Project Name: Implement Spring Security with Authentication.

GitHub Link:

<https://github.com/tamasjit/myjavaproject/tree/master/Phase%203/Phase-3_Practice_Project/q4_SpringSecurityMW>

## Source Code:

### Jsp:

#### Index.jsp:

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml"

    xmlns:th="http://www.thymeleaf.org"

    xmlns:sec="http://www.thymeleaf.org/thymeleaf-extras-springsecurity3"

    xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout">

<head>

<title>Greetings!</title>

</head>

<body>

    <h1>Welcome!</h1>

    <p>

        Click <a th:href="@{/welcome}">here</a> to see a greeting.

    </p>

</body>

</html>

#### Login.jsp:

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml" xmlns:th="https://www.thymeleaf.org"

      xmlns:sec="https://www.thymeleaf.org/thymeleaf-extras-springsecurity3">

    <head>

        <title>Login</title>

    </head>

    <body>

        <div th:if="${param.error}">

            Invalid username or password.

        </div>

        <div th:if="${param.logout}">

            You have been logged out.

        </div>

        <form th:action="@{/login}" method="post">

            <div><label> User Name : <input type="text" name="username"/> </label></div>

            <div><label> Password: <input type="password" name="password"/> </label></div>

            <div><input type="submit" value="Sign In"/></div>

        </form>

        <a href="/">Return to Main Page</a>

    </body>

</html>

#### Welcome.jsp:

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml" xmlns:th="https://www.thymeleaf.org"

      xmlns:sec="https://www.thymeleaf.org/thymeleaf-extras-springsecurity3">

    <head>

        <title>Welcome!</title>

    </head>

    <body>

        <h1 th:inline="text">Hello [[${#httpServletRequest.remoteUser}]]!</h1>

        <form th:action="@{/logout}" method="post">

            <input type="submit" value="Sign Out"/>

        </form>

    </body>

</html>

### Entities:

#### myUserDetails.java:

package com.project.SpringSecurity.entities;

import java.util.Collection;

import org.springframework.security.core.GrantedAuthority;

import org.springframework.security.core.userdetails.UserDetails;

public class MyUserDetails implements UserDetails{

    private static final long serialVersionUID = 1L;

    private String userName;

    private String password;

    public MyUserDetails() {

    }

    public MyUserDetails(User user) {

        this.userName = user.getName();

        this.password = user.getPassword();

    }

    @Override

    public Collection<? extends GrantedAuthority> getAuthorities() {

        return null;

    }

    @Override

    public String getPassword() {

        return password;

    }

    @Override

    public String getUsername() {

        return userName;

    }

    @Override

    public boolean isAccountNonExpired() {

        return true;

    }

    @Override

    public boolean isAccountNonLocked() {

        return true;

    }

    @Override

    public boolean isCredentialsNonExpired() {

        return true;

    }

    @Override

    public boolean isEnabled() {

        return true;

    }

}

#### User.java:

package com.project.SpringSecurity.entities;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.GenerationType;

import javax.persistence.Id;

import javax.persistence.Table;

@Entity

@Table(name="user")

public class User {

    @Id

    @GeneratedValue(strategy=GenerationType.AUTO)

    private Integer id;

    private String name;

    private String password;

    public User() {

        super();

    }

    public User(String name, String password) {

        super();

        this.name = name;

        this.password = password;

    }

    public String getName() {

        return name;

    }

    public void setName(String name) {

        this.name = name;

    }

    public String getPassword() {

        return password;

    }

    public void setPassword(String password) {

        this.password = password;

    }

}

### Repositories:

#### usersRepository.java:

package com.project.SpringSecurity.repositories;

import java.util.Optional;

import org.springframework.data.repository.CrudRepository;

import org.springframework.stereotype.Repository;

import com.project.SpringSecurity.entities.User;

@Repository

public interface UsersRepository extends CrudRepository<User, Integer>{

    public Optional<User> findUserByName(String name);

}

### Services:

#### myUserDetailsService.java:

package com.project.SpringSecurity.services;

import java.util.Optional;

import org.springframework.beans.factory.annotation.Autowired;

import org.springframework.security.core.userdetails.UserDetailsService;

import org.springframework.security.core.userdetails.UsernameNotFoundException;

import org.springframework.stereotype.Service;

import com.project.SpringSecurity.entities.MyUserDetails;

import com.project.SpringSecurity.entities.User;

import com.project.SpringSecurity.repositories.UsersRepository;

@Service

public class MyUserDetailsService implements UserDetailsService {

    @Autowired

    UsersRepository userRepo;

    public User GetUserByName(String name) {

        Optional<User> user = userRepo.findUserByName(name);

        if(!user.isPresent()) throw new RuntimeException();

        return user.get();

    }

    @Override

    public org.springframework.security.core.userdetails.UserDetails loadUserByUsername(String username)

            throws UsernameNotFoundException {

        return new MyUserDetails(GetUserByName(username));

    }

}

#### MvcConfig.java:

package com.project.SpringSecurity;

import org.springframework.context.annotation.Configuration;

import org.springframework.web.servlet.config.annotation.ViewControllerRegistry;

import org.springframework.web.servlet.config.annotation.WebMvcConfigurer;

@Configuration

public class MvcConfig implements WebMvcConfigurer{

    public void addViewControllers(ViewControllerRegistry registry) {

        registry.addViewController("/index").setViewName("index");

        registry.addViewController("/").setViewName("index");

        registry.addViewController("/login").setViewName("login");

        registry.addViewController("/welcome").setViewName("welcome");

    }

}

#### springSecurityApplication.java:

package com.project.SpringSecurity;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

import org.springframework.data.jpa.repository.config.EnableJpaRepositories;

import com.project.SpringSecurity.repositories.UsersRepository;

@SpringBootApplication

@EnableJpaRepositories(basePackageClasses = UsersRepository.class)

public class SpringSecurityApplication {

    public static void main(String[] args) {

        SpringApplication.run(SpringSecurityApplication.class, args);

    }

}

#### webSecurityConfig.java:

package com.project.SpringSecurity;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

import org.springframework.beans.factory.annotation.Autowired;

import org.springframework.context.annotation.Bean;

import org.springframework.context.annotation.Configuration;

import org.springframework.security.config.annotation.authentication.builders.AuthenticationManagerBuilder;

import org.springframework.security.config.annotation.web.builders.HttpSecurity;

import org.springframework.security.config.annotation.web.configuration.EnableWebSecurity;

import org.springframework.security.config.annotation.web.configuration.WebSecurityConfigurerAdapter;

import org.springframework.security.core.userdetails.UserDetailsService;

import org.springframework.security.crypto.password.NoOpPasswordEncoder;

import org.springframework.security.crypto.password.PasswordEncoder;

@SuppressWarnings("deprecation")

@Configuration

@EnableWebSecurity

public class WebSecurityConfig extends WebSecurityConfigurerAdapter {

    Logger logger = LoggerFactory.getLogger(WebSecurityConfig.class);

    @Autowired

    UserDetailsService userDetailsService;

    @Bean

    public PasswordEncoder getPasswordEncoder() {

        return NoOpPasswordEncoder.getInstance();

    }

    @Autowired

    public void configureGlobal(AuthenticationManagerBuilder auth) throws Exception {

        auth.userDetailsService(userDetailsService);

    }

    @Override

    protected void configure(HttpSecurity http) throws Exception {

        http.authorizeRequests()

                .antMatchers("/", "/index").permitAll()

                .anyRequest().authenticated()

            .and()

                .formLogin()

                .loginPage("/login")

                .defaultSuccessUrl("/welcome")

                .failureUrl("/login?error=true")

                .permitAll()

            .and()

                .logout()

                .logoutSuccessUrl("/login?logout=true")

                .invalidateHttpSession(true)

                .permitAll()

            .and()

                .csrf()

                .disable();

    }

}

### Resources:

#### Application.properties:

spring.jpa.hibernate.ddl-auto=update

spring.jpa.hibernate.naming-strategy=org.hibernate.cfg.ImprovedNamingStrategy

spring.jap.properties.hibernate.dialect=org.hibernate.dialect.MySQL8Dialect

spring.datasource.url=jdbc:mysql://localhost:3306/Auth

spring.datasource.username=root

spring.datasource.password=Abc@123

logging.level.org.springframework.web: DEBUG

spring.thymeleaf.prefix=/WEB-INF/jsp/

spring.thymeleaf.suffix=.jsp

server.port=8093

server.error.whitelabel.enabled=false

### test:

#### springSecurityApplicationTests.java:

package com.project.SpringSecurity;

import org.junit.jupiter.api.Test;

import org.springframework.boot.test.context.SpringBootTest;

@SpringBootTest

class SpringSecurityApplicationTests {

    @Test

    void contextLoads() {

    }

}

#### Pom.xml

<?xml version="1.0" encoding="UTF-8"?>

<project xmlns="http://maven.apache.org/POM/4.0.0"

    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

    xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 https://maven.apache.org/xsd/maven-4.0.0.xsd">

    <modelVersion>4.0.0</modelVersion>

    <parent>

        <groupId>org.springframework.boot</groupId>

        <artifactId>spring-boot-starter-parent</artifactId>

        <version>2.4.4</version>

        <relativePath /> <!-- lookup parent from repository -->

    </parent>

    <groupId>com.project</groupId>

    <artifactId>SpringSecurity</artifactId>

    <version>0.0.1-SNAPSHOT</version>

    <name>SpringSecurity</name>

    <description>Demo project for Spring Boot</description>

    <properties>

        <java.version>17</java.version>

    </properties>

    <dependencies>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-starter-data-jdbc</artifactId>

        </dependency>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-starter-jdbc</artifactId>

        </dependency>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-starter-data-jpa</artifactId>

        </dependency>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-starter-jersey</artifactId>

        </dependency>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-starter-web</artifactId>

        </dependency>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-starter-security</artifactId>

        </dependency>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-starter-web-services</artifactId>

        </dependency>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-starter-thymeleaf</artifactId>

        </dependency>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-devtools</artifactId>

            <scope>runtime</scope>

            <optional>true</optional>

        </dependency>

        <dependency>

            <groupId>mysql</groupId>

            <artifactId>mysql-connector-java</artifactId>

            <scope>runtime</scope>

        </dependency>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-starter-test</artifactId>

            <scope>test</scope>

        </dependency>

        <dependency>

            <groupId>org.springframework.security</groupId>

            <artifactId>spring-security-test</artifactId>

            <scope>test</scope>

        </dependency>

        <dependency>

            <groupId>javax.servlet</groupId>

            <artifactId>jstl</artifactId>

            <version>1.2</version>

        </dependency>

        <dependency>

            <groupId>org.apache.tomcat.embed</groupId>

            <artifactId>tomcat-embed-jasper</artifactId>

            <scope>provided</scope>

        </dependency>

    </dependencies>

    <build>

        <plugins>

            <plugin>

                <groupId>org.springframework.boot</groupId>

                <artifactId>spring-boot-maven-plugin</artifactId>

            </plugin>

        </plugins>

    </build>

</project>