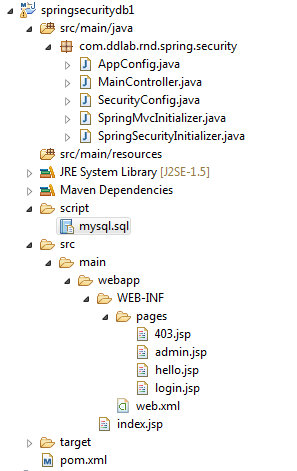
Spring Security with Custom Login Page and With Database with Annotations

In this tutorial, you will learn how to create a custom login page and authenticate and authorize with the username and password from the database. When you hit the url with /admin, it will ask you username and password and show you whether you have admin authorization or not.



# Web.xml

<web-app id=*"WebApp\_ID"* version=*"2.4"*

xmlns=*"http://java.sun.com/xml/ns/j2ee"* xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"*

xsi:schemaLocation=*"http://java.sun.com/xml/ns/j2ee*

*http://java.sun.com/xml/ns/j2ee/web-app\_2\_4.xsd"*>

<display-name>Spring Security Application</display-name>

</web-app>

# MySQL script

**CREATE** **TABLE** users (

username **VARCHAR**(45) **NOT** **NULL** ,

password **VARCHAR**(45) **NOT** **NULL** ,

enabled TINYINT **NOT** **NULL** **DEFAULT** 1 ,

**PRIMARY** **KEY** (username));

**CREATE** **TABLE** user\_roles (

user\_role\_id **int**(11) **NOT** **NULL** AUTO\_INCREMENT,

username **varchar**(45) **NOT** **NULL**,

role **varchar**(45) **NOT** **NULL**,

**PRIMARY** **KEY** (user\_role\_id),

**UNIQUE** **KEY** uni\_username\_role (role,username),

**KEY** fk\_username\_idx (username),

**CONSTRAINT** fk\_username **FOREIGN** **KEY** (username) **REFERENCES** users (username));

**INSERT** **INTO** users(username,password,enabled)

**VALUES** ('mkyong','123456', **true**);

**INSERT** **INTO** users(username,password,enabled)

**VALUES** ('alex','123456', **true**);

**INSERT** **INTO** user\_roles (username, role)

**VALUES** ('mkyong', 'ROLE\_USER');

**INSERT** **INTO** user\_roles (username, role)

**VALUES** ('mkyong', 'ROLE\_ADMIN');

**INSERT** **INTO** user\_roles (username, role)

**VALUES** ('alex', 'ROLE\_USER');

# JSP Pages

## Hello.jsp

<%@taglib prefix=*"sec"* uri=*"http://www.springframework.org/security/tags"*%>

<%@taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"*%>

<html>

<body>

<h1>Title : ${title}</h1>

<h1>Message : ${message}</h1>

<sec:authorize access=*"hasRole('ROLE\_USER')"*>

<!-- For login user -->

<c:url value=*"/logout"* var=*"logoutUrl"* />

<form action=*"*${logoutUrl}*"* method=*"post"* id=*"logoutForm"*>

<input type=*"hidden"* name=*"*${\_csrf.parameterName}*"*

value=*"*${\_csrf.token}*"* />

</form>

<script>

**function** formSubmit() {

document.getElementById("logoutForm").submit();

}

</script>

<c:if test=*"*${pageContext.request.userPrincipal.name != null}*"*>

<h2>

User : ${pageContext.request.userPrincipal.name} | <a

href=*"javascript:formSubmit()"*> Logout</a>

</h2>

</c:if>

</sec:authorize>

</body>

</html>

## Login.jsp

<%@ taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"*%>

<%@page session=*"true"*%>

<html>

<head>

<title>Login Page</title>

<style>

*.error* {

padding: *15px*;

margin-bottom: *20px*;

border: *1px solid transparent*;

border-radius: *4px*;

color: *#a94442*;

background-color: *#f2dede*;

border-color: *#ebccd1*;

}

*.msg* {

padding: *15px*;

margin-bottom: *20px*;

border: *1px solid transparent*;

border-radius: *4px*;

color: *#31708f*;

background-color: *#d9edf7*;

border-color: *#bce8f1*;

}

*#login-box* {

width: *300px*;

padding: *20px*;

margin: *100px auto*;

background: *#fff*;

-webkit-border-radius: *2px*;

-moz-border-radius: *2px*;

border: *1px solid #000*;

}

</style>

</head>

<body onload='document.loginForm.username.focus();'>

<h1>Spring Security Login Form (Database Authentication)</h1>

<div id=*"login-box"*>

<h3>Login with Username and Password</h3>

<c:if test=*"*${**not empty** error}*"*>

<div class=*"error"*>${error}</div>

</c:if>

<c:if test=*"*${**not empty** msg}*"*>

<div class=*"msg"*>${msg}</div>

</c:if>

<form name=*'loginForm'*

action=*"*<c:url value=*'/login'* />*"* method=*'POST'*>

<table>

<tr>

<td>User:</td>

<td><input type=*'text'* name=*'username'*></td>

</tr>

<tr>

<td>Password:</td>

<td><input type=*'password'* name=*'password'* /></td>

</tr>

<tr>

<td colspan=*'2'*><input name=*"submit"* type=*"submit"*

value=*"submit"* /></td>

</tr>

</table>

<input type=*"hidden"* name=*"*${\_csrf.parameterName}*"*

value=*"*${\_csrf.token}*"* />

</form>

</div>

</body>

</html>

## 403.jsp

<%@taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"*%>

<html>

<body>

<h1>HTTP Status 403 - Access is denied</h1>

<c:choose>

<c:when test=*"*${**empty** username}*"*>

<h2>You do not have permission to access this page!</h2>

</c:when>

<c:otherwise>

<h2>Username : ${username} <br/>You do not have permission to access this page!</h2>

</c:otherwise>

</c:choose>

<a href=*"login?logout"*>Custom Logout</a>

</body>

</html>

## Admin.jsp

<%@taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"*%>

<%@page session=*"true"*%>

<html>

<body>

<h1>Title : ${title}</h1>

<h1>Message : ${message}</h1>

<c:url value=*"/logout"* var=*"logoutUrl"* />

<form action=*"*${logoutUrl}*"* method=*"post"* id=*"logoutForm"*>

<input type=*"hidden"* name=*"*${\_csrf.parameterName}*"*

value=*"*${\_csrf.token}*"* />

</form>

<script>

**function** formSubmit() {

document.getElementById("logoutForm").submit();

}

</script>

<c:if test=*"*${pageContext.request.userPrincipal.name != null}*"*>

<h2>

Welcome : ${pageContext.request.userPrincipal.name} | <a

href=*"javascript:formSubmit()"*> Logout</a>

</h2>

</c:if>

</body>

</html>

# Java Codes

## AppConfig.java

package com.ddlab.rnd.spring.security;

import org.springframework.context.annotation.Bean;

import org.springframework.context.annotation.ComponentScan;

import org.springframework.context.annotation.Configuration;

import org.springframework.context.annotation.Import;

import org.springframework.jdbc.datasource.DriverManagerDataSource;

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

import org.springframework.web.servlet.view.InternalResourceViewResolver;

import org.springframework.web.servlet.view.JstlView;

@EnableWebMvc

@Configuration

@ComponentScan({ "com.ddlab.rnd.spring.\*" })

@Import({ SecurityConfig.class })

public class AppConfig {

@Bean(name = "dataSource")

public DriverManagerDataSource dataSource() {

DriverManagerDataSource driverManagerDataSource = new DriverManagerDataSource();

driverManagerDataSource.setDriverClassName("com.mysql.jdbc.Driver");

driverManagerDataSource.setUrl("jdbc:mysql://localhost:3306/test");

driverManagerDataSource.setUsername("root");

driverManagerDataSource.setPassword("root");

return driverManagerDataSource;

}

@Bean

public InternalResourceViewResolver viewResolver() {

InternalResourceViewResolver viewResolver = new InternalResourceViewResolver();

viewResolver.setViewClass(JstlView.class);

viewResolver.setPrefix("/WEB-INF/pages/");

viewResolver.setSuffix(".jsp");

return viewResolver;

}

}

## SpringSecurityInitializer.java

**package** com.ddlab.rnd.spring.security;

**import** org.springframework.security.web.context.AbstractSecurityWebApplicationInitializer;

**public** **class** SpringSecurityInitializer **extends** AbstractSecurityWebApplicationInitializer {

}

## SpringMvcInitializer.java

**package** com.ddlab.rnd.spring.security;

**import** org.springframework.web.servlet.support.AbstractAnnotationConfigDispatcherServletInitializer;

**public** **class** SpringMvcInitializer **extends** AbstractAnnotationConfigDispatcherServletInitializer {

@Override

**protected** Class<?>[] getRootConfigClasses() {

**return** **new** Class[] { AppConfig.**class** };

}

@Override

**protected** Class<?>[] getServletConfigClasses() {

**return** **null**;

}

@Override

**protected** String[] getServletMappings() {

**return** **new** String[] { "/" };

}

}

## SecurityConfig.java

package com.ddlab.rnd.spring.security;

import javax.sql.DataSource;

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

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;

@Configuration

@EnableWebSecurity

public class SecurityConfig extends WebSecurityConfigurerAdapter {

@Autowired

DataSource dataSource;

@Autowired

public void configAuthentication(AuthenticationManagerBuilder auth) throws Exception {

auth.jdbcAuthentication().dataSource(dataSource)

.usersByUsernameQuery("select username,password, enabled from users where username=?")

.authoritiesByUsernameQuery("select username, role from user\_roles where username=?");

}

@Override

protected void configure(HttpSecurity http) throws Exception {

http.authorizeRequests()

.antMatchers("/admin/\*\*").access("hasRole('ROLE\_ADMIN')")

.and()

.formLogin().loginPage("/login").failureUrl("/login?error")

.usernameParameter("username").passwordParameter("password")

.and()

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

.and()

.exceptionHandling().accessDeniedPage("/403")

.and()

.csrf();

}

}

## MainController.java

package com.ddlab.rnd.spring.security;

import org.springframework.security.authentication.AnonymousAuthenticationToken;

import org.springframework.security.core.Authentication;

import org.springframework.security.core.context.SecurityContextHolder;

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

import org.springframework.stereotype.Controller;

import org.springframework.web.bind.annotation.RequestMapping;

import org.springframework.web.bind.annotation.RequestMethod;

import org.springframework.web.bind.annotation.RequestParam;

import org.springframework.web.servlet.ModelAndView;

@Controller

public class MainController {

@RequestMapping(value = { "/", "/welcome\*\*" }, method = RequestMethod.GET)

public ModelAndView defaultPage() {

ModelAndView model = new ModelAndView();

model.addObject("title", "Spring Security Login Form - Database Authentication");

model.addObject("message", "This is default page!");

model.setViewName("hello");

return model;

}

@RequestMapping(value = "/admin\*\*", method = RequestMethod.GET)

public ModelAndView adminPage() {

ModelAndView model = new ModelAndView();

model.addObject("title", "Spring Security Login Form - Database Authentication");

model.addObject("message", "This page is for ROLE\_ADMIN only!");

model.setViewName("admin");

return model;

}

@RequestMapping(value = "/login", method = RequestMethod.GET)

public ModelAndView login(@RequestParam(value = "error", required = false) String error,

@RequestParam(value = "logout", required = false) String logout) {

ModelAndView model = new ModelAndView();

if (error != null) {

model.addObject("error", "Invalid username and password!");

}

if (logout != null) {

model.addObject("msg", "You've been logged out successfully.");

}

model.setViewName("login");

return model;

}

//for 403 access denied page

@RequestMapping(value = "/403", method = RequestMethod.GET)

public ModelAndView accesssDenied() {

ModelAndView model = new ModelAndView();

//check if user is login

Authentication auth = SecurityContextHolder.getContext().getAuthentication();

if (!(auth instanceof AnonymousAuthenticationToken)) {

UserDetails userDetail = (UserDetails) auth.getPrincipal();

System.out.println(userDetail);

model.addObject("username", userDetail.getUsername());

}

model.setViewName("403");

return model;

}

}

## Index.jsp

<html>

<body>

<h2>Hello World1111!</h2>

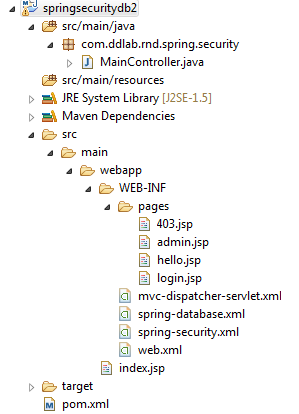
</body>

</html>

Spring Security with Custom Login Page and With Database with XML

In this tutorial, you will learn how to create a custom login page and authenticate and authorize with the username and password from the database. When you hit the url with /admin, it will ask you username and password and show you whether you have admin authorization or not.

Project Structure



# Maven pom.xml dependencies

<properties>

<spring.version>3.2.8.RELEASE</spring.version>

<spring.security.version>3.2.3.RELEASE</spring.security.version>

<jstl.version>1.2</jstl.version>

</properties>

<dependencies>

<dependency>

<groupId>junit</groupId>

<artifactId>junit</artifactId>

<version>3.8.1</version>

<scope>test</scope>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-core</artifactId>

<version>${spring.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-web</artifactId>

<version>${spring.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-jdbc</artifactId>

<version>${spring.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-webmvc</artifactId>

<version>${spring.version}</version>

</dependency>

<!-- Spring Security -->

<dependency>

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

<artifactId>spring-security-web</artifactId>

<version>${spring.security.version}</version>

</dependency>

<dependency>

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

<artifactId>spring-security-config</artifactId>

<version>${spring.security.version}</version>

</dependency>

<dependency>

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

<artifactId>spring-security-taglibs</artifactId>

<version>${spring.security.version}</version>

</dependency>

<dependency>

<groupId>jstl</groupId>

<artifactId>jstl</artifactId>

<version>${jstl.version}</version>

</dependency>

<dependency>

<groupId>javax.servlet</groupId>

<artifactId>servlet-api</artifactId>

<version>2.5</version>

<scope>provided</scope>

</dependency>

<dependency>

<groupId>javax.servlet.jsp</groupId>

<artifactId>jsp-api</artifactId>

<version>2.1</version>

<scope>provided</scope>

</dependency>

<dependency>

<groupId>mysql</groupId>

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

<version>5.1.30</version>

</dependency>

</dependencies>

# JSP Pages

## 403.jsp

<%@taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"*%>

<html>

<body>

<h1>HTTP Status 403 - Access is denied</h1>

<c:choose>

<c:when test=*"*${**empty** username}*"*>

<h2>You do not have permission to access this page!</h2>

</c:when>

<c:otherwise>

<h2>Username : ${username} <br/>You do not have permission to access this page!</h2>

</c:otherwise>

</c:choose>

</body>

</html>

# Admin.jsp

<%@taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"*%>

<%@page session=*"true"*%>

<html>

<body>

<h1>Title : ${title}</h1>

<h1>Message : ${message}</h1>

<c:url value=*"/j\_spring\_security\_logout"* var=*"logoutUrl"* />

<form action=*"*${logoutUrl}*"* method=*"post"* id=*"logoutForm"*>

<input type=*"hidden"* name=*"*${\_csrf.parameterName}*"*

value=*"*${\_csrf.token}*"* />

</form>

<script>

**function** formSubmit() {

document.getElementById("logoutForm").submit();

}

</script>

<c:if test=*"*${pageContext.request.userPrincipal.name != null}*"*>

<h2>

Welcome : ${pageContext.request.userPrincipal.name} | <a

href=*"javascript:formSubmit()"*> Logout</a>

</h2>

</c:if>

</body>

</html>

## Hello.jsp

<%@taglib prefix=*"sec"*

uri=*"http://www.springframework.org/security/tags"*%>

<%@taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"*%>

<html>

<body>

<h1>Title : ${title}</h1>

<h1>Message : ${message}</h1>

<sec:authorize access=*"hasRole('ROLE\_USER')"*>

<!-- For login user -->

<c:url value=*"/j\_spring\_security\_logout"* var=*"logoutUrl"* />

<form action=*"*${logoutUrl}*"* method=*"post"* id=*"logoutForm"*>

<input type=*"hidden"* name=*"*${\_csrf.parameterName}*"*

value=*"*${\_csrf.token}*"* />

</form>

<script>

**function** formSubmit() {

document.getElementById("logoutForm").submit();

}

</script>

<c:if test=*"*${pageContext.request.userPrincipal.name != null}*"*>

<h2>

User : ${pageContext.request.userPrincipal.name} | <a

href=*"javascript:formSubmit()"*> Logout</a>

</h2>

</c:if>

</sec:authorize>

</body>

</html>

## Login.jsp

<%@ taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"*%>

<%@page session=*"true"*%>

<html>

<head>

<title>Login Page</title>

<style>

*.error* {

padding: *15px*;

margin-bottom: *20px*;

border: *1px solid transparent*;

border-radius: *4px*;

color: *#a94442*;

background-color: *#f2dede*;

border-color: *#ebccd1*;

}

*.msg* {

padding: *15px*;

margin-bottom: *20px*;

border: *1px solid transparent*;

border-radius: *4px*;

color: *#31708f*;

background-color: *#d9edf7*;

border-color: *#bce8f1*;

}

*#login-box* {

width: *300px*;

padding: *20px*;

margin: *100px auto*;

background: *#fff*;

-webkit-border-radius: *2px*;

-moz-border-radius: *2px*;

border: *1px solid #000*;

}

</style>

</head>

<body onload='document.loginForm.username.focus();'>

<h1>Spring Security Login Form (Database Authentication)</h1>

<div id=*"login-box"*>

<h3>Login with Username and Password</h3>

<c:if test=*"*${**not empty** error}*"*>

<div class=*"error"*>${error}</div>

</c:if>

<c:if test=*"*${**not empty** msg}*"*>

<div class=*"msg"*>${msg}</div>

</c:if>

<form name=*'loginForm'*

action=*"*<c:url value=*'/j\_spring\_security\_check'* />*"* method=*'POST'*>

<table>

<tr>

<td>User:</td>

<td><input type=*'text'* name=*'username'*></td>

</tr>

<tr>

<td>Password:</td>

<td><input type=*'password'* name=*'password'* /></td>

</tr>

<tr>

<td colspan=*'2'*><input name=*"submit"* type=*"submit"*

value=*"submit"* /></td>

</tr>

</table>

<input type=*"hidden"* name=*"*${\_csrf.parameterName}*"*

value=*"*${\_csrf.token}*"* />

</form>

</div>

</body>

</html>

## Index.jsp

<html>

<body>

<h2>Hello World!</h2>

</body>

</html>

# Java Files

## MainController.java

package com.ddlab.rnd.spring.security;

import org.springframework.security.authentication.AnonymousAuthenticationToken;

import org.springframework.security.core.Authentication;

import org.springframework.security.core.context.SecurityContextHolder;

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

import org.springframework.stereotype.Controller;

import org.springframework.web.bind.annotation.RequestMapping;

import org.springframework.web.bind.annotation.RequestMethod;

import org.springframework.web.bind.annotation.RequestParam;

import org.springframework.web.servlet.ModelAndView;

@Controller

public class MainController {

@RequestMapping(value = { "/", "/welcome\*\*" }, method = RequestMethod.GET)

public ModelAndView defaultPage() {

ModelAndView model = new ModelAndView();

model.addObject("title", "Spring Security Login Form - Database Authentication");

model.addObject("message", "This is default page!");

model.setViewName("hello");

return model;

}

@RequestMapping(value = "/admin\*\*", method = RequestMethod.GET)

public ModelAndView adminPage() {

ModelAndView model = new ModelAndView();

model.addObject("title", "Spring Security Login Form - Database Authentication");

model.addObject("message", "This page is for ROLE\_ADMIN only!");

model.setViewName("admin");

return model;

}

@RequestMapping(value = "/login", method = RequestMethod.GET)

public ModelAndView login(@RequestParam(value = "error", required = false) String error,

@RequestParam(value = "logout", required = false) String logout) {

ModelAndView model = new ModelAndView();

if (error != null) {

model.addObject("error", "Invalid username and password!");

}

if (logout != null) {

model.addObject("msg", "You've been logged out successfully.");

}

model.setViewName("login");

return model;

}

//for 403 access denied page

@RequestMapping(value = "/403", method = RequestMethod.GET)

public ModelAndView accesssDenied() {

ModelAndView model = new ModelAndView();

//check if user is login

Authentication auth = SecurityContextHolder.getContext().getAuthentication();

if (!(auth instanceof AnonymousAuthenticationToken)) {

UserDetails userDetail = (UserDetails) auth.getPrincipal();

System.out.println(userDetail);

model.addObject("username", userDetail.getUsername());

}

model.setViewName("403");

return model;

}

}