

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



**RAJALAKSHMI  
ENGINEERING COLLEGE**

**CS23432  
Software Construction**

**Laboratory Observation Note Book**

Name : .....

Year / Branch / Section : .....

Register No. : .....

Semester : .....

Academic Year : .....



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

**BONAFIDE CERTIFICATE**

NAME \_\_\_\_\_ REGISTER NO. \_\_\_\_\_

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

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Name: \_\_\_\_\_ Branch: \_\_\_\_\_ Sec: \_\_\_\_\_ Roll no: \_\_\_\_\_

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

## AZURE DEVOPS ENVIRONMENT SETUP

### **Aim:**

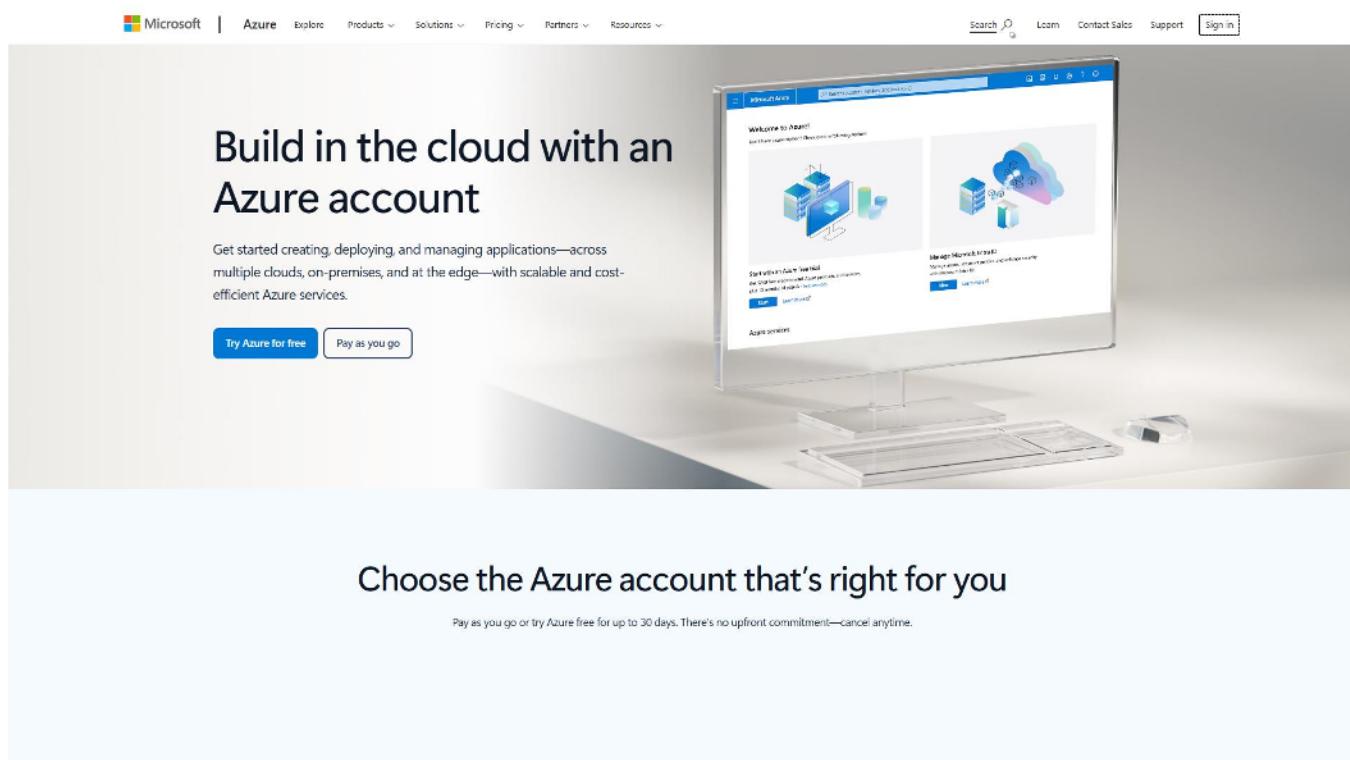
To set up and access the Azure DevOps environment by creating an organization through the Azure portal.

### **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. The main content area features a large headline 'Build in the cloud with an Azure account'. Below it is a sub-headline: 'Get started creating, deploying, and managing applications—across multiple clouds, on-premises, and at the edge—with scalable and cost-efficient Azure services.' Two buttons are visible: 'Try Azure for free' and 'Pay as you go'. To the right of the text, there's a computer monitor displaying the Azure portal interface with various service tiles. A keyboard and mouse are also visible on the desk. At the bottom of the page, there's a call-to-action: 'Choose the Azure account that's right for you' with a 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 Azure home page with a blue header bar. The search bar contains the text "Search resources, services, and docs (0+)" and the Copilot button is visible. Below the header, there's a section for "Azure services" with icons for Create a resource, Azure 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 table of recent and favorite resources, including TextSphere, Text\_Sphere, Team\_Alpha, India, and Azure for Students. The "Navigate" section includes links for Subscriptions, Resource groups, All resources, and Dashboard. The "Tools" section features Microsoft Learn, Azure Monitor, Microsoft Defender for Cloud, and Cost Management. The "Useful links" section provides links to Technical Documentation, Azure Services, Recent Azure Updates, and Azure mobile app download links for the App Store and Google Play.

## 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 a search bar at the top containing the text "Azure Dev". A dropdown menu is open under the search bar, showing suggestions: "All", "Services (99+)", and "Marketplace (22)". The suggestion "Azure DevOps organizations" is highlighted. The rest of the page content is identical to the first screenshot, including the Azure services, Resources, Navigate, Tools, and Useful links 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.

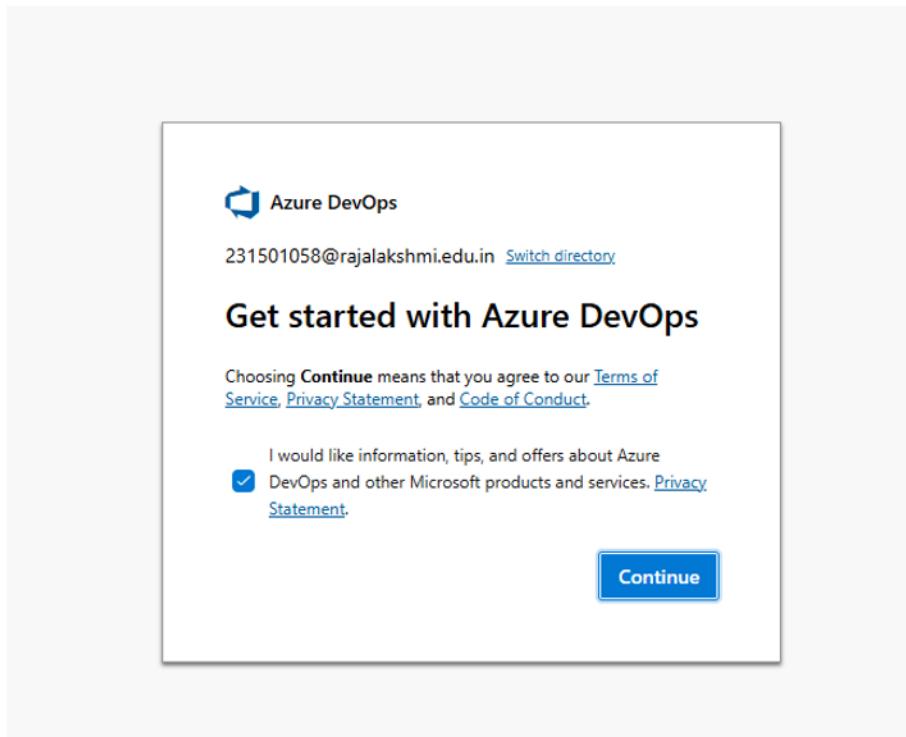
EXP NO: 2

## 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 \*

Text.Sphere

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

Git

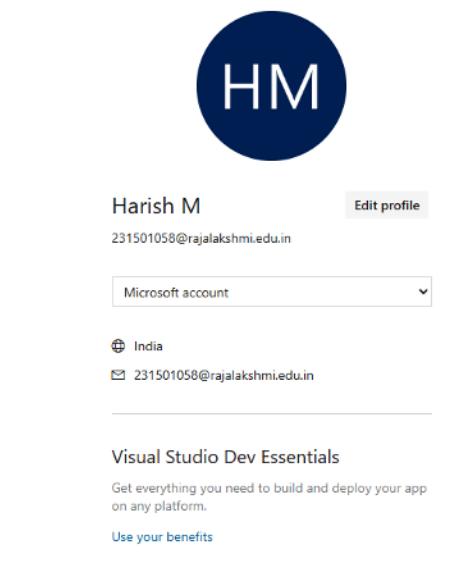
Work item process

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.



**Azure DevOps Organizations**

[Create new organization](#)

dev.azure.com/TextSphereMain (Owner)

**Projects**

- TextSphere
- New project

**Actions**

[Open in Visual Studio](#)

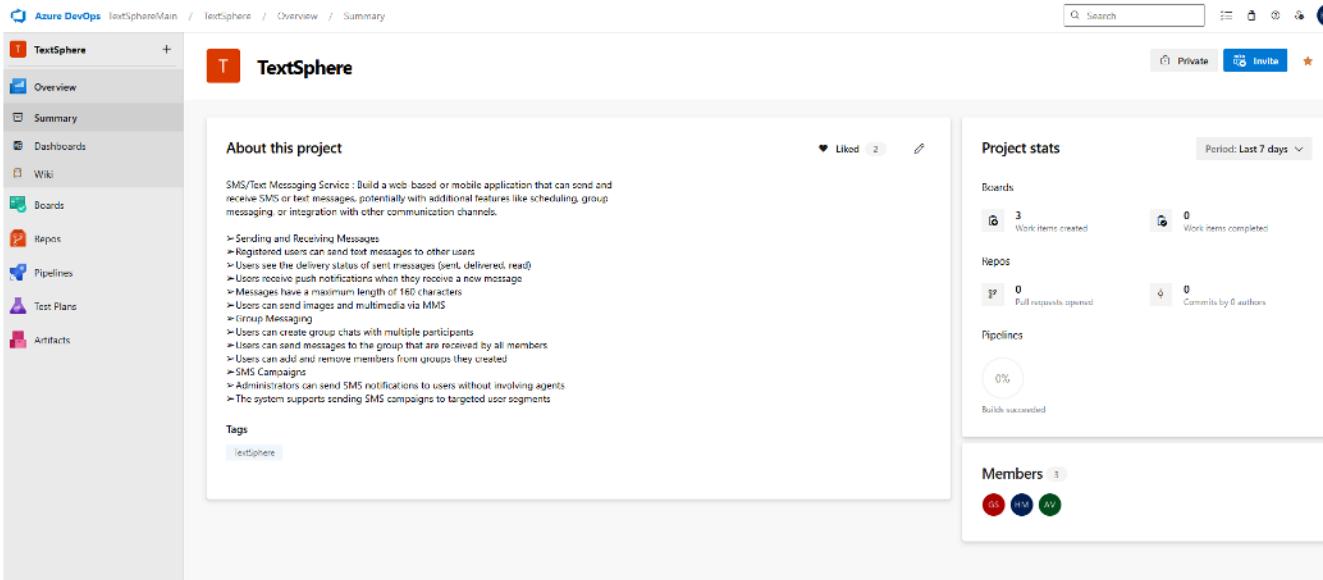
**Organizations Pending Deletion - [Expand](#)**

**Visual Studio Dev Essentials**

Get everything you need to build and deploy your app on any platform.

[Use your benefits](#)

**4. Project dashboard**



**TextSphere**

**About this project**

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.

- > Sending and Receiving Messages
- > Registered users can send text messages to other users
- > Users see the delivery status of sent messages (sent, delivered, read)
- > Users receive push notifications when they receive a new message
- > Messages have a maximum length of 160 characters
- > Users can send images and multimedia via MMS
- > Group Messaging
- > Users can join group chats with multiple participants
- > Users can send messages to the group that are received by all members
- > Users can add and remove members from groups they created
- > SMS Campaigns
- > Administrators can send SMS notifications to users without involving agents
- > The system supports sending SMS campaigns to targeted user segments

**Project stats**

Period: Last 7 days

Boards	3 Work items created	0 Work items completed
Repos	0 Pull requests opened	0 Commits by 0 authors
Pipelines	0% Builds succeeded	

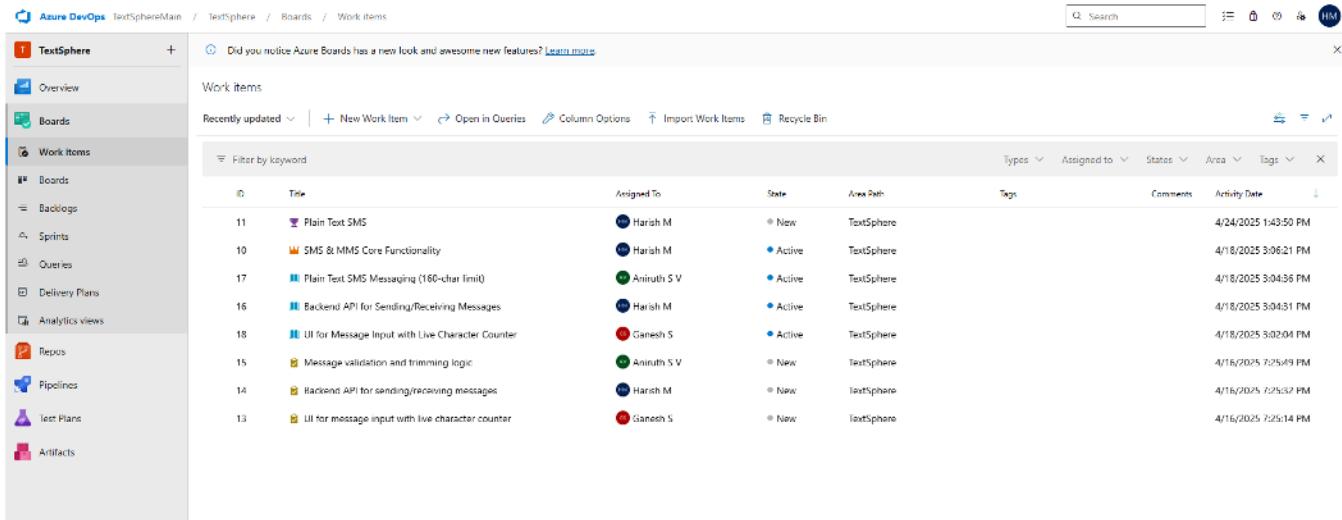
**Members**

- Harish M
- AV

## 5. To manage user stories:

a. 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.

b. 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 interface for the 'TextSphere' project. The left sidebar is collapsed, and the main area displays the 'Work items' section under 'Boards'. At the top, there's a search bar and some navigation icons. Below the header, there are buttons for 'New Work Item', 'Open in Queries', 'Column Options', 'Import Work Items', and 'Recycle Bin'. A 'Recently updated' filter is selected. The main table lists 10 user stories with columns for ID, Title, Assigned To, State, Area Path, Tags, Comments, and Activity Date. The user stories are:

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 & MMG Core Functionality	Harish M	Active	TextSphere			4/8/2025 3:06:21 PM
17	Plain Text SMS Messaging (160-char limit)	Anirudh 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	Anirudh 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 into three levels: Epics, Features, and Tasks. The first item is an Epic titled 'SMS & MMS Core Functionality' with a sub-item 'Plain Text SMS' and a task 'UI for message input with live character counter'. The backlog includes columns for Order, Work Item Type, Title, State, Effort, Business Value, Value Area, and Tags. A 'New Work Item' button is visible at the top right.

Order	Work Item Type	Title	State	Effort	Business Value	Value Area	Tags
1	Epic	SMS & MMS Core Functionality	Active	13	1	Business	
	Feature	Plain Text SMS	New			Business	
	Task	UI for message input with live character counter	New				

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

#### 10 SMS & MMS Core Functionality

This screenshot provides a detailed view of the 'SMS & MMS Core Functionality' epic. It shows the epic's title, description, planning details, and a discussion section.

**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

**Classification:**  
Value area: Business

**Discussion:**  
A comment box is present for adding comments, with a note: "Add a comment. Use # to link a work item, @ to mention a person, or / to link a pull request." A link to "switch to Markdown editor" is also provided.

## 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:  
Effort:  
Business Value:  
Time Criticality:  
Start Date: Select a date...  
Target Date: Select a date...

**Classification**

Value area: Business

Add a comment. Use # to link a work item, @ to mention a person, or / to link a pull request.  
[switch to Markdown editor](#)

## 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.

**Acceptance Criteria**

**Acceptance Criteria:**

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

**Planning**

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

**Classification**

Value area: Business

Discussion

### Result:

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

**EXP NO: 4**

# **SPRINT PLANNING**

## **Aim:**

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

## **Sprint Planning**

### **Sprint 1**

Unparented	New	Active
	14 Backend API for sending/receiving messages New Harish M	
	16 Backend API for Sending/Receiving Messages Active Harish M	
	18 UI for Message Input with Live Character Counter Active Ganesh S	

### **Sprint 2**

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

## Sprint 3

The screenshot shows the Jira Taskboard interface for the 'TextSphere Team'. The top navigation bar includes 'Taskboard', 'Backlog', 'Capacity', and 'Analytics'. Below this, filters for 'Iteration 3' and 'Person: All' are visible. A 'Collapse all' button is on the left. On the right, there's a 'New' button and a user icon for 'Aniruth S V'. A backlog item is highlighted with a yellow border: '15. Message validation and trimming logic' (checkbox checked), 'New', and 'Aniruth S V'.

### 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

 Harish M

 0 Comments [Add Tag](#)

State  Active

Area TextSphere

Reason  Implementation started

Iteration TextSphere\Iteration 1

### Description

**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.**

### Acceptance Criteria

#### Acceptance Criteria:

- Users can send and receive text and image messages.
- Messages are stored in Cosmos DB.
- Image messages are uploaded to Azure Blob Storage and linked in the database.
- Appropriate MIME type validation is enforced.

### Planning

Story Points

8

Priority

1

Risk

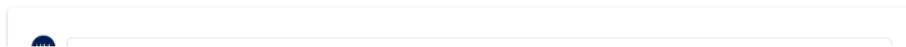
1 - High

### Classification

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:

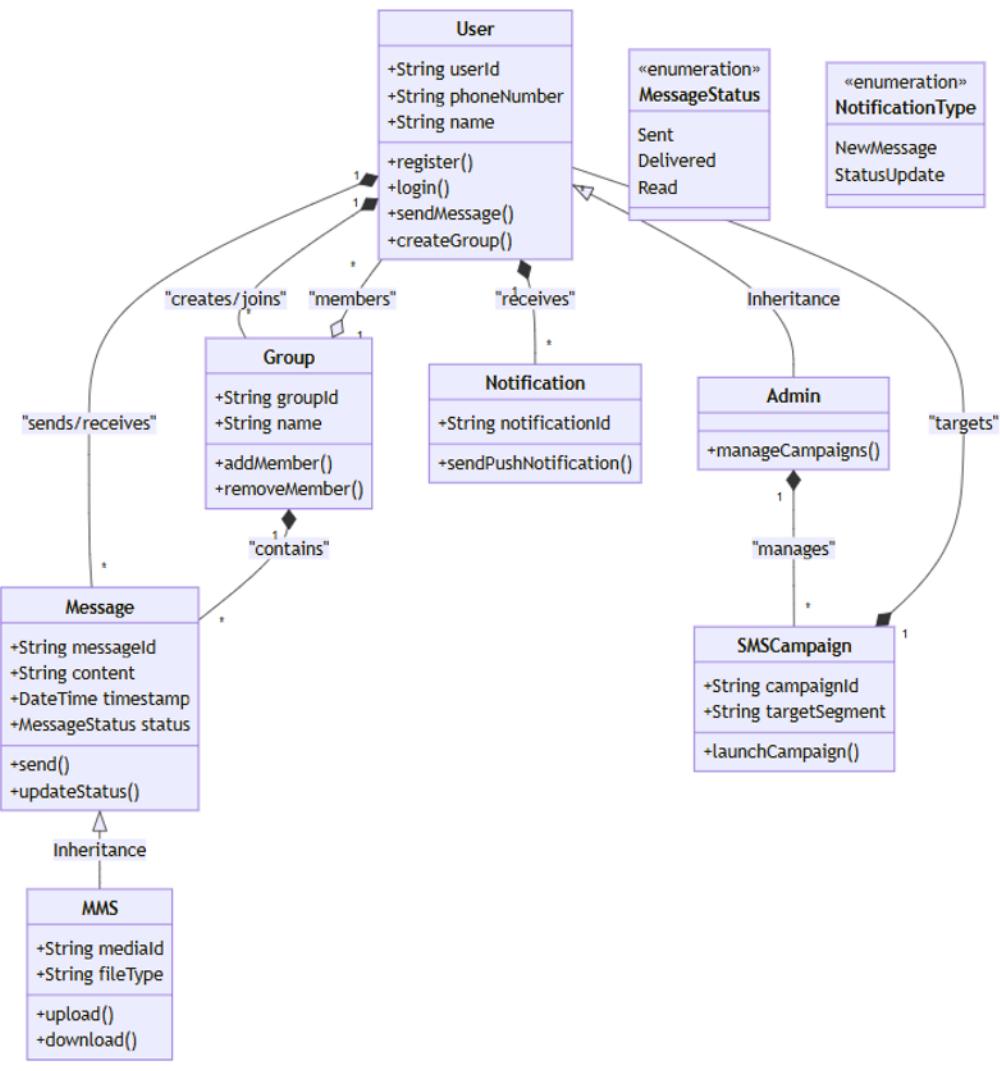
To Design a Class Diagram and Sequence Diagram for the given Project.

### 6A. Class Diagram

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

#### Class Diagram-Text Sphere

Harish M Just now

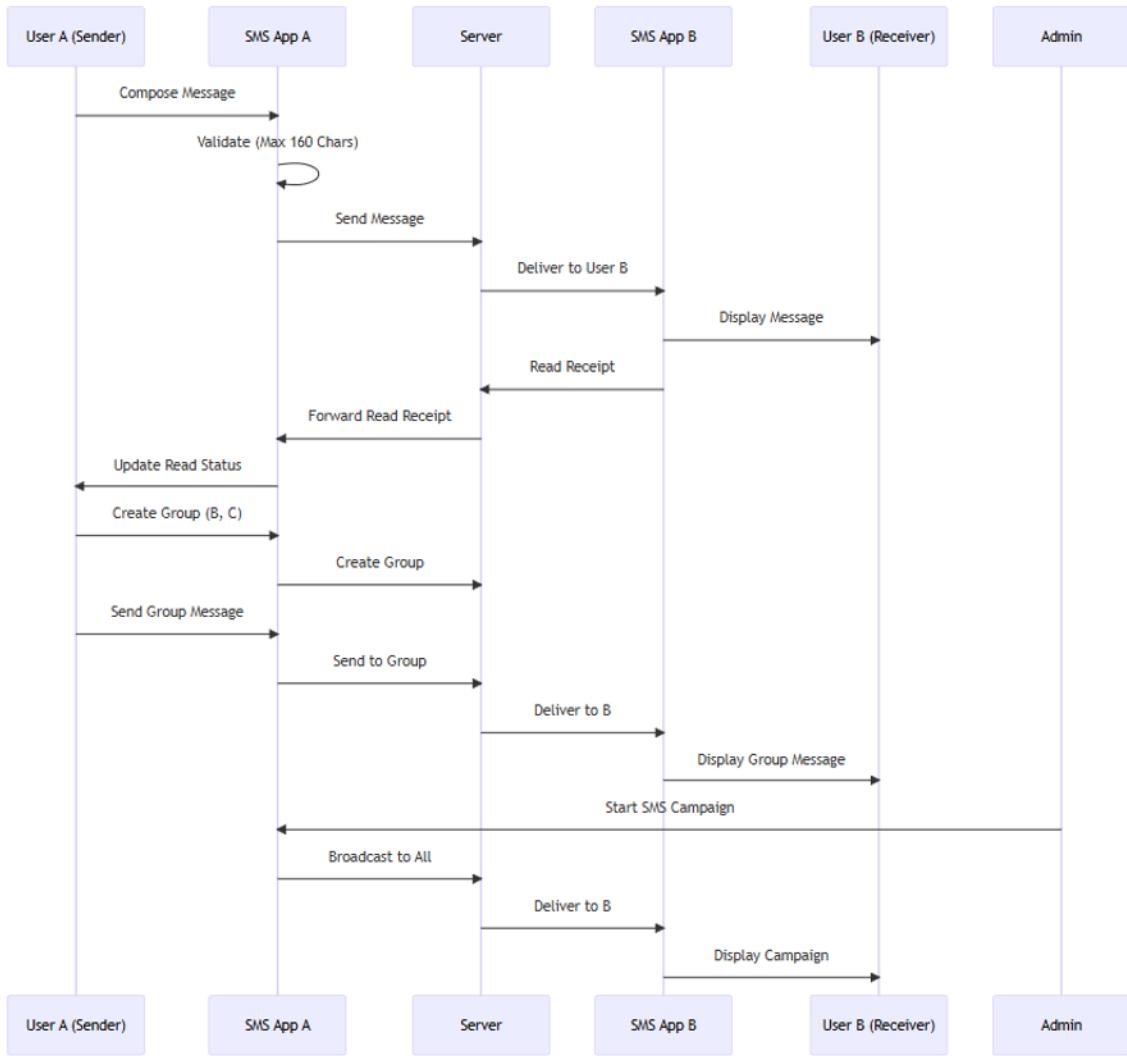


## 6B. Sequence Diagram

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

**Aim:**

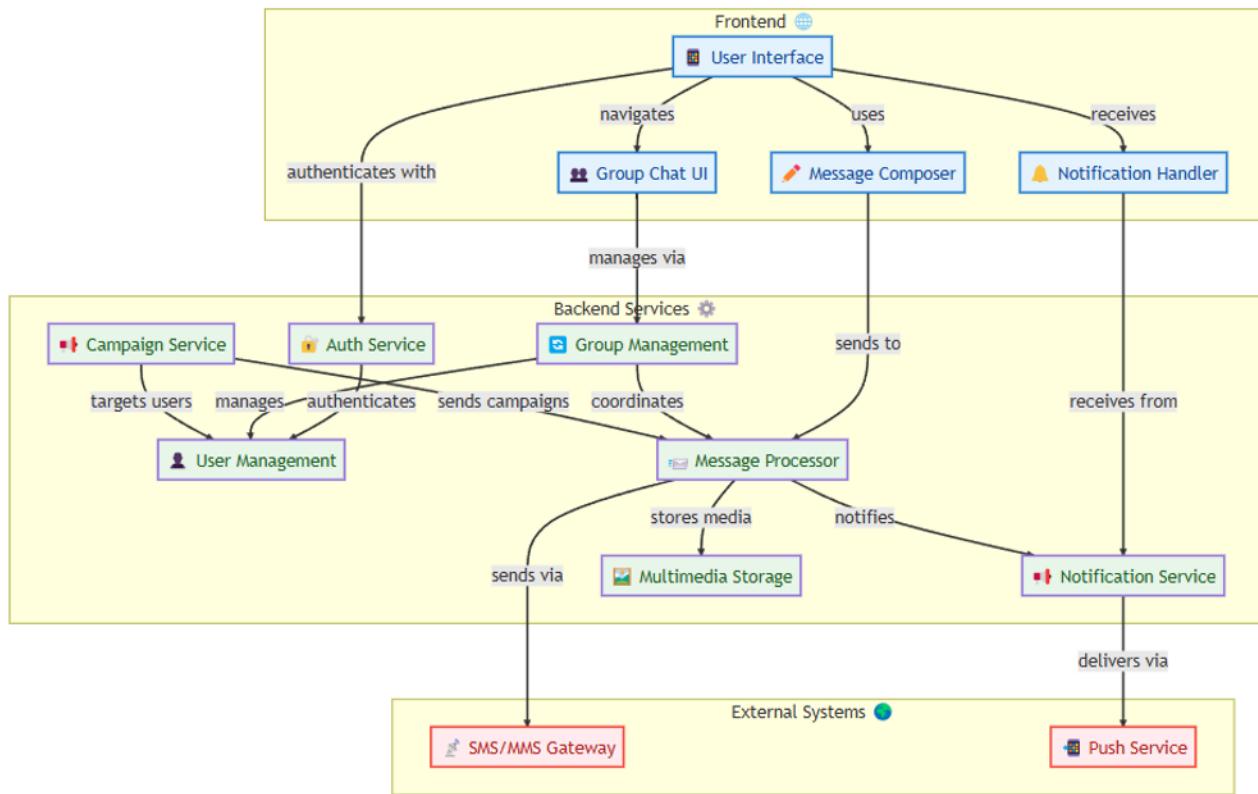
To Design an Architectural Diagram and ER Diagram for the given Project.

## 7A. Architectural Diagram

[TextSphereMain](#) / [TextSphere](#) / [Overview](#) / [Wiki](#) / [Architecture Diagram - Text ...](#)

### Architecture Diagram - Text Sphere

Harish M Just now

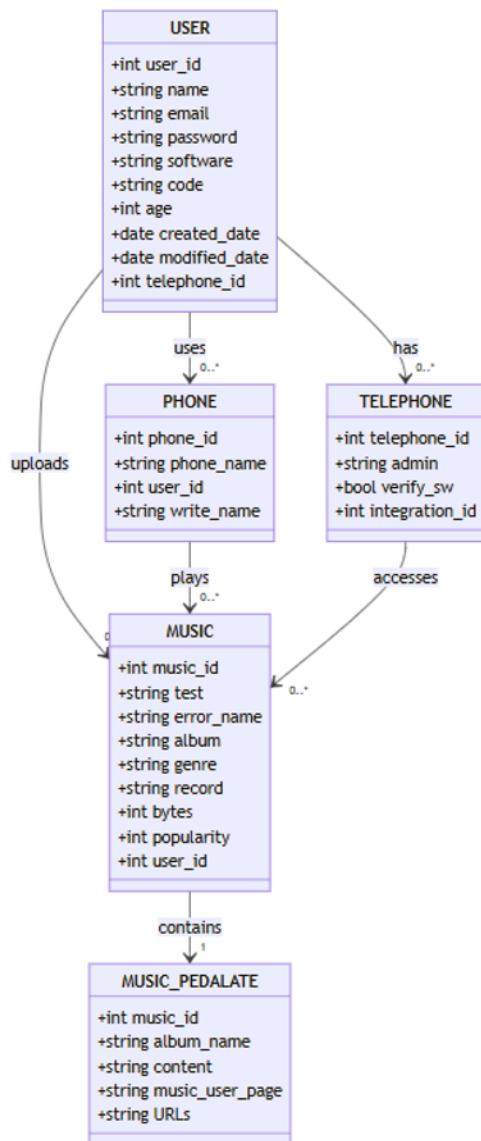


## 7B.ER Diagram

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

**EXP NO: 8**

## **TESTING – TEST PLANS AND TEST CASES**

### **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 the Azure DevOps interface for a work item titled 'TEST CASE 28'. The work item is a 'Message test 2' created by 'Aniruth S V'. It is categorized under 'Design' and 'TextSphere' area, and is part of 'Iteration 3'. The 'Steps' section contains a list of 8 actions with their expected results and attachments. The 'Deployment' section includes instructions for tracking releases and linking development status. The 'Development' section links to GitHub and Azure Repos. The 'Related Work' section shows a linked work item for 'Testing'. The 'Status' section indicates the work item is active.

Recently updated | Back to Work Items

TEST CASE 28

28 Message test 2

Aniruth S V

0 Comments Add Tag

Save Follow

5 of 19

State: Design Area: TextSphere

Reason: New Iteration: TextSphere\Iteration 3

Updated by Aniruth S V; 2h ago

Steps

Step	Action	Expected result	Attachment
1.	Click on		actionL
2.	Update input field with value 'Jcpp'	Typing zone is interactive	actionL
3.	Update input field with value 'Jcpp'		actionL
4.	Update input field with value 'Hello'	Typing Zone allows correction of messages before sending	actionL
5.	Press		actionL
6.	Click on		actionL
7.	Update input field with value 'W'	Typing zone works when pressing enter directly	actionL
8.	Update input field with value ''		actionL

Parameter values

Discussion

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

ain

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.

Related Work

Add link

Parent: 29 Testing Updated 59m ago • Active

Status

Priority

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

Types Assigned To States Area Tags Comments Activity Date

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 Mechanism /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 & Annotate

CAPTURE

New Help

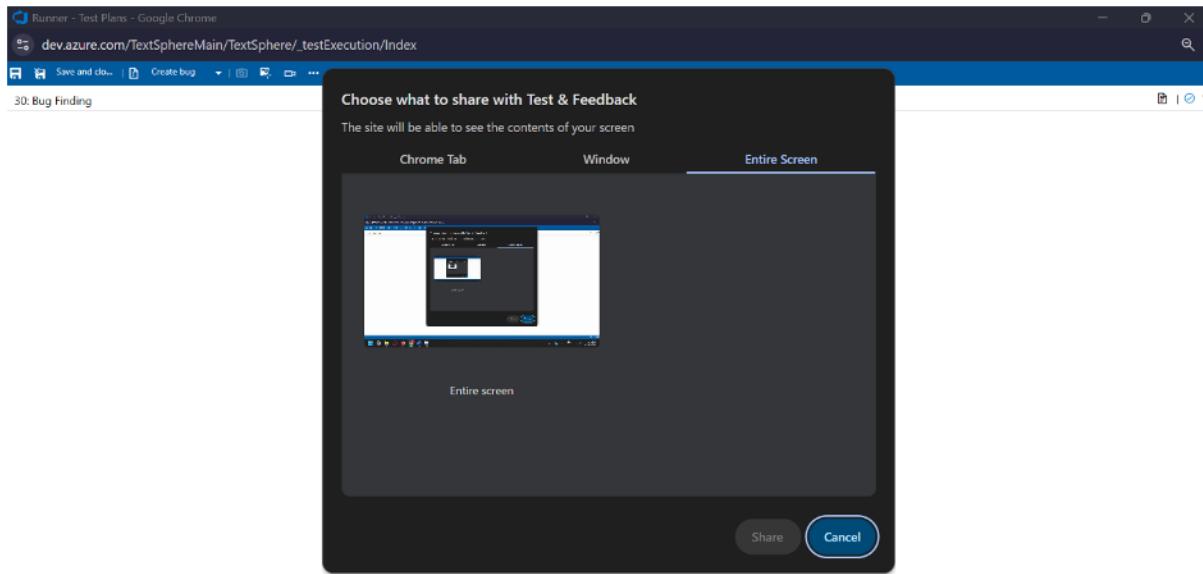
1. Screenshots  
2. Notes  
3. Screen recordings  
4. Videos  
5. Image editor log  
6. Image viewer log  
7. Page view data

## 2. Running the test cases

The screenshot shows the Azure DevOps Test Plans interface. On the left, there's a sidebar with options like Overview, Boards, Repos, Pipelines, Test Plans, Test plans, Progress report, Runs, and Artifacts. The 'Test Plans' option is selected. In the main area, it shows a 'Test Suites' section with 'TextSphere Team\_...' and 'Apr 12 - Apr 26'. Below that is 'Test Suites' with 'TextSphere Team\_Stories\_Iteration 1' expanded, showing '29 : Testing (ID: 31)' and '10 : SMS & MMS Core Functionality (2)'. A context menu is open over the first item, '29 : Testing (ID: 31)', listing options: 'View execution history', 'Mark Outcome', 'Run', 'Reset test to active', and 'Edit test case'. To the right, there's a 'Test Points (2 items)' section with two entries: 'Bug Finding' (Active, Order 1) and 'Notification test' (Active, Order 2). Buttons for 'Run for web application', 'Run for desktop application', and 'Run with options' are also present.

The screenshot shows a browser window titled 'Runner - Test Plans - Google Chrome' with the URL 'dev.azure.com/TextSphereMain/TextSphere/\_testExecution/Index'. The page displays a bug titled '30: Bug Finding'. The 'Description' section contains the following text:  
The app is tested for various bugs found in testing apps such as  
**Message Failures:** Message 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

Runner - Test Plans - Google Chrome

dev.azure.com/TextSphereMain/TextSphere/\_testExecution/Index

**NEW BUG \***

Notification Bug

Unassigned

0 comments Add tag

Save & Close

Details

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	688
Browser - Width	1296
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	x86_64
Operating system - Processor model	AMD Ryzen 7 7700X 8-Core Processor
Operating system - Number of processors	16
Memory - Available	22749901376
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

Story Points

Priority

Severity

Activity

Effort (Hours)

Original Estimate

Remaining

Completed

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 Pipelines to see the status of your 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

29 Testing  
Updated an hour ago • Active

Tested By

50 Bug Finding

TextSphereMain / TextSphere / Boards / Work items

Recently updated | Back to Work Items To exit full screen, press and hold Esc 1 of 19

**33 Bug found in settings**

Harith M 0 Comments Add Tag

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

**Repro Steps**

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

**System Info**

Browser - Name	Google Chrome 135
Browser - Language	en-US
Browser - Height	672
Browser - Width	1280
Browser - User agent	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/135.0.1869.105 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	232,716,9088
Memory - Capacity	354,431,68736
Display - Pixels per inch (X axis)	144
Display - Pixels per inch (Y axis)	144
Display - Device pixel ratio	1.5

**Planning**

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

**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

**Effort (Hours)**

Original Estimate: Remaining: Completed:

**Related Work**

Add link: Parent: 29 Testing Updated 1h ago Active

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.

## Test case results

TextSphereMain / TextSphere / Test Plans / TextSphere Team\_Stories\_Ite...

← TextSphere Team... Pad: 25% run 100% passed. View report

**Test Suites**

Filter suites by name: TextSphere Team\_Stories.Iteration 1 29 : Testing (2)

**29 : Testing (ID: 31)**

Execute Chart

**Test Points (2 items)**

- Title
- Bug Finding
- Notification test

**Bug Finding**

**Test Case Results**

Outcome	TimeStamp	Configuration	Run by	Tester	Test Plan
Passed	12m ago	Windows 10	Aniruth S V	Aniruth S V	TextSp
Passed	32m ago	Windows 10	Aniruth S V	Aniruth S V	TextSp

Recently updated | Back to Work Items 1 of 19

**33 Bug found in settings**

New New

Reason: Active Iteration: TextSphere/Iteration 1

**System Info**

Browser - Name	Google Chrome 135
Browser - Language	en-US
Browser - Height	672
Browser - Width	1280
Browser - User agent	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/135.0.1869.105 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	232,716,9088
Memory - Capacity	354,431,68736
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.

switch to Markdown editor

Updated by Aniruth S V: 14m ago

**Details**

Save Follow More

**Effort (Hours)**

Original Estimate: Remaining: Completed:

**Related Work**

Add link: Parent: 29 Testing Updated 42m ago Active

Tested By: 30 Bug Finding Updated 20m ago Design

**System Info**

Found in Build Integrated in Build

## 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  
aniruth405@outlook.com

Ganesh S  
231501046@rajalakshmi.edu.in

Harish M  
231501058@rajalakshmi.edu.in

Severity: 4 - Low

Activity: TextSphere  
TextSphere\Iteration 1

Effort (Hours): Remaining: Completed:

Browser - Width	1280
Browser - User agent	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/135.0.0.0
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	2321668988
Memory - Capacity	33443188736
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.

switch to Markdown editor

Save Follow Details

Updated by Aniruth S V; 14m ago

Details | 1 of 19 ↑ ↓

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.

Related Work

Add link

Parent: 29 Testing  
Updated 42m ago ● Active

Tested By: 30 Bug Finding  
Updated 20m ago ○ Design

System Info

Found in Build

Integrated in Build

TextSphereMain / TextSphere / Boards / Work items

Recently updated | Back to Work items

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

Harish M  
Active  
Approved

Severity: 4 - Low

Activity: TextSphere  
TextSphere\Iteration 1

Repro Steps

4/28/2025 1:30 PM Bug filed on "Bug Finding"

Test Configuration: Windows 10

System Info

Browser - Name	Google Chrome 135
Browser - Language	en-US
Browser - Height	672
Browser - Width	1280
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	2321668988
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: Story Points: Priority: 3

Severity: 4 - Low

Activity:

Effort (Hours): Remaining: Completed:

Deployment

Development

Related Work

Add link

Parent: 29 Testing  
Updated 1h ago ● Active

Tested By: 30 Bug Finding  
Updated 1h ago ○ Design

System Info

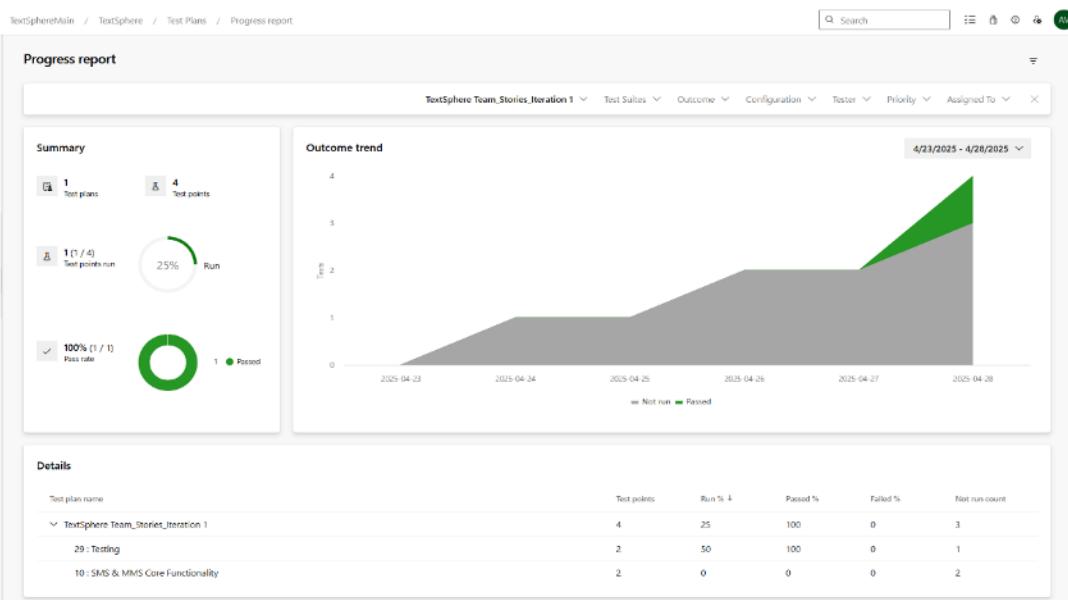
Found in Build

Integrated in Build

## Progress report

231501015

CS23432



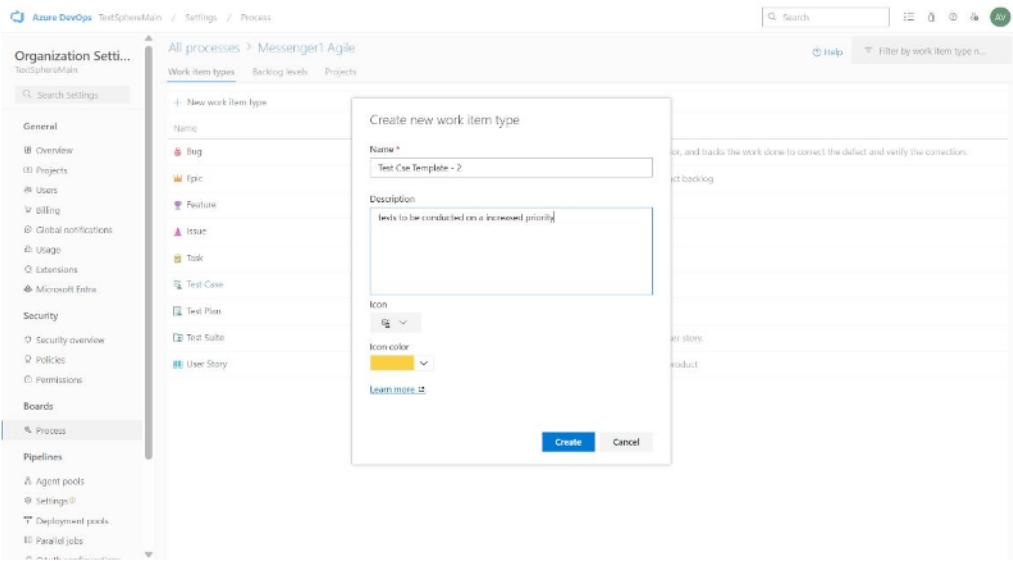
## 6. Changing the test template

The screenshot shows the 'Organization Settings' page under 'Settings / Process'. The left sidebar lists various settings like Overview, Projects, Users, Billing, Global notifications, Usage, Extensions, Microsoft Entra, Security, Boards, Pipelines, Repos, Artifacts, and Storage.

The main area displays the 'All processes' list:

Name	Description	Team proj...
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...	0
Messenger1 Agile	This template is for teams who follow the Scrum framework.	1
Scrum	This template is for teams who follow the Scrum framework.	0
QALM	This template is for more formal projects requiring a framework for process improvement and an auditable recor...	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:

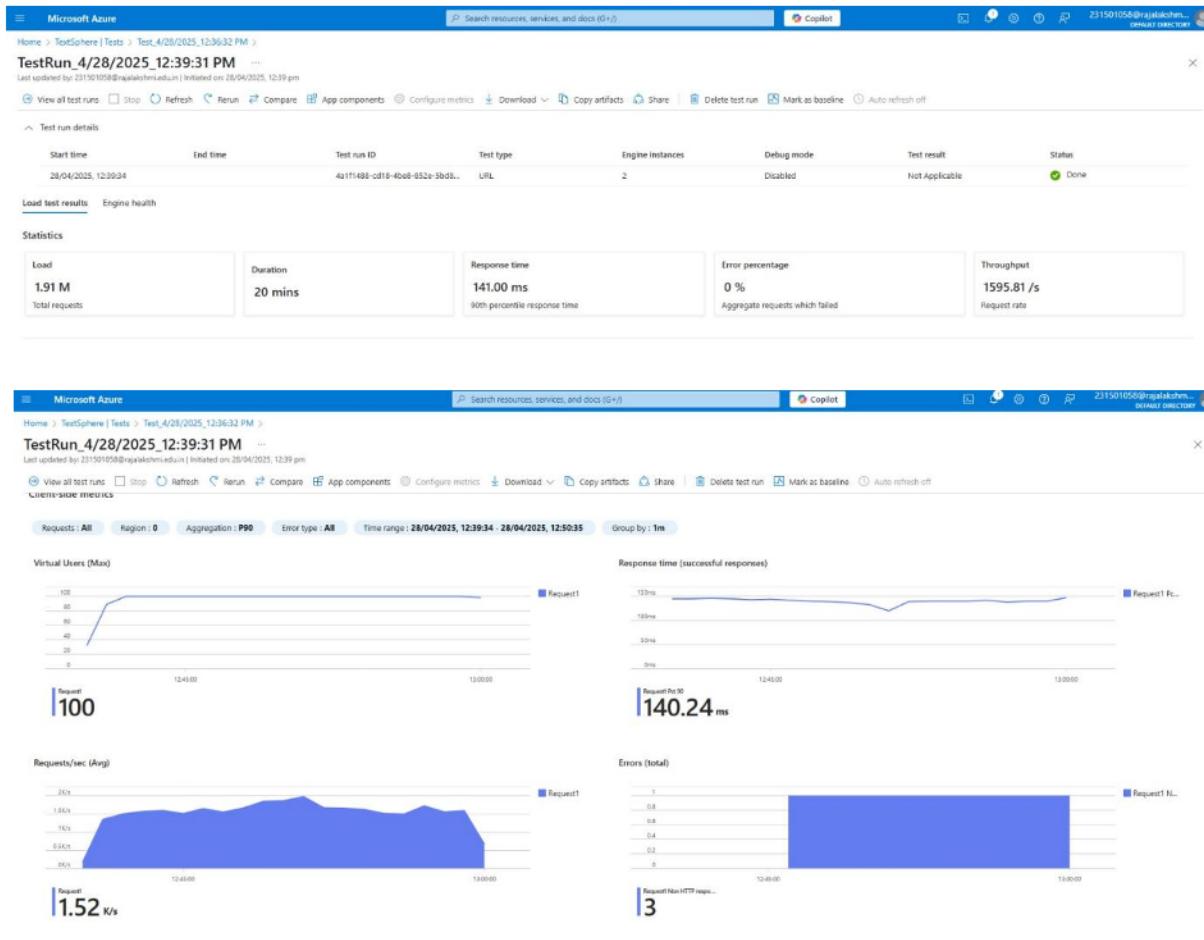
1. Sign in to Azure Portal  
Go to <https://portal.azure.com> and log in.
2. Create the Resource
  - o Go to Create a resource → Search for “Azure Load Testing”.
  - o Select Azure Load Testing and click Create.
3. Fill in the Configuration Details
  - o Subscription: Choose your Azure subscription.
  - 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.

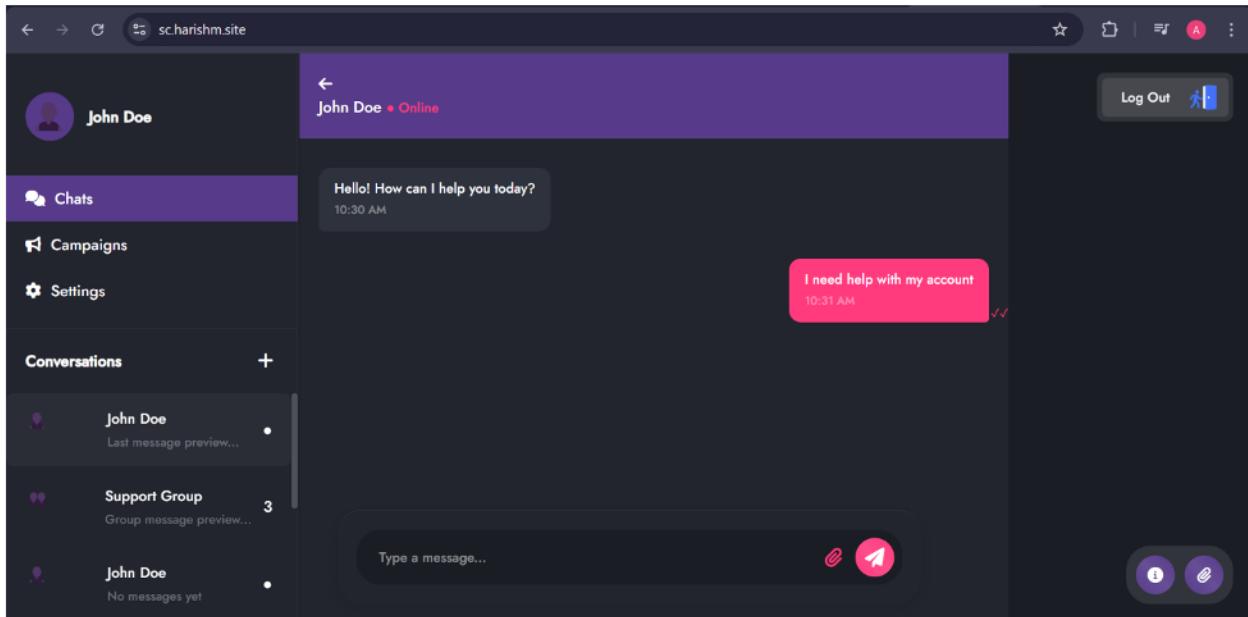
#### **Steps to Create and Run a Load Test:**

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 main branch is 'main'. The README file describes the project as a modern, scalable, web-based chat application built with Azure services that simulates SMS/MMS messaging with support for real-time communication, delivery status, multimedia sharing, group messaging, and campaign messaging. It lists features such as Core Messaging (Send and receive real-time messages between registered users, 160-character message limit, Delivery status: Sent, Delivered, Read, Push-like notifications on new messages) and MMS Support (Upload and send images or media as part of messages, Store files securely using Azure Blob Storage). The repository has 0 stars, 1 watching, and 0 forks. Contributors listed are HarishM-AIML-A-58, AniruthSV, and GaneshS-AIML-46. The Languages section shows HTML (31.2%), JavaScript (24.5%), and CSS (24.5%).

### **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.