



# **COURSE MANAGEMENT SYSTEM**

A COMPREHENSIVE ANGULAR SPA IMPLEMENTATION

# PROJECT OVERVIEW

- A SINGLE PAGE APPLICATION (SPA) BUILT USING ANGULAR.
- IMPLEMENTS COURSE MANAGEMENT FUNCTIONALITIES.
- USES JSON SERVER AS A BACKEND.
- COVERS ALL MAJOR ANGULAR CONCEPTS.

# FEATURES IMPLEMENTED

- ✓ USER AUTHENTICATION (LOGIN/LOGOUT)
- ✓ HOME PAGE WITH NAVIGATION
- ✓ COURSE LIST WITH DETAILS
- ✓ ADD, UPDATE, AND DELETE COURSES
- ✓ API CALLS USING JSON SERVER
- ✓ ROUTE GUARDS FOR AUTHENTICATION

# ANGULAR CONCEPTS USED

- COMPONENTS & PARENT-CHILD COMMUNICATION
- DIRECTIVES (STRUCTURAL & ATTRIBUTE)
- @INPUT AND @OUTPUT
- ROUTING & ROUTE PARAMETERS
- LOCAL STORAGE FOR AUTHENTICATION
- ROUTE GUARDS FOR PROTECTION
- SERVICES & OBSERVABLES
- FORM HANDLING (TEMPLATE & MODEL-BASED)
- PIPES (INBUILT & CUSTOM)

# PROJECT STRUCTURE

- COMPONENTS:
  - HOME, COURSE LIST, COURSE DETAILS, ADD COURSE, UPDATE COURSE
- SERVICES:
  - COURSESERVICE FOR API HANDLING
- GUARDS:
  - AUTHGUARD FOR AUTHENTICATION
- PIPES & DIRECTIVES:
  - CUSTOM TITLE FORMATTING PIPE
  - HIGHLIGHT DIRECTIVE

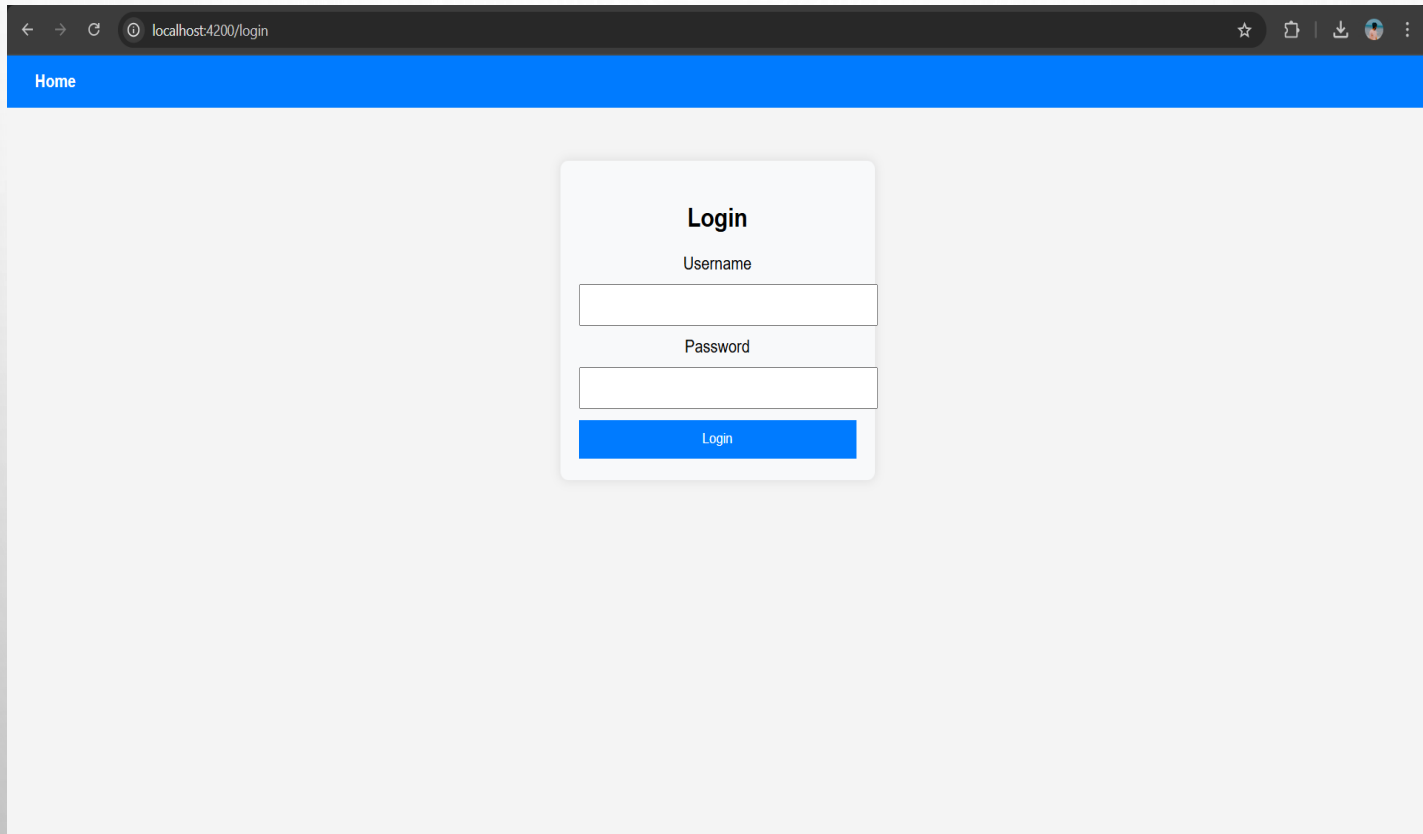
# TECHNOLOGIES USED

- ANGULAR
- TYPESCRIPT
- HTML, CSS
- JSON SERVER
- BOOTSTRAP (FOR STYLING)

# DEMO & SCREENSHOTS

- HOME PAGE WITH COURSE LIST
- ADDING A NEW COURSE
- EDITING AN EXISTING COURSE
- COURSE DETAILS VIEW
- AUTHENTICATION & ROUTE GUARDS

# LOGIN SCREEN



← → ↺ localhost:4200/login ☆ | ⌵ | 🌐 ⋮

Home

## Login

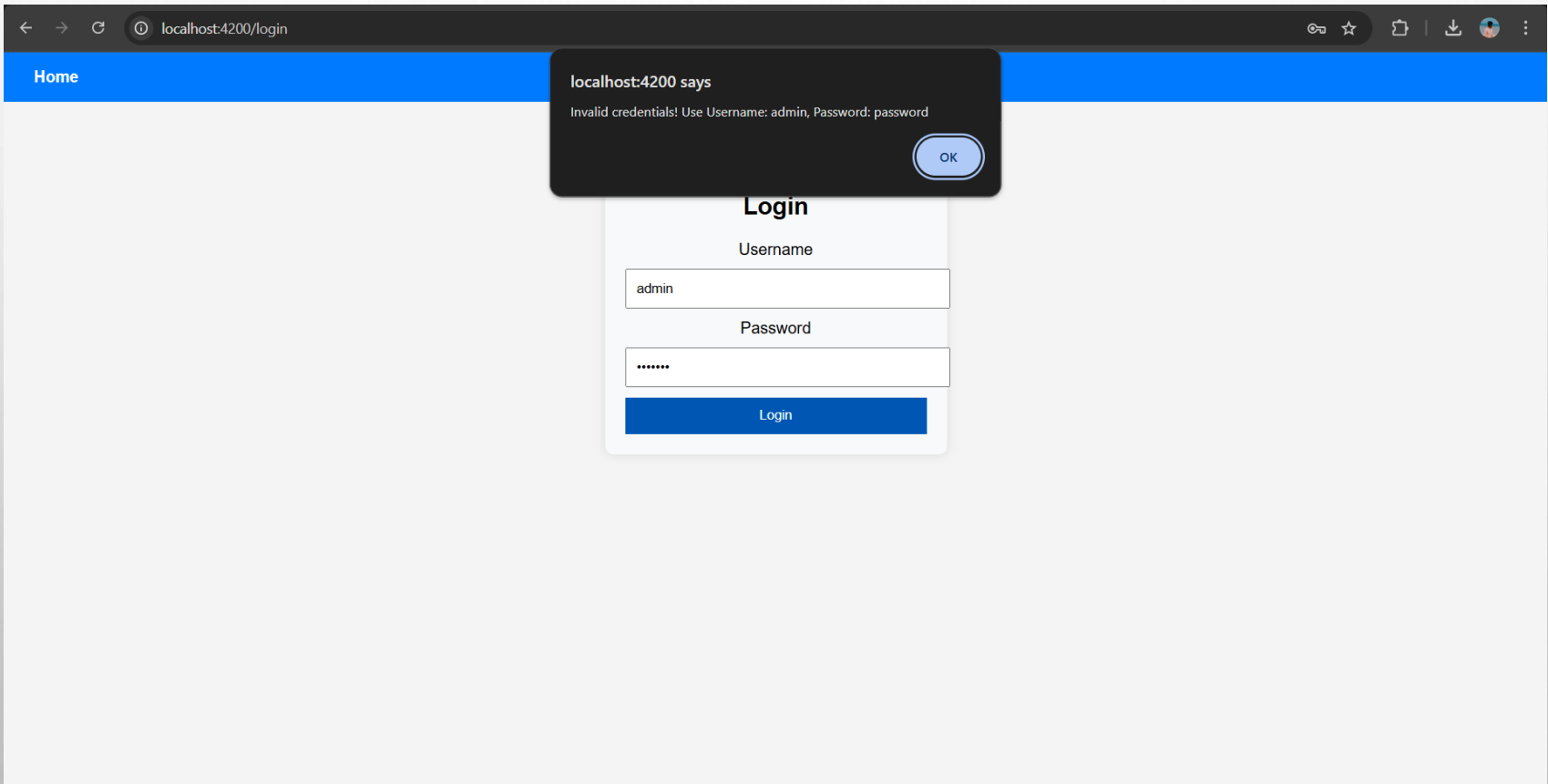
Username

Password

Login



# LOGIN(WRONG CREDENTIALS)

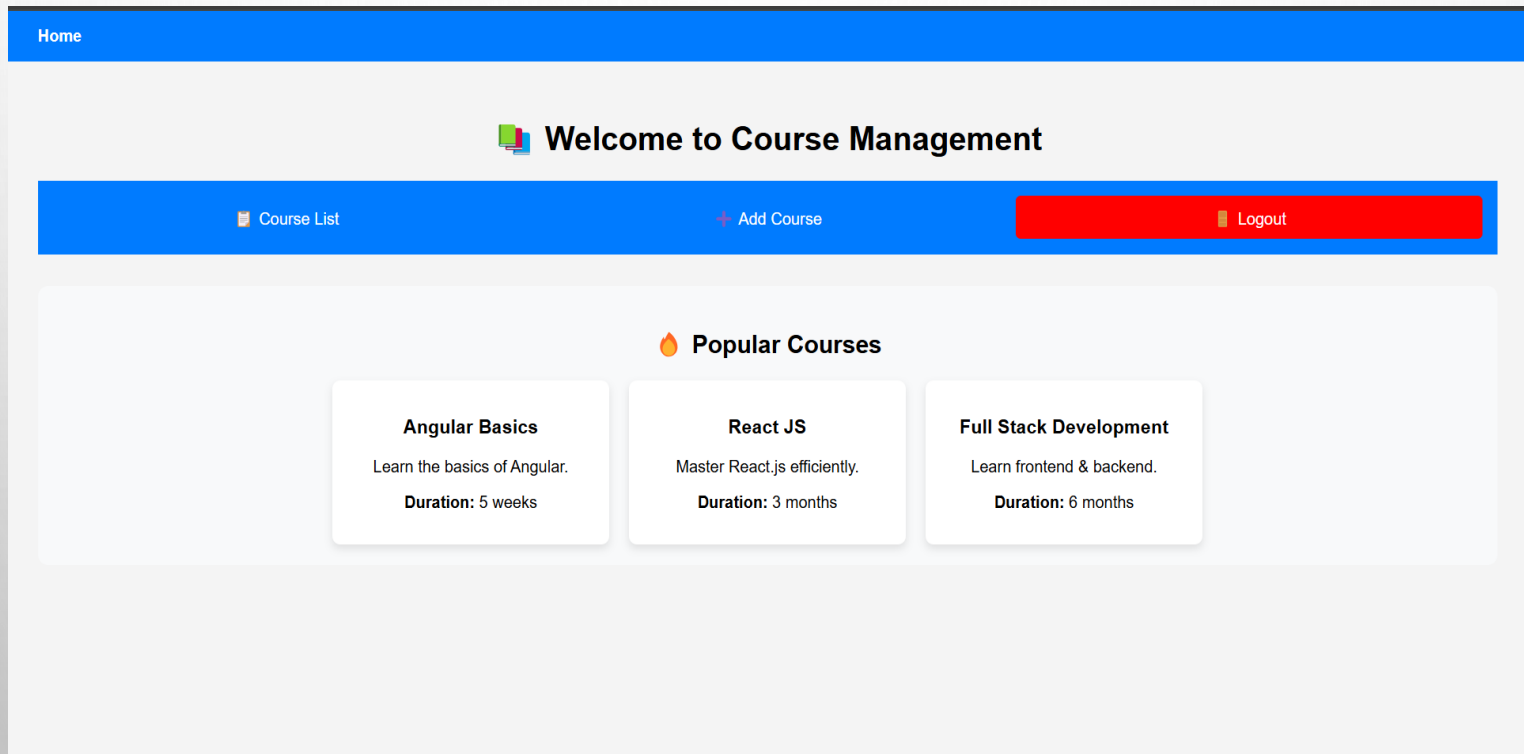


The screenshot shows a web browser window with the address bar displaying "localhost:4200/login". The browser's navigation bar includes back, forward, and refresh buttons, along with icons for bookmarks, tabs, and a user profile. A blue header bar at the top of the page contains the word "Home".

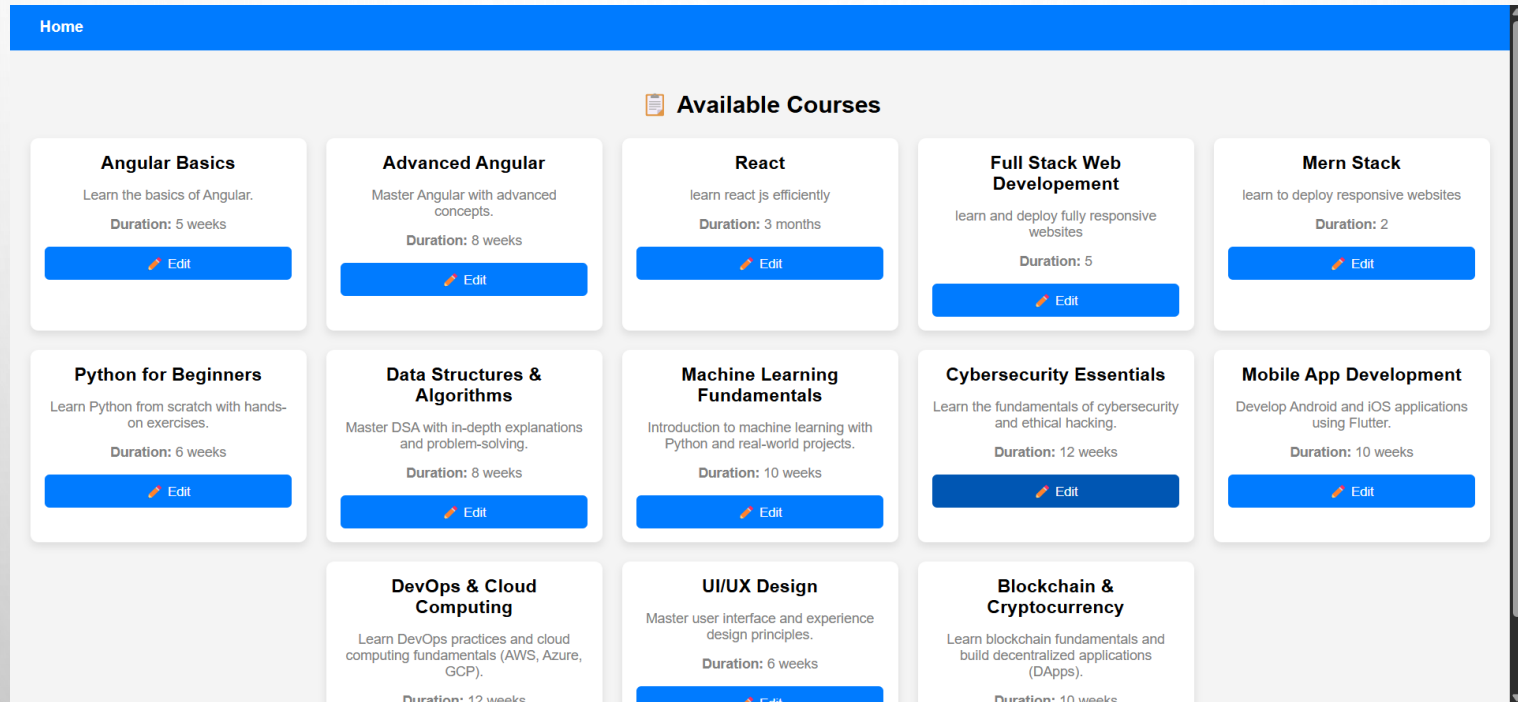
A dark gray modal dialog box is centered on the screen, displaying an error message from "localhost:4200". The message reads: "Invalid credentials! Use Username: admin, Password: password". An "OK" button is located in the bottom right corner of the dialog.

Below the dialog, the "Login" form is visible. It features a title "Login" in bold. The form contains two input fields: "Username" with the value "admin" and "Password" with masked characters "\*\*\*\*\*". A blue "Login" button is positioned at the bottom of the form.

# HOME SCREEN



# COURSE LIST PAGE



The screenshot shows a web application interface for a course list. At the top is a blue navigation bar with the text "Home". Below this is a section titled "Available Courses" with a document icon. The courses are displayed in a grid of 12 cards, arranged in 3 rows and 4 columns. Each card contains the course title, a brief description, the duration, and an "Edit" button with a pencil icon. The courses listed are: Angular Basics, Advanced Angular, React, Full Stack Web Development, Mern Stack, Python for Beginners, Data Structures & Algorithms, Machine Learning Fundamentals, Cybersecurity Essentials, Mobile App Development, DevOps & Cloud Computing, and UI/UX Design. The Blockchain & Cryptocurrency card is partially visible at the bottom right.

Course Title	Description	Duration	Edit Button
Angular Basics	Learn the basics of Angular.	Duration: 5 weeks	Edit
Advanced Angular	Master Angular with advanced concepts.	Duration: 8 weeks	Edit
React	learn react js efficiently	Duration: 3 months	Edit
Full Stack Web Development	learn and deploy fully responsive websites	Duration: 5	Edit
Mern Stack	learn to deploy responsive websites	Duration: 2	Edit
Python for Beginners	Learn Python from scratch with hands-on exercises.	Duration: 6 weeks	Edit
Data Structures & Algorithms	Master DSA with in-depth explanations and problem-solving.	Duration: 8 weeks	Edit
Machine Learning Fundamentals	Introduction to machine learning with Python and real-world projects.	Duration: 10 weeks	Edit
Cybersecurity Essentials	Learn the fundamentals of cybersecurity and ethical hacking.	Duration: 12 weeks	Edit
Mobile App Development	Develop Android and iOS applications using Flutter.	Duration: 10 weeks	Edit
DevOps & Cloud Computing	Learn DevOps practices and cloud computing fundamentals (AWS, Azure, GCP).	Duration: 12 weeks	Edit
UI/UX Design	Master user interface and experience design principles.	Duration: 6 weeks	Edit
Blockchain & Cryptocurrency	Learn blockchain fundamentals and build decentralized applications (DApps).	Duration: 10 weeks	Edit

Lists courses and its details from api.json(api calls) ,courses added through add course also gets saved there.

# ADD COURSE PAGE

Home
<b>Add Course</b>
Title:
<input type="text"/>
Description: <input type="text"/> Duration:
<input type="text"/>
Add Course

# COURSE DETAILS

Home

## Add Course

Title:

Software Testing

Description:

create bugfree applications

Duration:

4

Add Course

# COURSE ADDED

Home

localhost:4200 says  
Course Added!  
OK

Add Course

Title:

Software Testing

Description:

create bugfree applications

Duration:

4

Add Course

# UPDATE COURSE PAGE

Home
<b>Update Course</b>
Title:
Software Testing
Description:
learn testing and create bugfree
Duration:
4
Update Course

# UPDATION SUCCESSFUL

Home

localhost:4200 says  
Course Updated Successfully!  
OK

## Update Course

Title:  
Software Testing

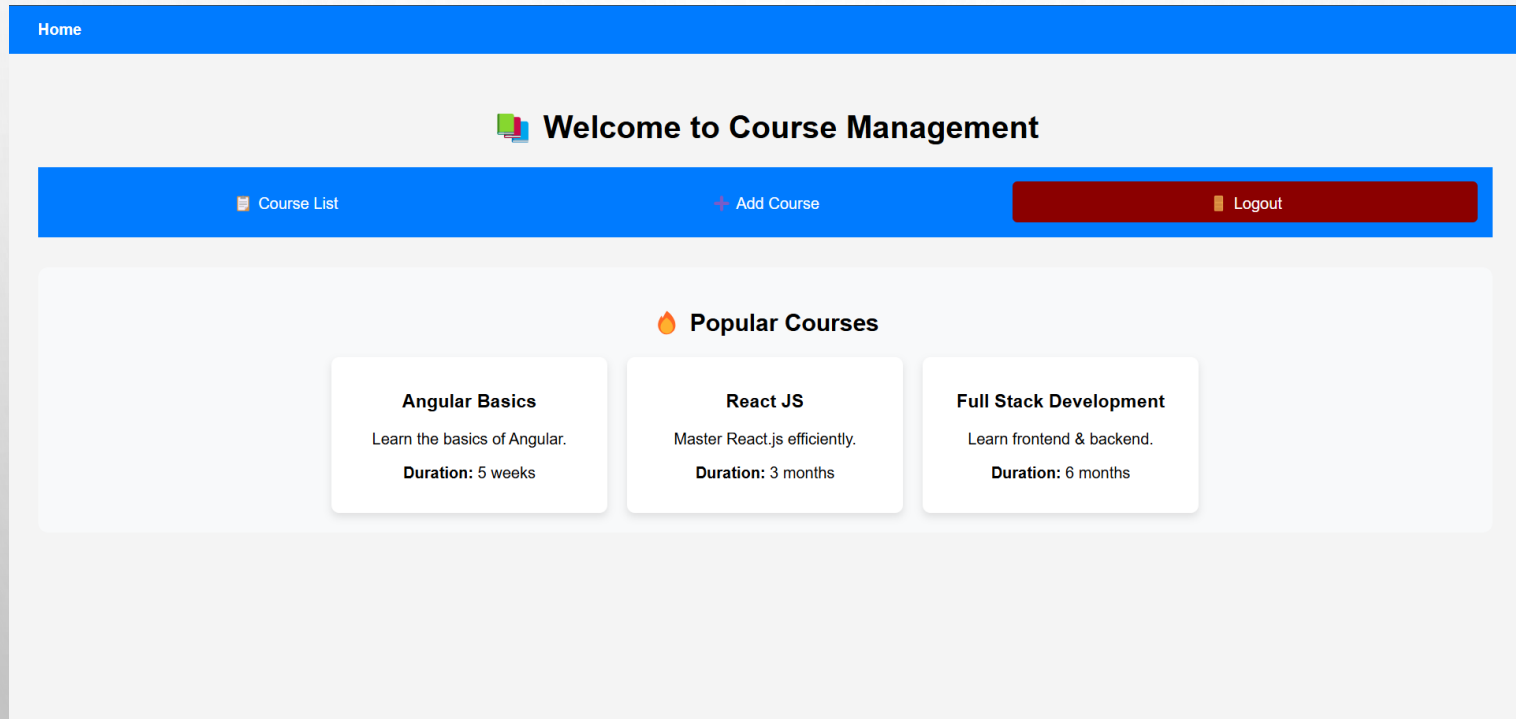
Description:  
learn testing and create bugfree

Duration:  
4

Update Course



# LOGOUT BUTTON



# CONCLUSION

- A FULLY FUNCTIONAL ANGULAR SPA COVERING ESSENTIAL CONCEPTS.
- SECURE AUTHENTICATION WITH LOCAL STORAGE.
- JSON SERVER-BASED API INTEGRATION.
- WELL-STRUCTURED COMPONENTS AND SERVICES.
- FUTURE ENHANCEMENTS: ADD ROLE-BASED ACCESS, INTEGRATE A REAL BACKEND.