المدرسة العليا للأساتذة التعليم التقني بالمحمدية

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DÉPARTEMENT MATHÉMATIQUES ET INFORMATIQUE

Activity 2

Filière :
« Génie du Logiciel et des Systèmes Informatiques Distribués »
GLSID

User and Roles

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Entities :

```
▼ ⊞ com.example.userrole.entities
   ▶ J Role.java
   ▶ J User.java
```

User :

```java
1  package com.example.userrole.entities;
2
3⊕ import lombok.AllArgsConstructor;
10
11  @Entity
12  @Table(name ="USERS")
13  @Data
14  @AllArgsConstructor
15  @NoArgsConstructor
16  public class User {
17⊖     @Id
18      private String userId;
19⊖     @Column(unique = true ,length = 20)
20      private String userName;
21      private String pwd;
22⊖     @ManyToMany(mappedBy = "users",fetch = FetchType.EAGER)
23      private List<Role> roles=new ArrayList<>();
24  }
25
```

Role :

```java
package com.example.userrole.entities;

import lombok.AllArgsConstructor;

@Entity
@Data
@AllArgsConstructor
@NoArgsConstructor
public class Role {
    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    private long id;
    @Column(unique = true ,length = 20)
    private String roleName;
    @ManyToMany(fetch = FetchType.EAGER)
    private List<User> users=new ArrayList<>();
}
```

Repositories :

```
▼ ⊞ com.example.userrole.repositories
   ▶ 🗗 RoleRepository.java
   ▶ 🗗 UserRepository.java
```

User repository :

```java
1  package com.example.userrole.repositories;
2⊕ import org.springframework.data.jpa.repository.JpaRepository;□
6
7  @Repository
8  public interface UserRepository extends JpaRepository<User,String>{
9      User findByUserName(String userName);
10
11 }
```

Role repository :

```java
1  package com.example.userrole.repositories;
2⊕ import org.springframework.data.jpa.repository.JpaRepository;□
6
7  @Repository
8  public interface RoleRepository extends JpaRepository<Role,Long>{
9   Role findByRoleName(String roleName);
0  }
```

Service :

```
▼ ⊞ com.example.userrole.service
   ▶ 🗗 UserService.java
   ▶ 🗗 UserServiceImpl.java
```

Service interface :

```java
1  package com.example.userrole.service;
2
3⊕ import com.example.userrole.entities.Role;□
5
6  public interface UserService {
7      User addNewUser(User user);
8      Role addNewRole(Role role);
9      User findUserByUserName(String username);
10     Role findRoleByRoleName(String rolename);
11     void addRoleToUser(String username,String rolename);
12 }
```

Service imp :

```java
1  package com.example.userrole.service;
2
3  import lombok.AllArgsConstructor;
4
5  @Service
6  @Transactional
7  @AllArgsConstructor
8  public class UserServiceImpl implements UserService {
9      private UserRepository userRepository;
9      private RoleRepository roleRepository;
1      @Override
2      public User addNewUser(User user) {
3          user.setUserId(UUID.randomUUID().toString());
4          return userRepository.save(user);
5      }
5
7      @Override
8      public Role addNewRole(Role role) {
9
9          return roleRepository.save(role);
1      }
2
       @Override
       public User findUserByUserName(String username) {

           return userRepository.findByUserName(username);
       }

       @Override
       public Role findRoleByRoleName(String rolename) {

           return roleRepository.findByRoleName(rolename);
       }

       @Override
       public void addRoleToUser(String username, String rolename) {
           User user=findUserByUserName(username);
           Role role=findRoleByRoleName(rolename);

           user.getRoles().add(role);
           role.getUsers().add(user);

       }
```

@Restressource :