

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



**RAJALAKSHMI  
ENGINEERING COLLEGE**

**CS23432  
Software Construction**

**Laboratory Observation Note Book**

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

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

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

## AZURE DEVOPS ENVIRONMENT SETUP

### **Aim:**

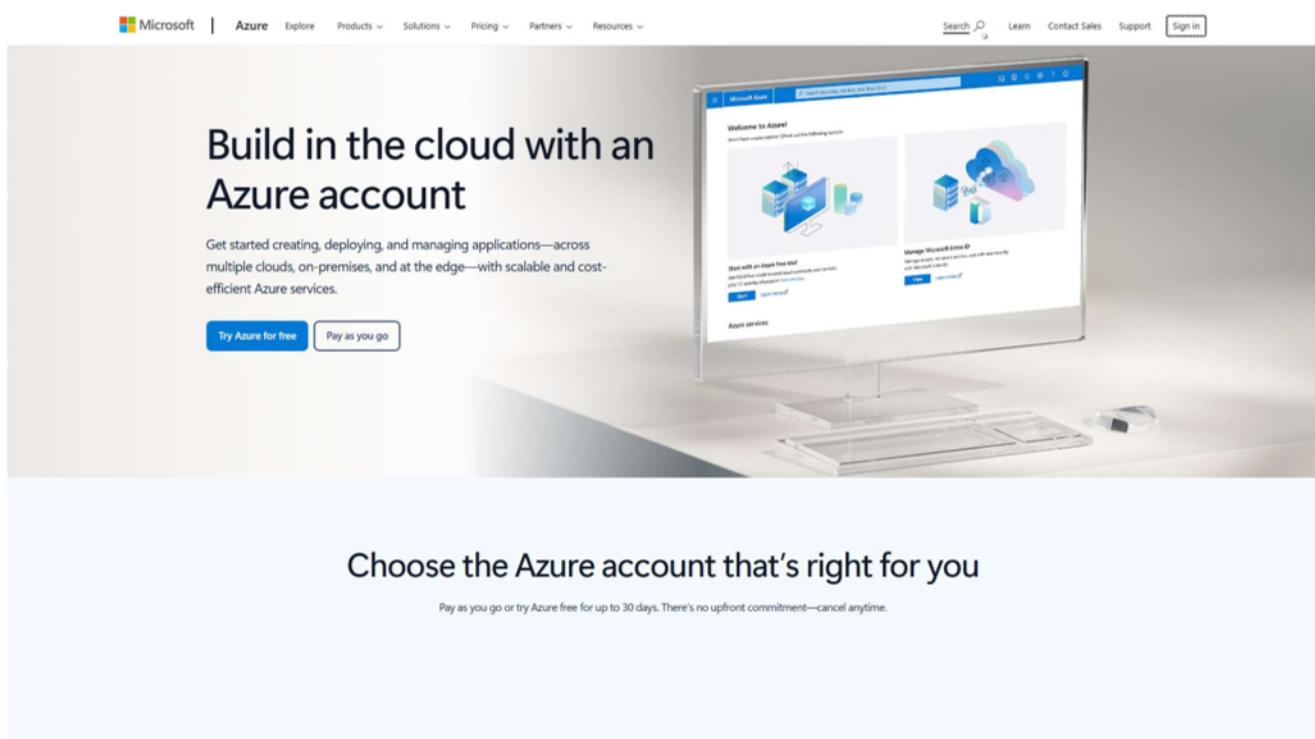
To set up and access the Azure DevOps environment by creating an organization through the Azure portal.

### **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 is a navigation bar with links for Microsoft, Azure, Explore, Products, Solutions, Pricing, Partners, Resources, Search, Learn, Contact Sales, Support, and Sign in. Below the navigation bar, a large banner features the text "Build in the cloud with an Azure account". It includes a brief description of Azure services and two buttons: "Try Azure for free" and "Pay as you go". To the right of the banner, a computer monitor displays the "Welcome to Azure" page, which offers options to "Start with an Azure free trial" or "Use my Microsoft Azure ID". Below the monitor, a keyboard and mouse are visible on a desk. Further down the page, there is a section titled "Choose the Azure account that's right for you" with a note about a 30-day free trial.

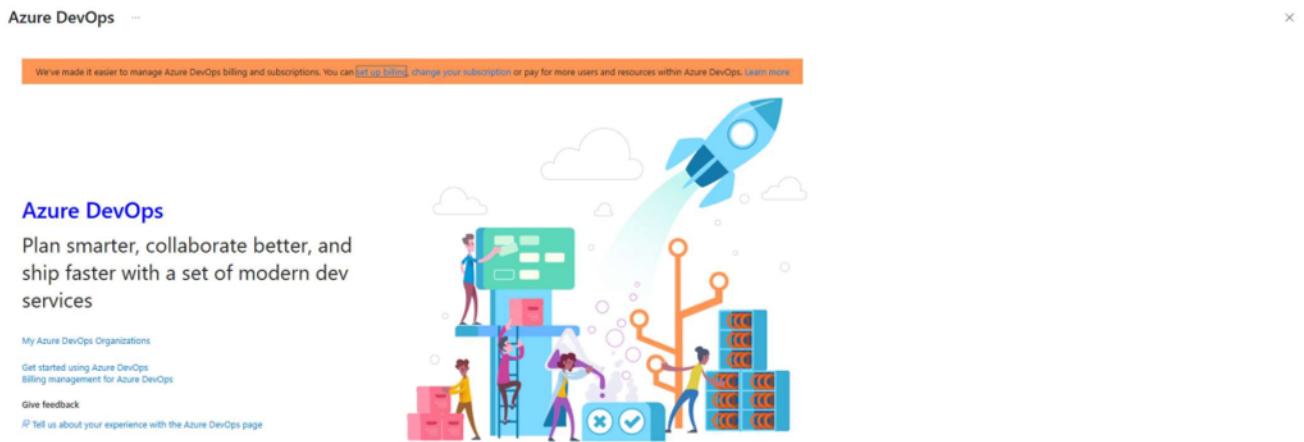
## 2. Azure home page

The screenshot shows the Microsoft Azure home page. At the top, there's a search bar and a user profile. Below the header, the "Azure services" navigation bar includes icons for Create a resource, Azure DevOps organizations, Communications Services, Projects, Dev centers, Azure Deployment..., Resource groups, Billing access control (IAM), Cost Management..., and More services. The "Resources" section displays a table of recent resources, including TestSphere (Communication Service), Test\_Sphere (Project), Team\_Alpha (Resource group), India (Dev center), and Azure for Students (Subscription). Below this is a "See all" link. The "Navigate" section has links for 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 provides 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 shows the Microsoft Azure home page with the search bar set to "Azure Dev". The search results for "Azure DevOps organizations" are displayed in the center, listing items like Azure DevOps organizations, Education, Azure Database for MySQL servers, and Azure Cosmos DB. The rest of the page layout remains consistent with the first screenshot, including the "Azure services" navigation bar, recent resources, and various tools and links.

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.

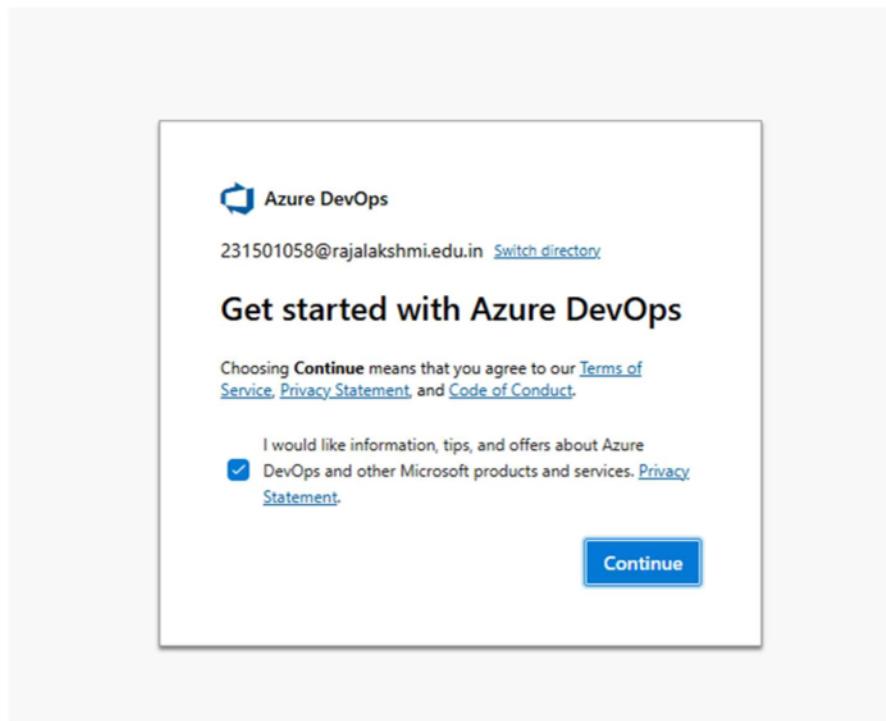
**EXP NO: 2**

## **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**

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 ?

▼

Cancel Create

- 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 links for Overview, Boards, Work items, Boards, Backlogs, Sprints, Queries, Delivery Plans, Analytics views, Repos, Pipelines, Test Plans, and Artifacts. The 'Work items' link is currently 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, Tag, Comments, and Activity Date. The table contains the following data:

ID	Title	Assigned To	State	Area Path	Tag	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 items are:

Order	Work Item Type	Title	State	Effort	Busin...	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**

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

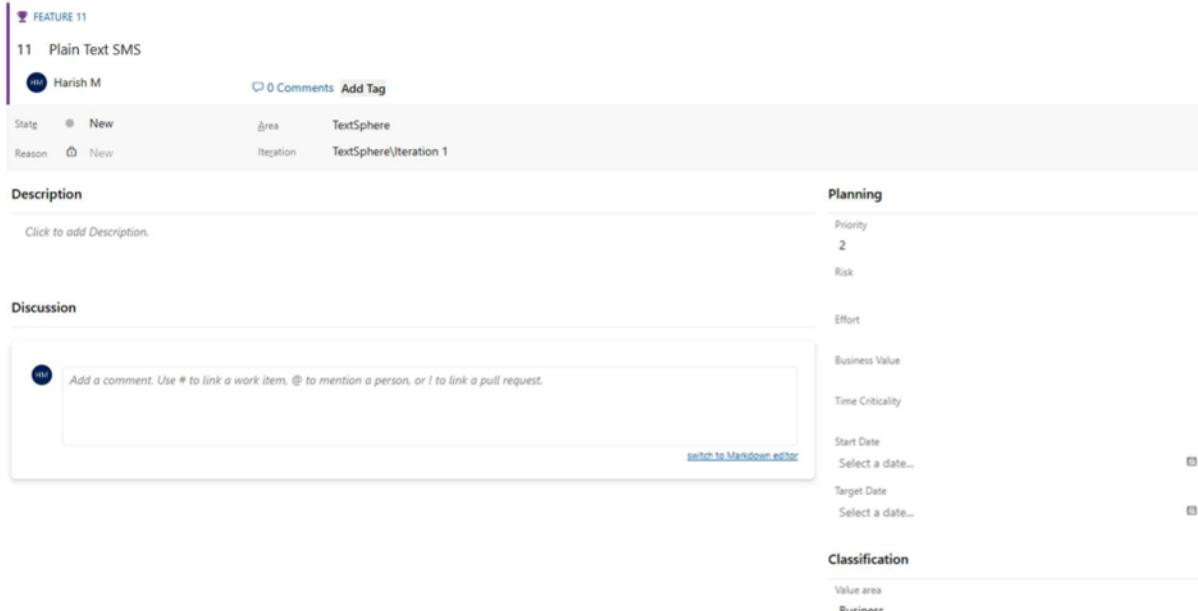
Time Criticality

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.

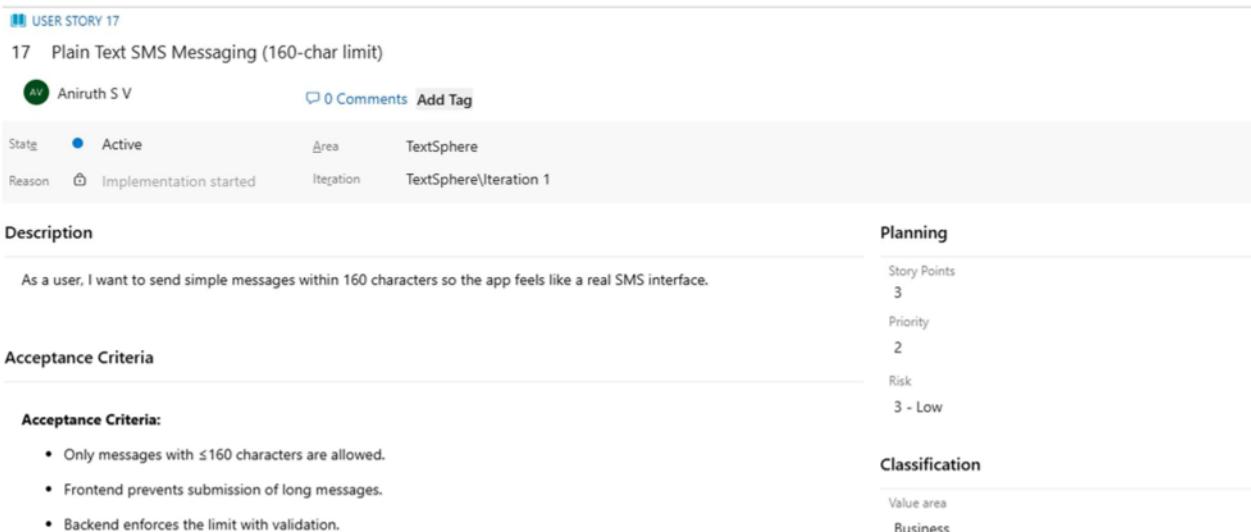
Classification

Value area: Business

Discussion

**Result:**

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**

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 dropdown menus for "Iteration 3" (with "All" selected) and "Person: All". On the left, there's a button to "Collapse all" and a "New" button. A dropdown menu is open over a card, showing "Unparented" at the top, followed by a card for "15 Message validation and trimming logic" which is labeled "New" and assigned to "Aniruth S V". There's also a small "v" icon below the dropdown.

### 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:

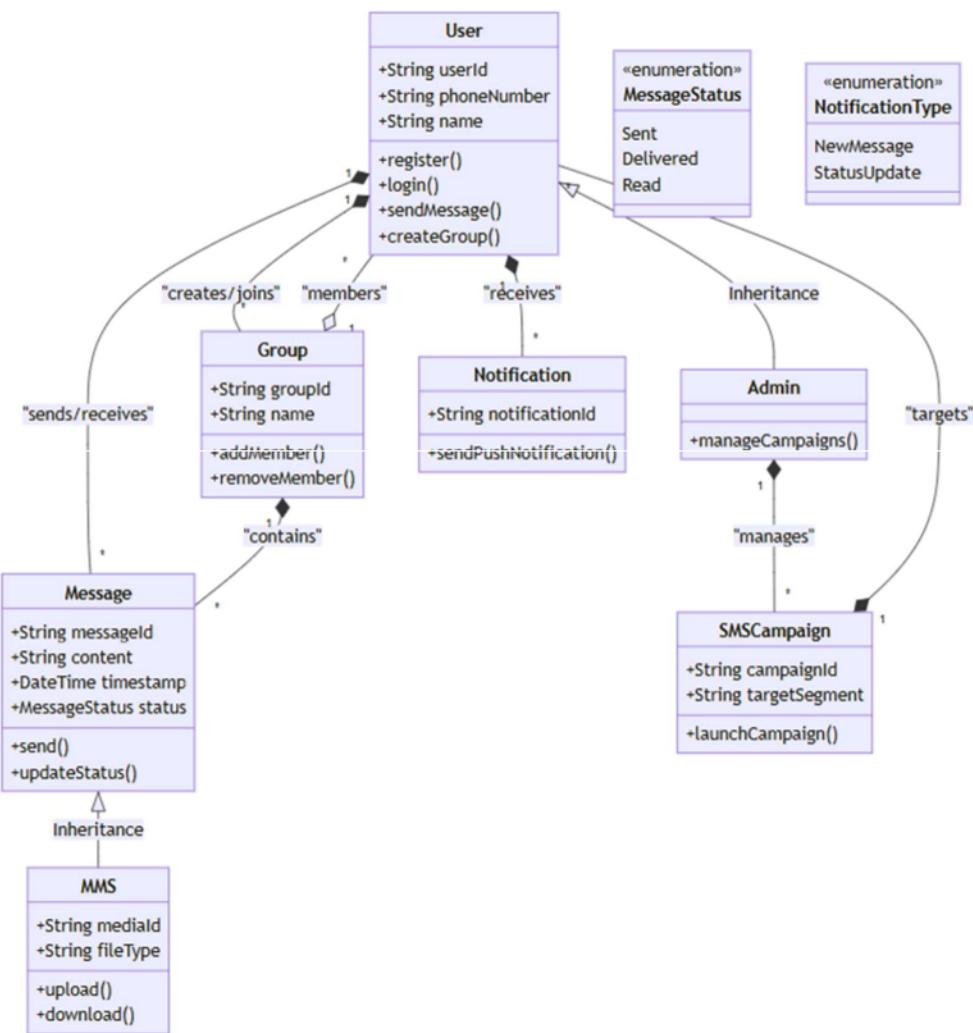
To Design a Class Diagram and Sequence Diagram for the given Project.

### 6A. Class Diagram

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

#### Class Diagram-Text Sphere

Harish M Just now

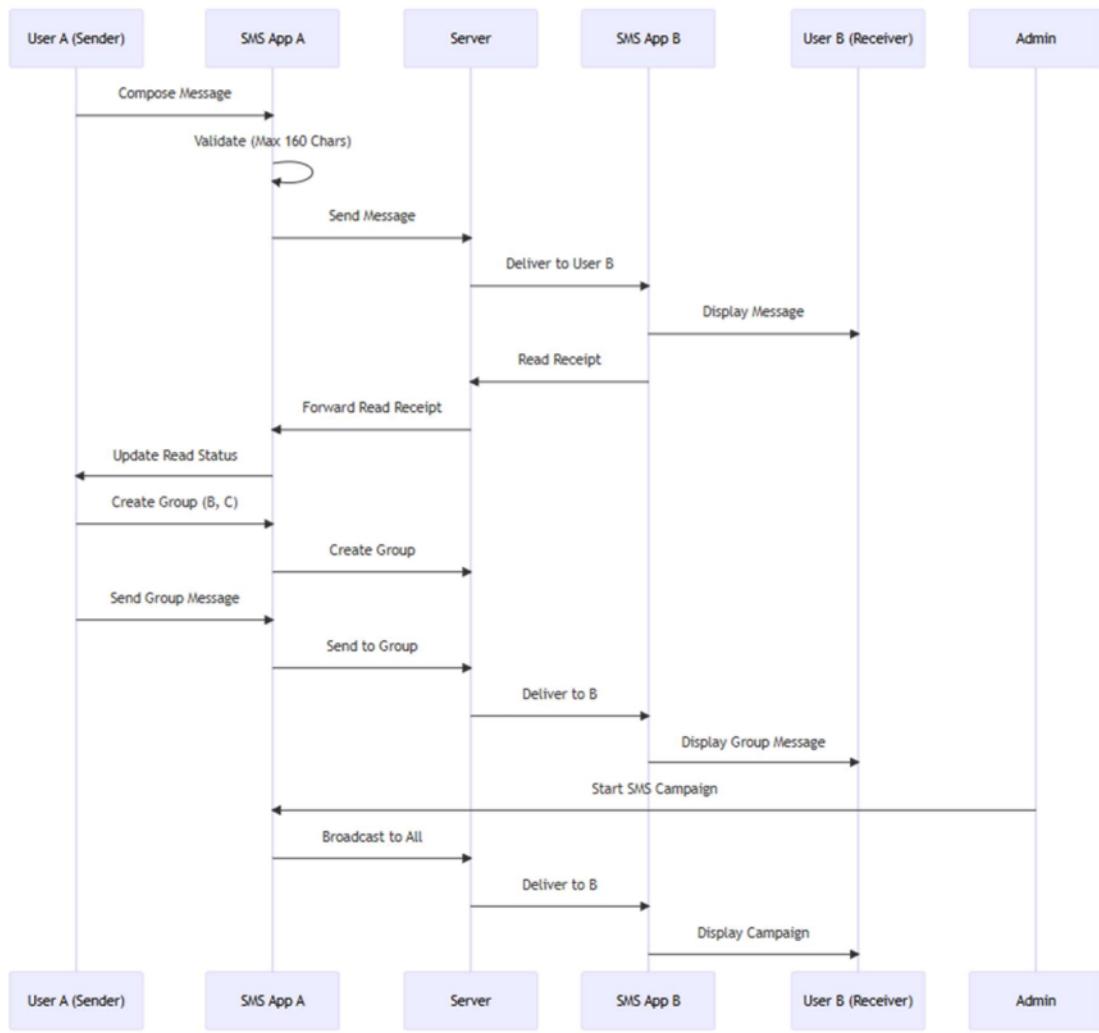


## 6B. Sequence Diagram

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:

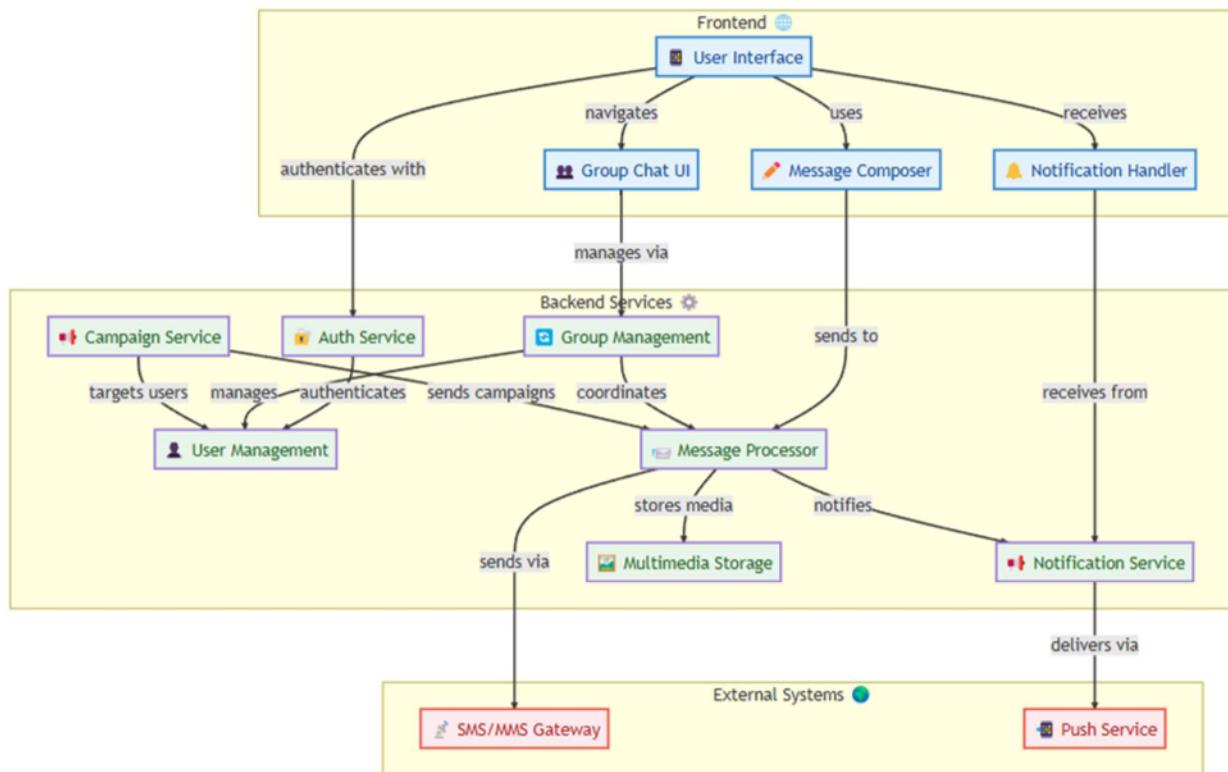
To Design an Architectural Diagram and ER Diagram for the given Project.

### 7A. Architectural Diagram

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

#### Architecture Diagram - Text Sphere

Harish M Just now

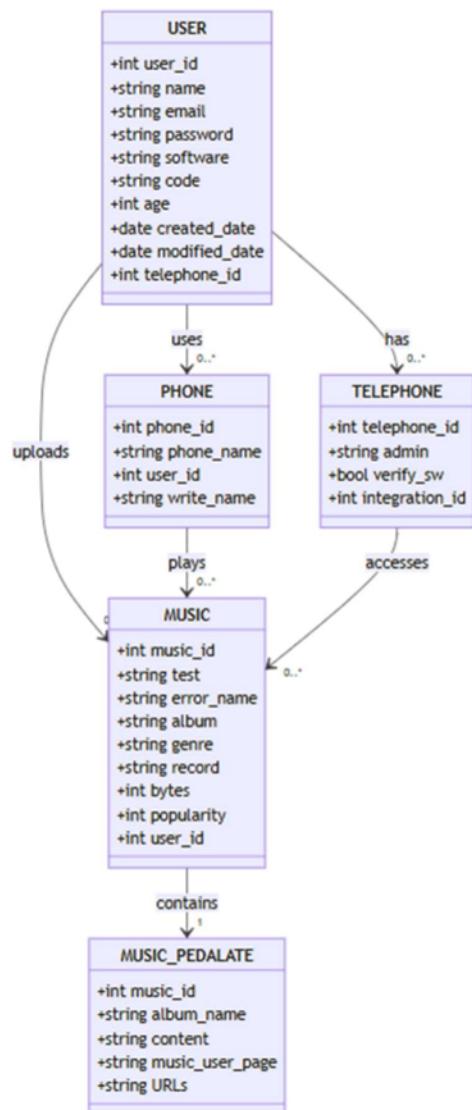


## 7B.ER Diagram

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 titled "TEST CASE 28" for "Message test 2". The work item is assigned to "Aniruth S V" and has a status of "Design". It is linked to the "TextSphere" area and the "TextSphere\Iteration 3" iteration. 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 the work item, linking to GitHub or Azure Repos. The "Development" section provides links to development status reporting. The "Related Work" section shows a link to a work item titled "29 Testing" which is updated 59m ago and marked as 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

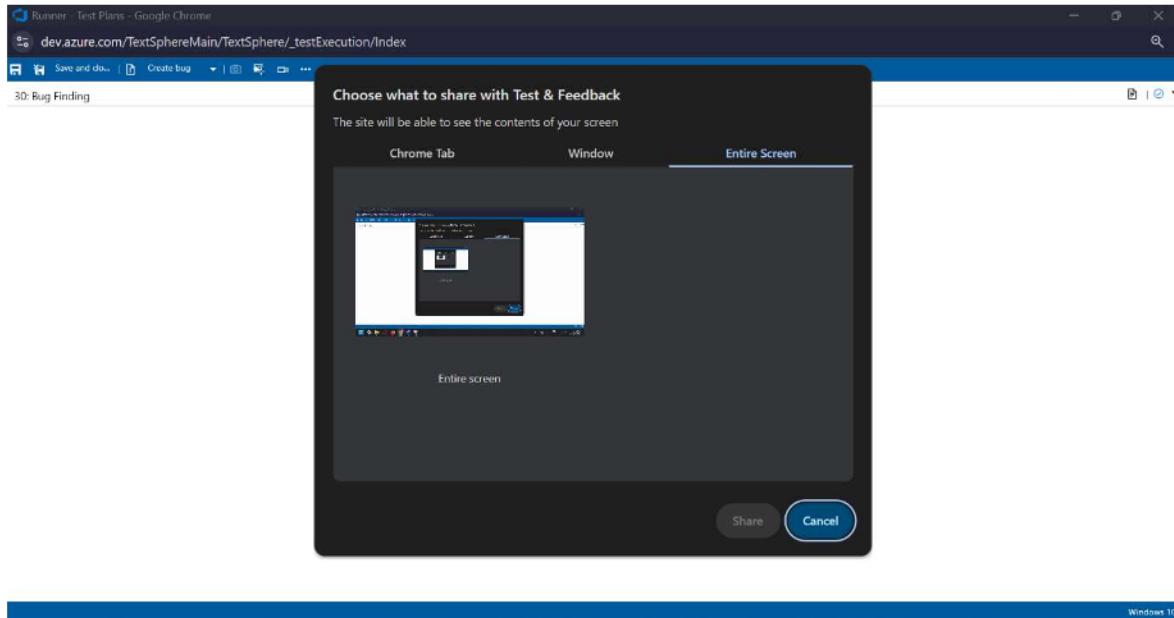
- 1. Screenshots
- 2. Notes
- 3. Screen recordings
- 4. Videos
- 5. Mobile action logs
- 6. Page audit data

## 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' which contains '29 : Testing (2)' and '10 : SMS & MMS Core Functionality (2)'. The '29 : Testing (ID: 31)' page is currently active. The 'Execute' tab is selected, showing 'Test Points (2 items)'. A context menu is open over the first test point, 'Bug Finding', with options: 'View execution history' (disabled), 'Mark Outcome' (checked), 'Run' (disabled), 'Reset test to active' (disabled), and 'Edit test case'. The 'Mark Outcome' option has a tooltip: 'Checkmark icon: Mark Outcome'.

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', 'Media Handling Issues', 'Performance Bugs', 'UI/UX Bugs', and 'Cross-Network Problems'. The bottom right corner of the browser window shows 'Windows 10'.

### 3. Recording the test case



### 4. Creating the bug

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, 135, 4 - Low, 12m ago, Windows 10, Aniruth S V, TextSphere, Iteration 1)
- 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

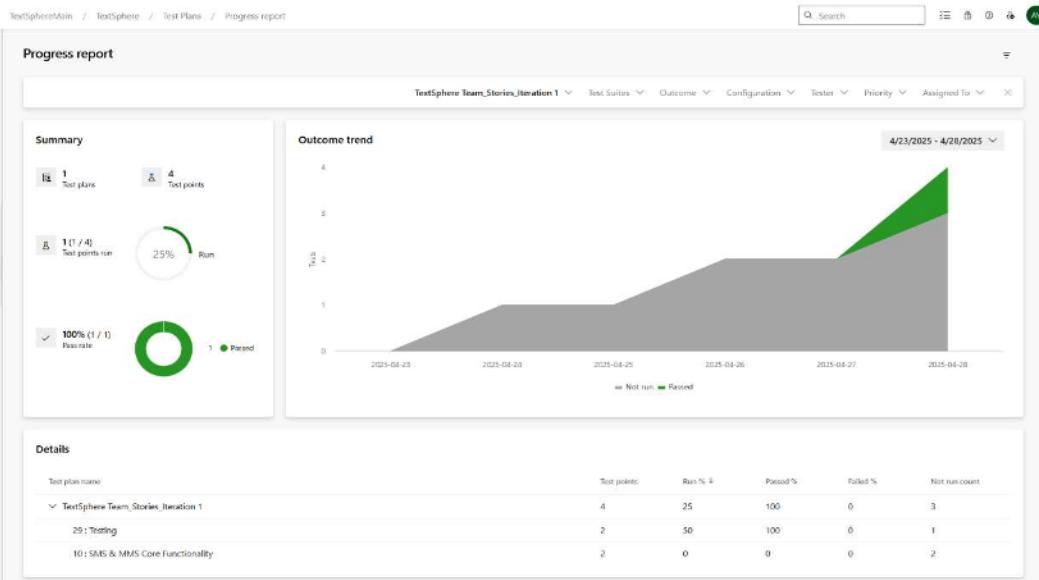
System Info

Browser - Name: Google Chrome 125  
Browser - Language: English  
Browser - Width: 877  
Browser - Height: 1200  
Browser - User agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/125.0.0.0 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



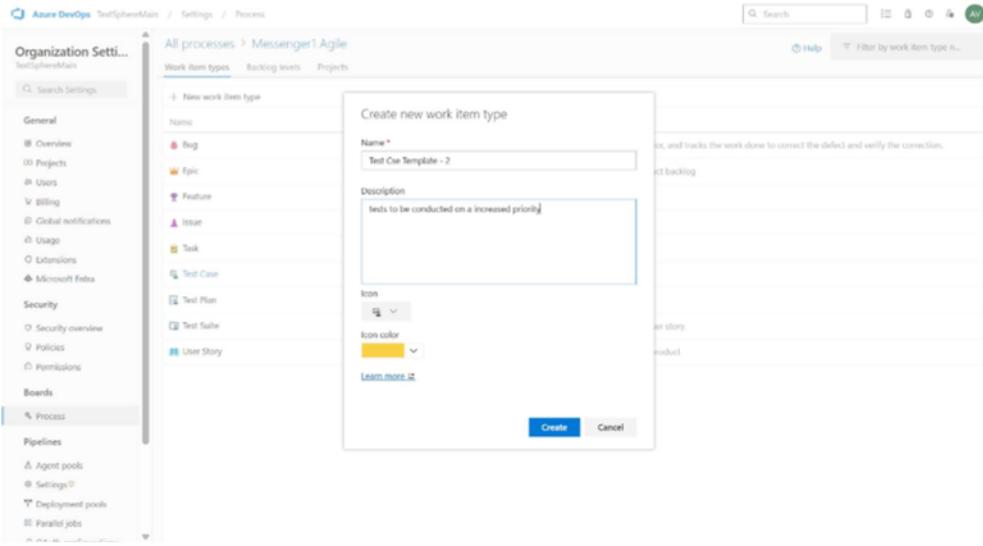
## 6. Changing the test template

The screenshot shows the 'Process' settings page in Azure DevOps. The left sidebar includes 'Organization Settings' (Overview, Projects, Users, Billing, Global notifications, Usage, Extensions, Microsoft Entra), 'Security' (Security overview, Policies, Permissions), 'Boards' (Process, Pipelines, Agent pools, Settings, Deployment pools, Parallel jobs, OAuth configurations), 'Repos' (Repositories, Artifacts, Storage), and 'Help'.

The main area displays a list of 'All processes' under the 'Processes' tab. The 'Basic (default)' template is selected. Other visible templates include 'Agile', 'Scrum', and 'CMMI'.

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

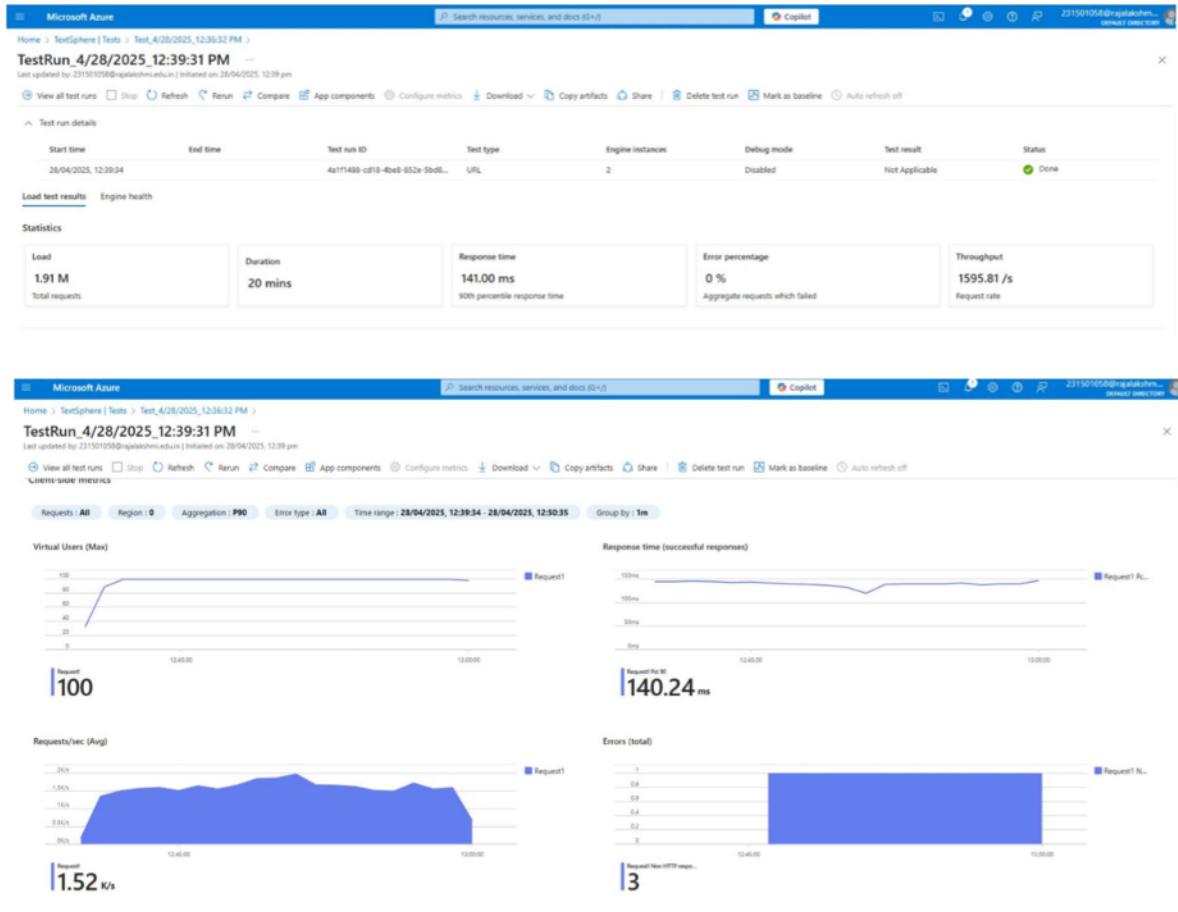
1. Sign in to Azure Portal  
Go to <https://portal.azure.com> and log in.
2. Create the Resource
  - o Go to *Create a resource* → Search for “Azure Load Testing”.
  - o Select Azure Load Testing and click Create.
3. Fill in the Configuration Details
  - o *Subscription*: Choose your Azure subscription.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

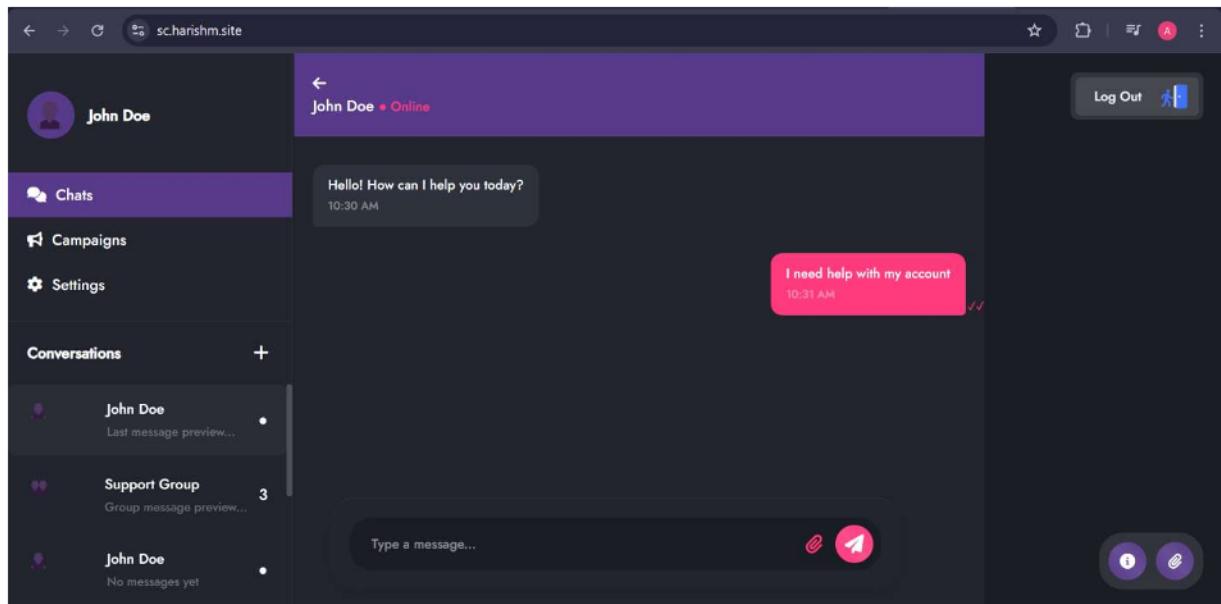
#### **Steps to Create and Run a Load Test:**

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 the GitHub repository page for 'TextSphere - SMS & Chat Messaging Platform'. The repository has a main branch with several commits from 'AnirudhSV' and one commit from 'HarishM-AIML-A-58'. The README file describes the project as a modern, scalable, web-based chat application built with Azure services that simulates SMS/MMS messaging. It highlights features like core messaging (real-time messages, 160-character limit, delivery status) and MMS support (image/media upload). The repository has three contributors: HarishM-AIML-A-58, AnirudhSV, and GaneshS-AIML-46. The languages used are HTML, JavaScript, and CSS.

### **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.