Different layers of packages:

1. Controller handles HTTP requests and corresponding responses
2. Service handles business logics related to requests
3. Mapper handles crud operations with the database
4. Model defines the entity in the database

Springboot testing:

<https://medium.com/simform-engineering/testing-spring-boot-applications-best-practices-and-frameworks-6294e1068516>

**Register:**

1. User can type in username, password, and confirm password from the frontend UI
2. Validate username, password:
   1. Not null
   2. Username is at least 4 characters long
   3. Password is at least 8 characters long
   4. No username already exists
   5. Username does not include special characters
   6. Password and confirm password are the same
3. Encrypt password
4. Create user object and insert it into database

**Login:**

1. User can type in username and password from the frontend UI
2. Validate username and password:
   1. Not null
   2. Username is at least 4 characters long
   3. Password is at least 8 characters long
   4. Username does not include special characters
3. Compare input password with the one in the database
4. Record user session
5. Return non-sensitive user information

//TODO:

1. Refactor register and login methods
2. Re-structure repositories according to features
3. Create classes to filter sensitive user information
4. Encapsulate responses into an object
5. Global error handling