

pom.xml

```
<project xmlns="http://maven.apache.org/POM/4.0.0" ...>
  <!-- Minimal pom.xml for Spring MVC + Spring Security -->
  <modelVersion>4.0.0</modelVersion>
  <groupId>com.example</groupId>
  <artifactId>library-management</artifactId>
  <version>1.0-SNAPSHOT</version>
  <packaging>war</packaging>

  <properties>
    <java.version>1.8</java.version>
    <spring.version>4.3.25.RELEASE</spring.version>
  </properties>

  <dependencies>
    <!-- Spring MVC -->
    <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>4.2.13.RELEASE</version>
    </dependency>
    <dependency>
      <groupId>org.springframework.security</groupId>
      <artifactId>spring-security-config</artifactId>
      <version>4.2.13.RELEASE</version>
    </dependency>

    <!-- Servlet API (provided by container) -->
    <dependency>
      <groupId>javax.servlet</groupId>
      <artifactId>javax.servlet-api</artifactId>
      <version>3.1.0</version>
      <scope>provided</scope>
    </dependency>

    <!-- JSP / JSTL -->
```

```

<dependency>
  <groupId>javax.servlet.jsp.jstl</groupId>
  <artifactId>jstl-api</artifactId>
  <version>1.2</version>
</dependency>
<dependency>
  <groupId>org.glassfish.web</groupId>
  <artifactId>jstl-impl</artifactId>
  <version>1.2</version>
</dependency>
</dependencies>

```

```

<build>
  <finalName>library-management</finalName>
  <plugins>
    <plugin>
      <groupId>org.apache.maven.plugins</groupId>
      <artifactId>maven-compiler-plugin</artifactId>
      <version>3.8.1</version>
      <configuration>
        <source>${java.version}</source>
        <target>${java.version}</target>
      </configuration>
    </plugin>
    <plugin>
      <groupId>org.apache.maven.plugins</groupId>
      <artifactId>maven-war-plugin</artifactId>
      <version>3.2.3</version>
    </plugin>
  </plugins>
</build>
</project>

```

web.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee" version="3.1">
  <display-name>Library Management</display-name>

  <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>

<servlet>
    <servlet-name>spring</servlet-name>
    <servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>
    <init-param>
        <param-name>contextConfigLocation</param-name>
        <param-value>/WEB-INF/spring-servlet.xml</param-value>
    </init-param>
    <load-on-startup>1</load-on-startup>
</servlet>

<servlet-mapping>
    <servlet-name>spring</servlet-name>
    <url-pattern>/</url-pattern>
</servlet-mapping>

<welcome-file-list>
    <welcome-file></welcome-file>
</welcome-file-list>
</web-app>

```

spring-servlet.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
    xmlns:mvc="http://www.springframework.org/schema/mvc"
    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.xsd
        http://www.springframework.org/schema/context
        http://www.springframework.org/schema/context/spring-context.xsd
        http://www.springframework.org/schema/mvc
        http://www.springframework.org/schema/mvc/spring-mvc.xsd">

    <context:component-scan base-package="com.example.library" />

    <mvc:annotation-driven/>

    <bean class="org.springframework.web.servlet.view.InternalResourceViewResolver">
        <property name="prefix" value="/WEB-INF/views/" />
        <property name="suffix" value=".jsp" />
    
```

```

</bean>

<!-- Import Spring Security config -->
<import resource="classpath:spring-security.xml" />
</beans>

```

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/security
        http://www.springframework.org/schema/security/spring-security-4.2.xsd
        http://www.springframework.org/schema/beans
        http://www.springframework.org/schema/beans/spring-beans.xsd">

    <http>
        <intercept-url pattern="/" access="permitAll"/>
        <intercept-url pattern="/login" access="permitAll"/>
        <intercept-url pattern="/books" access="hasAnyRole('USER','ADMIN')"/>
        <intercept-url pattern="/admin" access="hasRole('ADMIN')"/>

        <form-login login-page="/login" default-target-url="/books" authentication-failure-url="/login?error"/>
        <logout logout-success-url="/" />
        <access-denied-handler error-page="/403" />
    </http>

    <authentication-manager>
        <authentication-provider>
            <user-service>
                <user name="user" password="{noop}userpass" authorities="ROLE_USER"/>
                <user name="admin" password="{noop}adminpass" authorities="ROLE_USER,ROLE_ADMIN"/>
            </user-service>
        </authentication-provider>
    </authentication-manager>
</beans:beans>

```

BookController.java

```

package com.example.library.controller;

import org.springframework.stereotype.Controller;
import org.springframework.ui.Model;

```

```
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.security.core.Authentication;
import org.springframework.security.core.authority.SimpleGrantedAuthority;
```

```
import java.util.Arrays;
import java.util.List;
```

```
@Controller
```

```
public class BookController {
```

```
    @GetMapping("/")
    public String home() {
        return "home";
    }
```

```
    @GetMapping("/login")
    public String login() {
        return "login";
    }
```

```
    @GetMapping("/books")
```

```
    public String books(Model model, Authentication authentication) {
        List<String> books = Arrays.asList("The Hobbit", "Clean Code", "Effective Java", "Design Pattern");
        model.addAttribute("books", books);
```

```
        boolean isAdmin = authentication != null && authentication.getAuthorities().contains(new SimpleGrantedAuthority("ROLE_ADMIN"));
        model.addAttribute("isAdmin", isAdmin);
```

```
        return "books";
    }
```

```
    @GetMapping("/admin")
```

```
    public String admin() {
        return "admin";
    }
```

```
}
```

home.jsp

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

```
<html>
```

```
    <head><title>Library - Home</title></head>
```

```
    <body>
```

```
        <h1>Welcome to the Library</h1>
```

```
        <p><a href="${pageContext.request.contextPath}/books">View books</a> | <a href="${pageContext.request.contextPath}/admin">Admin</a>
```

```
</body>
</html>
```

login.jsp

```
<% @ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
<html>
  <head><title>Login</title></head>
  <body>
    <h2>Login</h2>
    <c:if test="${param.error != null}">
      <p style="color:red">Invalid username or password.</p>
    </c:if>
    <form action="${pageContext.request.contextPath}/j_spring_security_check" method="post">
      <label>Username: <input type="text" name="j_username"/></label><br/>
      <label>Password: <input type="password" name="j_password"/></label><br/>
      <button type="submit">Login</button>
    </form>
  </body>
</html>
```

books.jsp

```
<% @ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
<html>
  <head><title>Books</title></head>
  <body>
    <h2>Available Books</h2>
    <ul>
      <c:forEach var="b" items="${books}">
        <li>${b}</li>
      </c:forEach>
    </ul>

    <c:if test="${isAdmin}">
      <p><a href="${pageContext.request.contextPath}/admin">Admin Panel</a></p>
    </c:if>

    <form action="${pageContext.request.contextPath}/logout" method="post">
      <button type="submit">Logout</button>
    </form>
  </body>
</html>
```

admin.jsp

```
<html>
  <head><title>Admin Panel</title></head>
  <body>
    <h2>Admin Panel</h2>
    <p>Restricted administrative actions could go here.</p>
    <p><a href="{pageContext.request.contextPath}/books">Back to books</a></p>
  </body>
</html>
```