

Lab Exercise 2: Building a Task Management Application with CRUD Operations in Angular using Routing

Objective:

The objective of this lab exercise is to practice implementing CRUD operations in Angular by building a simple task management application. Participants will learn how to create, read, update, and delete tasks using Angular components and routing.

Requirements:

- Basic understanding of Angular framework.
- Node.js and Angular CLI installed on your system.

Steps:

1. Setup Angular Project:

- Use Angular CLI to create a new Angular project named "TaskManagerApp".
- `ng new TaskManagerApp`

2. Create Task Model:

Create a task model to represent the structure of a task. This will typically include properties like `id`, `title`, `description`, `dueDate`, etc.

3. Generate Components:

Use Angular CLI to generate the following components:

- TaskListComponent: Display a list of tasks.
- TaskDetailComponent: Display details of a specific task.
- TaskFormComponent: Form for creating and updating tasks.

4. Create Task Service:

- Create a task service to manage CRUD operations on tasks. This service will handle tasks data and communicate with the backend (mocked data or API).

5. Implement Components:

- Implement the necessary logic and templates in each component:
 1. TaskListComponent: Fetch a list of tasks from the task service and display them.
 2. TaskDetailComponent: Fetch details of a specific task based on ID and display them.
 3. TaskFormComponent: Implement methods for creating and updating tasks using the task service.

6. Routing:

- Define routes in the `app.routes.ts` file to navigate between different components.

- Create routes for displaying the task list, task details, and task form.

7. **Testing:**

- Run the Angular development server and test the application in the browser.

- Navigate to `http://localhost:4200` to view the application.
- Test CRUD operations by adding, updating, and deleting tasks.
- Ensure that changes are reflected in the UI and persisted properly.

Conclusion:

By completing this lab exercise, you should have a good understanding of how to implement CRUD operations in Angular applications. You have built a simple task management application that allows users to perform CRUD operations on tasks. This exercise provides a practical demonstration of CRUD concepts in Angular and prepares you for building more complex applications that require data manipulation functionalities.