

## Assignment Details:

### 1. Project Setup:

- Create a new Java web application using a framework of your choice (Spring Boot is recommended).
- Use Maven or Gradle as the build tool.

### 2. User Authentication:

- Implement basic user registration and login functionality.
- Passwords should be securely stored (hashed) in the PostgreSQL database.

### 3. Task Management:

- After logging in, users should be able to create, view, update, and delete tasks.
- Each task should have a title, description, due date, and status (e.g., pending, completed).
- Tasks should be stored in a PostgreSQL database.

### 4. Caching with Redis:

- Implement caching for the task list retrieval using Redis to speed up access.
- Ensure that when a task is created, updated, or deleted, the cache is invalidated or updated accordingly.

### 5. Dockerization:

- Dockerize the application by creating a **Dockerfile**.
- Create a **docker-compose.yml** file to set up the following services:
  - The Java web application.
  - PostgreSQL database.
  - Redis cache.

### 6. Instructions:

- Provide clear instructions on how to set up and run the application, including how to build the Docker images and run the containers using Docker Compose.
- Include any relevant details on how to connect to the PostgreSQL database and Redis cache.

### 7. Code Quality:

- Ensure the code is clean, well-organized, and follows best practices.
- Include comments where necessary to explain your logic.

## Deliverables:

- The source code for the application, including the **Dockerfile** and **docker-compose.yml**.
- A README file with setup instructions.
- Any additional documentation (e.g., API documentation) as needed.

## Bonus Points:

- Implement pagination for the task list.
- Add unit and integration tests.

**Submission:**

- Provide a link to a GitHub repository (or another version control system) with your completed assignment.

**Deadline:**

- The assignment should be completed within **7 day**