

# RAJALAKSHMI ENGINEERING COLLEGE

RAJALAKSHMI NAGAR, THANDALAM – 602 105



## RAJALAKSHMI ENGINEERING COLLEGE

An AUTONOMOUS Institution  
Affiliated to ANNA UNIVERSITY, Chennai

(REGULATION 2023)

### CS23432 Software Construction

#### DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING LABORATORY RECORD NOTEBOOK

Name : KARTICKEEYAAN M

Year / Branch / Section : 2/AIML/FA

Register No. : 2116231501074

Semester : 4

Academic Year : 2024-2025



**RAJALAKSHMI ENGINEERING COLLEGE (AUTONOMOUS)**

**RAJALAKSHMI NAGAR, THANDALAM \_ 602 105**

**BONAFIDE CERTIFICATE**

NAME KARTICKEEYAAN M REGISTER NO. 2116 231501074

**ACADEMIC YEAR 2024-25 SEMESTER- IV BRANCH: AIML-B.Tech**

This Certification is the Bonafide record of work done by the above student

in the **CS23432- Software Construction** Laboratory during

the year 2024 \_ 2025.

Signature of Faculty -in \_ Charge

Submitted for the Practical Examination held on **27.05.2025**

Internal Examiner

External Examiner

# INDEX

**NAME: KARTICKEEYAAN M**

**SEC:FA**

**ROLL NO:231501074**

**DEPT:AIML**

<b>S. No.</b>	<b>Date</b>	<b>TITLE</b>	<b>Page No.</b>	<b>Teacher's Signature / Remarks</b>
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<b>2.</b>	14.2.25	Azure DevOps Project Setup and User Story Management		
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**EXP NO: 1**

## **AZURE DEVOPS ENVIRONMENT SETUP**

### **Aim:**

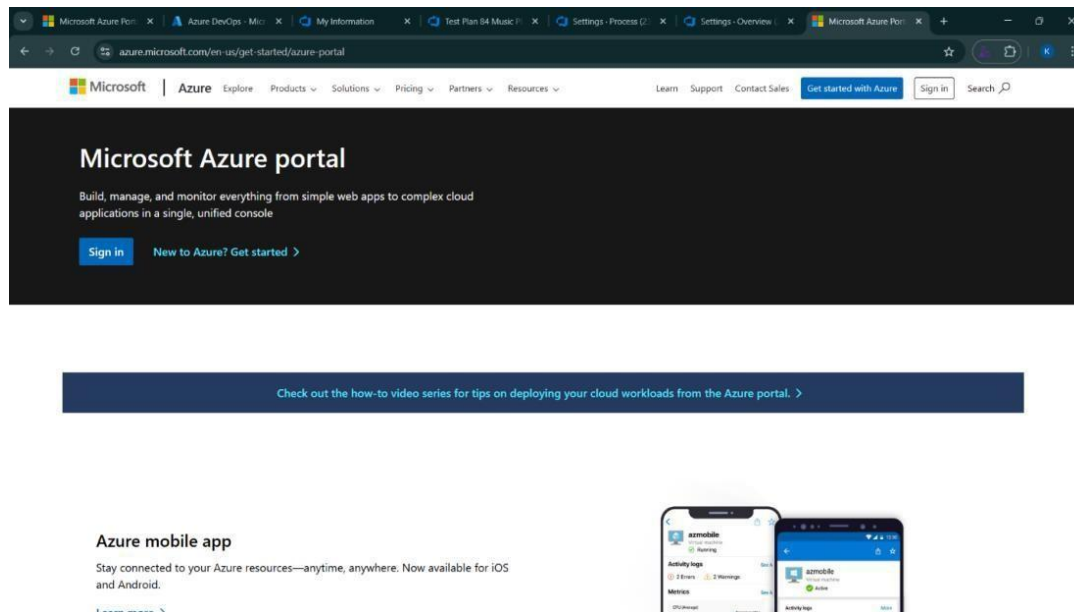
To set up and access the Azure DevOps environment by creating an organization through the Azure portal.

### **INSTALLATION**

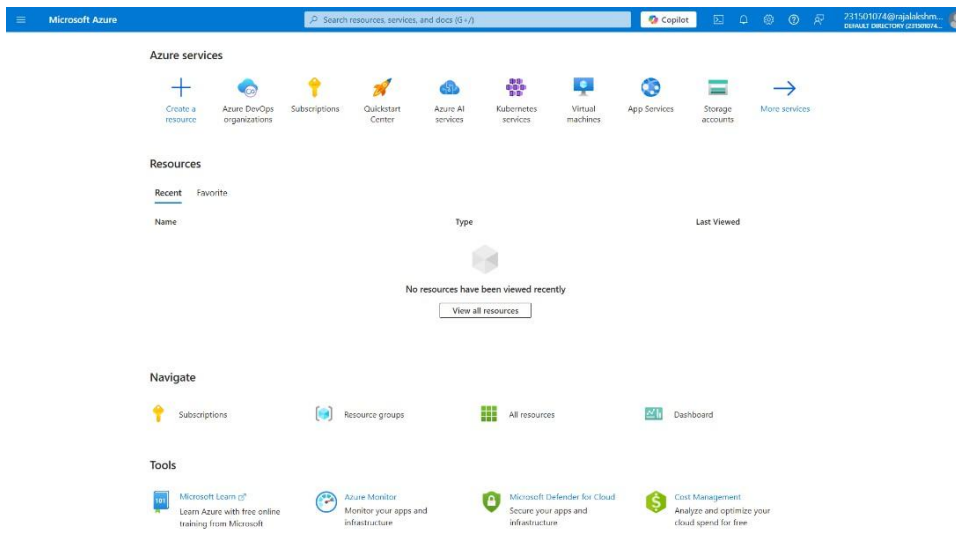
1. Open your web browser and go to the Azure website: <https://azure.microsoft.com/en-us/get-started/azure-portal>.

Sign in using your Microsoft account credentials.

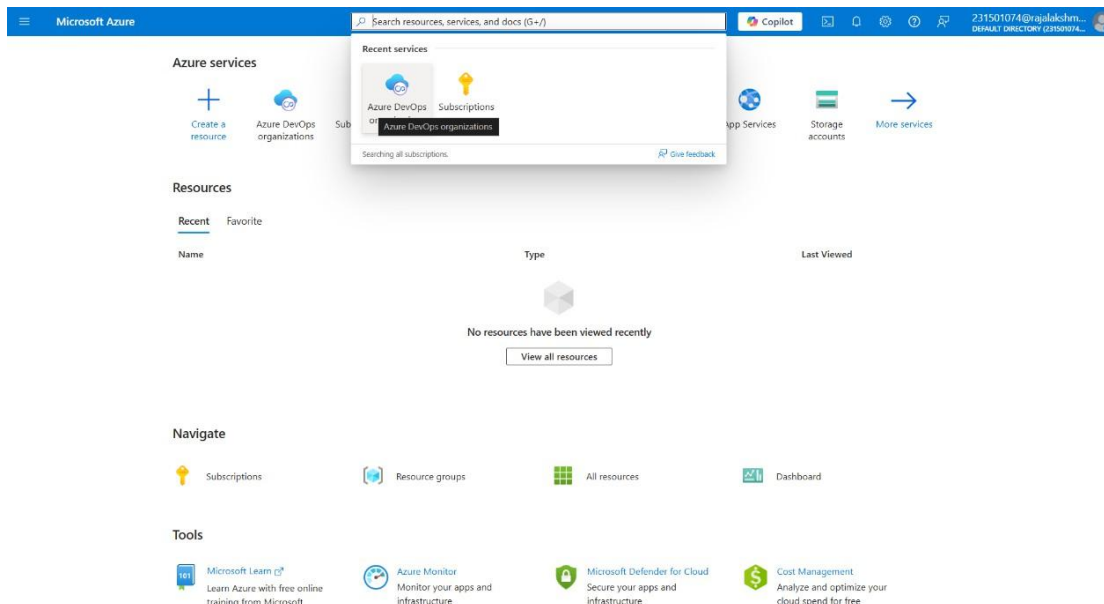
If you don't have a Microsoft account, you can create one here: <https://signup.live.com/?lic=1>



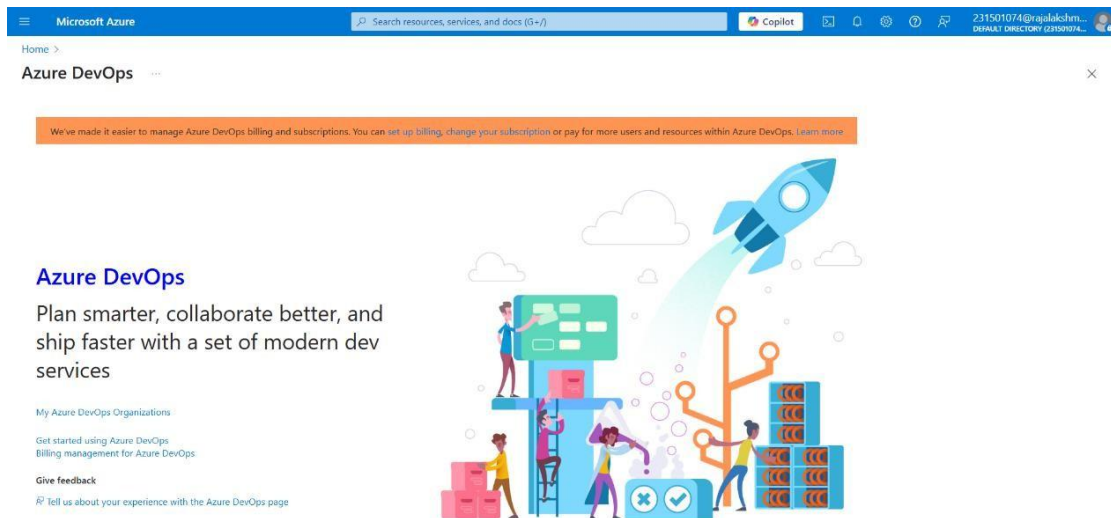
## 2. Azure home page



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.

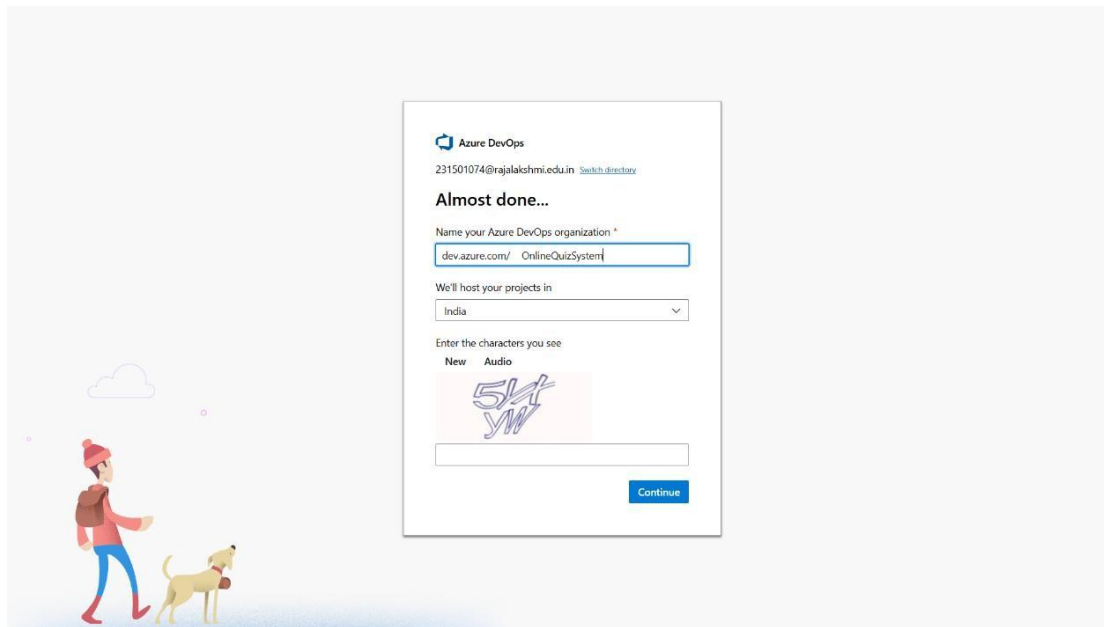
EXP NO: 2

## AZURE DEVOPS PROJECT SETUP AND USER STORY MANAGEMENT

### Aim:

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

### 1. Create An Azure Account



### 2. Create the First Project in Your Organization

- 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

×

Project name \*

Online quiz system ⓘ

Description

A web app to take quizzes across multiple topics with student and instructor modules.

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.

By creating this project, you agree to the Azure DevOps [code of conduct](#)

^ 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.



Microsoft

Kartickeyaan MSign out

KM

Kartickeyaan M

231501074@rajalakshmi.edu.in

Microsoft account

India

231501074@rajalakshmi.edu.in

Visual Studio Dev Essentials

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

Use your benefits

Azure DevOps Organizations

Create new organization

dev.azure.com/OnlineQuizSystem (Owner)

Projects

Online\_Quiz\_System

Online Quiz System

New project

Actions

Open in Visual Studio

Organizations Pending Deletion - Expand

#### 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.

Azure DevOps OnlineQuizSystem / Online Quiz System / Boards / Work Items

Did you notice Azure Boards has a new look and feel? To exit full screen, press and hold **Esc**

Work Items

Recently updated + New Work Item Open in Queries Column Options Import Work Items Recycle Bin

Filter by keyword Types Assigned to States Area Tags

ID	Title	Assigned To	State	Area Path	Tags
1	User Registration and Authentication	Unassigned	New	Online Quiz System	
2	Instructor Registration and Access Control	Unassigned	New	Online Quiz System	
3	Quiz Creation and Management	Unassigned	New	Online Quiz System	
4	Question Bank with Image Upload	Unassigned	New	Online Quiz System	
5	Quiz Attempt and Submission	Unassigned	New	Online Quiz System	
6	Score Calculation and Result Display	Unassigned	New	Online Quiz System	
7	Student Performance Reports	Unassigned	New	Online Quiz System	
8	Instructor Analytics and Reporting	Unassigned	New	Online Quiz System	
9	Responsive Frontend UI	Unassigned	New	Online Quiz System	
10	Load Testing and Deployment	Unassigned	New	Online Quiz System	

Search

Microsoft Sign out

**Karticeeyaan M**  
231501074@rajalakshmi.edu.in  
[My Microsoft account](#)  
[Switch directory](#)

Sign in with a different account

Work Items

Import Work Items Recycle Bin

Types Assigned to

Assigned To	State	Area Path
Unassigned	New	Online Quiz System
Unassigned	New	Online Quiz System
Unassigned	New	Online Quiz System
Unassigned	New	Online Quiz System
Unassigned	New	Online Quiz System
Unassigned	New	Online Quiz System

**Result:**

Successfully created an Azure DevOps project with user story management and agile workflow setup.

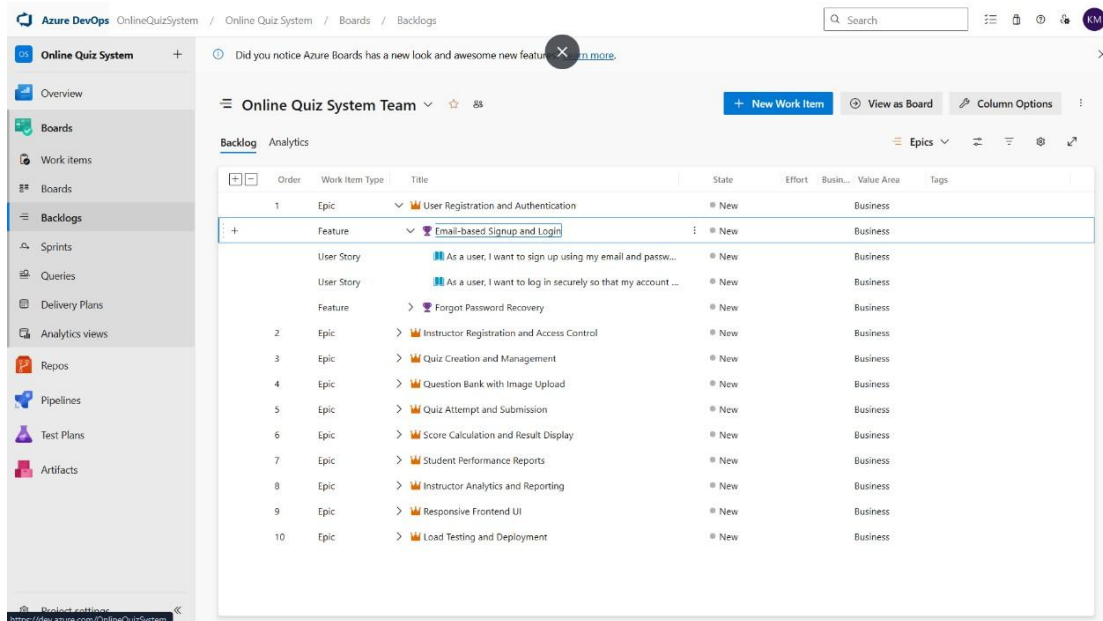
## EXP NO: 3

# SETTING UP EPICS, FEATURES, AND USER STORIES FOR PROJECT PLANNING

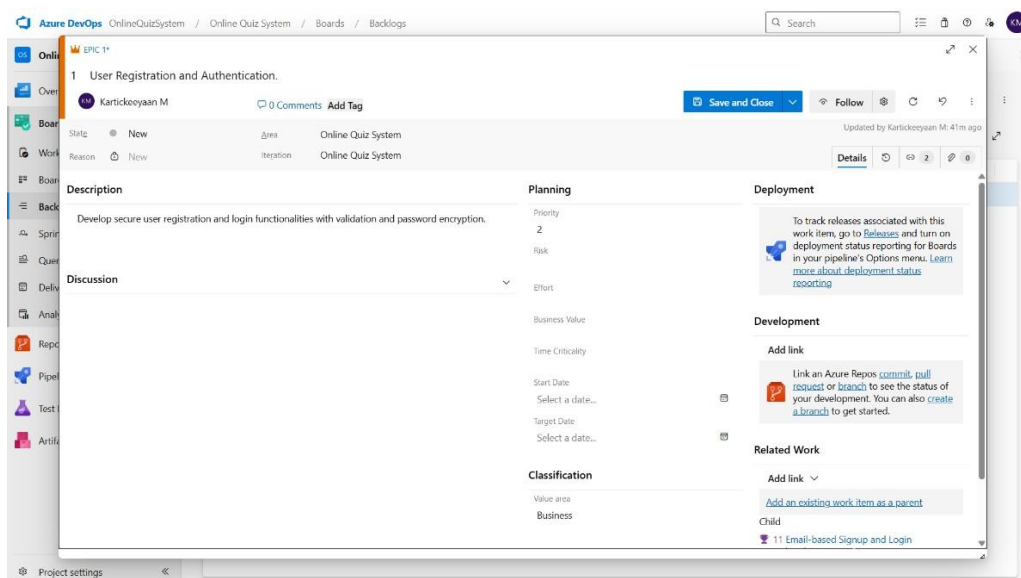
### Aim:

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

### Create Epic, Features, User Stories, Task



### 1.Fill in Epics



## 2.Fill in Features

The screenshot shows the Azure DevOps interface for a project named 'OnlineQuizSystem'. The breadcrumb navigation is 'OnlineQuizSystem / Online Quiz System / Boards / Backlogs'. A search bar is visible in the top right. The left sidebar contains a navigation menu with icons for Overview, Boards, Work Items, Backlogs, Queries, Deliverables, Analysis, Reports, Pipelines, Tests, and Artifacts. The main content area displays a 'FEATURE 11\*' work item titled 'Email-based Signup and Login' by 'Kartickeyaan M'. The work item has 0 comments and an 'Add Tag' button. The 'Details' tab is active, showing the following sections:

- Description:** Click to add Description.
- Discussion:** Click to add Discussion.
- Planning:** Priority 2, Risk, Effort, Business Value, Time Criticality, Start Date (Select a date...), Target Date (Select a date...).
- Classification:** Value area Business.
- 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.
- Related Work:** Add link. Parent: 1 User Registration and Authentication (Updated 42m ago, New). Child.

Buttons at the top right include 'Save and Close', 'Follow', and a refresh icon. The bottom left shows 'Project settings'.

## 3.Fill in User Story Details

The screenshot shows the Azure DevOps interface for the same project. The breadcrumb navigation is 'OnlineQuizSystem / Online Quiz System / Boards / Backlogs'. The left sidebar is the same as in the previous screenshot. The main content area displays a 'USER STORY 31\*' work item titled 'As a User, I want to sign up using my email and password so that I can access the quiz system.' by 'Kartickeyaan M'. The work item has 0 comments and an 'Add Tag' button. The 'Details' tab is active, showing the following sections:

- Description:** Click to add Description.
- Acceptance Criteria:** Click to add Acceptance Criteria.
- Discussion:** Click to add Discussion.
- Planning:** Story Points, Priority 2, Risk.
- Classification:** Value area Business.
- 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.
- Related Work:** Add link. Parent: 11 Email-based Signup and Login (Updated 27m ago, New). Child.

Buttons at the top right include 'Save and Close', 'Follow', and a refresh icon. The bottom left shows 'Project settings'.

**Result:**

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

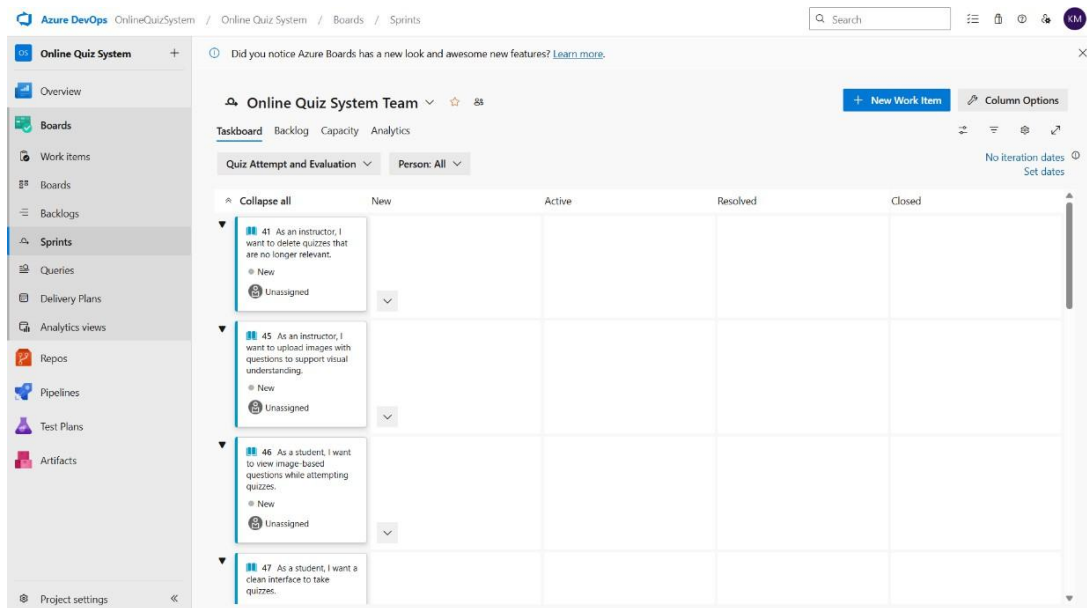
EXP NO: 4

# SPRINT PLANNING

## Aim:

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

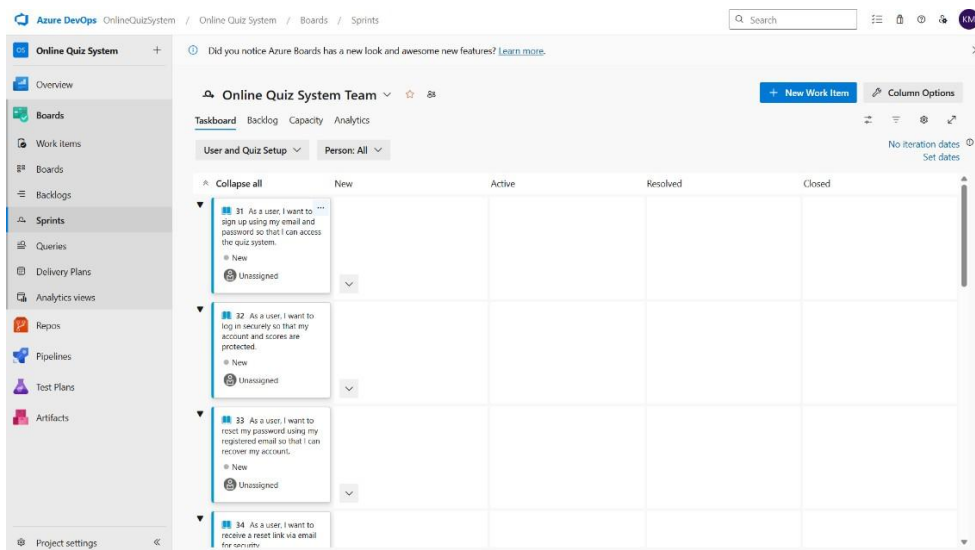
## Sprint Planning Sprint 1



The screenshot shows the Azure DevOps interface for the 'Online Quiz System' project. The left sidebar contains navigation links: Overview, Boards, Work Items, Backlogs, Sprints (selected), Queries, Delivery Plans, Analytics views, Repos, Pipelines, Test Plans, and Artifacts. The main area displays the 'Sprints' board for 'Online Quiz System Team'. The board is titled 'Quiz Attempt and Evaluation' and 'Person: All'. It shows a Kanban board with columns: New, Active, Resolved, and Closed. There are four user stories in the 'New' column, all marked as 'New' and 'Unassigned':

- 41 As an instructor, I want to delete quizzes that are no longer relevant.
- 45 As an instructor, I want to upload images with questions to support visual understanding.
- 46 As a student, I want to view image-based questions while attempting quizzes.
- 47 As a student, I want a clean interface to take quizzes.

## Sprint 2



The screenshot shows the Azure DevOps interface for the 'Online Quiz System' project. The left sidebar contains navigation links: Overview, Boards, Work Items, Backlogs, Sprints (selected), Queries, Delivery Plans, Analytics views, Repos, Pipelines, Test Plans, and Artifacts. The main area displays the 'Sprints' board for 'Online Quiz System Team'. The board is titled 'User and Quiz Setup' and 'Person: All'. It shows a Kanban board with columns: New, Active, Resolved, and Closed. There are four user stories in the 'New' column, all marked as 'New' and 'Unassigned':

- 31 As a user, I want to sign up using my email and password so that I can access the quiz system.
- 32 As a user, I want to log in securely so that my account and scores are protected.
- 33 As a user, I want to reset my password using my registered email so that I can recover my account.
- 34 As a user, I want to receive a reset link via email for security.

## Sprint 3

Azure DevOps OnlineQuizSystem / Online Quiz System / Boards / Sprints

Search

Online Quiz System

Overview

Boards

Work Items

Boards

Backlogs

Sprints

Queries

Delivery Plans

Analytics views

Repos

Pipelines

Test Plans

Artifacts

Did you notice Azure Boards has a new look and awesome new features? [Learn more.](#)

Online Quiz System Team

+ New Work Item

Column Options

Taskboard Backlog Capacity Analytics

Reports, Analytics and Deployment Person: All

No iteration dates Set dates

Collapse all	New	Active	Resolved	Closed
58 As a student, I want to filter reports by quiz name or date. New Unassigned				
59 As an instructor, I want to see how many students attempted each quiz. New Unassigned				
60 As an instructor, I want to view detailed responses for each question. New Unassigned				
61 As an instructor, I want to export quiz reports as Excel. New				

Browser address bar: https://dev.azure.com/OnlineQuizSystem/OnlineQuizSystem/\_workitems/edit/58



**Result:**

The Sprints are created for the Project Online Quiz System.

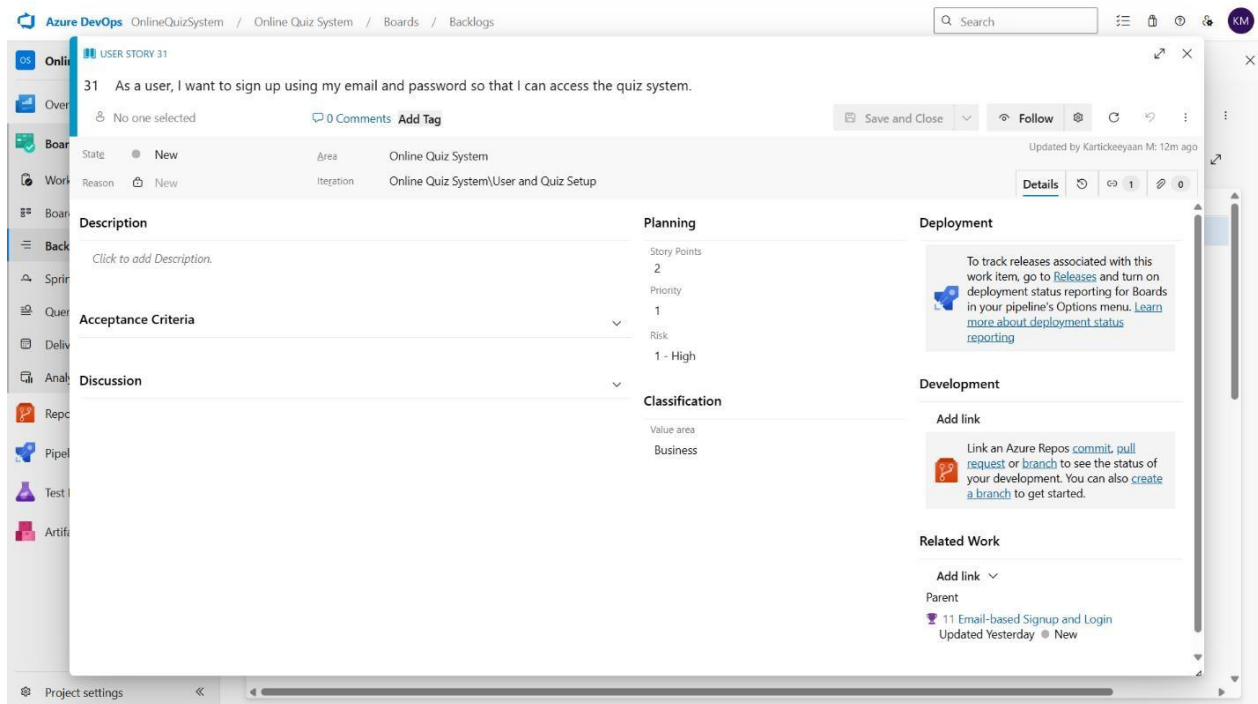
EXP NO: 5

# 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.

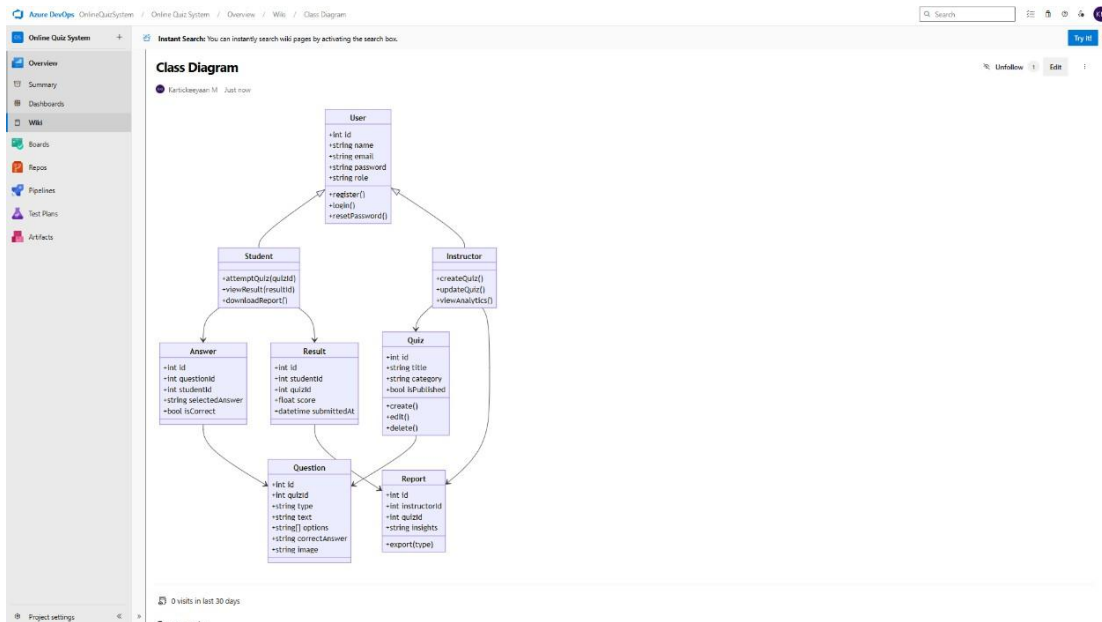
EXP NO: 6

## DESIGNING CLASS AND SEQUENCE DIAGRAMS FOR PROJECT ARCHITECTURE

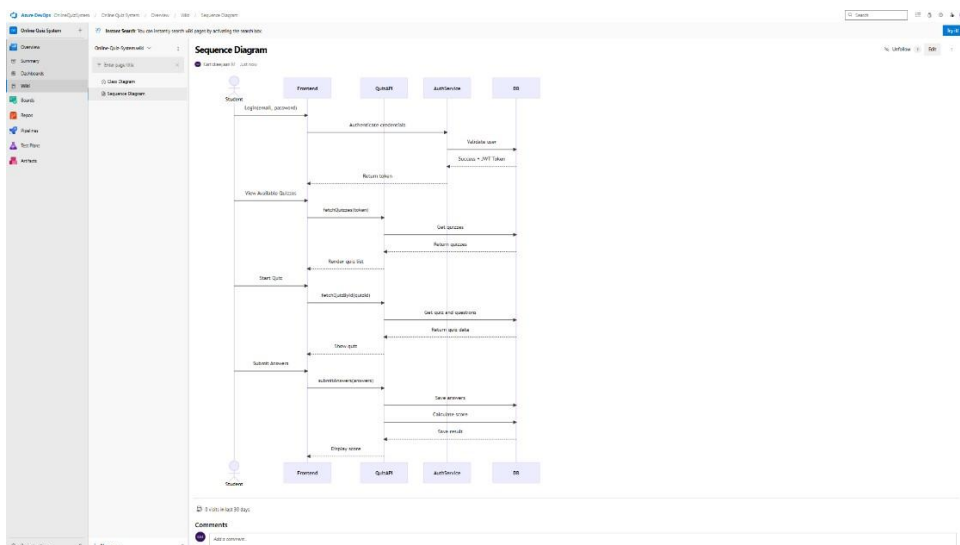
### Aim:

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

### 6A. Class Diagram



### 6B. Sequence Diagram



**Result:**

The Class Diagram and Sequence Diagram is designed Successfully for the Project Online Quiz System.

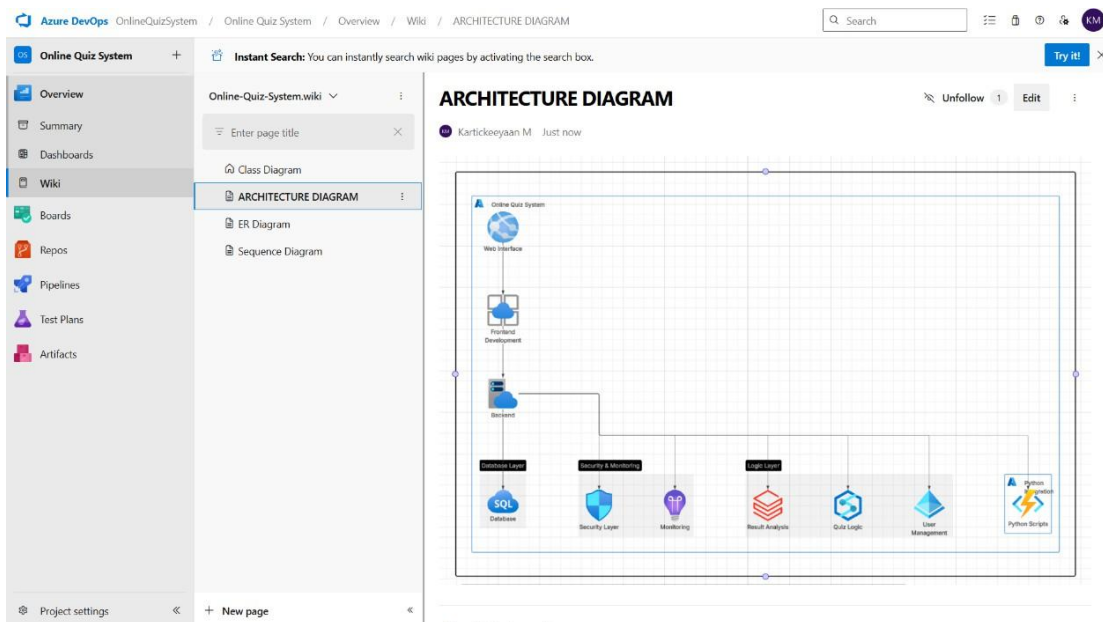
EXP NO: 7

## DESIGNING ARCHITECTURAL AND ER DIAGRAMS FOR PROJECT STRUCTURE

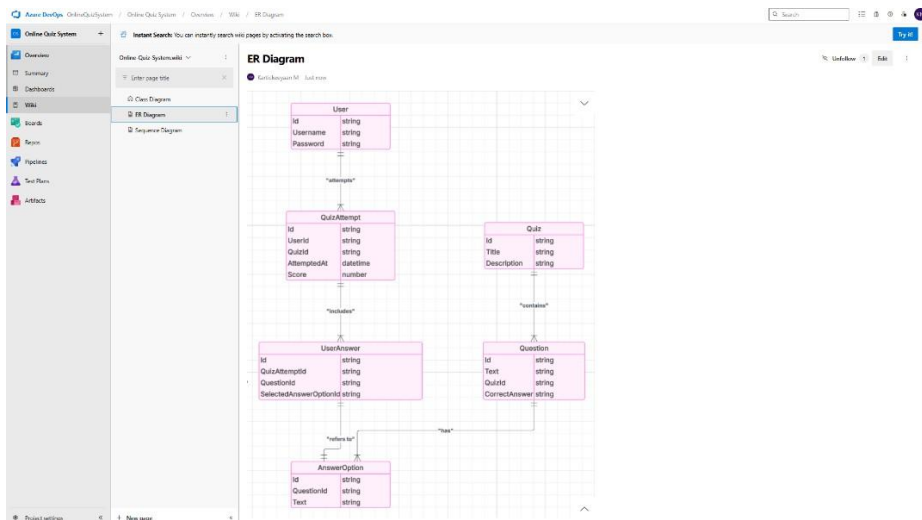
### Aim:

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 Online Quiz System Project

<b>EXP NO: 8</b>	<b>TESTING – TEST PLANS AND TEST CASES</b>
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**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**

- Each test case simulates a real user behaviour.

**3. Design Happy Path Test Cases**

- Focused on validating that all features function as expected under normal conditions.
- Example: User logs in successfully.

**4. Design Error Path Test Cases**

- 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.
- Ensures clarity for both testers and automation scripts.

**6. Use Clear Naming and IDs**

- Test cases are named clearly.
- Helps in quick identification and linking to user stories or features.

**7. Separate Test Suites**

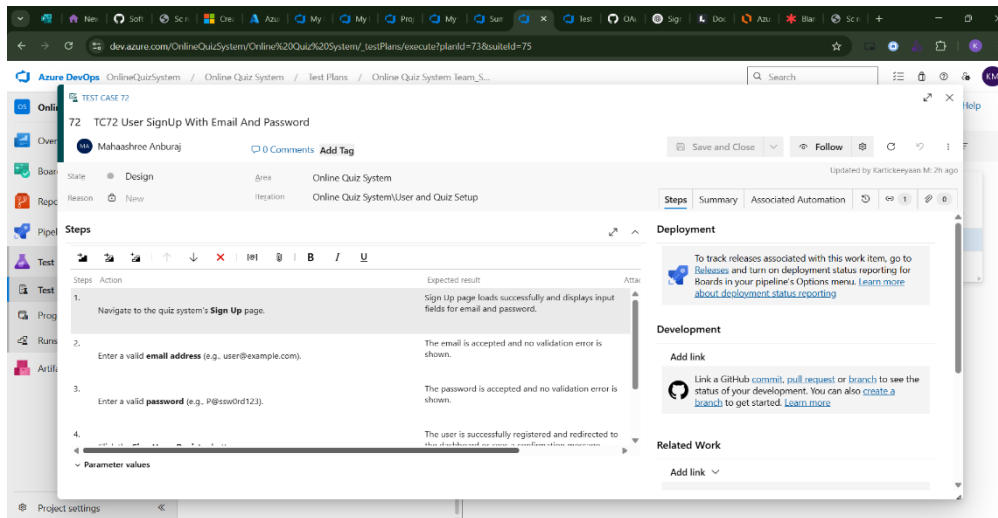
- Grouped test cases based on functionality .

- Improves organization and test execution flow in Azure DevOps.

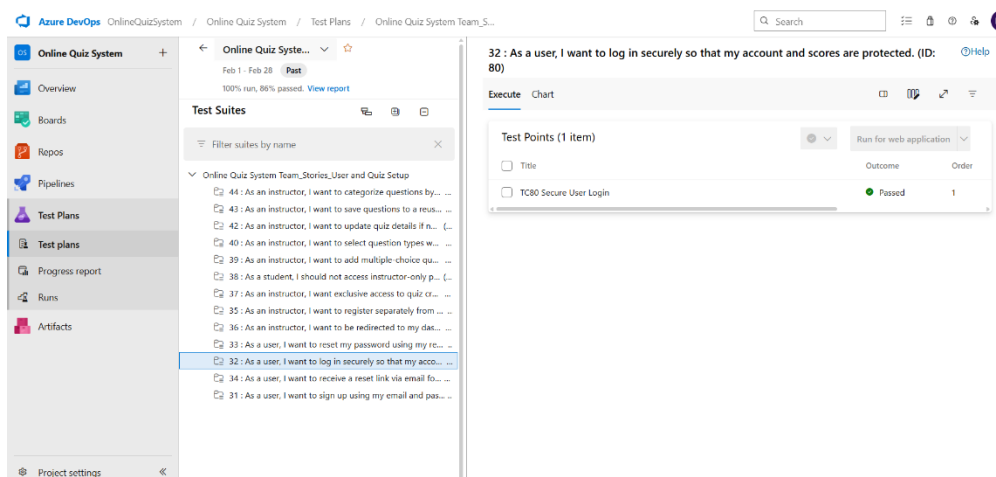
## 8. Prioritize and Review

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

## 1. New test plan



## 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:**
  - Navigate to the Sign-Up page
  - Enter valid email and password
  - Click "Sign Up"**Expected Result:**
  - Account is created
  - User redirected to login/dashboard
- **TC02 – Login with Valid Credentials**  
Type: Happy Path  
**Action:**
  - Go to Login page
  - Enter correct email/password
  - Click "Login"**Expected Result:**
  - Login successful
  - User sees their dashboard
- **TC03 – Sign-Up with Existing Email**  
Type: Error Path  
**Action:**
  - Try signing up with already registered email**Expected Result:**

- Error message: “Email already registered”
- **TC04 – Login with Wrong Password**  
Type: Error Path  
**Action:**
  - Enter correct email and wrong password**Expected Result:**
  - 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
  - Enter new password
  - 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:**
  - 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:**
  - Student tries to access instructor URLs**Expected Result:**

- Access denied / Redirected to home
- **TC10 – Instructor Can Access Quiz Creation Pages**  
Type: Happy Path  
**Action:**
  - Login as instructor
  - Navigate to quiz creation**Expected Result:**
  - 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:**
  - Navigate to quiz editor
  - Add MCQ with options**Expected Result:**
  - Question saved and listed
- **TC12 – Choose Question Type While Creating Quiz**  
Type: Happy Path  
**Action:**
  - Start quiz creation
  - Select MCQ or True/False**Expected Result:**
  - Question type selection works
- **TC13 – Update Quiz Details (Title/Time)**  
Type: Happy Path  
**Action:**
  - Open existing quiz
  - Edit title or time
  - Save**Expected Result:**
  - 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:**

- Add new question
- Choose "Save to Bank"

**Expected Result:**

- Question saved for reuse

- **TC15 – Categorize Questions by Topic/Type**

Type: Happy Path

**Action:**

- 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:**

- Go to question bank
- Apply filters

**Expected Result:**

- Relevant questions shown

## Test Case

The screenshot shows the Azure DevOps interface for a test case. The browser address bar displays the URL: `dev.azure.com/OnlineQuizSystem/OnlineQuizSystem/_testPlans/execute?planId=73&suiteId=75`. The page title is "TEST CASE 72". The test case is titled "72 TC72 User SignUp With Email And Password" and is owned by "Mahaashree Anburaj". It has 0 comments and an "Add Tag" button. The test case is in the "Design" state, with the area "Online Quiz System" and reason "New". The iteration is "Online Quiz System\User and Quiz Setup". The test case was updated by "Kartickeyyan M" 2 hours ago. The "Steps" tab is selected, showing a list of steps with their actions and expected results. The "Deployment" section provides instructions on how to track releases. The "Development" section offers links to GitHub commit, pull request, or branch. The "Related Work" section has an "Add link" button.

72 TC72 User SignUp With Email And Password

Mahaashree Anburaj 0 Comments Add Tag

Save and Close Follow

Updated by Kartickeyyan M: 2h ago

Steps Summary Associated Automation 1

Steps

Steps	Action	Expected result	Attach
1.	Navigate to the quiz system's <b>Sign Up</b> page.	Sign Up page loads successfully and displays input fields for email and password.	
2.	Enter a valid <b>email address</b> (e.g., user@example.com).	The email is accepted and no validation error is shown.	
3.	Enter a valid <b>password</b> (e.g., P@ssw0rd123).	The password is accepted and no validation error is shown.	
4.		The user is successfully registered and redirected to the dashboard or to a confirmation screen.	

Parameter values

Deployment

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

Development

Add link

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

Related Work

Add link

TEST CASE 81

## 81 TC81 Reset Password Using Registered Email

Kartickeyaan M 0 Comments Add Tag

Save and Close Follow

Updated by Kartickeyaan M: 2h ago

State Design Area Online Quiz System

Reason New Iteration Online Quiz System\User and Quiz Setup

Steps Summary Associated Automation 1 0

### Steps

Steps	Action	Expected result	Alt
1.	Navigate to the <b>Login</b> page of the quiz system.	Login page is displayed with a <b>Forgot Password</b> option.	
2.	Click on the <b>Forgot Password</b> link.	User is redirected to the password reset page with a field to enter the registered email.	
3.	Enter the <b>registered email address</b> (e.g., user@example.com) and click <b>Send Reset Link</b>	A confirmation message appears stating that a password reset link has been sent to the provided email.	

Parameter values

### Discussion

### Deployment

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

### Development

Add link

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

### Related Work

Add link

### 3. Installation of test

chrome web store

Discover Extensions Themes

## Test & Feedback

Featured 4.2 ★ (175 ratings) Share

Extension Workflow & Planning 200,000 users

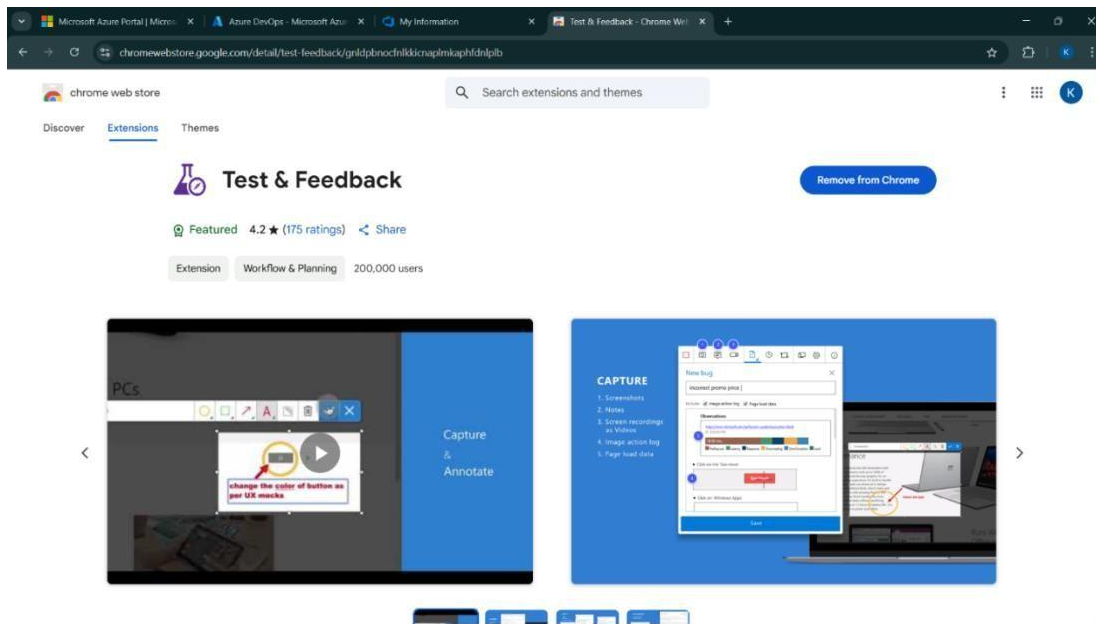
Add to Chrome

Capture & Annotate

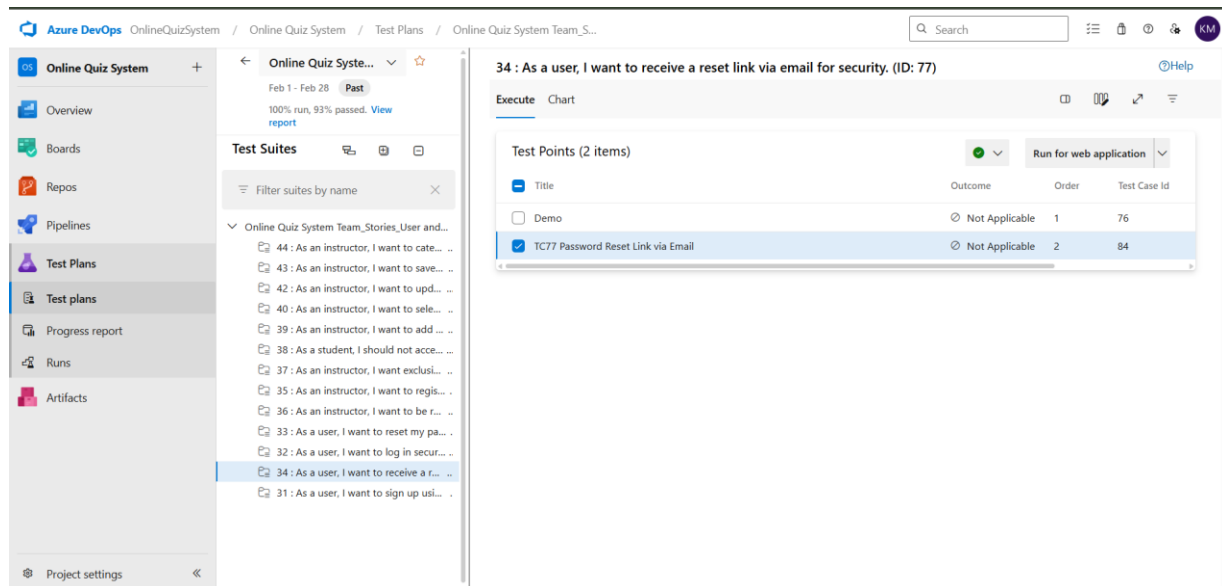
CAPTURE

1. Screenshots
2. Notes
3. Screen recordings
4. Page action log
5. Page load data

Change the color of button as per UX needs



Test and feedback  
Showing it as an extension



## 4. Running the test cases

The screenshot shows the Azure DevOps Test Plans interface. On the left, a sidebar lists navigation options: Overview, Boards, Repos, Pipelines, Test Plans, Test plans, Progress report, Runs, and Artifacts. The main area displays a test suite titled "Online Quiz System Team\_Stories\_User and..." with a filter bar. Below the filter, a list of test cases is shown, including "34 : As a user, I want to receive a reset link via email for security. (ID: 77)". The right pane shows the execution results for this test case, with a table of test points.

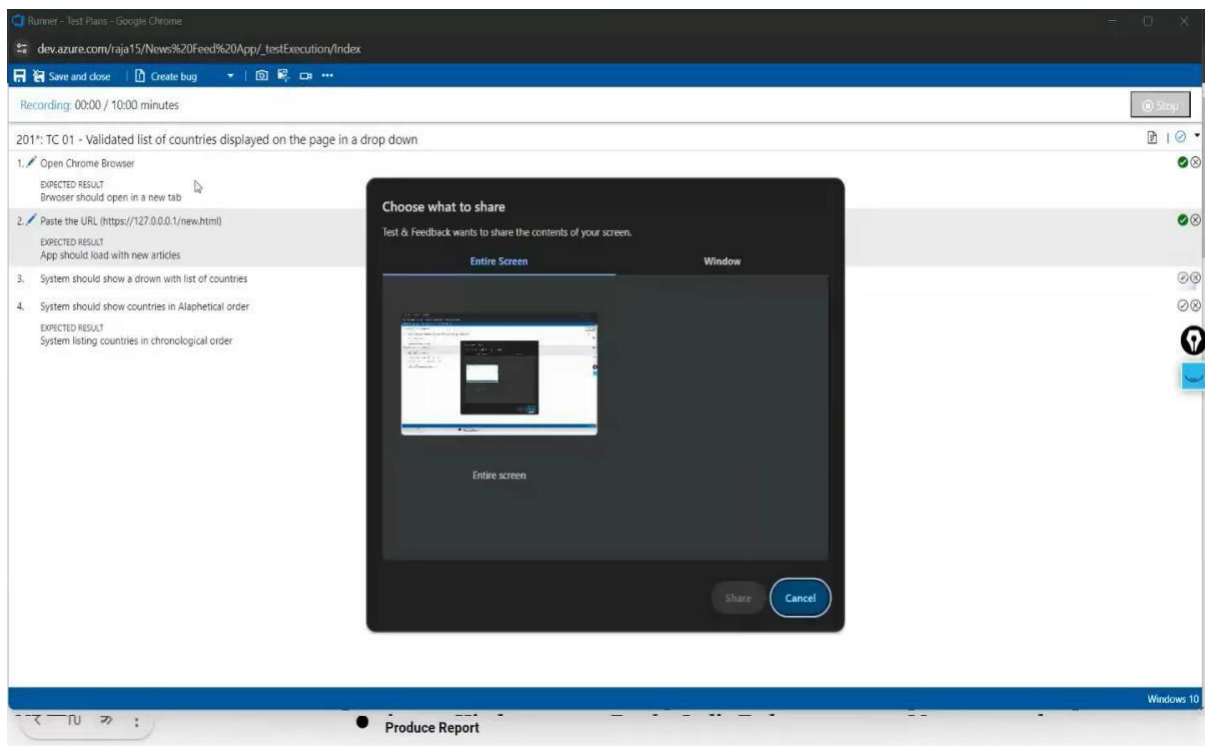
Title	Outcome	Order	Test Case Id
Demo	Not Applicable	1	76
TC77 Password Reset Link via Email	Passed	2	84

The screenshot shows a test runner window titled "Runner - Test Plans - Google Chrome". The URL bar displays "dev.azure.com/OnlineQuizSystem/Online%20Quiz%20System/\_testExecution/Index". The test case is "84\*: TC77 Password Reset Link via Email". The execution steps are listed below, each with a status icon (green checkmark) and a "Create bug" button.

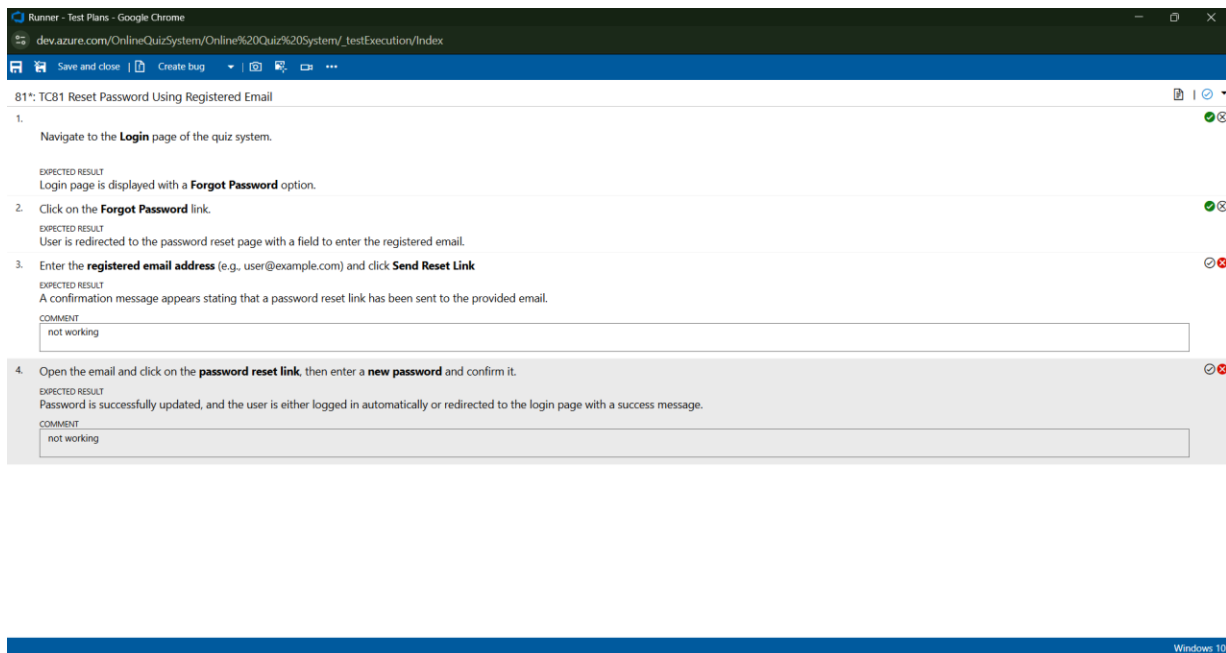
1. Navigate to the **Login** page of the quiz system.  
EXPECTED RESULT  
quiz system.  
Login page is displayed with a "Forgot Password" link.
2. Click on the **Forgot Password** link.  
EXPECTED RESULT  
User is redirected to the password reset page with an input field to enter the email address.
3. Enter a valid **registered email address** (e.g., user@example.com) and click the **Send Reset Link** button.  
EXPECTED RESULT  
A confirmation message is shown (e.g., "Password reset link has been sent to your email").
4. Open the registered email inbox and check for the reset email.  
EXPECTED RESULT  
The user receives an email with a working password reset link.



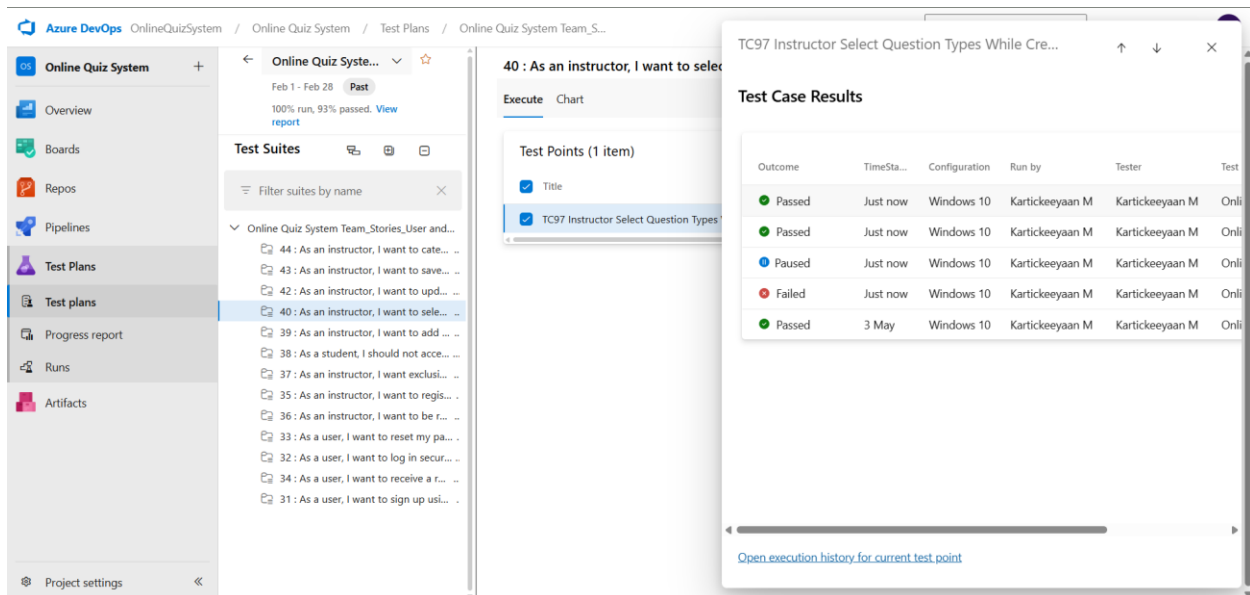
## 5. Recording the test case



## 6. Creating the bug



## 7. Test case results

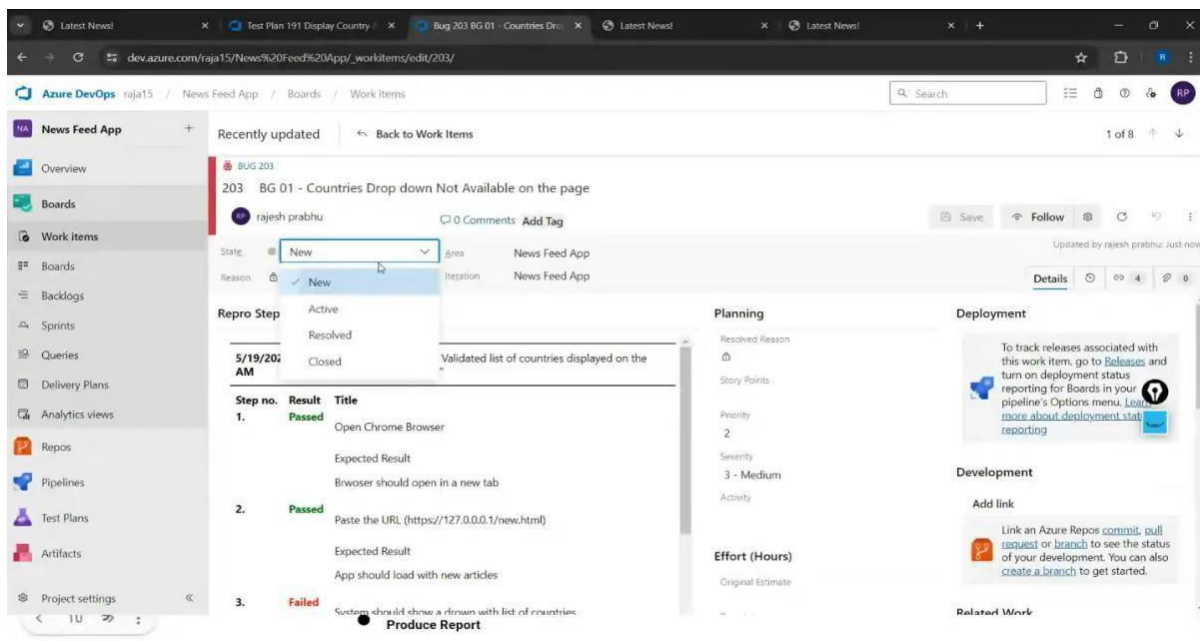


The screenshot shows the Azure DevOps interface for a test case. The left sidebar contains navigation options like Overview, Boards, Repos, Pipelines, Test Plans, and Project settings. The main area displays the test case details for '40 : As an instructor, I want to select...'. A 'Test Case Results' window is open, showing a table of test results.

Outcome	TimeSta...	Configuration	Run by	Tester	Test
Passed	Just now	Windows 10	Karticeeyan M	Karticeeyan M	Onli
Passed	Just now	Windows 10	Karticeeyan M	Karticeeyan M	Onli
Paused	Just now	Windows 10	Karticeeyan M	Karticeeyan M	Onli
Failed	Just now	Windows 10	Karticeeyan M	Karticeeyan M	Onli
Passed	3 May	Windows 10	Karticeeyan M	Karticeeyan M	Onli

Below the table, there is a link: [Open execution history for current test point](#).

## 8. Test report summary



The screenshot shows the Azure DevOps interface for a bug report. The left sidebar contains navigation options like Overview, Boards, Work Items, Backlogs, Sprints, Queries, Delivery Plans, Analytics views, Repos, Pipelines, Test Plans, and Project settings. The main area displays the bug details for '203 BG 01 - Countries Drop down Not Available on the page'. The bug is assigned to 'rajesh prabhu' and is in the 'New' state. The 'Repro Step' section shows a list of steps with their results.

Step no.	Result	Title
1.	Passed	Open Chrome Browser
		Expected Result: Browser should open in a new tab
2.	Passed	Paste the URL (https://127.0.0.1/new.html)
		Expected Result: App should load with new articles
3.	Failed	System should show a dropdown with list of countries

The 'Planning' section shows the bug's priority (3 - Medium) and severity (3 - Medium). The 'Deployment' section provides instructions on how to track releases associated with the work item.

- Assigning bug to the developer and changing state

dev.azure.com/OnlineQuizSystem/OnlineQuizSystem/\_testManagement/runs?\_a=resultSummary&runId=16&resultId=100000

Azure DevOps OnlineQuizSystem / Online Quiz System / Test Plans / Runs

Run 16 - 43 : As an instructor, I want to save questions to a reusable question bank. (Manual) / test 12

Summary

Analysis

Owner Kartickeeyan M

Failure type None

Resolution None

Comment not available

Run by Kartickeeyan M

Tested build not available

Test Plan Online Quiz System Team Stories User and Quiz Setup

Priority 2

Test suite 43 : As an instructor, I want to save questions to a reusable question bank.

Test Case test 12

Configuration Windows 10

Attachments ()

Linked Items (0)

Details

No data available

## Progress report

Azure DevOps OnlineQuizSystem / Online Quiz System / Test Plans / Progress report

Progress report

Blocked (+3) Configuration Tester Priority Assigned To

Summary

1 Test plans

13 Test points

13 (13 / 13) Test points run

100% Run

76% (10 / 13) Pass rate

10 Passed

3 Not applicable

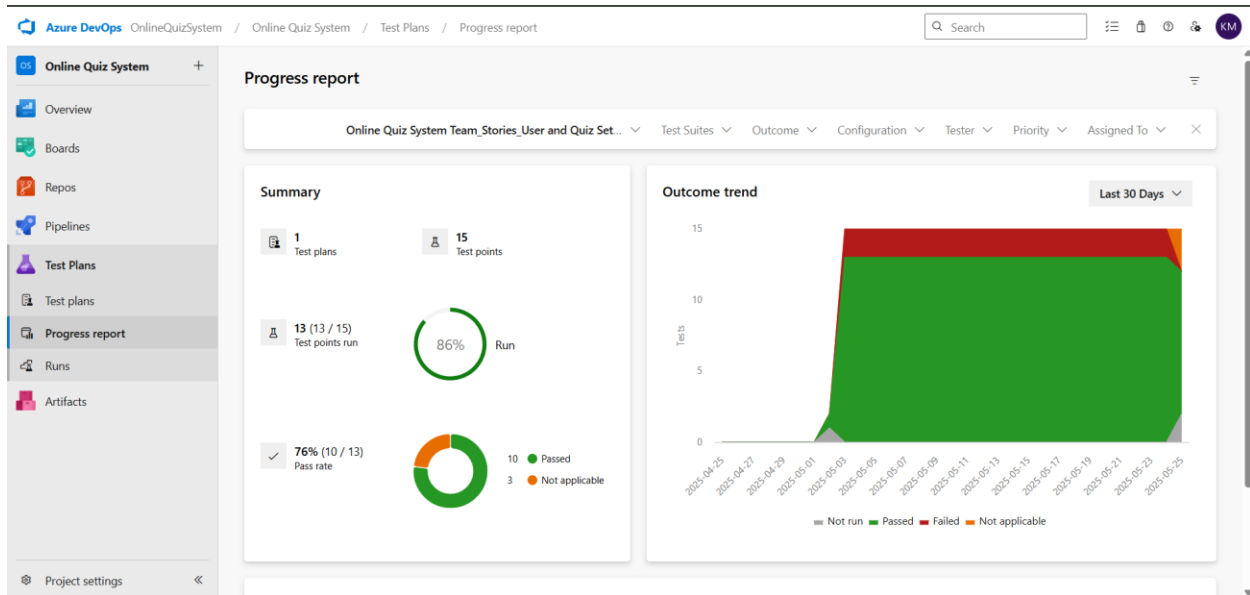
Outcome trend

Last 30 Days

Tests

2025-04-25 2025-04-27 2025-04-29 2025-05-01 2025-05-03 2025-05-05 2025-05-07 2025-05-09 2025-05-11 2025-05-13 2025-05-15 2025-05-17 2025-05-19 2025-05-21 2025-05-23 2025-05-25

Passed Not applicable



## 9. Changing the test template

Microsoft Azure Portal | M... Azure DevOps - Microsoft... My Information... Test Plan 04 Music Playlist... Settings - Process (231801... Settings - Overview (231801... dev.azure.com/231801095/\_settings/process

### Organization Settings

231801095

Search Settings

- General
  - Overview
  - Projects
  - Users
  - Billing
  - Global notifications
  - Usage
  - Extensions
  - Microsoft Entra
- Security
  - Security overview
  - Policies
  - Permissions
- Boards
  - Process
- Pipelines
  - Agent pools
  - Settings
  - Deployment pools

#### 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, including those practicing Scrum.	0
Scrum	This template is for teams who follow the Scrum framework.	0
CMMI	This template is for more formal projects requiring a framework for process improvement and an auditable record.	0

Microsoft Azure Portal | M x Azure DevOps - Microsoft x My Information x Test Plan 84 Music Playlist x Settings - Process (231801095) x Settings - Overview (231801095) x

dev.azure.com/231801095/\_settings/process

Azure DevOps 231801095 / Settings / Process

Organization Settings 231801095

Search Settings

General

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

Security

- Security overview
- Policies
- Permissions

Boards

- Process

Pipelines

- Agent pools
- Settings
- Deployment pools

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	This template is flexible and will work great for most teams using Agile planning methods, including those practicing Scrum.	0
Scrum	This template is for teams who follow the Scrum framework.	0
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Microsoft Azure Portal | M x Azure DevOps - Microsoft x My Information x Test Plan 84 Music Playlist x Settings - Process (231801095) x Settings - Overview (231801095) x

dev.azure.com/231801095/\_settings/process

Azure DevOps 231801095 / Settings / Process

Organization Settings 231801095

Search Settings

General

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

Security

- Security overview
- Policies
- Permissions

Boards

- Process

Pipelines

- Agent pools
- Settings
- Deployment pools

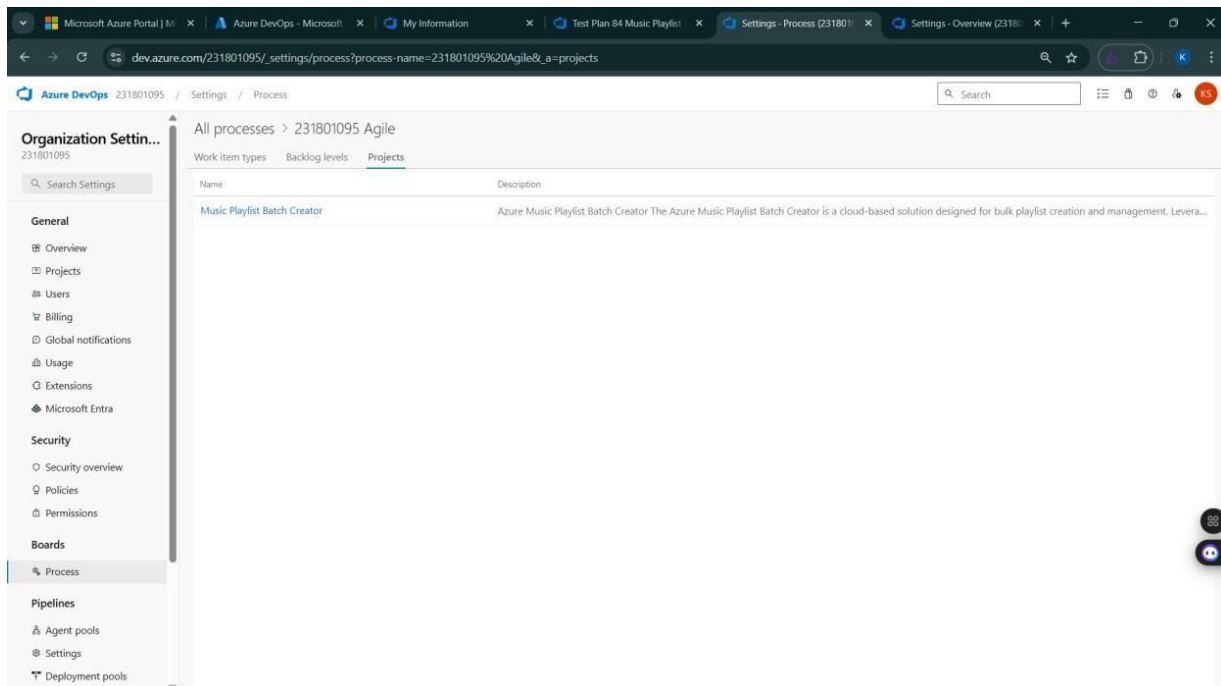
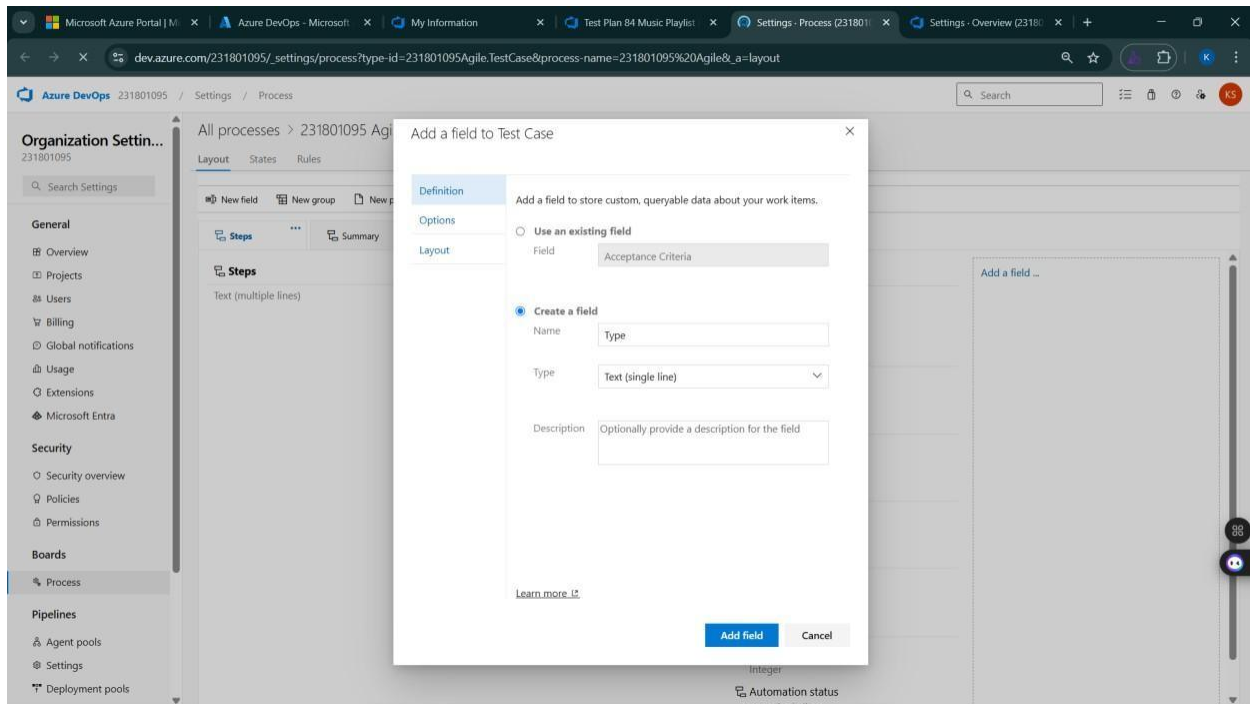
All processes

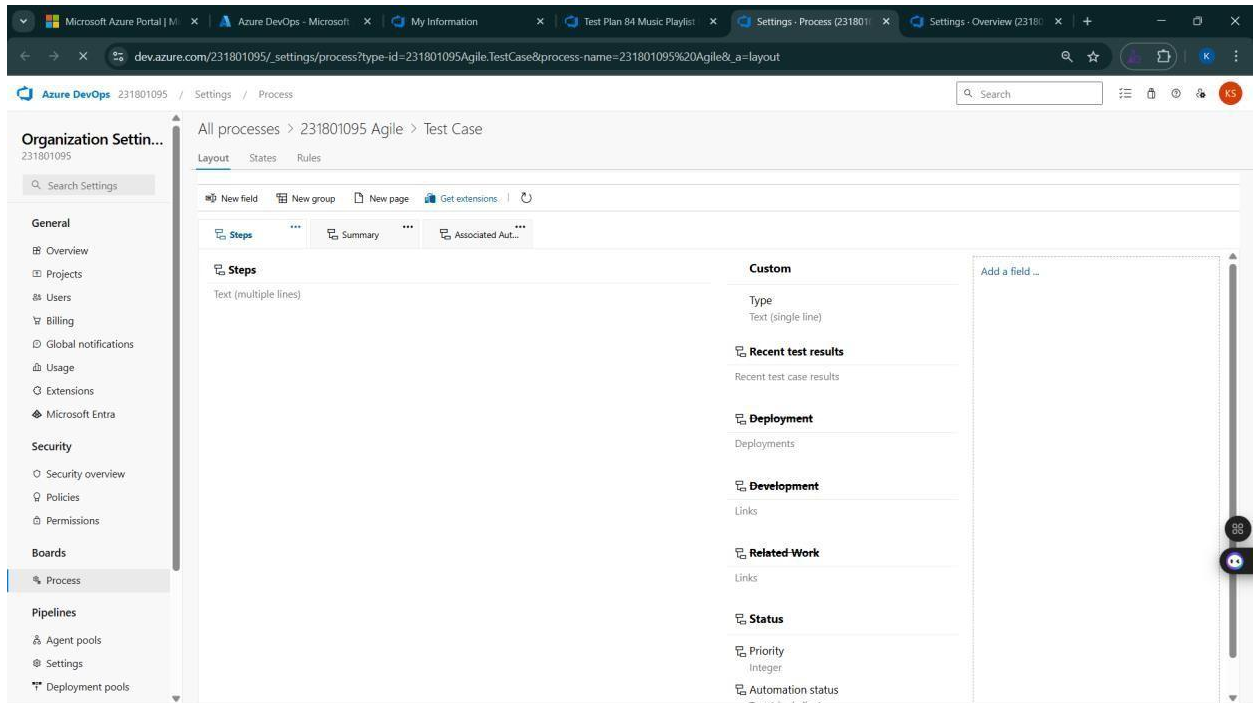
Processes Fields

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	This template is flexible and will work great for most teams using Agile planning methods, including those practicing Scrum.	0
231801095 Agile (default)		1
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 an auditable record of process.	0

## 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

**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
  - Go to *Create a resource* → Search for “Azure Load Testing”.
  - Select Azure Load Testing and click Create.
3. Fill in the Configuration Details
  - *Subscription*: Choose your Azure subscription.
  - *Resource Group*: Create new or select an existing one.
  - *Name*: Provide a unique name (no special characters).
  - *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.

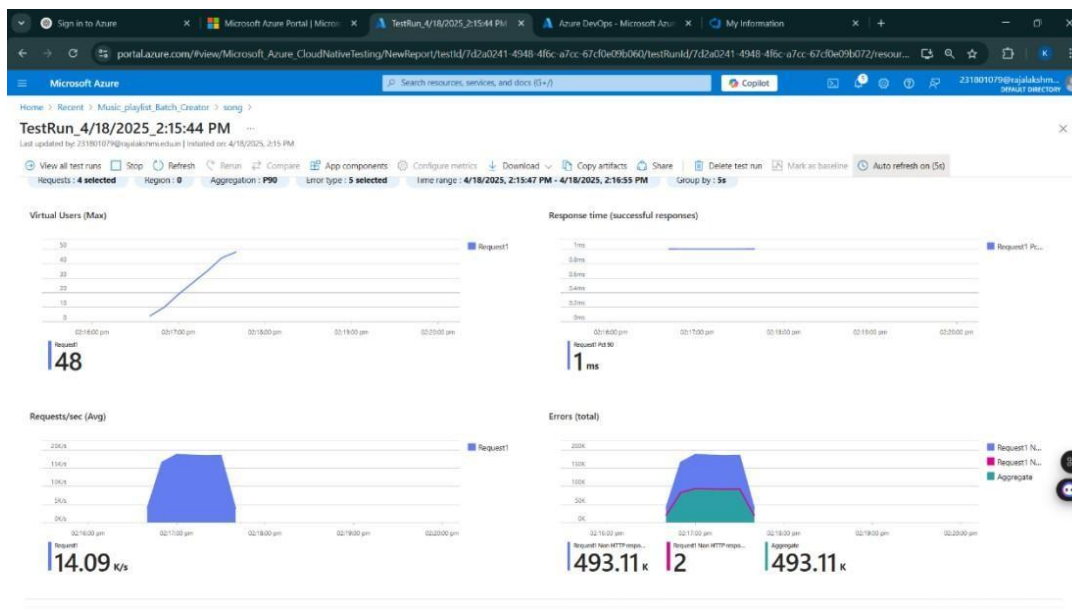
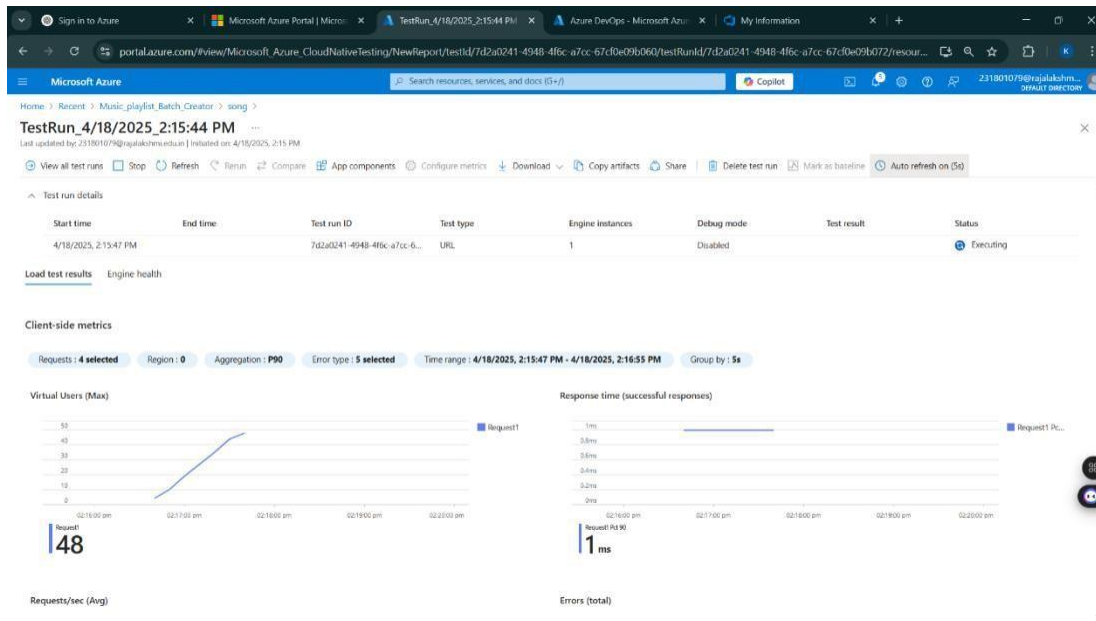
**Steps to Create and Run a Load Test:**

Once your resource is ready:

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



## Load Testing





# Empower Learning with QuizMaster

Build interactive quizzes in minutes. Analyze student performance instantly. Designed for classrooms that thrive.

Get Started →

## Built for Teachers. Loved by Students.



### Multiple Question Types

Create diverse quizzes with multiple-choice, true/false, and short answers.



### Timed Assessments

Simulate real exams with customizable timers.



### Detailed Analytics

Track performance and growth with interactive dashboards.



### Instant Grading

Auto-grade quizzes for quick feedback.



### User Management

Control access with role-based interfaces for students and educators.

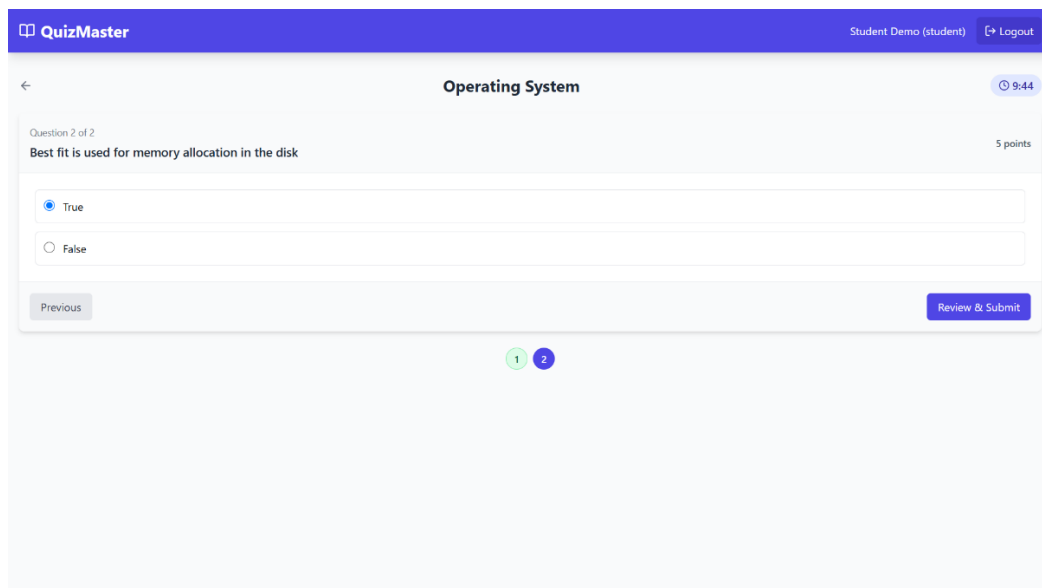
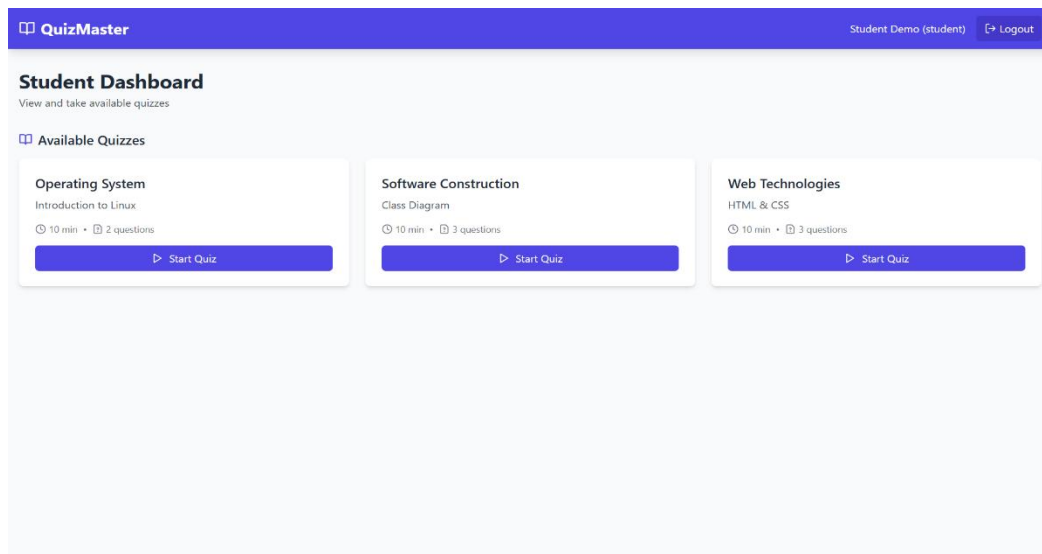


### Reusable Quiz Library

Organize quizzes into a customizable and shareable library.

## Start creating quizzes today

Sign up now and unlock a world of possibilities in digital education.



## Result:

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

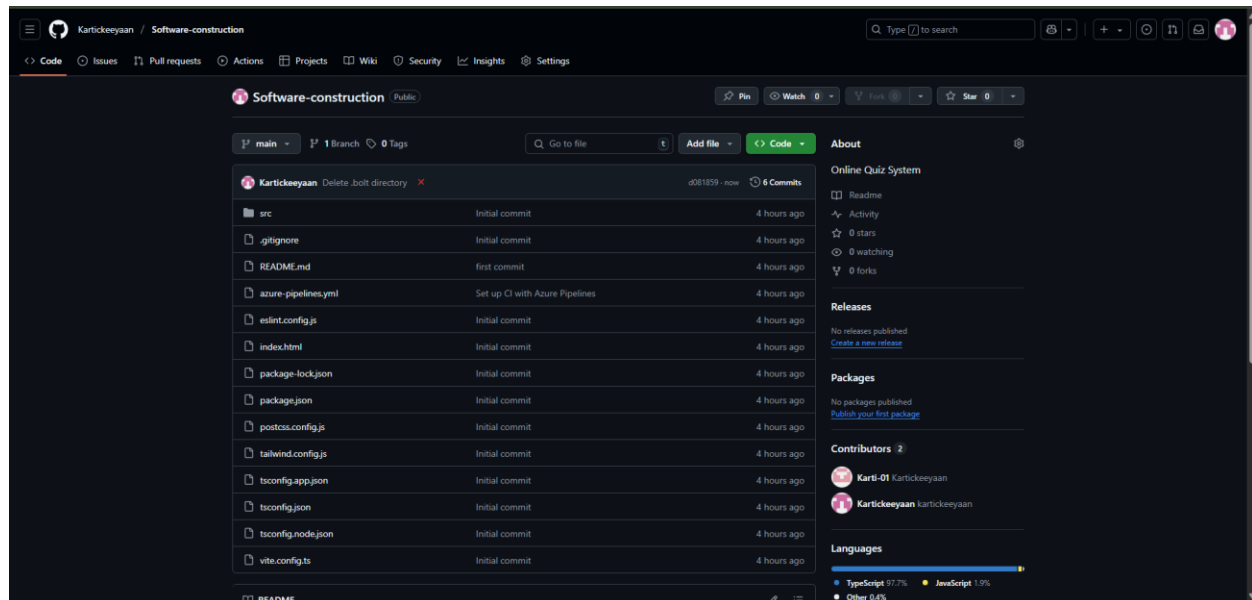
**EXP NO: 10**

## **GITHUB: PROJECT STRUCTURE & NAMING CONVENTIONS**

### **Aim:**

To provide a clear and organized view of the project's folder structure and file naming conventions, helping contributors and users easily understand, navigate, and extend the 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.