



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

DEPARTMENT OF INFORMATION TECHNOLOGY
LAB MANUAL

CS23432 – Software Construction

(REGULATION 2023)

RAJALAKSHMI ENGINEERING COLLEGE

Thandalam, Chennai-602015

Name: ADHITHYAN.M

Register No: 231001007

Year / Branch / Section: 2nd /IT/ FA

Semester: IV

Academic Year: 2024 - 2025

INDEX

S.No.	Date	Title
1.	22/01/25	Azure Devops Environment Setup.
2.	07/02/25	Azure Devops Project Setup and User Story Management.
3.	14/02/25	Setting Up Epics, Features, And User Stories for Project Planning.
4.	20/03/25	Sprint Planning.
5.	28/03/25	Poker Estimation.
6.	04/04/25	Designing Class and Sequence Diagrams for Project Architecture.
7.	16/04/25	Designing Architectural and ER Diagrams for Project Structure.
8.	18/04/25	Testing – Test Plans and Test Cases.
9.	25/04/25	Load Testing and Pipelines.
10.	02/05/25	GitHub: Project Structure & Naming Conventions.

EXP NO:1

AZURE DEVOPS ENVIRONMENT SETUP

Aim:

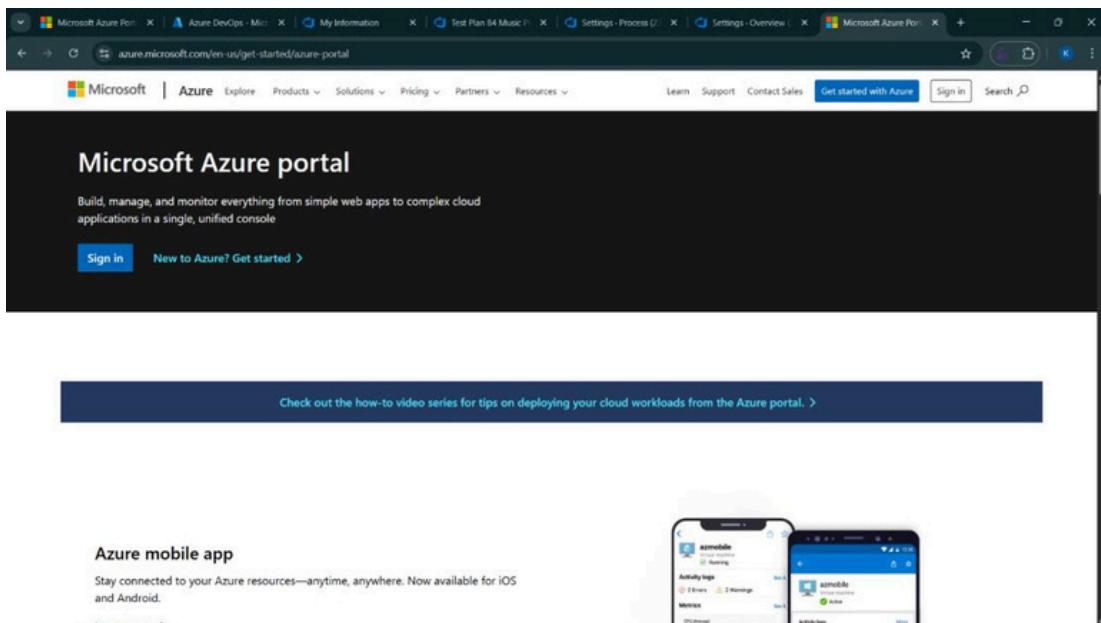
To set up and access the Azure DevOps environment by creating an organization through the Azure portal.

INSTALLATION

1. Open your web browser and go to the Azure website: <https://azure.microsoft.com/en-us/get-started/azure-portal>.

Sign in using your Microsoft account credentials.

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



2. Azure home page

The screenshot shows the Microsoft Azure home page. At the top, there's a navigation bar with the Microsoft Azure logo, a search bar, and user information. Below the search bar is a section titled "Azure services" with various service icons: Create a resource, Azure DevOps organizations, Quickstart Center, Azure AI foundry, Kubernetes services, Virtual machines, App Services, Storage accounts, and SQL databases. A "More services" button is also present. Underneath this is a "Resources" section with tabs for "Recent" (which is selected) and "Favorite". It includes columns for "Name", "Type", and "Last Viewed". A message states "No resources have been viewed recently" with a "View all resources" button.

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

The screenshot shows the Microsoft Azure home page with a search bar containing the text "devops". The search results are displayed below the search bar, under categories: "All", "Services (7)", and "Marketplace (31)". The "Services" category is currently selected, showing results like "Azure Native New Relic Service" and "Managed DevOps Pools". Other categories include "Marketplace" (listing items like "Static Web App" and "Build Agents for Azure DevOps") and "Documentation". A message at the bottom says "Continue searching in Microsoft Entra ID".

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.

Microsoft Azure

Search resources, services, and docs (G+) Copilot

231001030@rajalakshmi... DEFAULT DIRECTORY (231001030...)

Home > Azure DevOps ...

We've made it easier to manage Azure DevOps billing and subscriptions. You can [set up billing](#), [change your subscription](#) or [pay for more users and resources](#) within Azure DevOps. [Learn more](#)

Azure DevOps

Plan smarter, collaborate better, and ship faster with a set of modern dev services

[My Azure DevOps Organizations](#)

[Get started using Azure DevOps](#)

[Billing management for Azure DevOps](#)

[Give feedback](#)

[Tell us about your experience with the Azure DevOps page](#)



Result:

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

EXP NO:2

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

The screenshot shows the 'Almost done...' step of creating an Azure DevOps organization. It includes fields for the organization name (dev.azure.com/ 231001030), location (India), and a CAPTCHA challenge (4PRA SW3L). A 'Continue' button is at the bottom.

Azure DevOps
231001030@rajalakshmi.edu.in [Switch directory](#)

Almost done...

Name your Azure DevOps organization *

dev.azure.com/ 231001030

We'll host your projects in

India

Enter the characters you see

New Audio

4PRA SW3L

Continue

2.Create the First Project in Your Organization

- 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.
- On the organization's Home page, click on the New Project button.
- 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).
- Once you've filled out the details, click Create to set up your first project.

Create new project

X

Project name *

Music Playlist Creator

Description

Visibility



Public

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



Private

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

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.

The screenshot shows the Azure DevOps Organizations interface. On the left, there is a user profile for Deepan Kumar S with a purple circular icon containing 'DS'. The profile includes email (231001030@rajalakshmi.edu.in) and location (India). Below the profile, there is a section for 'Visual Studio Dev Essentials' with a link to 'Use your benefits'. On the right, the 'Azure DevOps Organizations' page is displayed, showing two projects: 'Music Playlist Batch Creator' (owned by dev.azure.com/231001030) and 'New project' (owned by dev.azure.com/2310010300540). There is also a 'Create new organization' button.

4. Project dashboard

The screenshot shows the Azure DevOps Project Overview page for the 'Music Playlist Batch Creator' project. The top navigation bar includes '231001030 / Music Playlist Batch Creator / Overview / Summary'. The main content area features a sidebar with project modules like 'About this project', 'Project Description', 'Playlist Creation and Customization', 'User Preferences and Profiles', 'Data Integration and Audio Analysis', 'Export and Distribution', and 'Each module is designed to operate independently or in coordination with others...'. To the right, there are sections for 'Project stats' (Boards, Work items created, Work items), 'Members' (4 members listed with icons), and a search bar at the top right.

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 image shows two screenshots from a Microsoft application. The top screenshot is the 'Backlog' view for the 'Music Playlist Batch Creator Team'. It lists six backlog items, all of which are 'Epic' type and have a status of 'New'. The items are: 1. User Authentication and Account Management, 2. Smart Features & Insights, 3. Playlist Export & Sharing, 4. Playback & Audio Enhancements, 5. Playlist Generation & Customization, and 6. Music Library Management. The bottom screenshot shows the Microsoft sign-in page. It features a large purple circular profile picture with the letters 'DS'. The Microsoft logo is at the top right, and the text 'Sign out' is also present. Below the profile picture, the name 'Deepan Kumar S' and the email '231001030@rajalakshmi.edu.in' are displayed, along with links for 'My Microsoft account' and 'Switch directory'.

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 the Azure DevOps Backlog page for the 'Music Playlist Batch Creator Team'. The backlog is organized into epics, features, and user stories. The epics listed are:

- User Authentication and Account Management
- Smart Features & Insights
- Smart Playlists & Listening History Analysis
- Playlist Insights & Automation
- Visualizing Playlist Metadata with Charts
- Playlist Export & Sharing
- Multi-Format Playlist Export & Cloud Sync
- Playlist Sharing & Collaboration
- Playback & Audio Enhancements
- Playlist Generation & Customization
- Music Library Management

Each epic has one or more associated features and user stories. The backlog table includes columns for Order, Work Item Type, Title, State, Effort, Business Area, and Tags.

1. Fill in Epics

The screenshot shows the Azure DevOps Epic creation page for 'EPIC 9: Music Library Management'. The page includes fields for Description, Planning (Priority, Risk, Effort), Deployment (Release notes), Development (Add link), and Discussion (Comments). The epic is set to 'New' state and is part of the 'Music Playlist Batch Creator' area and iteration.

2.Fill in Features

The screenshot shows the 'Batch Import of Music Files' feature card in Azure DevOps. The top navigation bar includes 'FEATURE 10', 'Save and Close', 'Follow', and other options. The card displays basic metadata: State (New), Reason (New), Area (Music Playlist Batch Creator), Iteration (Music Playlist Batch Creator\Iteration 1). The 'Description' section contains the text: 'Allows users to import and organize large batches of music files efficiently.' The 'Planning' section shows Priority (2) and Risk. The 'Deployment' section has a note about tracking releases. The 'Development' section includes an 'Add link' button. The 'Discussion' section has a comment placeholder: 'Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.' A 'switch to Markdown editor' link is also present.

3.Fill in User Story Details

The screenshot shows the 'Register with Email and Password' user story card in Azure DevOps. The top navigation bar includes 'USER STORY 50', 'Save and Close', 'Follow', and other options. The card displays basic metadata: State (New), Reason (New), Area (Music Playlist Batch Creator), Iteration (Music Playlist Batch Creator\Iteration 1). The 'Description' section contains the text: 'As a user, I want to sign up with email and password to create an account.' The 'Acceptance Criteria' section lists: 'Given that the user enters valid email and password, the registration form should accept the inputs.' and 'Given that the registration is successful, the user should be redirected to the dashboard.' The 'Planning' section shows Story Points (2) and Priority (2). The 'Deployment' section has a note about tracking releases. The 'Development' section includes an 'Add link' button. The 'Classification' section shows Value area (Business). The 'Gleek' section contains the text 'gleek_'. The 'Related Work' section has an 'Add link' button. The 'Discussion' section has a comment placeholder: 'Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.'

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 Music Playlist Batch Creator Project.

Sprint Planning

Sprint 1

The screenshot shows a Trello board for the 'Music Playlist Batch Creator Team'. The board has four columns: New, Active, Resolved, and Closed. There are four user stories in the 'New' column:

- 11 Importing Music Files from a Local Directory (assigned to ADHITHIAN M)
- 12 Importing Song Metadata from a CSV File (assigned to ADHITHIAN M)
- 17 Organizing Music Files into Folders (assigned to ADHITHIAN M)
- 18 Editing Song Metadata Manually (assigned to 231001027)

The top right corner of the board indicates 'May 3 - June 3' and '15 work days remaining'.

Sprint 2

The screenshot shows a Trello board for the 'Music Playlist Batch Creator Team'. The board has four columns: New, Active, Resolved, and Closed. There are four user stories in the 'New' column:

- 11 Importing Music Files from a Local Directory (assigned to ADHITHIAN M)
- 12 Importing Song Metadata from a CSV File (assigned to ADHITHIAN M)
- 17 Organizing Music Files into Folders (assigned to ADHITHIAN M)
- 62 Design Login and User Authentication UI (assigned to ADHITHIAN M)

The top right corner of the board indicates 'May 3 - June 3' and '15 work days remaining'.

Sprint 3

The screenshot shows the Microsoft Boards interface for the 'Music Playlist Batch Creator Team'. The 'Backlog' tab is selected. The backlog is titled 'Iteration 1' and contains 14 items, each with a title, state, and assigned to field. The items are:

Order	Title	State	Assigned To
1	> Importing Music Files from a Local Directory	● New	ADHITHYAN M
2	> Importing Song Metadata from a CSV File	● New	ADHITHYAN M
3	> Organizing Music Files into Folders	● New	ADHITHYAN M
4	> Editing Song Metadata Manually	● New	231001027
5	> Creating Playlists Based on Filters	● New	231001027
6	> Defining and Saving Custom Playlist Rules	● New	Deepan Kumar S
7	> Creating Genre-Based Playlists	● New	Deepan Kumar S
8	> Generating Mood-Based Playlists	● New	Deepan Kumar S
9	> Normalizing Song Loudness for Playlists	● New	ADHITHYAN M
10	> Enabling Crossfading and Gapless Playback	● New	Deepan Kumar S
11	> Playing Songs Directly from the App	● New	Deepan Kumar S
12	> Adjusting Playback Speed	● New	ADHITHYAN M
13	> Exporting Playlists in Multiple Formats	● New	ADHITHYAN M
14	> Syncing Playlists with Cloud Services	● New	ADHITHYAN M

The backlog is filtered to show items from July 15 to August 10, which is a total of 27 work days.

Sprint 4

The screenshot shows the Microsoft Boards interface for the 'Music Playlist Batch Creator Team'. The 'Backlog' tab is selected. The backlog is titled 'sprint 4' and contains 14 items, each with a title, state, and assigned to field. The items are:

Order	Title	State	Assigned To
1	> As a user, I want to manually log out anytime I choose.	● New	ADHITHYAN M
2	> As a user, I want to change my password from settings.	● New	ADHITHYAN M
3	> As a user, I want to reset my password if I forget it.	● New	ADHITHYAN M
4	> As a user, I want to see an error when I enter invalid login credentials.	● New	Deepan Kumar S
5	> As a user, I want to log in using my email and password.	● New	Deepan Kumar S
6	> As a user, I want the system to validate my inputs during sign-up.	● New	231001027
7	> As a user, I want to sign up with email and password to create a playlist.	● New	231001027
8	> As a user, I want to see a visual representation of my playlists.	● New	231001027
9	> As a user, I want to schedule automatic playlist creation at specific times.	● New	Deepan Kumar S
10	> As a user, I want the system to recommend songs based on my listening history.	● New	Deepan Kumar S
11	> As a user, I want to generate smart playlists based on my listening habits.	● New	231001027
12	> As a user, I want my playlists to automatically update based on new songs.	● New	Deepan Kumar S
13	> As a user, I want to share my playlists with friends, so that we can listen together.	● New	231001027
14	> As a user, I want to sync my playlists with cloud services like Google Drive.	● New	ADHITHYAN M

The backlog is filtered to show items from August 15 to September 10, which is a total of 27 work days.

Result:

The Sprints are created for the Music Playlist Batch Creator Project.

2116231001007

CS23432

EXP NO:5

POKER ESTIMATION

Aim:

Create Poker Estimation for the user stories - Music Playlist Batch Creator Project.

Poker Estimation

The screenshot shows a detailed view of a User Story card in Azure DevOps. The story is titled "50 Register with Email and Password" and has a unique identifier "231001027". The card is categorized under "Music Playlist Batch Creator" in the "Area" and "Iteration" fields. The "State" is marked as "New".

The "Description" section states: "As a user, I want to sign up with email and password to create an account."

The "Acceptance Criteria" section lists two items:

- Given that the user enters valid email and password, the registration form should accept the inputs.
- Given that the registration is successful, the user should be redirected to the dashboard.

The "Classification" section includes "Value area: Business" and "Gleek: 9|eek_".

The "Development" section provides instructions on tracking releases and linking to Azure Repos.

Overall, the card displays Story Points (3), Priority (2), and Risk (1).

Result:

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

EXP NO:6

DESIGNING CLASS AND SEQUENCE DIAGRAMS FOR PROJECT ARCHITECTURE

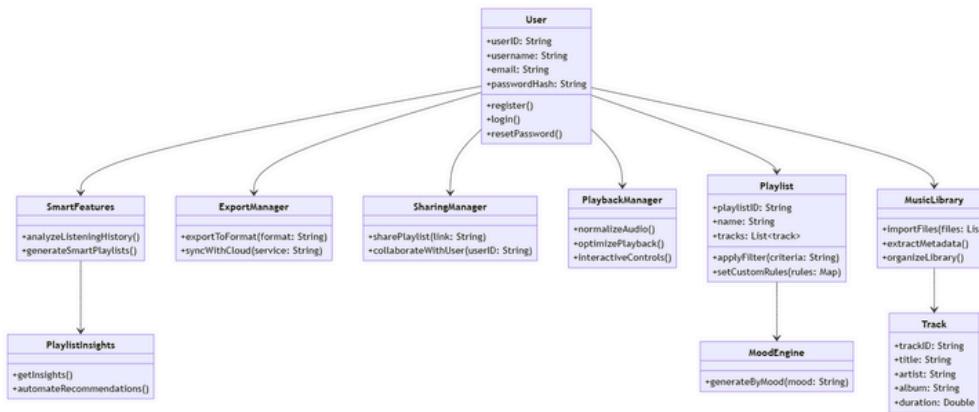
Aim:

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

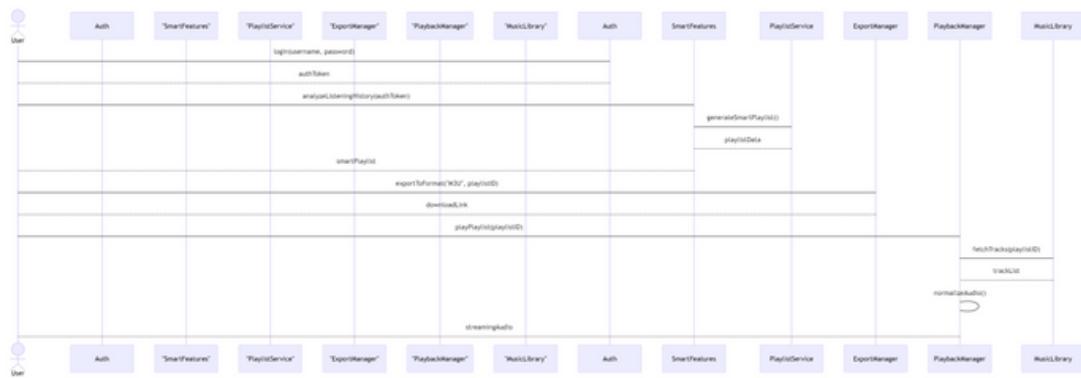
6A. Class Diagram

Class Diagram

Deepan Kumar S Apr 16



6B. Sequence Diagram



Result:

The Class Diagram and Sequence Diagram is designed Successfully for the Music Playlist Batch Creator.

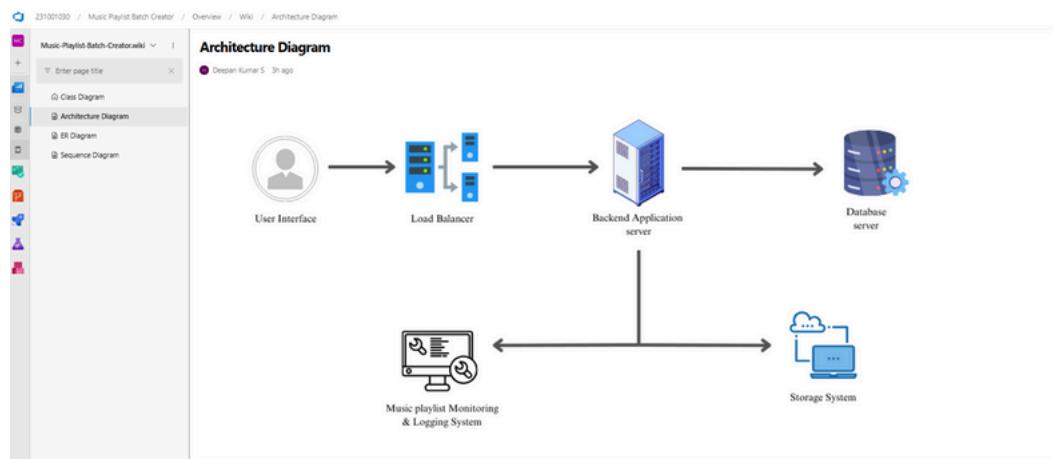
EXP NO:7

DESIGNING ARCHITECTURAL AND ER DIAGRAMS FOR PROJECT STRUCTURE

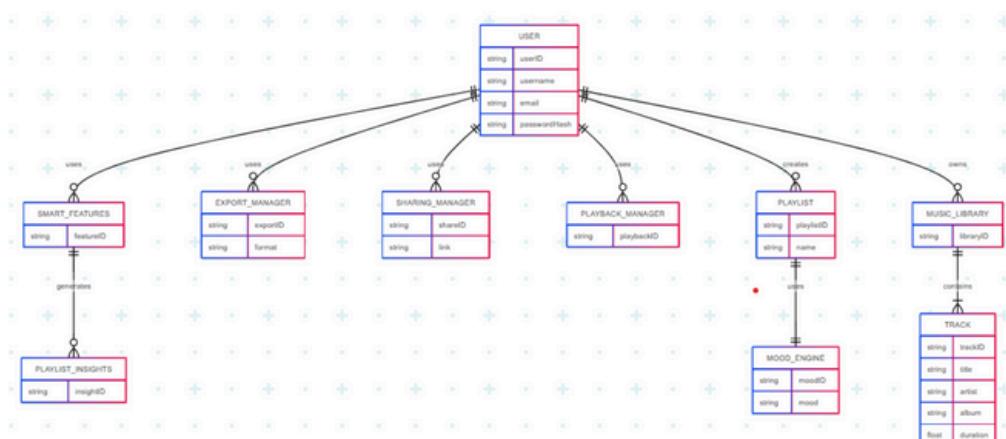
Aim:

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

7A. Architectural Diagram



7B. ER Diagram



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.

Test Planning and Test Case

Test Case Design Procedure

1. Understand Core Features of the Application

- o User Signup & Login
- o Viewing and Managing Playlists
- o Fetching Real-time Metadata
- o Editing playlists (rename, reorder, record)
- o Creating smart audio playlists based on categories (mood, genre, artist, etc.)

2. Define User Interactions

- o Each test case simulates a real user behaviour (e.g., logging in, renaming a playlist, adding a song).

3. Design Happy Path Test Cases

- o Focused on validating that all features function as expected under normal conditions.
- o Example: User logs in successfully, adds item to playlist, or creates a category-based playlist.

4. Design Error Path Test Cases

- o Simulate negative or unexpected scenarios to test robustness and error handling.
- o Example: Login fails with invalid credentials, save fails when offline, no recommendations found.

5. Break Down Steps and Expected Results

- o Each test case contains step-by-step actions and a corresponding expected outcome.
- o Ensures clarity for both testers and automation scripts.

6. Use Clear Naming and IDs

- o Test cases are named clearly (e.g., TC01 – Successful Login, TC10 – Save Playlist Fails).
- o Helps in quick identification and linking to user stories or features.

7. Separate Test Suites

- o Grouped test cases based on functionality (e.g., Login, Playlist Editing, Recommendation System).

- Improves organization and test execution flow in Azure DevOps.

8. Prioritize and Review

- Critical user actions are marked high-priority.
- Reviewed for completeness and traceability against feature requirements.

1. New test plan

The screenshot shows the Microsoft Azure Portal interface for creating a new test plan. The URL in the address bar is https://dev.azure.com/23180103/Music%20Playlist%20Batch%20Creator/_testManagement/testPlans. The page title is "New Test Plan". The form fields are as follows:

- Name: Music Playlist Batch Creator - Test Plan
- Area Path: Music Playlist Batch Creator
- Iteration: Music Playlist Batch Creator|Integration

At the bottom right of the form are "Create" and "Cancel" buttons. On the left side of the screen, there is a sidebar with various Azure DevOps navigation items: Overview, Boards, Repos, Pipelines, Test Plans, Progress report, Parameters, Configurations, Runs, and Artifacts. At the bottom left, there is a "Project settings" link.

2. Test suite

The screenshot shows the Microsoft Azure Portal interface for viewing a specific test suite. The URL in the address bar is https://dev.azure.com/23180103/Music%20Playlist%20Batch%20Creator/_testManagement/testSuites/115. The page title is "115 : TS01 User Login (ID: 157)". The main content area displays the following information:

- Test Suites**: Shows a list of test suites, with "115 : TS01 User Login (4)" selected.
- Test Points (4 items)**: A table listing four test points with their details:

Title	Outcome	Order	Test Case Id	Configuration
1. TC01 - Successful Sign Up	Passed	1	156	Windows
TC02 - Secure Login	Passed	2	158	Windows
TC03 - Sign Up with Existing Email	Passed	3	159	Windows
TC04 - Login with Wrong Password	Passed	4	160	Windows

3.Test case

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

Music Playlist Batch Creator – Test Plans

USER STORIES

- As a user, I want to sign up and log in securely so that I can access my playlists (ID: 112).
- As a user, I need to see my playlist in one place (ID: 99).
- As a user, I should be able to create an audio playlist as needed (ID: 97).
- As a user, I should be able to rename, record, and change the playlist (ID: 101).
- As a user, I need to have real-time metadata (ID: 102).

Test Suites

Test Suit: TS01 - User Login (ID: 115)

1. TC01 – Successful Sign Up

- Action:
 - Go to the Sign-Up page. Enter valid name, email, and password. Click "Sign Up".
- Expected Results:
 - Sign-Up form is displayed.
 - Fields accept values without error.
 - Account is created, and the user is redirected to the dashboard.
- Type : Happy Path

2. TC02 – Secure Login

- Action:
 - Go to the Login page.
 - Enter valid email and password.
 - Click on "Login".
- Expected Results:
 - Login form is displayed.
 - Fields accept data without error.
 - User is logged in and redirected to the dashboard.
- Type: Happy Path

3. TC03 – Sign Up with Existing Email

- Action:
 - Go to the Sign-Up page.
 - Enter a name and an already registered email.
 - Click on "Sign Up".
- Expected Results:

- Fields accept data.
 - Error message "Email already registered" is displayed.
- o Type: Error Path

4. TC04 – Login with Wrong Password

- o Action:
 - Go to the Login page.
 - Enter valid email and incorrect password.
 - Click on "Login".
- o Expected Results:
 - Input is accepted.
 - Error message "Invalid username or password" is shown.
- o Type: Error Path

Test Suit: TS02 - View Playlists (ID: 111)

1. TC05 – View Playlist Page

- o Action:
 - Log in successfully.
 - Navigate to "My Playlists" section.
- o Expected Results:
 - All created playlists are displayed clearly.
- o Type: Happy Path

2. TC06 – Playlist Loading Failure

- o Action:
 - Disconnect from the internet.
 - Navigate to "My Playlists".
- o Expected Results:
 - Network is offline.
 - Error message "Unable to load playlists" is shown.
- o Type: Error Path

Test Suit: TS03 - Real-Time Metadata (ID: 103)

1. TC07 – Real-Time Metadata Display

- o Action:
 - Play a song.
 - Observe the metadata panel.
- o Expected Results:
 - Metadata (title, artist, album, duration) is displayed and updates in real time.
- o Type: Happy Path

2. TC08 – Metadata Not Updating

- o Action:

- Play a different song.
 - Observe the metadata panel.
- Expected Results:
 - Metadata remains static or shows default/fallback message.
- Type: Error Path

Test Suit: TS04 - Playlist Editing (ID: 107)

1. TC09 – Rename Playlist Successfully

- Action:
 - Navigate to "My Playlists".
 - Click "Rename" next to a playlist.
 - Enter a new name and click "Save".
- Expected Results:
 - Playlist name updates successfully.
- Type: Happy Path

2. TC10 – Rename with Blank Name

- Action:
 - Click "Rename" on a playlist.
 - Leave the field blank.
 - Click "Save".
- Expected Results:
 - Error message "Playlist name cannot be empty" is shown.
- Type: Error Path

3. TC11 – Change Playlist Order

- Action:
 - Open a playlist.
 - Drag and drop songs to reorder.
 - Click "Save".
- Expected Results:
 - Playlist order is updated and saved.
- Type: Happy Path

4. TC12 – Change Playlist Order Fails

- Action:
 - Login and go to "My Playlists".
 - Select a playlist.
 - Go offline or simulate server error.
 - Reorder songs and click "Save Order".
- Expected Results:
 - Error message: "Failed to update order. Please check your connection".
- Type: Error Path

Test Suit: TS05 - Smart Playlist Creation (ID: 106)

1. TC13 – Generate Playlist Based on Various Categories

- o Action:

- Login with valid credentials.
- Click on "Generate Playlist".
- Select categories.
- Click "Generate Playlist".

- o Expected Results:

- Playlist is generated based on selected mood and categories.

- o Type: Happy Path

2. TC14 – Fail to Generate Playlist Due to Missing Category Selection or Invalid Input

- o Action:

- Login with valid credentials.
- Click on "Generate Playlist".
- Select categories.
- Click "Generate Playlist".

- o Expected Results:

- Error message: "Please select at least one valid category" or "No recommendations found for the selected filters".

- o Type :Error Path

Test Cases

The screenshot shows the Azure DevOps Test Case details page for TC06 - Playlist Loading Failure. The test case is assigned to Deepan Kumar S and has 0 comments and 0 tags. It is in the Design state and New reason, associated with the Music Playlist Batch Creator area and sprint 4 iteration. The last update was by Deepan Kumar S 50m ago. The 'Steps' tab is active, showing three steps: 1. Disconnect from the internet (Expected result: Network is offline), 2. Navigate to "My Playlists" (Expected result: Error message "Unable to load playlists" is shown), and 3. (Empty). Below the steps is a note: "Click or type here to add a step". The 'Deployment' tab includes instructions to track releases using the Releases feature. The 'Development' tab has an 'Add link' section with a note about linking to Azure Repos commits or pull requests. The bottom of the page shows a 'Parameter values' section.

TEST CASE 150

150 TC05 – View Playlist Page

Deepan Kumar S 0 Comments Add Tag

State: Design Area: Music Playlist Batch Creator

Reason: New Iteration: Music Playlist Batch Creator\sprint 4 Updated by Deepan Kumar S: 1h ago

Steps

Steps	Action	Expected result
1.	Log in successfully.	All created playlists are displayed clearly.
2.	Navigate to "My Playlists" section.	

Click or type here to add a step

Deployment

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

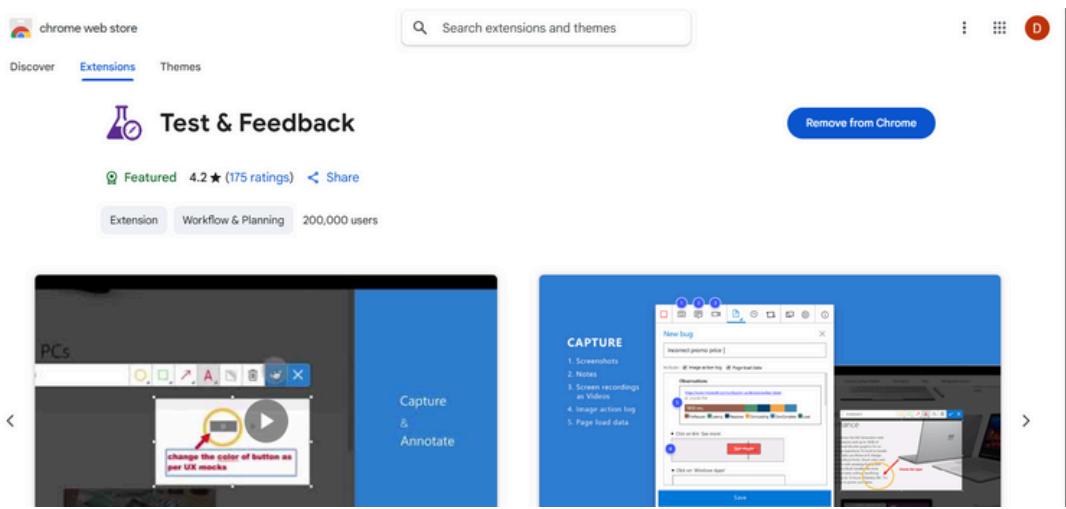
Development

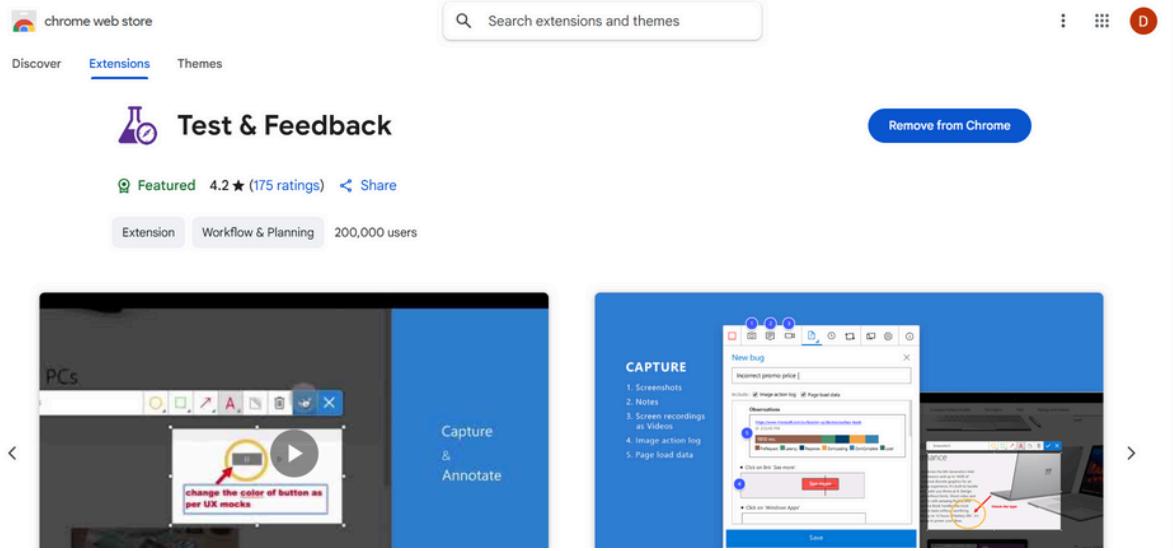
Add link

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

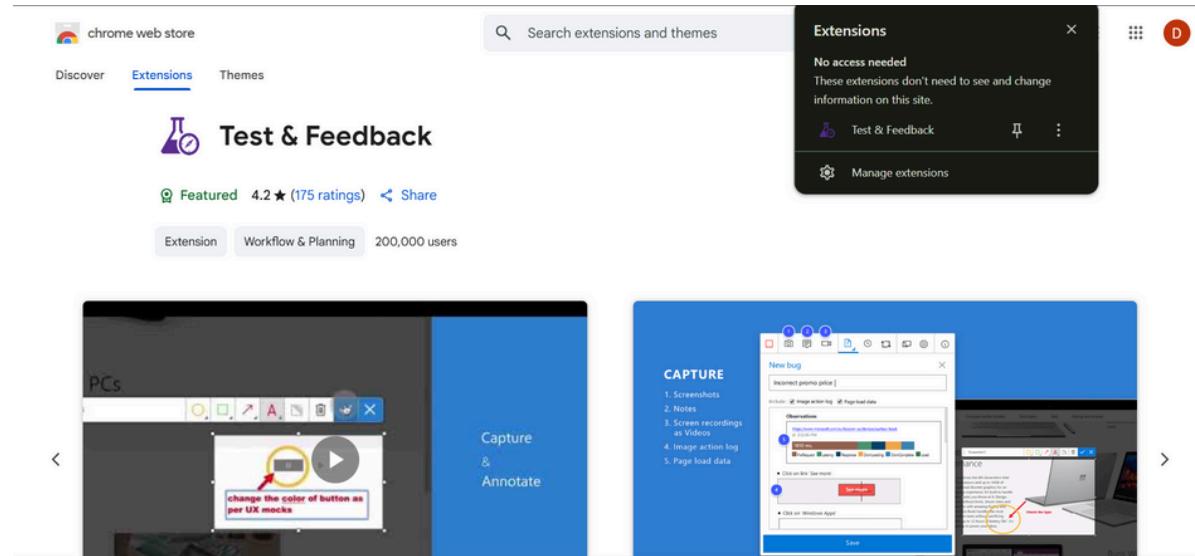
Parameter values

4. Installation of test





Test and feedback
Showing it as an extension

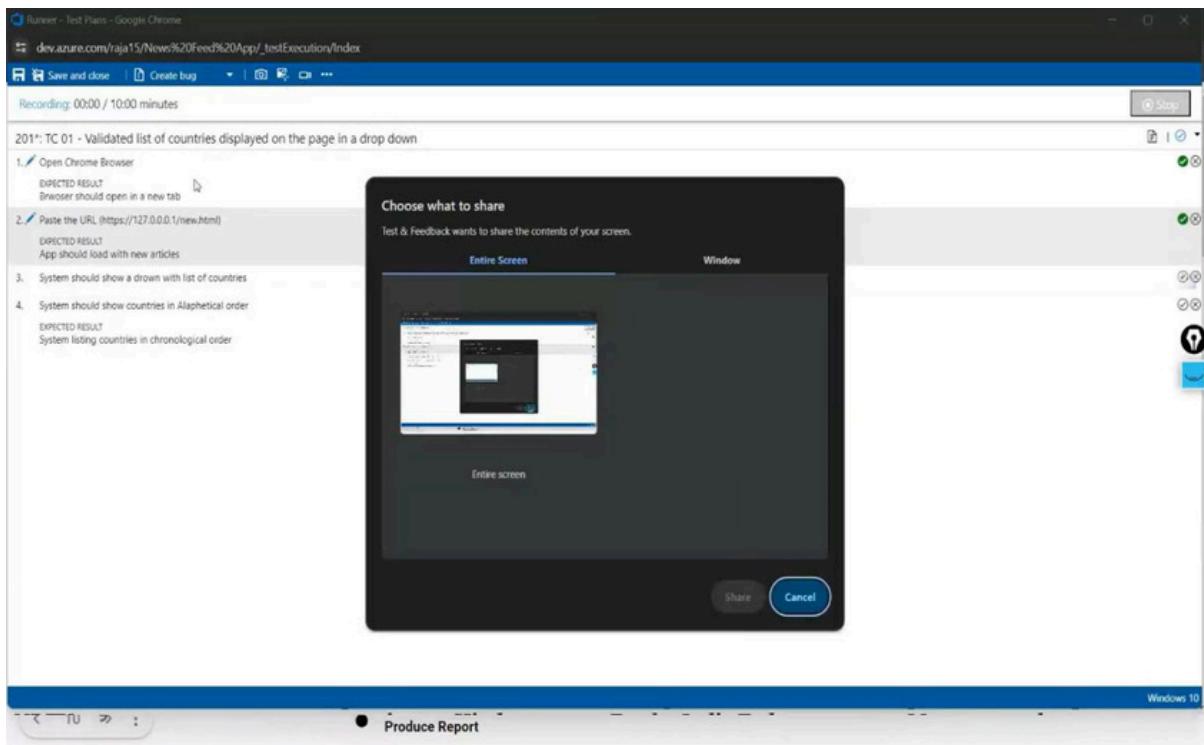


5. Running the test cases

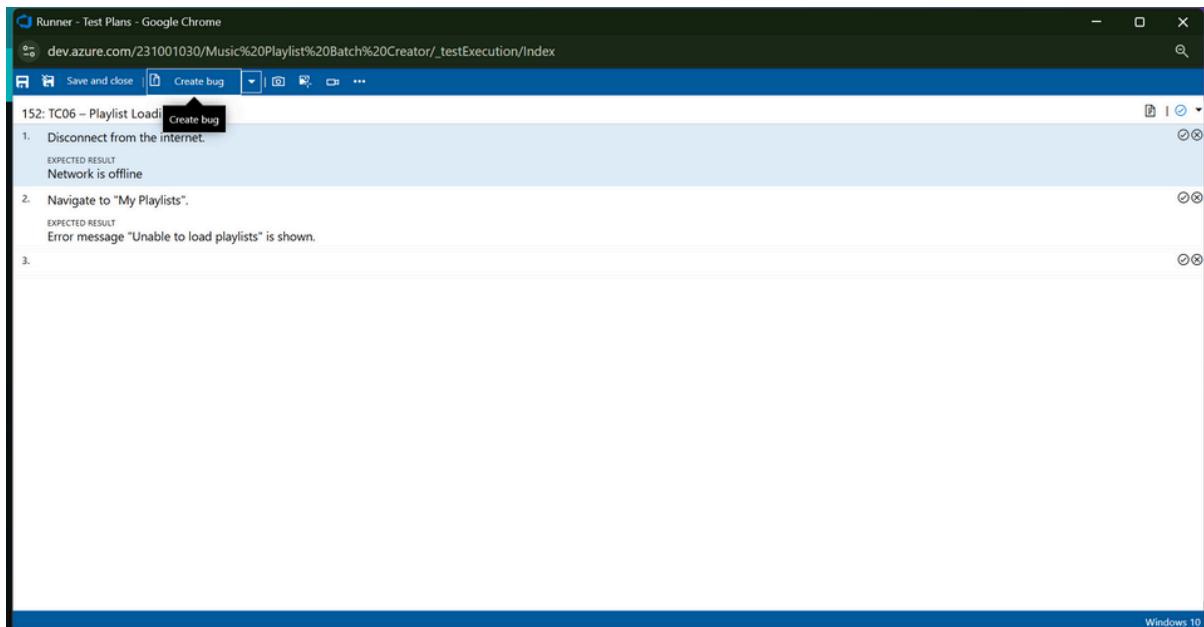
The screenshot shows the Azure Test Plans interface. On the left, there's a navigation bar with icons for Home, Test Suites, Test Cases, Test Results, and Test Management. Below it is a search bar and a filter section for 'Test Suites by name'. A tree view shows 'Music Playlist Batch Creator Team_Stories_5...' expanded, revealing several test cases like '106 : TS01 - Smart Playlist Creation (2)', '107 : TS04 - Playlist Editing (4)', etc. One specific test case, '111 : TS02 - View Playlists (ID: 151)', is selected and expanded. The main area displays 'Test Points (2 items)'. Two entries are listed: 'TC05 - View Playlist Page' and 'TC06 - Playlist Loading Failure'. Both have an 'Active' status, an 'Order' of 1 and 2 respectively, and a 'Test Case Id' of 150 and 152. The configuration is set to 'Windows 10'. A context menu is open over 'TC05 - View Playlist Page', showing options: 'View execution history', 'Mark Outcome' (with 'Active' checked), 'Run', 'Reset test to active', 'Edit test case', and three additional options under 'Run with': 'Run for web application', 'Run for desktop application', and 'Run with options'.

The screenshot shows a browser window titled 'Runner - Test Plans - Google Chrome' with the URL 'dev.azure.com/231001030/Music%20Playlist%20Batch%20Creator/_testExecution/index'. The page displays the results for '150* TC05 - View Playlist Page'. It lists two steps: '1. Log in successfully.' and '2. Navigate to "My playlists" section.'. Under 'EXPECTED RESULT', it states 'All created playlists are displayed clearly.' The status bar at the bottom right indicates 'Windows 10'.

6.Recording the test case



7.Creating the bug



The screenshot shows a Microsoft Azure DevOps interface for a bug titled "TB01 - Playlist loading spinner keeps spinning indefinitely on poor network". The bug is categorized under "Music Playlist Batch Creator" and is currently "New". The "Repro Steps" section details two failed steps: disconnecting from the internet and navigating to "My Playlists". The "Planning" and "Deployment" sections are visible on the right.

This screenshot shows the same bug entry as above, but with more detailed information. The "System Info" section includes a table with various system specifications. The "Discussion" section is present at the bottom of the page.

System Info	
Browser - Name	Google Chrome 135
Browser - Language	en-US
Browser - Height	672
Browser - Width	592
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	Intel(R) Core(TM) i7-8650U CPU @ 1.90GHz
Operating system - Number of processors	8
Memory - Available	8734085120
Memory - Capacity	17015463936
Display - Pixels per inch (X axis)	144
Display - Pixels per inch (Y axis)	144
Display - Device pixel ratio	1.5

2116231001007

CS23432

8. Test case results

The screenshot shows the Microsoft Test Plan interface. On the left, there's a navigation pane with icons for Overview, Boards, Work items, and other project management tools. The main area displays a test plan for 'Music Playlist Batch Creator'. A summary bar at the top indicates 'Aug 15 - Sep 10 | Future' and '100% run, 92% passed'. Below this, the 'Test Suites' section lists several suites under 'Music Playlist Batch Creator Team_Stories...'. One suite, '111 : TS02 - View Playlists (ID: 151)', is selected. The 'Execute' tab is active, showing 'Test Points (2 items)'. Under this, 'TC05 - View Playlist Page' is listed with a checked status. To the right, a detailed view of 'TC05 – View Playlist Page' is shown, titled 'Test Case Results'. It contains a table with columns: Outcome, TimeSta..., Configuration, Run by, Tester, and Test. The table shows multiple entries for TC05, with outcomes ranging from Passed to Failed.

9. Test report summary

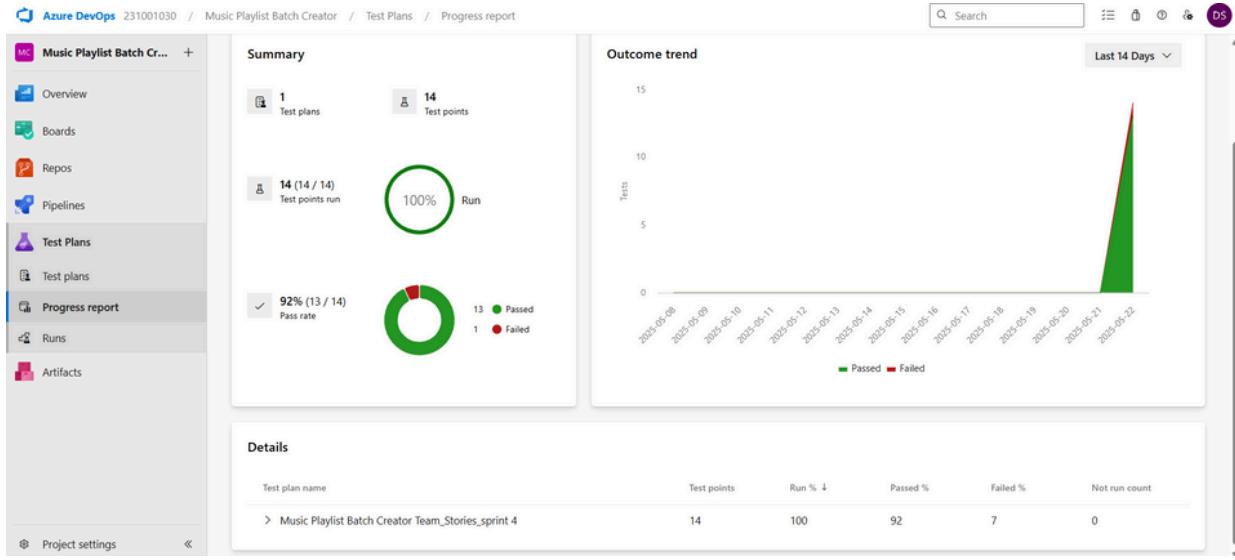
The screenshot shows the Azure DevOps Work Items interface for a 'News Feed App' project. A sidebar on the left lists various project management sections like Overview, Boards, Work items, and Pipelines. The main area is focused on a work item titled 'BUG 203: BG 01 - Countries Drop down Not Available on the page'. The work item details include: State: New, Reason: New, Iteration: News Feed App, and a repro step: 'Active' (Resolved, Closed). The steps section shows three steps: 1. Passed (Title: Open Chrome Browser, Result: Passed, Expected Result: Browser should open in a new tab), 2. Passed (Title: Paste the URL (https://127.0.0.0/1/news.html), Result: Passed, Expected Result: App should load with new articles), and 3. Failed (Title: System should show a dropdown with list of countries, Result: Failed, Expected Result: Produce Report). To the right, there are sections for Planning (Resolved Reason, Story Points, Priority: 2, Severity: 3 - Medium, Activity), Deployment (Release status, Deployment reporting), Development (Add link, Azure Repos integration), and Related Work (links to backlog and tasks).

- Assigning bug to the developer and changing state

The screenshot shows the Azure DevOps Work Items page for a project named "Music Playlist Batch Creator". A specific bug report, item 169, titled "TB01 - Playlist loading spinner keeps spinning indefinitely on poor network", is displayed. The report was filed by Deepan Kumar S. on 5/22/2025 at 12:45 PM. The status is "New", and it is assigned to "Music Playlist Batch Creator". The iteration is "Music Playlist Batch Creator\sprint 4". The "Repro Steps" section details three steps: 1. Disconnect from the internet (Expected Result: Network is offline). 2. Navigate to "My Playlists" (Expected Result: Error message "Unable to load playlists" is shown). 3. None. The "Planning" tab shows the resolved reason as "Bug filed on 'TC06 – Playlist Loading Failure'". The "Deployment" tab includes a note about tracking releases and deployment status reporting. The "Development" tab has an "Add link" section. The "Effort (Hours)" and "Related Work" sections are also visible.

10. Progress report

The screenshot shows the Azure DevOps Test Plans Progress report for the "Music Playlist Batch Creator Team_Stories_sprint 4" test plan. The left sidebar shows the navigation menu with "Progress report" selected. The main area displays a summary of 1 test plan, 14 test points, and 14 (14/14) test points run, with a 100% pass rate. A circular progress bar indicates 78% (11/14) passed and 3 failed. To the right is an "Outcome trend" chart showing the number of tests over time from May 8 to May 22, 2025. The chart shows a sharp increase in tests run starting around May 21st, with a legend indicating green for Passed (0) and red for Failed (0).



11. Changing the test template

All processes

Name	Description	Team projects
Basic	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, incl...	1
Scrum	This template is for teams who follow the Scrum framework.	0
CMMI	This template is for more formal projects requiring a framework for process improvement and ...	0

Azure DevOps 231001030 / Settings / Process

Organization Setti...
231001030

Search Settings

General

- Overview
- Projects
- Users
- Billing
- Global notifications
- Usage
- Extensions
- Microsoft Entra

Security

- Security overview
- Policies
- Permissions

Boards

- Process

All processes

Processes Fields

Help Filter by process name

Name	Description	Team projects
Basic	This template is flexible for any process and great for teams getting started with Azure DevOps.	0
Agile	...	1
Scrum	This template is for teams who follow the Scrum framework.	0
CMMI	This template is for more formal projects requiring a framework for process improvement and ...	0

Azure DevOps 231001030 / Settings / Process

Organization Setti...
231001030

Search Settings

General

- Overview
- Projects
- Users
- Billing
- Global notifications
- Usage
- Extensions
- Microsoft Entra

Security

- Security overview
- Policies
- Permissions

Boards

- Process

All processes

Processes Fields

Help Filter by process name

Name	Description	Team projects
Basic	This template is flexible for any process and great for teams getting started with Azure DevOps.	0
Agile	...	1
231001030 Agile (default)		0
Agile plus	...	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 ...	0

12. View the new test case template

The screenshot shows the 'Add a field to Test Case' dialog box over a background of the Azure DevOps settings interface. The dialog has two tabs: 'Definition' (selected) and 'Options'. Under 'Definition', there are two radio button options: 'Use an existing field' (selected, showing 'Acceptance Criteria' as the field name) and 'Create a field' (selected, showing 'Test Type' as the name). Other fields include 'Type' (set to 'Text (single line)'), 'Description' (with placeholder 'Optionally provide a description for the field'), and buttons for 'Learn more', 'Add field' (highlighted in blue), and 'Cancel'.

The screenshot shows the 'Process' settings page for the 'Agile' process. The top bar indicates the URL is dev.azure.com/231001030/_settings/process?parameters=&process-name=Agile&_a=projects. The main area displays a table with one row: 'Music Playlist Batch Creator' under 'Name' and 'Project Description This project is a modular Music Playlist Batch Creator system developed to simplify and accelerate the process of generat...' under 'Description'. The table has columns for 'Name' and 'Description'.

The screenshot shows the Azure DevOps Settings - Process page. The URL is [https://dev.azure.com/231001030/_settings/process](#). The page title is "All processes > 231001030 Agile > Test Case". The left sidebar has sections for General, Security, Boards, and Process. The main area shows the "Test Case" template with fields like Steps, Recent test results, Deployment, Development, Related Work, and Status.

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

The screenshot shows the 'Create a load testing resource' wizard in the Microsoft Azure portal. The current step is 'Basics'. The page title is 'Create a load testing resource'. The URL in the address bar is 'https://portal.azure.com/#create/Microsoft.LoadTesting'. The top navigation bar includes 'Search resources, services, and docs (G+)', 'Copilot', and user information '231001030@rajalatchm... DEFAULT DIRECTORY'. The main content area has tabs for 'Basics', 'Encryption', 'Tags', and 'Review + create'. Under 'Project details', it says 'Azure Load Testing is a fully managed load-testing service that makes it easy to generate high-scale load and identify performance bottlenecks.' A 'Learn more' link is provided. It shows 'Subscription' set to 'Azure for Students' and 'Resource group' set to '(New) MusicPlaylistProject'. Under 'Instance details', 'Name' is 'MELOCIFY' and 'Region' is 'East Asia'. At the bottom are 'Previous', 'Next', and 'Review + create' buttons.

The screenshot shows the 'Overview' page for a deployment named 'Microsoft.CloudNativeTesting1747922522636'. The URL in the address bar is 'https://portal.azure.com/#blade/Microsoft_Azure_DevDeployment/DeploymentOverviewBlade/resourceId%3DMicrosoft.CloudNativeTesting1747922522636'. The top navigation bar is identical to the previous screenshot. The main content area shows a summary: 'Your deployment is complete'. Deployment details: Name: Microsoft.CloudNativeTesting1747922522636, Subscription: Azure for Students, Resource group: MusicPlaylistProject. Deployment status: Start time: 5/22/2025, 7:32:29 PM, Correlation ID: 55550d7-3c83-4b1d-a383-5863be002939. Below this, there are sections for 'Deployment details', 'Next steps', and 'Go to resource'. On the right side, there are promotional cards for 'Cost management', 'Microsoft Defender for Cloud', 'Free Microsoft tutorials', and 'Work with an expert'.

Microsoft Azure Search resources, services, and docs (G+) Copilot 231001030@rajalakshmi DEFAULT DIRECTORY

Home > Azure Load Testing > MELODIFY > Create a URL-based test ...

Basics Test plan Parameters Load Monitoring Test criteria Review + create

Get started by creating a test for a URL, or configure an advanced load test for multiple URLs with additional options. [Learn more](#)

Test details
Provide a test name and a description. Test name and description will help you identify a test in the list of tests created in this resource.

Test name *

Test description

Run test after creation

Debug mode
If this is enabled, the first test run will run in debug mode providing debug logs along with request and response data for failed requests. The test run in debug mode will run with only one engine and up to 10 minutes duration. [Learn more](#)

Enable advanced settings

Configure a test with multiple requests in the 'Test plan' tab.

Previous Next **Review + create**

Microsoft Azure Search resources, services, and docs (G+) Copilot 231001030@rajalakshmi DEFAULT DIRECTORY

Home > Azure Load Testing > MELODIFY > Create a URL-based test ...

Basics Test plan Parameters Load Monitoring Test criteria **Review + create**

Validation passed.

Basics

Test tool	JMeter
Test name	Test_5/22/2025_7:49:53 PM
Test description	
Debug mode	Disabled

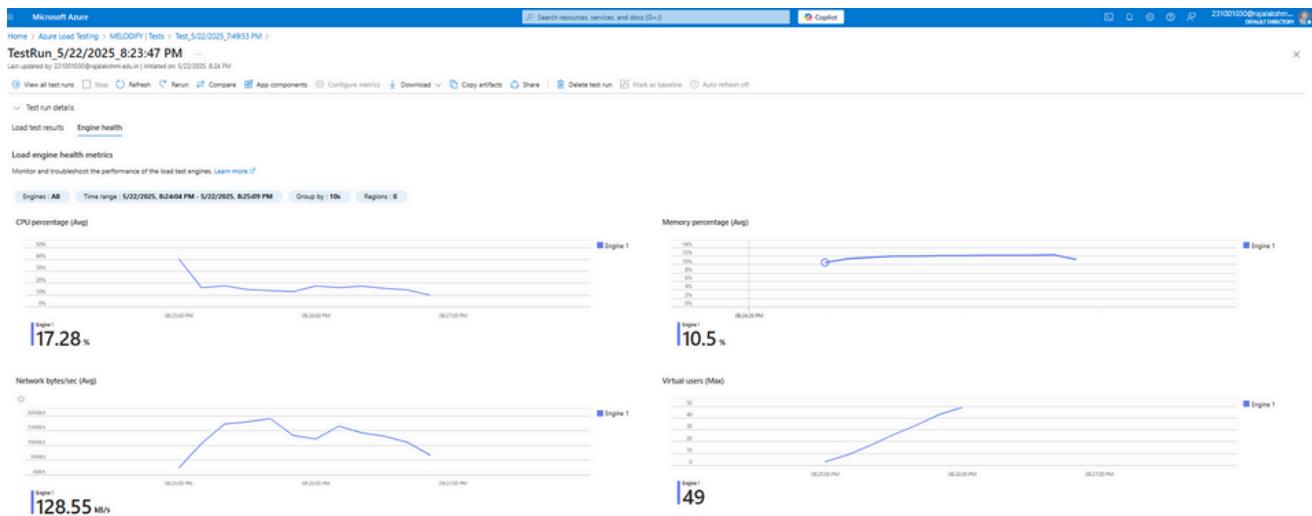
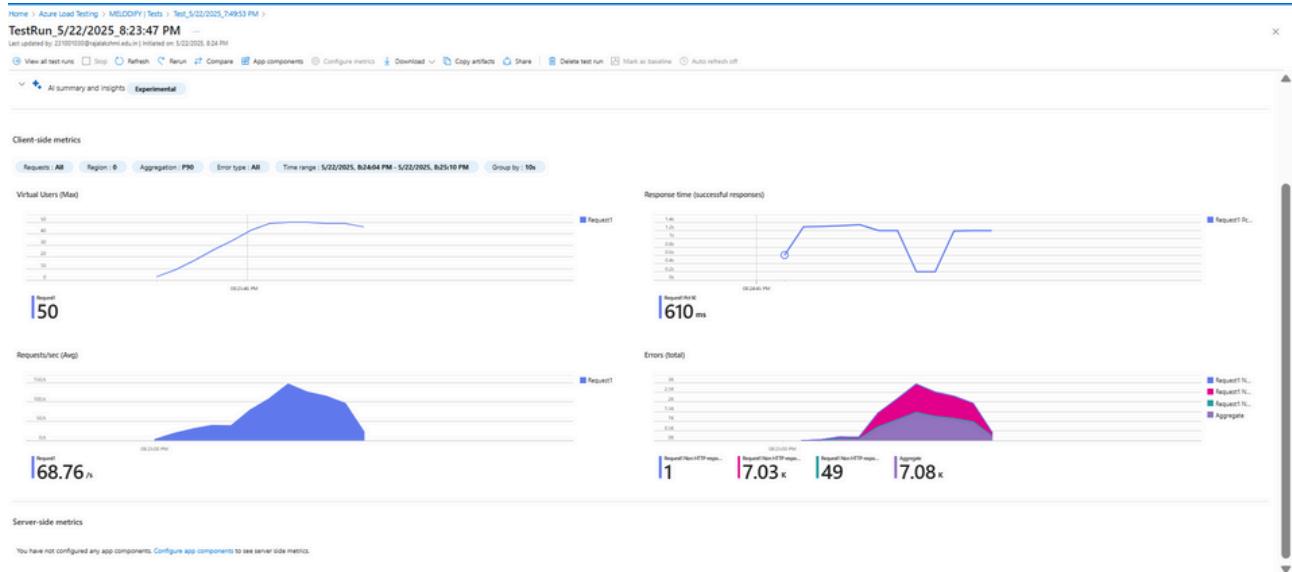
Test plan

Test method	URL
Requests	Request1
Input data files	

Load

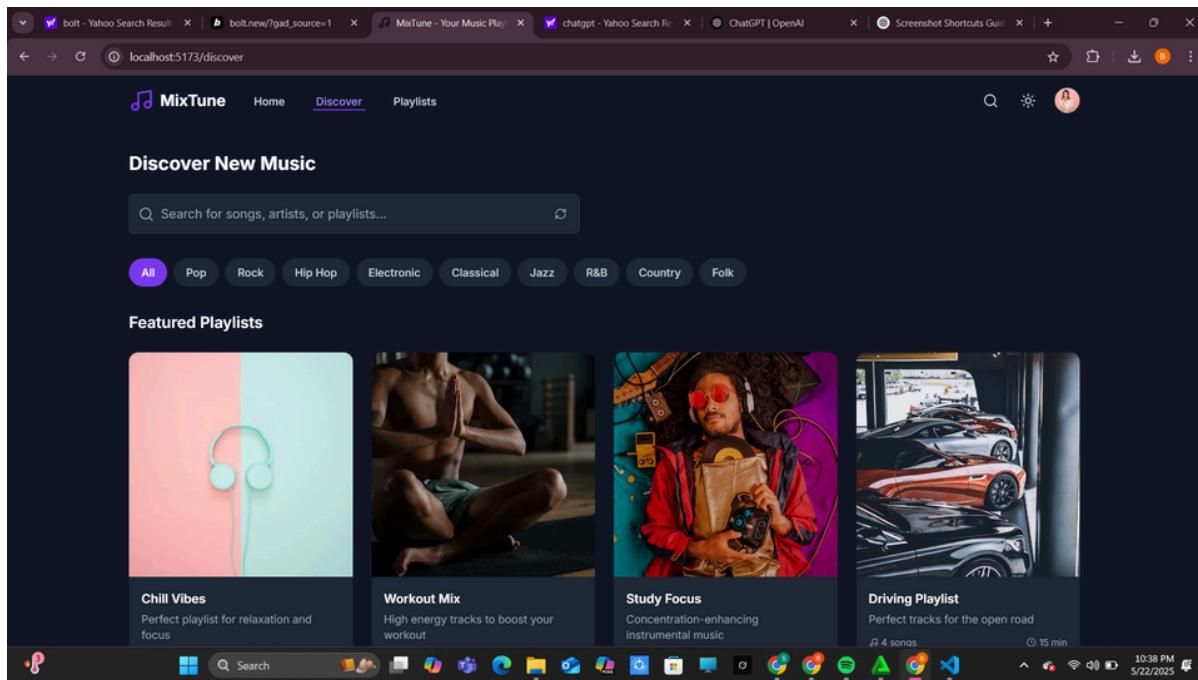
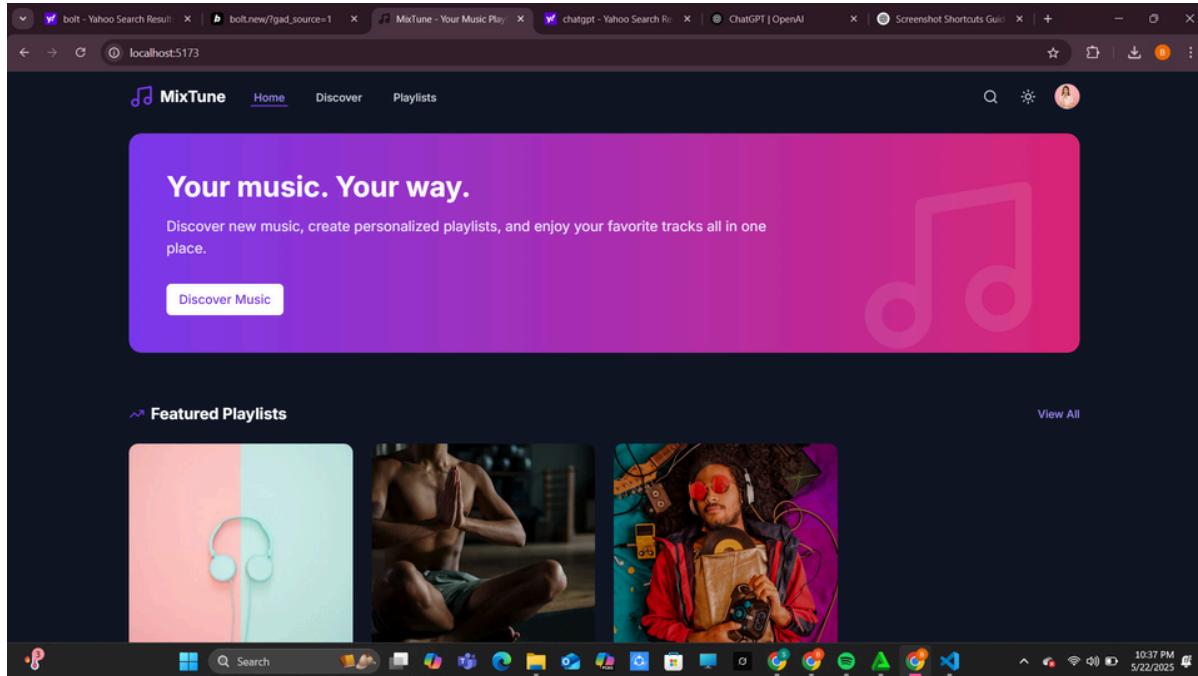
Engine instances	1
Load pattern	Linear
Concurrent users per engine	50
Test duration (minutes)	20
Ramp-up time (minutes)	1

Previous Next **Create**



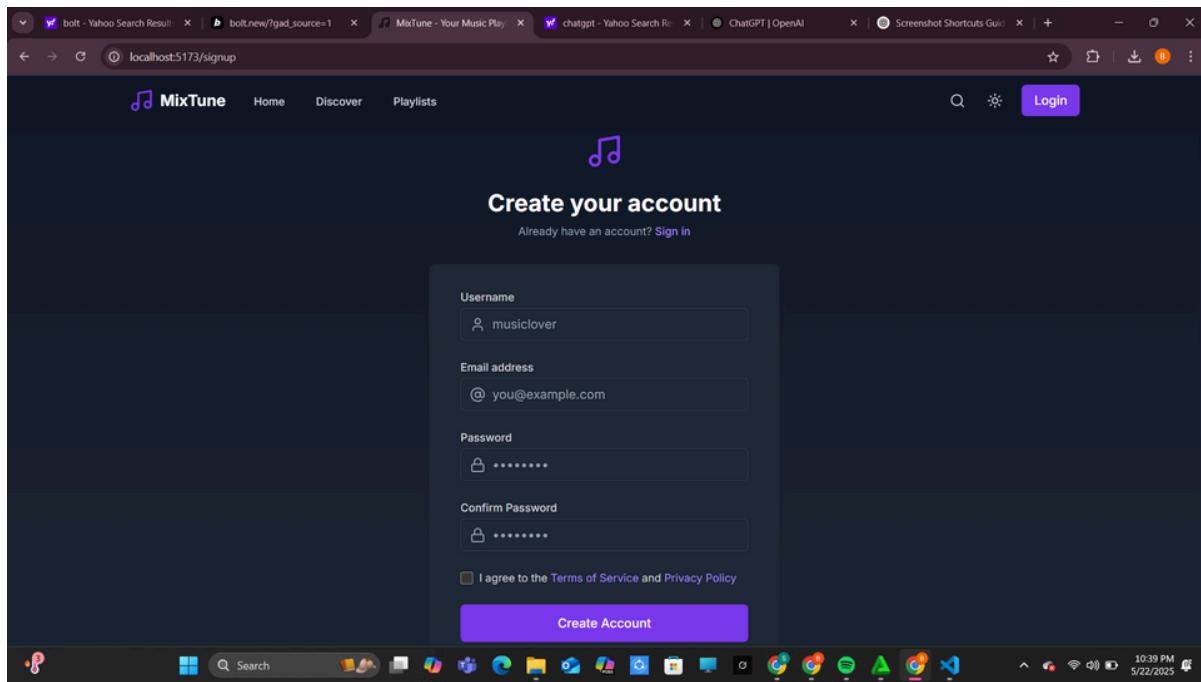
2116231001007

CS23432



2116231001007

CS23432



Result:

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

2116231001007

CS23432

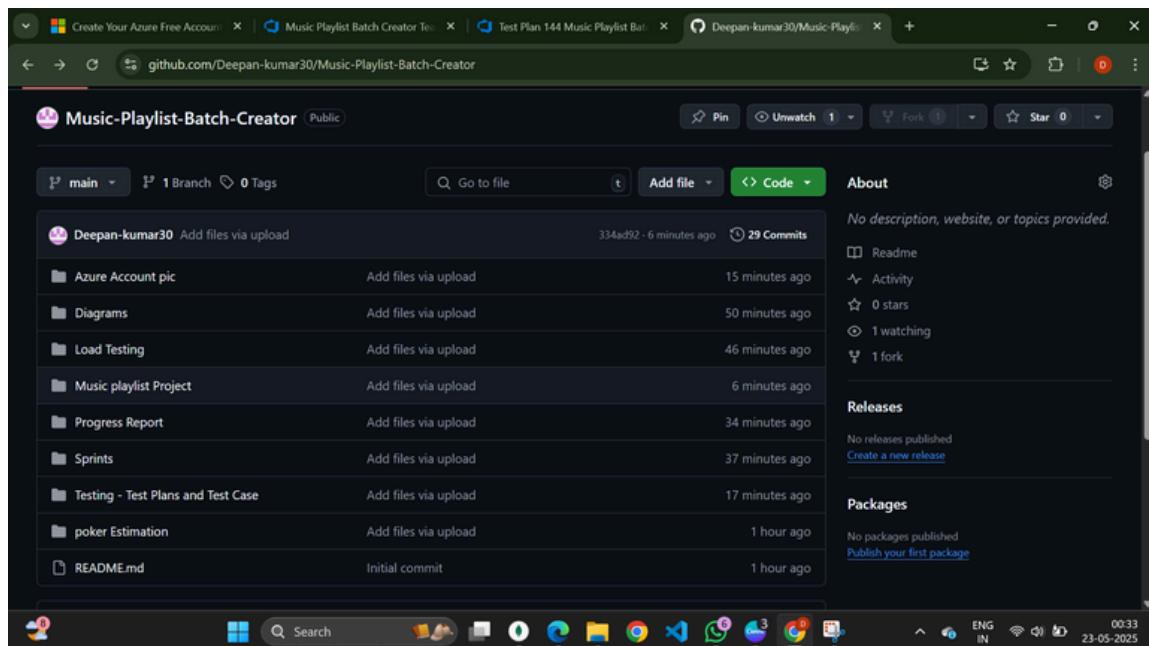
EXP NO:10

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 Music Playlist Batch Creator project.

GitHub Project Structure



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.