

User Management System - Clean Architecture

Project Structure

```
src/
|-- main/
|   |-- java/
|   |   |-- com/
|   |   |   |-- example/
|   |   |   |   |-- usermanagement/
|   |   |   |   |   |-- domain/
|   |   |   |   |   |   |-- User.java
|   |   |   |   |   |   |-- Role.java
|   |   |   |   |   |-- application/
|   |   |   |   |   |   |-- service/
|   |   |   |   |   |   |   |-- UserService.java
|   |   |   |   |   |   |   |-- RoleService.java
|   |   |   |   |   |   |-- port/
|   |   |   |   |   |   |   |-- UserRepository.java
|   |   |   |   |   |   |   |-- RoleRepository.java
|   |   |   |   |-- infrastructure/
|   |   |   |   |   |-- controller/
|   |   |   |   |   |   |-- UserController.java
|   |   |   |   |   |   |-- RoleController.java
|   |   |   |   |   |   |-- dto/
|   |   |   |   |   |   |   |-- UserRequestDto.java
|   |   |   |   |   |   |   |-- UserResponseDto.java
|   |   |   |   |   |   |   |-- RoleRequestDto.java
|   |   |   |   |   |   |   |-- RoleResponseDto.java
|   |   |   |   |   |-- persistence/
|   |   |   |   |   |   |-- entity/
|   |   |   |   |   |   |   |-- UserJpaEntity.java
|   |   |   |   |   |   |   |-- RoleJpaEntity.java
|   |   |   |   |   |   |-- repository/
|   |   |   |   |   |   |   |-- UserJpaRepository.java
|   |   |   |   |   |   |   |-- RoleJpaRepository.java
|   |   |   |   |   |   |-- adapter/
|   |   |   |   |   |   |   |-- UserRepositoryAdapter.java
|   |   |   |   |   |   |   |-- RoleRepositoryAdapter.java
|   |   |   |   |   |-- exception/
|   |   |   |   |   |   |-- GlobalExceptionHandler.java
|   |   |   |   |   |   |-- ResourceNotFoundException.java
|   |   |   |   |   |   |-- ErrorResponse.java
|   |   |   |   |-- config/
|   |   |   |   |   |-- BeanConfig.java
|   |   |-- resources/
|   |   |   |-- application.properties
|   |   |   |-- data.sql
|-- test/
|   |-- java/
|   |   |-- com/
|   |   |   |-- example/
```

```
`-- usermanagement/
    |-- application/
    |   |-- service/
    |       |-- UserServiceTest.java
    |       |-- RoleServiceTest.java
    |-- infrastructure/
    |   |-- controller/
    |       |-- UserControllerTest.java
    |       |-- RoleControllerTest.java
```

Layer Descriptions:

Layer	Description
Domain Layer	Core business entities and rules (User, Role)
Application Layer	Business logic and use cases (Services, Ports/Interfaces)
Infrastructure Layer	Implementations (Controllers, Persistence, DTOs)
Config	Spring configuration and beans