

**RAJALAKSHMI ENGINEERING COLLEGE**  
**RAJALAKSHMI NAGAR, THANDALAM – 602 105**



**RAJALAKSHMI  
ENGINEERING COLLEGE**  
An AUTONOMOUS Institution  
Affiliated to ANNA UNIVERSITY, Chennai

(REGULATION 2023)

**CS23432  
Software Construction**

**DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE  
LABORATORY RECORD NOTEBOOK**

M HARISH

Name : .....

2<sup>nd</sup>/AIML/FA

Year / Branch / Section : .....

2116-231501058

Register No. : .....

4<sup>th</sup> Semester

Semester : .....

2024-2025

Academic Year : .....



**RAJALAKSHMI ENGINEERING COLLEGE (AUTONOMOUS)**  
**RAJALAKSHMI NAGAR, THANDALAM – 602 105**

**BONAFIDE CERTIFICATE**

NAME M HARISH REGISTER NO. 2116-231501058

ACADEMIC YEAR 2024-25 SEMESTER- IV BRANCH: AIML-B.Tech

This Certification is the Bonafide record of work done by the above student  
in the **CS23432- Software Construction** Laboratory during  
the year 2024 – 2025.

Signature of Faculty -in – Charge

Submitted for the Practical Examination held on \_\_\_\_\_

Internal Examiner

External Examiner

# INDEX

Name: M HARISH Branch: AIML Sec: FA Roll no: 231501058

S. No.	Date	TITLE	Page No.	Teacher's Signature / Remarks
1.	8/2/25	Azure DevOps Environment Setup		
2.	15/2/25	Azure DevOps Project Setup and User Story Management		
3.	22/2/25	Setting Up Epics, Features, and User Stories for Project Planning		
4.	1/3/25	Sprint Planning		
5.	8/3/25	Poker Estimation		
6.	22/3/25	Designing Class and Sequence Diagrams for Project Architecture		
7.	29/3/25	Designing Architectural and ER Diagrams for Project Structure		
8.	5/4/25	Testing – Test Plans and Test Cases		
9.	12/4/25	Load Testing and Performance Testing		
10.	19/4/25	Github: Project Structure & Naming Conventions		

**EXP NO: 1**  
**DATE:**

## AZURE DEVOPS ENVIRONMENT SETUP

### **Aim:**

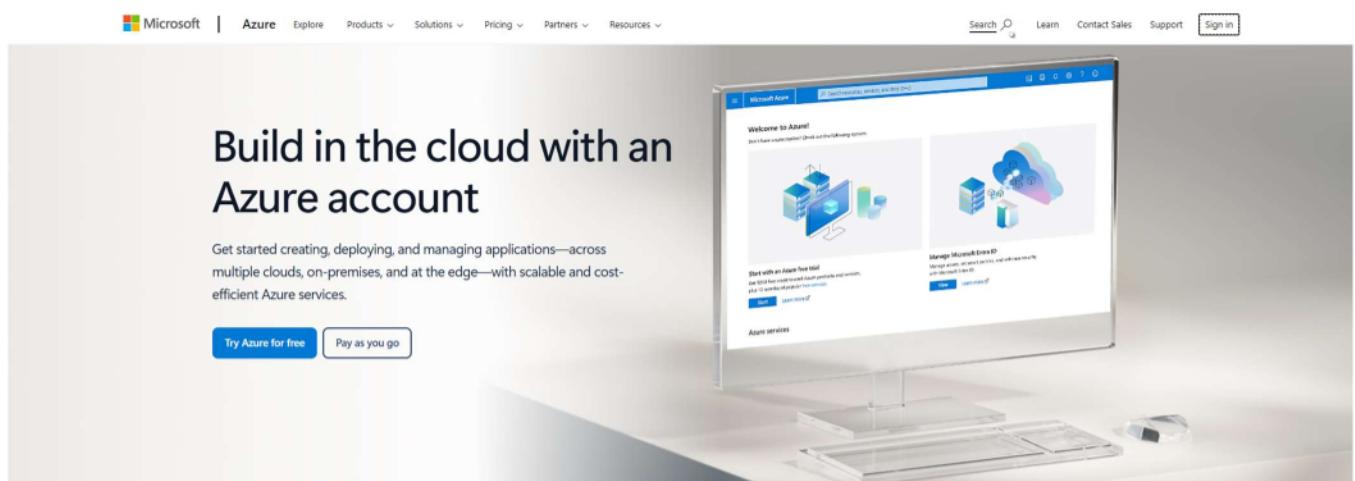
To set up and access the Azure DevOps environment by creating an organization through the Azure portal.

### **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>



The screenshot shows the Microsoft Azure homepage. At the top, there's a navigation bar with links for Microsoft, Azure, Explore, Products, Solutions, Pricing, Partners, and Resources. On the right side of the header are buttons for Search, Learn, Contact Sales, Support, and Sign In. Below the header, a large banner features the text "Build in the cloud with an Azure account". Underneath this, there's a sub-section titled "Get started creating, deploying, and managing applications—across multiple clouds, on-premises, and at the edge—with scalable and cost-efficient Azure services." It includes two main calls to action: "Try Azure for free" and "Pay as you go". To the right of the banner, a computer monitor displays the "Welcome to Azure!" screen, which shows options like "Start with an Azure Free Trial" and "Manage Microsoft Azure AD". At the bottom of the page, there's a footer note: "Pay as you go or try Azure free for up to 30 days. There's no upfront commitment—cancel anytime."

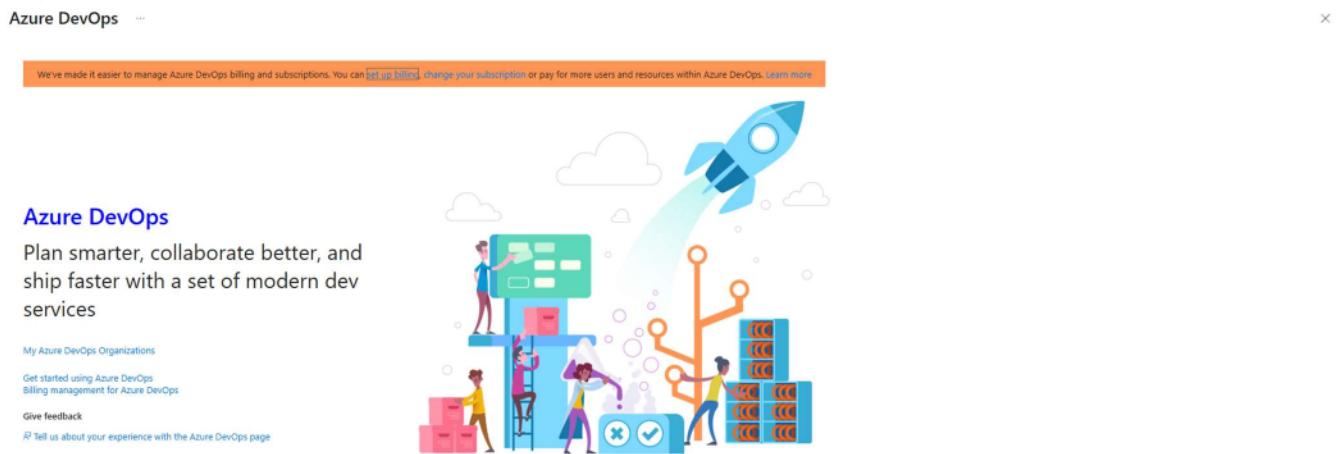
## 2. Azure home page

The screenshot shows the Microsoft Azure home page. At the top, there's a search bar and a Copilot button. Below the header, there's a section for 'Azure services' with a 'Create a resource' button and icons for DevOps organizations, Communication Services, Projects, Dev centers, Azure Deployment, Resource groups, Billing access control (IAM), Cost Management, and More services. The 'Resources' section shows a list of recent and favorite resources, including 'TextSphere' (Communication Service), 'Text\_Sphere' (Project), 'Team\_Alpha' (Resource group), 'India' (Dev center), and 'Azure for Students' (Subscription). Below this is a 'Navigate' section with links to Subscriptions, Resource groups, All resources, and Dashboard. The 'Tools' section includes Microsoft Learn, Azure Monitor, Microsoft Defender for Cloud, and Cost Management. The 'Useful links' section has links to Technical Documentation, Azure Services, Recent Azure Updates, and Azure mobile app download links for the App Store and Google Play. The 'Azure Dev' search bar at the top right is also visible.

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

This screenshot is similar to the previous one but with the search bar explicitly set to 'Azure Dev'. The search results for 'Azure Dev' are displayed in the center, showing 'Services' (99+), 'Marketplace' (22), and 'See more' sections. Under 'Services', it lists 'Azure DevOps organizations', 'Azure Database for MySQL servers', 'Education', and 'Azure Cosmos DB'. Under 'Marketplace', it lists 'Build Agents for Azure DevOps', 'Azure DevOps Auditing', 'Azure DevOps Backup Tool', and 'Self Hosted Runner for Azure DevOps'. Under 'Documentation', it lists 'Azure developer documentation', 'Install the Azure Developer CLI', and 'What is Azure Dev/Test Offer?'. On the right side, there's a 'Last Viewed' section with items like 'access I (IAM)', 'Cost Management', 'Microsoft Learn', 'Azure Monitor', 'Microsoft Defender for Cloud', and 'Cost Management'. The 'Azure Dev' search bar is clearly visible at the top right.

231501058 CS23432  
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.

231501058

CS23432

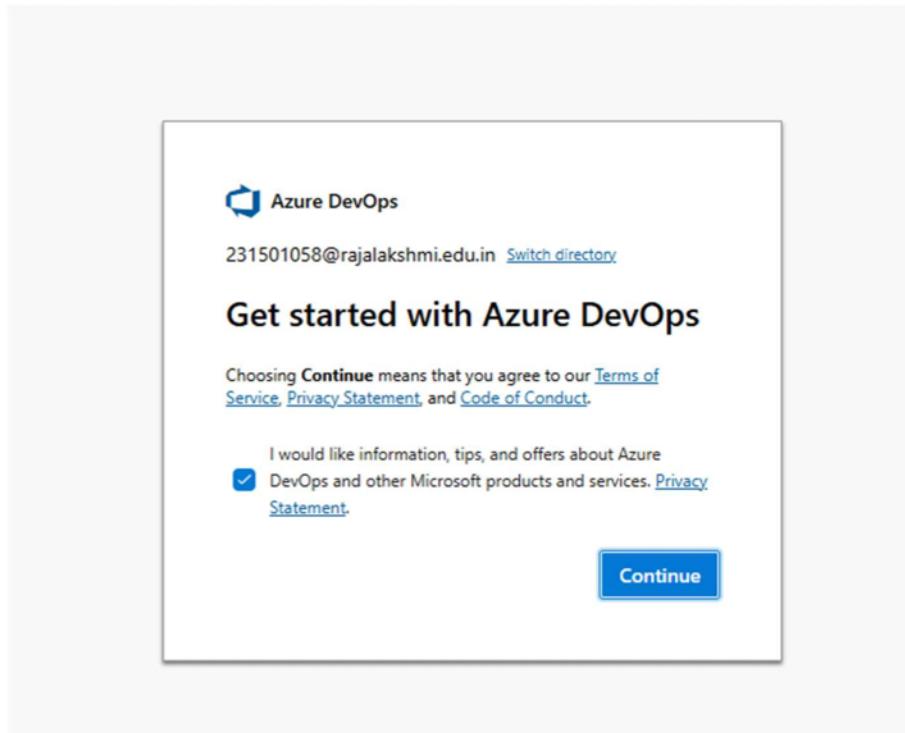
**EXP NO: 2**

## **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**

Project name \*

Description

SMS/Text Messaging Service : Build a web-based or mobile application that can send and receive SMS or text messages, potentially with additional features like scheduling, group messaging, or integration with other communication channels.

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 ?

Work item process ?

CancelCreate

- 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.

The screenshot shows the Azure DevOps Organizations interface. On the left, there's a user profile for Harish M (231501058@rajalakshmi.edu.in) with a large circular icon containing 'HM'. Below the profile, there's a dropdown menu set to 'Microsoft account'. To the right, the main dashboard displays the 'Azure DevOps Organizations' header with a 'Create new organization' button. Under the 'Projects' section, 'TextSphere' is listed with a 'New project' link. In the 'Actions' column, there's a 'Open in Visual Studio' link. Below this, a section titled 'Organizations Pending Deletion - Expand' is shown.

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

#### 4. Project dashboard

The screenshot shows the Azure DevOps Project Summary page for the 'TextSphere' project. The left sidebar includes links for Overview, Summary (which is selected), Dashboards, Wiki, Boards, Repos, Pipelines, Test Plans, and Artifacts. The main content area has a title 'TextSphere' with a 'T' icon. It features sections for 'About this project' (describing SMS/Text Messaging Service), 'Project stats' (Boards, Repos, Pipelines), and 'Members' (listing three members: SS, HM, and AV). A 'Tags' section shows 'TextSphere'.

## 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.

The screenshot shows the Azure DevOps Boards Work items page. The left sidebar is titled 'TextSphere' and includes options like Overview, Boards, Work items, Boards, Backlogs, Sprints, Queries, Delivery Plans, Analytics views, Repos, Pipelines, Test Plans, and Artifacts. The 'Work items' option is selected. The main area is titled 'Work items' and shows a table of user stories. The columns are ID, Title, Assigned To, State, Area Path, Tags, Comments, and Activity Date. There are 8 rows of data:

ID	Title	Assigned To	State	Area Path	Tags	Comments	Activity Date
11	Plain Text SMS	Harish M	New	TextSphere			4/24/2025 1:43:50 PM
10	SMS & MMS Core Functionality	Harish M	Active	TextSphere			4/18/2025 3:06:21 PM
17	Plain Text SMS Messaging (160-char limit)	Aniruth S V	Active	TextSphere			4/18/2025 3:04:36 PM
16	Backend API for Sending/Receiving Messages	Harish M	Active	TextSphere			4/18/2025 3:04:31 PM
18	UI for Message Input with Live Character Counter	Ganesh S	Active	TextSphere			4/18/2025 3:02:04 PM
15	Message validation and trimming logic	Aniruth S V	New	TextSphere			4/16/2025 7:25:49 PM
14	Backend API for sending/receiving messages	Harish M	New	TextSphere			4/16/2025 7:25:32 PM
13	UI for message input with live character counter	Ganesh S	New	TextSphere			4/16/2025 7:25:14 PM

## Result:

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

**EXP NO: 3**

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

### **Aim:**

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

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

The screenshot shows a backlog view for the 'TextSphere Team'. The backlog is organized by type: Epic, Feature, and Task. The first item is an Epic titled 'SMS & MMS Core Functionality' with three sub-items: 'Plain Text SMS' (Feature) and 'UI for message input with live character counter' (Task). The backlog includes columns for Order, Work Item Type, Title, State, Effort, Business Value, and Tags. A 'New Work Item' button is visible at the top right.

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

#### 10 SMS & MMS Core Functionality

By Harish M · 0 Comments · Add Tag  
State: Active · Area: TextSphere  
Reason: Implementation started · Iteration: TextSphere\Iteration 1

#### Description

This Epic focuses on the implementation of core SMS and MMS functionalities including sending, receiving, storing, and managing plain text messages and multimedia messages. It also includes message length validation and backend APIs for both functionalities.

#### Planning

Priority: 2  
Risk: 2 - Medium  
Effort: 13  
Business Value: 1  
Time Criticality: 1  
Start Date: 4/16/2025 7:22 PM  
Target Date: 4/30/2025 12:00 AM

#### Discussion

Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.

[switch to Markdown editor](#)

#### Classification

Value area: Business

## 2. Fill in Features

FEATURE 11

11 Plain Text SMS

Harish M 0 Comments Add Tag

State: New Area: TextSphere  
Reason: New Iteration: TextSphere\Iteration 1

Description

Click to add Description.

Planning

Priority: 2 Risk:

Discussion

Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.

switch to Markdown editor

Effort

Business Value

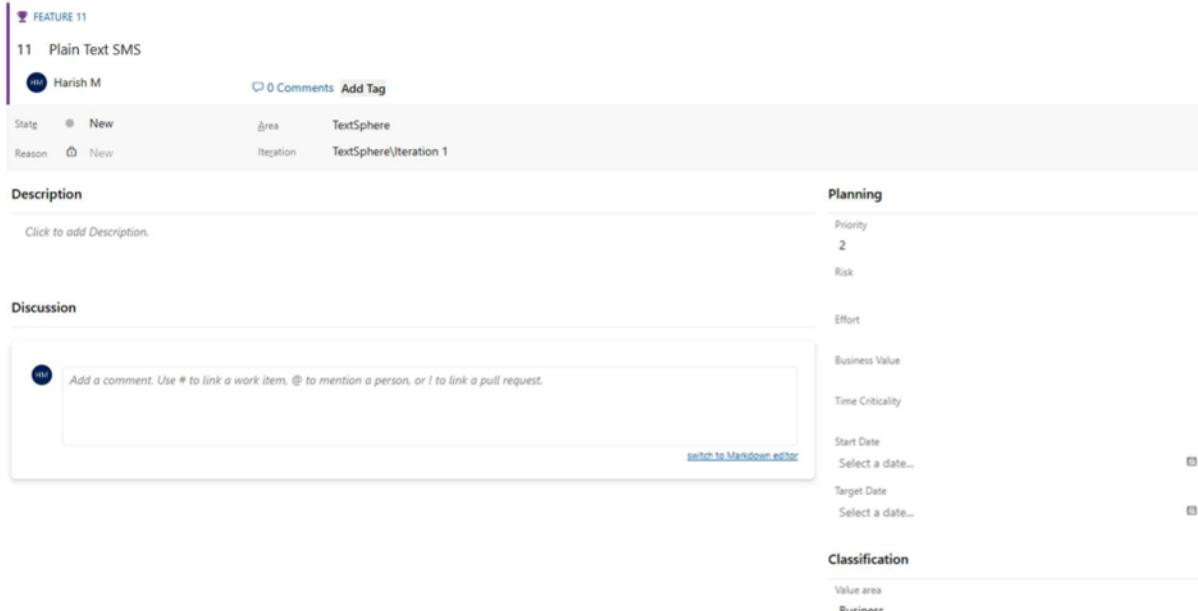
Time Criticality

Start Date: Select a date...

Target Date: Select a date...

Classification

Value area: Business



## 3. Fill in User Story Details

USER STORY 17

17 Plain Text SMS Messaging (160-char limit)

Aniruth S V 0 Comments Add Tag

State: Active Area: TextSphere  
Reason: Implementation started Iteration: TextSphere\Iteration 1

Description

As a user, I want to send simple messages within 160 characters so the app feels like a real SMS interface.

Planning

Story Points: 3 Priority: 2 Risk: 3 - Low

Acceptance Criteria

Acceptance Criteria:

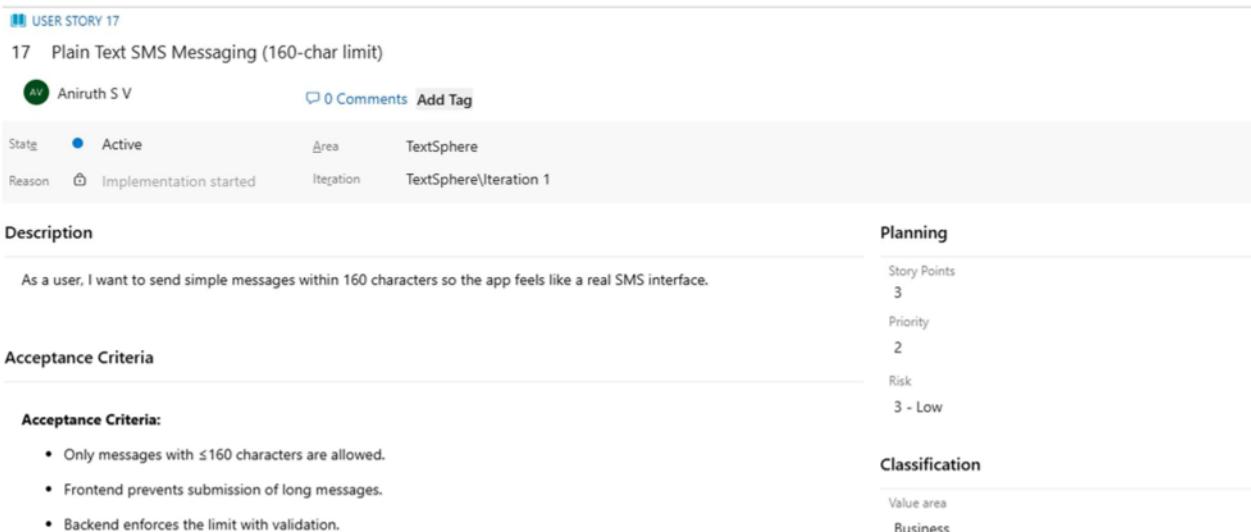
- Only messages with ≤160 characters are allowed.
- Frontend prevents submission of long messages.
- Backend enforces the limit with validation.

Classification

Value area: Business

Discussion

**Result:**



**EXP NO: 4**

## **SPRINT PLANNING**

### **Aim:**

To assign user story to specific sprint for the SMS/MMS Sending Project.

### **Sprint Planning**

#### **Sprint 1**

The screenshot shows the TextSphere Team Taskboard for Sprint 1. The backlog contains the following items:

- 14 Backend API for sending/receiving messages (Assigned to Harish M)
- 16 Backend API for Sending/Receiving Messages (Assigned to Ganesh S)
- 18 UI for Message Input with Live Character Counter (Assigned to Ganesh S)

#### **Sprint 2**

The screenshot shows the TextSphere Team Taskboard for Sprint 2. The backlog contains the following items:

- 13 UI for message input with live character counter (Assigned to Ganesh S)
- 17 Plain Text SMS Messaging (160-char limit) (Assigned to Aniruth S V)

## Sprint 3

The screenshot shows a software interface for managing a project backlog. At the top, it says "TextSphere Team" with a dropdown arrow, a star icon, and a gear icon. Below that is a navigation bar with "Taskboard" (which is underlined), "Backlog", "Capacity", and "Analytics". Under "Taskboard", there are two dropdown menus: "Iteration 3" and "Person: All". On the left, there's a button labeled "Collapse all" with a triangle icon and a "▼" icon below it. To the right, there's a "New" button. The main area displays a list of tasks. One task is highlighted with a yellow border: "15 Message validation and trimming logic" (checkbox checked), "New" (radio button), and "Aniruth S V" (user icon). There's also a "▼" icon at the bottom of this list.

### Result:

The Sprints are created for SMS/MMS Sending Project.

**EXP NO: 5**

## **POKER ESTIMATION**

### **Aim:**

Create Poker Estimation for the user stories SMS/MMS Sending Project.

### **Poker Estimation**

USER STORY 16

16 Backend API for Sending/Receiving Messages

HM Harish M 0 Comments Add Tag

State: Active Area: TextSphere  
Reason: Implementation started Iteration: TextSphere\Iteration 1

Description	Planning
As a registered user, I want to send and receive text and multimedia messages using the backend APIs, so that I can communicate with others on the platform in real-time.	Story Points: 8 Priority: 1 Risk: 1 - High
Acceptance Criteria	Classification
<b>Acceptance Criteria:</b> <ul style="list-style-type: none"><li>Users can send and receive text and image messages.</li><li>Messages are stored in Cosmos DB.</li><li>Image messages are uploaded to Azure Blob Storage and linked in the database.</li><li>Appropriate MIME type validation is enforced.</li></ul>	Value area: Business
Discussion	

### **Result:**

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

**EXP NO: 6**

## **DESIGNING CLASS AND SEQUENCE DIAGRAMS FOR PROJECT ARCHITECTURE**

### **Aim:**

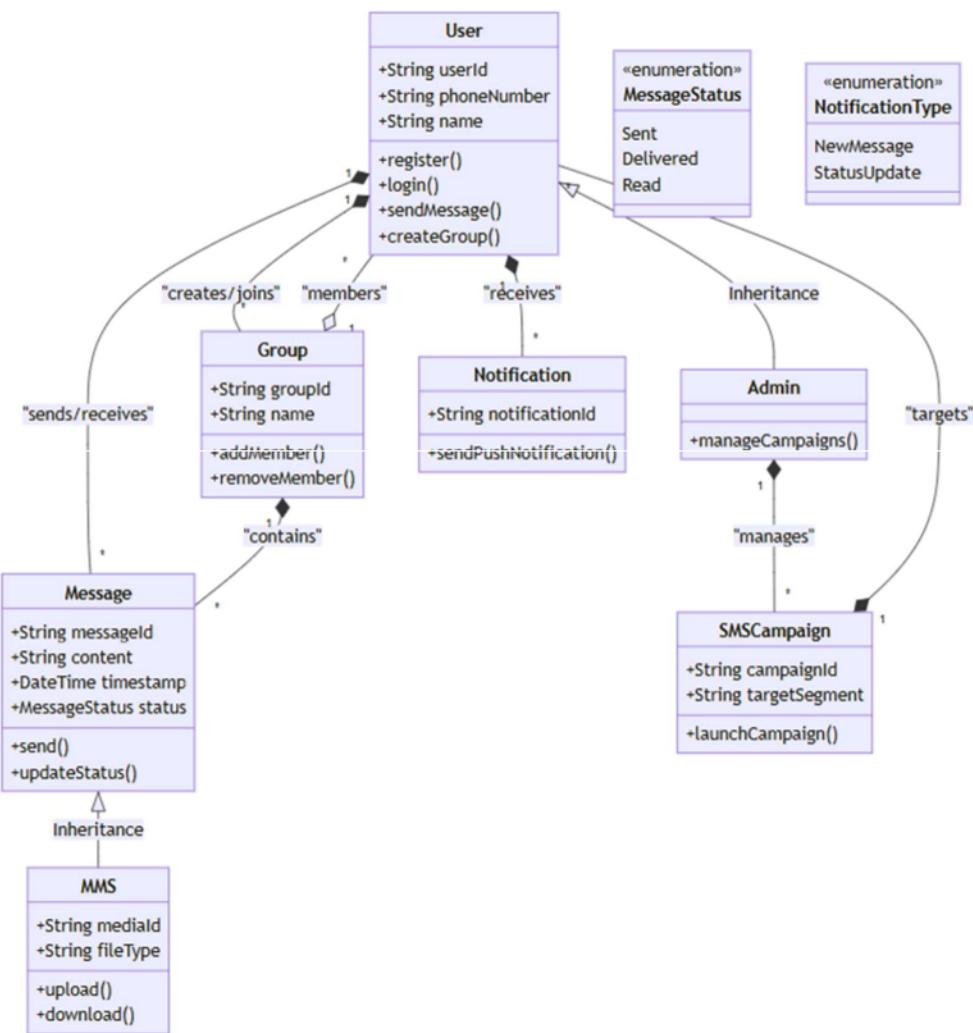
To Design a Class Diagram and Sequence Diagram for the given Project.

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

TextSphereMain / TextSphere / Overview / Wiki / Class Diagram-Text Sphere

#### **Class Diagram-Text Sphere**

Harish M Just now

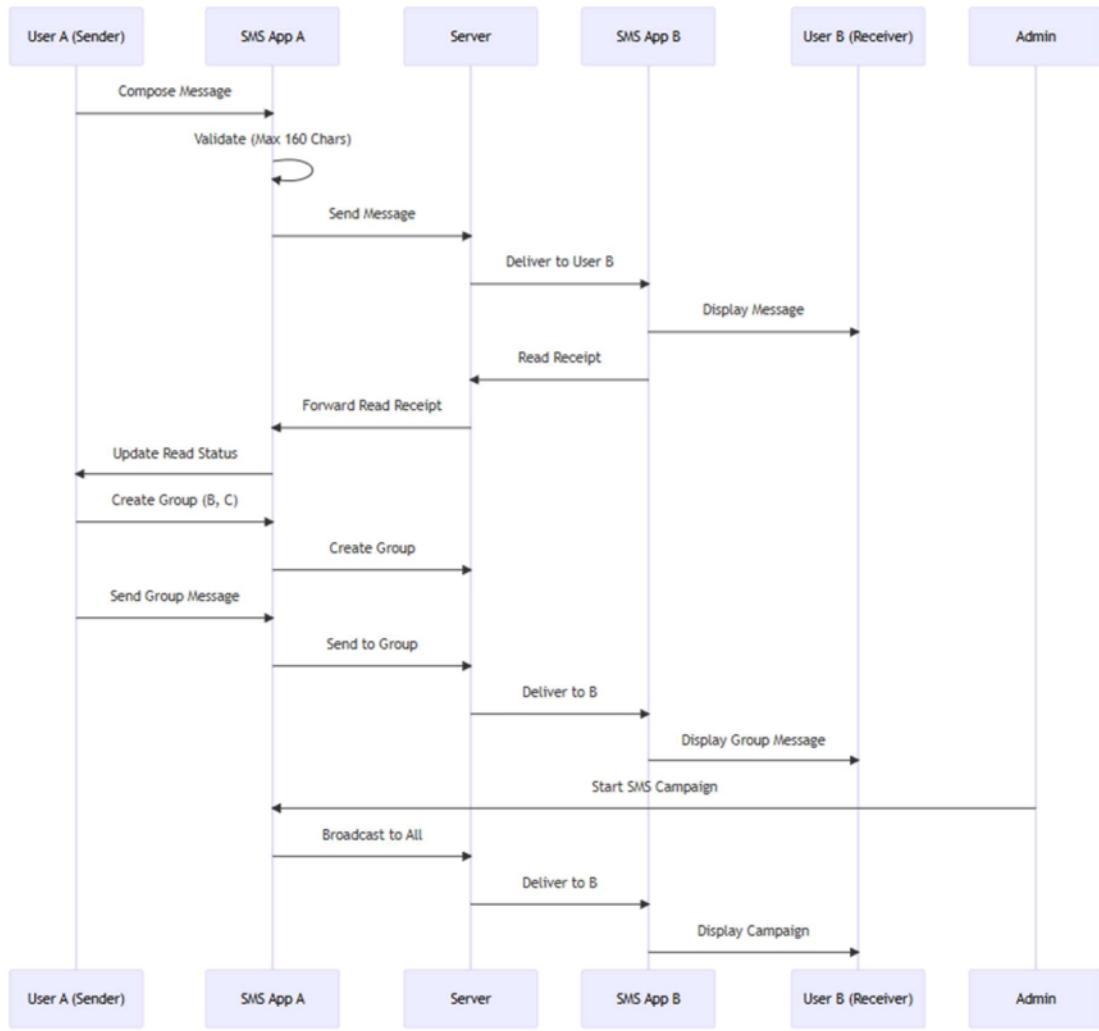


## 6B. Sequence Diagram

TextSphereMain / TextSphere / Overview / Wiki / Sequence Diagram-Text Sp...

### Sequence Diagram-Text Sphere

Harish M Just now



### Result:

The Class Diagram and Sequence Diagram is designed Successfully for the SMS/MMS Sending Project

EXP NO: 7

## DESIGNING ARCHITECTURAL AND ER DIAGRAMS FOR PROJECT STRUCTURE

### Aim:

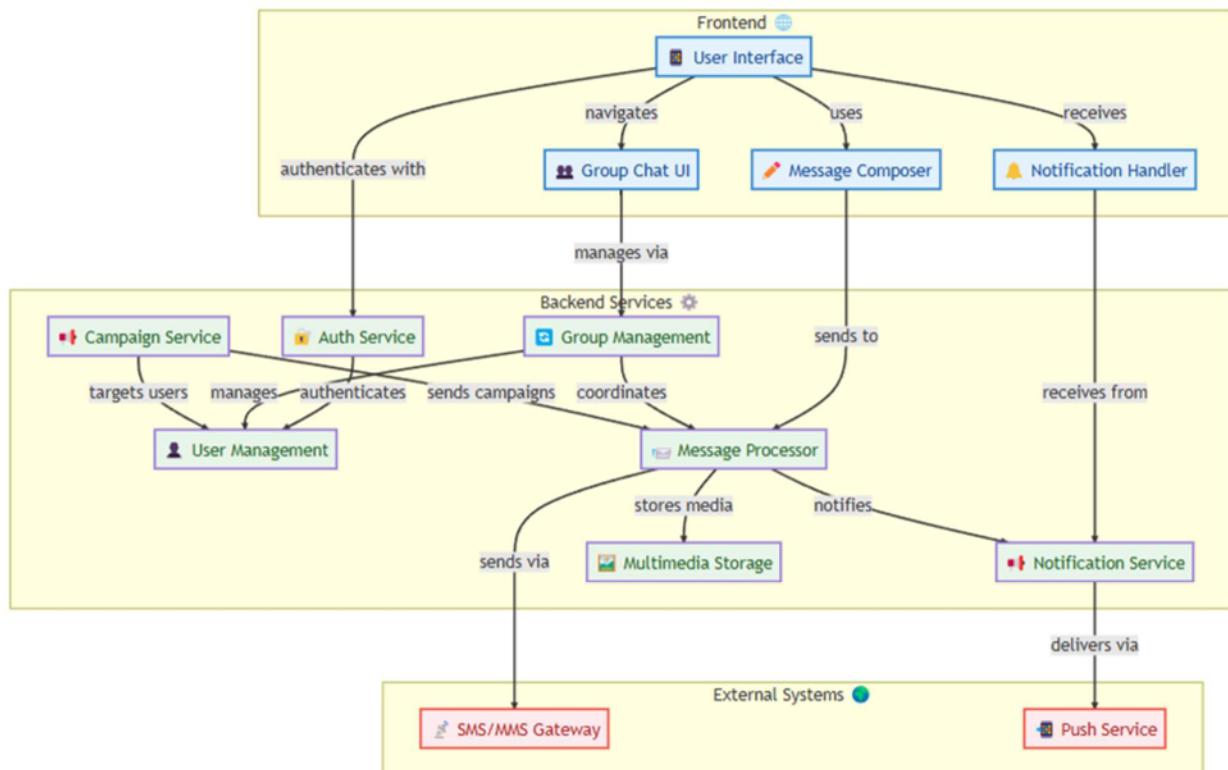
To Design an Architectural Diagram and ER Diagram for the given Project.

### 7A. Architectural Diagram

TextSphereMain / TextSphere / Overview / Wiki / Architecture Diagram - Text ...

#### Architecture Diagram - Text Sphere

Harish M Just now

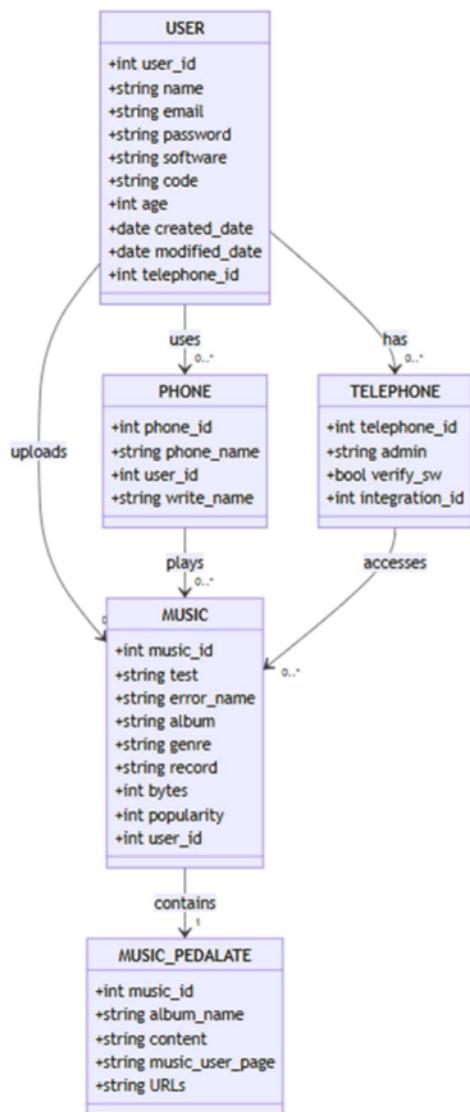


## 7B.ER Diagram

TextSphereMain / TextSphere / Overview / Wiki / ER Diagram - Text Sphere

### ER Diagram - Text Sphere

Harish M Just now



### Result:

The Architecture Diagram and ER Diagram is designed Successfully for the Music Playlist Batch Creator

<b>EXP NO: 8</b>	<b>TESTING – TEST PLANS AND TEST CASES</b>
------------------	--

**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.

### **SMS/Text Messaging Service - Test Plans**

Here's the test plan, incorporating your user stories and providing a structure for testing in Azure DevOps:

#### **USER STORIES**

- As a user, I want to send and receive text messages to other users (ID: SMS01).
- Users see the delivery status of sent messages (sent, delivered, read) (ID: SMS02).
- Users receive push notifications when they receive a new message (ID: SMS03).
- Messages have a maximum length of 160 characters (ID: SMS04).
- Users can send images and multimedia via MMS (ID: SMS05).
- Users can create group chats with multiple participants (ID: SMS06).
- Users can send messages to the group that are received by all members (ID: SMS07).
- Users can add and remove members from groups they created (ID: SMS08).
- Administrators can send SMS notifications to users without involving agents (ID: SMS09).
- The system supports sending SMS campaigns to targeted user segments (ID: SMS10).

#### **Test Suites**

Here's how the test suites could be organized in Azure DevOps, based on the user stories:

- Test Suite: TS01 - Sending and Receiving Messages (ID: 91)
- Test Suite: TS02 - Message Delivery Status (ID: 92)
- Test Suite: TS03 - Push Notifications (ID: 93)
- Test Suite: TS04 - Message Length Validation (ID: 94)
- Test Suite: TS05 - Multimedia Messaging (MMS) (ID: 95)
- Test Suite: TS06 - Group Messaging - Creation (ID: 96)
- Test Suite: TS07 - Group Messaging - Sending Messages (ID: 97)
- Test Suite: TS08 - Group Messaging - Membership Management (ID: 98)
- Test Suite: TS09 - SMS Campaigns - Sending (ID: 99)
- Test Suite: TS10 - SMS Campaigns - Targeting (ID: 100)

## Test Cases

### Test Suite: TS01 - Sending and Receiving Messages (ID: 91)

#### 1. TC01 - Successful Message Send and Receive (ID: 101)

- o Action:
  - Log in as User A.
  - Compose a new message to User B.
  - Enter valid text within the character limit.
  - Click "Send."
  - Log in as User B.
  - Open the message from User A.
- o Expected Results:
  - User A: Message is sent successfully.
  - User B: Message is received and displayed correctly.
  - Type: Happy Path

#### 2. TC02 - Send Message to Invalid User (ID: 102)

- o Action:
  - Log in as User A.
  - Compose a new message to a non-existent user ID.
  - Enter valid text.
  - Click "Send."
- o Expected Results:
  - Error message is displayed: "Recipient user not found."
  - Message is not sent.
  - Type: Error Path

### Test Suite: TS02 - Message Delivery Status (ID: 92)

#### 1. TC03 - Verify Message Delivery Status Updates (ID: 103)

- o Action:
  - Log in as User C.
  - Send a message to User D.
  - Observe the message status on User C's interface.
  - Log in as User D and open the message.
  - Observe the message status on User C's interface again.
- o Expected Results:
  - User C: Message status changes from "Sent" to "Delivered" when User D receives it, and to "Read" when User D opens it.
  - Type: Happy Path

#### 2. TC04 - Delivery Status When Recipient is Offline (ID: 104)

- o Action:
  - Log in as User E.
  - Send a message to User F, who is currently offline.
  - Observe the message status on User E's interface.
  - Log in as User F and check for the message
- o Expected Results:
  - User E: Message status remains "Sent" until User F comes online.
  - User F: User F receives the message.

- Type: Error Path

### **Test Suite: TS03 - Push Notifications (ID: 93)**

1. TC05 - Receive Push Notification for New Message (ID: 105)
  - Action:
    - Log in as User G on a mobile device with push notifications enabled.
    - Log in as User H on a separate device.
    - User H sends a message to User G.
    - Observe User G's mobile device (with the app in the background or closed).
  - Expected Results:
    - User G's device displays a push notification for the new message.
    - Type: Happy Path
2. TC06 - Push Notification Failure Due to Disabled Settings (ID: 106)
  - Action:
    - Log in as User I on a mobile device with push notifications *disabled* for the messaging app.
    - Log in as User J on a separate device.
    - User J sends a message to User I.
    - Observe User I's mobile device.
  - Expected Results:
    - User I's device does *not* display a push notification.
    - User I can still see the message when opening the app.
    - Type: Error Path

### **Test Suite: TS04 - Message Length Validation (ID: 94)**

1. TC07 - Send Message Within Character Limit (ID: 107)
  - Action:
    - Log in as User K.
    - Compose a message with exactly 160 characters.
    - Click "Send."
  - Expected Results:
    - Message is sent successfully.
    - Type: Happy Path
2. TC08 - Send Message Exceeding Character Limit (ID: 108)
  - Action:
    - Log in as User L.
    - Compose a message with 161 characters.
    - Click "Send."
  - Expected Results:
    - Error message is displayed: "Message exceeds the maximum character limit (160)."
    - Message is not sent.
    - Type: Error Path

### **Test Suite: TS05 - Multimedia Messaging (MMS) (ID: 95)**

## 1. TC09 - Send message with an image. (ID: 109)

### o Action:

- Log in as User M.
- Compose a new message to User N.
- Attach a valid image file.
- Click "Send."

### o Expected Results:

- The image is sent and received successfully.
- The image is displayed correctly on User N's device.
- Type: Happy Path

## 2. TC10 - Send message with an unsupported file type. (ID: 110)

### o Action:

- Log in as User O.
- Compose a new message to User P
- Attach a file of an unsupported type (e.g., .exe).
- Click "Send."

### o Expected Results:

- Error message is displayed: "Unsupported file type."
- The file is not sent.
- Type: Error Path

## Test Cases

The screenshot shows a Microsoft Test Case work item in the Azure DevOps interface. The work item is titled "TEST CASE 28" and has a subtitle "Message test 2". It is assigned to "Aniruth S V" and has 0 comments and 0 tags. The status is "Design" and the reason is "New". The area is "TextSphere" and the iteration is "TextSphere\Iteration 3". The work item was updated by Aniruth S V 2h ago. The "Steps" section contains the following steps:

Step	Action	Expected result	Attachment
1.	Click on		action:1
2.	Update input field with value 'je:p'	Typing zone is interactable	action:1
3.	Update input field with value 'je:p'		action:1
4.	Update input field with value 'hello'	Typing Zone allows correction of messages before sending	action:1
5.	Press	Typing zone works when pressing enter directly	action:1
6.	Click on		action:1
7.	Update input field with value 'W'		action:1
8.	Update input field with value "		action:1

The "Deployment" section includes instructions to track releases associated with this work item, linking to GitHub or Azure Repos. The "Development" section provides links to GitHub or Azure Repos commits, pull requests, or branches. The "Related Work" section shows a link to another work item: "Add link" (29 Testing, Updated 59m ago, Active). The "Status" section indicates the priority of the work item.

TextSphereMain / TextSphere / Boards / Work items

Search

Work items

Recently updated | + New Work Item | Open in Queries | Column Options | Import Work Items | Recycle Bin

Filter by keyword

ID	Title	Assigned To	State	Area Path	Tags	Comments	Activity Date
33	Bug found in settings	Harish M	Active	TextSphere			4/28/2025
30	Bug Finding	Aniruth S V	Design	TextSphere			4/28/2025
32	Notification test	Aniruth S V	Design	TextSphere			4/28/2025
29	Testing	Aniruth S V	Active	TextSphere			4/28/2025
28	Message test 2	Aniruth S V	Design	TextSphere			4/28/2025
27	Messaging test	Aniruth S V	Design	TextSphere			4/28/2025
26	Test 2	Harish M	Design	TextSphere			4/26/2025
25	MMS test	Aniruth S V	Design	TextSphere			4/26/2025
24	1	Aniruth S V	Design	TextSphere			4/26/2025
19	Load Test	Harish M	Design	TextSphere	API Test, Test Plan		4/26/2025
23	Integration Test	Aniruth S V	Design	TextSphere	API Test, Integration		4/26/2025
17	Plain Text SMS Meccaninn (160-char limit)	Aniruth S V	Active	TextSphere			4/24/2025

## 1. Installation of test

chrome web store

Search extensions and themes

Discover Extensions Themes

**Test & Feedback**

Featured 4.2 ★ (175 ratings) Share

Extension Workflow & Planning 200,000 users

CAPTURE

- 1. Screenshots
- 2. Notes
- 3. Screen recordings
- 4. Videos
- 5. Mobile action logs
- 6. Page load data

## 2. Running the test cases

The screenshot shows the Azure DevOps Test Plans interface. On the left, the navigation bar includes 'TextSphere' (selected), 'Overview', 'Boards', 'Repos', 'Pipelines', 'Test Plans' (selected), 'Test plans', 'Progress report', 'Runs', and 'Artifacts'. Under 'Test Plans', 'TextSphere' is selected, and 'TextSphere Team\_...' is shown with a status of 'Past' and '0% run'. The 'Test Suites' section lists 'TextSphere Team\_Stories\_Iteration 1' containing '29 : Testing (2)' and '10 : SMS & MMS Core Functionality (2)'. The '29 : Testing (ID: 31)' page is displayed, showing 'Execute' and 'Chart' tabs. In the 'Test Points (2 items)' table, there are two rows:

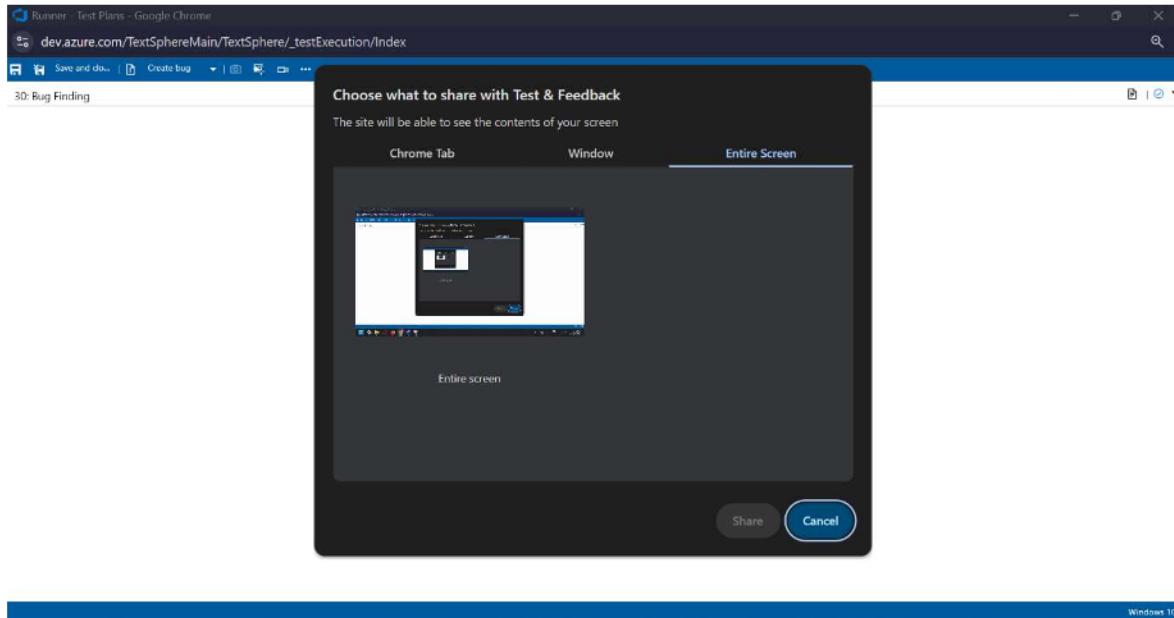
Title	Outcome	Order
Bug Finding	Active	1
Notification test	Active	2

A context menu is open over the 'Bug Finding' row, listing options: 'View execution history', 'Mark Outcome' (with a checkmark), 'Run' (disabled), 'Reset test to active', and 'Edit test case'. A dropdown menu for 'Run for web application' is also visible.

The screenshot shows the 'Runner - Test Plans - Google Chrome' window. The URL is 'dev.azure.com/TextSphereMain/TextSphere/\_testExecution/Index'. The title bar says '30: Bug Finding'. The content area starts with 'Description' and a note: 'The app is tested for various bugs found in texting apps such as ...'. It then lists several categories of bugs:

- Message Failures:** Messages not sending, getting stuck, or being delivered multiple times.
- Media Handling Issues:** Corrupted, missing, or improperly displayed multimedia attachments.
- Performance Bugs:** Slow loading, lag when switching conversations, or app crashes during heavy usage.
- UI/UX Bugs:** Broken layouts, missing buttons, incorrect timestamps, or inconsistent notification badges.
- Cross-Network Problems:** Failure when communicating between different carriers or device types (iOS == Android).

### 3. Recording the test case



### 4. Creating the bug

Notification Bug

Unassigned

0 comments Add tag

Save & Close

Status: New    Reason: New    Area: TextSphere    Iteration: TextSphere/Iteration 1

Repro Steps

4/28/2025 2:14 PM Bug filed on "Bug Finding"

Test Configuration: Windows 10

System Info

Browser - Name	Google Chrome 135
Browser - Language	en-US
Browser - Height	689
Browser - Width	1295
Browser - User agent	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/135.0.0.0 Safari/537.36
Operating system - Name	Windows NT 10.0 Win64 x64
Operating system - Architecture	x64_64
Operating system - Processor model	AMD Ryzen 7 7700X 8-Core Processor
Operating system - Number of processors	16
Memory - Available	22748901576
Memory - Capacity	33443188736
Display - Pixels per inch (X axis)	144
Display - Pixels per inch (Y axis)	144
Display - Device pixel ratio	1.5

Planning

Resolved Reason: Open  
Story Points: 0

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

We noticed that you've used GitHub with Azure Pipelines in this project. Connect Azure Boards with GitHub to see the status of your development.

Effort (Hours)

Original Estimate: Remaining: Completed: 0 hours

Related Work

+ Add link

Parent: 19 Testing  
Updated an hour ago. Active

Tested By: 10 Bug Finding  
Updated 48 minutes ago. Design

The screenshot shows a bug tracking interface with the following details:

- Title:** Bug found in settings
- Assignee:** Harith M
- Status:** Active
- Reason:** Approved
- Area:** TextSphere
- Iteration:** TextSphere/Iteration 1
- Test Configuration:** Windows 10
- System Info:**

Browser - Name	Google Chrome 135
Browser - Language	en-US
Browser - Height	672
Browser - Width	135
Browser - User agent	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/135.0.0.0 Safari/537.36
Operating system - Name	Windows NT 10.0; Win64; x64
Operating system - Architecture	x64_64
Operating system - Processor model	AMD Ryzen 7 7700X 8-Core Processor
Operating system - Number of processors	16
Memory - Available	25224698888
Memory - Capacity	3344310736
Display - Pixels per inch (X axis)	144
Display - Pixels per inch (Y axis)	144
Display - Device pixel ratio	1.5
- Planning:**
  - Received reason: [empty]
  - Story Points: 3
  - Priority: 4 - Low
  - Activity: [empty]
- 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 a GitHub commit, pull request or branch to see the status of your development. You can also [create a branch](#) to get started. [Learn more](#)
  - 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.
- Effort (Hours):**
  - Original Estimate: [empty]
  - Remaining: [empty]
  - Completed: [empty]
- Related Work:**
  - Add link: [empty]
  - Parent: 29 : Testing (Updated 1h ago) • Active

## Test case results

The screenshot shows a test plan interface with the following details:

- Test Suites:**
  - TextSphere Team\_Stories\_Iteration 1
  - 29 : Testing (2)
- Test Points (2 items):**
  - Bug Finding
  - Notification test
- Test Case Results:**

Outcome	TimeStamp	Configuration	Run by	Tester	Test Plan
Passed	12m ago	Windows 10	Aniruth S V	Aniruth S V	TextSphere
Passed	32m ago	Windows 10	Aniruth S V	Aniruth S V	TextSphere
- Recently updated:**
  - BUG 33: Bug found in settings (New, Resolved, Active)
- System Info:**
  - Browser - Name: Google Chrome 135
  - Browser - Language: en-US
  - Browser - Height: 672
  - Browser - Width: 135
  - Browser - User agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/135.0.0.0 Safari/537.36
  - Operating system - Name: Windows NT 10.0; Win64; x64
  - Operating system - Architecture: x64\_64
  - Operating system - Processor model: AMD Ryzen 7 7700X 8-Core Processor
  - Operating system - Number of processors: 16
  - Memory - Available: 25224698888
  - Memory - Capacity: 3344310736
  - Display - Pixels per inch (X axis): 144
  - Display - Pixels per inch (Y axis): 144
  - Display - Device pixel ratio: 1.5
- Discussion:**
  - Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.

## 5. Test report summary

- Assigning bug to the developer and changing state

TextSphereMain / TextSphere / Boards / Work items

Recently updated | ← Back to Work Items

**BUG 33\***  
33 Bug found in settings

Assign people | 0 Comments Add Tag

Aniruth S V  
aniruth4401@outlook.com  
Ganesh S  
231501058@vajatakshmi.edu.in  
Harish M  
231501058@vajatakshmi.edu.in

Severity: 4 - Low  
Activity

Effort (Hours)

Original Estimate  
Remaining  
Completed

Link a GitHub commit, pull request or branch to see the status of your development. You can also create a branch to get started. Learn more

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

29 Testing Updated 42m ago Active  
10 Bug Finding Updated 20m ago Design

System Info

Found in Build  
Integrated in Build

Add link Parent  
29 Testing Updated 42m ago Active  
10 Bug Finding Updated 20m ago Design

Add comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.

Switch to Markdown editor

TextSphereMain / TextSphere / Boards / Work items

Recently updated | ← Back to Work Items

**BUG 33\***  
33 Bug found in settings

Harish M | 0 Comments Add Tag

Status: Active Reason: Approved Date: TextSphere Iteration: TextSphere/Iteration 1

Repro Steps

4/28/2025 1:30 PM Bug filed on "Bug Finding".  
Test Configuration: Windows 10

Planning

Received Reason: Story Points: Priority: 3 Severity: 4 - Low Activity

Deployment

Development

Related Work

29 Testing Updated 1h ago Active  
10 Bug Finding Updated 1h ago Design

System Info

Found in Build  
Integrated in Build

Add link Parent  
29 Testing Updated 1h ago Active  
10 Bug Finding Updated 1h ago Design

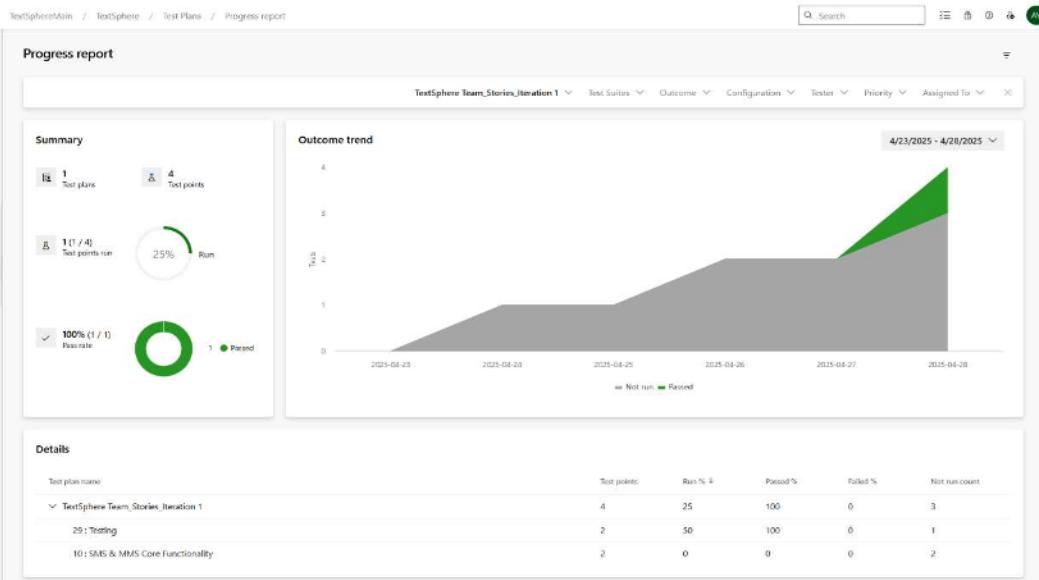
System Info

Browser - Name: Google Chrome 115  
Browser - Language: English  
Browser - Width: 877  
Browser - Height: 1280  
Browser - User agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/115.0.0.0 Safari/537.36  
Operating system - Name: Windows NT 10.0; Win64; x64  
Operating system - Architecture: x64\_64  
Operating system - Processor model: AMD Ryzen 7 7700X 8-Core Processor  
Operating system - Number of processors: 16  
Memory - Available: 23221669888  
Memory - Capacity: 33443168736  
Display - Pixels per inch (X axis): 144  
Display - Pixels per inch (Y axis): 144  
Display - Device pixel ratio: 1.5

## Progress report

231501058

CS23432



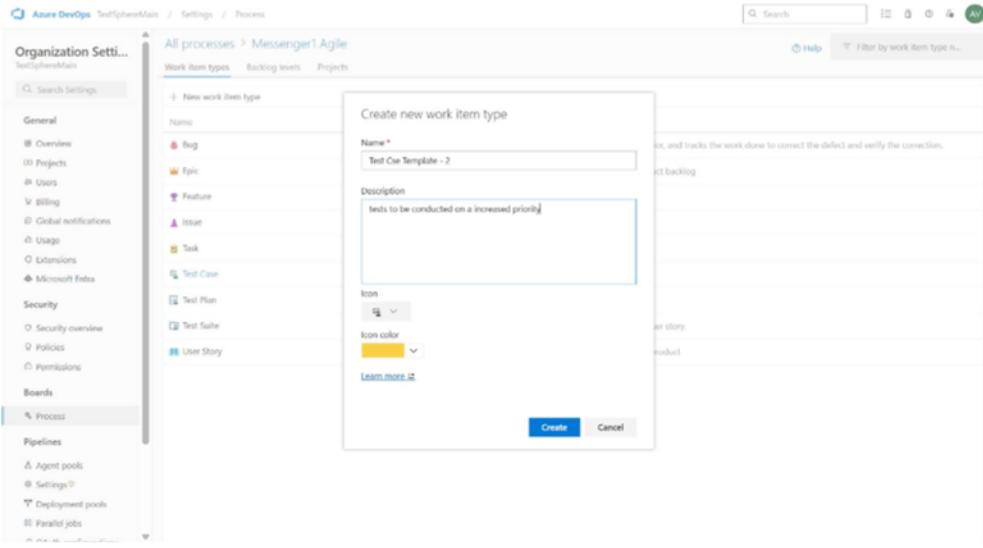
## 6. Changing the test template

The screenshot shows the 'Process' section of the Azure DevOps Settings. The left sidebar includes 'Organization Settings' (Overview, Projects, Users, Billing, Global notifications, Usage, Extensions, Microsoft Entra), 'Security' (Security overview, Policies, Permissions), 'Boards' (Process, Pipelines), and 'Repos' (Artifacts, Storage). The 'Process' section is selected.

The main area displays a list of 'All processes' under the 'Agile' category. The list includes:

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

## 7. View the new test case template



### Result:

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

**EXP NO: 9**

## **LOAD TESTING AND PERFORMANCE TESTING**

### **Aim:**

To create an Azure Load Testing resource and run a load test to evaluate the performance of a target endpoint.

### **Load Testing**

#### **Steps to Create an Azure Load Testing Resource:**

Before you run your first test, you need to create the Azure Load Testing resource:

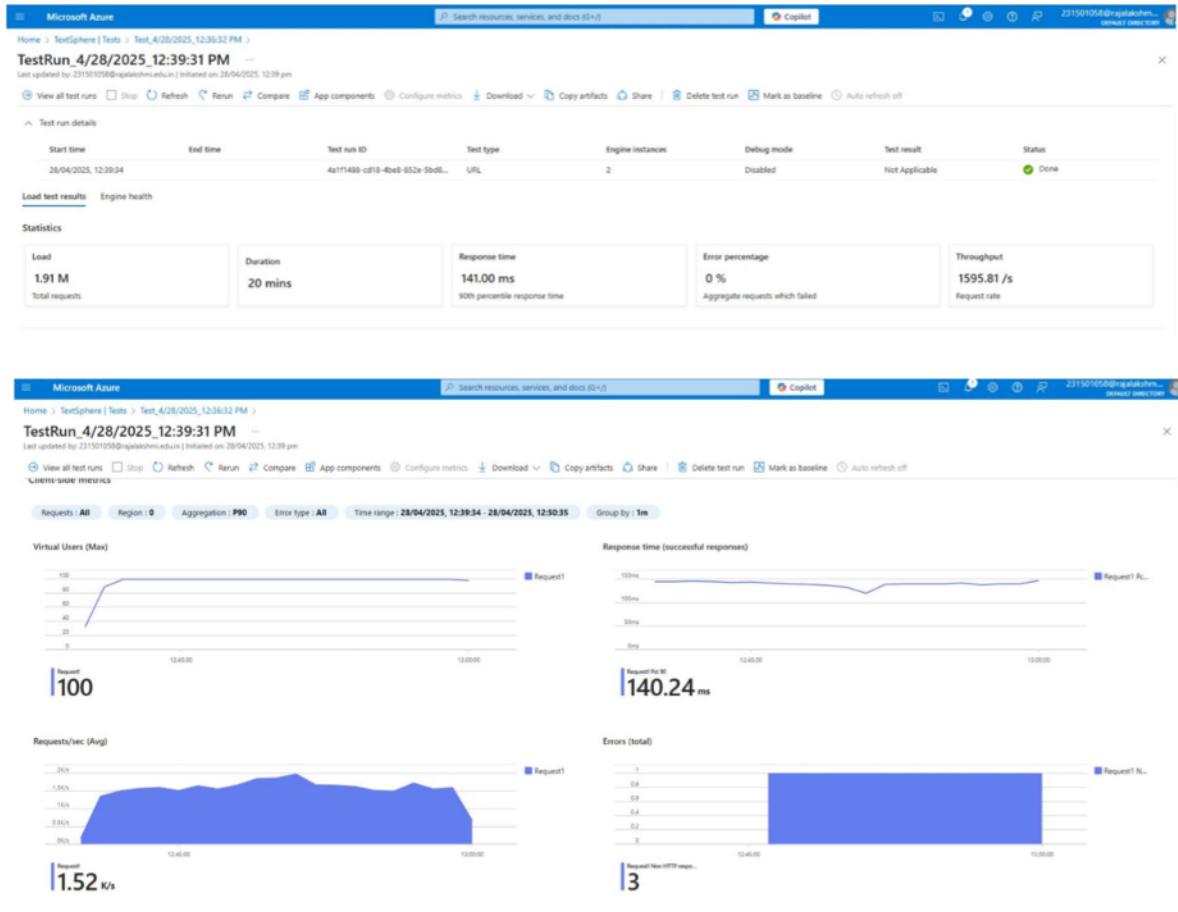
1. Sign in to Azure Portal  
Go to <https://portal.azure.com> and log in.
2. Create the Resource
  - o Go to *Create a resource* → Search for “Azure Load Testing”.
  - o Select Azure Load Testing and click Create.
3. Fill in the Configuration Details
  - o *Subscription*: Choose your Azure subscription.
  - o *Resource Group*: Create new or select an existing one.
  - o *Name*: Provide a unique name (no special characters).
  - o *Location*: Choose the region for hosting the resource.
4. (Optional) Configure tags for categorization and billing.
5. Click Review + Create, then Create.
6. Once deployment is complete, click Go to resource.

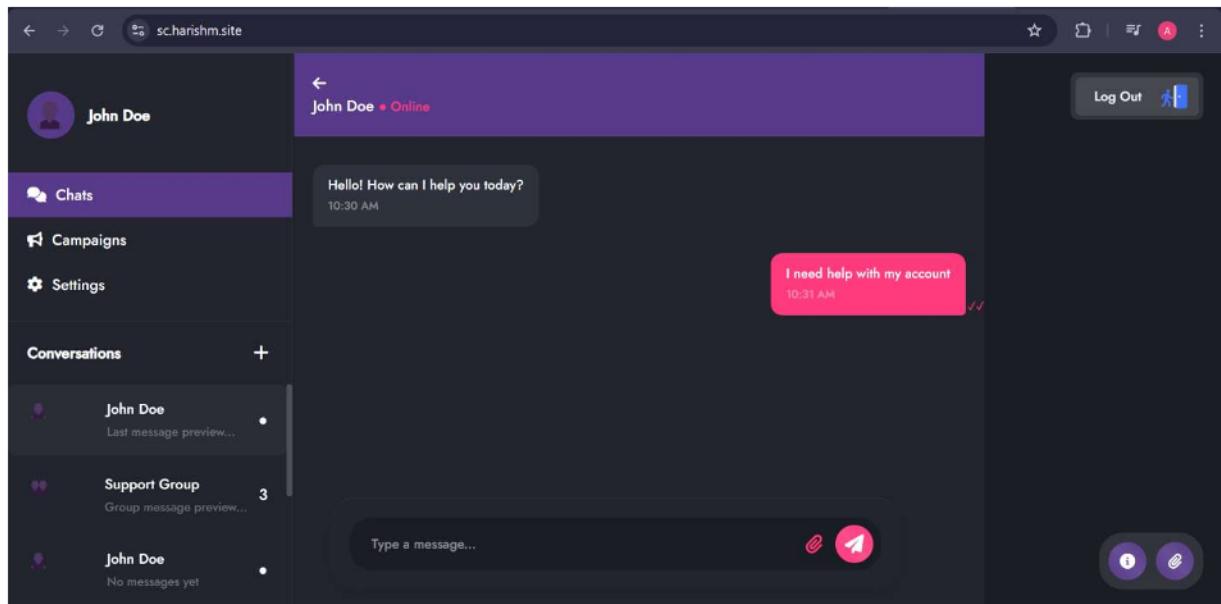
#### **Steps to Create and Run a Load Test:**

Once your resource is ready:

1. Go to your Azure Load Testing resource and click Add HTTP requests > Create.
2. Basics Tab
  - o *Test Name*: Provide a unique name.
  - o *Description*: (Optional) Add test purpose.
  - o *Run After Creation*: Keep checked.
3. Load Settings
  - o *Test URL*: Enter the target endpoint (e.g., <https://yourapi.com/products>).
4. Click Review + Create → Create to start the test.

## Load Testing





**Result:**

Successfully created the Azure Load Testing resource and executed a load test to assess the performance of the specified endpoint.

**EXP NO: 10**

## **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 SMS/MMS Sending Project

### **GitHub Project Structure**

The screenshot shows a GitHub repository page for 'TextSphere - SMS & Chat Messaging Platform'. The repository is public and has 11 commits. The code tab is selected, showing files like main.js, Frontend, api, .gitkeep, README.md, and azure-pipelines.yml. The README section describes the project as a modern, scalable web-based chat application built with Azure services. It lists features for Core Messaging (real-time messages, 160-character limit, delivery status) and MMS Support (image/media upload, secure storage). The repository has 0 stars, 1 watching, and 0 forks. Contributors listed are HarishM-AIML-A-58, AniruthSV, and GaneshS-AIML-46. A language pie chart shows HTML at 55.2%, JavaScript at 24.5%, and CSS at 24.3%.

### **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.