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M1 GLSI

## Cours Inf3522 - Développement d'Applications JEE

### Lab\_5 : Sécurisation

#### Étape 1: Configuration de Base de Spring Security

##### 1. Ajoutons les dépendances nécessaires

Dans build.gradle :

```
dependencies {  
    implementation 'org.springframework.boot:spring-boot-starter-web'  
    implementation 'org.springframework.boot:spring-boot-starter-data-jpa'  
    implementation 'org.springframework.boot:spring-boot-starter-data-rest'  
    implementation group: 'org.springdoc', name: 'springdoc-openapi-starter-webmvc-ui' }  
    developmentOnly 'org.springframework.boot:spring-boot-devtools'  
    testImplementation 'org.springframework.boot:spring-boot-starter-test'  
    testImplementation 'org.springframework.boot:spring-boot-starter-security'  
    testImplementation 'org.springframework.security:spring-security-test'  
    runtimeOnly 'org.mariadb.jdbc:mariadb-java-client'  
}
```

```
build.gradle M x SecurityConfig.java U x OpenApiConfig.java
src > main > java > fst > dmi > cardatabase > SecurityConfig.java > ...
1 package fst.dmi.cardatabase;
2
3 import org.springframework.context.annotation.Bean;
4 import org.springframework.context.annotation.Configuration;
5 import org.springframework.security.config.annotation.web.builders.HttpSecurity;
6 import org.springframework.security.config.annotation.web.configuration.EnableWebSecurity;
7 import org.springframework.security.core.userdetails.User;
8 import org.springframework.security.core.userdetails.UserDetails;
9 import org.springframework.security.crypto.bcrypt.BCryptPasswordEncoder;
10 import org.springframework.security.crypto.password.PasswordEncoder;
11 import org.springframework.security.provisioning.InMemoryUserDetailsManager;
12 import org.springframework.security.web.SecurityFilterChain;
13
14 @Configuration
15 @EnableWebSecurity
16 public class SecurityConfig {
17
18     @Bean
19     public SecurityFilterChain securityFilterChain(HttpSecurity http) throws Exception {
20         http
```

## Étape 2: Authentification avec Base de Données

1. Créons l'entité AppUser

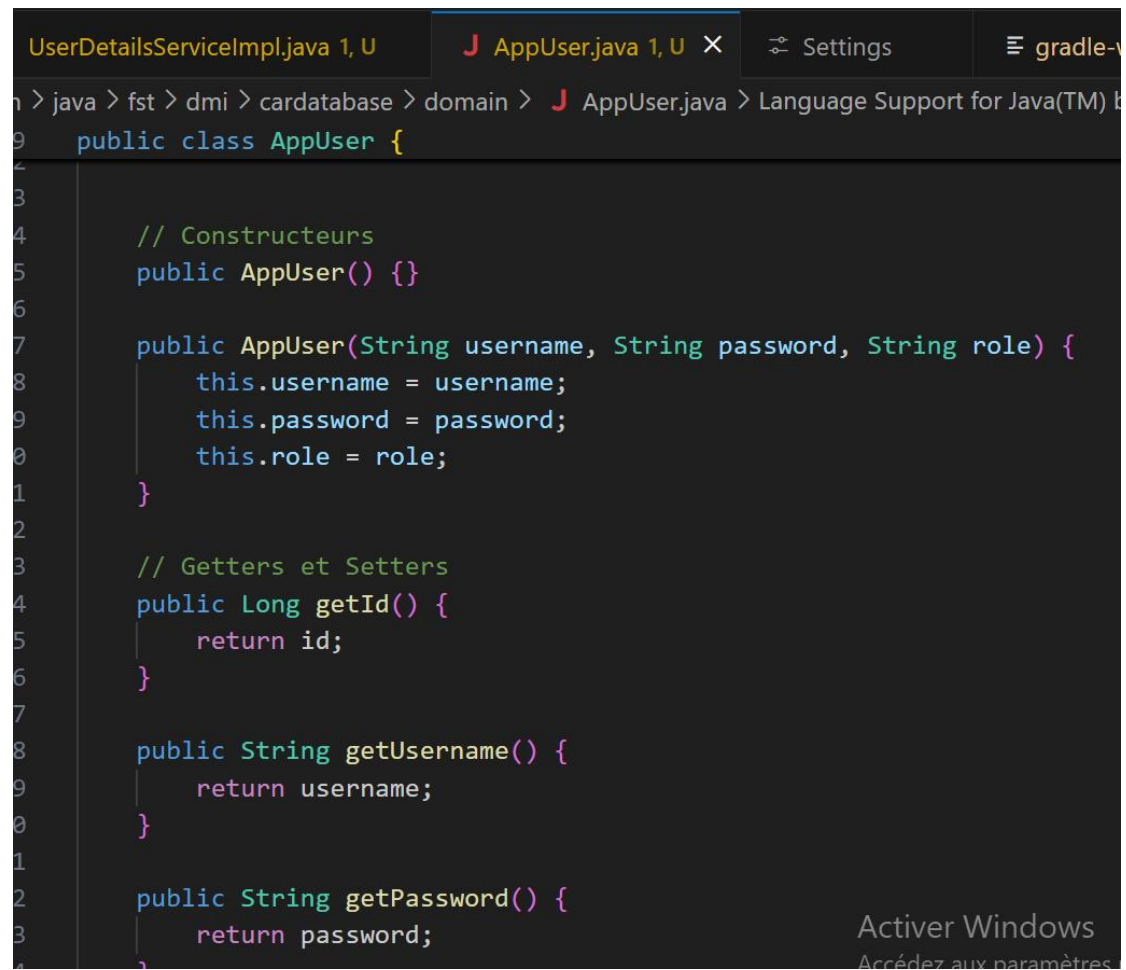
2. Créons le Repository

Ajoutons la dépendance lombok dans build.gradle :

```
dependencies {
    implementation 'org.springframework.boot:spring-boot-starter-web'
    implementation 'org.springframework.boot:spring-boot-starter-data-jpa'
    implementation 'org.springframework.boot:spring-boot-starter-data-rest'
    implementation group: 'org.springdoc', name: 'springdoc-openapi-starter-webmvc-ui'
    developmentOnly 'org.springframework.boot:spring-boot-devtools'
    testImplementation 'org.springframework.boot:spring-boot-starter-test'
    testImplementation 'org.springframework.boot:spring-boot-starter-security'
    testImplementation 'org.springframework.security:spring-security-test'
    runtimeOnly 'org.mariadb.jdbc:mariadb-java-client'

    compileOnly 'org.projectlombok:lombok:1.18.30'
    annotationProcessor 'org.projectlombok:lombok:1.18.30'
}
```

Ajoutons les constructeurs et les getters setters dans AppUser :



The screenshot shows an IDE window titled 'AppUser.java 1, U'. The code defines a public class AppUser with the following methods:

```
public class AppUser {  
  
    // Constructeurs  
    public AppUser() {}  
  
    public AppUser(String username, String password, String role) {  
        this.username = username;  
        this.password = password;  
        this.role = role;  
    }  
  
    // Getters et Setters  
    public Long getId() {  
        return id;  
    }  
  
    public String getUsername() {  
        return username;  
    }  
  
    public String getPassword() {  
        return password;  
    }  
}
```

The IDE interface includes tabs for 'UserDetailsServiceImpl.java 1, U', 'AppUser.java 1, U', 'Settings', and 'gradle-v'. The breadcrumb navigation shows the path: 'h > java > fst > dmi > cardatabase > domain > AppUser.java > Language Support for Java(TM) b'. A line number margin on the left shows lines 1 through 14. A watermark 'Activer Windows' and 'Accédez aux paramètres' is visible in the bottom right corner.

```

public String getRole() {
    return role;
}

public void setId(Long id) {
    this.id = id;
}


public void setUsername(String username) {
    this.username = username;
}



public void setPassword(String password) {
    this.password = password;
}


public void setRole(String role) {
    this.role = role;
}







```

Testons :

HTTP  http://localhost:8081/login Save

**POST**  http://localhost:8081/login Send 


Params Authorization Headers (9) **Body**  Pre-request Script Tests Settings Cookies







 none  form-data  x-www-form-urlencoded  raw  binary **JSON**  Beautify

```

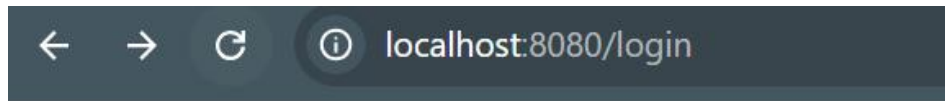
1 {
2   "username": "user",
3   "password": "user"
4 }

```

Body Cookies (1) Headers (11) Test Results 401 Unauthorized 5 ms 342 B Save Response 

| Key  | Value  |
|--|--|
| X-Content-Type-Options  | nosniff  |
| X-XSS-Protection        | 0  |
| Cache-Control           | no-cache, no-store, max-age=0, must-revalidate |
| Pragma                  | no-cache                                       |
| Expires                 | 0  |
| X-Frame-Options         | DENY   |

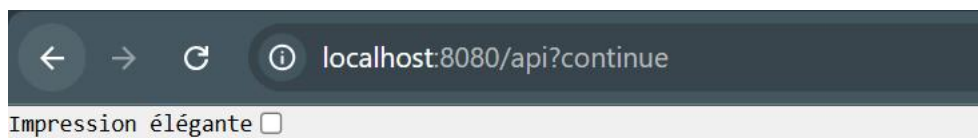
Activer Windows  
Accédez aux paramètres pour activer Windows



## Connexion

Nom d'utilisateur :

Mot de passe :



```
{
  "_links" : {
    "appUsers" : {
      "href" : "http://localhost:8080/api/appUsers"
    },
    "cars" : {
      "href" : "http://localhost:8080/api/cars"
    },
    "owners" : {
      "href" : "http://localhost:8080/api/owners"
    },
    "profile" : {
      "href" : "http://localhost:8080/api/profile"
    }
  }
}
```

```
MariaDB [cardb]> show tables;
+-----+
| Tables_in_cardb |
+-----+
| app_user         |
| app_user_seq     |
| car              |
| car_seq          |
| owner            |
| owner_seq        |
+-----+
6 rows in set (0.002 sec)

MariaDB [cardb]> select * from app_user;
+-----+-----+-----+-----+
| id | password                                     | role | username |
+-----+-----+-----+-----+
| 1  | $2a$10$NVM0n8ElaRgg7zW01CxUdei7VWoPg91Lz2aYavh9.f9q0e4bRadue | USER | user     |
| 2  | $2a$10$8cjz47bjbR4Mn8GMg9IZx.vyjhLXR/SKKMSZ9.mP9vpMu0ssKi8GW | ADMIN | admin    |
+-----+-----+-----+-----+
2 rows in set (0.000 sec)

MariaDB [cardb]>
```

