AZURE DEVOPS ENVIRONMENT SETUP

Aim:

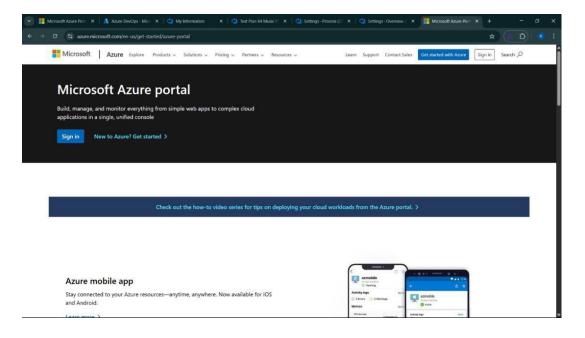
To set up and access the Azure DevOps environment by creating an organization through the Azure portal.

INSTALLATION

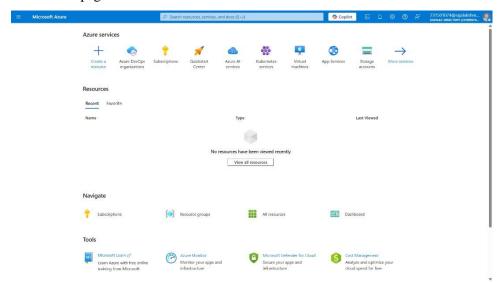
1. Open your web browser and go to the Azure website: https://azure.microsoft.com/en-us/get-started/azure-portal.

Sign in using your Microsoft account credentials.

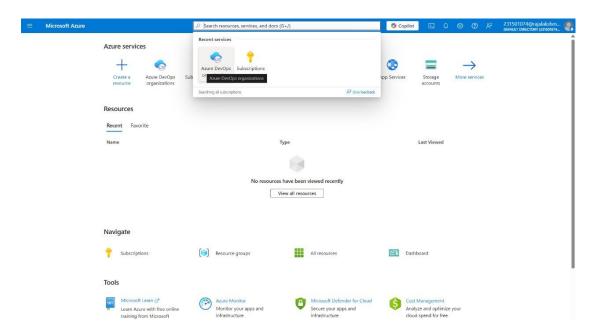
If you don't have a Microsoft account, you can create one here: https://signup.live.com/?lic=1



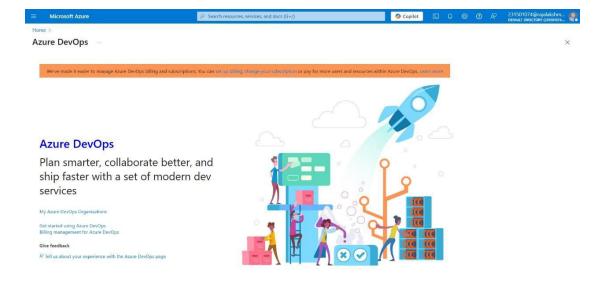
2. Azure home page



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



4. Click on the *My Azure DevOps Organization* link and create an organization and you should be taken to the Azure DevOps Organization Home page.



Result:

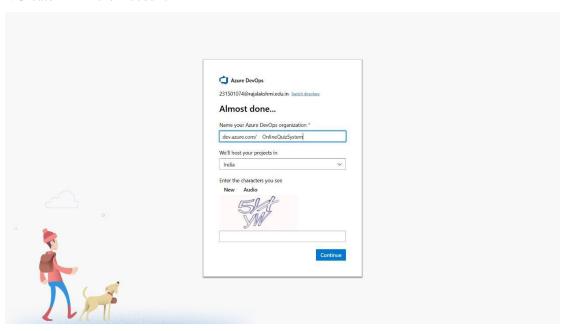
Successfully accessed the Azure DevOps environment and created a new organization through the Azure portal.

AZURE DEVOPS PROJECT SETUP AND USER STORY MANAGEMENT

Aim:

To set up an Azure DevOps project for efficient collaboration and agile work management.

1. Create An Azure Account



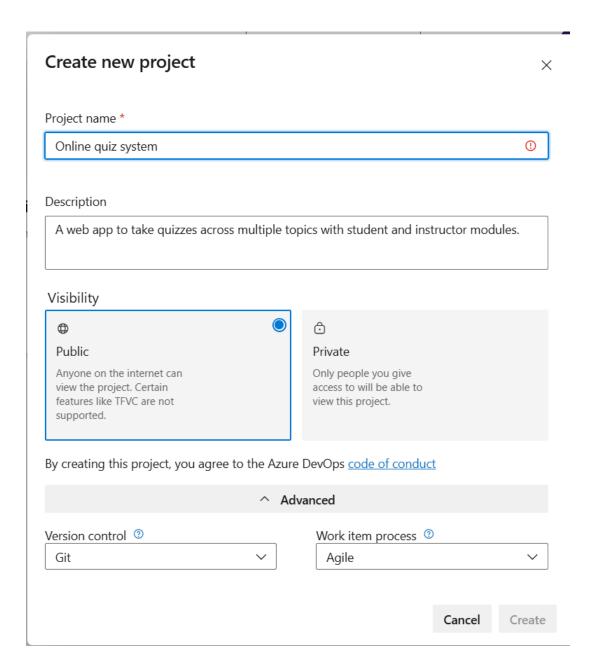
2. Create the First Project in Your Organization

- a. After the organization is set up, you'll need to create your first **project**. This is where you'll begin to manage code, pipelines, work items, and more.
 - b. On the organization's **Home page**, click on the **New Project** button.
 - c. Enter the project name, description, and visibility options:

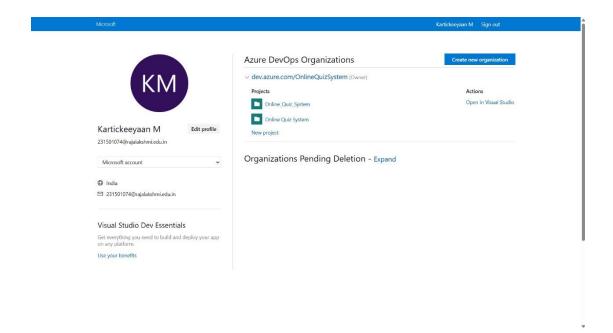
Name: Choose a name for the project (e.g., LMS).

Description: Optionally, add a description to provide more context about the project. **Visibility:** Choose whether you want the project to be **Private** (accessible only to those invited) or **Public** (accessible to anyone).

d. Once you've filled out the details, click **Create** to set up your first project.



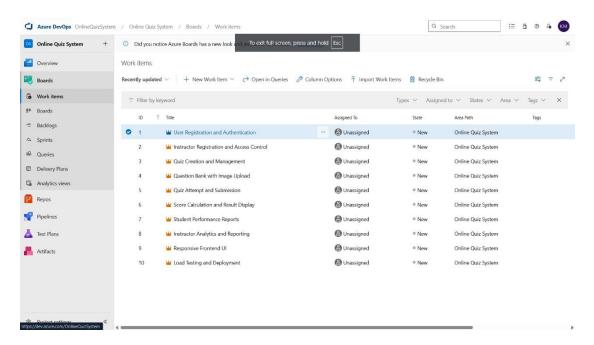
3. Once logged in, ensure you are in the correct organization. If you're part of multiple organizations, you can switch between them from the top left corner (next to your user profile). Click on the Organization name, and you should be taken to the Azure DevOps Organization Home page.

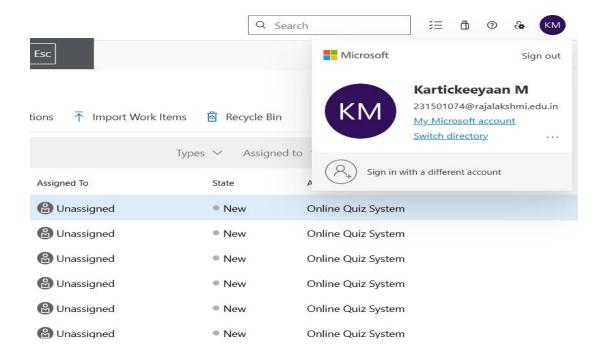


4. Project dashboard

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.





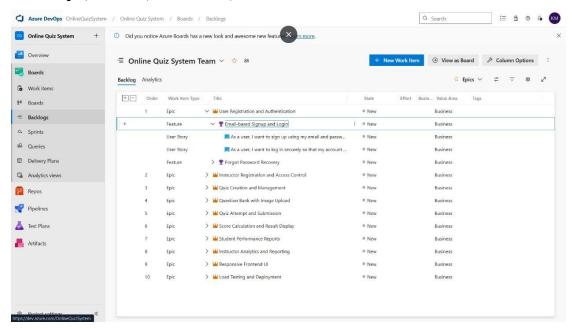
Result:		
Kesult.		ory management and agile worldlow
	Successfully created an Azure DevOps project with user st	ory management and agne workhow
setup.		
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SETTING UP EPICS, FEATURES, AND USER STORIES FOR PROJECT PLANNING

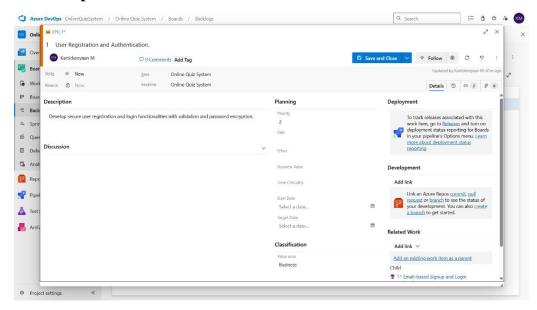
Aim:

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

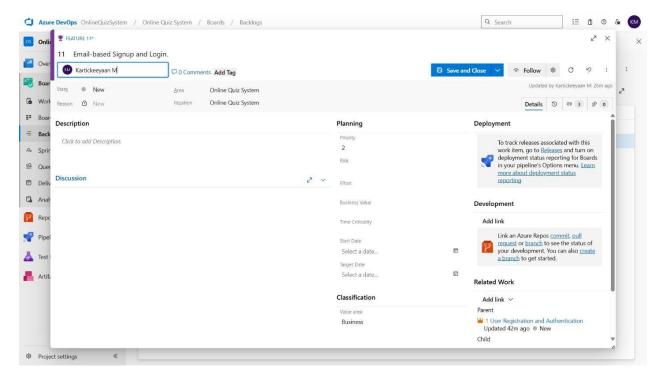
Create Epic, Features, User Stories, Task



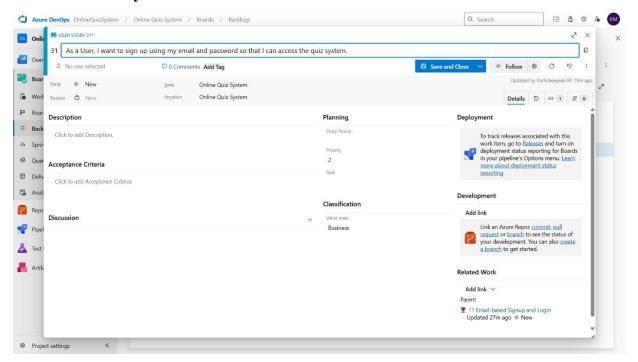
1. Fill in Epics



2. Fill in Features



3. Fill in User Story Details



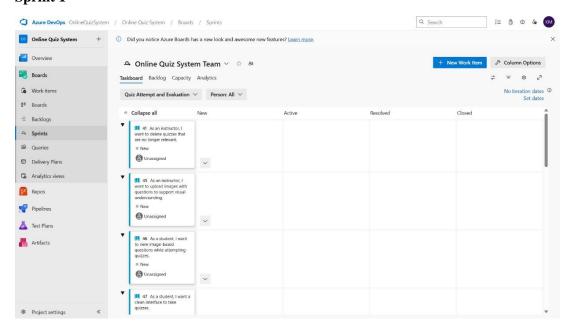
.			
Result:			
Thus, tl	ne creation of epics, features, use	r story and task has be	een created successfully.
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SPRINT PLANNING

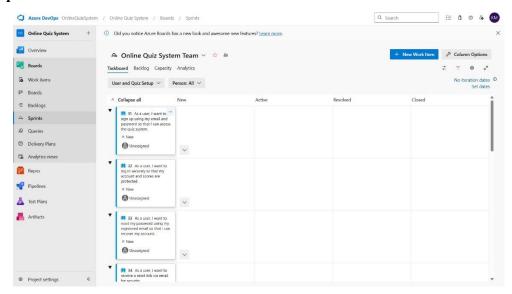
Aim:

To assign user story to specific sprint for the Project Online Quiz System.

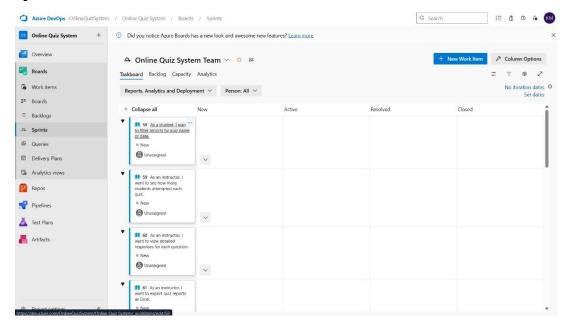
Sprint Planning Sprint 1



Sprint 2



Sprint 3



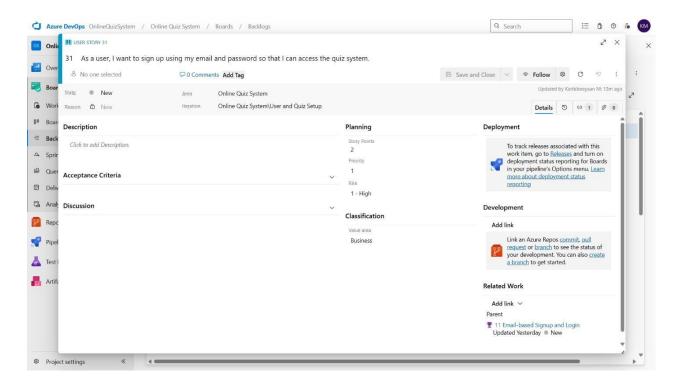
Result:	
The Sprints are created for the Project Online Quiz System.	
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POKER ESTIMATION

Aim:

Create Poker Estimation for the user stories - Online Quiz System Project.

Poker Estimation



Result:

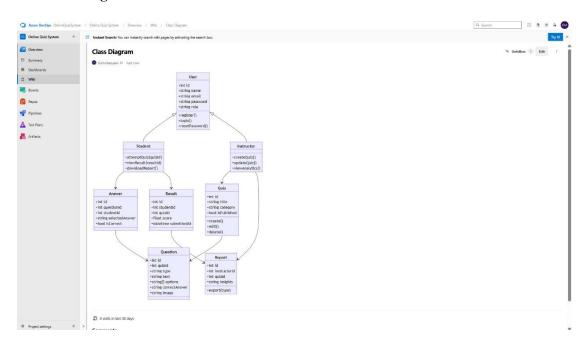
The Estimation/Story Points is created for the project using Poker Estimation.

DESIGNING CLASS AND SEQUENCE DIAGRAMS FOR PROJECT ARCHITECTURE

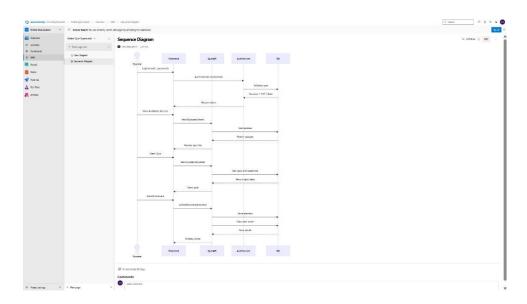
Aim:

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

6A. Class Diagram



6B. Sequence Diagram



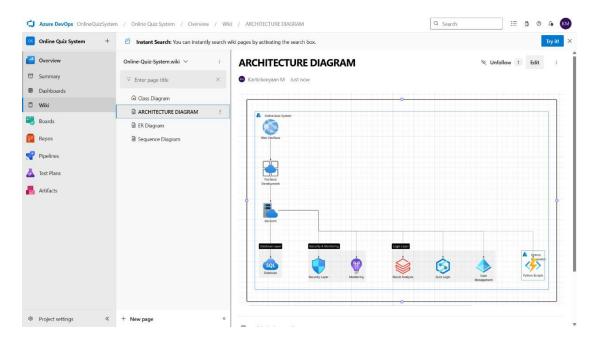
D.~	114.			
Res				
	The Class Diagram and Se	equence Diagram is desi	gned Successfully for the l	Project Online Quiz
	System.			
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DESIGNING ARCHITECTURAL AND ER DIAGRAMS FOR PROJECT STRUCTURE

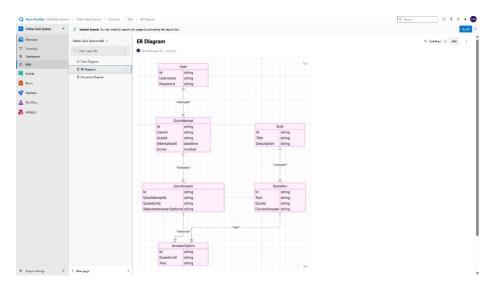
Aim:

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 Succe	essfully for the Online Oniz System
Drojoet	botany for the Online Quiz bystem
Project	
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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

- User Signup & Login
- Viewing and Managing Quiz Collections
- Fetching Real-time Quiz Metadata
- Editing Quiz Sets (rename, reorder, track progress)
- Creating Smart Quiz Sets Based on Topics, Difficulty, or Type

2. Define User Interactions

o Each test case simulates a real user behaviour.

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.

4. Design Error Path Test Cases

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

5. Break Down Steps and Expected Results

- 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.
- Helps in quick identification and linking to user stories or features.

7. Separate Test Suites

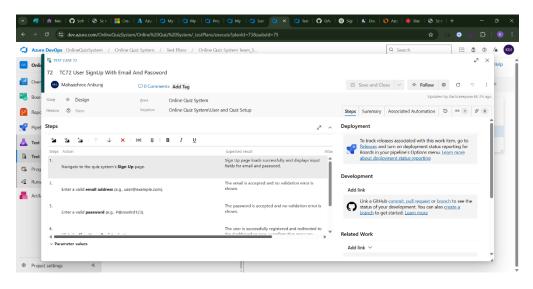
o Grouped test cases based on functionality.

o Improves organization and test execution flow in Azure DevOps.

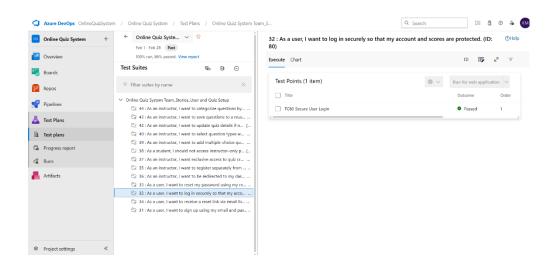
8. Prioritize and Review

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

1. New test plan



2. Test suite



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 using my email and password so that I can access the quiz system.
As a user, I want to receive a reset link via email for security.
As a user, I want to log in securely so that my account and scores are protected.
As a user, I want to reset my password using my registered email so that I can recover my account.
As an instructor, I want to be redirected to my dashboard after login.
As an instructor, I want to register separately from students so that I can manage quizzes.
As an instructor, I want exclusive access to quiz creation pages.
As a student, I should not access instructor-only pages.
As an instructor, I want to add multiple-choice questions to a quiz.
As an instructor, I want to select question types while creating a quiz.
As an instructor, I want to update quiz details if needed.
As an instructor, I want to save questions to a reusable question bank.
As an instructor, I want to categorize questions by topic and type.

User Story 1: Secure Sign-Up and Login (ID: 75, 80, 77, 82)

Test Plan: Test 1 – Authentication Features

• TC01 – Successful Sign-Up

Type: Happy Path

Action:

- o Navigate to the Sign-Up page
- o Enter valid email and password
- o Click "Sign Up"

Expected Result:

- Account is created
- User redirected to login/dashboard
- TC02 Login with Valid Credentials

Type: Happy Path

Action:

- o Go to Login page
- o Enter correct email/password
- o Click "Login"

Expected Result:

- Login successful
- o User sees their dashboard
- TC03 Sign-Up with Existing Email

Type: Error Path

Action:

 Try signing up with already registered email Expected Result:

o Error message: "Email already registered"

• TC04 – Login with Wrong Password

Type: Error Path

Action:

Enter correct email and wrong password

Expected Result:

- o Error: "Invalid credentials"
- TC05 Request Password Reset Link

Type: Happy Path

Action:

- Go to "Forgot Password"
- Enter registered email

Expected Result:

- Reset link sent to email
- TC06 Reset Password Successfully

Type: Happy Path

Action:

- Click reset link
- o Enter new password
- o Submit

Expected Result:

- Password updated
- User redirected to login page

User Story 2: Instructor Access Management (ID: 87, 89, 91, 93)

Test Plan: Test 2 – Instructor Authentication and Access Control

• TC07 – Instructor Separate Registration

Type: Happy Path

Action:

- o Navigate to instructor sign-up page
- Provide valid credentials

Expected Result:

- Account created
- Instructor dashboard accessible

TC08 – Instructor Dashboard Redirect After Login

Type: Happy Path

Action:

Login with instructor credentials

Expected Result:

Redirected to instructor dashboard

• TC09 – Prevent Student from Accessing Instructor Pages

Type: Error Path

Action:

o Student tries to access instructor URLs

Expected Result:

o Access denied / Redirected to home

• TC10 – Instructor Can Access Quiz Creation Pages

Type: Happy Path

Action:

- o Login as instructor
- Navigate to quiz creation

Expected Result:

o Page loads successfully

User Story 3: Quiz Question Management (ID: 95, 97, 99)

Test Plan: Test 3 – Quiz Question Operations

• TC11 - Add MCQs to Quiz

Type: Happy Path

Action:

- o Navigate to quiz editor
- o Add MCQ with options

Expected Result:

- o Question saved and listed
- TC12 Choose Question Type While Creating Quiz

Type: Happy Path

Action:

- o Start quiz creation
- o Select MCQ or True/False

Expected Result:

- Question type selection works
- TC13 Update Quiz Details (Title/Time)

Type: Happy Path

Action:

- o Open existing quiz
- Edit title or time
- o Save

Expected Result:

o Changes reflected successfully

Story 4: Question Bank and Categorization (ID: 101, 103)

Test Plan: Test 4 – Question Bank Management

• TC14 – Save Question to Bank

Type: Happy Path

Action:

- o Add new question
- o Choose "Save to Bank"
 - **Expected Result:**
- Question saved for reuse
- TC15 Categorize Questions by Topic/Type

Type: Happy Path

Action:

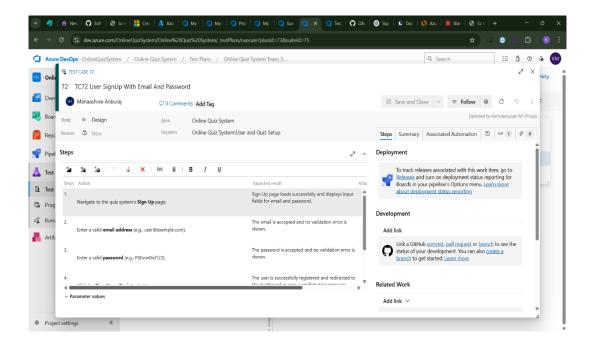
- o Assign topic and type during question creation
 - **Expected Result:**
- Categories saved and displayed in filters
- TC16 Filter Questions by Topic/Type in Bank

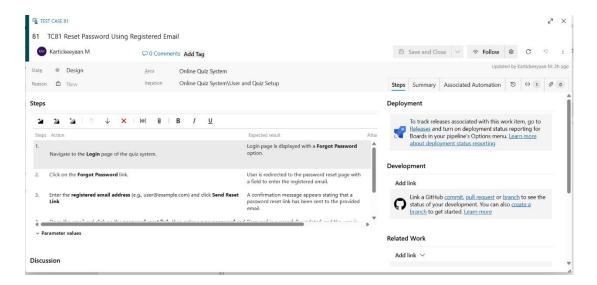
Type: Happy Path

Action:

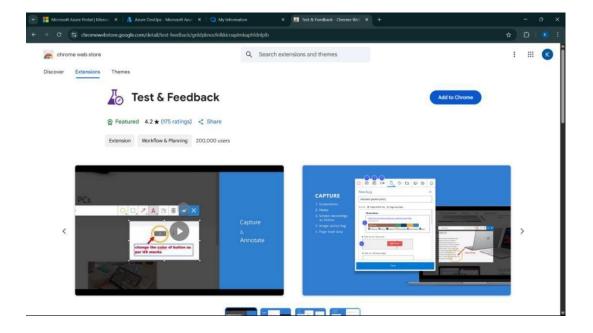
- o Go to question bank
- o Apply filters
 - **Expected Result:**
- o Relevant questions shown

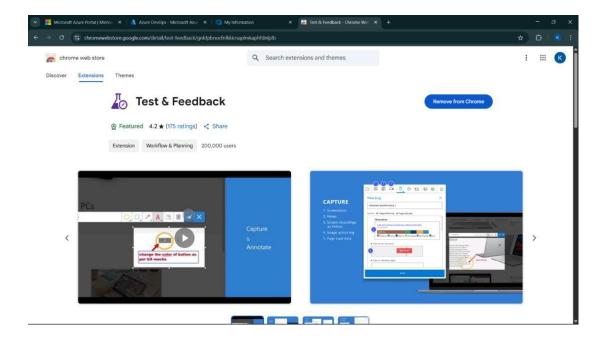
Test Case



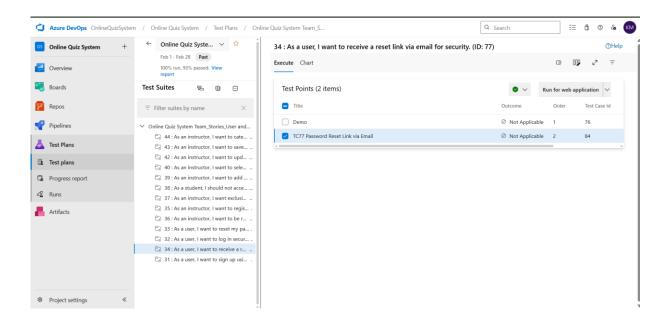


3. Installation of test

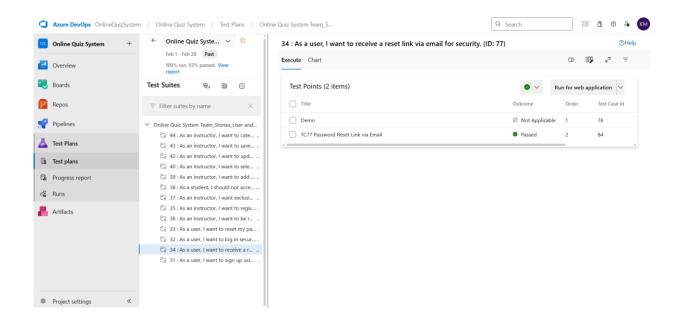


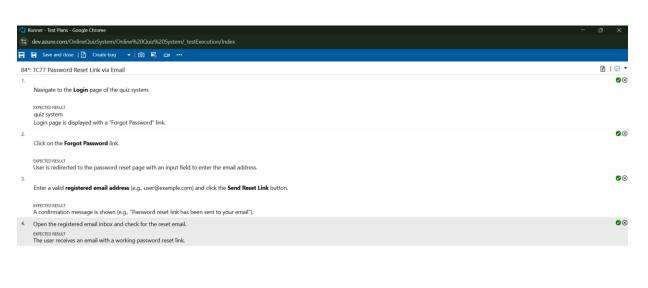


Test and feedback Showing it as an extension

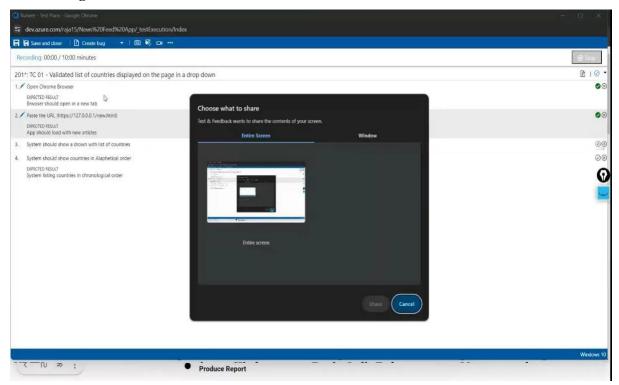


4. Running the test cases

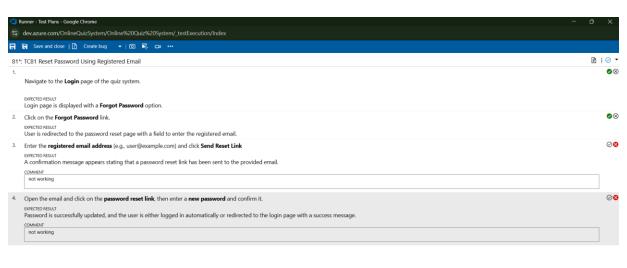




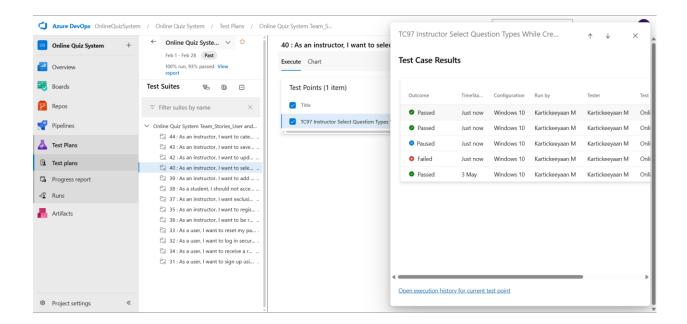
5. Recording the test case



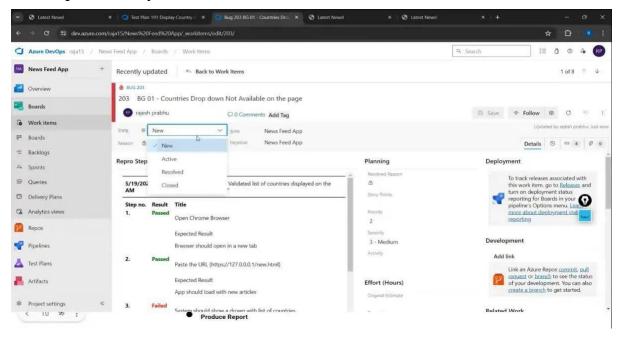
6. Creating the bug



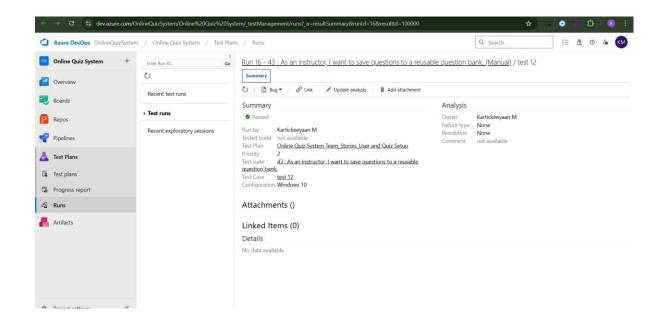
7. Test case results



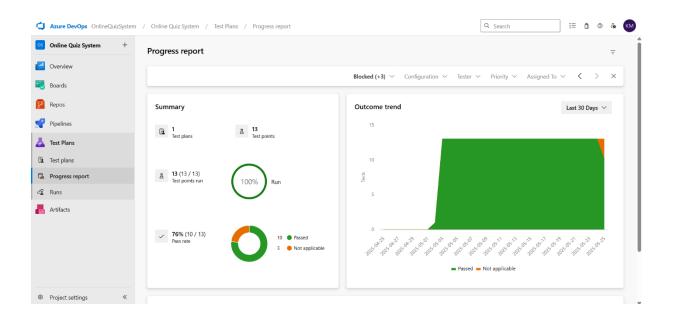
8. Test report summary

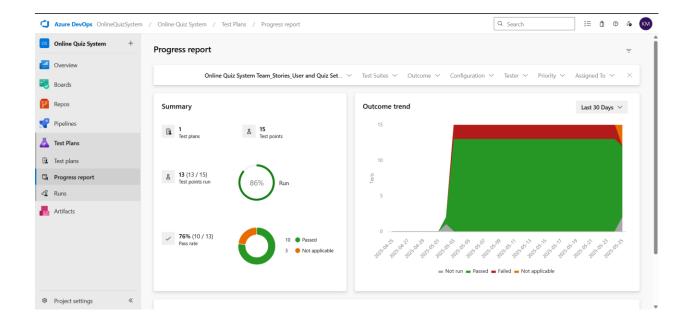


Assigning bug to the developer and changing state

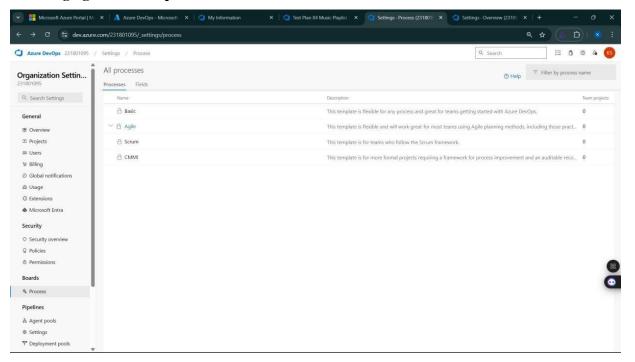


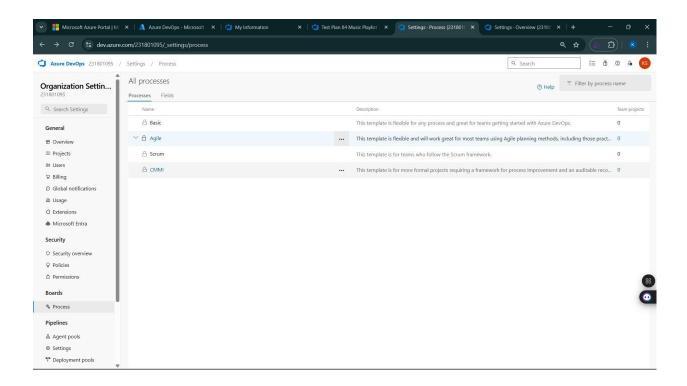
Progress report

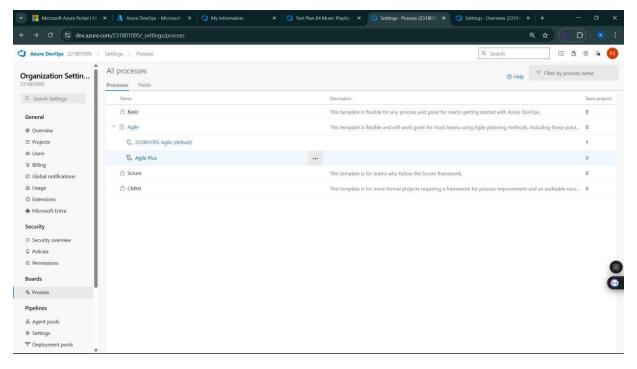




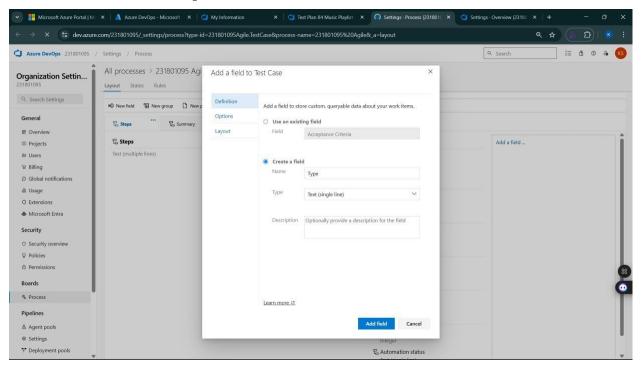
9. Changing the test template

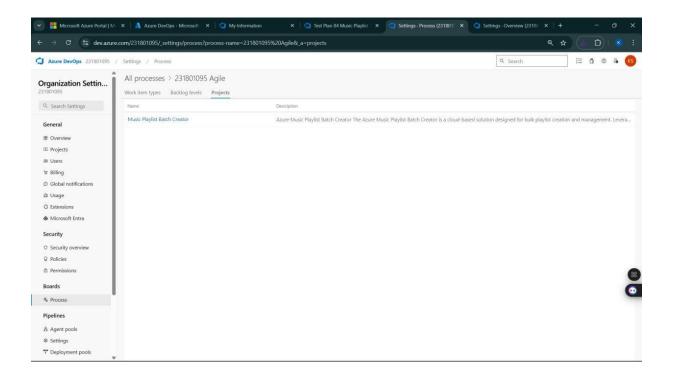


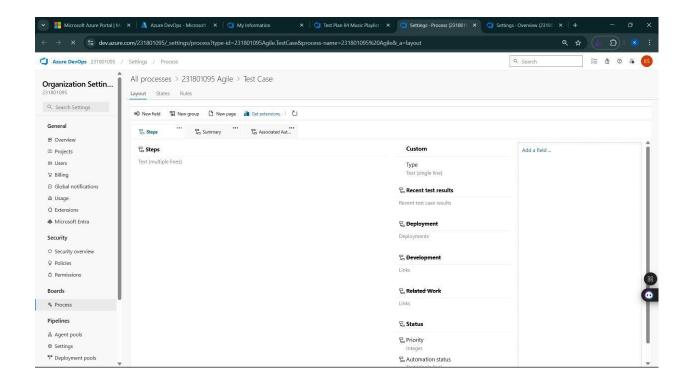




10. View the new test case template







Result:

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

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:

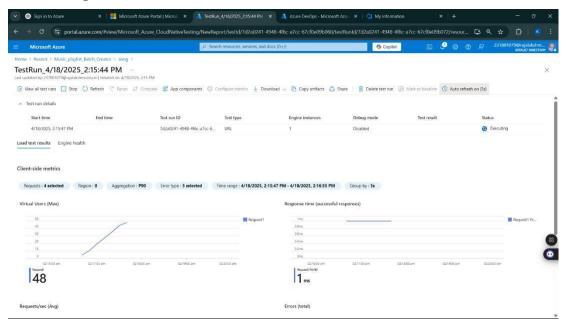
- 1. Sign in to Azure Portal
 - Go to https://portal.azure.com and log in.
- 2. Create the Resource
 - o Go to *Create a resource* → Search for "Azure Load Testing".
 - Select Azure Load Testing and click Create.
- 3. Fill in the Configuration Details
 - o Subscription: Choose your Azure subscription.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

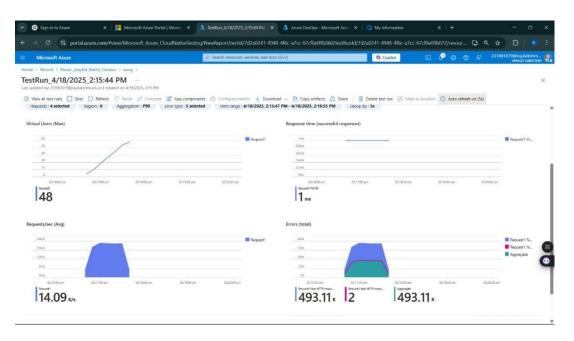
Steps to Create and Run a Load Test:

Once your resource is ready:

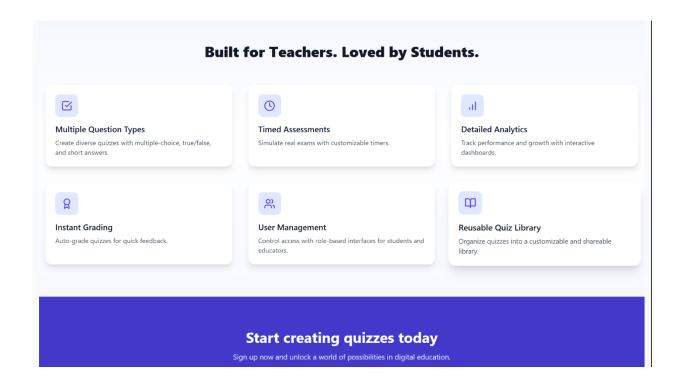
- 1. Go to your Azure Load Testing resource and click Add HTTP requests > Create.
- 2. Basics Tab
 - o Test Name: Provide a unique name.
 - o Description: (Optional) Add test purpose.
 - o Run After Creation: Keep checked.
- 3. Load Settings
 - o *Test URL*: Enter the target endpoint (e.g., https://yourapi.com/products).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

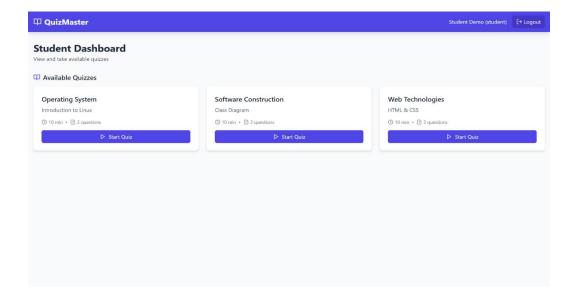
Load Testing

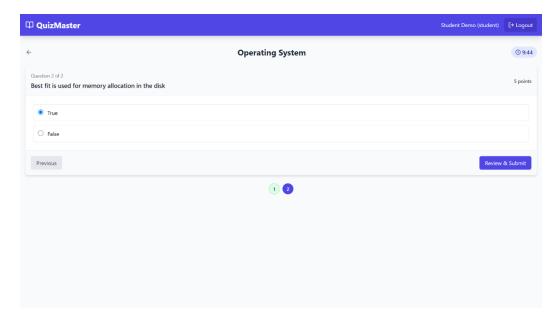












Result:

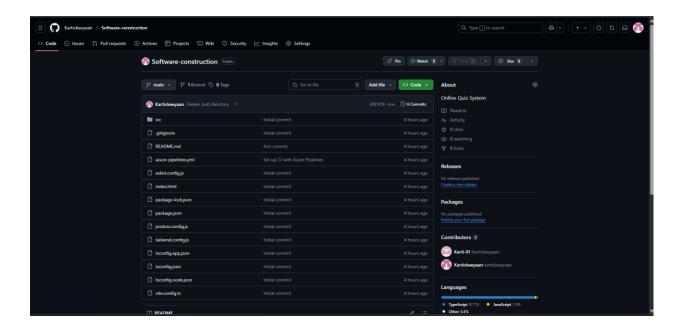
Successfully created the Azure Load Testing resource and executed a load test to assess the performance of the specified endpoint.

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 Online Quiz System 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.