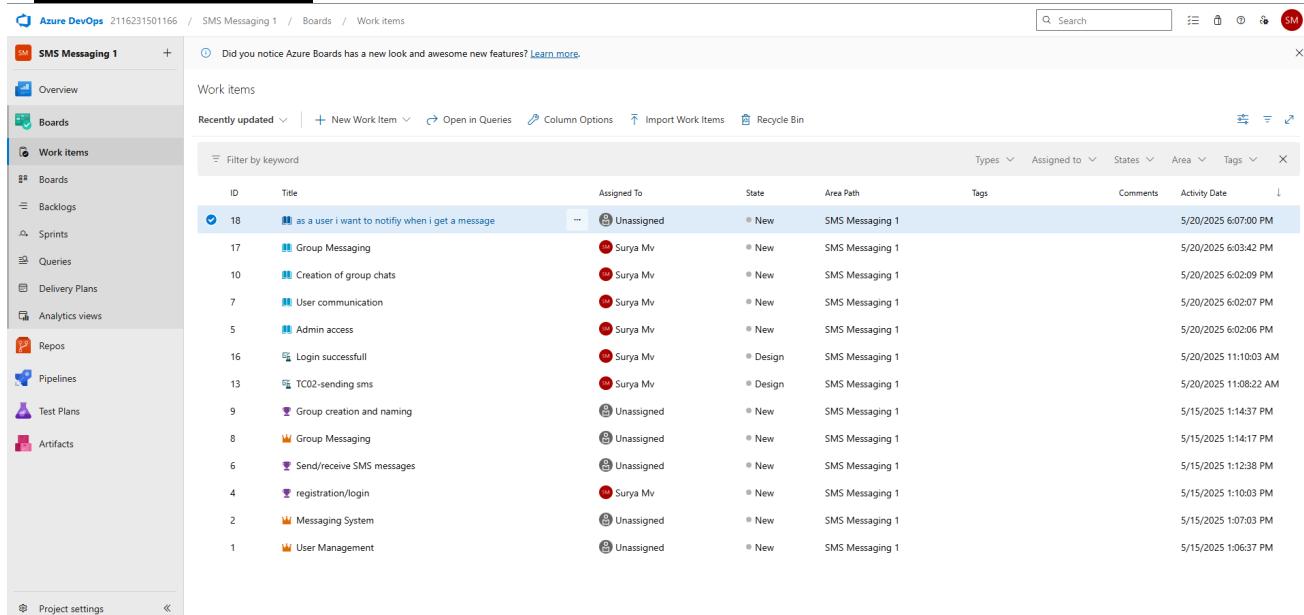
**EXP NO: 5**  
**Date :**

## POKERESTIMATION

### Aim:

Create Poker Estimation for the user stories for the project, Batch Data Analysis and Visualization.

### Poker Estimation



The screenshot shows the Azure DevOps Boards Work items page for the project "SMS Messaging 1". The left sidebar includes sections for Overview, Boards, Work items, Boards, Backlogs, Sprints, Queries, Delivery Plans, and Analytics views. The main area displays a table of work items with the following columns: ID, Title, Assigned To, State, Area Path, Tags, Comments, and Activity Date. There are 18 work items listed, each with a unique ID, title, and status. For example, work item #18 is titled "as a user i want to notify when i get a message" and is assigned to "Unassigned" with a state of "New". The table also includes filters for keyword, type, assigned to, states, area, and tags.

ID	Title	Assigned To	State	Area Path	Tags	Comments	Activity Date
18	as a user i want to notify when i get a message	Unassigned	New	SMS Messaging 1			5/20/2025 6:07:00 PM
17	Group Messaging	Surya Mv	New	SMS Messaging 1			5/20/2025 6:03:42 PM
10	Creation of group chats	Surya Mv	New	SMS Messaging 1			5/20/2025 6:02:09 PM
7	User communication	Surya Mv	New	SMS Messaging 1			5/20/2025 6:02:07 PM
5	Admin access	Surya Mv	New	SMS Messaging 1			5/20/2025 6:02:06 PM
16	Login successfull	Surya Mv	Design	SMS Messaging 1			5/20/2025 11:10:03 AM
13	TC02-sending sms	Surya Mv	Design	SMS Messaging 1			5/20/2025 11:08:22 AM
9	Group creation and naming	Unassigned	New	SMS Messaging 1			5/15/2025 1:14:37 PM
8	Group Messaging	Unassigned	New	SMS Messaging 1			5/15/2025 1:14:17 PM
6	Send/receive SMS messages	Unassigned	New	SMS Messaging 1			5/15/2025 1:12:38 PM
4	registration/login	Surya Mv	New	SMS Messaging 1			5/15/2025 1:10:03 PM
2	Messaging System	Unassigned	New	SMS Messaging 1			5/15/2025 1:07:03 PM
1	User Management	Unassigned	New	SMS Messaging 1			5/15/2025 1:06:37 PM

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

**EXP NO: 6**  
**Date :**

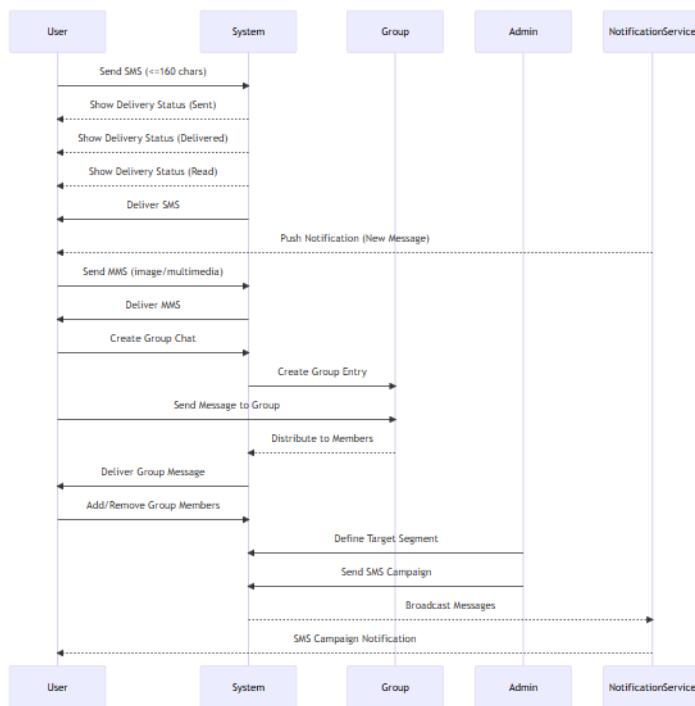
## **DESIGNING CLASS DIAGRAM AND SEQUENCE DIAGRAM**

### **Aim:**

To design a Class Diagram and Sequence Diagram for the project, Batch Data Analysis and Visualization.

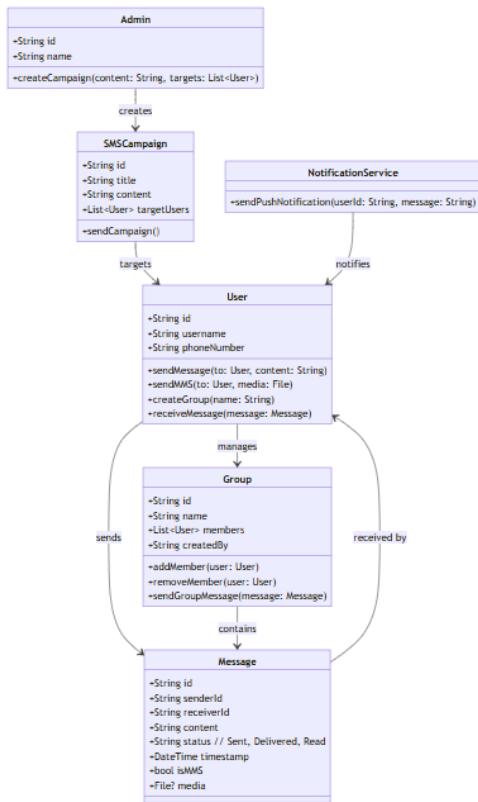
### **6A. Class Diagram**

#### **SMS Message texting**



## 6B. Sequence Diagram

SMS Message texting Class diagram



**Result:** The Class and Sequence Diagrams are designed successfully for the project, SMS Message System.

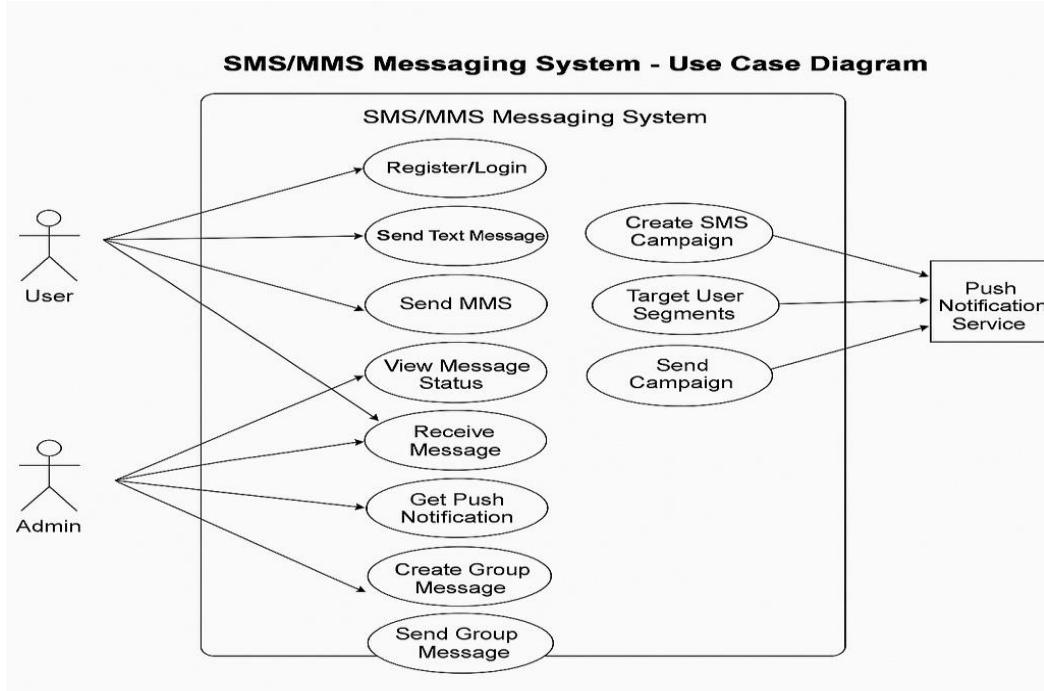
**EXP NO: 7**  
**Date :**

## **DESIGNING USE CASE DIAGRAM AND ACTIVITY DIAGRAM**

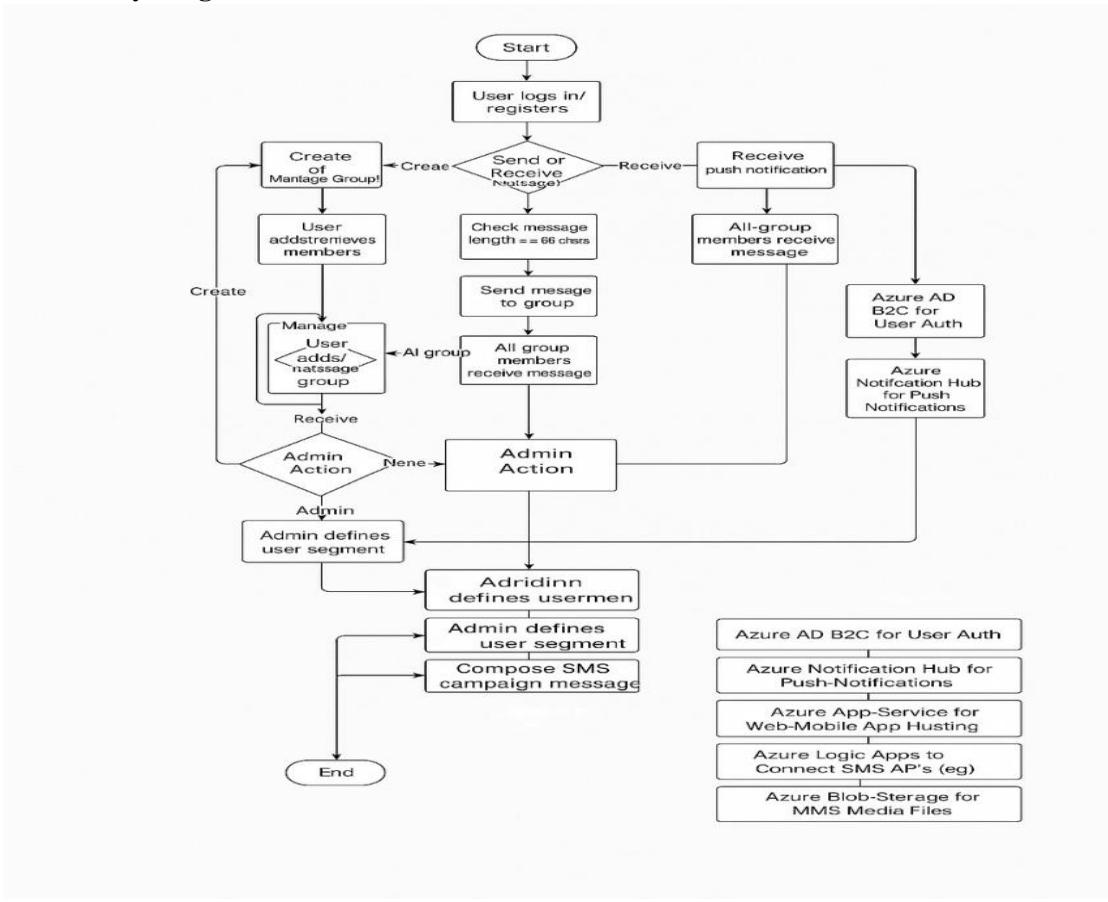
### **Aim:**

To design a Use Case Diagram and an Activity Diagram for the project, SMS Messaging System

### **7A. Use Case Diagram**



## 7B. Activity Diagram



**Result:** The Use Case and Activity Diagrams are designed successfully for the project, Batch Data Analysis and Visualization.

<b>EXP NO: 8</b> <b>Date :</b>	<h2 style="margin: 0;">TESTING – TEST PLANS AND TEST CASES</h2>
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**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**

1. User Authentication
2. Uploading and Managing Batch Data Files
3. Running Batch Analysis Jobs
4. Viewing Interactive Visualizations and Charts
5. Exporting Analysis Results

**2. Define User Interactions**

- Simulate real scenarios (e.g., upload dataset, trigger job, download result).

**3. Design Happy Path Test Cases**

- Validate all main functions work properly (e.g., successful login, upload, and visualization).

**4. Design Error Path Test Cases**

- Simulate unexpected or invalid user behavior (e.g., upload fails, unsupported file, job timeout).

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

- Each test case includes step-by-step actions and expected outcomes.

**6. Use Clear Naming and IDs**

- Example: TC01 – Successful File Upload, TC08 – Visualization Fails.

**7. Separate Test Suites**

- Suites grouped by modules (Login, File Upload, Job Execution, Visualization, Export).

## 8. Prioritize and Review

- Critical test cases marked as High Priority.
- Mapped to user stories in Azure DevOps. **1.New test plan**

The screenshot shows the 'Test Plans' section of the Azure DevOps interface for the 'SMS Messaging 1' project. A 'New Test Plan' dialog is open, prompting for a 'Name' (with a placeholder 'Enter a plan name'), 'Area Path' (set to 'SMS Messaging 1'), and 'Iteration' (set to 'SMS Messaging 1\Sprint 1'). The 'Create' button is visible at the bottom right of the dialog.

## 2. Test suite

The screenshot shows the 'Test Plans' section of the Azure DevOps interface for the 'SMS Messaging 1' project. The 'Test Plans' table header includes columns for Title, Test Plan ID, State, Area Path, Iteration, and Assigned To. The table body displays one entry: 'My Favorites' under the 'Mine' tab, with a note indicating 'No favorites yet! Favorite a test plan to quickly access it.' The 'New Test Plan' button is located in the top right corner of the table area.

### **3. Test case**

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

Batch Data Analysis and Visualization – Test Plans

## **USER STORIES**

- As a user, I want to log in using my username and password so that I can access my account.
- As a user, I should not be able to submit the login form with empty fields so that I can provide the required data.
- As a user, I want to log out when I click the logout button so that I can end my session securely.
- As a user, I want to be redirected to the login page after logging out so that I know my session has ended and I can log in again if needed.
- As a user, I want to be able to upload multiple CSV files at once, so I can analyze them together.

## **Test Suites**

**Test Suite: TS01 - User Authentication (ID: 54)**

**1. TC01 – Successful Login** ○

**Action:**

- Navigate to the login page
- Enter valid credentials
- Click "Login" ○

**Expected Results:**

- User redirected to dashboard.
- **Type:** Happy Path

**2. TC02 – Prevent Login with**

**Empty Fields** ○ **Action:**

- Navigate to the login page.
- Leave username and/or password fields empty.
- Click on "Login".

○ **Expected Results:**

- Validation error message is shown prompting user to fill required fields.
- **Type:** Error Path ○

## Test Suite: TS02 - Logout Functionality(ID: 47)

### 1. TC03 – Successful Logout and Redirect ○

#### Action:

- Log in successfully.
- Click the "Logout" button.
- **Expected Results:**
  - User session ends.
  - User is redirected to the login page.
- **Type:** Happy Path

### 2. TC04– Access Protected Page After

#### Logout ○ Action:

- Logout.
- Attempt to navigate back to a protected page (e.g., dashboard) via browser back button or URL. ○ **Expected Results:**
  - User is redirected to the login page and denied access.
- **Type:** Error Path

## Test Suite: TS03 - CSV Upload Functionality (ID: 88)

### 1. TC05 – Upload Multiple Valid CSV Files ○

#### Action:

- Log in successfully
- Navigate to the CSV upload section
- Select multiple valid .csv files
- Click "Upload"

#### ○ **Expected Results:**

- All files are uploaded successfully.
- Files are listed and ready for analysis.

#### ○ **Type:** Happy Path

## 2. TC06 – Upload Attempt Without Selecting

### Files ○ Action:

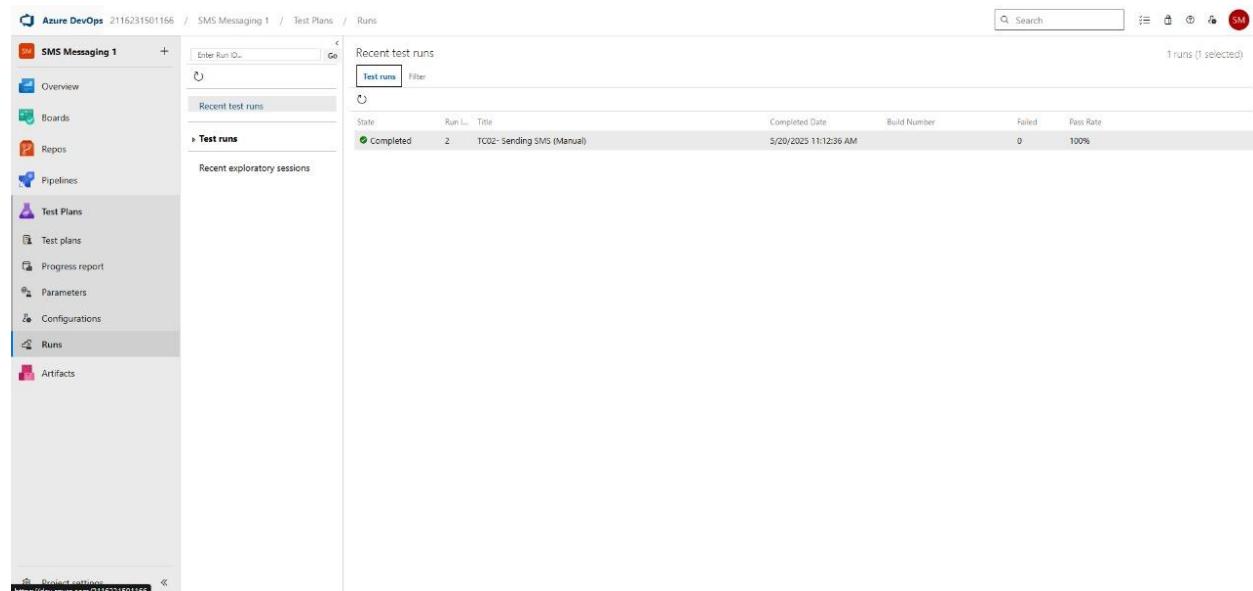
- Navigate to the CSV upload section
- Click "Upload" without selecting any files.

### ○ Expected Results:

- Validation message prompting the user to select at least one file.

Type: Error Path

## Test Cases



The screenshot shows the Azure DevOps Test Plans interface. The left sidebar is titled 'SMS Messaging 1' and includes sections for Overview, Boards, Repos, Pipelines, Test Plans, Test plans, Progress report, Parameters, Configurations, Runs, and Artifacts. The 'Runs' section is currently selected. The main area displays a table of recent test runs. One run is listed: 'TC02- Sending SMS (Manual)' with a status of 'Completed', run number 2, completed on 5/20/2025 at 11:12:36 AM, build number 0, and a pass rate of 100%. A search bar and filter options are at the top right.

State	Run ...	Title	Completed Date	Build Number	Failed	Pass Rate
Completed	2	TC02- Sending SMS (Manual)	5/20/2025 11:12:36 AM	0	0	100%

Test and feedback

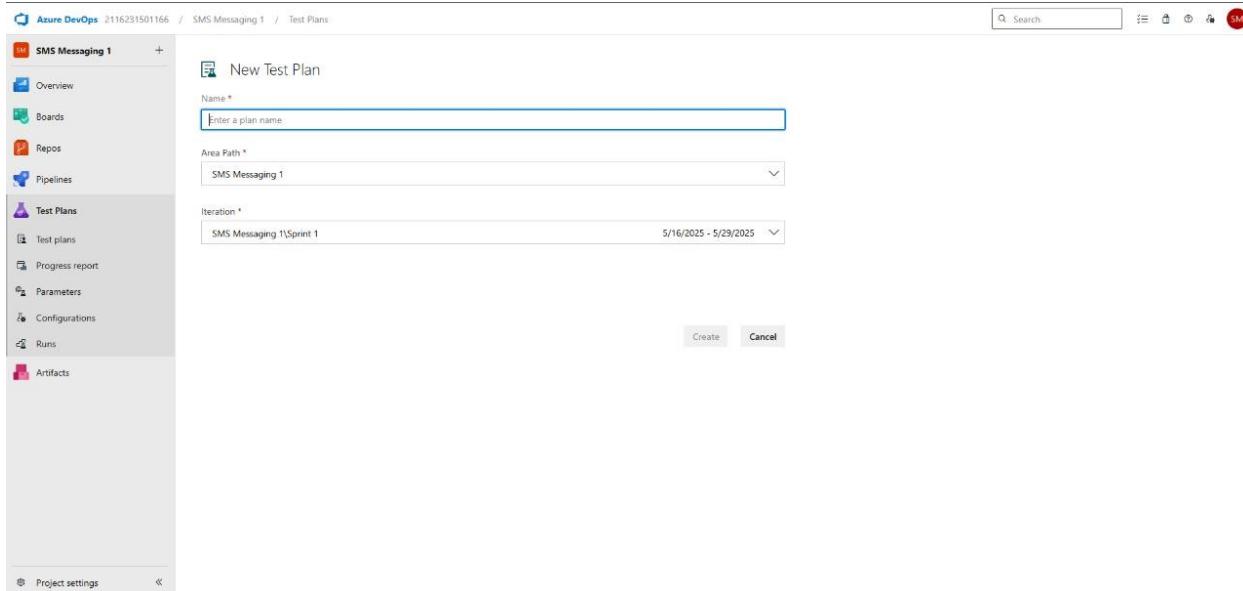
Showing it as an extension

#### 4. Running the test cases

The screenshot shows the Azure DevOps interface for managing test plans. The left sidebar has a 'Test Plans' section selected. The main area displays a table titled 'Test Plans' with one row. The table columns are: Title, Test Plan ID, State, Area Path, Iteration, and Assigned To. The single row contains: 'TC01-Register and Login', '11', 'Active', 'SMS Messaging 1', 'SMS Messaging 1\Sprint 1', and a user icon for 'Surya Mv'. A search bar and filter options are at the top right. A message 'Loading completed' is visible at the bottom.

Title	Test Plan ID	State	Area Path	Iteration	Assigned To
TC01-Register and Login	11	Active	SMS Messaging 1	SMS Messaging 1\Sprint 1	Surya Mv

The screenshot shows two overlapping web pages. The top page is a Microsoft Forms confirmation message: "Your response was submitted." with a green checkmark icon, followed by "Important thing you can do next:" and two buttons: "Save my response" and "Submit another response". Below this is an advertisement for Microsoft Forms: "Get set for your own event invitation!" with a "Start now →" button and an image of a mobile device displaying an "Event registration" form. The bottom page is the "Test Plans" section of the Azure DevOps interface for project "SMS Messaging 1". The sidebar shows navigation links for Overview, Boards, Repos, Pipelines, Test Plans (which is selected), Progress report, Parameters, Configurations, Runs, and Artifacts. The main content area displays a table titled "Test Plans" with columns: Title, Test Plan ID, State, Area Path, Iteration, Assigned To, and a sorting icon. A message at the top of the table says "No favorites yet! Favorite a test plan to quickly access it." and lists "SMS Messaging 1 Team". At the bottom left of the page, there are "Project settings" and a double arrow icon.



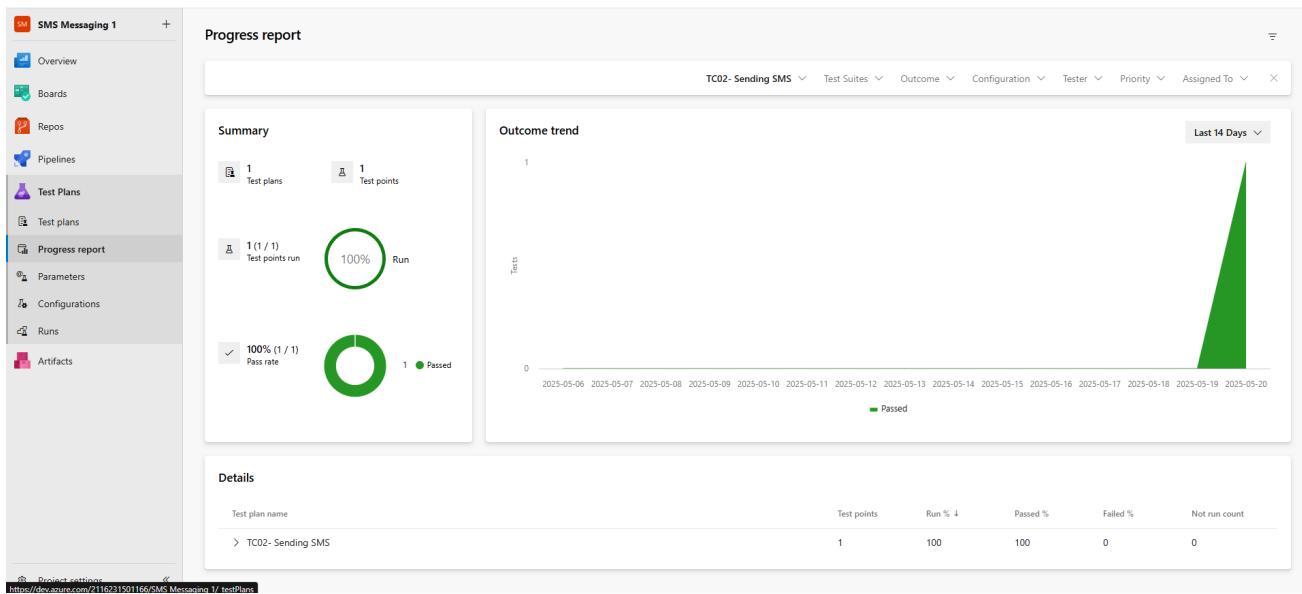
## 8. Test case results

The screenshot shows the Azure DevOps interface for managing test runs. The left sidebar is for the project 'SMS Messaging 1' and includes options like Overview, Boards, Repos, Pipelines, Test Plans, Progress report, Parameters, Configurations, Runs, and Artifacts. The 'Runs' section is currently selected. The main area displays 'Recent test runs' with a table showing one run: 'TC02- Sending SMS (Manual)' which is 'Completed' with a status of '2', completed on '5/20/2025 11:12:36 AM', build number '1', and a pass rate of '100%'. There is also a 'Recent exploratory sessions' section below.

## 5. Test report summary

- Assigning bug to the developer and changing state

## 6. Progress report



## 7. View the new test case template

The screenshot shows the 'Process' settings for the organization '231501153'. The left sidebar includes 'Organization Settings' (selected), 'General' (Overview, Projects, Users, Billing, Global notifications, Usage, Extensions, Microsoft Entra), 'Security' (Security overview, Policies, Permissions), 'Boards' (Process selected), and 'Pipelines' (Agent pools, Settings). The main area shows the 'Test Case' template under 'All processes > BATCH DATA ANALYSIS'. It displays the 'Layout' tab with sections for 'Steps' (Text (multiple lines)), 'Recent test results' (Recent test case results), 'Custom' (text, Text (single line)), 'Deployment' (Deployments), 'Development' (Links), 'Related Work' (Links), and 'Status' (Priority, Integer, Automation status, Text (single line)).

**Result:** The test plans and test cases for the user stories are created in Azure DevOps with Happy Path and Error Path.

<b>EXP NO: 9</b> <b>Date:</b>	<h2>CI/CD PIPELINES IN AZURE</h2>
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**Aim:**

To create and demonstrate an Azure DevOps pipeline for automating application builds, tests, and deployment.

**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 Student Management 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.

## Pipeline

The screenshot shows the Azure DevOps interface for creating a new pipeline. The left sidebar is titled "SMS Messaging 1" and includes links for Overview, Boards, Repos, Pipelines (selected), Environments, Library, Test Plans, and Artifacts. The main area is titled "Review your pipeline YAML" and shows the following YAML code:

```
◆ SMS Messaging 1 / azure-pipelines.yml * ⓘ
1  # Starter pipeline
2  # Start with a minimal pipeline that you can customize to build and deploy your code.
3  # Add steps that build, run tests, deploy, and more:
4  # https://aka.ms/yaml
5
6  trigger:
7  - main
8
9  pool:
10  | vmImage: ubuntu-latest
11
12  steps:
13  - script: echo Hello, world!
14  | displayName: 'Run a one-line script'
15
16  - script: |
17  |   echo Add other tasks to build, test, and deploy your project.
18  |   echo See https://aka.ms/yaml
19  |   displayName: 'Run a multi-line script'
20
```

At the top right, there are buttons for "Variables", "Save and run", and "Show assistant". A search bar is at the very top.

## Result:

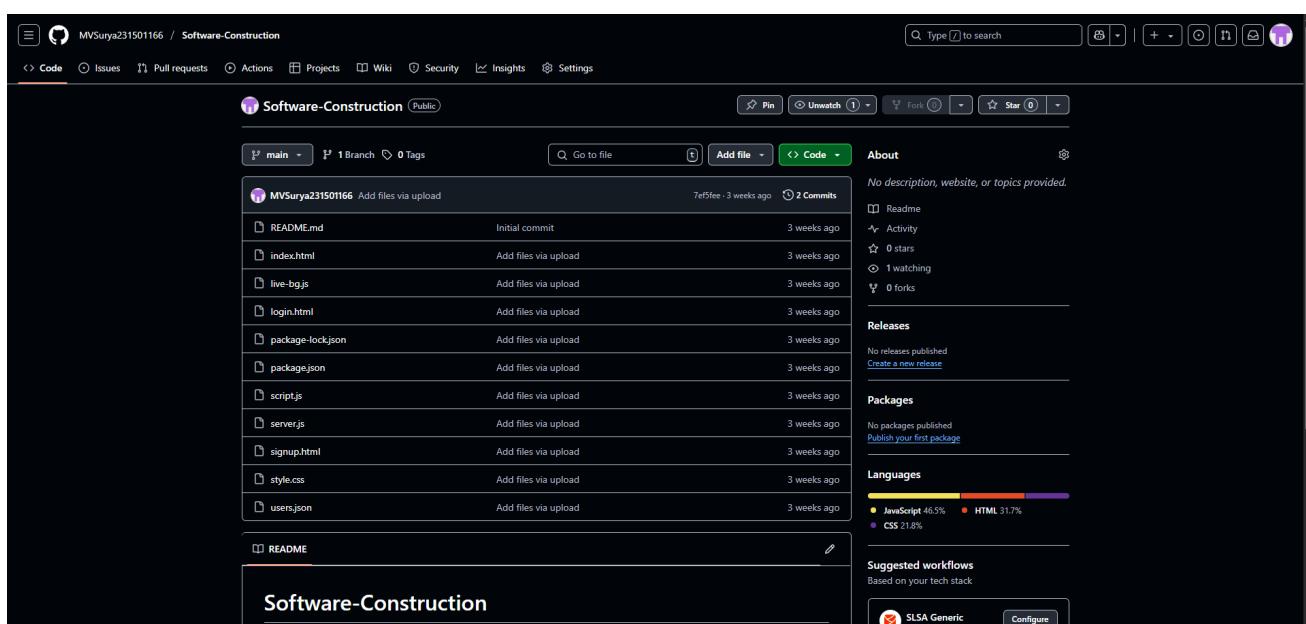
Successfully demonstrated pipelines in azure devops

<b>EXP NO: 10</b> Create Epic, Features, User Stories, Task <b>Date :</b>	<h2>GITHUB: PROJECT STRUCTURE &amp; NAMING CONVENTIONS</h2>

### 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 Music Playlist Batch Creator project.

### GitHub Project Structure



The screenshot shows a GitHub repository page for 'Software-Construction'. The repository has 1 branch and 0 tags. It contains 2 commits from user 'MVSurya231501166'. The files listed are:

- README.md (Initial commit, 3 weeks ago)
- index.html (Add files via upload, 3 weeks ago)
- live-bg.js (Add files via upload, 3 weeks ago)
- login.html (Add files via upload, 3 weeks ago)
- package-lock.json (Add files via upload, 3 weeks ago)
- package.json (Add files via upload, 3 weeks ago)
- script.js (Add files via upload, 3 weeks ago)
- server.js (Add files via upload, 3 weeks ago)
- signup.html (Add files via upload, 3 weeks ago)
- style.css (Add files via upload, 3 weeks ago)
- users.json (Add files via upload, 3 weeks ago)

The repository has 0 stars, 1 watching, 0 forks, and no releases published. It uses JavaScript (46.5%), HTML (31.7%), and CSS (21.8%) as its tech stack. A SLSA Generic generator is suggested for workflow.

### 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.