

SPRING SECURITY CODE

Open 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>1.8</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>
<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>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>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>
```

Src/main/java

Create package com.project.SpringSecurity

Create 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");
    }
}
```

Create 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);
    }
}
```

Create 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();

    }

}
```

Create package com.project.SpringSecurity.entities

Create 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;  
    }  
}
```

Create 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;  
  
}  
}
```

Create package com.project.SpringSecurity.repositories

Create 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);
}
```

Create package com.project.SpringSecurity.services**Create 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));

    }

}

```

Src/main/resources**application.properties**

```

spring.jpa.hibernate.ddl-auto=update
spring.jpa.hibernate.naming-strategy=org.hibernate.cfg.ImprovedNamingStrategy
spring.jpa.properties.hibernate.dialect=org.hibernate.dialect.MySQL5Dialect
spring.datasource.url=jdbc:mysql://localhost:3306/mywork
spring.datasource.username=root
spring.datasource.password=password
logging.level.org.springframework.web: DEBUG
spring.thymeleaf.prefix=/WEB-INF/jsp/
spring.thymeleaf.suffix=.jsp
server.port=8080
server.error.whitelabel.enabled=false

```

src/main/webapp/WEB-INF/jsp**Create 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>

```

Create 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>
```

Create 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>
```