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EXP NO: 1

AZURE DEVOPS ENVIRONMENT SETUP

Date :

Aim:

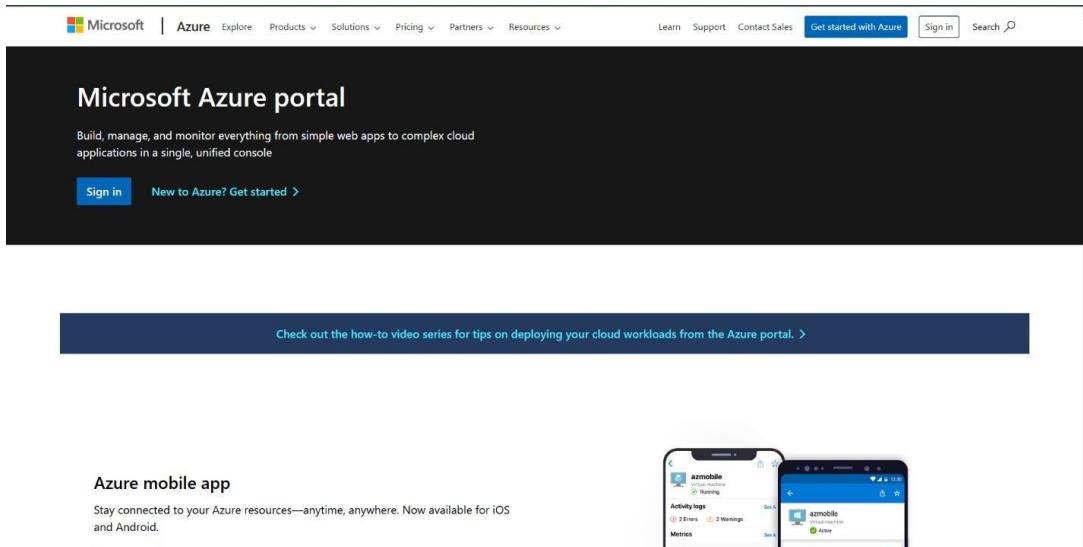
To set up and access the Azure DevOps environment by creating an organization through the Azure portal.

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 search bar with placeholder text "Search resources, services, and docs (G+J)". Below the search bar is a navigation bar with icons for Home, Notifications, Settings, and Profile. The profile icon shows the email address "231501119@rajalakshm...".

The main content area is divided into sections:

- Azure services:** A row of icons 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".
- Resources:** A table with columns "Name", "Type", and "Last Viewed". It displays a single entry: "No resources have been viewed recently" with a "View all resources" button.
- Navigate:** Buttons for "Subscriptions", "Resource groups", "All resources", and "Dashboard".
- Tools:** Buttons for "Microsoft Learn", "Azure Monitor", "Microsoft Defender for Cloud", and "Cost Management".

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

The screenshot shows the Azure DevOps search results page. The search bar at the top contains the text "azure dev". Below the search bar, there are three tabs: "All", "Services (99+)" (which is selected), and "Resources".

The "Services" section lists the following items:

- Azure Device Registry
- Azure DevOps organizations
- Azure Database for MySQL servers
- Education
- Keywords: azure dev tools for teaching

The "Marketplace" section lists:

- Build Agents for Azure DevOps
- Azure DevOps Auditing
- Azure Devops Backup Tool
- Self Hosted Runner for Azure DevOps

The "Documentation" section lists:

- Install the Azure Developer CLI
- What is Azure Dev/Test offer?
- Set up Azure Deployment Environments - Azure Deployment Environments
- What is Azure Deployment Environments? - Azure Deployment Environments

At the bottom of the search results, there's a link "Continue searching in Microsoft Entra ID" and a "Give feedback" button.

On the left side of the page, there's a sidebar with sections for "My Azure DevOps Organizations", "Get started using Azure DevOps", "Billing management for Azure DevOps", "Give feedback", and a link to "Tell us about your experience with the Azure DevOps page".

The background features a large graphic of a rocket launching from a launch pad with clouds and a person standing next to it.

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

The screenshot shows the Microsoft Azure DevOps Organization Home page. At the top, there's a blue header bar with the Microsoft Azure logo, a search bar, and user account information. Below the header, the page title is "Azure DevOps". A navigation menu with "Home > Azure DevOps ..." is visible. A prominent orange banner at the top states: "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". The main content area features a large, colorful illustration of people working on various DevOps tasks like planning, building, and testing, with a rocket launching into the sky. To the left of the illustration, there's a section titled "Azure DevOps" with the subtext: "Plan smarter, collaborate better, and ship faster with a set of modern dev services". Below this are links for "My Azure DevOps Organizations", "Get started using Azure DevOps", "Billing management for Azure DevOps", "Give feedback", and "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

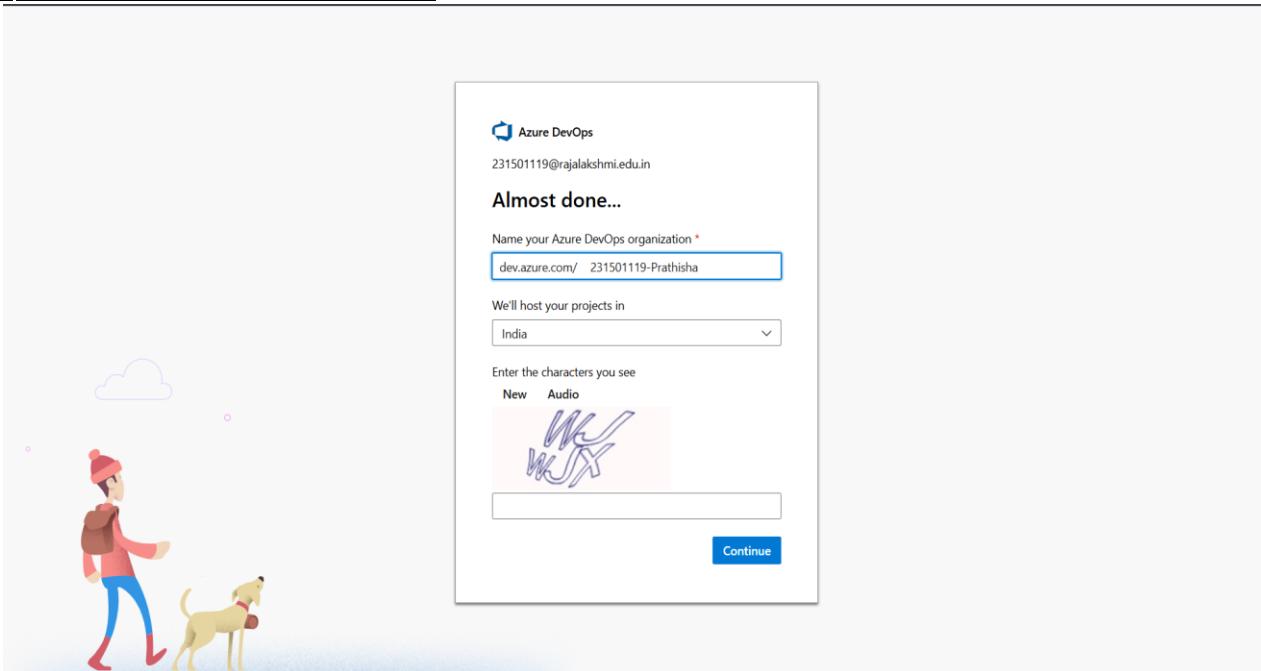
AZURE DEVOPS PROJECT SETUP AND USER STORY MANAGEMENT

Date :

Aim:

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

1. Create An Azure Account



2. Create the First Project in Your Organization

a. After the organization is set up, you'll need to create your first **project**. This is where you'll begin to manage code, pipelines, work items, and more.

b. On the organization's **Home page**, click on the **New Project** button.

c. Enter the project name, description, and visibility options:

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

Description: Optionally, add a description to provide more context about the project.

Visibility: Choose whether you want the project to be **Private** (accessible only to those invited) or **Public** (accessible to anyone).

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

Create new project

X

Project name *

Batch Data Analysis and Visualizations

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.



Public projects are disabled for your organization. You can turn on public visibility with [organization policies](#).

Advanced

Version control [?](#)

Git

Work item process [?](#)

Agile

Cancel

Create

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

The screenshot shows the Azure DevOps Organizations dashboard. At the top, there's a blue header bar with the Microsoft logo and a sign-out link. Below the header is a purple circular profile picture with the letters 'PR' in white. To the right of the profile picture, the user's name 'Prathisha R' is displayed, along with a 'Sign out' button. On the left side, there's a sidebar with the user's profile information: 'Prathisha R', email '231501119@rajalakshmi.edu.in', location 'India', and email '231501119@rajalakshmi.edu.in'. Below this is a section for 'Visual Studio Dev Essentials' with a brief description and a 'Use your benefits' link. The main content area is titled 'Azure DevOps Organizations' and lists several organizations under 'Projects': 'dev.azure.com/231501119' (Owner), 'ATM', 'New project', 'dev.azure.com/2315011190742' (Owner), 'dev.azure.com/2315011191' (Owner), 'dev.azure.com/23150111999999' (Owner), and 'dev.azure.com/231501122' (Member). There's also a 'Create new organization' button.

4. Project dashboard

The screenshot shows the Azure DevOps E-commerce project dashboard. At the top, there's a navigation bar with 'Azure DevOps' and the project ID '231501122'. Below the navigation is a search bar and some project settings icons. The main content area has a sidebar on the left with project navigation links: Overview, Summary, Dashboards, Wiki, Boards, Repos, Pipelines, Test Plans, Artifacts, and Project settings. The 'Summary' link is currently selected. The main content area is titled 'E-commerce' and contains three main sections: 'About this project', 'Project stats', and 'Members'. The 'About this project' section includes a description of the E-commerce Product Uploader application, its features like CSV upload, and its integration with Azure DevOps for CI/CD. The 'Project stats' section provides a summary of recent activity over the last 7 days, including 33 work items created, 0 work items completed, 0 pull requests opened, and 11 commits by 1 author. The 'Pipelines' section shows a progress bar at 0%. The 'Members' section lists six team members with their initials: SS, PR, RC, and three others whose initials are partially visible.

5. To manage user stories:

- From the **left-hand navigation menu**, click on **Boards**. This will take you to the main **Boards** page, where you can manage work items, backlogs, and sprints.

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 'Work items' page in Azure DevOps. The left sidebar is for the 'Ecommerce' project, with 'Work items' selected. The main area displays a table of user stories:

ID	Title	Assigned To	State	Area Path	Tags
80	As a developer, I want to validate the file structure to ensure all required fields are present.	Rino Calvin	Resolved	Ecommerce	
77	As a store owner, I want to search products by name so that I can find them quickly.	Rino Calvin	New	Ecommerce	
78	As a store owner, I want to manually add or edit a product in case I make a mistake.	Rino Calvin	New	Ecommerce	
79	As a user, I want to filter products by price or description keywords.	Rino Calvin	New	Ecommerce	
73	Security Tests	231501123@rajalakshmi.e...	Active	Ecommerce	
76	Attempt SQL Injection in SKU Field	Preethi Gopinath	Design	Ecommerce	
57	UI/UX Tests	231501135@rajalakshmi.e...	Active	Ecommerce	
61	Input Validation Tests	Prathisha R	Active	Ecommerce	
69	Integration Tests	Rino Calvin	Active	Ecommerce	
68	Upload 500 Products in CSV and Measure Time	Rino Calvin	Design	Ecommerce	
72	Check Product Entry in DB After Upload	Rino Calvin	Design	Ecommerce	
64	Try Unload Without Entering Product Name or Price	Praethi Gopinath	Design	Ecommerce	

The screenshot shows the 'Backlogs' page in Azure DevOps. The left sidebar is for the 'Ecommerce' project, with 'Backlogs' selected. The main area displays a table of user stories in the backlog:

Order	Work Item Type	Title	State	Story...	Value Area
1	User Story	As a user, I want to filter products by price or description keywords.	New		Business
2	User Story	As a developer, I want to validate the file structure to ensure all required fields are present.	Resolved		Business
3	User Story	> As a store owner, I want to upload a CSV/Excel file so that I can import it into our system.	New		Business
4	User Story	> As a developer, I want to validate the file structure to ensure all required fields are present.	New		Business
5	User Story	> As a store owner, I want to manually add or edit a product in case I make a mistake.	New		Business
6	User Story	> As a QA, I want the product edit form to auto-fill fields so that I can save time.	New		Business
7	User Story	> As a store owner, I want to search products by name so that I can find them quickly.	New		Business
8	User Story	> As a user, I want to filter products by price or description keywords.	New		Business
9	User Story	> As a store owner, I want to search products by name so that I can find them quickly.	New		Business
10	User Story	> As a store owner, I want to manually add or edit a product in case I make a mistake.	New		Business

On the right side, there is a 'Planning' section showing sprints and their details:

- sprint3** 20/05/2025 - 26/05/2025
Planned Effort: 0 5 working days
- sprint4** 27/05/2025 - 02/06/2025
No work scheduled yet
- sprint1** 03/06/2025 - 09/06/2025
Planned Effort: 0 5 working days

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

EXP NO: 3

Date :

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

Aim:

To create epics, user stories, features, and tasks for the project, Batch Data Analysis and Visualization.

1.Create Epic, Features, User Stories, Task

The screenshot shows the Azure DevOps Boards backlog page for the 'Ecommerce' project. The left sidebar navigation includes 'Overview', 'Work items', 'Boards', 'Backlogs' (selected), 'Sprints', 'Queries', 'Delivery Plans', 'Analytics views', 'Repos', 'Pipelines', 'Test Plans', 'Artifacts', and 'Project settings'. The main area displays the 'Ecommerce Team' backlog under the 'Backlog' tab. A search bar at the top right has the placeholder 'Search'. Below it are buttons for 'New Work Item', 'View as Board', and 'Column Options'. The backlog table has columns for 'Work Item Type', 'Title', 'State', 'Effort', 'Business Area', and 'Tags'. The data in the table is as follows:

Work Item Type	Title	State	Effort	Business Area	Tags
Epic	Search and Pagination	New		Business	
Feature	Search Functionality	New		Business	
User Story	As a store owner, I want to search products by name s...	New		Business	
Task	Create a search bar with debounced input.	New		Business	
Task	Implement backend API to search by name or keyw...	New		Business	
User Story	As a user, I want to filter products by price or descripti...	New		Business	
Task	Add filter options (e.g., price range)	New		Business	
Task	Update query logic in backend accordingly	New		Business	
Epic	product management	New		Business	
Feature	Create and Update Products	New		Business	
User Story	As a store owner, I want to manually add or edit a pro...	New		Business	
Task	Build a product form for manual entry/edit.	New		Business	
User Story	As a QA, I want the product edit form to auto-fill field...	New		Business	
Task	Fetch product details by ID and display in form.	New		Business	

2. Fill in Epics

The screenshot shows the Azure DevOps Boards Backlog view for the Ecommerce team. The backlog is organized by type: Epic, Feature, User Story, and Task. Each item has a title, state (New), and business area (Business). The backlog includes the following items:

- Epic: Search and Pagination
- Feature: Search Functionality
- User Story: As a store owner, I want to search products by name s...
- Task: Create a search bar with debounced input.
- Task: Implement backend API to search by name or keyw...
- User Story: As a user, I want to filter products by price or descripti...
- Task: Add filter options (e.g., price range)
- Task: Update query logic in backend accordingly
- Epic: product management
- Feature: Create and Update Products
- User Story: As a store owner, I want to manually add or edit a pro...
- Task: Build a product form for manual entry/edit.
- User Story: As a QA, I want the product edit form to auto-fill field...
- Task: Fetch product details by ID and display in form.

3. Fill in Features

The screenshot shows the details of a Feature work item titled "upload and selection". The work item has the following properties:

- State: New
- Area: Ecommerce
- Reason: New
- Iteration: Ecommerce\sprint3

The work item is divided into several sections:

- Description:** Click to add Description.
- Planning:** Priority: 2, Risk, Effort, Business Value, Time Criticality.
- 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.

4. Fill in User Stories

The screenshot shows the 'USER STORY 38' page in Azure DevOps. The main title is 'As a store owner, I want to search products by name so that I can find specific items quickly.' Below the title, there are sections for 'Description', 'Acceptance Criteria', 'Discussion', 'Planning', 'Classification', 'Deployment', 'Development', and 'Related Work'. The 'Description' section contains placeholder text: 'Click to add Description.' and 'Click to add Acceptance Criteria.'. The 'Discussion' section has a comment input field with placeholder text: 'Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.' The 'Planning' section shows 'State: New', 'Area: Ecommerce', 'Iteration: Ecommerce\Sprint2', 'Story Points: 1', 'Priority: 2', and 'Risk: 1'. The 'Classification' section shows 'Value area: Business'. The 'Deployment' section has a note about tracking releases. The 'Development' section has a note about linking to Azure Repos. The 'Related Work' section has an 'Add link' button.

Result: Thus, epics, features, user stories, and tasks have been created successfully.

EXP NO: 4

SPRINT PLANNING

Date :

Aim:

To assign a user story to a specific sprint for the project, Batch Data Analysis and Visualization.

SPRINT PLANNING

Sprint 1

The screenshot shows the Azure DevOps Taskboard for the 'Ecommerce' project under the 'Sprints' tab. The current sprint is 'sprint 1'. Two user stories are visible in the 'New' column:

- User Story 79: As a user, I want to filter products by price or description keywords. Assigned to Rino Calvin.
- User Story 78: As a store owner, I want to manually add or edit a product in case I miss it during bulk upload. Assigned to Rino Calvin.

The taskboard also includes columns for 'Active', 'Resolved', and 'Closed'.

Sprint 2

Azure DevOps Boards screenshot for Ecommerce project. The left sidebar shows 'Sprints' selected. The main area displays the 'Ecommerce Team' backlog for 'Sprint2'. The backlog items are:

- 23 As a store owner, I want to upload a CSV/Excel file so that I can add multiple products at once.
 - New
 - Unassigned
- 24 Implement file upload UI and backend endpoint.
 - New
 - Unassigned
- 25 Parse CSV/Excel file and extract product fields.
 - New
 - Unassigned
- 26 As a developer, I want to validate the file structure to ensure all required columns are present.
 - New
 - Unassigned
- 27 Check headers for required fields (name, description, price, image).
 - New
 - Unassigned

The timeline at the top right shows '13 May - 19 May' and '5 work days'.

Sprint 3

Azure DevOps Boards screenshot for Ecommerce project. The left sidebar shows 'Sprints' selected. The main area displays the 'Ecommerce Team' backlog for 'sprint3'. The backlog items are:

- 80 As a developer, I want to validate the file structure to ensure all required columns are present.
 - Resolved
 - Rino Calvin
- 77 As a store owner, I want to search products by name so that I can find specific items quickly.
 - New
 - Rino Calvin

The timeline at the top right shows '20 May - 26 May' and '4 work days remaining'.

Result: The Sprints are created for the project, Batch Data Analysis and Visualization.

EXP NO: 5

POKER ESTIMATION

Date :

Aim:

Create Poker Estimation for the user stories for the project, Batch Data Analysis and Visualization.

Poker Estimation

The screenshot shows the Azure DevOps interface for the Ecommerce project. On the left, the 'Work items' sidebar is open, showing various sections like Boards, Backlogs, Sprints, and Queries. The main area displays a work item for 'USER STORY 80'. The description is: 'As a developer, I want to validate the file structure to ensure all required columns are present.' The work item is assigned to Rino Calvin, has 0 comments, and no tags. It is marked as 'Resolved' with a reason of 'Code complete and unit tested'. The area is 'Ecommerce' and the iteration is 'Ecommerce\sprint3'. The 'Planning' section shows Story Points as 2, Priority as 2, and Risk as 1. The 'Deployment' section includes a note about tracking releases. The 'Classification' section shows the value area as 'Business'. The 'Development' section includes a note about linking to Azure Repos. A comment input field at the bottom says: 'Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.'

Result:

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

EXP NO: 6

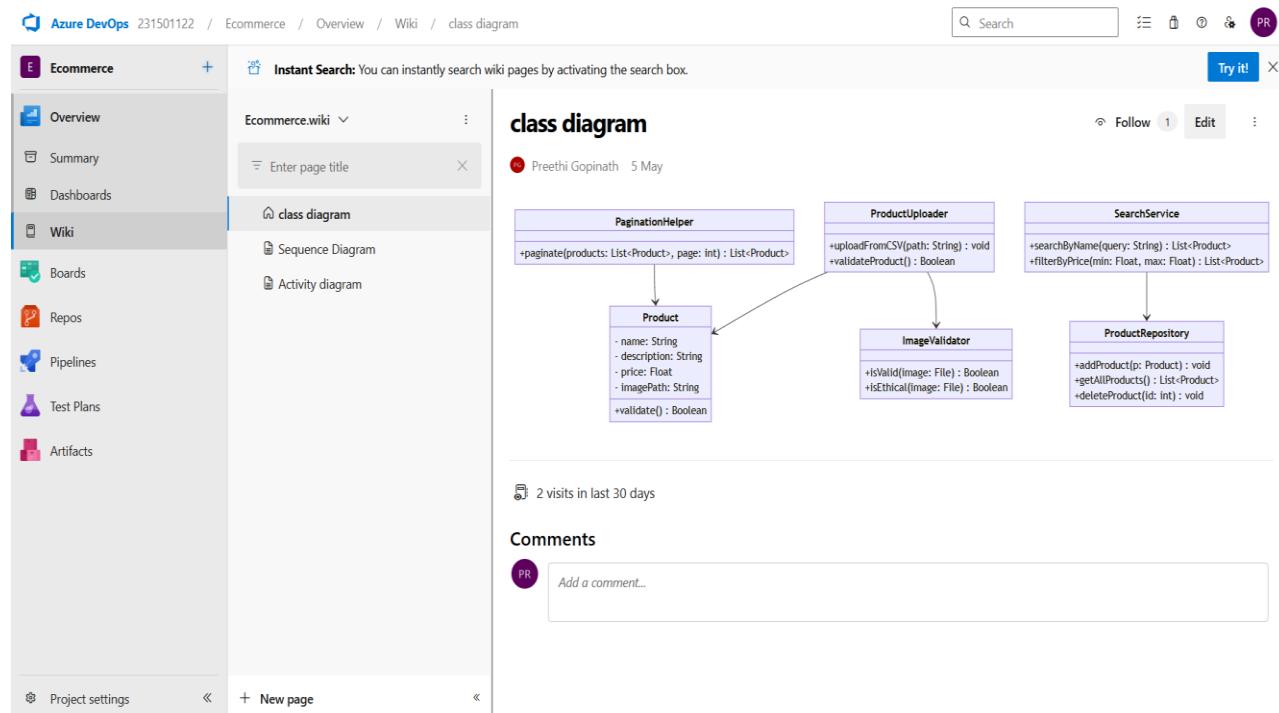
DESIGNING CLASS DIAGRAM AND SEQUENCE DIAGRAM

Date :

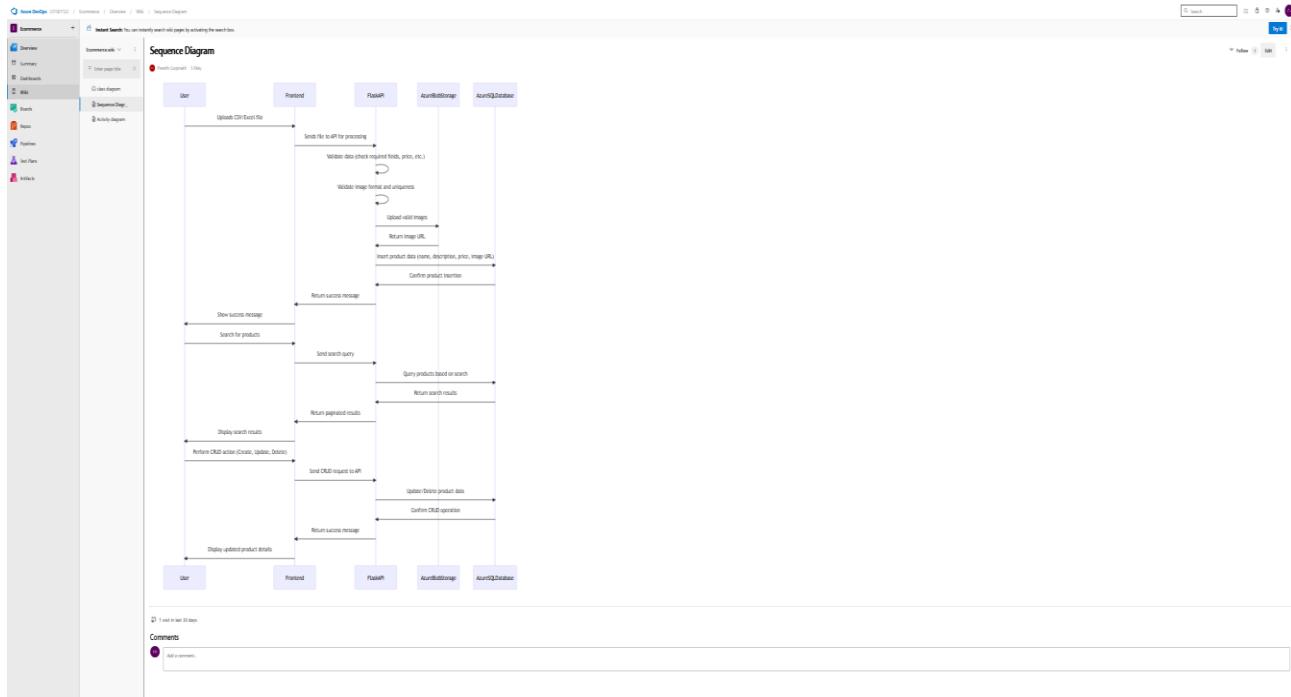
Aim:

To design a Class Diagram and Sequence Diagram for the project, Batch Data Analysis and Visualization.

6A. Class Diagram



6B. Sequence Diagram



Result: The Class and Sequence Diagrams are designed successfully for the project, Batch Data Analysis and Visualization.

EXP NO: 7

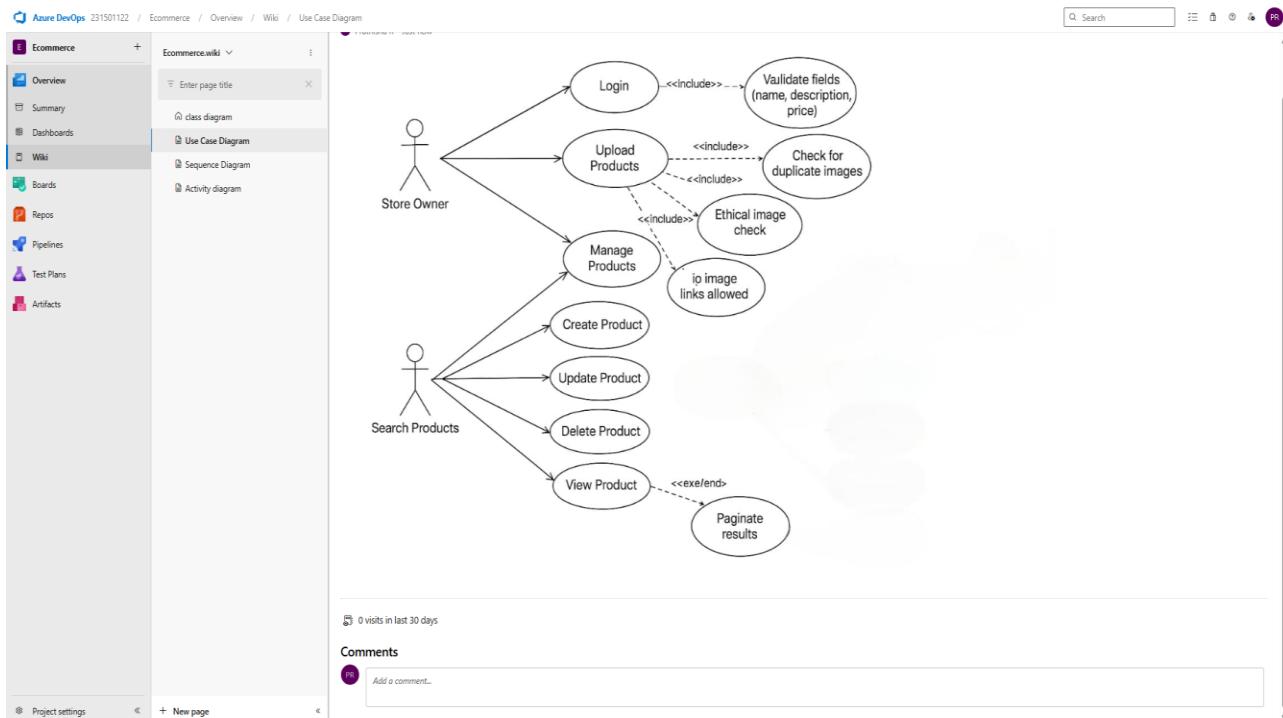
DESIGNING USE CASE DIAGRAM AND ACTIVITY DIAGRAM

Date :

Aim:

To design a Use Case Diagram and an Activity Diagram for the project, Batch Data Analysis and Visualization.

7A. Use Case Diagram



7B. Activity Diagram



Result: The Use Case and Activity Diagrams are designed successfully for the project, Batch Data Analysis and Visualization.

EXP NO: 8	TESTING – TEST PLANS AND TEST CASES
Date :	

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

- 1. User Authentication
- 2. Uploading and Managing Batch Data Files
- 3. Running Batch Analysis Jobs
- 4. Viewing Interactive Visualizations and Charts
- 5. Exporting Analysis Results

2. Define User Interactions

- Simulate real scenarios (e.g., upload dataset, trigger job, download result).

3. Design Happy Path Test Cases

- Validate all main functions work properly (e.g., successful login, upload, and visualization).

4. Design Error Path Test Cases

- Simulate unexpected or invalid user behavior (e.g., upload fails, unsupported file, job timeout).

5. Break Down Steps and Expected Results

- Each test case includes step-by-step actions and expected outcomes.

6. Use Clear Naming and IDs

- Example: TC01 – Successful File Upload, TC08 – Visualization Fails.

7. Separate Test Suites

- Suites grouped by modules (Login, File Upload, Job Execution, Visualization, Export).

8. Prioritize and Review

- Critical test cases marked as High Priority.

- Mapped to user stories in Azure DevOps.

1. New test plan

Azure DevOps 231501122 / Ecommerce / Test Plans

New Test Plan

Name * login

Area Path * Ecommerce

Iteration * Ecommerce

Create Cancel

Microsoft Prathisha R 231501119@rajalakshmi.edu.in My Microsoft account Switch directory ...

Prathisha R rprathisha05@gmail.com ...

Sign in with a different account

2. Test suite

Azure DevOps 231501122 / Ecommerce / Test Plans / login

Test Suites

login (1)

login (ID: 84)

Define Execute Chart

Test Cases (1 item)

Title

test case (2)

Microsoft Prathisha R 231501119@rajalakshmi.edu.in My Microsoft account Switch directory ...

Prathisha R rprathisha05@gmail.com ...

Sign in with a different account

3. Test case

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

USER STORIES

- As a user, I want to log in using my username and password so that I can access my account.
- As a user, I should not be able to submit the login form with empty fields so that I can provide the required data.
- As a user, I want to log out when I click the logout button so that I can end my session securely.
- As a user, I want to be redirected to the login page after logging out so that I know my session has ended and I can log in again if needed.
- As a user, I want to be able to upload multiple CSV files at once, so I can analyze them together.

Test Suites

Test Suite: TS01 - User Authentication (ID: 54)

1. TC01 – Successful Login
 - **Action:**
 - Navigate to the login page
 - Enter valid credentials
 - Click "Login"
 - **Expected Results:**
 - User redirected to dashboard.
 - **Type:** Happy Path

2. TC02 – Prevent Login with Empty Fields

- **Action:**
 - Navigate to the login page.
 - Leave username and/or password fields empty.
 - Click on "Login".
- **Expected Results:**
 - Validation error message is shown prompting user to fill required fields.
- **Type:** Error Path
-

Test Suite: TS02 - Logout Functionality (ID: 47)

1. TC03 – Successful Logout and Redirect

- **Action:**
 - Log in successfully.
 - Click the "Logout" button.
- **Expected Results:**

- User session ends.
- User is redirected to the login page.
- **Type:** Happy Path

2. TC04 – Access Protected Page After Logout

- **Action:**
 - Logout.
 - Attempt to navigate back to a protected page (e.g., dashboard) via browser back button or URL.
- **Expected Results:**
 - User is redirected to the login page and denied access.
- **Type:** Error Path

Test Suite: TS03 - CSV Upload Functionality (ID: 88)

1. TC05 – Upload Multiple Valid CSV Files

- **Action:**
 - Log in successfully
 - Navigate to the CSV upload section
 - Select multiple valid .csv files
 - Click "Upload"
- **Expected Results:**
 - All files are uploaded successfully.
 - Files are listed and ready for analysis.
- **Type:** Happy Path

2. TC06 – Upload Attempt Without Selecting Files

- **Action:**
 - Navigate to the CSV upload section
 - Click "Upload" without selecting any files.
- **Expected Results:**
 - Validation message prompting the user to select at least one file.
- **Type:** Error Path

Test Cases

The screenshot displays two separate test plan interfaces in Microsoft Test Manager.

Top Window (TS02 - Logout Functionality):

- Header:** nikshithaharikrishnan2005 / Batch Data Analysis and Vis... / Test Plans / BatchDataAnalysis
- Sidebar:** Shows 'BatchDataAnalysis' as the current project, with a status bar indicating 'May 17 - May 24' and '100% run, 100% passed'. A link to 'View report' is also present.
- Title:** TS02- Logout Functionality (ID: 47)
- Tabs:** Define, Execute, Chart (Execute is selected).
- Table:** Test Cases (2 items)

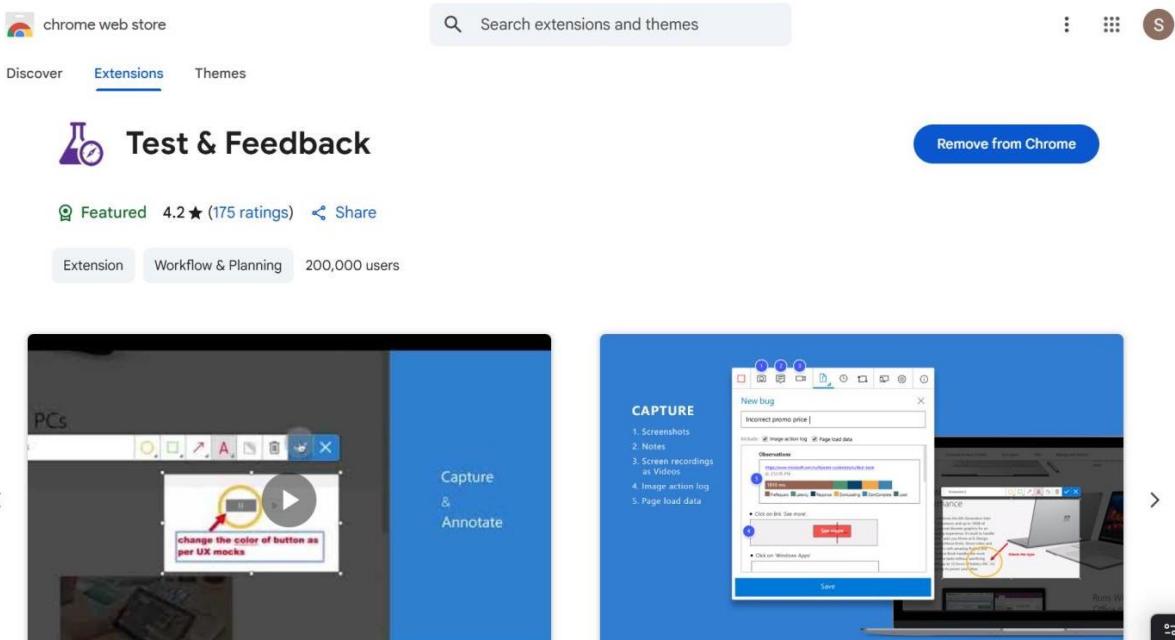
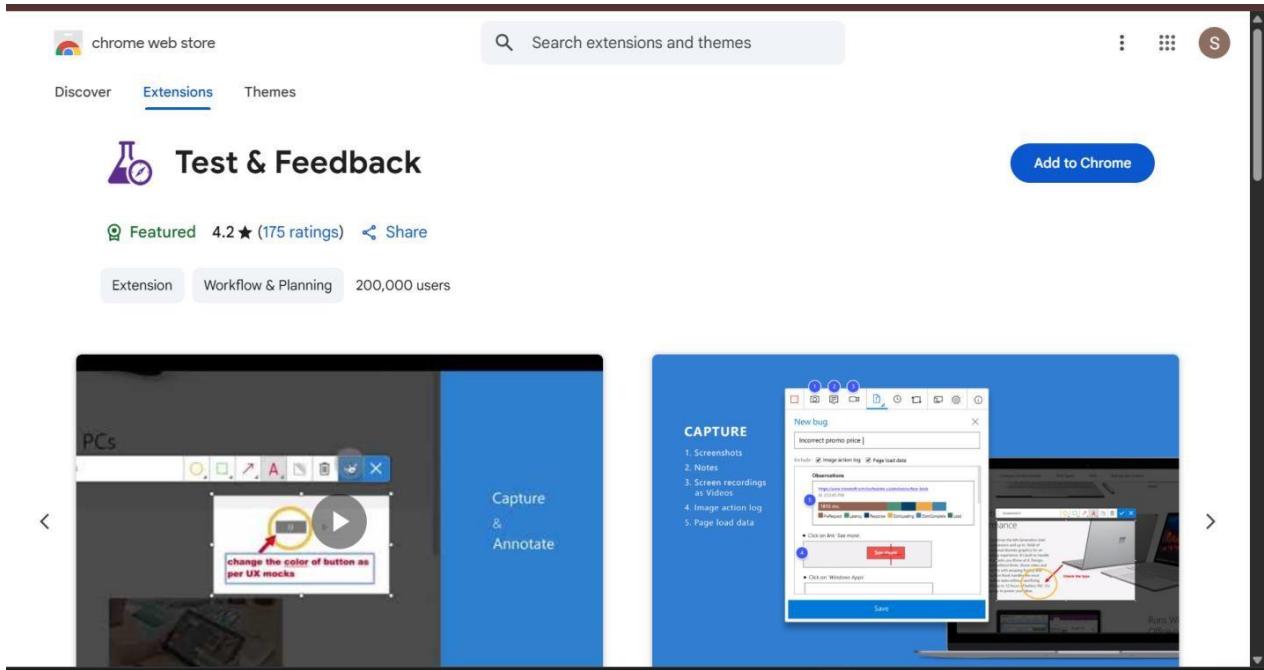
	Order	Test Case Id	Assigned To	State
<input type="checkbox"/> TC03- Successfull logout and redirect	1	49	NIKSHITHA H	Design
<input type="checkbox"/> TC04- Access protected page after logout	2	50	NIKSHITHA H	Design

Bottom Window (TS01 - User Authentication):

- Header:** nikshithaharikrishnan2005 / Batch Data Analysis and Vis... / Test Plans / User Authentication
- Sidebar:** Shows 'batch data analysis' as the current project, with a status bar indicating 'May 17 - May 24'.
- Title:** TS01- User Authentication (ID: 54)
- Tabs:** Define, Execute, Chart (Execute is selected).
- Table:** Test Points (2 items)

	Outcome	Order	Test Case Id	Configuration	Tester
<input type="checkbox"/> TC01- Successful Login	Passed	1	57	Windows 10	Shri Dharsini
<input type="checkbox"/> TC02 – Prevent Login with Empty Fields	Failed	2	58	Windows 10	Shri Dharsini

4. Installation of test



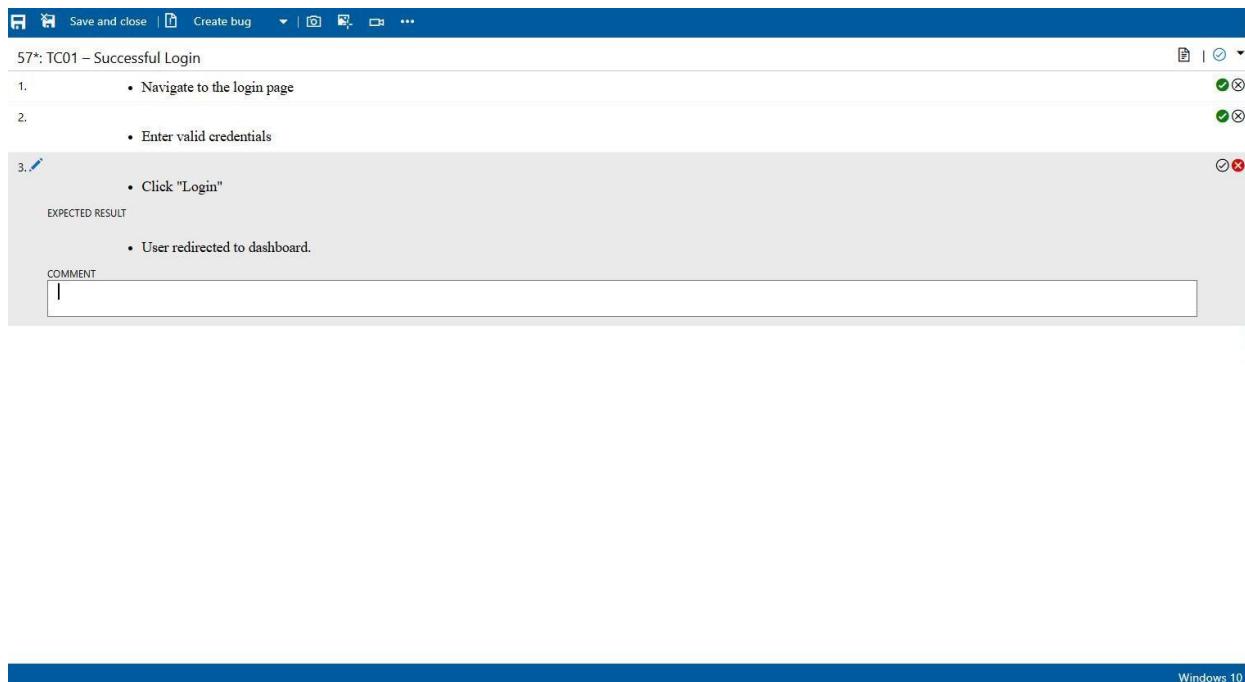
Test and feedback

Showing it as an extension

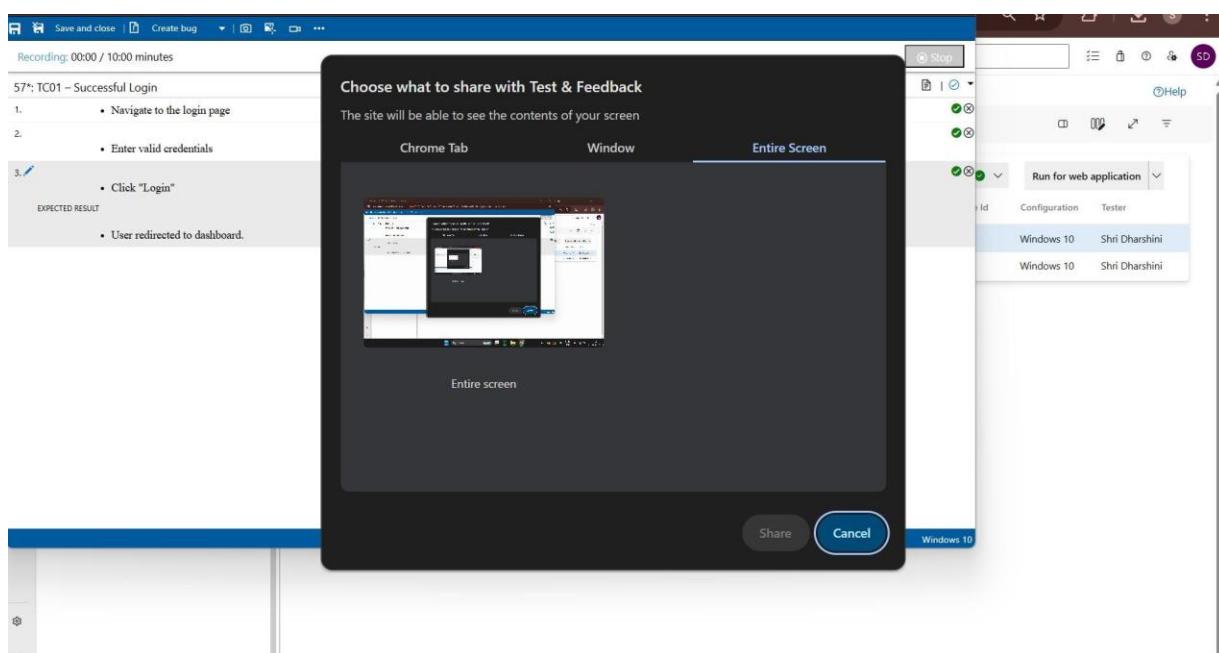
The screenshot shows the Microsoft Test Manager interface. On the left, there's a navigation pane with icons for test plans, suites, and results. The main area displays a 'Test Suites' list under 'batch data analysis'. One suite, 'TS01- User Authentication (2)', is selected. The 'Execute' tab is active, showing 'Test Points (2 items)'. Two test cases are listed: 'TC01 – Successful Login' (Passed) and 'TC02 – Prevent Login with Empty Fields' (Failed). A context menu is open over the second test case. An 'Extensions' overlay is displayed, titled 'Full access', stating 'These extensions can see and change information on this site.' It lists 'Test & Feedback' and 'Manage extensions'. The bottom right corner shows the user profile 'Shri Dharshini'.

5. Running the test cases

This screenshot shows the same Microsoft Test Manager interface as the previous one, but with a different context menu. The 'Run for web application' option is highlighted in the menu for the failed test case 'TC02 – Prevent Login with Empty Fields'. The menu also includes options like 'Run for desktop application' and 'Run with options'. The rest of the interface is identical to the first screenshot, showing the 'Test Suites' list and the 'Execute' tab with its data.



6. Recording the test case



7. Creating the bug

The screenshot shows a test case document titled "58: TC02 – Prevent Login with Empty Fields". The "Create bug" button is highlighted. The steps listed are:

1. • Navigate to the login page.
2. • Leave username and/or password fields empty.
3. • Click on "Login".

EXPECTED RESULT

- Validation error message is shown prompting user to fill required fields.

The screenshot shows the "58*: TC02 – Prevent Login with Empty Fields" bug creation interface. The title is "login failed". The repro steps are:

1. Passed • Navigate to the login page.
2. Passed • Leave username and/or password fields empty.
3. Failed

The bug details include:

- State: New
- Area: Batch Data Analysis and Visualization
- Reason: New
- Iteration: Batch Data Analysis and Visualization

Planning:

- Resolved Reason
- Story Points
- Priority: 2
- Severity: 3 - Medium
- Activity

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.

BUG 60

60 not logging in due to system error

No one selected | 0 Comments | Add Tag

State: New | Area: Batch Data Analysis and Visualization | Iteration: Batch Data Analysis and Visualization

Updated by Shri Dharshini: Just now

Repro Steps

17/05/2025 10:51 Bug filed on "TC02 – Prevent Login with Empty Fields"

Step no.	Result	Title
1.	Passed	<ul style="list-style-type: none"> • Navigate to the login page.
2.	Passed	<ul style="list-style-type: none"> • Leave username and/or password fields empty.
3.	Failed	<ul style="list-style-type: none"> • Click on "Login". <p>Expected Result</p> <ul style="list-style-type: none"> • Validation error message is shown prompting user to fill required fields.

Planning

Resolved Reason: Story Points: Priority: 2 Severity: 3 - Medium Activity:

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.

Effort (Hours)

Original Estimate: Remaining: Completed:

Related Work

Add link: Add an existing work item as a parent
Tested By: 58 TC02 – Prevent Login with Empty Fields

8. Test case results

nikshithaharikrishnan2005 / Batch Data Analysis and Vis... / Test Plans / batch data analysis

Test Suites

- batch data analysis (May 17 - May 24, 50% run, 50% passed. View report)
 - TS01- User Authentication (2)
 - TS02- Logout Functionality (2)

TS01- User Authentication (ID: 54)

Define Execute Chart

Test Points (2 items)

Title
<input checked="" type="checkbox"/> TC01 – Successful Login
<input type="checkbox"/> TC02 – Prevent Login with Empty Fields

TC01 – Successful Login

Test Case Results

Outcome	TimeSta...	Configuration	Run by	Tester	Test
Passed	16m ago	Windows 10	Shri Dharshini	Shri Dharshini	batch
Failed	17m ago	Windows 10	Shri Dharshini	Shri Dharshini	batch
Passed	28m ago	Windows 10	Shri Dharshini	Shri Dharshini	batch

Open execution history for current test point

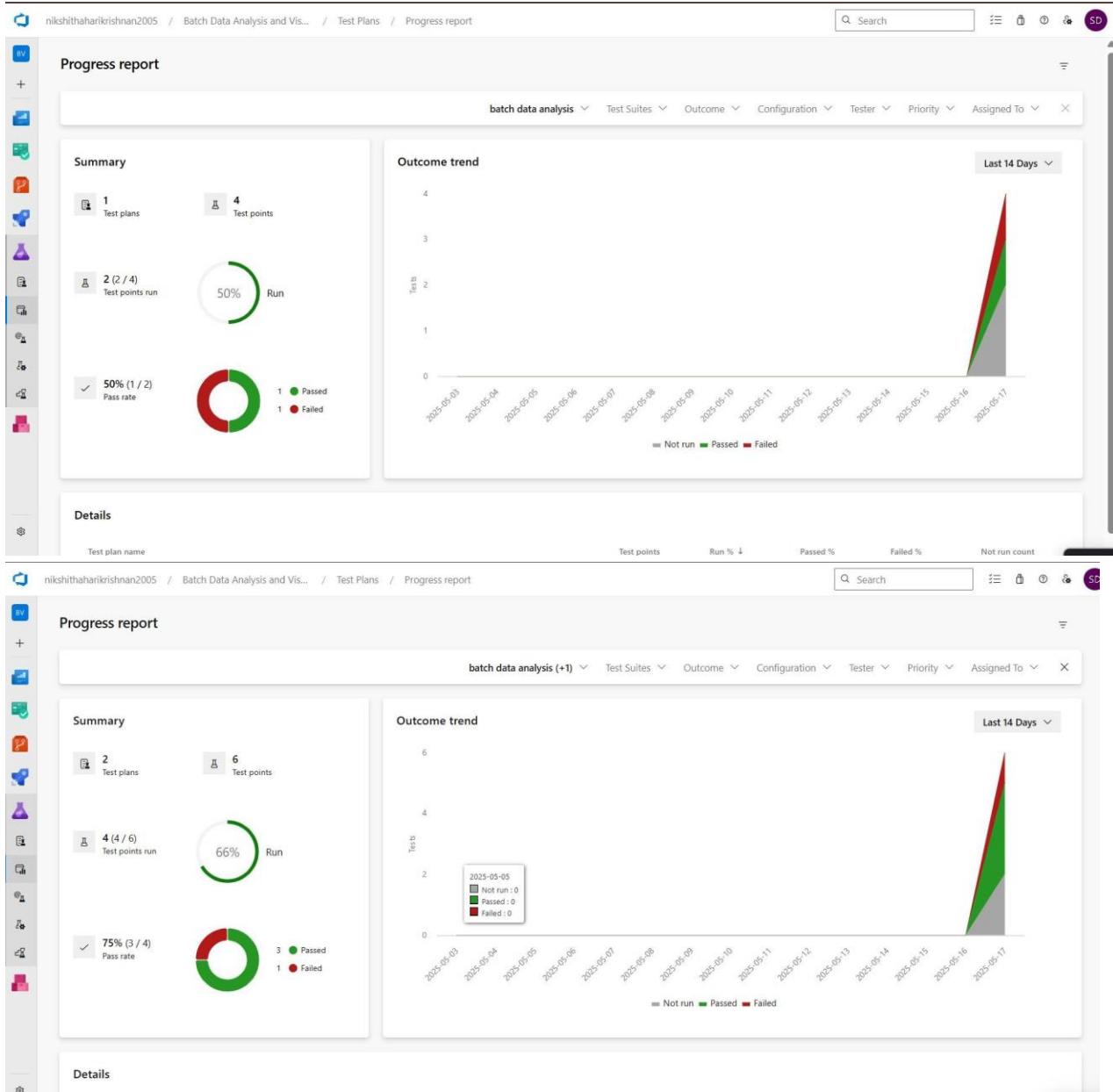
9. Test report summary

The screenshot shows the Azure Boards Work Item details page for a bug titled "BUG 60: not logging in due to system error". The work item is categorized under "Batch Data Analysis and Visualization" and is currently in the "New" state. The "Iteration" field is also set to "Batch Data Analysis and Visualization". The "Repro Steps" section contains three steps: 1. Passed (Navigate to the login page), 2. Passed (Leave username and/or password fields empty), and 3. Failed (Click on "Login"). The "Expected Result" is a validation error message prompting the user to fill required fields. The "Planning" section includes fields for Resolved Reason, Story Points, Priority (set to 2), Severity (set to 3 - Medium), and Activity. The "Deployment" section provides instructions on tracking releases. The "Development" section allows linking to Azure Repos commits or branches. The "Related Work" section includes options for adding links and existing work items. The work item was last updated by Shri Dharshini 4 minutes ago.

- Assigning bug to the developer and changing state

The screenshot shows the same Azure Boards Work Item details page for "BUG 60" after it has been assigned to "Shri Dharshini". The "State" is now "In Progress". The rest of the details, including repro steps, expected results, planning, deployment, development, and related work sections, remain the same as in the previous screenshot.

10. Progress report



11. Changing the test template

The screenshot shows the Azure DevOps 'Process' settings page. On the left, there's a sidebar with 'Organization Settings' and sections for General, Security, and Boards. Under 'Process', the 'Process' tab is selected. The main area displays a list of available process templates under 'All processes'. The 'Agile (default)' template is expanded, showing its sub-templates: 'Basic', 'Agile plus', 'BatchDataAnalysis', 'Scrum', and 'CMMI'. Each template has a brief description and a 'Team projects' column indicating the count.

12. View the new test case template

The screenshot shows the 'Agile' process template settings in Azure DevOps. The 'Layout' tab is selected. A modal dialog titled 'Add a field to Test Case' is open, prompting the user to define a new field. The 'Create a field' option is selected, with 'Name' set to 'text' and 'Type' set to 'Text (single line)'. The 'Description' field contains the placeholder 'Optionally provide a description for the field'. At the bottom of the dialog are 'Learn more' and 'Add field' buttons, along with a 'Cancel' button.

Azure DevOps Settings - Process page for 'Test Case' in 'BATCH DATA ANALYSIS' process.

The left sidebar shows the navigation menu:

- General
- Projects
- Users
- Billing
- Global notifications
- Usage
- Extensions
- Microsoft Entra
- Security
- Process
- Pipelines
- Agent pools
- Settings

The main content area shows the 'Test Case' configuration:

- Layout: Steps, Summary, Associated Aut...
- Steps: Text (multiple lines)
- Recent test results: Recent test case results
- Custom: text (single line)
- Deployment: Deployments
- Development: Links
- Related Work: Links
- Status: Priority (Integer), Automation status (Text (single line))

Azure DevOps Settings - Process page for 'Agile' process.

The left sidebar shows the navigation menu:

- General
- Projects
- Users
- Billing
- Global notifications
- Usage
- Extensions
- Microsoft Entra
- Security
- Process
- Pipelines
- Agent pools
- Settings

The main content area shows the 'Agile' process configuration:

System processes cannot be customized. To add customization create an inherited process.

All processes > Agile

Work item types: Backlog levels: Projects:

Name	Description
Batch data analysis and visualization	About this project This project is a web-based application designed for batch data analysis and visualization, hosted on Microsoft Azure. It en...
Digital lending library application	
digital library	
SHRI DHARSHINI	

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	CI/CD PIPELINES IN AZURE
Date:	

Aim:

To create and demonstrate an Azure DevOps pipeline for automating application builds, tests, and deployment.

PROCEDURE:

Steps to Create and implement pipelines in Azure:

1. Sign in to Azure DevOps and Navigate to Your Project

Log in to dev.azure.com, select your organization, and open the project where your Student Management System code resides.

2. Connect a Code Repository (Azure Repos or GitHub)

Ensure your application code is stored in a Git-based repository such as Azure Repos or GitHub. This will be the source for triggering builds and deployments in your pipeline.

3. Create a New Pipeline

Go to the Pipelines section on the left panel and click “Create Pipeline”.

Choose your source (e.g., Azure Repos Git or GitHub), and then select the repository containing your project code.

4. Choose the Pipeline Configuration

You can select either the YAML-based pipeline (recommended for version control and automation) or the Classic Editor for a GUI-based setup.

If using YAML, Azure DevOps will suggest a template or allow you to define your own.

5. Define Build Stage (CI - Continuous Integration) from YAML file

6. Install dependencies (e.g., npm install, dotnet restore)
7. Build the application (dotnet build, npm run build)
8. Run unit tests (dotnet test, npm test)
9. Publish build artifacts to be used in the release stage
10. Save and Run the Pipeline for the First Time

Save the YAML or build definition and click “Run”.

Azure will fetch the latest code and execute the defined build and test stages.

11. Configure Continuous Deployment (CD)

Navigate to the Releases tab under Pipelines and click “New Release Pipeline”. Add an Artifact (from the build stage) and create a new Stage (e.g., Development, Production).

12. Configure the CD stage with deployment tasks such as deploying to Azure App Service, running database migrations or scripts, and restarting services using the Azure App Service Deploy task linked to your subscription and app details.

13. Set Triggers and Approvals

Enable continuous deployment trigger so the release pipeline runs automatically after a successful build.

For production environments, configure pre-deployment approvals to ensure manual verification before release.

14. Monitor Pipelines and Manage Logs

View all pipeline runs under the Runs section.

Check logs for build/test/deploy stages to debug any errors.

You can also integrate email alerts or Microsoft Teams notifications for build failures.

15. Review and Maintain Pipelines

Regularly update your pipeline tasks or YAML configurations as your application grows. Ensure pipeline runs are clean and artifacts are stored securely.

Integrate quality gates and code coverage policies to maintain code quality.

Pipeline

The screenshot shows the Azure DevOps Pipelines interface. On the left, there's a sidebar with icons for Overview, Boards, Repos, Pipelines (selected), Environments, Library, Test Plans, and Artifacts. The main area displays a pipeline run titled '#20250515.1 • Set up CI with Azure Pipelines'. A summary message says 'This run is being retained as one of 3 recent runs by pipeline.' There are tabs for Summary and Code Coverage. Under Summary, it shows a pull request by 'azuresdkforjs' from 'azure-pipelines-2' at commit '29a77a3f'. It also shows time started and elapsed ('Just now'), related work items (0), artifacts (0), and tests and coverage (3 commits). Below this is a 'Jobs' section with a single job listed as 'Job' with status 'Success' and duration '12s'. At the bottom left, there's a 'Project settings' link.

Result:

Successfully demonstrated pipelines in azure devops

EXP NO: 10

Date :

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

The screenshot shows a GitHub repository page for 'product-uploader'. The repository is public and has 1 branch (main) and 0 tags. It contains several files: 'index.html', 'login.html', and 'uploader.html', all updated yesterday. There are 5 commits in total. A 'README' file is present but empty. The repository has 0 stars, 1 watching, and 0 forks. It also has 5 deployments, with one for 'github-pages' yesterday and 4 more pending. The page includes sections for Activity, Releases, Packages, and Deployments.

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.