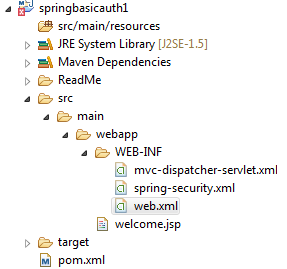
Spring Security - I

# Spring Basic Authentication

## Structure of Project



## Maven Build Pom.xml

Required dependencies

<properties>

<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>

<spring.version>3.1.4.RELEASE</spring.version>

</properties>

<dependencies>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-core</artifactId>

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

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-webmvc</artifactId>

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

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-web</artifactId>

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

</dependency>

<dependency>

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

<artifactId>spring-security-core</artifactId>

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

</dependency>

<dependency>

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

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

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

</dependency>

<dependency>

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

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

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

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context</artifactId>

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

</dependency>

<dependency>

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

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

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

</dependency>

<dependency>

<groupId>jstl</groupId>

<artifactId>jstl</artifactId>

<version>1.2</version>

</dependency>

<dependency>

<groupId>log4j</groupId>

<artifactId>log4j</artifactId>

<version>1.2.17</version>

</dependency>

<dependency>

<groupId>org.aspectj</groupId>

<artifactId>aspectjweaver</artifactId>

<version>1.6.8</version>

</dependency>

<dependency>

<groupId>javax.servlet</groupId>

<artifactId>servlet-api</artifactId>

<version>2.5</version>

</dependency>

</dependencies>

## Welcome.jsp

<html>

<body>

<h2>Hello World</h2>

</body>

</html>

## Spring-security.xml

<beans:beans xmlns=*"http://www.springframework.org/schema/security"*

xmlns:beans=*"http://www.springframework.org/schema/beans"* xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"*

xsi:schemaLocation=*"http://www.springframework.org/schema/beans*

*http://www.springframework.org/schema/beans/spring-beans-3.0.xsd*

*http://www.springframework.org/schema/security*

*http://www.springframework.org/schema/security/spring-security-3.1.xsd"*>

**<http>**

**<intercept-url pattern=*"/welcome\*"* access=*"ROLE\_USER"* />**

**<http-basic/>**

**</http>**

**<authentication-manager>**

**<authentication-provider>**

**<user-service>**

**<user name=*"deba"* password=*"deba"* authorities=*"ROLE\_USER"* />**

**</user-service>**

**</authentication-provider>**

**</authentication-manager>**

</beans:beans>

## mvc-dispatch-servlet.xml

<beans xmlns=*"http://www.springframework.org/schema/beans"*

xmlns:context=*"http://www.springframework.org/schema/context"*

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

xsi:schemaLocation=*"*

*http://www.springframework.org/schema/beans*

*http://www.springframework.org/schema/beans/spring-beans-3.0.xsd*

*http://www.springframework.org/schema/context*

*http://www.springframework.org/schema/context/spring-context-3.0.xsd"*>

<context:component-scan base-package=*"com.ddlab.rnd.spring"* />

<bean

class=*"org.springframework.web.servlet.view.InternalResourceViewResolver"*>

<property name=*"prefix"*>

<value>/WEB-INF/pages/</value>

</property>

<property name=*"suffix"*>

<value>.jsp</value>

</property>

</bean>

</beans>

## 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 MVC Application</display-name>

<!-- Spring MVC -->

<servlet>

<servlet-name>mvc-dispatcher</servlet-name>

<servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>

<load-on-startup>1</load-on-startup>

</servlet>

<servlet-mapping>

<servlet-name>mvc-dispatcher</servlet-name>

<url-pattern>/</url-pattern>

</servlet-mapping>

<listener>

<listener-class>org.springframework.web.context.ContextLoaderListener</listener-class>

</listener>

**<context-param>**

**<param-name>contextConfigLocation</param-name>**

**<param-value>**

**/WEB-INF/mvc-dispatcher-servlet.xml,**

**/WEB-INF/spring-security.xml**

**</param-value>**

**</context-param>**

<!-- Spring Security -->

**<filter>**

**<filter-name>springSecurityFilterChain</filter-name>**

**<filter-class>org.springframework.web.filter.DelegatingFilterProxy</filter-class>**

**</filter>**

**<filter-mapping>**

**<filter-name>springSecurityFilterChain</filter-name>**

**<url-pattern>/\*</url-pattern>**

**</filter-mapping>**

<welcome-file-list>

<welcome-file>welcome.jsp</welcome-file>

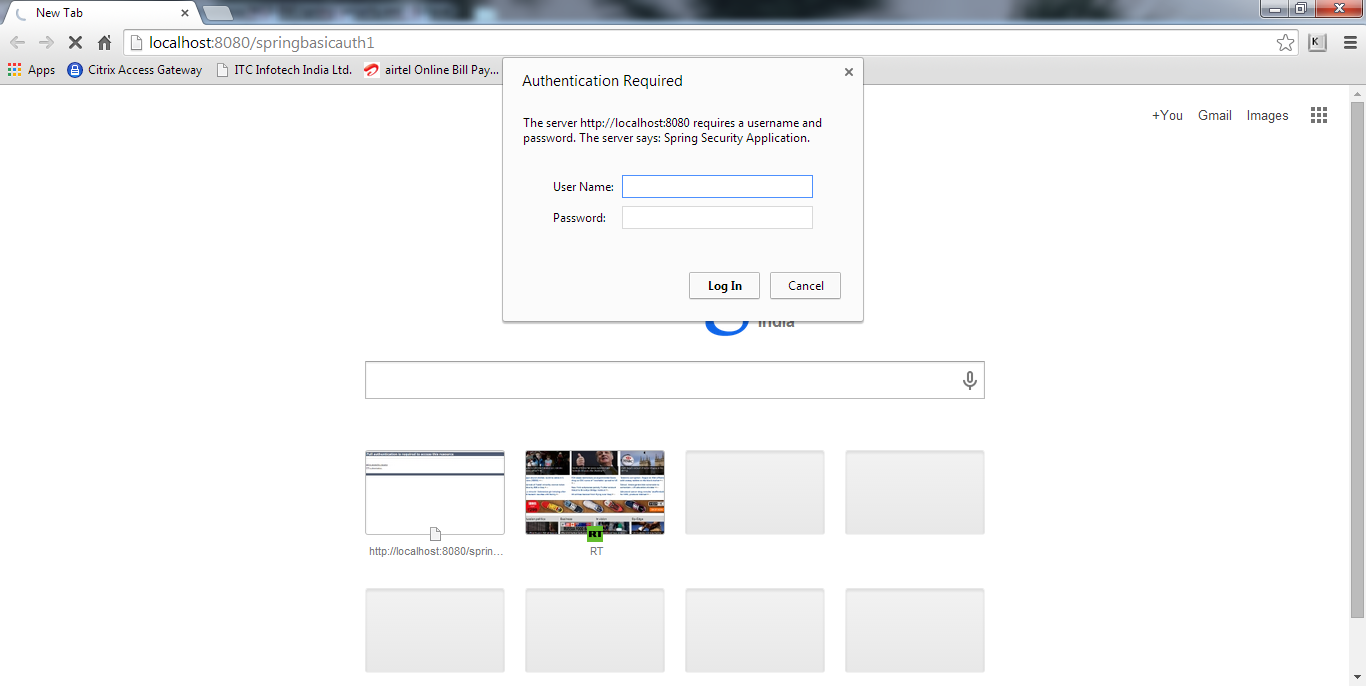
</welcome-file-list>

</web-app>

Start the server and hit the below url

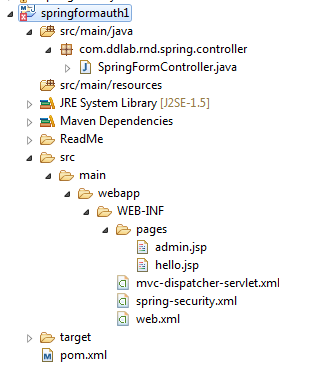
<http://localhost:8080/springbasicauth1/>

You will see the following page asking for username and password.



Spring Form Based Authentication

## Project Structure



## Maven pom.xml dependencies

<properties>

<jdk.version>1.6</jdk.version>

<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-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>

<!-- jstl for jsp page -->

<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>

</dependency>

<dependency>

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

<artifactId>jsp-api</artifactId>

<version>2.1</version>

<scope>provided</scope>

</dependency>

</dependencies>

## Spring-security.xml

<beans:beans xmlns=*"http://www.springframework.org/schema/security"*

xmlns:beans=*"http://www.springframework.org/schema/beans"*

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

xsi:schemaLocation=*"http://www.springframework.org/schema/beans*

*http://www.springframework.org/schema/beans/spring-beans-3.0.xsd*

*http://www.springframework.org/schema/security*

*http://www.springframework.org/schema/security/spring-security-3.2.xsd"*>

**<http auto-config=*"true"*>**

**<intercept-url pattern=*"/admin\*\*"* access=*"ROLE\_USER"* />**

**</http>**

**<authentication-manager>**

**<authentication-provider>**

**<user-service>**

**<user name=*"deba"* password=*"deba"* authorities=*"ROLE\_USER"* />**

**</user-service>**

**</authentication-provider>**

**</authentication-manager>**

</beans:beans>

## Spring-dispatcher-servlet.xml

<beans xmlns=*"http://www.springframework.org/schema/beans"*

xmlns:context=*"http://www.springframework.org/schema/context"*

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

xsi:schemaLocation=*"*

*http://www.springframework.org/schema/beans*

*http://www.springframework.org/schema/beans/spring-beans-3.0.xsd*

*http://www.springframework.org/schema/context*

*http://www.springframework.org/schema/context/spring-context-3.0.xsd"*>

<context:component-scan base-package=*"com.ddlab.rnd.spring\*"* />

<bean

class=*"org.springframework.web.servlet.view.InternalResourceViewResolver"*>

<property name=*"prefix"*>

<value>/WEB-INF/pages/</value>

</property>

<property name=*"suffix"*>

<value>.jsp</value>

</property>

</bean>

</beans>

## 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 MVC Application</display-name>

<!-- Spring MVC -->

<servlet>

<servlet-name>mvc-dispatcher</servlet-name>

<servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>

<load-on-startup>1</load-on-startup>

</servlet>

<servlet-mapping>

<servlet-name>mvc-dispatcher</servlet-name>

<url-pattern>/</url-pattern>

</servlet-mapping>

<listener>

<listener-class>org.springframework.web.context.ContextLoaderListener</listener-class>

</listener>

**<context-param>**

**<param-name>contextConfigLocation</param-name>**

**<param-value>**

**/WEB-INF/spring-security.xml**

**</param-value>**

**</context-param>**

<!-- Spring Security -->

**<filter>**

**<filter-name>springSecurityFilterChain</filter-name>**

**<filter-class>org.springframework.web.filter.DelegatingFilterProxy</filter-class>**

**</filter>**

**<filter-mapping>**

**<filter-name>springSecurityFilterChain</filter-name>**

**<url-pattern>/\*</url-pattern>**

**</filter-mapping>**

</web-app>

## JSP Pages

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

<h2>Welcome : ${pageContext.request.userPrincipal.name} | <a href=*"*<c:url value=*"/j\_spring\_security\_logout"* />*"* > Logout</a></h2>

</c:if>

</body>

</html>

### Hello.jsp

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

<html>

<body>

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

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

</body>

</html>

## Java codes

### SpringFormController

package com.ddlab.rnd.spring.controller;

import org.springframework.stereotype.Controller;

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

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

import org.springframework.web.servlet.ModelAndView;

@Controller

public class SpringFormController {

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

public ModelAndView welcomePage() {

ModelAndView model = new ModelAndView();

model.addObject("title", "Spring Security Hello World");

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

model.setViewName("hello");

return model;

}

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

public ModelAndView adminPage() {

ModelAndView model = new ModelAndView();

model.addObject("title", "Spring Security Hello World");

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

model.setViewName("admin");

return model;

}

}

Once you deploy the application, you can hit the following url.

<http://localhost:8080/springformauth1>

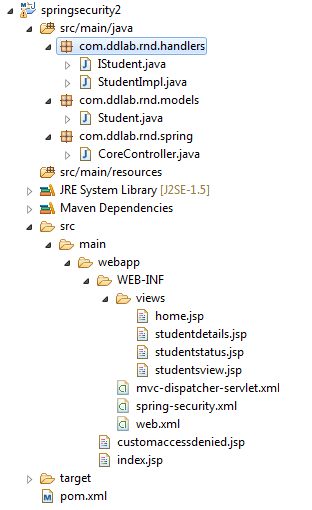
You will get a welcome page. The moment you hit the url - <http://localhost:8080/springformauth1/admin>

It wll prompt you with username and password.

Method Level Access Control in Spring Security

Let us think about a problem. An admin can modify or remove the details and the mark of student where as a student can view the mark and the details but student can modify his mark. It is called authorization. An admin is authorized to do anything but a student has limited privileges to perform certain operations.

# 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-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>

<!-- jstl for jsp page -->

<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>

</dependencies>

## 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-login</display-name>

<servlet>

<servlet-name>mvc-dispatcher</servlet-name>

<servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>

<load-on-startup>1</load-on-startup>

</servlet>

<servlet-mapping>

<servlet-name>mvc-dispatcher</servlet-name>

<url-pattern>/</url-pattern>

</servlet-mapping>

<listener>

<listener-class>org.springframework.web.context.ContextLoaderListener</listener-class>

</listener>

**<context-param>**

**<param-name>contextConfigLocation</param-name>**

**<param-value>**

**/WEB-INF/mvc-dispatcher-servlet.xml,**

**/WEB-INF/spring-security.xml,**

**</param-value>**

**</context-param>**

<!-- Spring Security -->

**<filter>**

**<filter-name>springSecurityFilterChain</filter-name>**

**<filter-class>org.springframework.web.filter.DelegatingFilterProxy</filter-class>**

**</filter>**

**<filter-mapping>**

**<filter-name>springSecurityFilterChain</filter-name>**

**<url-pattern>/\*</url-pattern>**

**</filter-mapping>**

<welcome-file-list>

<welcome-file>index.jsp</welcome-file>

</welcome-file-list>

</web-app>

## Spring-security.xml

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

<beans:beans xmlns=*"http://www.springframework.org/schema/security"*

xmlns:beans=*"http://www.springframework.org/schema/beans"*

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

xsi:schemaLocation=*"http://www.springframework.org/schema/beans*

*http://www.springframework.org/schema/beans/spring-beans-3.0.xsd*

*http://www.springframework.org/schema/security*

*http://www.springframework.org/schema/security/spring-security-3.2.xsd"*>

**<http>**

**<intercept-url pattern=*"/index\*"* access=*"ROLE\_USER,ROLE\_ADMIN"* />**

**<access-denied-handler error-page=*"/customaccessdenied.jsp"* />**

**<intercept-url pattern=*"/manage\*"* access=*"ROLE\_ADMIN"* />**

**<form-login default-target-url=*"/index"* always-use-default-target=*"true"*/>**

**<logout/>**

**<!-- <remember-me/> -->**

**</http>**

**<authentication-manager>**

**<authentication-provider>**

**<user-service>**

**<user name=*"a"* password=*"a"* authorities=*"ROLE\_ADMIN,ROLE\_USER"* />**

**<user name=*"d"* password=*"d"* authorities=*"ROLE\_USER"* />**

**</user-service>**

**</authentication-provider>**

**</authentication-manager>**

</beans:beans>

## Mvc-dispater-servlet.xml

<beans xmlns=*"http://www.springframework.org/schema/beans"*

xmlns:context=*"http://www.springframework.org/schema/context"*

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

xsi:schemaLocation=*"*

*http://www.springframework.org/schema/beans*

*http://www.springframework.org/schema/beans/spring-beans-3.0.xsd*

*http://www.springframework.org/schema/context*

*http://www.springframework.org/schema/context/spring-context-3.0.xsd"*>

<context:component-scan base-package=*"com.ddlab.rnd.\*"* />

<bean

class=*"org.springframework.web.servlet.view.InternalResourceViewResolver"*>

<property name=*"prefix"*>

<value>/WEB-INF/views/</value>

</property>

<property name=*"suffix"*>

<value>.jsp</value>

</property>

</bean>

<bean name=*"student"* class=*"com.ddlab.rnd.handlers.StudentImpl"*/>

</beans>

## JSP Pages

Index.jsp is blank

### Customdenied.jsp

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

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

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

<meta http-equiv=*"Content-Type"* content=*"text/html; charset=ISO-8859-1"*>

<title>Access Denied</title>

</head>

<body>

<div style="position: *absolute*;width: *200px*;height: *100px*;margin-left: *900px*;">

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

Logged in as : ${pageContext.request.userPrincipal.name} <a href=*"*<c:url value=*"/j\_spring\_security\_logout"* />*"* >Logout</a>

</c:if>

</div>

<h1>You do not have sufficient privilege to perform this operation.</h1>

</body>

</html>

### Home.jsp

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

<html>

<head>

<title>Home</title>

</head>

<body>

<div style="position: *absolute*;width: *800px*;height: *100px*;margin-top: *0px*;">

<h1>Welcome : ${pageContext.request.userPrincipal.name} </h1>

</div>

<div style="position: *absolute*;width: *200px*;height: *100px*;margin-left: *810px*;">

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

Logged in as : ${pageContext.request.userPrincipal.name} <a href=*"*<c:url value=*"/j\_spring\_security\_logout"* />*"* >Logout</a>

</c:if>

</div>

<div style="position: *absolute*;width: *800px*;height: *400px*;margin-top: *120px*;">

<a href=*"studentsview"*>Click here to see the students details</a>

</div>

</body>

</html>

### Studentdetails.jsp

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

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

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

<html>

<title>Students View</title>

<script type=*"text/javascript"*>

**function** submitForm(paramValue) {

document.getElementById("actionId").value=paramValue;

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

}

</script>

<body>

<div style="position: *absolute*;width: *800px*;height: *100px*;margin-top: *0px*;">

<h1>Student Details</h1>

</div>

<div style="position: *absolute*;width: *200px*;height: *100px*;margin-left: *810px*;">

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

Logged in as : ${pageContext.request.userPrincipal.name} <a href=*"*<c:url value=*"/j\_spring\_security\_logout"* />*"* >Logout</a>

</c:if>

</div>

<div style="position: *absolute*;width: *800px*;height: *400px*;margin-top: *120px*;">

<form action=*"manageAction"* method=*"POST"* name=*"manageForm"* id=*"manageFormId"*>

<input id=*"actionId"* type=*"hidden"* name=*"actionName"* value=*""*>

<table>

<tr>

<td>Name : </td>

<td><form:input path=*"student.name"* readonly=*"true"*/></td>

</tr>

<tr>

<td>Roll No : </td>

<td><form:input path=*"student.rollNo"* readonly=*"true"*/></td>

</tr>

<tr>

<td>Total Marks : </td>

<td><form:input path=*"student.marks"* /></td>

</tr>

</table>

<input type=*"button"* name=*"deleteStudent"* id=*"deleteStudentId"* value=*"Remove Student"* onclick="submitForm('delete');">

<input type=*"button"* name=*"modifyMarks"* id=*"modifyMarksId"* value=*"Modify Marks"* onclick="submitForm('modify');">

</form>

</div>

</body>

</html>

### Studentsview.jsp

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

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

<!DOCTYPE html>

<html>

<head>

<script type=*"text/javascript"*>

**function** submitForm(paramValue) {

document.getElementById("studentId").value=paramValue;

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

}

</script>

<meta charset=*"ISO-8859-1"*>

<title>Students View</title>

</head>

<body>

<div style="position: *absolute*;width: *800px*;height: *100px*;margin-top: *0px*;">

<h1>Student Details</h1>

</div>

<div style="position: *absolute*;width: *200px*;height: *100px*;margin-left: *810px*;">

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

Logged in as : ${pageContext.request.userPrincipal.name} <a href=*"*<c:url value=*"/j\_spring\_security\_logout"* />*"* >Logout</a>

</c:if>

</div>

<div style="position: *absolute*;width: *800px*;height: *400px*;margin-top: *120px*;">

<form action=*"studentdetails"* method=*"POST"* name=*"someForm"* id=*"someForm"*>

<input id=*"studentId"* type=*"hidden"* name=*"studentName"* value=*""*>

<c:forEach items=*"*${student}*"* var=*"elements"*>

<a href=*"javascript: submitForm('*${elements.name}*')"* >${elements.name}</a><br>

</c:forEach>

</form>

</div>

</body>

</html>

### Studentstatus.jsp

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

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

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

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

<meta http-equiv=*"Content-Type"* content=*"text/html; charset=ISO-8859-1"*>

<title>Student Status</title>

</head>

<body>

<div style="position: *absolute*;width: *200px*;height: *100px*;margin-left: *810px*;">

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

Logged in as : ${pageContext.request.userPrincipal.name} <a href=*"*<c:url value=*"/j\_spring\_security\_logout"* />*"* >Logout</a>

</c:if>

</div>

${info}

<a href=*"studentsview"*>Click here to see the students details</a>

</body>

</html>

## Java code

### IStudent.java

package com.ddlab.rnd.handlers;

import java.util.Collection;

import org.springframework.security.access.prepost.PreAuthorize;

import com.ddlab.rnd.models.Student;

public interface IStudent {

**@PreAuthorize ("hasRole('ROLE\_USER')")**

public Collection<Student> getStudents();

**@PreAuthorize ("hasRole('ROLE\_USER')")**

public Student getStudentByName(String studentName);

**@PreAuthorize ("hasRole('ROLE\_ADMIN')")**

public void removeStudent(Student student);

**@PreAuthorize ("hasRole('ROLE\_ADMIN')")**

public Student modifyStudentMarks(Student student);

}

### StudentImpl.java

package com.ddlab.rnd.handlers;

import java.util.Collection;

import java.util.HashMap;

import java.util.Map;

import com.ddlab.rnd.models.Student;

public class StudentImpl implements IStudent {

private Map<String,Student> studentsMap = new HashMap<String,Student>();

public StudentImpl() {

Student student1 = new Student("John Abraham",23,51);

Student student2 = new Student("Vidya Balan",23,52);

Student student3 = new Student("Kate Winslet",23,53);

studentsMap.put("John Abraham", student1);

studentsMap.put("Vidya Balan", student2);

studentsMap.put("Kate Winslet", student3);

}

public Collection<Student> getStudents() {

return studentsMap.values();

}

public Student getStudentByName(String studentName) {

return studentsMap.get(studentName);

}

public void removeStudent(Student student) {

studentsMap.remove(student.getName());

}

public Student modifyStudentMarks(Student student) {

studentsMap.put(student.getName(), student);

return null;

}

}

### Student.java

**package** com.ddlab.rnd.models;

**public** **class** Student {

**private** String name;

**private** **int** rollNo;

**private** **int** marks;

**public** Student() {

}

**public** Student(String name, **int** rollNo, **int** marks) {

**super**();

**this**.name = name;

**this**.rollNo = rollNo;

**this**.marks = marks;

}

**public** String getName() {

**return** name;

}

**public** **int** getRollNo() {

**return** rollNo;

}

**public** **int** getMarks() {

**return** marks;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **void** setRollNo(**int** rollNo) {

**this**.rollNo = rollNo;

}

**public** **void** setMarks(**int** marks) {

**this**.marks = marks;

}

@Override

**public** **int** hashCode() {

**final** **int** prime = 31;

**int** result = 1;

result = prime \* result + marks;

result = prime \* result + ((name == **null**) ? 0 : name.hashCode());

result = prime \* result + rollNo;

**return** result;

}

@Override

**public** **boolean** equals(Object obj) {

**if** (**this** == obj)

**return** **true**;

**if** (obj == **null**)

**return** **false**;

**if** (getClass() != obj.getClass())

**return** **false**;

Student other = (Student) obj;

**if** (marks != other.marks)

**return** **false**;

**if** (name == **null**) {

**if** (other.name != **null**)

**return** **false**;

} **else** **if** (!name.equals(other.name))

**return** **false**;

**if** (rollNo != other.rollNo)

**return** **false**;

**return** **true**;

}

}

### CoreController.java

package com.ddlab.rnd.spring;

import java.util.Collection;

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

import org.springframework.stereotype.Controller;

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

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.context.request.WebRequest;

import org.springframework.web.servlet.ModelAndView;

import com.ddlab.rnd.handlers.IStudent;

import com.ddlab.rnd.models.Student;

@Controller

public class CoreController {

@Autowired

private IStudent istudent;

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

public ModelAndView getIndexPage() {

ModelAndView model = new ModelAndView();

model.setViewName("home");

return model;

}

@RequestMapping(value = { "/studentsview" }, method = RequestMethod.GET)

public ModelAndView welcomePage() {

Collection<Student> studentList = istudent.getStudents();

ModelAndView model = new ModelAndView();

model.addObject("student", studentList);

model.addObject("message", "This is a secured page");

model.setViewName("studentsview");

return model;

}

@RequestMapping(value = "/studentdetails\*\*", method = RequestMethod.POST)

public ModelAndView adminPage(@RequestParam("studentName") String studentName) {

ModelAndView model = new ModelAndView();

model.addObject("title", "Spring Security Hello World");

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

Student student = istudent.getStudentByName(studentName);

model.addObject("student", student);

model.setViewName("studentdetails");

return model;

}

@RequestMapping(value = "/manageAction\*\*", method = RequestMethod.POST)

public ModelAndView removeStudent(@ModelAttribute("student") Student student,WebRequest webRequest) {

ModelAndView model = new ModelAndView();

String actionName = webRequest.getParameter("actionName");

if(actionName.equals("modify")) {

model.addObject("info", student.getName()+"\'s information modified successfully.");

istudent.modifyStudentMarks(student);

}

else {

model.addObject("info", student.getName()+"\' information removed successfully.");

istudent.removeStudent(student);

}

model.setViewName("studentstatus");

return model;

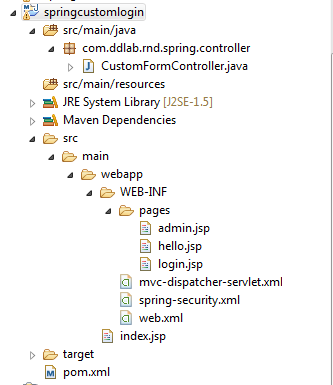
}

}

Custom Login Page and Restrict all urls in your application

There are certain situations where you need to restrict all urls of your application. It means that without logging into application, the user must not be able to invoke any static page of your application by simply copying and pasting the url in the browser. Still you can provide specific urls to specific user groups based upon the roles. In this case, for example, try to hit the url like <http://localhost:8080/springcustomlogin/welcome> or /admin etc, it will redirect you to the login page.

# Project Structure



# Maven pom.xml dependencies

<properties>

<jdk.version>1.6</jdk.version>

<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-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>

<!-- jstl for jsp page -->

<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>

</dependency>

<dependency>

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

<artifactId>jsp-api</artifactId>

<version>2.1</version>

<scope>provided</scope>

</dependency>

</dependencies>

# 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 MVC Application</display-name>

<!-- Spring MVC -->

<servlet>

<servlet-name>mvc-dispatcher</servlet-name>

<servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>

<load-on-startup>1</load-on-startup>

</servlet>

<servlet-mapping>

<servlet-name>mvc-dispatcher</servlet-name>

<url-pattern>/</url-pattern>

</servlet-mapping>

<listener>

<listener-class>org.springframework.web.context.ContextLoaderListener</listener-class>

</listener>

**<context-param>**

**<param-name>contextConfigLocation</param-name>**

**<param-value>**

**/WEB-INF/spring-security.xml**

**</param-value>**

**</context-param>**

**<!-- Spring Security -->**

**<filter>**

**<filter-name>springSecurityFilterChain</filter-name>**

**<filter-class>org.springframework.web.filter.DelegatingFilterProxy</filter-class>**

**</filter>**

**<filter-mapping>**

**<filter-name>springSecurityFilterChain</filter-name>**

**<url-pattern>/\*</url-pattern>**

**</filter-mapping>**

<!-- <welcome-file-list>

<welcome-file>index.jsp</welcome-file>

</welcome-file-list> -->

</web-app>

# Spring-security.xml

<beans:beans xmlns=*"http://www.springframework.org/schema/security"*

xmlns:beans=*"http://www.springframework.org/schema/beans"* xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"*

xsi:schemaLocation=*"http://www.springframework.org/schema/beans*

*http://www.springframework.org/schema/beans/spring-beans-3.0.xsd*

*http://www.springframework.org/schema/security*

*http://www.springframework.org/schema/security/spring-security-3.2.xsd"*>

<http auto-config=*"true"* use-expressions=*"true"* >

<!-- <intercept-url pattern="/login.jsp" access="ROLE\_USER" /> -->

<!-- <intercept-url pattern="/index\*\*" access="hasRole('ROLE\_USER')" /> -->

<intercept-url pattern=*"/login"* access=*"permitAll"*></intercept-url>

<intercept-url pattern=*"/logout"* access=*"permitAll"*></intercept-url>

<intercept-url pattern=*"/accessdenied"* access=*"permitAll"*></intercept-url>

<intercept-url pattern=*"/admin\*\*"* access=*"hasRole('ROLE\_ADMIN')"*></intercept-url>

<!-- <intercept-url pattern="/\*\*" access="hasRole('ROLE\_USER')"></intercept-url> -->

<intercept-url pattern=*"/\*\*"* access=*"hasAnyRole('ROLE\_USER','ROLE\_ADMIN')"*></intercept-url>

<form-login

login-page=*"/login"*

default-target-url=*"/index"*

authentication-failure-url=*"/login?error"*

always-use-default-target=*"true"*

username-parameter=*"username"*

password-parameter=*"password"* />

<logout logout-success-url=*"/login?logout"* />

<csrf/>

</http>

<authentication-manager>

<authentication-provider>

<user-service>

<user name=*"d"* password=*"d"* authorities=*"ROLE\_USER"* />

<user name=*"a"* password=*"a"* authorities=*"ROLE\_ADMIN"* />

</user-service>

</authentication-provider>

</authentication-manager>

</beans:beans>

# Mvc-dispather-servlet.xml

<beans xmlns=*"http://www.springframework.org/schema/beans"*

xmlns:context=*"http://www.springframework.org/schema/context"*

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

xsi:schemaLocation=*"*

*http://www.springframework.org/schema/beans*

*http://www.springframework.org/schema/beans/spring-beans-3.0.xsd*

*http://www.springframework.org/schema/context*

*http://www.springframework.org/schema/context/spring-context-3.0.xsd"*>

<context:component-scan base-package=*"com.ddlab.rnd.\*"* />

<bean

class=*"org.springframework.web.servlet.view.InternalResourceViewResolver"*>

<property name=*"prefix"*>

<value>/WEB-INF/pages/</value>

</property>

<property name=*"suffix"*>

<value>.jsp</value>

</property>

</bean>

</beans>

# JSP pages

## 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>

## 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 Custom Login Form (XML)</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>

## Hello.jsp

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

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

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

<html>

<script>

**function** formSubmit() {

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

}

</script>

<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>

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

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

</body>

</html>

# CustomFormController

package com.ddlab.rnd.spring.controller;

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 CustomFormController {

@RequestMapping(value = { "/index"}, method = RequestMethod.GET)

public ModelAndView getIndexPage() {

ModelAndView model = new ModelAndView();

model.addObject("title", "Spring Security Custom Login Form");

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

model.setViewName("hello");

return model;

}

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

public ModelAndView welcomePage() {

ModelAndView model = new ModelAndView();

model.addObject("title", "Hati Ghoda");

model.addObject("message", "Ia m the hati");

model.setViewName("hello");

return model;

}

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

public ModelAndView adminPage() {

ModelAndView model = new ModelAndView();

model.addObject("title", "Spring Security Custom Login Form");

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

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;

}

}

# External configuration for user detail service

If you want to maintain the username and password other than security XML file, you can also do so. You have to do two thing.

1. Maintain one properties file called “users.properties”.
2. Mention the properties file in spring-security.xml file.

See the example below.

## Users.properties

bob=bob,ROLE\_USER,enabled

d=d,ROLE\_USER,enabled

a=a,ROLE\_ADMIN,enabled

## spring-security.xml

<beans:beans xmlns=*"http://www.springframework.org/schema/security"*

xmlns:beans=*"http://www.springframework.org/schema/beans"* xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"*

xsi:schemaLocation=*"http://www.springframework.org/schema/beans*

*http://www.springframework.org/schema/beans/spring-beans-3.0.xsd*

*http://www.springframework.org/schema/security*

*http://www.springframework.org/schema/security/spring-security-3.2.xsd"*>

<http auto-config=*"true"* use-expressions=*"true"* >

<intercept-url pattern=*"/login"* access=*"permitAll"*></intercept-url>

<intercept-url pattern=*"/logout"* access=*"permitAll"*></intercept-url>

<intercept-url pattern=*"/accessdenied"* access=*"permitAll"*></intercept-url>

<intercept-url pattern=*"/admin\*\*"* access=*"hasRole('ROLE\_ADMIN')"*></intercept-url>

<!-- <intercept-url pattern="/\*\*" access="hasRole('ROLE\_USER')"></intercept-url> -->

<intercept-url pattern=*"/\*\*"* access=*"hasAnyRole('ROLE\_USER','ROLE\_ADMIN')"*></intercept-url>

<form-login

login-page=*"/login"*

default-target-url=*"/index"*

authentication-failure-url=*"/login?error"*

always-use-default-target=*"true"*

username-parameter=*"username"*

password-parameter=*"password"* />

<logout logout-success-url=*"/login?logout"* />

<csrf/>

</http>

**<authentication-manager>**

**<authentication-provider>**

**<user-service properties=*"classpath:users.properties"*/>**

**</authentication-provider>**

**</authentication-manager>**

<!-- authentication-manager>

<authentication-provider>

<user-service>

<user name="d" password="d" authorities="ROLE\_USER" />

<user name="a" password="a" authorities="ROLE\_ADMIN" />

</user-service>

</authentication-provider>

</authentication-manager> -->

</beans:beans>