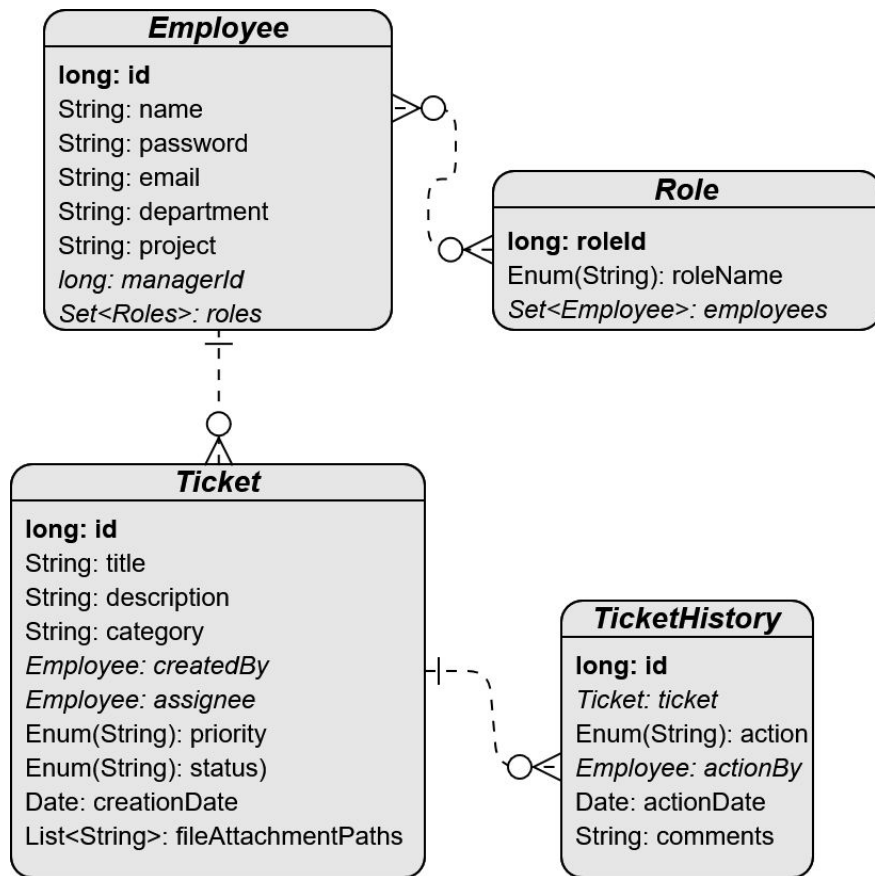


# Ticket System Microservice Project

Jeremiah Dy

Project duration: 1 month (May 2025)

# Ticket Entity Relationship Diagram



# Project Architecture

## *ticketinggateway*

- ❑ Spring-boot
- ❑ Maven
- ❑ Spring-security
- ❑ Spring Data JPA
- ❑ MySQL Database
- ❑ jQuery
- ❑ Bootstrap CSS

~~~~~  
This microservice serves the **frontend** of the project application. It allows users to login/logout and create/modify tickets through HTTP requests to *ticketmicroservice*.

## *ticketmicroservice*

- ❑ Spring-boot
- ❑ Maven
- ❑ Spring Data JPA
- ❑ MySQL Database
- ❑ ActiveMQ
- ❑ Jackson (library)

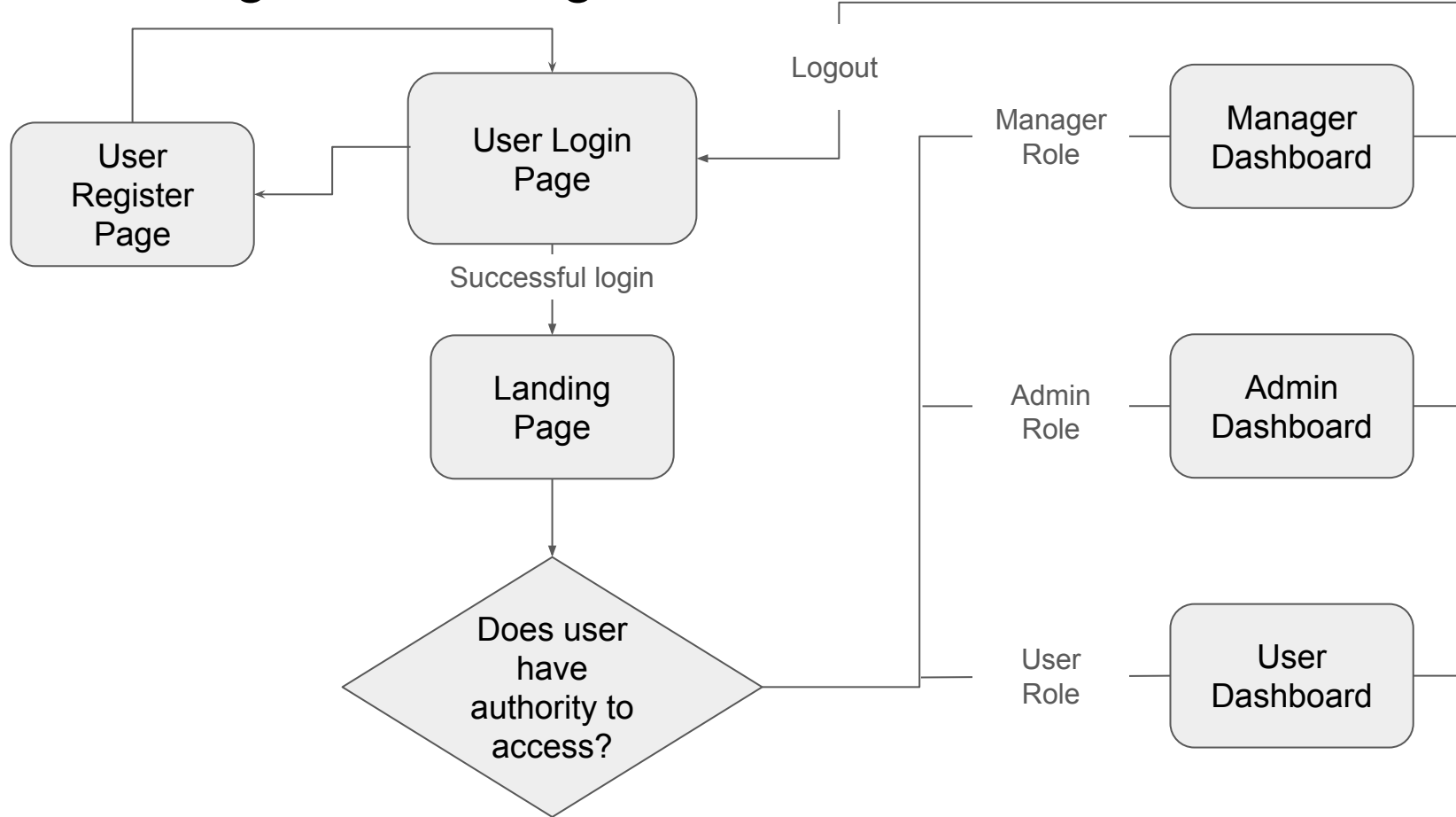
~~~~~  
This microservice serves the **backend** of the project application. It accesses the MySQL database to create and modify tickets and create a historical record of ticket lifecycle events. It also communicates to *notificationmicroservice* to send email notifications to users (e.g. MANAGERS and USERS).

## *notificationmicroservice*

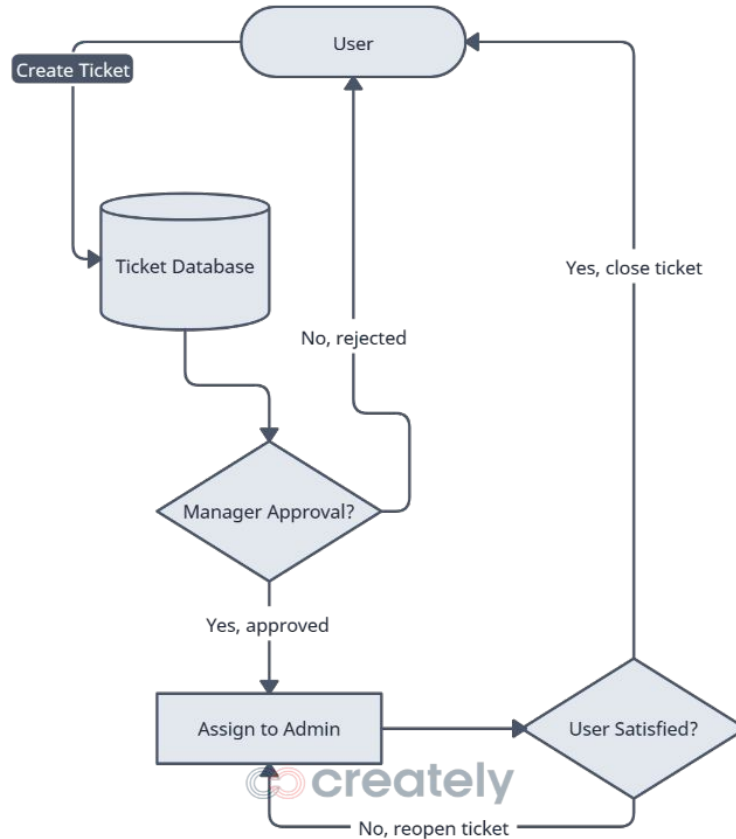
- ❑ Spring-boot
- ❑ Maven
- ❑ ActiveMQ
- ❑ Quartz Scheduler
- ❑ iText PDF v.5
- ❑ Jackson (library)

~~~~~  
This microservice serves the **notification portion** of the project application. Upon receiving JMS messages from *ticketmicroservice* through an ActiveMQ broker, it will generate an email and send it to the email address associated with that user. It also uses Quartz to periodically send a JMS message to *ticketmicroservice* to check ticket statuses and perform routine tasks (e.g. sending reminder emails, auto-closing inactive tickets).

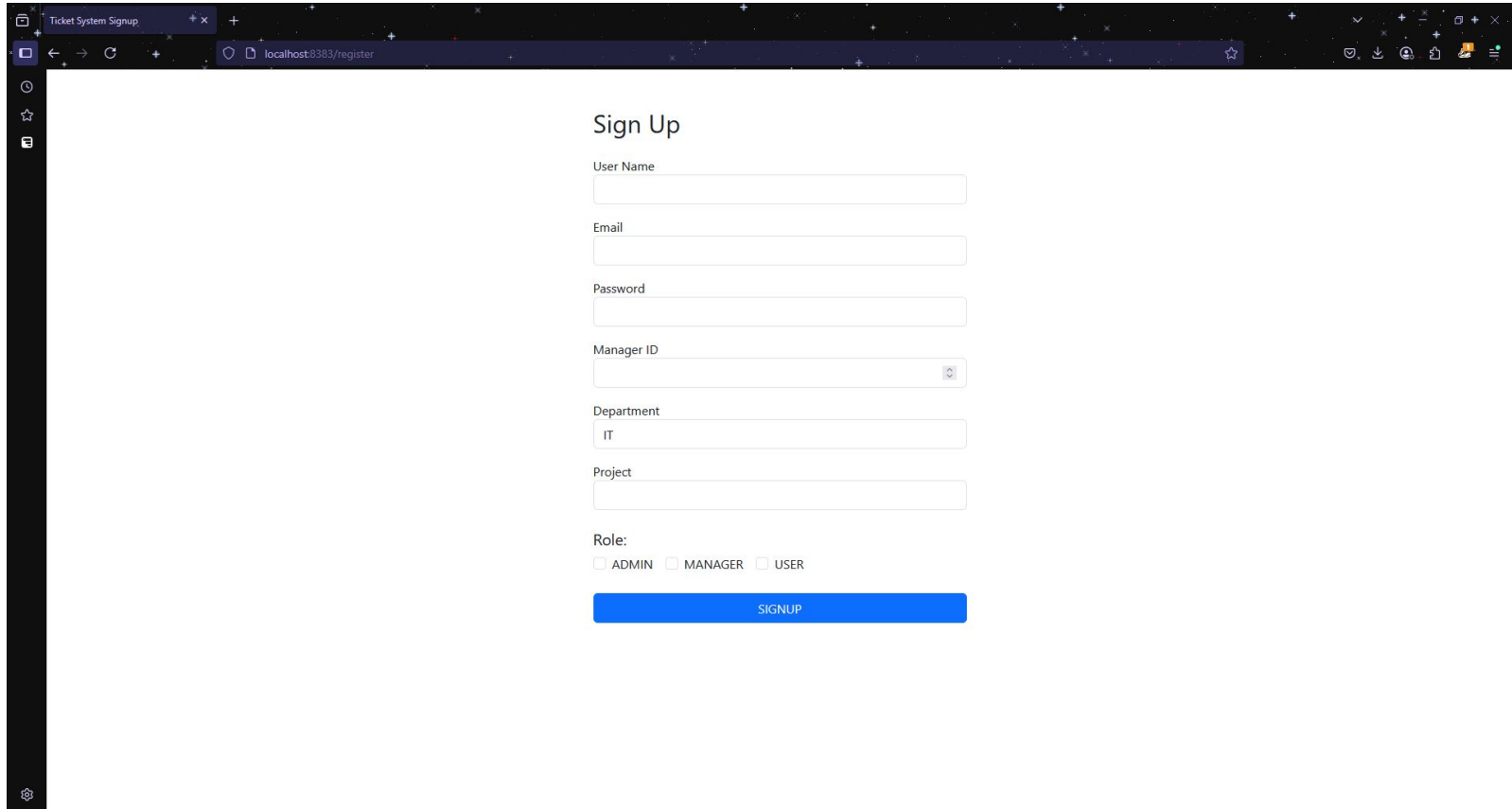
# User Login Flow Diagram



# Ticket Lifecycle Flow Diagram



# User Signup



The screenshot shows a web browser window with a dark theme. The browser's address bar displays 'localhost:8383/register'. The page title is 'Ticket System Signup'. On the left, there is a vertical sidebar with icons for a home page, a star (favorites), and a document (history). The main content area is titled 'Sign Up' and contains a registration form. The form includes input fields for 'User Name', 'Email', 'Password', 'Manager ID' (with a clear button), 'Department' (with 'IT' selected), and 'Project'. Below these fields is a 'Role:' section with three radio button options: 'ADMIN', 'MANAGER', and 'USER'. At the bottom of the form is a blue button labeled 'SIGNUP'.

Ticket System Signup

localhost:8383/register

## Sign Up

User Name

Email

Password

Manager ID

Department

IT

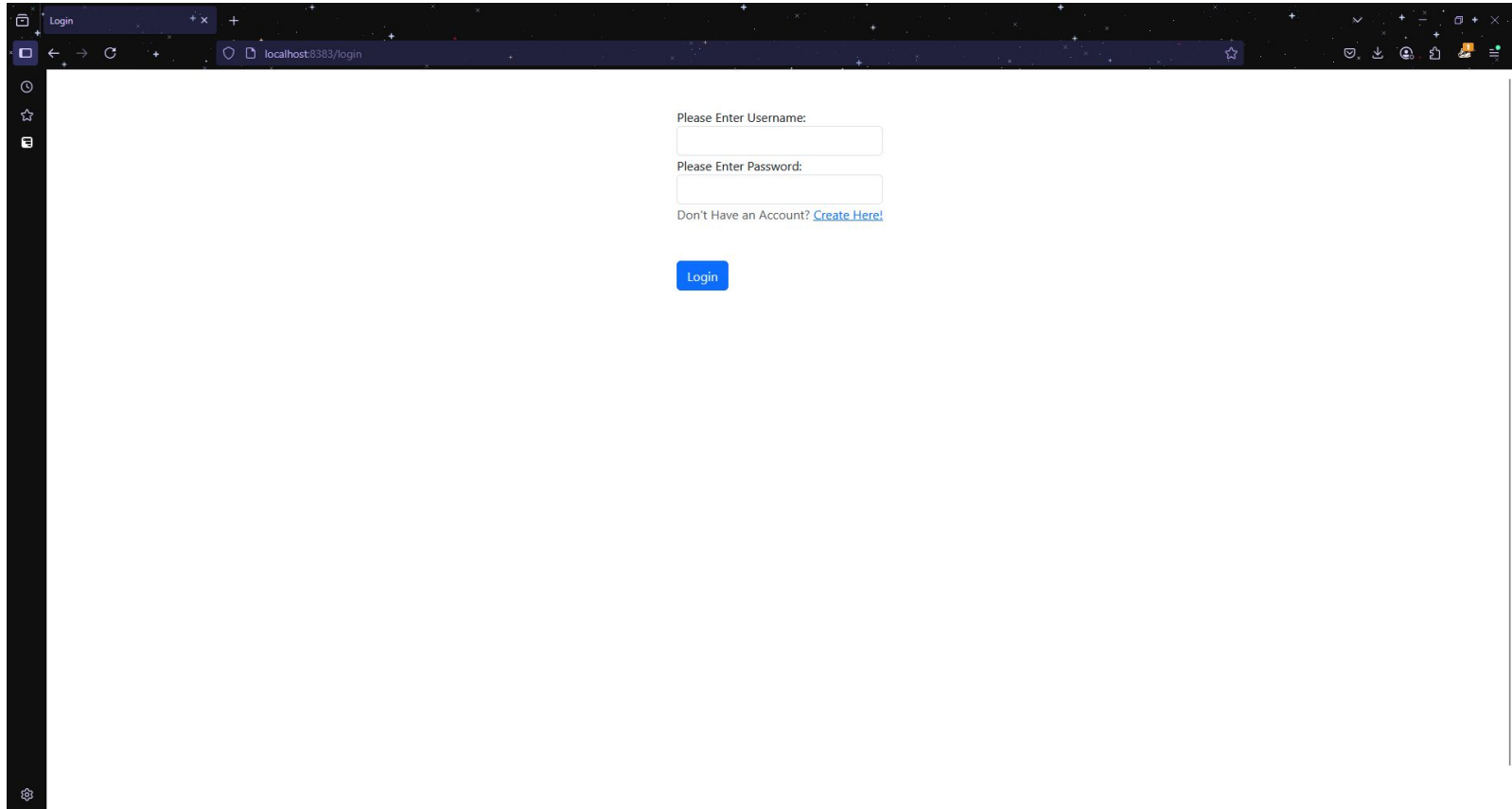
Project

Role:

☐ ADMIN ☐ MANAGER ☐ USER

SIGNUP

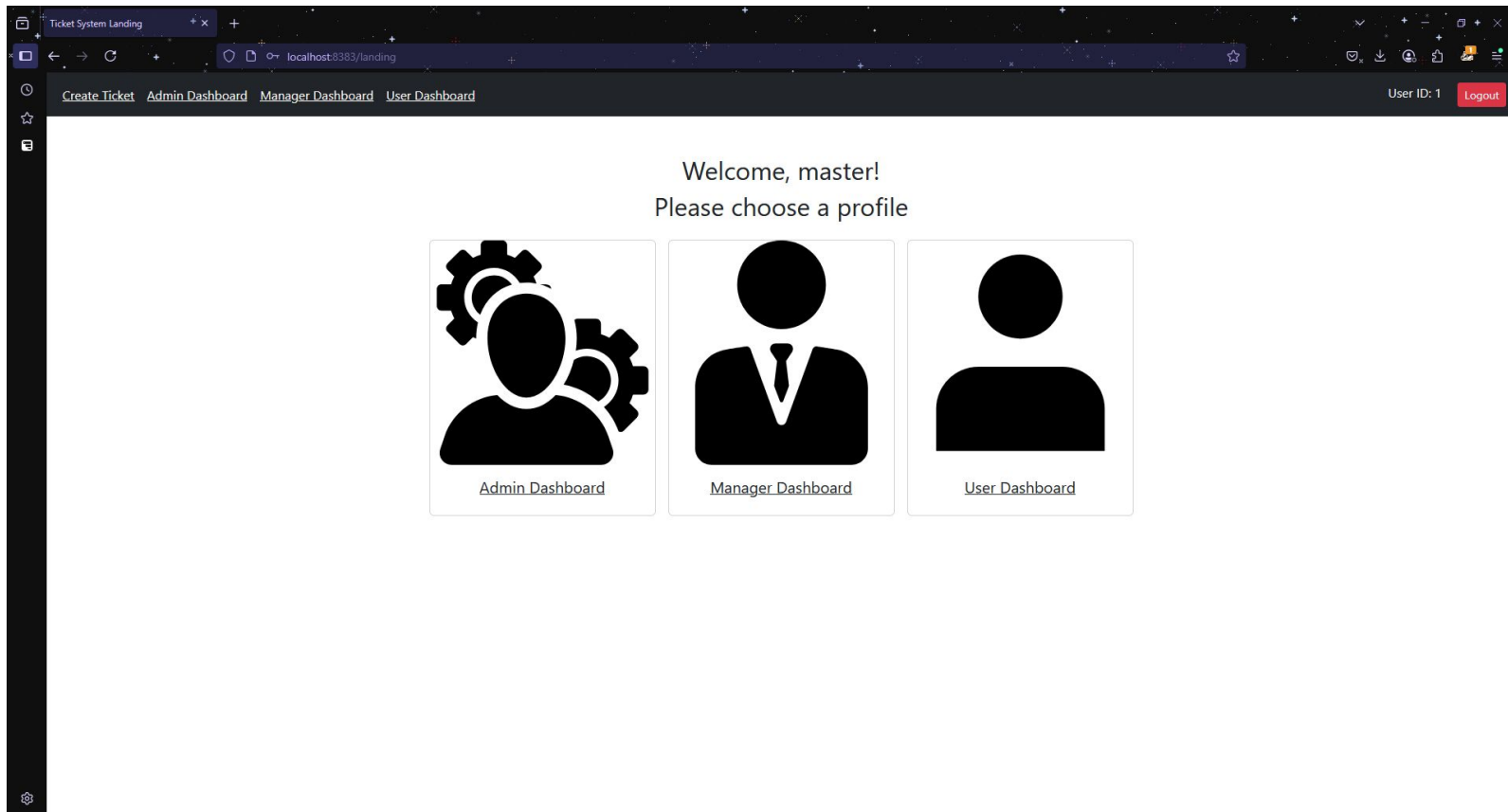
# User Login



The image shows a web browser window with a dark theme. The address bar displays "localhost:8383/login". The page content includes a login form with the following elements:

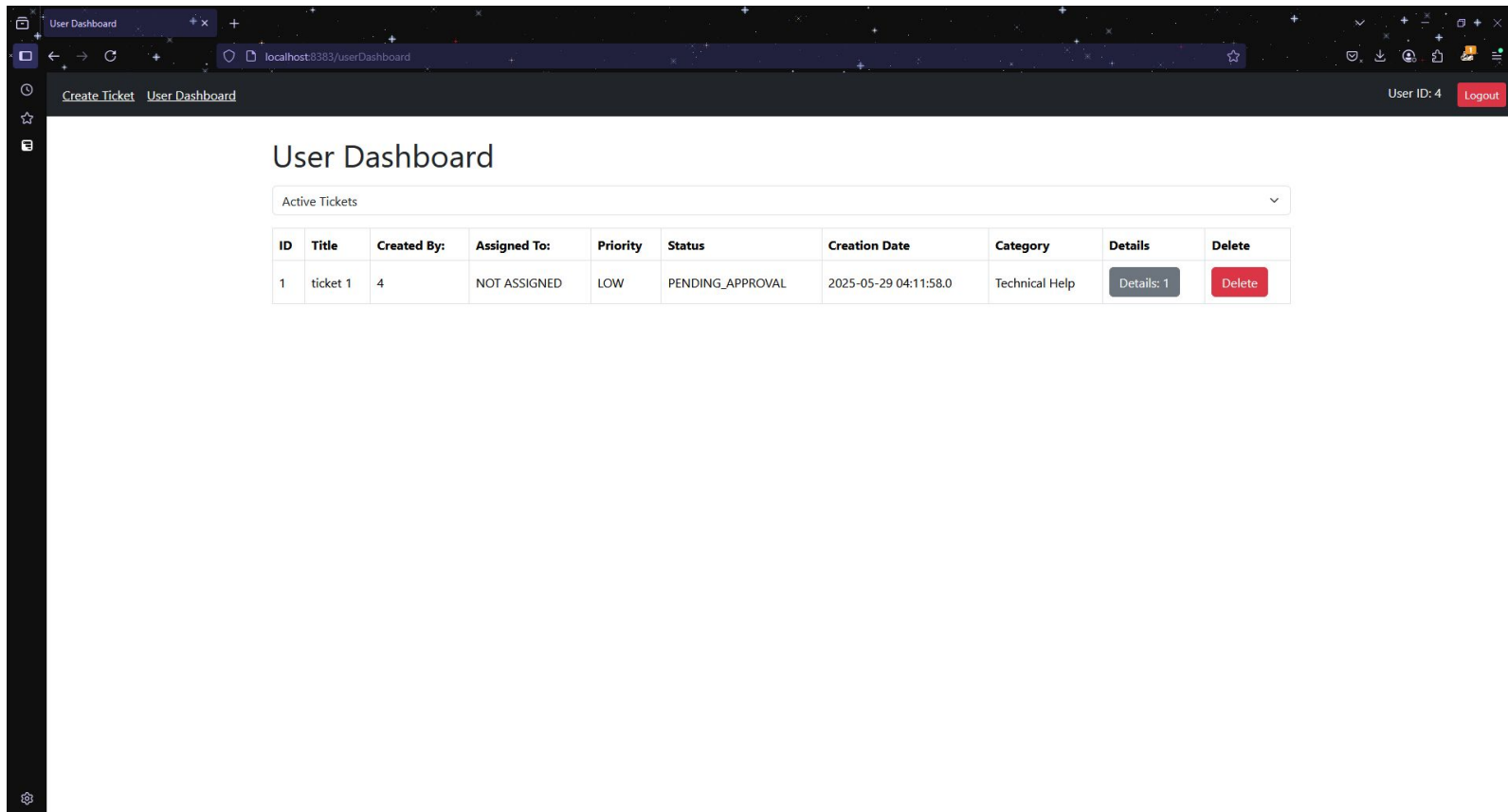
- A tab labeled "Login" at the top left.
- A left sidebar with icons for home, star, and document.
- A main content area with the following text and form elements:
  - "Please Enter Username:" followed by a text input field.
  - "Please Enter Password:" followed by a password input field.
  - A link: "Don't Have an Account? [Create Here!](#)"
  - A blue "Login" button.
- A settings gear icon in the bottom left corner of the sidebar.

# Landing





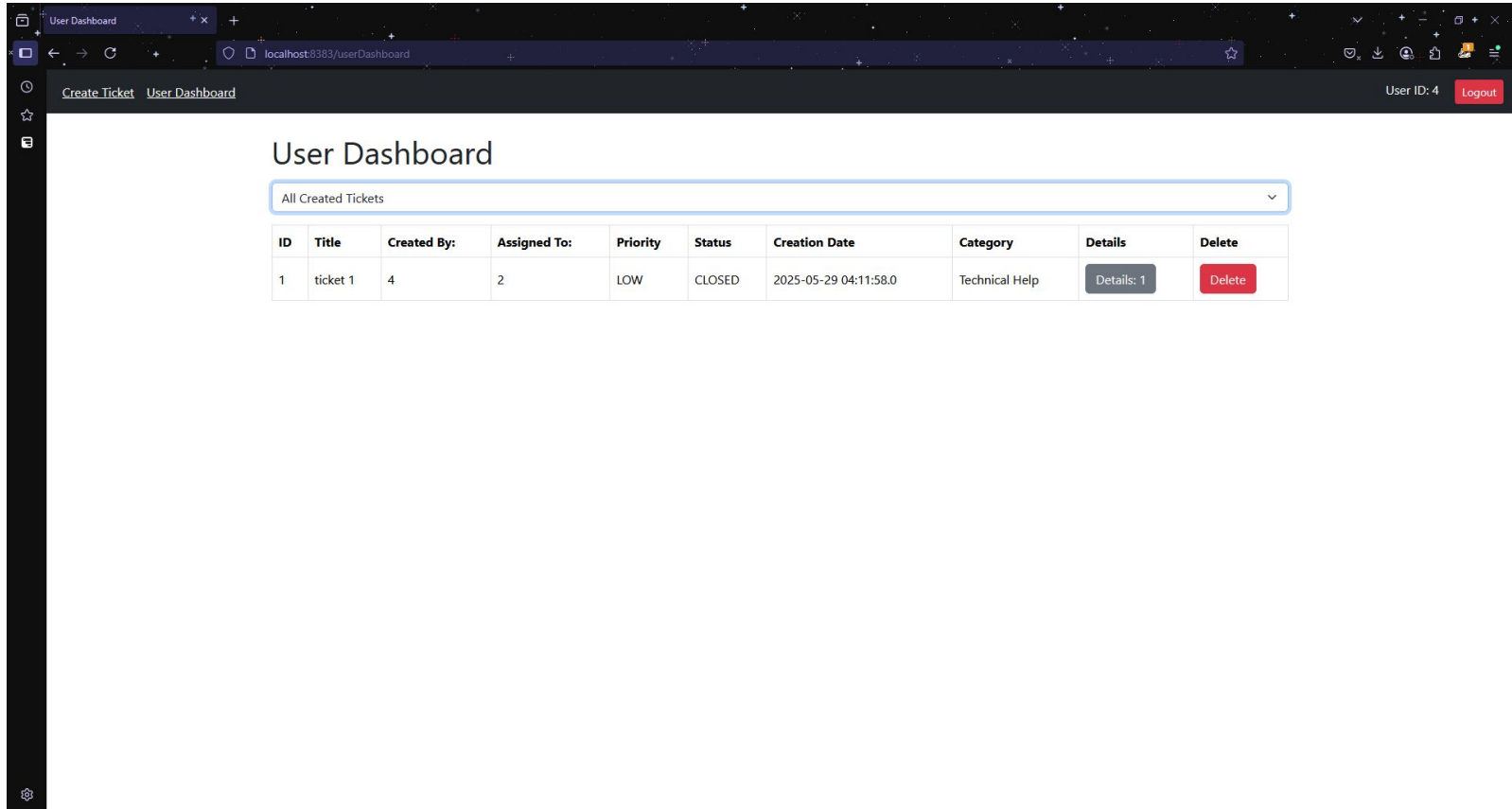
# User Dashboard (active tickets)



The screenshot shows a web browser window with the address bar at `localhost:8383/userDashboard`. The page has a dark sidebar on the left with icons for home, search, and settings. The main content area is titled "User Dashboard" and features a "Create Ticket" link. A header bar at the top right shows "User ID: 4" and a "Logout" button. Below the title, there is a section for "Active Tickets" with a dropdown arrow. A table displays the active tickets with the following data:

| ID | Title    | Created By: | Assigned To: | Priority | Status           | Creation Date         | Category       | Details    | Delete |
|----|----------|-------------|--------------|----------|------------------|-----------------------|----------------|------------|--------|
| 1  | ticket 1 | 4           | NOT ASSIGNED | LOW      | PENDING_APPROVAL | 2025-05-29 04:11:58.0 | Technical Help | Details: 1 | Delete |

# User Dashboard (closed/rejected tickets)



The screenshot shows a web browser window with the address bar at `localhost:8383/userDashboard`. The page has a dark sidebar on the left with icons for home, search, and settings. The main content area is titled "User Dashboard" and features a "Create Ticket" link. A dropdown menu is open, showing "All Created Tickets". Below this is a table with the following data:

| ID | Title    | Created By: | Assigned To: | Priority | Status | Creation Date         | Category       | Details    | Delete |
|----|----------|-------------|--------------|----------|--------|-----------------------|----------------|------------|--------|
| 1  | ticket 1 | 4           | 2            | LOW      | CLOSED | 2025-05-29 04:11:58.0 | Technical Help | Details: 1 | Delete |

# Manager Dashboard (pending tickets)

The screenshot shows a web browser window with the address bar at `localhost:8383/managerDashboard`. The page has a dark sidebar on the left with icons for home, search, and settings. The main content area is titled "Manager Dashboard" and features a "Create Ticket" link. A user bar at the top right shows "User ID: 3" and a "Logout" button. Below the title, there is a filter dropdown set to "Tickets Awaiting Approval". A table displays one ticket with the following data:

| ID | Title    | Created By | Assigned To  | Priority | Status           | Creation Date         | Category       | Details    | Actions                                       | Delete |
|----|----------|------------|--------------|----------|------------------|-----------------------|----------------|------------|-----------------------------------------------|--------|
| 1  | ticket 1 | 4          | NOT ASSIGNED | LOW      | PENDING_APPROVAL | 2025-05-29 04:11:58.0 | Technical Help | Details: 1 | <div>Choose Assignee<br/>Approve Reject</div> | Delete |

Below the table is a "Comments" section with a text input field labeled "Your message..." and a submit button.

# Manager Dashboard (all tickets)

The screenshot shows a web browser window with the address bar at `localhost:8383/managerDashboard`. The page has a dark sidebar on the left with icons for home, search, and settings. The main content area is titled "Manager Dashboard" and features a "Create Ticket" link. A dropdown menu is open, showing "Get All Tickets". Below this is a table with one ticket entry. The table has columns for ID, Title, Created By, Assigned To, Priority, Status, Creation Date, Category, Details, and Delete. The ticket has ID 1, Title "ticket 1", Created By 4, Assigned To 2, Priority LOW, Status ASSIGNED, Creation Date 2025-05-29 04:11:58.0, and Category Technical Help. The Details column shows "Details: 1" and the Delete column has a red "Delete" button. Below the table is a "Comments" section with a text input field labeled "Your message..." and a submit button.

Manager Dashboard

Create Ticket Manager Dashboard

User ID: 3 Logout

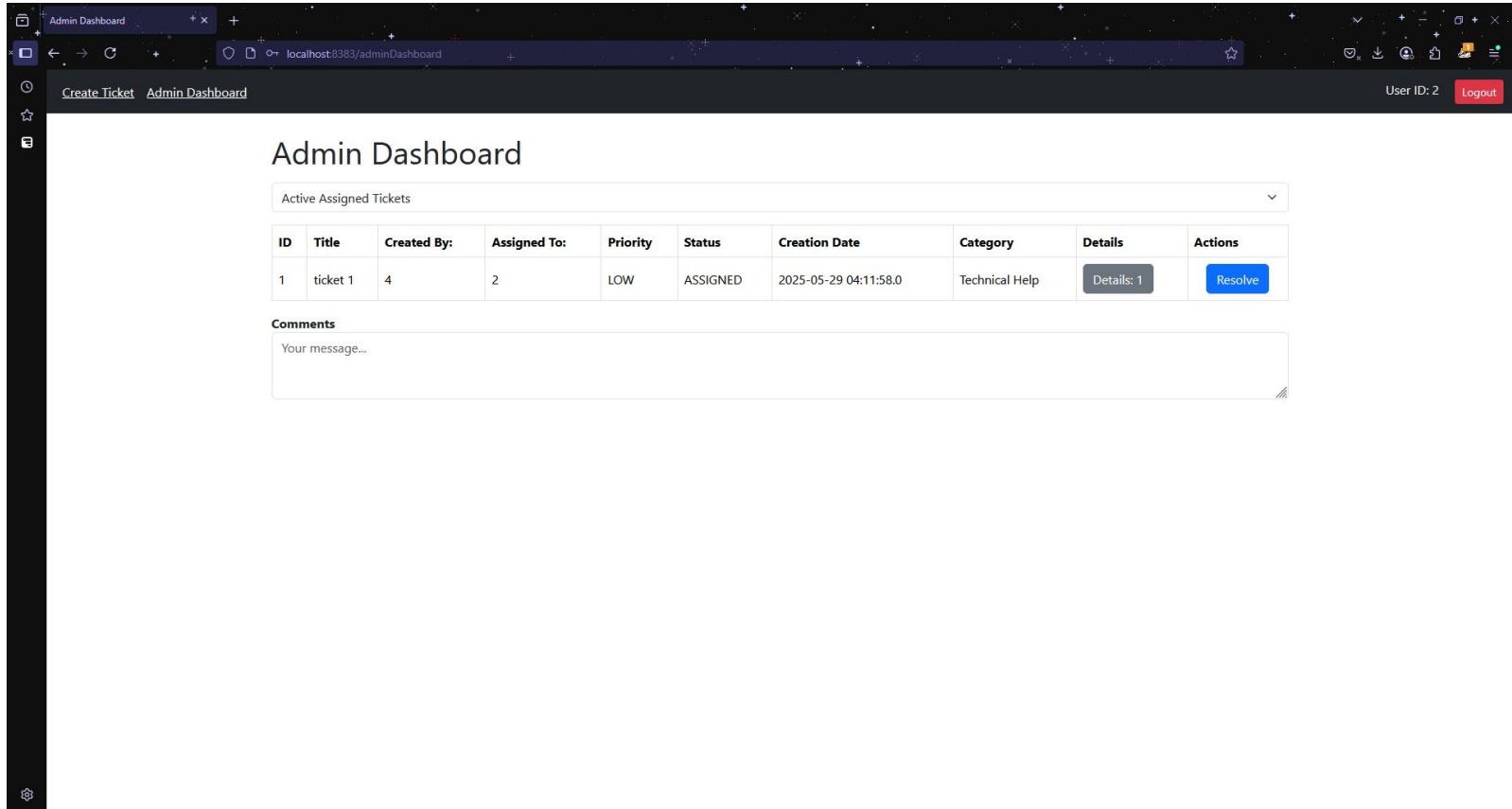
Get All Tickets

| ID | Title    | Created By: | Assigned To: | Priority | Status   | Creation Date         | Category       | Details    | Delete |
|----|----------|-------------|--------------|----------|----------|-----------------------|----------------|------------|--------|
| 1  | ticket 1 | 4           | 2            | LOW      | ASSIGNED | 2025-05-29 04:11:58.0 | Technical Help | Details: 1 | Delete |

Comments

Your message...

# Admin Dashboard (assigned tickets)



The screenshot shows a web browser window with the URL `localhost:8383/adminDashboard`. The page has a dark sidebar on the left with icons for home, tickets, and settings. The main content area is titled "Admin Dashboard" and features a section for "Active Assigned Tickets". This section contains a table with one ticket entry. Below the table is a "Comments" section with a text input field.

Admin Dashboard

Create Ticket Admin Dashboard User ID: 2 Logout

Active Assigned Tickets

| ID | Title    | Created By: | Assigned To: | Priority | Status   | Creation Date         | Category       | Details    | Actions |
|----|----------|-------------|--------------|----------|----------|-----------------------|----------------|------------|---------|
| 1  | ticket 1 | 4           | 2            | LOW      | ASSIGNED | 2025-05-29 04:11:58.0 | Technical Help | Details: 1 | Resolve |

Comments

Your message...

# Admin Dashboard (all previously assigned tickets)

The screenshot shows a web browser window with the URL `localhost:8383/adminDashboard`. The page has a dark sidebar on the left with icons for home, search, and settings. The main content area is titled "Admin Dashboard" and features a dropdown menu set to "All Assigned Tickets". Below this is a table with the following data:

| ID | Title    | Created By: | Assigned To: | Priority | Status   | Creation Date         | Category       | Details    |
|----|----------|-------------|--------------|----------|----------|-----------------------|----------------|------------|
| 1  | ticket 1 | 4           | 2            | LOW      | RESOLVED | 2025-05-29 04:11:58.0 | Technical Help | Details: 1 |

Below the table is a "Comments" section with a text input field labeled "Your message..." and a submit button.

# Ticket Details (User)

Ticket Details

localhost:8383/ticketDetails/2

Create TicketAdmin DashboardManager DashboardUser Dashboard

User ID: 1Logout

Ticket ID: 2

Title: test ticket 2

Description: description test ticket 2

Created By: 1

Assigned To: 2

Priority: HIGH

Status: CLOSED

Creation Date: 2025-05-29 04:25:39.0

Category: Connection Problems

File Attachments

IMG\_9074\_1\_smaller\_emp1\_1748528739182.png

Comments

Your message...

Delete

| Action Date:            | Action By: | Action Status: | Comments                        |
|-------------------------|------------|----------------|---------------------------------|
| 2025-05-29 04:27:13.434 | 1          | CLOSED         |                                 |
| 2025-05-29 04:26:48.842 | 2          | RESOLVED       | Resolving reopened ticket ID: 2 |
| 2025-05-29 04:26:32.558 | 1          | REOPENED       |                                 |
| 2025-05-29 04:26:16.713 | 2          | RESOLVED       | Resolved by ADMIN:2             |
| 2025-05-29 04:25:49.811 | 3          | ASSIGNED       | Ticket ID: 2 - ASSIGNED by: 3   |
| 2025-05-29 04:25:49.794 | 3          | APPROVED       |                                 |
| 2025-05-29 04:25:39.000 | 1          | CREATED        | testing                         |

# Ticket Details (Manager)

Ticket Details

localhost:8383/ticketDetails/1

Create Ticket Manager Dashboard

User ID: 3 Logout

## Ticket Details & History

Ticket ID: 1

**Title:** ticket 1

**Description:** description: ticket 1

**Created By:** 4

**Assigned To:** NOT ASSIGNED

**Priority:** LOW

**Status:** PENDING\_APPROVAL

**Creation Date:** 2025-05-29 04:11:58.0

**Category:** Technical Help

**File Attachments**  
[IMG\\_4279\\_emp4\\_1748527918738.png](#)

**Comments**  
Your message...

Choose Assignee

Approve

Reject

Delete

| Action Date:            | Action By: | Action Status: | Comments                 |
|-------------------------|------------|----------------|--------------------------|
| 2025-05-29 04:11:58.000 | 4          | CREATED        | this is a test, ticket 1 |



# Ticket Details (Admin)

Ticket Details

localhost:8383/ticketDetails/1

Create TicketAdmin Dashboard

User ID: 2Logout

Ticket ID: 1

Title: ticket 1

Description: description: ticket 1

Created By: 4

Assigned To: 2

Priority: LOW

Status: ASSIGNED

Creation Date: 2025-05-29 04:11:58.0

Category: Technical Help

File Attachments

IMG\_4279\_emp4\_1748527918738.png

Comments

Your message...

Resolve

| Action Date:            | Action By: | Action Status: | Comments                                                      |
|-------------------------|------------|----------------|---------------------------------------------------------------|
| 2025-05-29 04:13:25.575 | 3          | ASSIGNED       | Ticket ID: 1 - ASSIGNED by: 3                                 |
| 2025-05-29 04:13:25.559 | 3          | APPROVED       | Manager ID: 3 is assigning ticket:1 to ADMIN employee with ID |
| 2025-05-29 04:11:58.000 | 4          | CREATED        | this is a test, ticket 1                                      |

# Email Notification - Manager (pending tickets)

Pending tickets: 2025-05-27

| ID: | Title:    | Created By: | Priority | Creation Date           | Category  |
|-----|-----------|-------------|----------|-------------------------|-----------|
| 4   | ol ticket | 1           | MEDIUM   | 2024-05-26 00:00:00.000 | ol ticket |

Pending tickets: 2025-05-27

No pending tickets today!

# Email Notification - User (ticket updated)

CREATED ticket ID: 2

Title: test ticket 2

Description: description test ticket 2

Priority: HIGH

Category: Connection Problems

comments: testing

APPROVED ticket ID: 2

Title: test ticket 2

Description: description test ticket 2

Priority: HIGH

Category: Connection Problems

comments:

REOPENED ticket ID: 2

Title: test ticket 2

Description: description test ticket 2

Priority: HIGH

Category: Connection Problems

comments:

CLOSED ticket ID: 2

Title: test ticket 2

Description: description test ticket 2

Priority: HIGH

Category: Connection Problems

comments:

# Email Notification - User (ticket resolved)

## Resolving ticket ID: 2

Resolved by: 2  
Title: test ticket 2  
Description: description test ticket 2  
Priority: HIGH  
Category: Connection Problems  
comments: Resolving reopened ticket ID: 2

One attachment • Scanned by Gmail ⓘ



## TICKET ID: 3

### Ticket Details

Title: ticket 3  
Creation Date: 2025-05-29 04:42:54.0  
Resolved By: 1  
Priority: MEDIUM  
Category: Technical Help

### Description

ticket 3

### Ticket History

| actionDate              | actionBy | action   | comments                      |
|-------------------------|----------|----------|-------------------------------|
| 2025-05-29 04:42:54.000 | 1        | CREATED  | ticket 3                      |
| 2025-05-29 04:42:57.646 | 1        | APPROVED |                               |
| 2025-05-29 04:42:57.742 | 1        | ASSIGNED | Ticket ID: 3 - ASSIGNED by: 1 |
| 2025-05-29 04:43:02.489 | 1        | RESOLVED |                               |
| 2025-05-29 04:49:25.439 | 1        | REOPENED |                               |
| 2025-05-29 04:49:30.470 | 1        | RESOLVED |                               |
| 2025-05-29 04:53:32.990 | 1        | REOPENED |                               |
| 2025-05-29 04:53:35.941 | 1        | RESOLVED |                               |