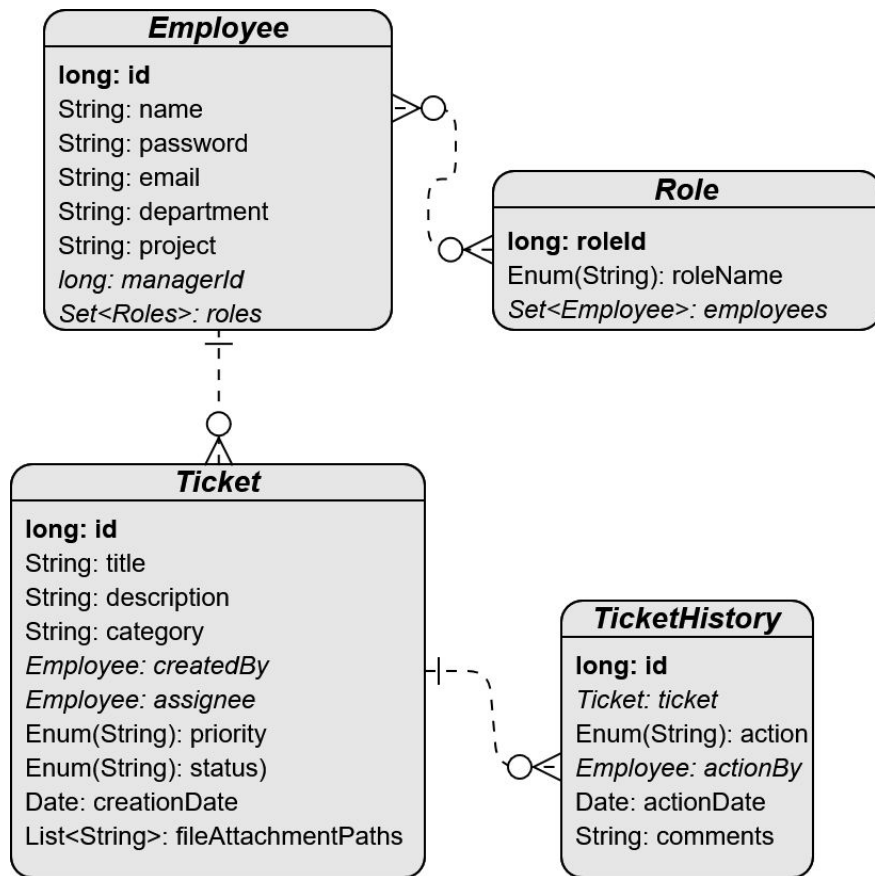


Ticket System Microservice Project

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).

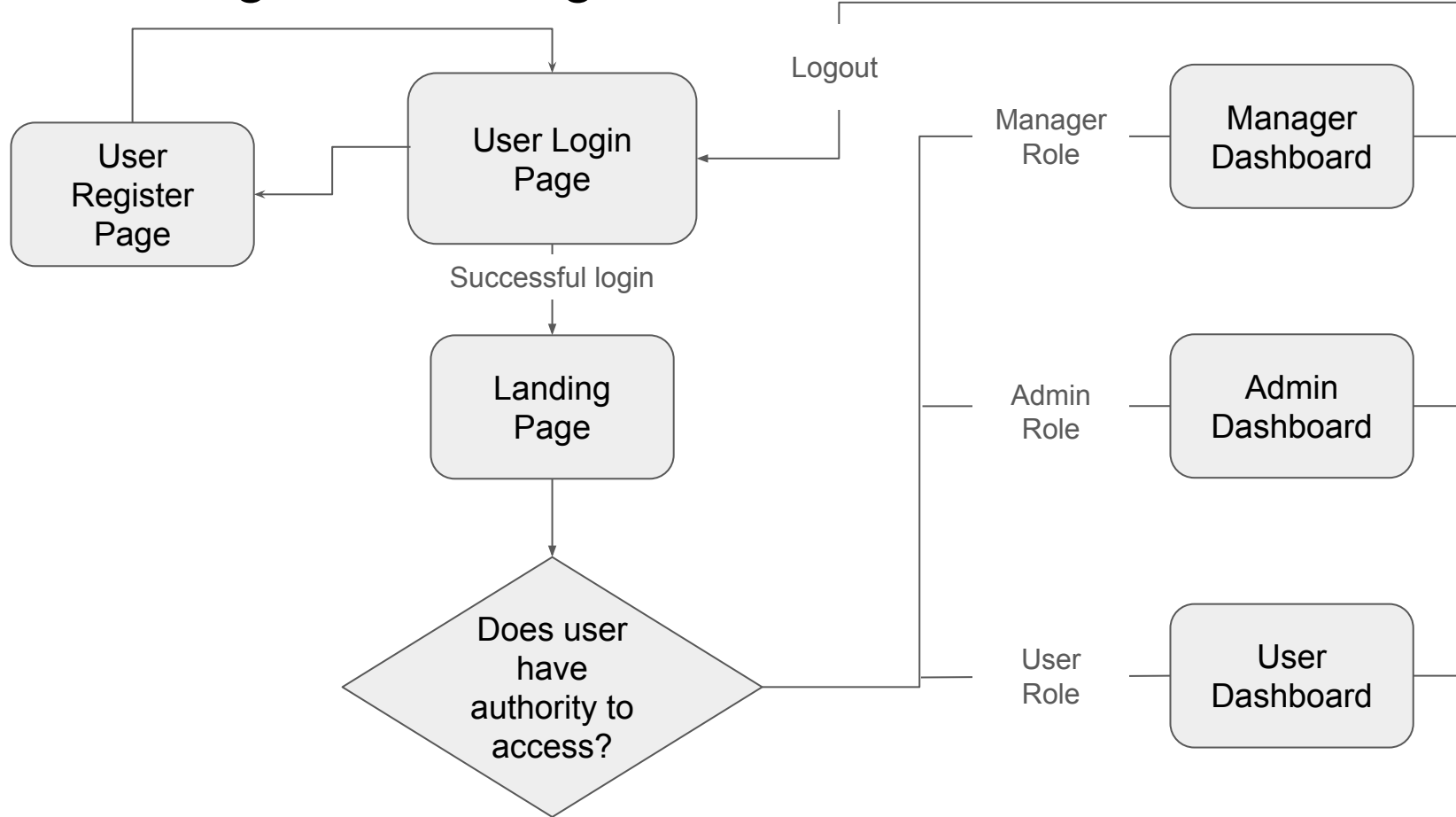
notificationmicroservice

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

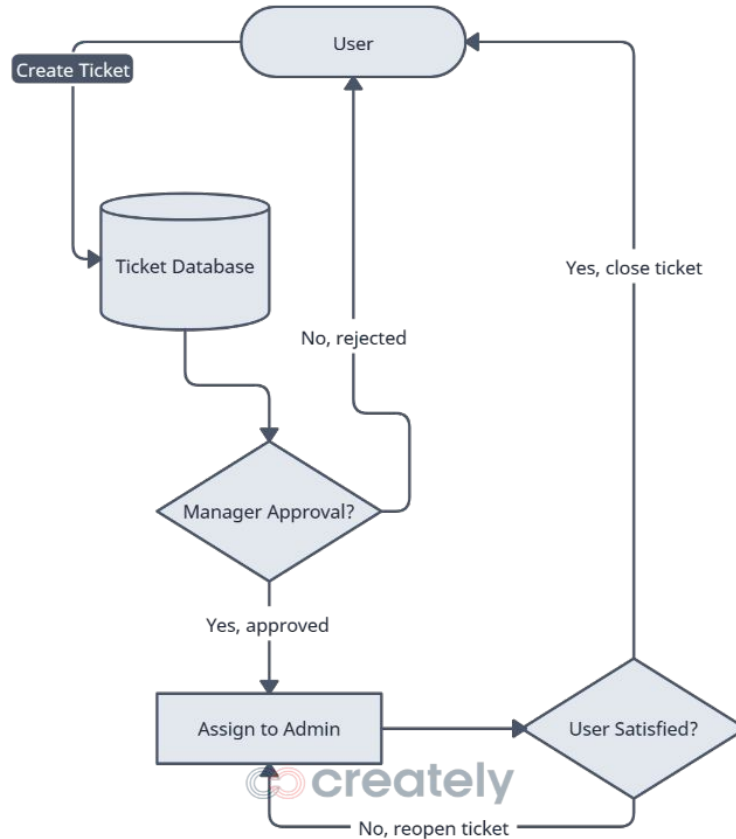
~~~~~

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).

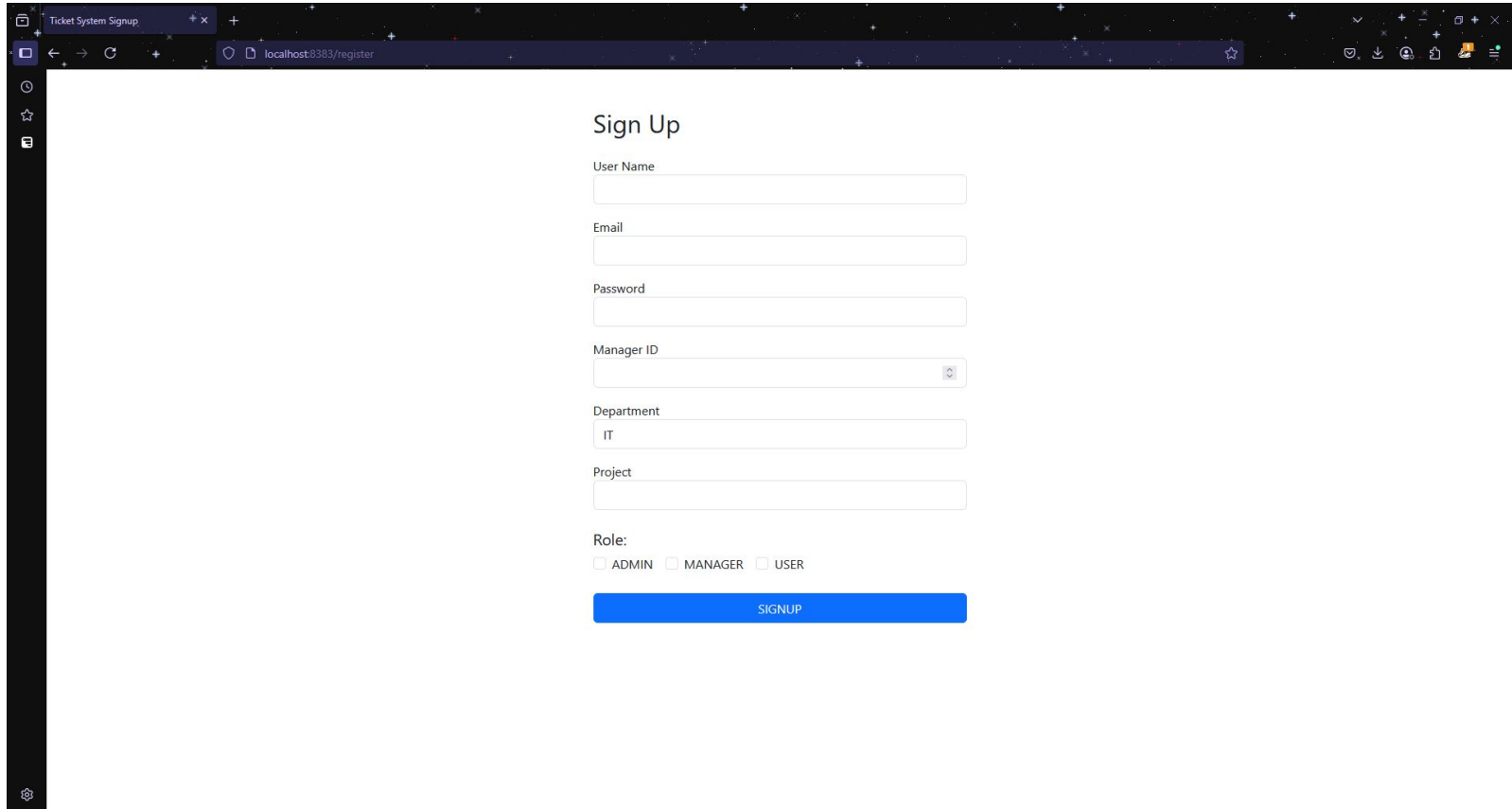
# User Login Flow Diagram



# 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 side of the browser window, there is a vertical sidebar with icons for home, star, and document, and a settings gear icon at the bottom. The main content area of the browser displays a 'Sign Up' form. The form includes input fields for 'User Name', 'Email', 'Password', 'Manager ID' (with a clear button), 'Department' (containing the text 'IT'), 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

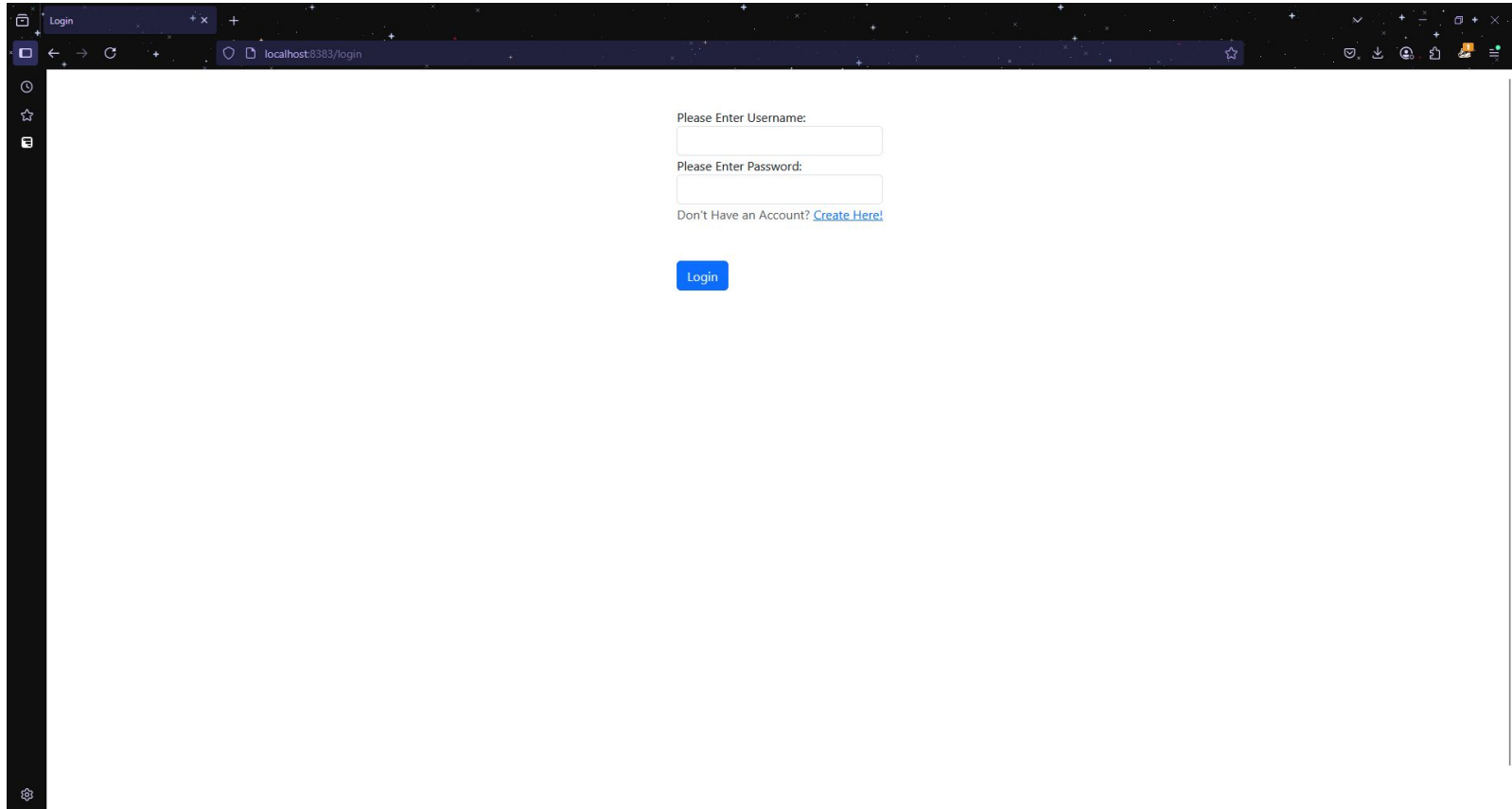
Project

Role:

☐ ADMIN ☐ MANAGER ☐ USER

SIGNUP

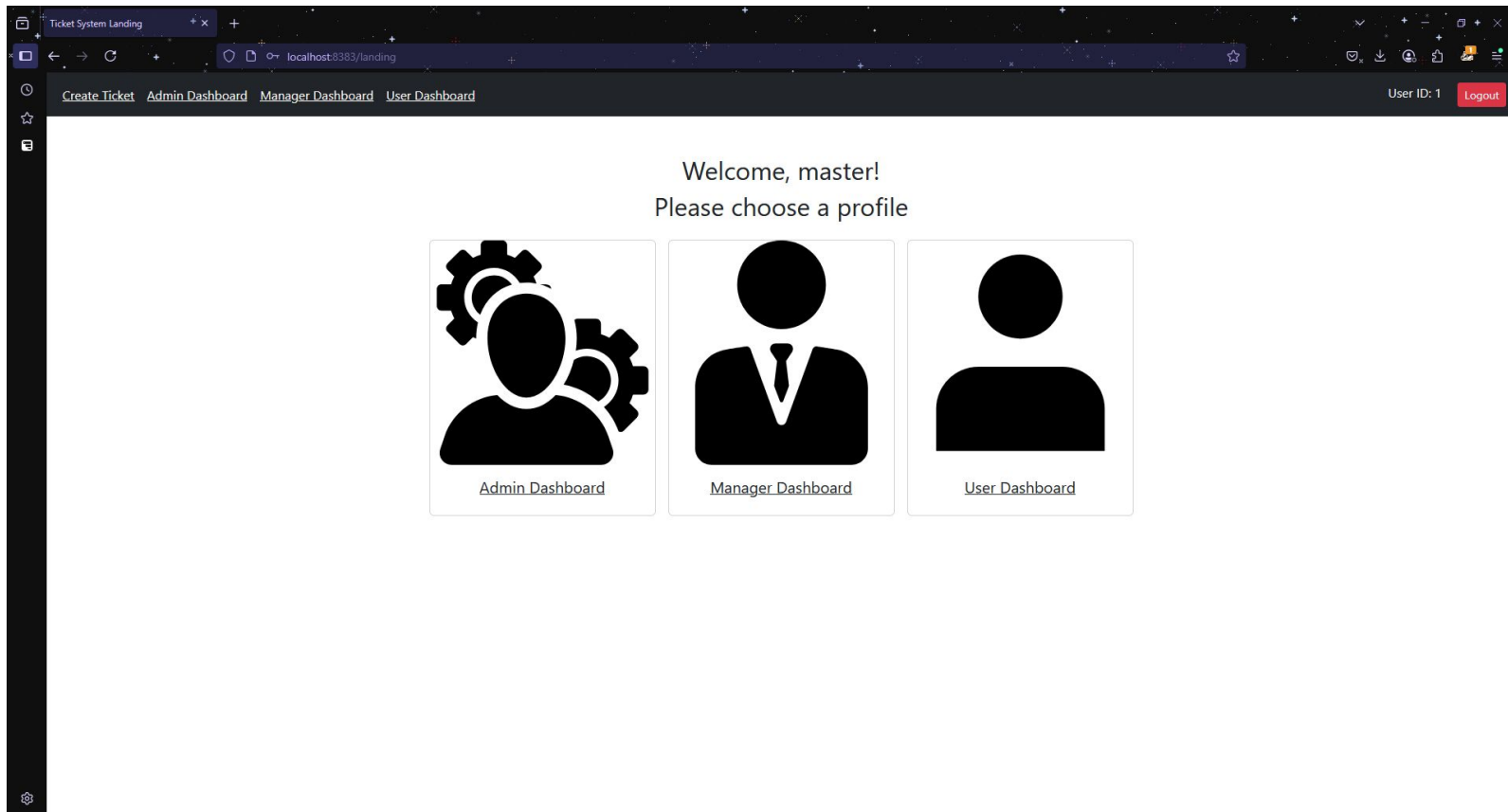
# User Login



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 back arrow, forward arrow, and refresh icon in the address bar area.
- A left sidebar with icons for home, star, and document.
- A bottom-left settings gear icon.
- Form labels: 'Please Enter Username:' and 'Please Enter Password:'.
- Two text input fields for username and password.
- A link: 'Don't Have an Account? [Create Here!](#)'.
- A blue 'Login' button.

# Landing





# User Dashboard (active tickets)

The screenshot shows a web browser window with the address bar displaying `localhost:8383/userDashboard`. The browser's top bar includes navigation icons and a user profile section showing "User ID: 4" and a "Logout" button. The dashboard itself 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 section for "Active Tickets" with a dropdown arrow. Below this is a table with one row of ticket 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, dashboard, and settings. The main content area is titled "User Dashboard" and features a dropdown menu labeled "All Created Tickets". Below the dropdown 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 |

The "Details: 1" button is highlighted in grey, and the "Delete" button is red.

# 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 | Choose Assignee<br>Approve Reject | Delete |

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

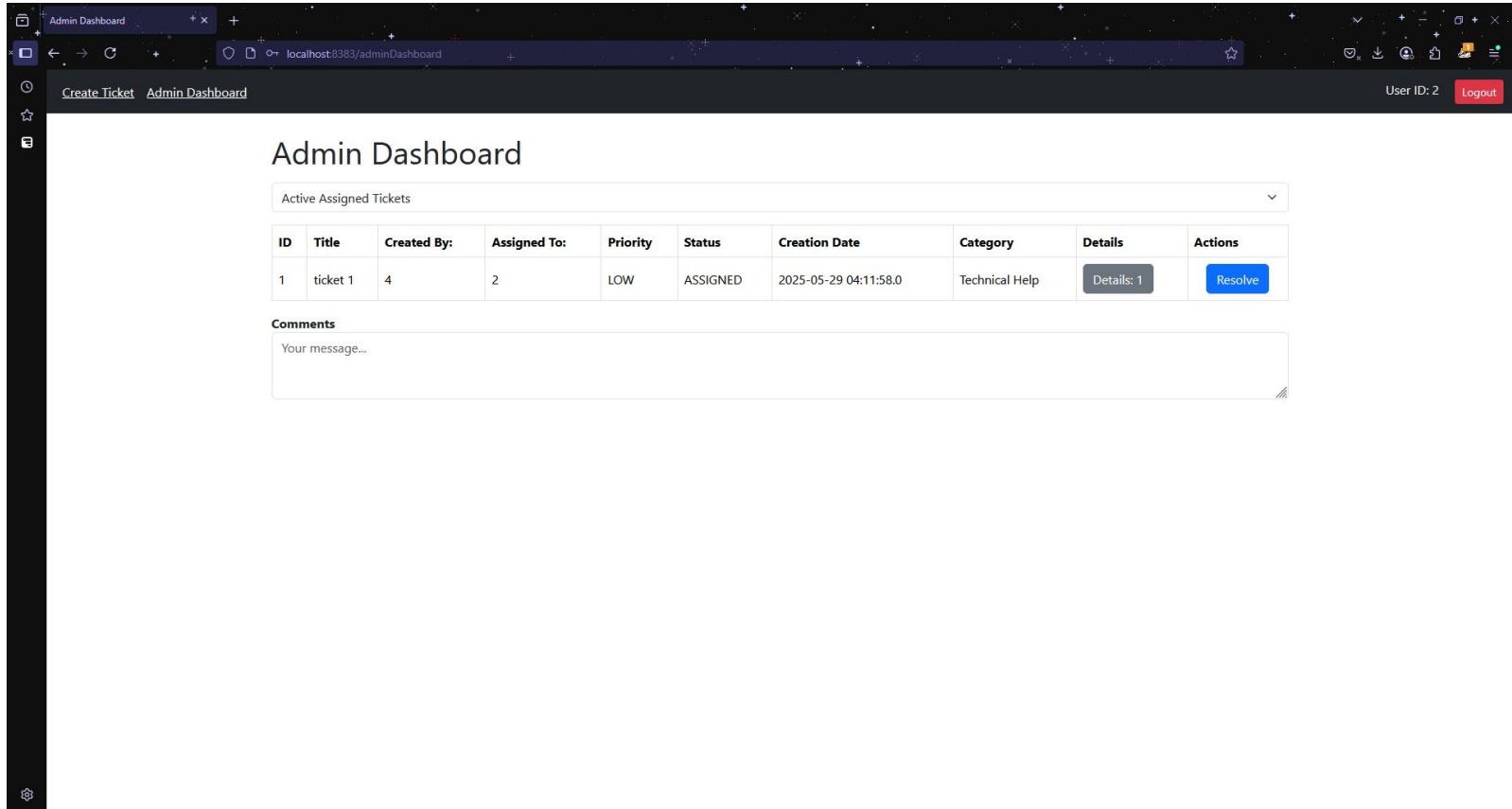
# Manager Dashboard (all tickets)

The screenshot shows a web browser window with the address bar displaying `localhost:8383/managerDashboard`. The browser's address bar and tabs are visible at the top. The dashboard itself has a dark sidebar on the left with icons for navigation. The main content area has a header with a "Create Ticket" link and the current page title "Manager Dashboard". On the right side of the header, it shows "User ID: 3" and a "Logout" button. The main content area is titled "Manager Dashboard" and contains a search bar with the text "Get All Tickets". Below the search bar 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      | ASSIGNED | 2025-05-29 04:11:58.0 | Technical Help | Details: 1 | Delete |

Below the table is a "Comments" section with a text input field labeled "Your message..." and a small icon in the bottom right corner.

# 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 labeled "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 | <button>Details: 1</button> |

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: 2

### Ticket Details

Title: test ticket 2  
Creation Date: 2025-05-29 04:25:39.0  
Resolved By: 2  
Priority: HIGH  
Category: Connection Problems

### Description

description test ticket 2

### Ticket History

| actionDate              | actionBy | action   | comments                      |
|-------------------------|----------|----------|-------------------------------|
| 2025-05-29 04:25:39.000 | 1        | CREATED  | testing                       |
| 2025-05-29 04:25:49.794 | 3        | APPROVED |                               |
| 2025-05-29 04:25:49.811 | 3        | ASSIGNED | Ticket ID: 2 - ASSIGNED by: 3 |
| 2025-05-29 04:26:16.713 | 2        | RESOLVED | Resolved by ADMIN:2           |
| 2025-05-29 04:26:32.558 | 1        | REOPENED |                               |