SWE 212 PROJECT STUDY 3 (2026)

Due date: 14 April 2026, in class.

In this project you will implement a basic authentication on your project. Design and implement your solution complying with the following properties:

- Use Spring Security version 6.5.x authentication and access-control framework.
- Implement yours CORS policy properly and justify it.
- Use Lombok framework version 1.18.42 for entities.
- Use Spring Data JPA 4.0.0 (Hibernate) for persistence.
- Use Thymeleaf (version 3.1.3) template engine for pages.
- Use Bootstrap version 5.0 framework for building responsive and mobile-first sites.
- All data returns with views must be handled carefully designed DTOs. No Entity goes to views.
- Use Gradle-Groovy as a build tool (version 9.2.1), and Java 25 as JDK.
- Create at least two roles in your application such as "user" and "admin". One person can have multiple roles. Decide which user can access to which resources (pages, images and documents). Justify your choice.
- CRUD operations and proper views must be implemented for the three tables (two parent tables and a relation table).
- When a new data inserted the application must generate log on standard output indication the user details who create a resource.

Figure 1. shows some example views related authentication from car-rental project. There must be Your application must allow to upload and show the user images as well (see Figure 2).
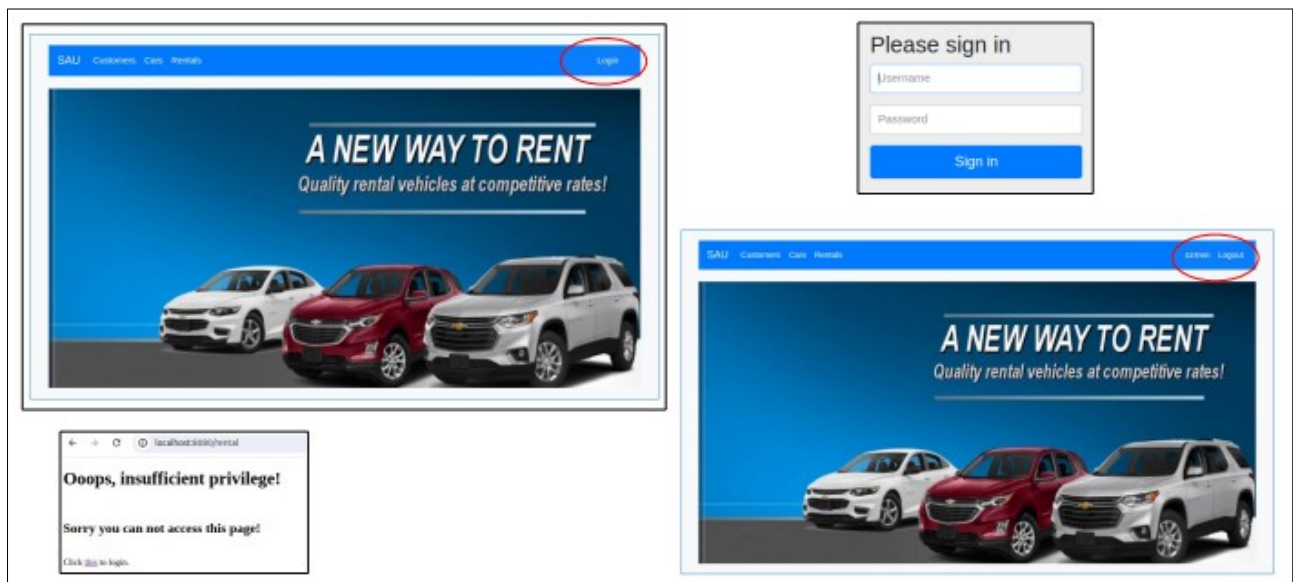

Figure 1. Example login and home views for car-rental project. In this example, "Rental page" is only allowed by "admin" role, if a request comes from "user" role, the user must be informed and forwarded to login page.
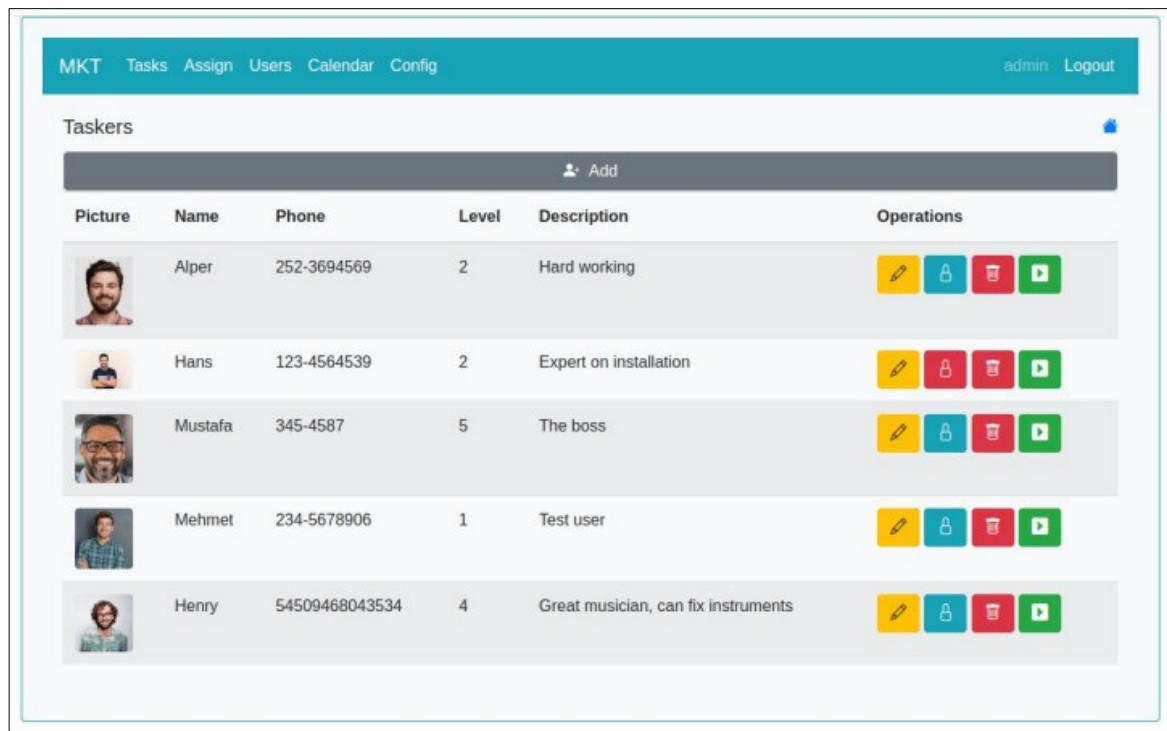
Figure 2. Example "customer" page with profile images.

Grading:

No	Task	Grade
1	Database access and DTOs are OK.	**10**
2	Authentication: User details is working.	**20**
3	Authorization: Security filter chain is working (roles and resources) .	**20**
4	Image upload is working.	**10**
5	Views are OK and Bootstrap is used.	**20**
6	All versions are OK.	**10**
7	Everything works as described with no error, exceptions handled properly.	**10**

PS: Group presentation is required, group members must show up to in presentation to collect points.