

1. Project Setup

- Initialize a new Spring Boot project using Spring Initializr (<https://start.spring.io/>)
- Include dependencies: Spring Web, Spring Data JPA, H2 Database.
- Set up the project structure with appropriate packages (controllers, services, repositories, models, etc.).

2. Database Configuration

- Configure the H2 in-memory database in `application.properties`.
- Define the schema for the 'Project' entity (attributes: id, name, description, startDate, endDate, etc.).

3. Model Creation

- Create a `Project` model class in the models package with annotations for JPA entity.

4. Repository Layer

- Create a `ProjectRepository` interface extending `JpaRepository` to handle data operations.

5. Service Layer

- Implement a `ProjectService` class to handle business logic.
- Define methods for create, read, update, and delete operations.

6. Controller Layer

- Develop a `ProjectController` class to handle HTTP requests.
- Map CRUD operations to RESTful endpoints (e.g., POST /projects, GET /projects/{id}, etc.).

7. CRUD Operations

- Create: Implement an endpoint to add a new project.
- Read: Implement endpoints to retrieve all projects and a single project by ID.
- Update: Implement an endpoint to update an existing project.
- Delete: Implement an endpoint to delete a project by ID.

8. Exception Handling

- Implement global exception handling using `RuntimeException` to manage exceptions and provide meaningful error messages.