230303 Spring Security

Spring Security

인증 & 인가

인증 : authenciation   **회원 로그인, 회원 / 비회원**

인가 : authorization   **1급 기밀, 접근 권한, 무료회원/ 유료회원**

환경설정

1. pom.xml : spring-security-web, spring-security-config 의존성 라이브러리 주입, maven repository

2. web.xml : filter 추가 - jsp 페이지를 유저에게 보내기전에 필터링 param 추가 - security-context.xml (권한/ 인증 설정)

3. security-context.xml 작성 - 가장 중요 !! 위치 확인할것 spring 바로 아래

```
∨ 📂 spring
  > 📂 appServlet
    📄 root-context.xml
```

1. pom.xml 설정

```xml
<!-- spring-security-web -->
<dependency>
    <groupId>org.springframework.security</groupId>
    <artifactId>spring-security-web</artifactId>
    <version>5.4.6</version>
</dependency>
```
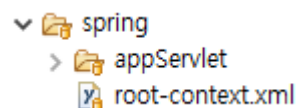
```xml
<!-- spring-security-web -->
<dependency>
    <groupId>org.springframework.security</groupId>
    <artifactId>spring-security-web</artifactId>
    <version>5.4.6</version>
</dependency>

<!-- spring-security-config -->
<dependency>
    <groupId>org.springframework.security</groupId>
    <artifactId>spring-security-config</artifactId>
    <version>5.4.6</version>
</dependency>
```

```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/maven-v4_0_0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <groupId>com.carshop</groupId>
  <artifactId>controller</artifactId>
  <name>CarShop</name>
  <packaging>war</packaging>
  <version>1.0.0-BUILD-SNAPSHOT</version>
  <properties>
    <java-version>1.6</java-version>
    <org.springframework-version>5.3.19</org.springframework-version>
    <org.aspectj-version>1.6.10</org.aspectj-version>
    <org.slf4j-version>1.6.6</org.slf4j-version>
  </properties>
  <dependencies>
    <!-- Spring -->
    <dependency>
      <groupId>org.springframework</groupId>
      <artifactId>spring-context</artifactId>
      <version>${org.springframework-version}</version>
      <exclusions>
        <!-- Exclude Commons Logging in favor of SLF4j -->
        <exclusion>
          <groupId>commons-logging</groupId>
          <artifactId>commons-logging</artifactId>
        </exclusion>
      </exclusions>
    </dependency>
```

```xml
<dependency>
  <groupId>org.springframework</groupId>
  <artifactId>spring-webmvc</artifactId>
  <version>${org.springframework-version}</version>
</dependency>

<!-- AspectJ -->
<dependency>
  <groupId>org.aspectj</groupId>
  <artifactId>aspectjrt</artifactId>
  <version>${org.aspectj-version}</version>
</dependency>

<!-- Logging -->
<dependency>
  <groupId>org.slf4j</groupId>
  <artifactId>slf4j-api</artifactId>
  <version>${org.slf4j-version}</version>
</dependency>
<dependency>
  <groupId>org.slf4j</groupId>
  <artifactId>jcl-over-slf4j</artifactId>
  <version>${org.slf4j-version}</version>
  <scope>runtime</scope>
</dependency>
<dependency>
  <groupId>org.slf4j</groupId>
  <artifactId>slf4j-log4j12</artifactId>
  <version>${org.slf4j-version}</version>
  <scope>runtime</scope>
</dependency>
<dependency>
  <groupId>log4j</groupId>
  <artifactId>log4j</artifactId>
  <version>1.2.15</version>
  <exclusions>
    <exclusion>
      <groupId>javax.mail</groupId>
      <artifactId>mail</artifactId>
    </exclusion>
    <exclusion>
      <groupId>javax.jms</groupId>
      <artifactId>jms</artifactId>
    </exclusion>
    <exclusion>
      <groupId>com.sun.jdmk</groupId>
      <artifactId>jmxtools</artifactId>
    </exclusion>
    <exclusion>
      <groupId>com.sun.jmx</groupId>
      <artifactId>jmxri</artifactId>
    </exclusion>
  </exclusions>
  <scope>runtime</scope>
</dependency>

<!-- @Inject -->
<dependency>
```

```xml
      <groupId>javax.inject</groupId>
      <artifactId>javax.inject</artifactId>
      <version>1</version>
    </dependency>

    <!-- Servlet -->
    <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>javax.servlet</groupId>
      <artifactId>jstl</artifactId>
      <version>1.2</version>
    </dependency>

    <!-- Test -->
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>4.7</version>
      <scope>test</scope>
    </dependency>

<!-- https://mvnrepository.com/artifact/org.springframework.security/spring-security-web -->
    <dependency>
        <groupId>org.springframework.security</groupId>
        <artifactId>spring-security-web</artifactId>
        <version>5.4.6</version>
    </dependency>
<!-- https://mvnrepository.com/artifact/org.springframework.security/spring-security-config -->
    <dependency>
        <groupId>org.springframework.security</groupId>
        <artifactId>spring-security-config</artifactId>
        <version>5.4.6</version>
    </dependency>


  </dependencies>
    <build>
        <plugins>
            <plugin>
                <artifactId>maven-eclipse-plugin</artifactId>
                <version>2.9</version>
                <configuration>
                    <additionalProjectnatures>
                        <projectnature>org.springframework.ide.eclipse.core.springnature</projectnature>
```

```
                </additionalProjectnatures>
                <additionalBuildcommands>
                    <buildcommand>org.springframework.ide.eclipse.core.springbuild
er</buildcommand>
                </additionalBuildcommands>
                <downloadSources>true</downloadSources>
                <downloadJavadocs>true</downloadJavadocs>
            </configuration>
        </plugin>
        <plugin>
            <groupId>org.apache.maven.plugins</groupId>
            <artifactId>maven-compiler-plugin</artifactId>
            <version>2.5.1</version>
            <configuration>
                <source>1.6</source>
                <target>1.6</target>
                <compilerArgument>-Xlint:all</compilerArgument>
                <showWarnings>true</showWarnings>
                <showDeprecation>true</showDeprecation>
            </configuration>
        </plugin>
        <plugin>
            <groupId>org.codehaus.mojo</groupId>
            <artifactId>exec-maven-plugin</artifactId>
            <version>1.2.1</version>
            <configuration>
                <mainClass>org.test.int1.Main</mainClass>
            </configuration>
        </plugin>
    </plugins>
  </build>
</project>
```

2. web.xml

```
<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-INF/spring/security-context.xml 추가

```xml
<context-param>
    <param-name>contextConfigLocation</param-name>
    <param-value>/WEB-INF/spring/root-context.xml
                 /WEB-INF/spring/security-context.xml
    </param-value>
</context-param>
```

```xml
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="2.5" xmlns="http://java.sun.com/xml/ns/javaee"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://java.sun.com/xml/ns/javaee https://java.sun.com/xml/ns/ja
vaee/web-app_2_5.xsd">

  <!-- The definition of the Root Spring Container shared by all Servlets and Filters
  -->
  <context-param>
    <param-name>contextConfigLocation</param-name>
    <param-value>/WEB-INF/spring/root-context.xml
                 /WEB-INF/spring/security-context.xml
    </param-value>
  </context-param>

  <!-- Creates the Spring Container shared by all Servlets and Filters -->
  <listener>
    <listener-class>org.springframework.web.context.ContextLoaderListener</listener-cl
ass>
  </listener>

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

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

  <filter>
    <filter-name>encodingFilter</filter-name>
    <filter-class>org.springframework.web.filter.CharacterEncodingFilter</filter-class
>
    <init-param>
      <param-name>encoding</param-name>
      <param-value>UTF-8</param-value>
    </init-param>
```

```
    </filter>
    <filter-mapping>
      <filter-name>encodingFilter</filter-name>
      <url-pattern>/*</url-pattern>
    </filter-mapping>

    <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>
```
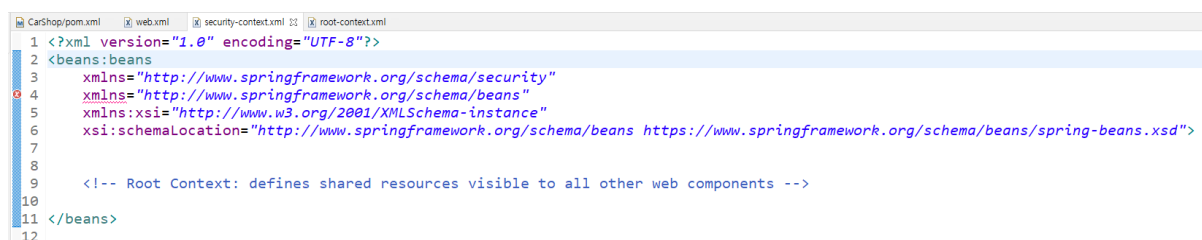
3. security-context.xml

```
CarShop/pom.xml    web.xml    security-context.xml ⊠    root-context.xml
1 <?xml version="1.0" encoding="UTF-8"?>
2 <beans:beans
3     xmlns="http://www.springframework.org/schema/security"
4     xmlns="http://www.springframework.org/schema/beans"
5     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
6     xsi:schemaLocation="http://www.springframework.org/schema/beans https://www.springframework.org/schema/beans/spring-beans.xsd">
7
8
9     <!-- Root Context: defines shared resources visible to all other web components -->
10
11 </beans>
12
```

```
<?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.xsd
 http://www.springframework.org/schema/security
 http://www.springframework.org/schema/security/spring-security.xsd">

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

  <intercept-url pattern="/admin/add" access="hasAuthority('ROLE_ADMIN')" />
  <intercept-url pattern="/manager" access="hasRole('ROLE_MANAGER')" />
  <intercept-url pattern="/member" access="isAuthenticated()" />
  <intercept-url pattern="/**" access="permitAll" />

  <form-login login-page="/login"
        default-target-url="/"
```

```
              authentication-failure-url="/loginfailed"
              username-parameter="username"
              password-parameter="password"/>
    <csrf />
    <logout logout-success-url="/logout"/>


      </http>

      <authentication-manager>
          <authentication-provider>
              <user-service>

        <user name="admin" password="{noop}admin" authorities="ROLE_ADMIN, ROLE_USER"/>
        <user name="manager" password="{noop}manager" authorities="ROLE_MANAGER, ROLE_US
 ER"/>
        <user name="guest" password="{noop}guest" authorities="ROLE_USER"/>



              </user-service>
          </authentication-provider>
      </authentication-manager>
 </beans:beans>
```

등록은 admin만 가능하도록 설정

```
<intercept-url pattern="/add" access="hasAuthority('ROLE_ADMIN)"/>
```

admin 관리자는 관리자와 , 유저 권한을 가지고 있다.

```
<authentication-manager>
    <authentication-provider>
        <user-service>

        <user name="admin" password="{noop}admin" authorities="ROLE_ADMIN, ROLE_USER"/>


        </user-service>
    </authentication-provider>
</authentication-manager>
```