



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

DEPARTMENT OF INFORMATION TECHNOLOGY
LAB MANUAL

CS23432 – Software Construction

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RAJALAKSHMI ENGINEERING COLLEGE

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EXP NO:1

AZURE DEVOPS ENVIRONMENT SETUP

Aim:

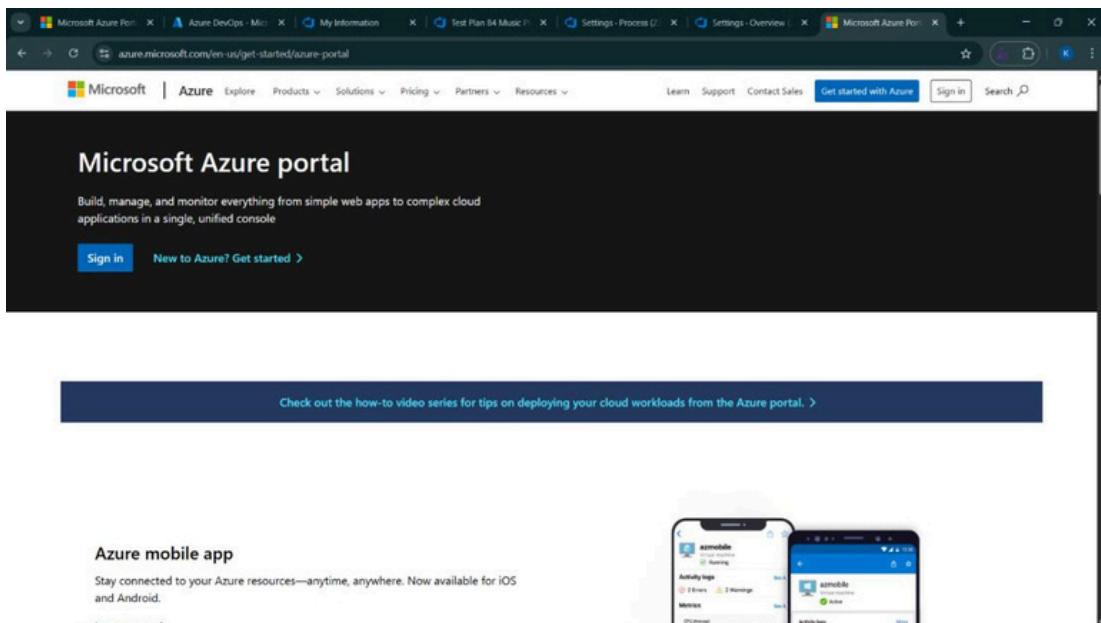
To set up and access the Azure DevOps environment by creating an organization through the Azure portal.

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 various icons for Copilot, notifications, and account settings. Below the navigation bar is the 'Azure services' section, which includes links for 'Create a resource', 'Azure DevOps organizations', 'Quickstart Center', 'Azure AI foundry', 'Kubernetes services', 'Virtual machines', 'App Services', 'Storage accounts', 'SQL databases', and 'More services'. Underneath this is the 'Resources' section, which is currently empty and displays the message 'No resources have been viewed recently'. There are tabs for 'Recent' and 'Favorite', and columns for 'Name', 'Type', and 'Last Viewed'. A 'View all resources' button is located at the bottom of this section.

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 again, but this time the search bar at the top contains the text 'devops'. A dropdown menu has appeared, showing search results for 'Services' and 'Marketplace'. Under 'Services', there are items like 'Azure Native New Relic Service' and 'Managed DevOps Pools'. Under 'Marketplace', there are items like 'Static Web App' and 'Build Agents for Azure DevOps'. The rest of the page layout is similar to the first screenshot, including the 'Azure services' section and the 'Resources' section below it.

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 ('APRA 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

APRA 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.

Azure DevOps Organizations

[Create new organization](#)

Projects

- dev.azure.com/231001030 (Owner)
 - Music Playlist Batch Creator
- dev.azure.com/2310010300540 (Owner)
 - New project

Actions

- Open in Visual Studio

Deepan Kumar S

Edit profile

231001030@rajalakshmi.edu.in

Microsoft account

India

231001030@rajalakshmi.edu.in

Visual Studio Dev Essentials

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

Use your benefits

4. Project dashboard

231001030 / Music Playlist Batch Creator / Overview / Summary

Search

Public [Invite](#)

Project stats

Period: Last 7 days

Boards

Work items created: 0

Work items: 0

Members: 4

DS, Z, A, DS

About this project

Project Description
This project is a modular Music Playlist Batch system developed to simplify and accelerate the process of generating multiple playlists based on user-defined criteria. It is designed with scalability and a seamless user experience in mind, catering to personal, commercial, and enterprise-level playlist needs.

Playlist Creation and Customization
This module allows users to create playlists in bulk using filters such as genre, mood, artist, duration, and release date. It supports automation rules and AI-generated suggestions to improve the relevance of each playlist.

User Preferences and Profiles
Users can define their music preferences and manage profiles to tailor playlists for different contexts—such as workout, relaxation, or party themes. Profiles can be reused, shared, or cloned to maintain consistency.

Data Integration and Audio Analysis
The system integrates with music databases (like Spotify, YouTube, or local libraries) and leverages audio analysis to group tracks by tempo, key, and energy level. This ensures cohesive playlist flow and musical compatibility.

Export and Distribution
Playlists can be exported to various platforms or formats (e.g., M3U, JSON, or direct sync to music apps). Users can schedule exports, automate batch runs, or track playlist versioning.

Each module is designed to operate independently or in coordination with others, promoting flexible workflows and modular enhancements. The solution focuses on improving batch efficiency, personalizing music experiences, and maintaining compatibility with leading music platforms.

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 Microsoft Boards interface. At the top, there's a breadcrumb trail: 231001030 / Music Playlist Batch Creator / Boards / Backlogs. A search bar is on the right. Below the header, the team name 'Music Playlist Batch Creator Team' is displayed with a dropdown arrow. There are buttons for '+ New Work Item' and 'View as Board'. A 'Backlog' tab is selected, showing a list of work items. The table has columns: Order, Work Item Type, Title, State, Effort, Busin..., Value Area, and Tags. The backlog contains six items, all labeled 'Epic' and 'New': 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. All items are categorized under 'Business'.

The screenshot shows the Microsoft sign-in page. At the top, there's a search bar and a sign-out link. The Microsoft logo is on the left. Below the logo, the user's name 'Deepan Kumar S' is displayed, followed by their email address '231001030@rajalakshmi.edu.in'. There are links for 'My Microsoft account' and 'Switch directory'. The user's profile picture, a purple circle with 'DS', is also shown. The background features a blurred image of a person working on a computer.

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

Order	Work Item Type	Title	State	Effort	Business Area	Tags
1	Epic	> User Authentication and Account Management	New		Business	
2	Epic	> Smart Features & Insights	New		Business	
	Feature	> Smart Playlists & Listening History Analysis	New		Business	
	Feature	> Playlist Insights & Automation	New		Business	
	User Story	> Visualizing Playlist Metadata with Charts	New		Business	
3	Epic	> Playlist Export & Sharing	New		Business	
	Feature	> Multi-Format Playlist Export & Cloud Sync	New		Business	
	Feature	> Playlist Sharing & Collaboration	New		Business	
4	Epic	> Playback & Audio Enhancements	New		Business	
5	Epic	> Playlist Generation & Customization	New		Business	
6	Epic	> Music Library Management	New		Business	

1. Fill in Epics

EPIC 9

9 Music Library Management

No one selected 0 Comments Add Tag

Save and Close Follow

Updated by Deepan Kumar S: Apr 1

Details

Description

Click to add Description.

Discussion

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

switch to Markdown editor

Planning

Priority: 2

Risk:

Effort:

Business Value:

Time Criticality:

Start Date: Select a date...

Target Date:

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

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 main card displays the following details:

- Description:** Allows users to import and organize large batches of music files efficiently.
- Planning:** Priority: 2, Risk: 1, Business Value: 1, Time Criticality: 1, Start Date: Select a date..., Target Date: [empty]
- Deployment:** A note: '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.'
- Discussion:** A comment placeholder: 'Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.' with a 'switch to Markdown editor' link.

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 main card displays the following details:

- Description:** As a user, I want to sign up with email and password to create an account.
- Acceptance Criteria:**
 - 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.
- Planning:** Story Points: 1, Priority: 2, Risk: 1.
- Deployment:** A note: '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](#)'.
- Classification:** Value area: Business.
- Gleek:** A text input field containing 'gleek_'.
A note: '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: 'Add link ▾'
- Discussion:** 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 231001032)

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 Azure DevOps Boards backlog for the 'Music Playlist Batch Creator Team'. The current iteration is 'Iteration 1' (July 15 - August 10, 27 work days). The backlog contains 14 items:

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

Sprint 4

The screenshot shows the Microsoft Azure DevOps Boards backlog for the 'Music Playlist Batch Creator Team'. The current iteration is 'sprint 4' (August 15 - September 10, 27 work days). The backlog contains 14 items:

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

Result:

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

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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" and is part of "Music Playlist Batch Creator\Iteration 1". The "Planning" section indicates Story Points: 3, Priority: 2, and Risk: 0. The "Classification" section lists Value area: Business and Geek: 9|eek_. The "Development" section provides instructions on tracking releases and linking to Azure Repos. The "Acceptance Criteria" section contains two bullet points: "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 "Discussion" section is currently empty, with a placeholder message: "Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request." The card also features a "Details" tab with various status indicators.

Result:

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

EXP NO:6

DESIGNING CLASS AND SEQUENCE DIAGRAMS FOR PROJECT ARCHITECTURE

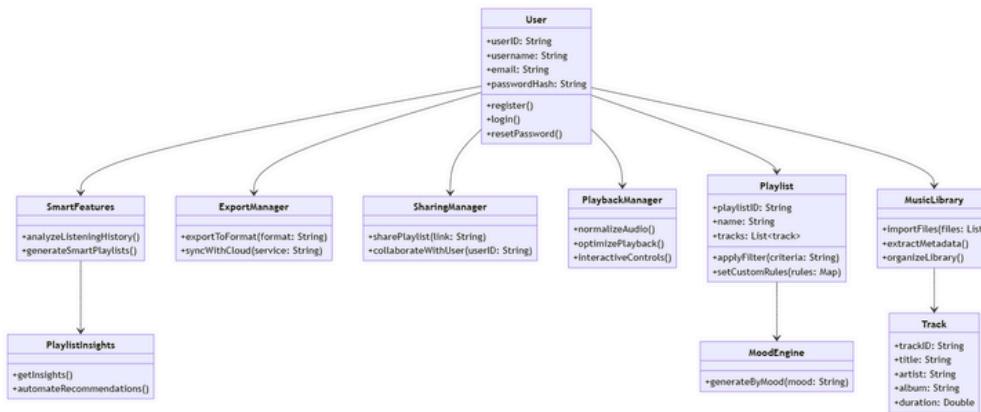
Aim:

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

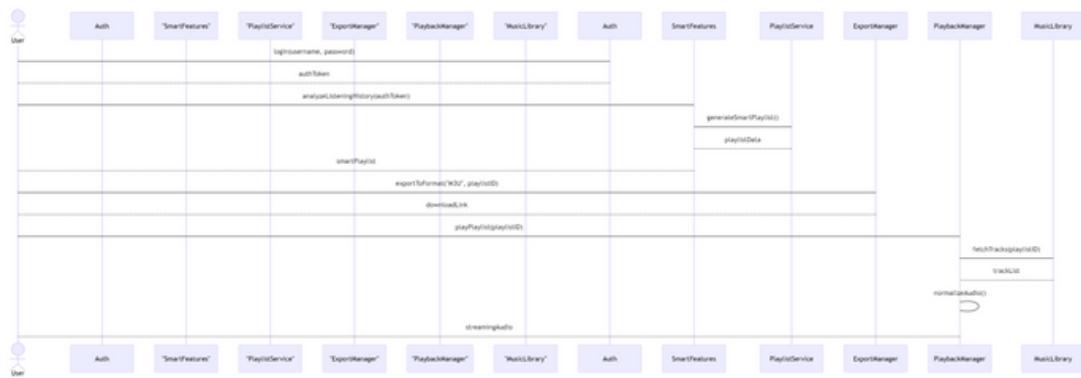
6A. Class Diagram

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.

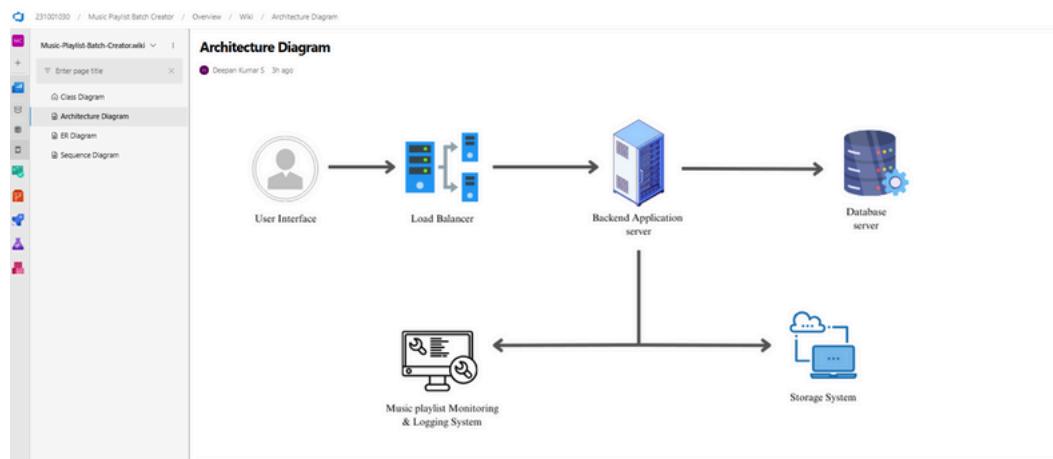
EXP NO:7

DESIGNING ARCHITECTURAL AND ER DIAGRAMS FOR PROJECT STRUCTURE

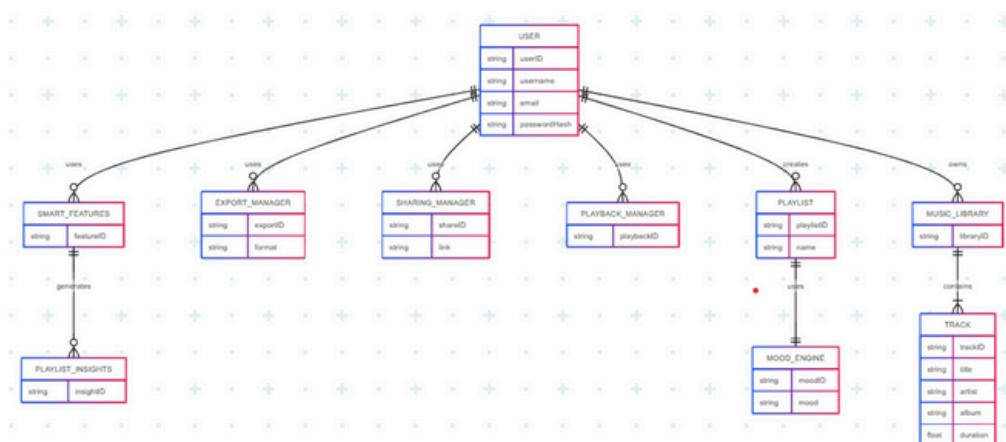
Aim:

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/2116231001030/Music%20Playlist%20Batch%20Creator/_testManagement/testPlans. The page title is "New Test Plan". The form fields are filled 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 sidebar, under "Test Plans", there are links for "Test plans", "Progress report", "Parameters", "Configurations", "Runs", and "Artifacts". At the bottom left of the main area 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/2116231001030/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 outcomes:

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, New reason, and Music Playlist Batch Creator iteration. The last update was 50m ago by Deepan Kumar S. The 'Steps' tab is selected, 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' section contains a note: "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." The 'Development' section contains a note: "Add link" with instructions to link an Azure Repos commit, pull request, or branch to see the status of your development. There is also a note about creating a branch. At the bottom, there is 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.

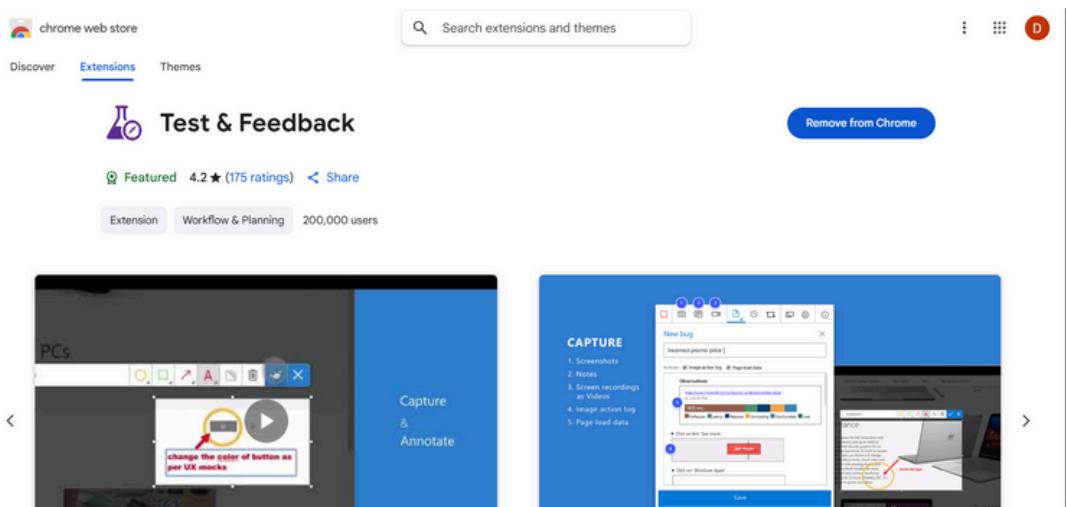
Development

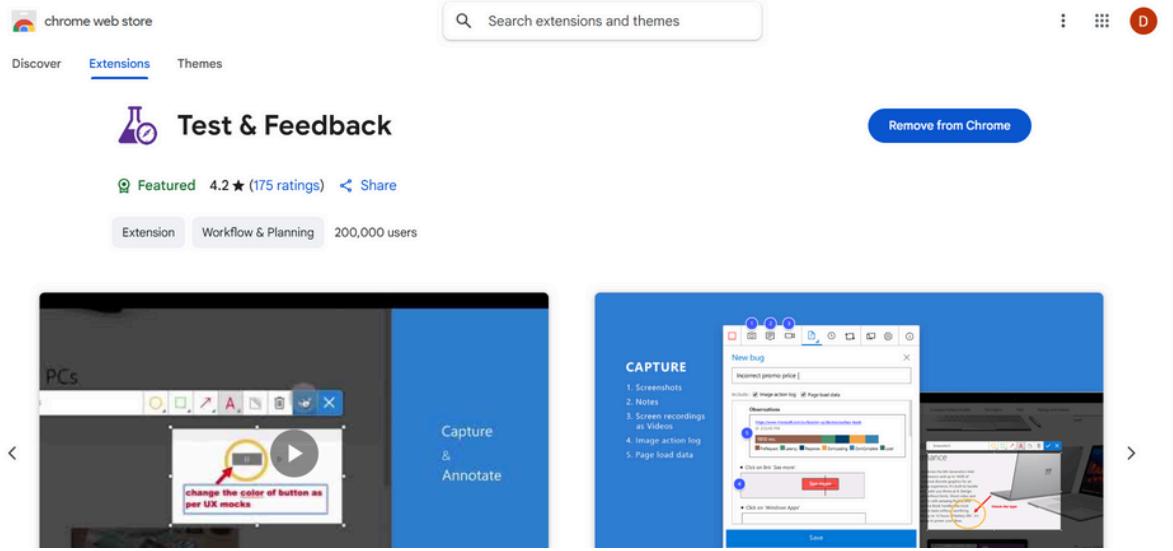
Add link

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.

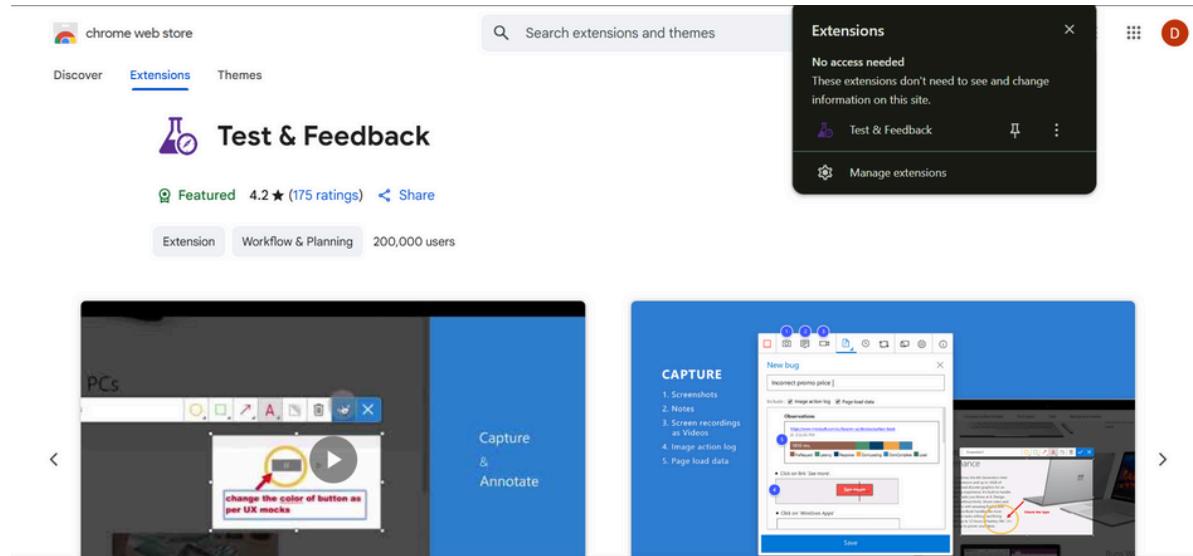
Parameter values

4. Installation of test





Test and feedback
Showing it as an extension

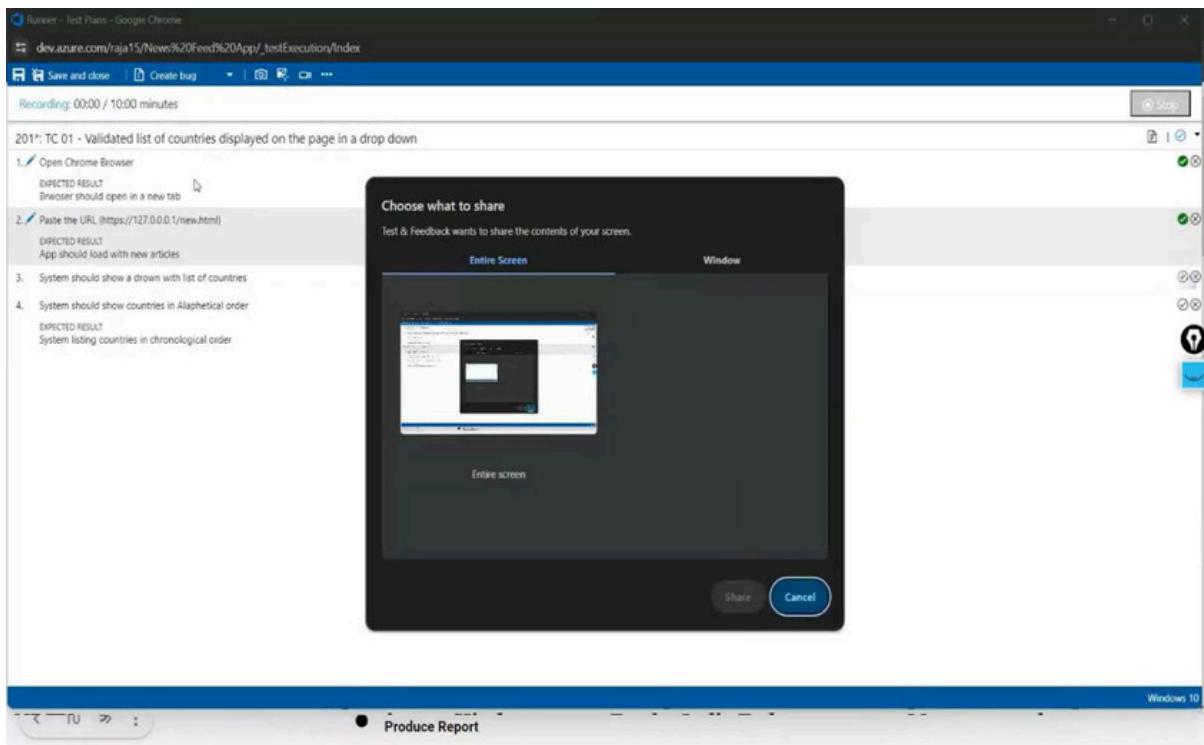


5. Running the test cases

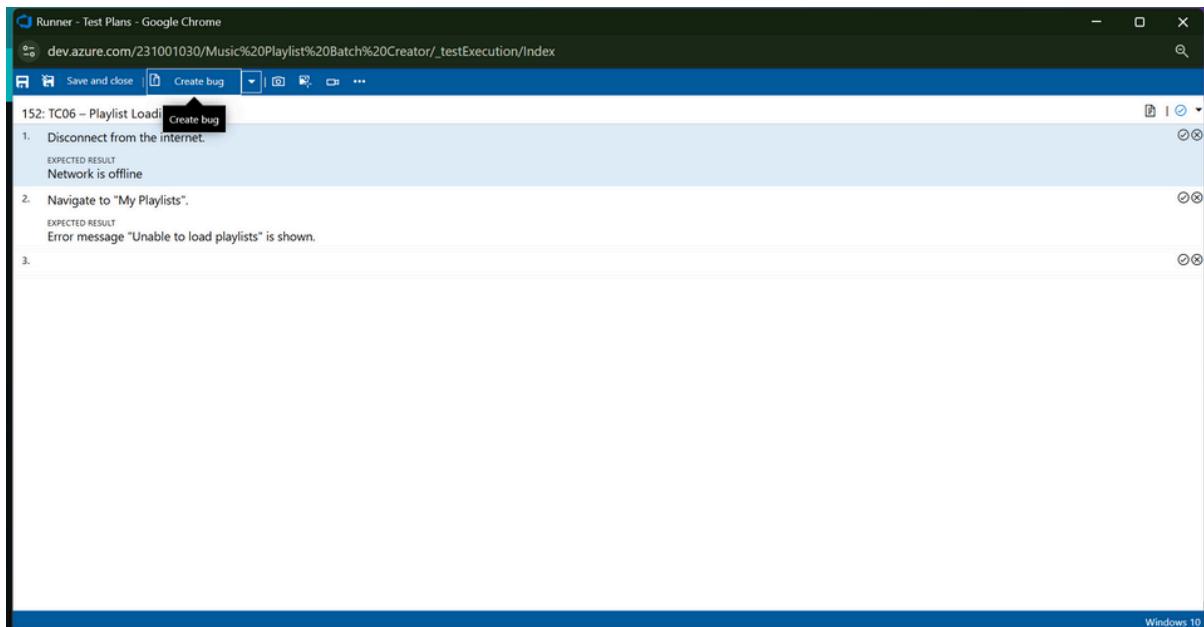
The screenshot shows the Microsoft Test Plan interface. On the left, there's a navigation pane with icons for Home, Test Suites, Test Cases, Test Results, and Test Plans. The current view is under 'Test Plans' for a project named 'Music Playlist Batch Creator'. A search bar at the top right has 'Search' and a help icon. Below the search bar are filter and export options. The main area displays a test plan titled '111 : TS02 - View Playlists (ID: 151)'. It has tabs for 'Execute' (selected) and 'Chart'. Under 'Test Points (2 items)', there are two entries: 'TC05 - View Playlist Page' and 'TC06 - Playlist Loading Failure'. Both are marked as 'Active'. A context menu is open over 'TC05 - View Playlist Page', showing options: 'View execution history', 'Mark Outcome' (with radio buttons for 'Active' or 'In Progress'), 'Run' (with radio buttons for 'Run for web application', 'Run for desktop application', or 'Run with options'), and 'Edit test case'.

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'. Step 1, 'Log in successfully.', is marked as 'PASSED'. Step 2, 'Navigate to "My playlists" section.', is also marked as 'PASSED'. 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 additional details. 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

8. Test case results

The screenshot shows the Microsoft Test Plan interface. On the left, the 'Test Suites' pane lists several test suites under 'Music Playlist Batch Creator Team_Stories...'. In the center, a specific test plan '111 : TS02 - View Playlists (ID: 151)' is selected. The 'Execute' tab is active, showing 'Test Points (2 items)'. One test point, 'TC05 - View Playlist Page', is highlighted with a blue border. To the right, a detailed view of 'TC05 - View Playlist Page' is shown, titled 'Test Case Results'. A table lists execution details for this test point across multiple runs. The table includes columns for Outcome (Passed, Not Applicable, Failed), TimeStamp, Configuration, Run by, Tester, and Test Point ID.

Outcome	TimeStamp	Configuration	Run by	Tester	Test Point ID
Passed	12m ago	Windows 10	Deepan Kumar S	Deepan Kumar S	TC05 - View Playlist Page
Not Applicable	12m ago	Windows 10	Deepan Kumar S	Deepan Kumar S	TC06 - Playlist Loading Failure
Passed	13m ago	Windows 10	Deepan Kumar S	Deepan Kumar S	TC05 - View Playlist Page
Passed	13m ago	Windows 10	Deepan Kumar S	Deepan Kumar S	TC05 - View Playlist Page
Failed	13m ago	Windows 10	Deepan Kumar S	Deepan Kumar S	TC05 - View Playlist Page
Passed	13m ago	Windows 10	Deepan Kumar S	Deepan Kumar S	TC05 - View Playlist Page
Passed	24m ago	Windows 10	Deepan Kumar S	Deepan Kumar S	TC05 - View Playlist Page

9. Test report summary

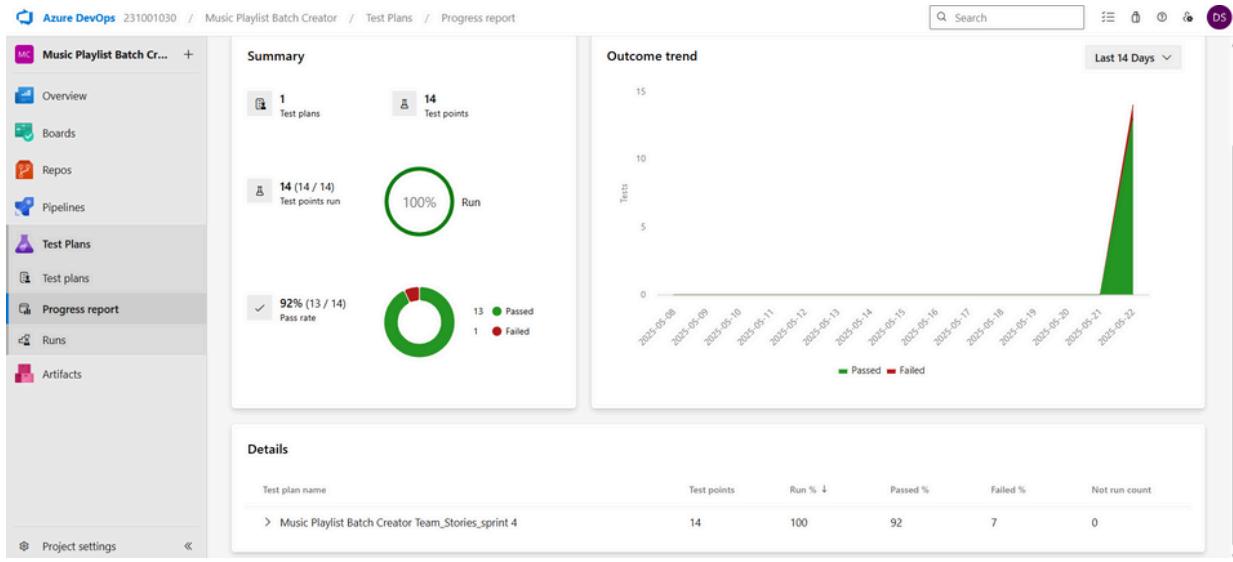
The screenshot shows the Azure DevOps 'Work items' interface for a 'News Feed App' project. A specific bug report 'BUG 203' is selected. The work item details include:
- Title: BUG 203 - Countries Drop down Not Available on the page
- State: New
- Reason: New
- Repro Step: Active, Resolved, Closed
- Step no.: 1. Passed, 2. Passed, 3. Failed
- Result: Passed, Passed, Failed
- Title: Open Chrome Browser, Paste the URL ([https://127.0.0.1/news.html](https://127.0.0.0.1/news.html)), System should show a dropdown with list of countries
- Description: Expected Result: Browser should open in a new tab. Actual Result: App should load with new articles.
- Planning: Resolved Reason, Story Points, Priority (2), Severity (3 - Medium), Activity
- Deployment: Deployment status reporting information
- Development: Add link, Commit, Pull request, Branch information
- Related Work: Related work items

- Assigning bug to the developer and changing state

The screenshot shows the Azure DevOps interface for a work item. The URL is https://dev.azure.com/231001030/Music%20Playlist%20Batch%20Creator/_workitems/edit/169. The work item type is 'Bug' (BUG 169). The title is 'TB01 - Playlist loading spinner keeps spinning indefinitely on poor network'. The state is 'New', area is 'Music Playlist Batch Creator', iteration is 'Music Playlist Batch Creator\sprint 4', and reason is 'New'. The repro steps detail a bug filed on 'TC06 – Playlist Loading Failure'. Step 1: Disconnect from the internet, expected result: Network is offline. Step 2: Navigate to "My Playlists", expected result: Error message "Unable to load playlists" is shown. Step 3: None. The planning section shows resolved reason, story points, priority (2), severity (3 - Medium), and activity. The deployment section has a note about tracking releases. The development section has an 'Add link' button. The effort section shows original estimate. The related work section has an 'Add link' button.

10. Progress report

The screenshot shows the Azure DevOps interface for a test plan progress report. The URL is https://dev.azure.com/231001030/Music%20Playlist%20Batch%20Creator/_testPlans/testPlan/144/_details. The report title is 'Progress report' for 'Music Playlist Batch Creator Team_Stories_sprint 4'. The left sidebar shows 'Test Plans' selected. The summary section shows 1 test plan, 14 test points, and 14 (14 / 14) test points run, with a 100% pass rate. The outcome trend chart shows tests over time from May 8 to May 22, with a sharp increase in tests run starting around May 21. A legend indicates 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) with a dropdown showing 'Acceptance Criteria', and 'Create a field' (selected) with fields for 'Name' (Test Type), 'Type' (Text (single line)), and 'Description' (Optional). At the bottom are 'Add field' and 'Cancel' buttons.

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 left sidebar shows the organization settings menu.

The screenshot shows the Azure DevOps Settings - Process page for the 'Test Case' template. The left sidebar includes sections for General, Security, Boards, and Process. The main area displays the 'Test Case' process template with fields like 'Steps', 'Recent test results', 'Deployment', 'Development', 'Related Work', and 'Status'. A search bar and various navigation options are at the top.

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_DevOps_FeatureBlade/DeploymentOverviewBlade/1747922522636'. The top navigation bar includes 'Search resources, services, and docs (G+)', 'Copilot', and user information '231001030@rajalatchm... DEFAULT DIRECTORY'. The main content area shows a summary: 'Your deployment is complete'. Deployment details: Name: Microsoft.CloudNativeTesting1747922522636, Subscription: Azure for Students, Resource group: MusicPlaylistProject. Start time: 5/22/2025, 7:32:29 PM. Correlation ID: 55550d7-3c83-4b1d-a383-5863be002939. On the right, there are sections for 'Cost management', 'Microsoft Defender for Cloud', 'Free Microsoft tutorials', and 'Work with an expert'. A sidebar on the left lists 'Overview', 'Inputs', 'Outputs', and 'Template'. Buttons at the bottom include 'Go to resource', 'Give feedback', and 'Tell us about your experience with deployment'.

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

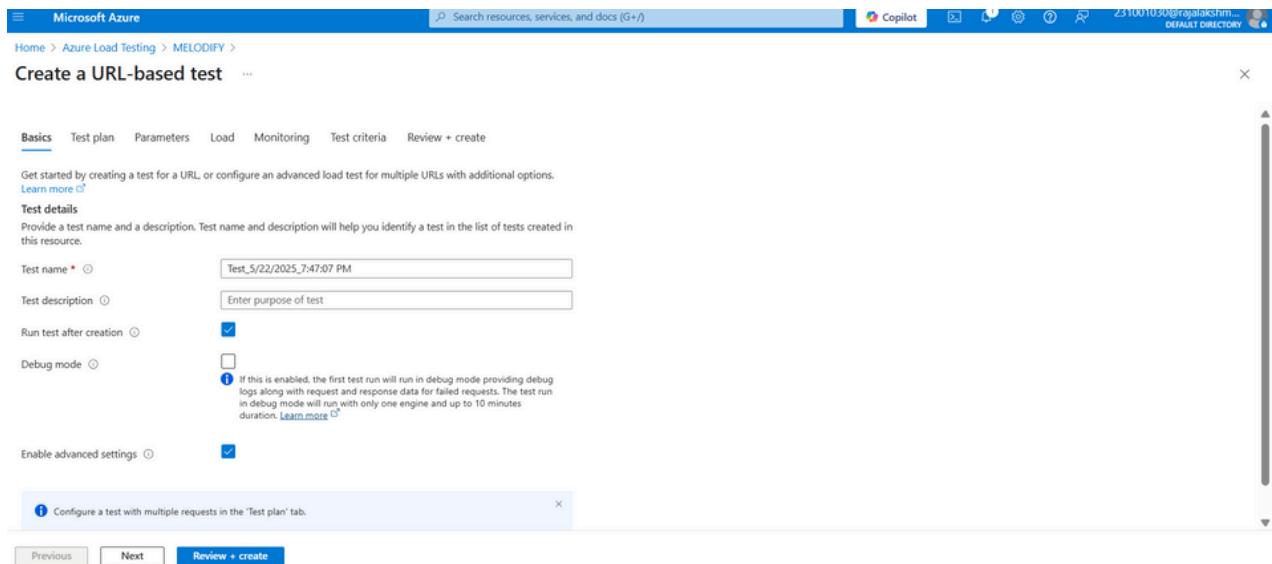
Run test after creation

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

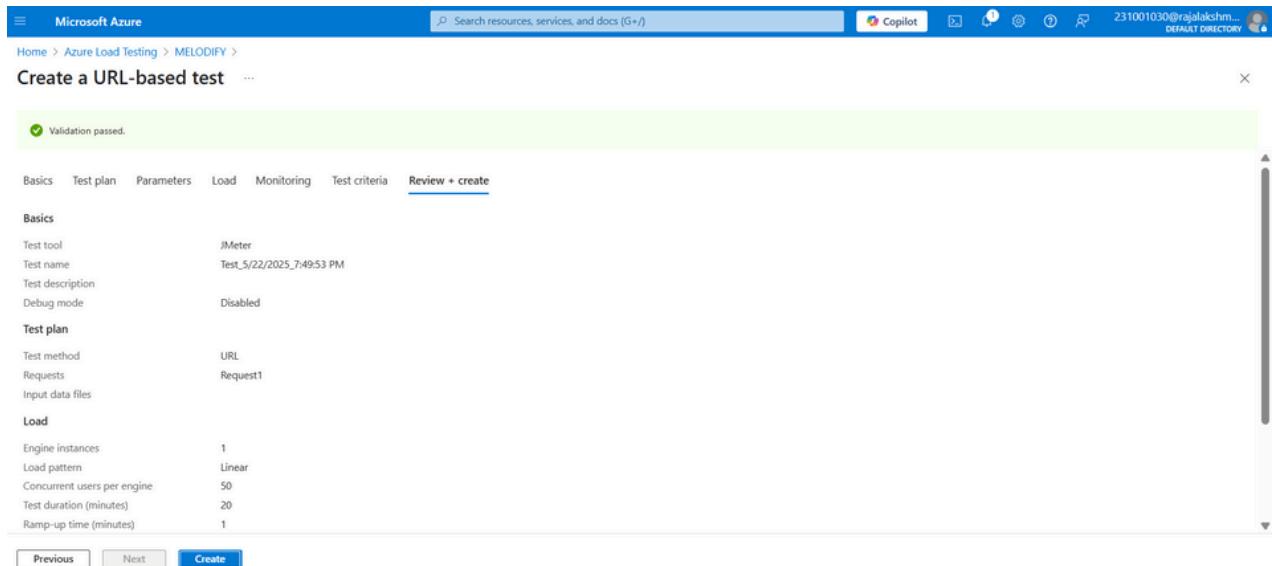
Test plan

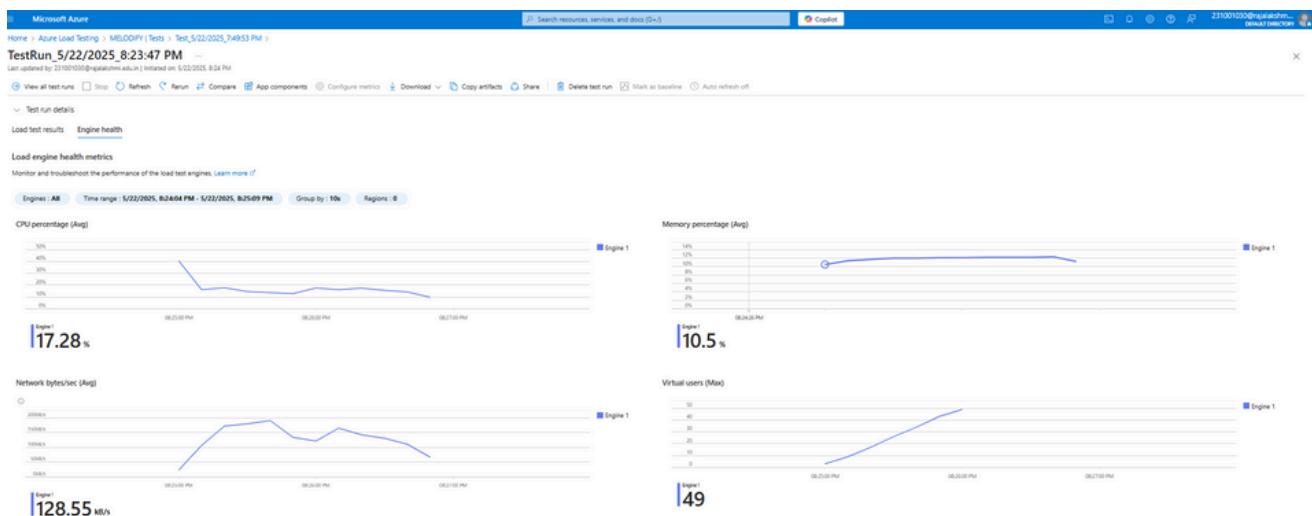
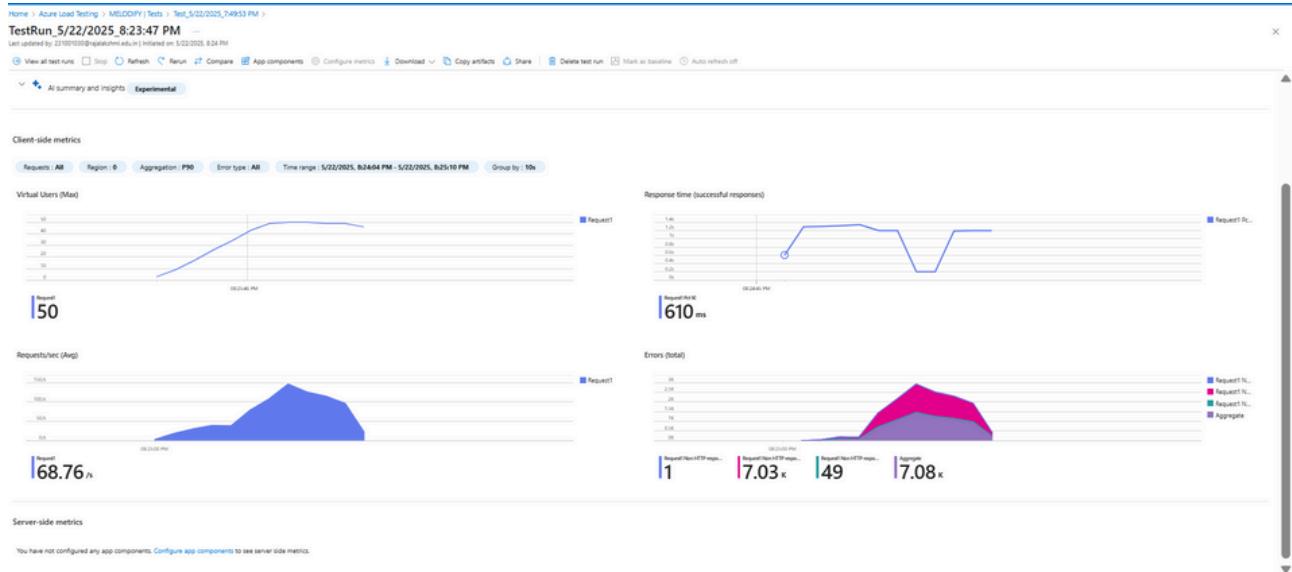
Test method	URL
Requests	Request1
Input data files	

Load

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

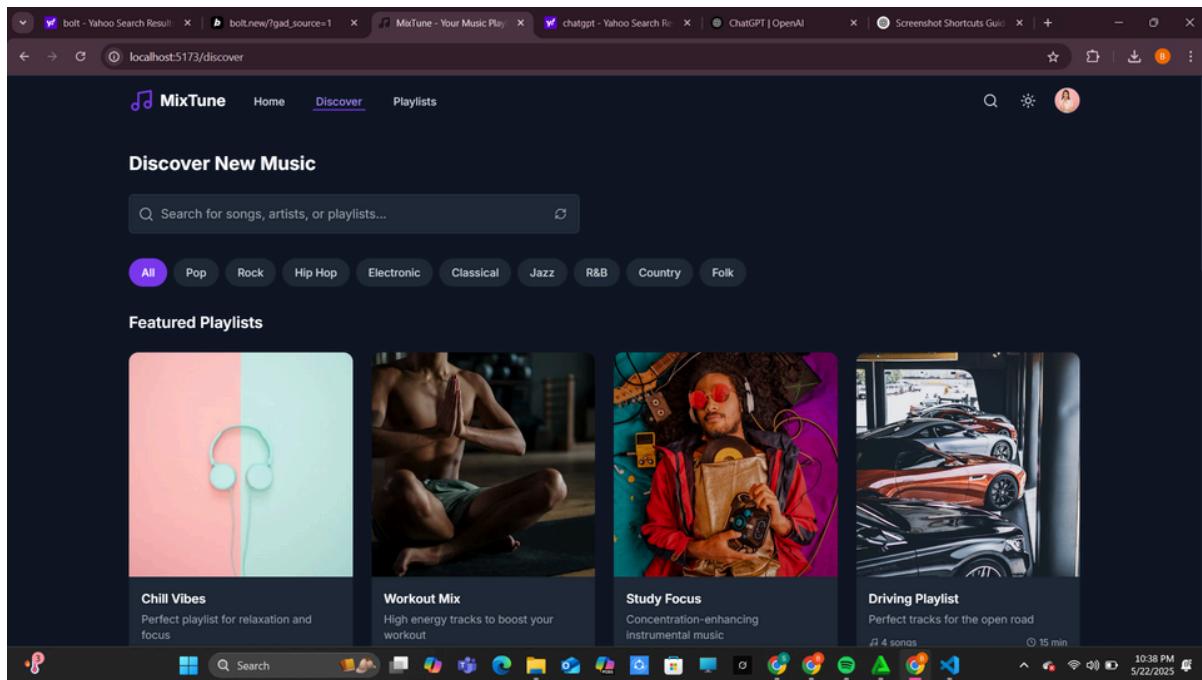
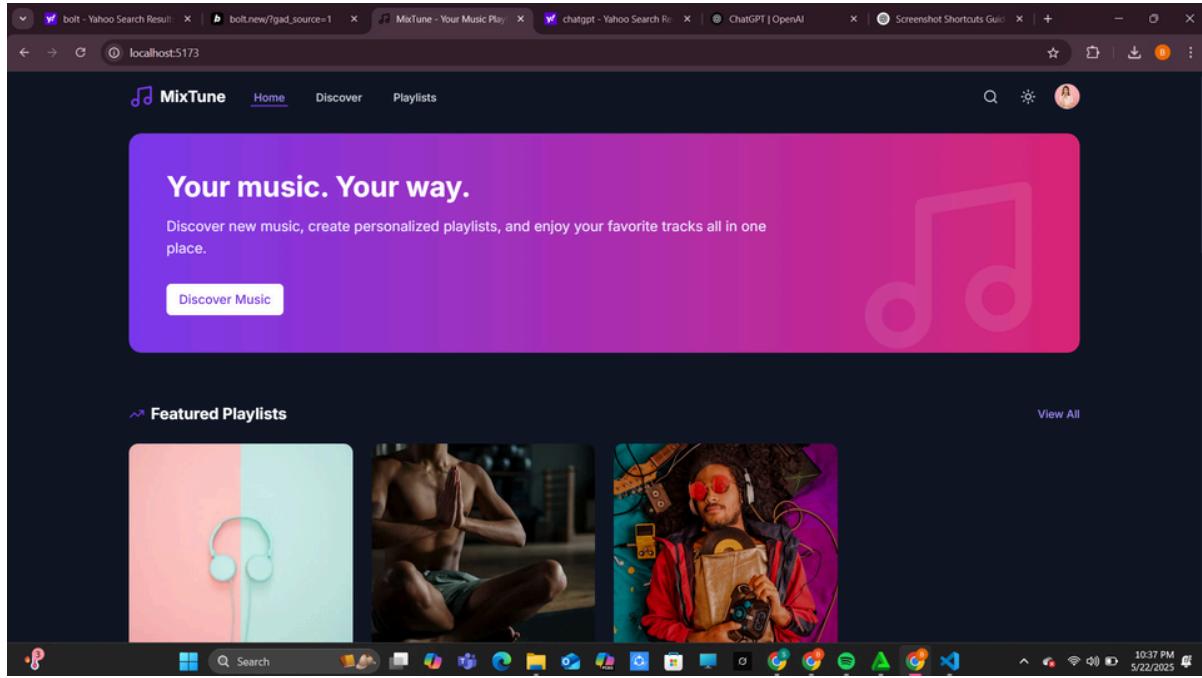
Previous Next **Create**





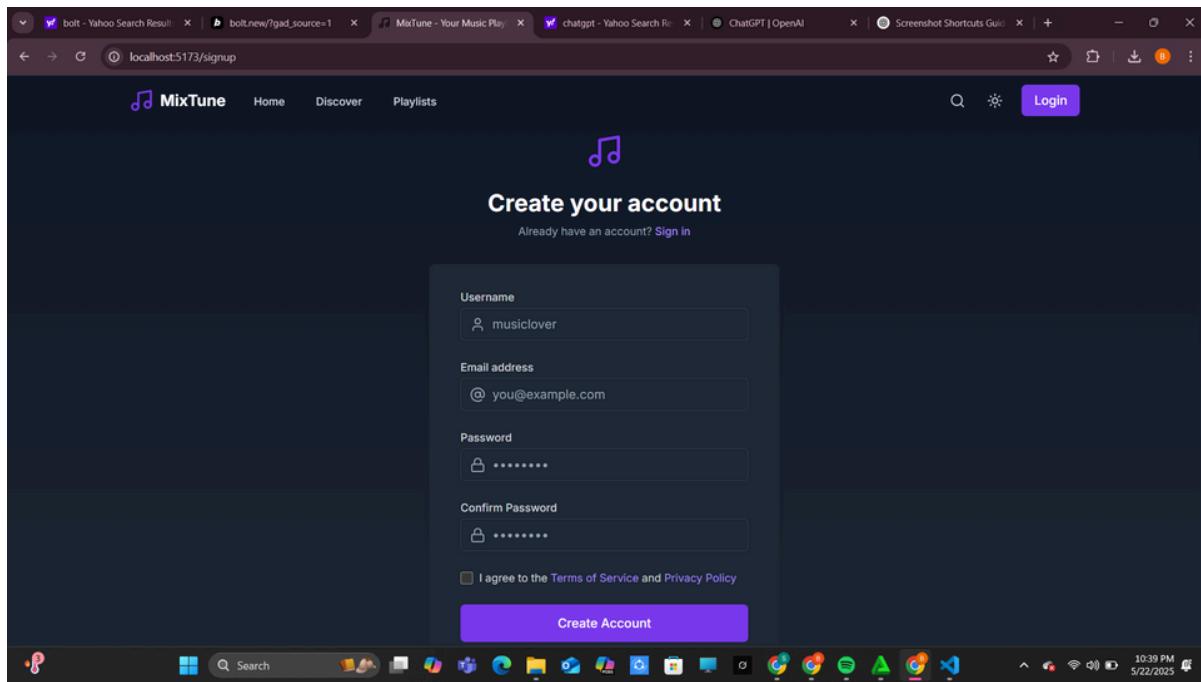
2116231001030

CS23432



2116231001030

CS23432



Result:

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

2116231001030

CS23432

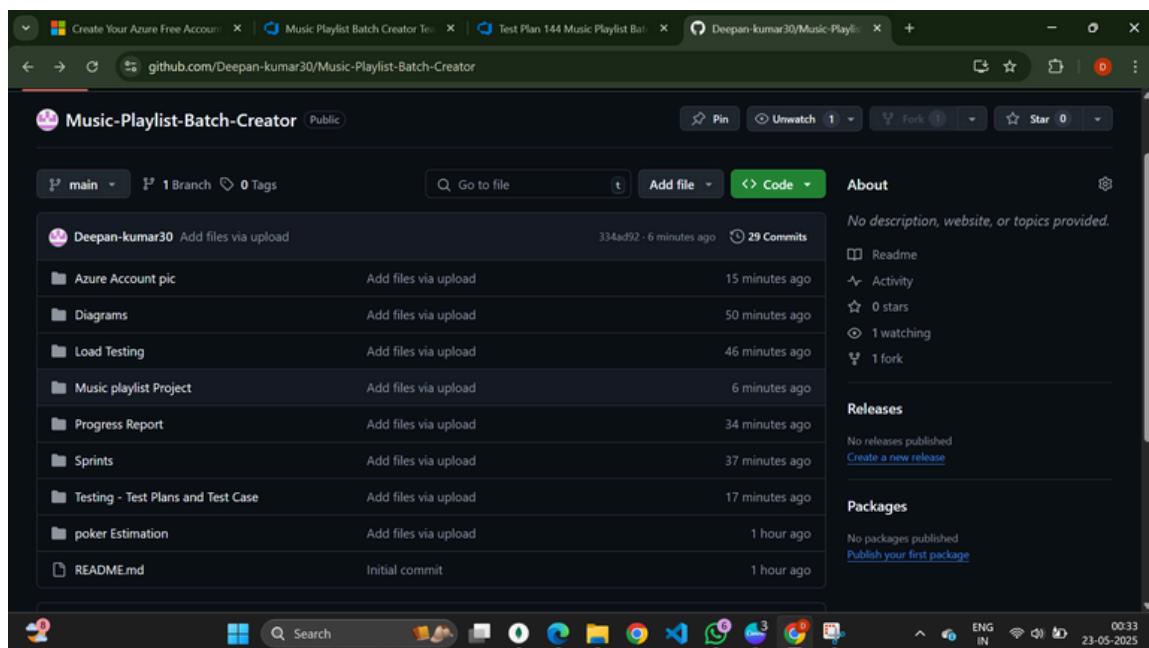
EXP NO:10

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.