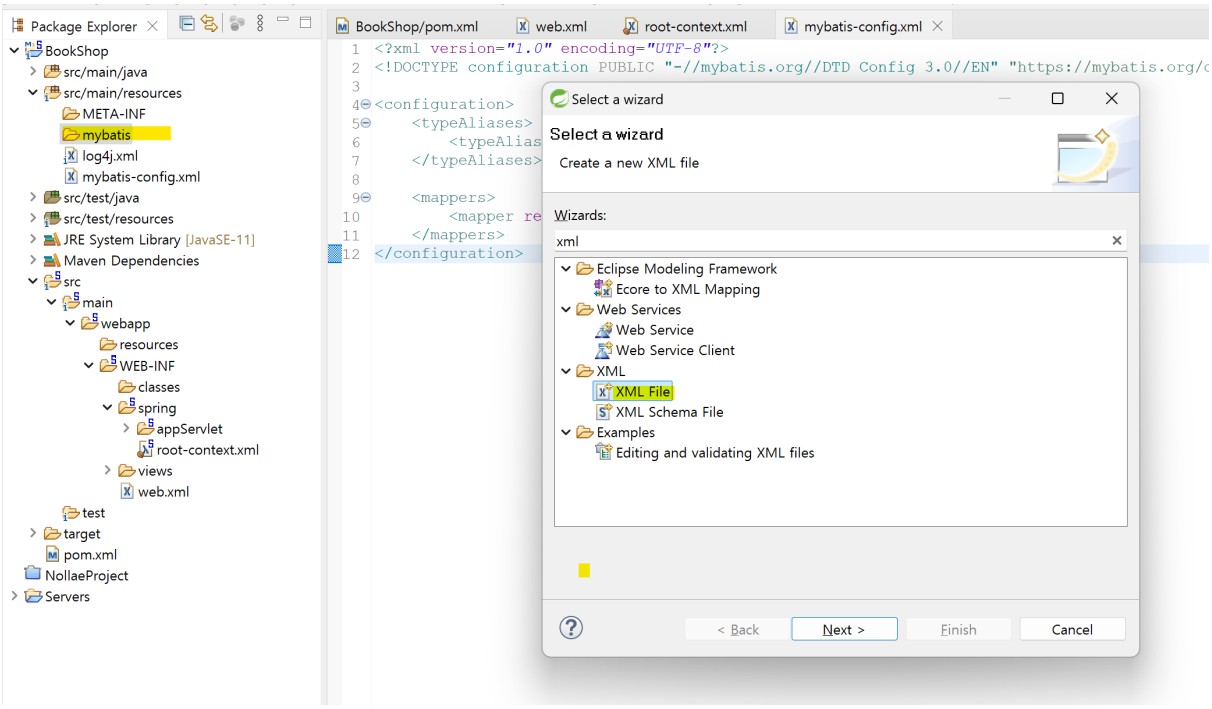
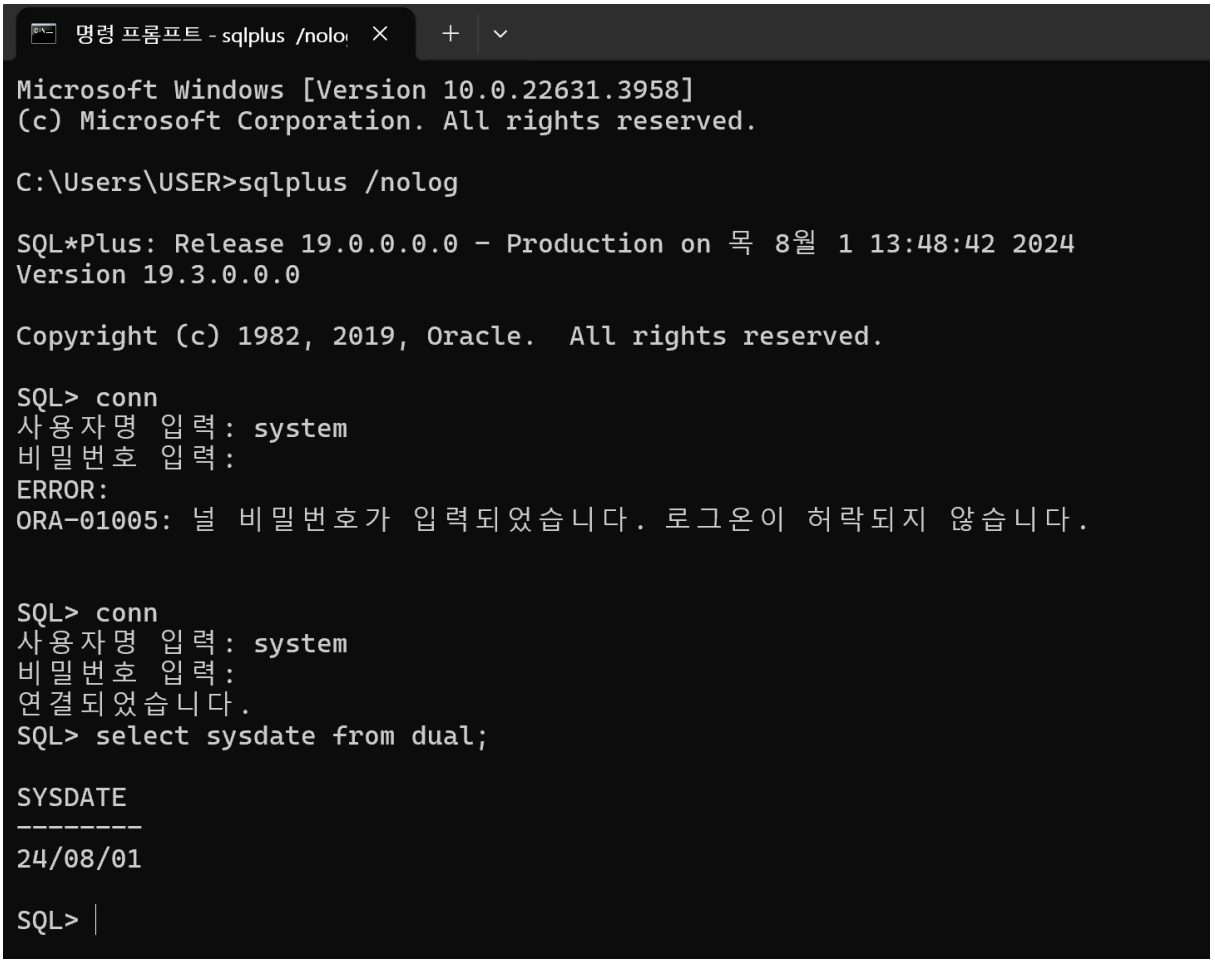
240801 book테이블로 복습



전날인 0731에 진행한 세팅에서는 11c(ojdbc6)을 사용해서 오류가 발생했다.
19c(ojdbc10)으로 다시 깔아서 실행해보려고 한다.

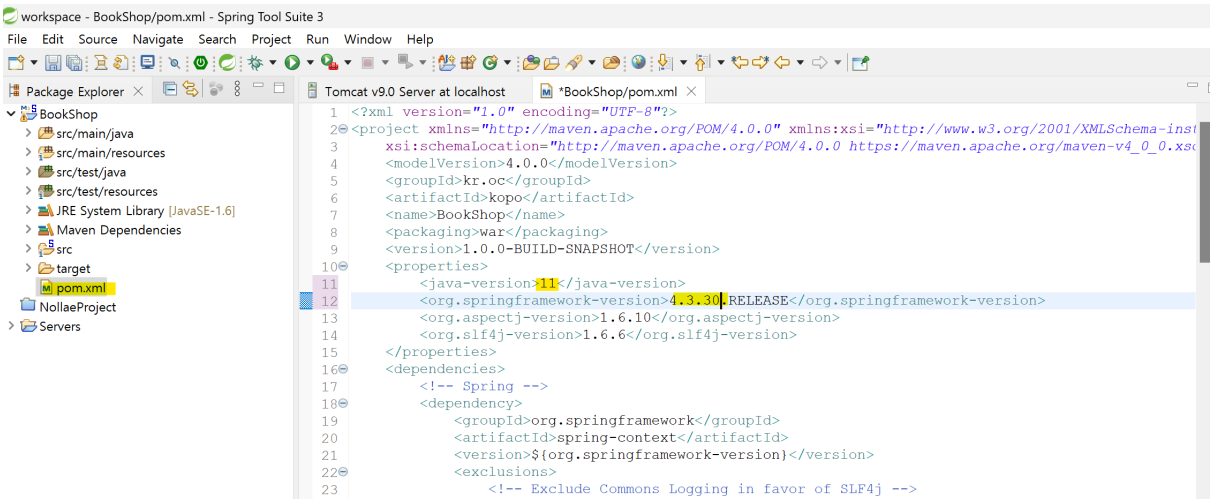


위 작업을 하려고 했으나...

다시 book테이블로 복습을 해보려고 한다.

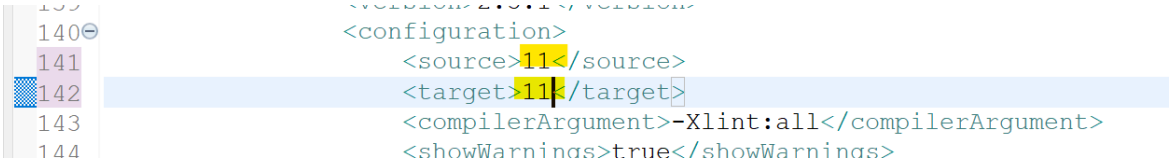
xml → 어노테이션 → spring mvc project(xml과 어노테이션이 섞여있다) → spring framework(xml 쓰지 마라)

- 프로젝트 만들고 가장먼저 pom.xml 세팅



※log4j(62행) 버전 고쳐야하는데 지금은 그냥 진행

- jdk 11로 변경

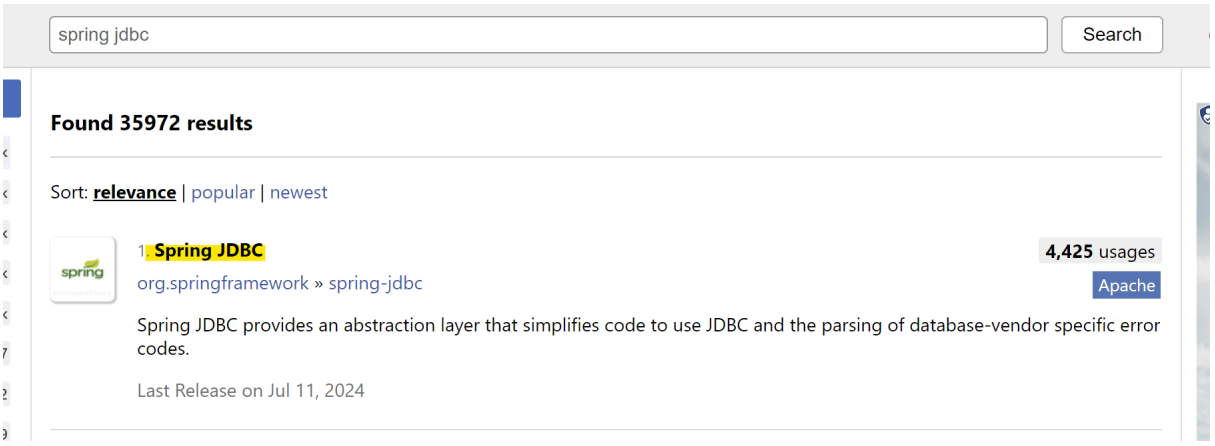


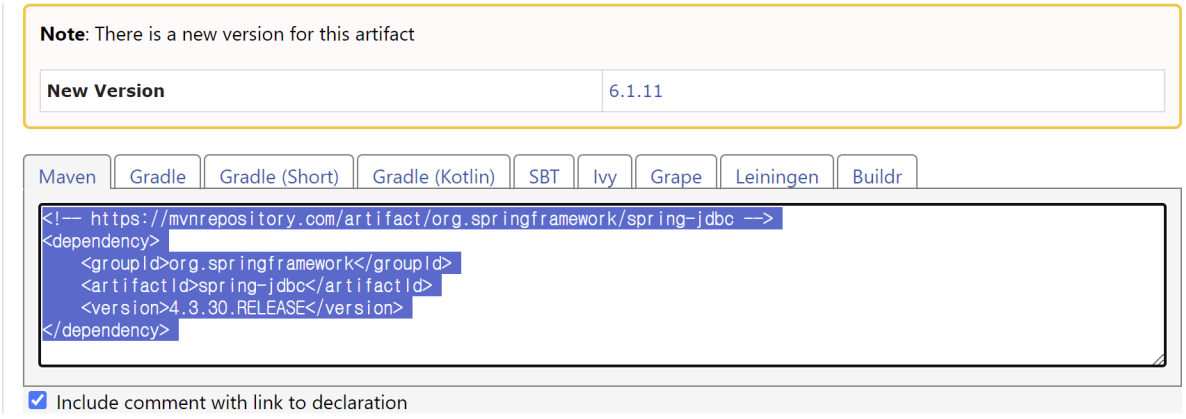
- mvnrepository 접속

https://mvnrepository.com/

— 데이터베이스 엑세스 하기 위해 설치할 항목들

- spring jdbc

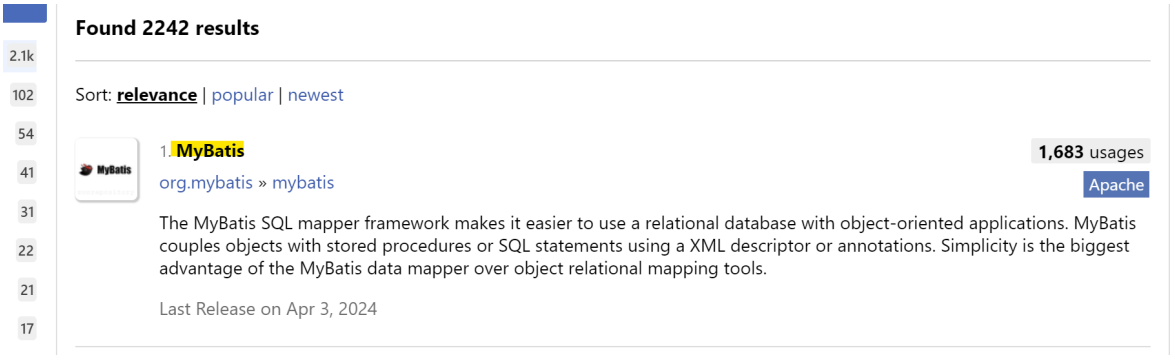





```
118         </dependency>
119
120         <!-- https://mvnrepository.com/artifact/org.springframework/spring-jdbc -->
121         <dependency>
122             <groupId>org.springframework</groupId>
123             <artifactId>spring-jdbc</artifactId>
124             <version>4.3.30.RELEASE</version>
125         </dependency>
126
127
```

```
        <!-- https://mvnrepository.com/artifact/org.springfra
        <dependency>
            <groupId>org.springframework</groupId>
            <artifactId>spring-jdbc</artifactId>
            <version>4.3.30.RELEASE</version>
        </dependency>
```

- mybatis
    - java 코드, sql구문이랑 분시시켜주는 역할. 불필요한 많은 작업을 대신 해준다.



3.5.16 버전

MyBatis

The MyBatis SQL mapper framework makes it easier to use a relational database with object-oriented applications. MyBatis couples objects with stored procedures or SQL statements using a XML descriptor or annotations. Simplicity is the biggest advantage of the MyBatis data mapper over object relational mapping tools.

License	Apache 2.0
Categories	Object/Relational Mapping
Tags	persistence mapping orm mybatis relational
Ranking	**#299 in MvnRepository** (See Top Artifacts) **#3 in** Object/Relational Mapping
Used By	**1,683 artifacts**

Central (44) | Redhat GA (2) | Alfresco (1) | ICM (1)

Version	Vulnerabilities	Repository	Usages	Date
3.5.16		Central	69	*Apr 03, 2024*
3.5.15		Central	86	*Dec 14, 2023*
3.5.14		Central	40	*Nov 02, 2023*

Ranking	**#3 in** Object/Relational Mapping
Used By	**1,683 artifacts**

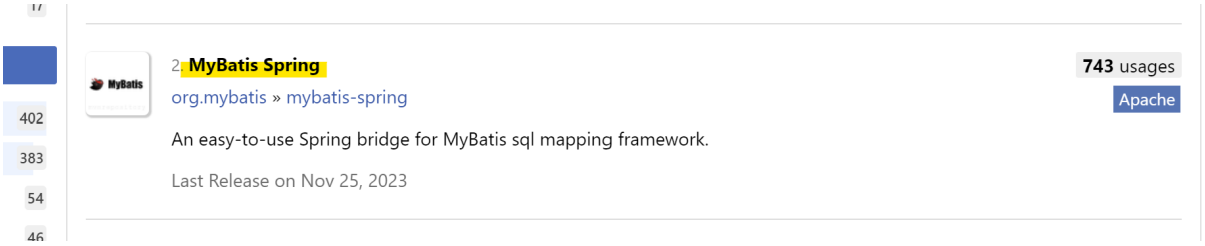
Maven | Gradle | Gradle (Short) | Gradle (Kotlin) | SBT | Ivy | Grape | Leiningen | Buildr

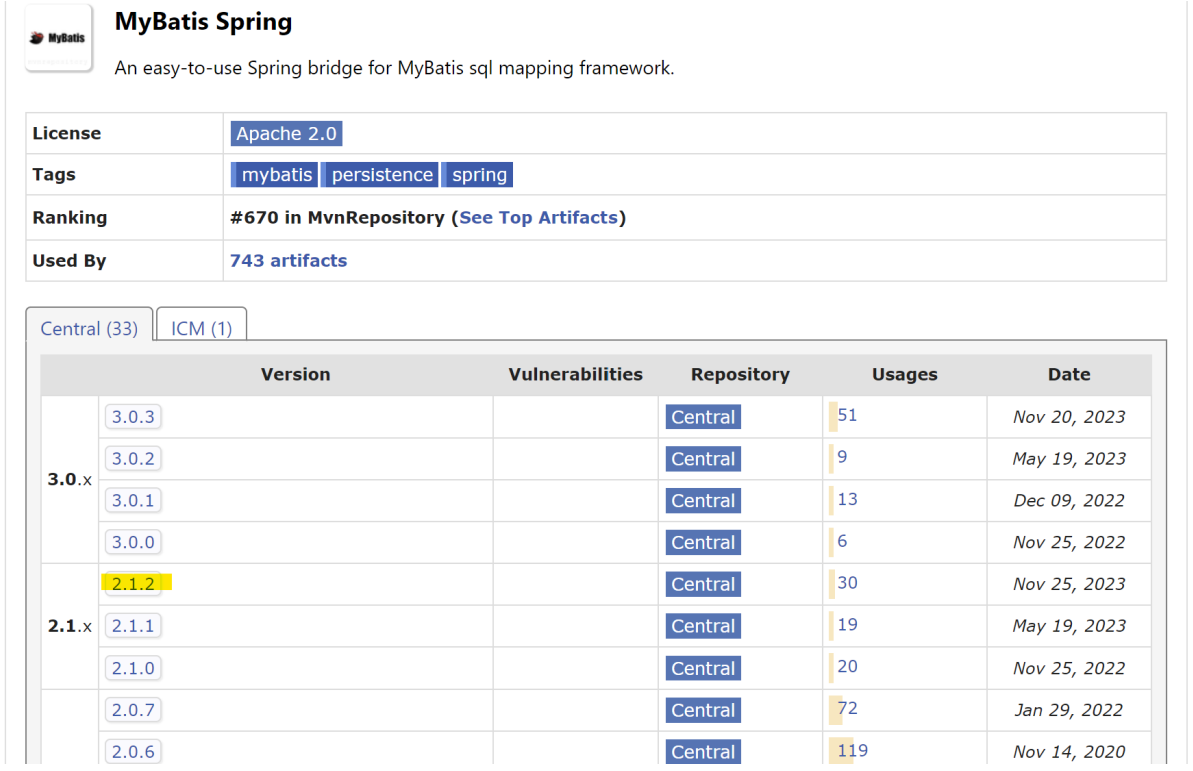
```
<!-- https://mvnrepository.com/artifact/org.mybatis/mybatis -->
<dependency>
    <groupId>org.mybatis</groupId>
    <artifactId>mybatis</artifactId>
    <version>3.5.16</version>
</dependency>
```

☑ Include comment with link to declaration

```
124             <version>4.3.30.RELEASE</version>
125         </dependency>
126
127         <!-- https://mvnrepository.com/artifact/org.mybatis/mybatis -->
128         <dependency>
129             <groupId>org.mybatis</groupId>
130             <artifactId>mybatis</artifactId>
131             <version>3.5.16</version>
132         </dependency>
133
134
135
```

```
        <!-- https://mvnrepository.com/artifact/org.mybatis/m
        <dependency>
            <groupId>org.mybatis</groupId>
            <artifactId>mybatis</artifactId>
            <version>3.5.16</version>
        </dependency>
```





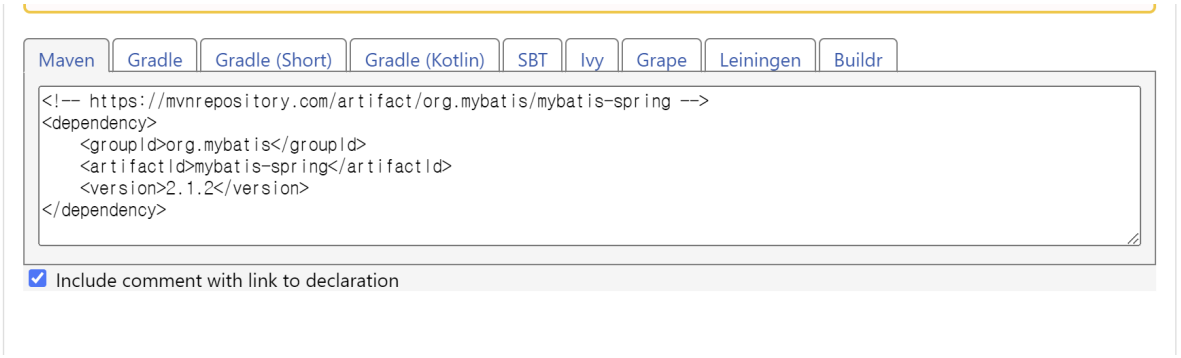
MyBatis Spring

An easy-to-use Spring bridge for MyBatis sql mapping framework.

License	Apache 2.0
Tags	mybatis persistence spring
Ranking	**#670 in MvnRepository (See Top Artifacts)**
Used By	**743 artifacts**

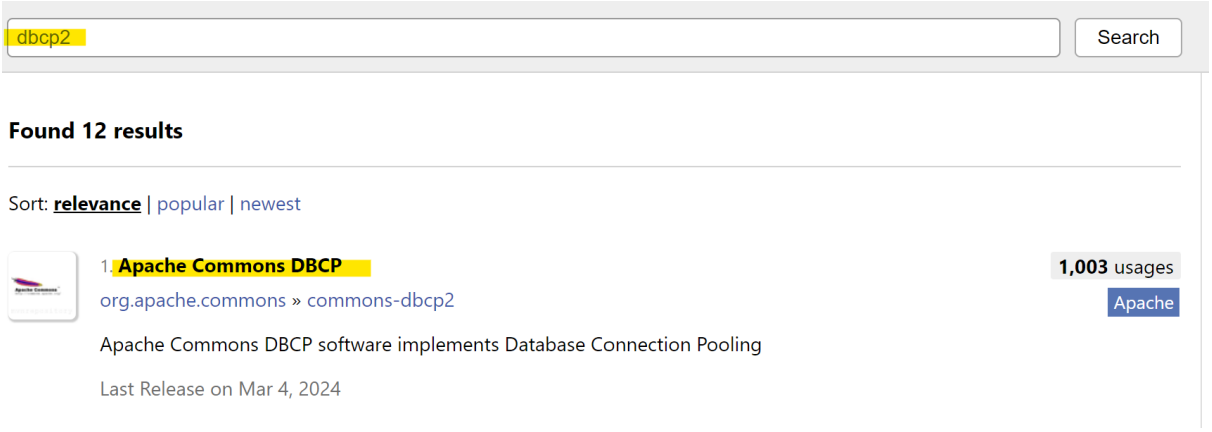
Central (33) | ICM (1)

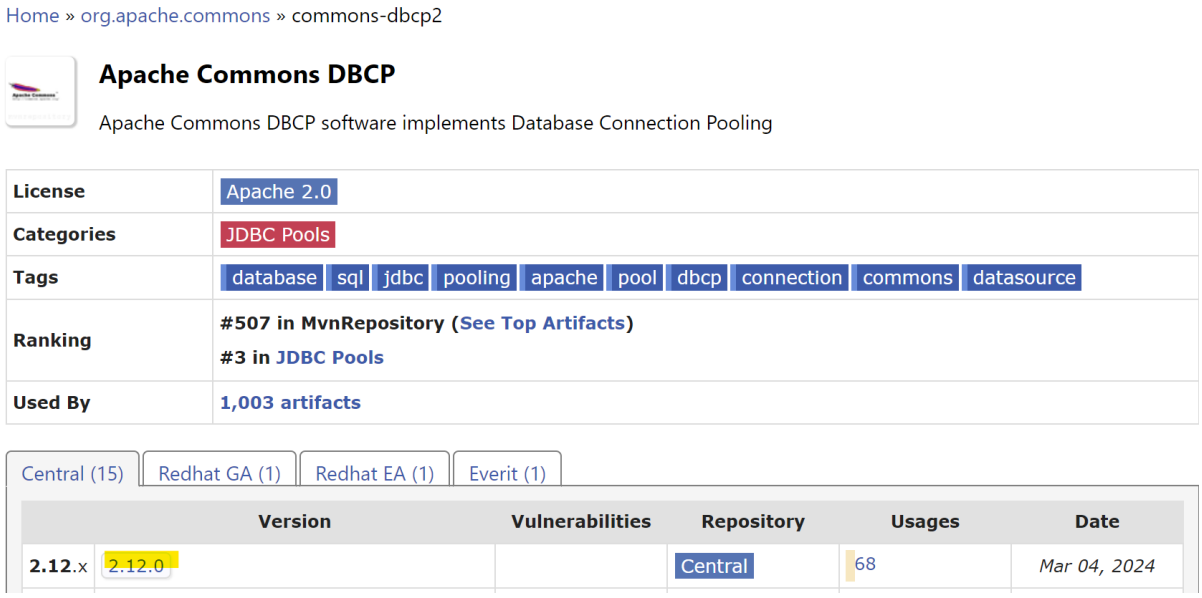
	Version	Vulnerabilities	Repository	Usages	Date
3.0.x	3.0.3		Central	51	*Nov 20, 2023*
	3.0.2		Central	9	*May 19, 2023*
	3.0.1		Central	13	*Dec 09, 2022*
	3.0.0		Central	6	*Nov 25, 2022*
2.1.x	2.1.2		Central	30	*Nov 25, 2023*
	2.1.1		Central	19	*May 19, 2023*
	2.1.0		Central	20	*Nov 25, 2022*
	2.0.7		Central	72	*Jan 29, 2022*
	2.0.6		Central	119	*Nov 14, 2020*

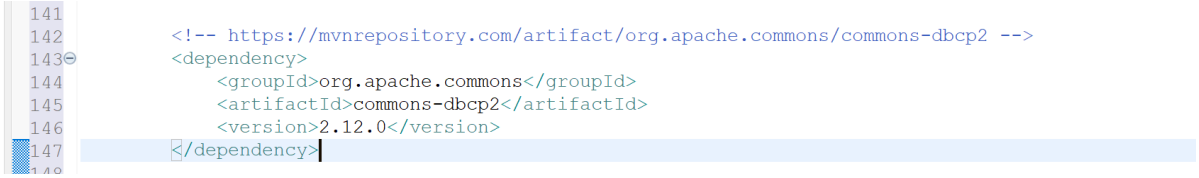


```
<!-- https://mvnrepository.com/artifact/org.mybatis/mybatis-s
<dependency>
    <groupId>org.mybatis</groupId>
    <artifactId>mybatis-spring</artifactId>
    <version>2.1.2</version>
</dependency>
```

dbcp2(cp=conectionpool)





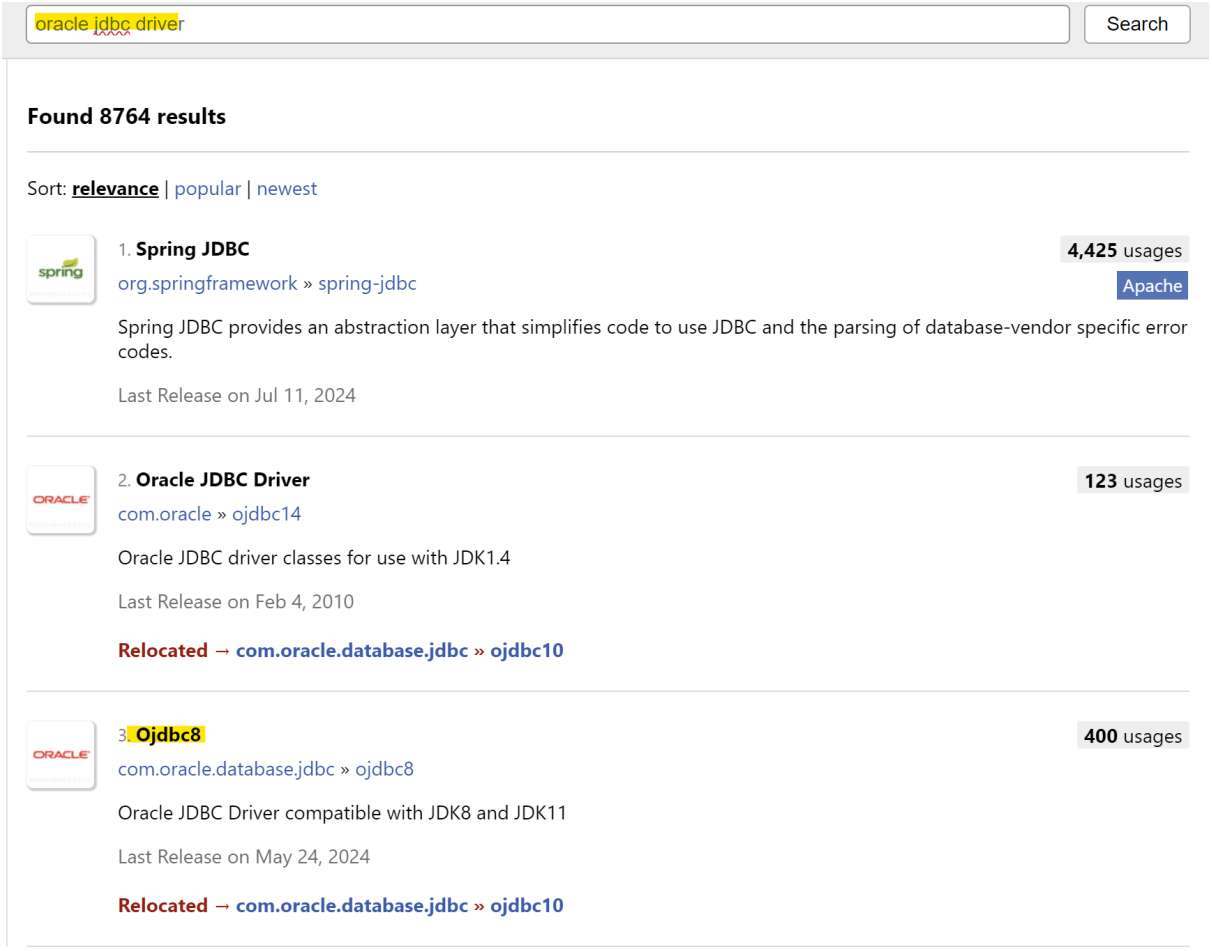


```
141
142         <!-- https://mvnrepository.com/artifact/org.apache.commons/commons-dbcp2 -->
143         <dependency>
144             <groupId>org.apache.commons</groupId>
145             <artifactId>commons-dbcp2</artifactId>
146             <version>2.12.0</version>
147         </dependency>
```

```
<!-- https://mvnrepository.com/artifact/org.apache.commons/co
<dependency>
    <groupId>org.apache.commons</groupId>
    <artifactId>commons-dbcp2</artifactId>
```

```
    <version>2.12.0</version>
</dependency>
```

- oracle jdbc driver



Home » com.oracle.database.jdbc » ojdbc8

Ojdbc8

Oracle JDBC Driver compatible with JDK8 and JDK11

Categories	JDBC Drivers
Tags	database sql oracle jdbc data driver rdbms
Ranking	**#1270 in MvnRepository (See Top Artifacts)** **#12 in JDBC Drivers**
Used By	**400 artifacts**

This artifact was moved to:

com.oracle.database.jdbc » ojdbc10

Central (42)

Version	Vulnerabilities	Repository	Usages	Date

Home » com.oracle.database.jdbc » ojdbc10

Ojdbc10

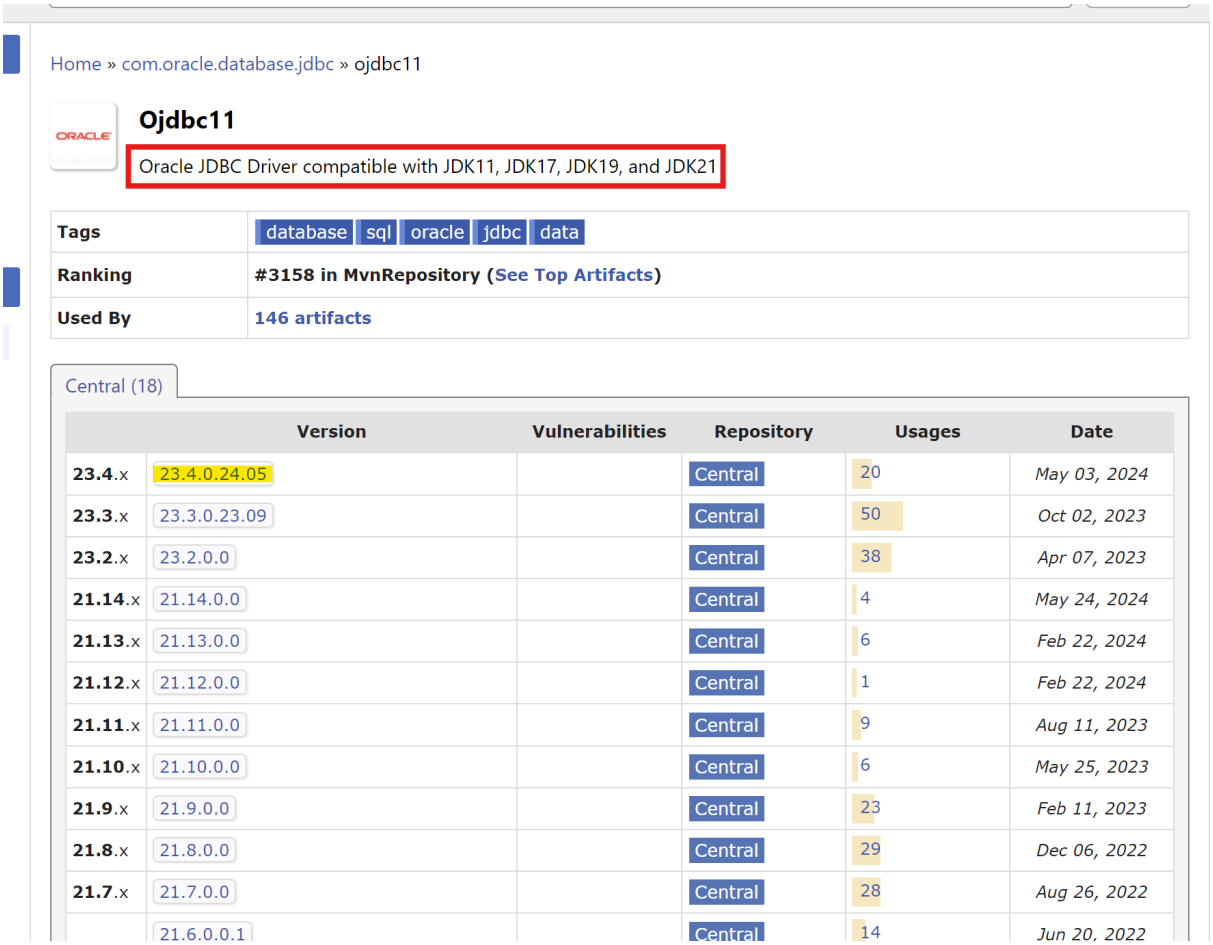
Oracle JDBC Driver compatible with JDK11 and JDK17

Categories	JDBC Drivers
Tags	database sql oracle jdbc data driver rdbms
Ranking	**#13053 in MvnRepository (See Top Artifacts)** **#22 in JDBC Drivers**
Used By	**31 artifacts**

This artifact was moved to:

com.oracle.database.jdbc » ojdbc11

Central (21)



Home » com.oracle.database.jdbc » ojdbc11

Ojdbc11

Oracle JDBC Driver compatible with JDK11, JDK17, JDK19, and JDK21

Tags	database sql oracle jdbc data
Ranking	**#3158 in MvnRepository** (See Top Artifacts)
Used By	**146 artifacts**

Central (18)

	Version	Vulnerabilities	Repository	Usages	Date
23.4.x	23.4.0.24.05		Central	20	*May 03, 2024*
23.3.x	23.3.0.23.09		Central	50	*Oct 02, 2023*
23.2.x	23.2.0.0		Central	38	*Apr 07, 2023*
21.14.x	21.14.0.0		Central	4	*May 24, 2024*
21.13.x	21.13.0.0		Central	6	*Feb 22, 2024*
21.12.x	21.12.0.0		Central	1	*Feb 22, 2024*
21.11.x	21.11.0.0		Central	9	*Aug 11, 2023*
21.10.x	21.10.0.0		Central	6	*May 25, 2023*
21.9.x	21.9.0.0		Central	23	*Feb 11, 2023*
21.8.x	21.8.0.0		Central	29	*Dec 06, 2022*
21.7.x	21.7.0.0		Central	28	*Aug 26, 2022*
	21.6.0.0.1		Central	14	*Jun 20, 2022*

Ojdbc11 » 23.4.0.24.05

Oracle JDBC Driver compatible with JDK11, JDK17, JDK19, and JDK21

Tags	database sql oracle jdbc data
HomePage	https://www.oracle.com/database/technologies/maven-central-g ...
Date	May 03, 2024
Files	pom (1 KB) jar (6.8 MB) View All
Repositories	Central
Ranking	**#3158 in MvnRepository** (See Top Artifacts)
Used By	**146 artifacts**

Maven | Gradle | Gradle (Short) | Gradle (Kotlin) | SBT | Ivy | Grape | Leiningen | Buildr

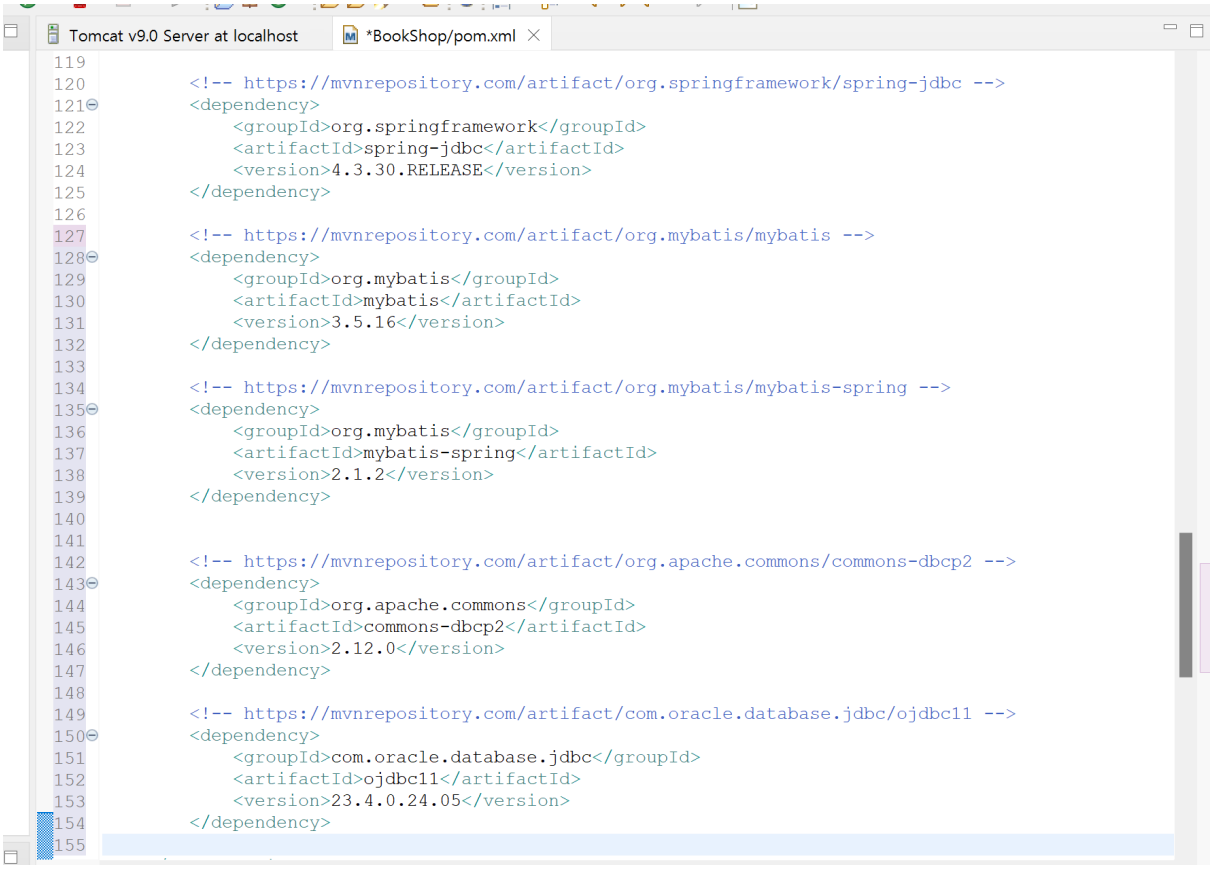
```
<!-- https://mvnrepository.com/artifact/com.oracle.database.jdbc/ojdbc11 -->
<dependency>
    <groupId>com.oracle.database.jdbc</groupId>
    <artifactId>ojdbc11</artifactId>
    <version>23.4.0.24.05</version>
</dependency>
```

☑ Include comment with link to declaration

```
148
149         <!-- https://mvnrepository.com/artifact/com.oracle.database.jdbc/ojdbc11 -->
150         <dependency>
151             <groupId>com.oracle.database.jdbc</groupId>
152             <artifactId>ojdbc11</artifactId>
153             <version>23.4.0.24.05</version>
154         </dependency>
155
```

```
<!-- https://mvnrepository.com/artifact/com.oracle.database.j
<dependency>
    <groupId>com.oracle.database.jdbc</groupId>
    <artifactId>ojdbc11</artifactId>
    <version>23.4.0.24.05</version>
</dependency>
```

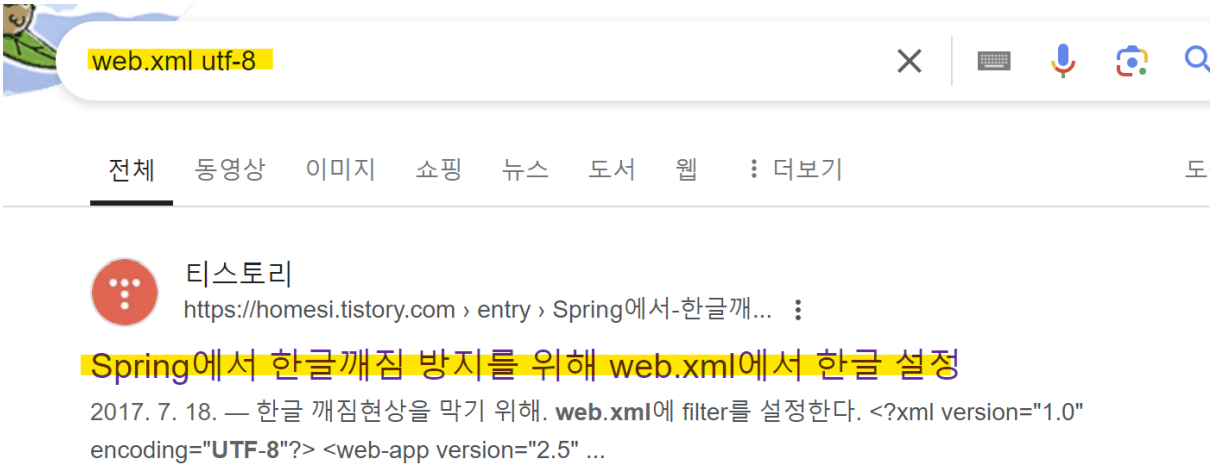
아래와 같이 되었으면 완료

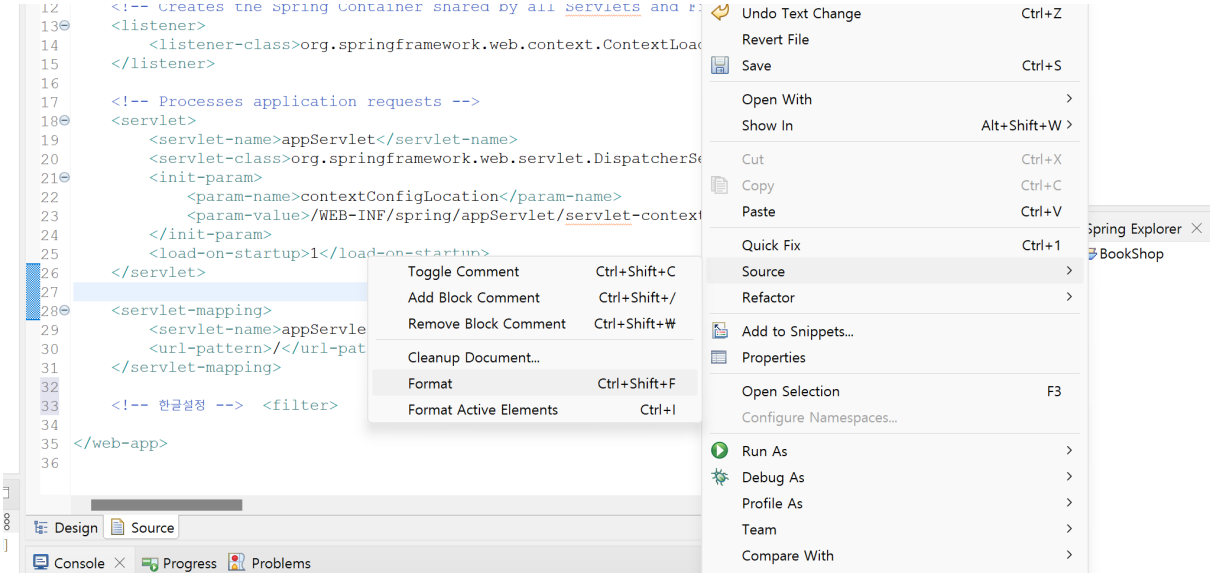


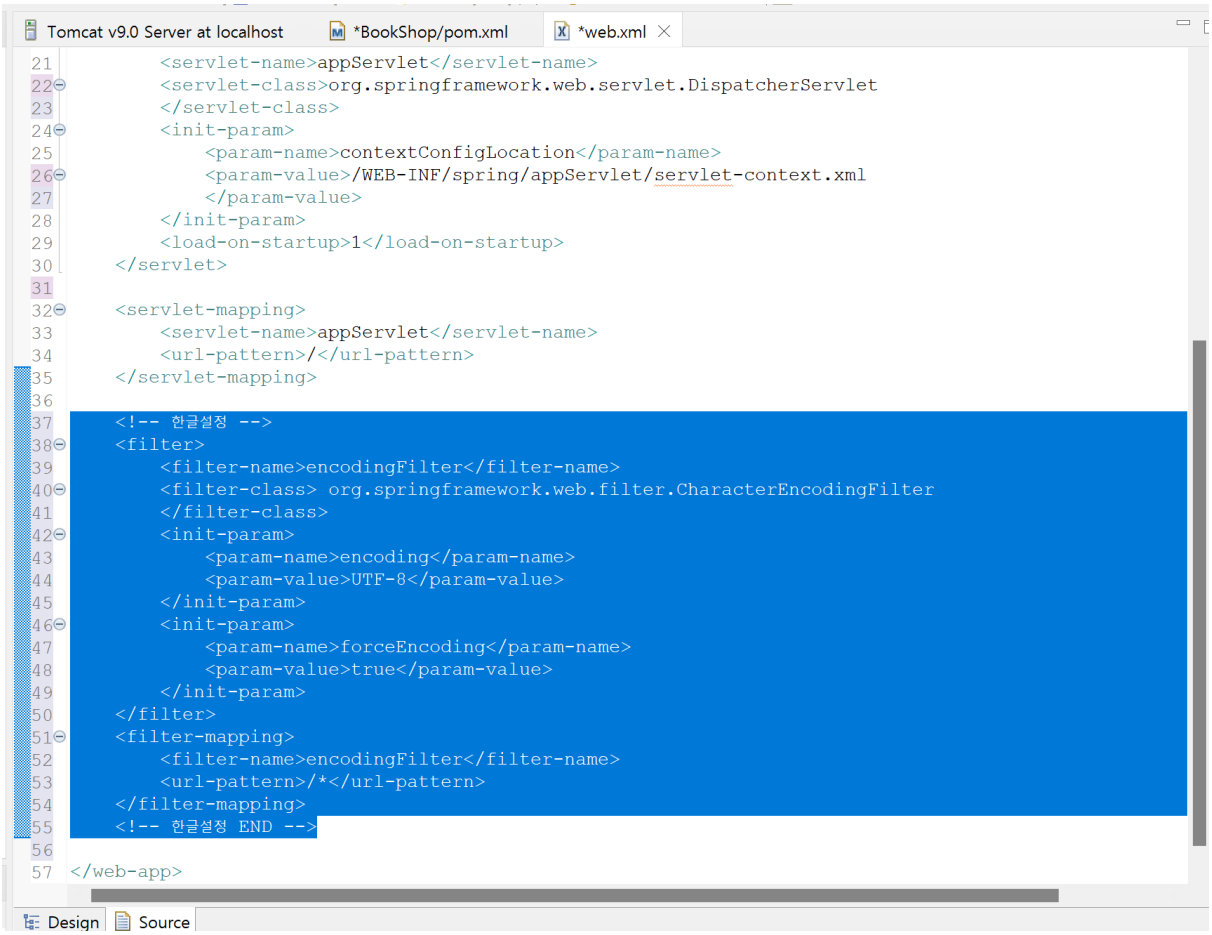
pom.xml 끝

- web.xml 수정

  : 한글문제때문에 필터 넣어준다.








```
<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>

<!-- 한글설정 -->
<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>
    <init-param>
        <param-name>forceEncoding</param-name>
        <param-value>true</param-value>
    </init-param>
</filter>
<filter-mapping>
    <filter-name>encodingFilter</filter-name>
    <url-pattern>/*</url-pattern>
</filter-mapping>
<!-- 한글설정 END -->

</web-app>
```

```
<!-- 한글설정 -->
<filter>
    <filter-name>encodingFilter</filter-name>
    <filter-class> org.springframework.web.filter.Charact
    </filter-class>
    <init-param>
        <param-name>encoding</param-name>
        <param-value>UTF-8</param-value>
    </init-param>
    <init-param>
        <param-name>forceEncoding</param-name>
        <param-value>true</param-value>
    </init-param>
</filter>
<filter-mapping>
    <filter-name>encodingFilter</filter-name>
    <url-pattern>/*</url-pattern>
```

```
    </filter-mapping>
    <!-- 한글설정 END -->
```

web.xml 끝

---

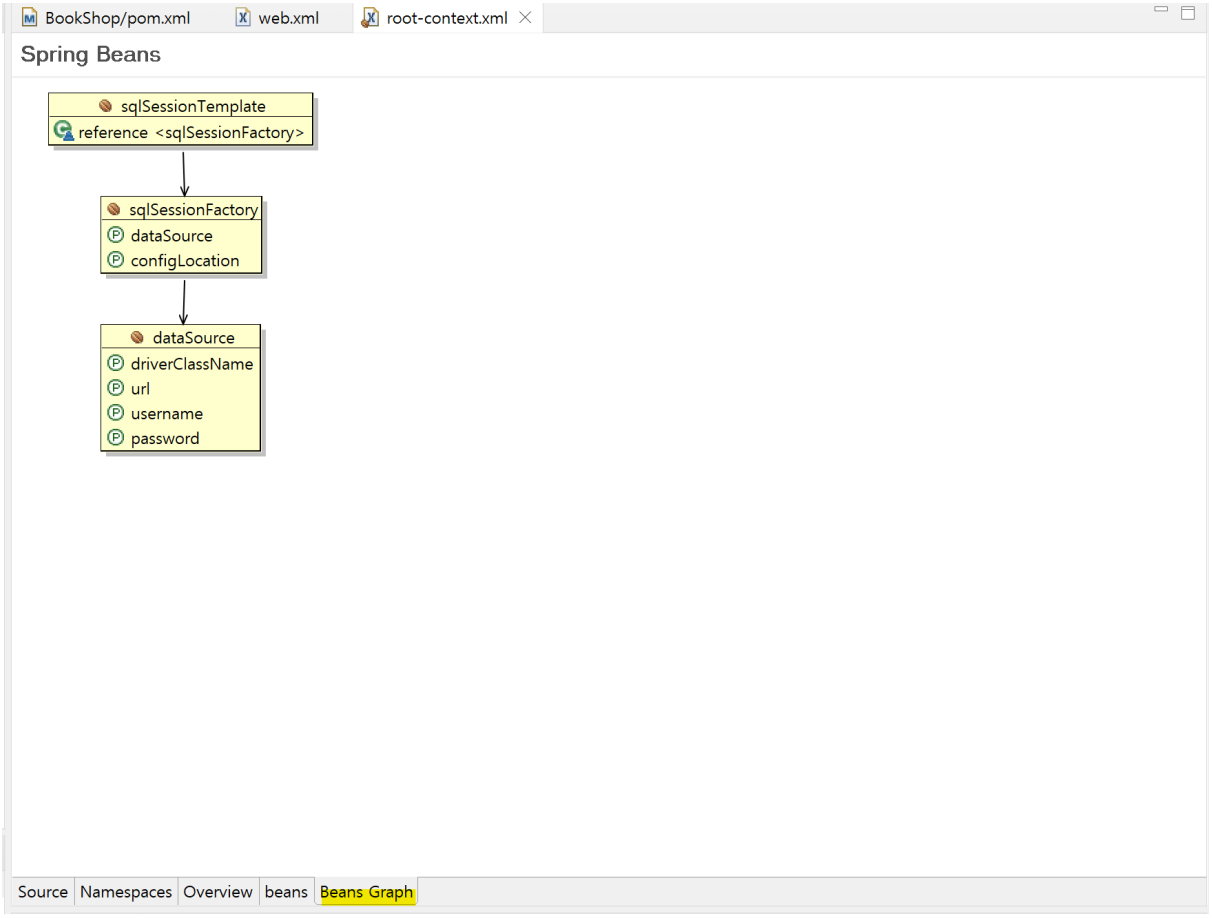
root-context.xml

```
    <bean id="dataSource" class="org.apache.commons.dbcp2.Bas
        <property name="driverClassName" value="oracle.jdbc.O
        <property name="url" value="jdbc:oracle:thin:@localho
        <property name="username" value="madang"></property>
        <property name="password" value="madang"></property>
    </bean>

    <bean id="sqlSessionFactory" class="org.mybatis.spring.Sq
        <property name="dataSource" ref="dataSource"></proper
        <property name="configLocation" value="classpath:myba
    </bean>

    <bean id="sqlSessionTemplate" class="org.mybatis.spring.S
        <constructor-arg name="sqlSessionFactory" ref="sqlSes
    </bean>
```

Tomcat v9.0 Server at localhost | BookShop/pom.xml | web.xml | root-context.xml

```xml
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.springframework.org/schema/beans https://www.springframework.org/

    <!-- Root Context: defines shared resources visible to all other web components -->

    <bean id="dataSource" class="org.apache.commons.dbcp2.BasicDataSource" destroy-method="close">
        <property name="driverClassName" value="oracle.jdbc.OracleDriver"></property>
        <property name="url" value="jdbc:oracle:thin:@localhost:1521:xe"></property>
        <property name="username" value="madang"></property>
        <property name="password" value="madang"></property>
    </bean>

    <bean id="sqlSessionFactory" class="org.mybatis.spring.SqlSessionFactoryBean">
        <property name="dataSource" ref="dataSource"></property>
        <property name="configLocation" value="classpath:mybatis-config.xml"></property>
    </bean>

    <bean id="sqlSessionTemplate" class="org.mybatis.spring.SqlSessionTemplate">
        <constructor-arg name="sqlSessionFactory" ref="sqlSessionFactory"></constructor-arg>
    </bean>

</beans>
```

3개의 빈을 만들어 준다.

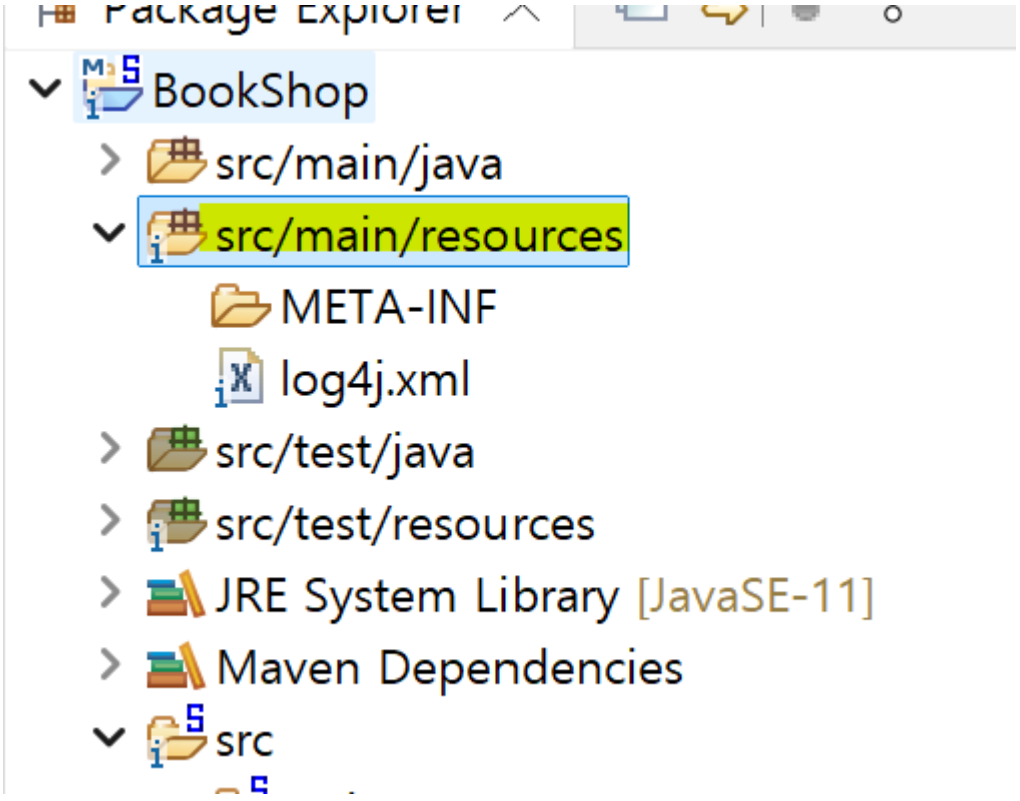


위와같이 그래프 확인 가능.

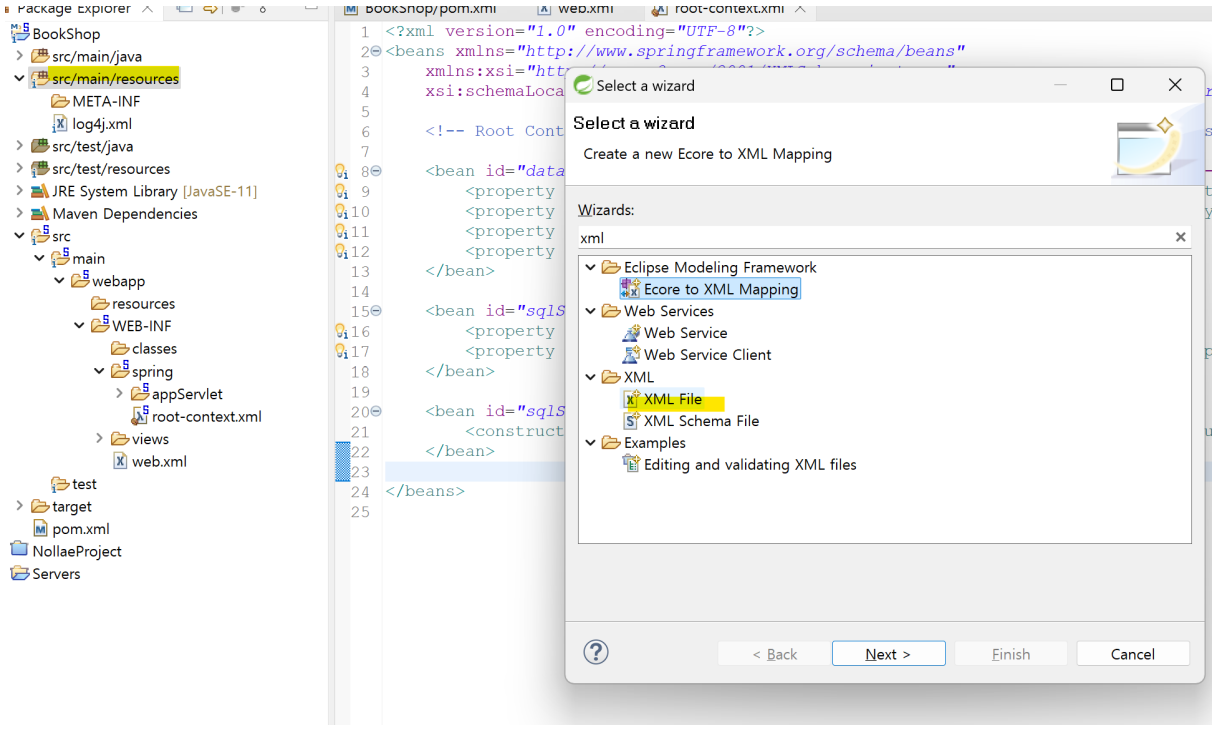
```
.spring.SqlSessionFactoryBean">
"></property>
spath:mybatis-config.xml"></prope
```

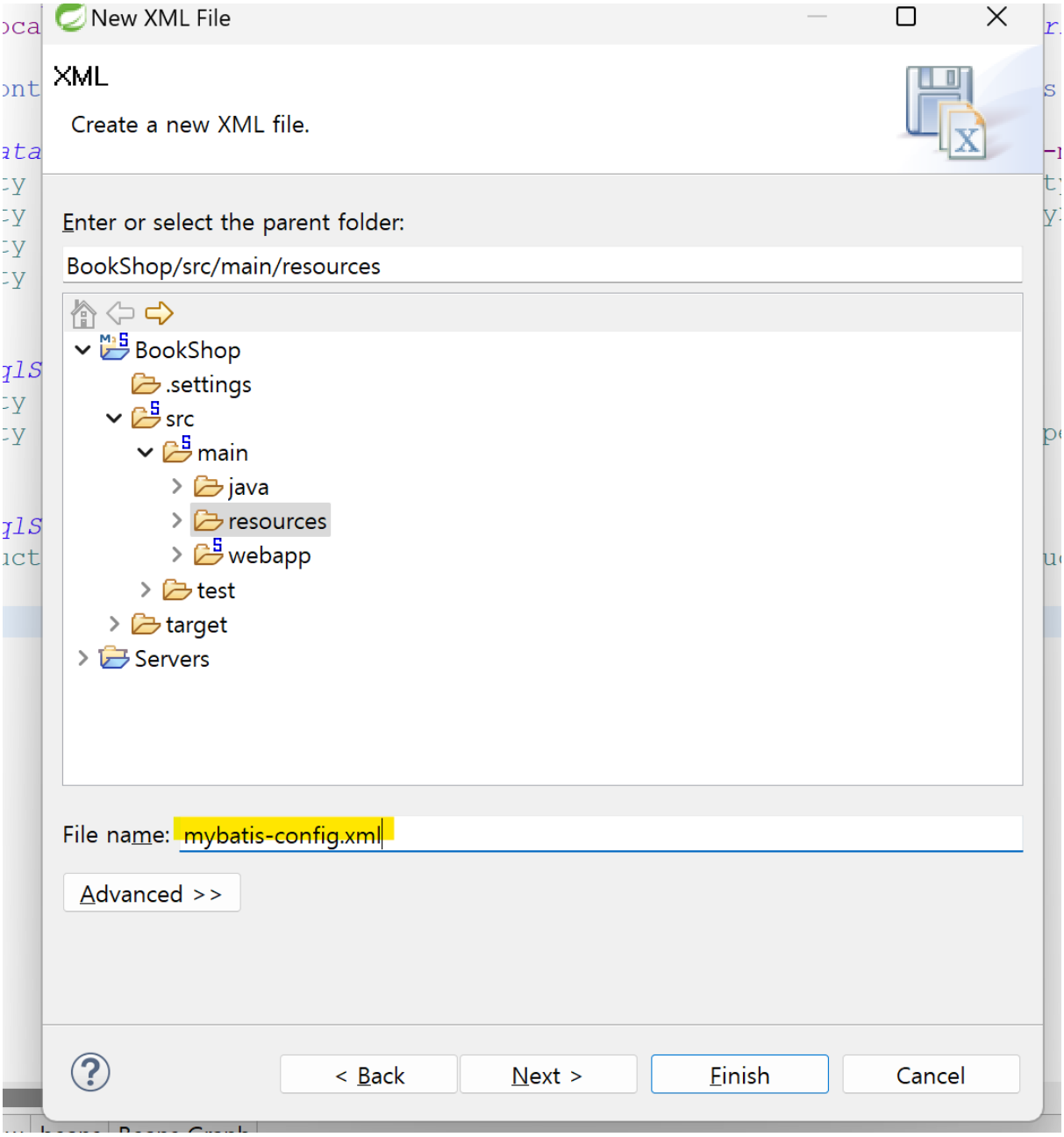
```
s.spring.SqlSessionTemplate">
```

mybatis-config.xml 만들어줘야함. 위치는



여기에 만듦.


Package Explorer
BookShop
src/main/java
src/main/resources
META-INF
log4j.xml
src/test/java
src/test/resources
JRE System Library [JavaSE-11]
Maven Dependencies
src
main
webapp
resources
WEB-INF
classes
spring
appServlet
root-context.xml
views
web.xml
test
target
pom.xml
NollaeProject
Servers
BookShop/pom.xml
web.xml
root-context.xml
Select a wizard
Select a wizard
Create a new Ecore to XML Mapping
Wizards:
xml
Eclipse Modeling Framework
Ecore to XML Mapping
Web Services
Web Service
Web Service Client
XML
XML File
XML Schema File
Examples
Editing and validating XML files
< Back
Next >
Finish
Cancel


New XML File
XML
Create a new XML file.
Enter or select the parent folder:
BookShop/src/main/resources
BookShop
.settings
src
main
java
resources
webapp
test
target
Servers
File name: mybatis-config.xml
Advanced >>
< Back
Next >
Finish
Cancel

XML에서 SqlSessionFactory 빌드하기

모든 마이바티스 애플리케이션은 SqlSessionFactory 인스턴스를 사용한다. SqlSessionFactory인스턴스는 Sql
SqlSessionFactoryBuilder는 XML설정파일에서 SqlSessionFactory인스턴스를 빌드할 수 있다.

XML파일에서 SqlSessionFactory인스턴스를 빌드하는 것은 매우 간단한다. 설정을 위해 클래스패스 자원을 사
InputStream인스턴스를 사용할 수도 있다. 마이바티스는 클래스패스와 다른 위치에서 자원을 로드하는 것으로

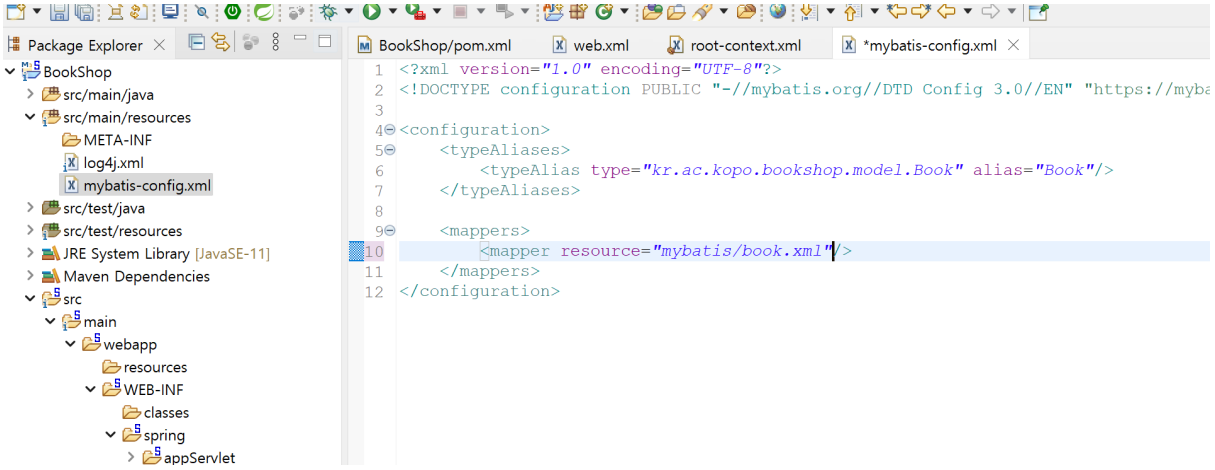
```
String resource = "org/mybatis/example/mybatis-config.xml";
InputStream inputStream = Resources.getResourceAsStream(resource);
SqlSessionFactory sqlSessionFactory = new SqlSessionFactoryBuilder().build(inputStream);
```

XML설정파일에서 지정하는 마이바티스의 핵심이 되는 설정은 트랜잭션을 제어하기 위한 TransactionManage
를 포함한다. 세부적인 설정은 조금 뒤에 보고 간단한 예제를 먼저보자.

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE configuration
  PUBLIC "-//mybatis.org//DTD Config 3.0//EN"
  "https://mybatis.org/dtd/mybatis-3-config.dtd">
<configuration>
  <environments default="development">
    <environment id="development">
      <transactionManager type="JDBC"/>
      <dataSource type="POOLED">
        <property name="driver" value="${driver}"/>
```

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <!DOCTYPE configuration PUBLIC "-//mybatis.org//DTD Config 3.0//EN" "https://mybatis.org/dtd/mybatis
3
```

```
3
4  <configuration>
5
6  </configuration>
```

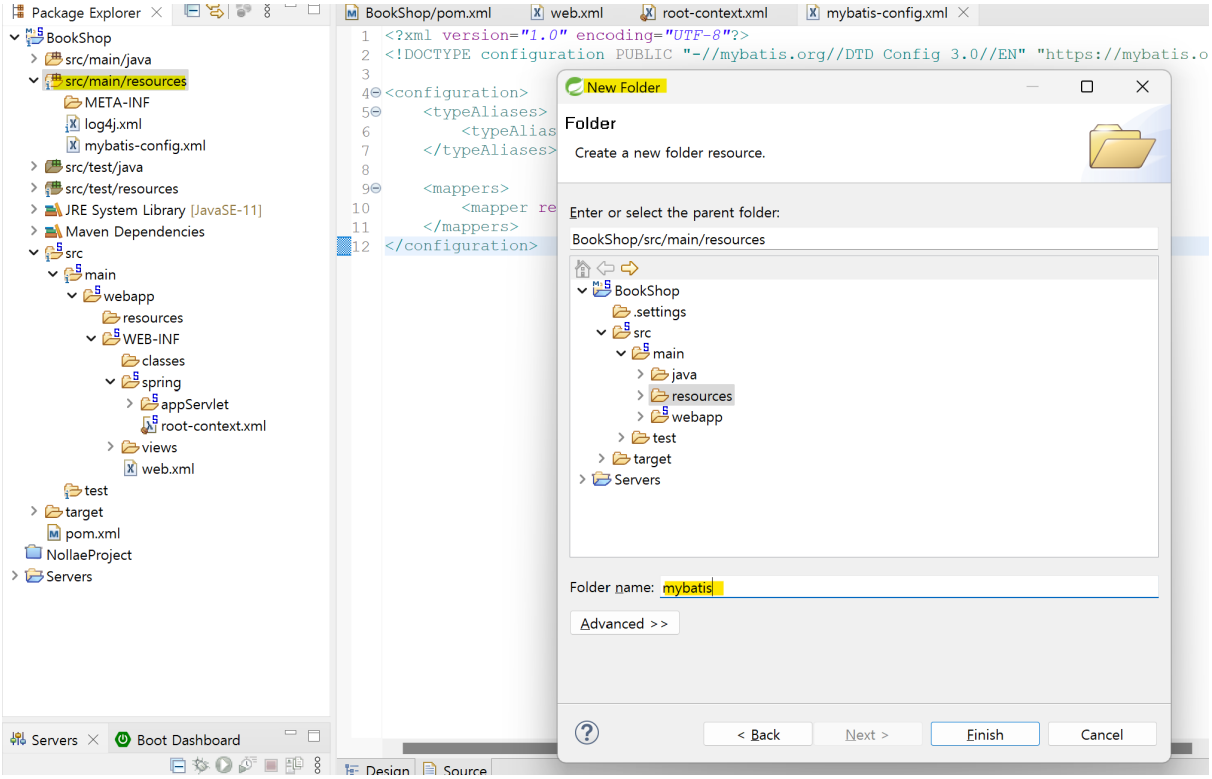


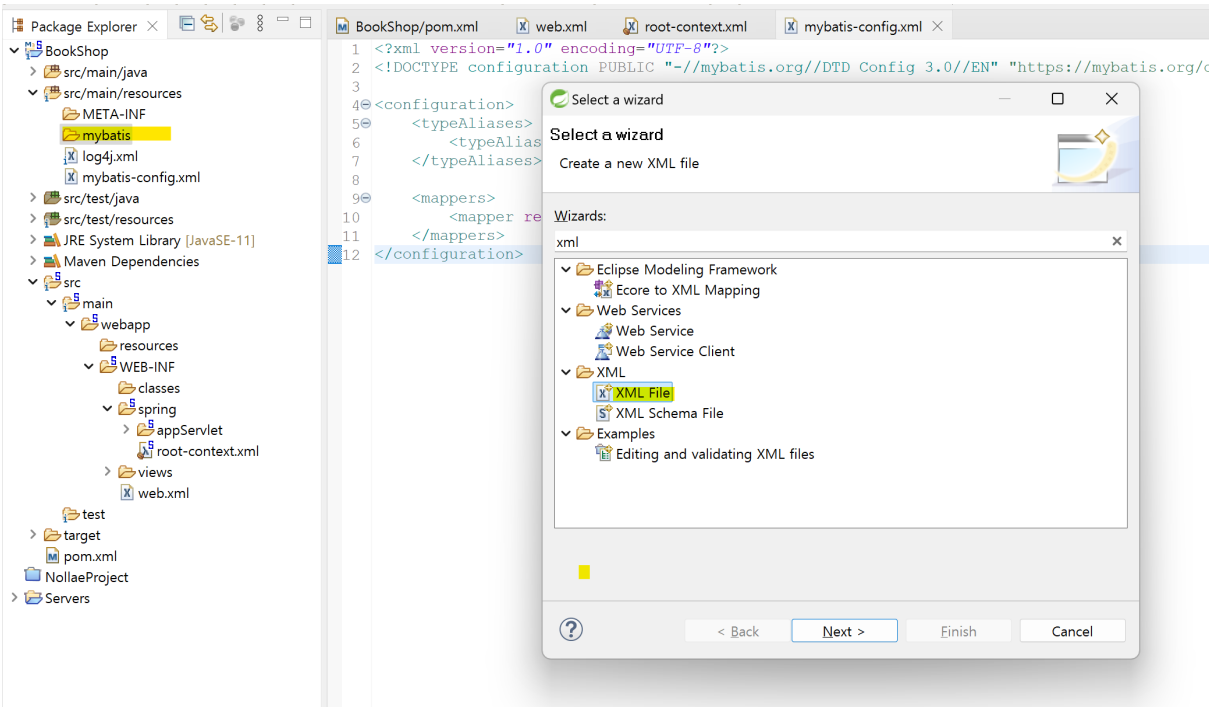

```
    <mappers>
        <mapper resource="mybatis/book.xml"/>
    </mappers>
```

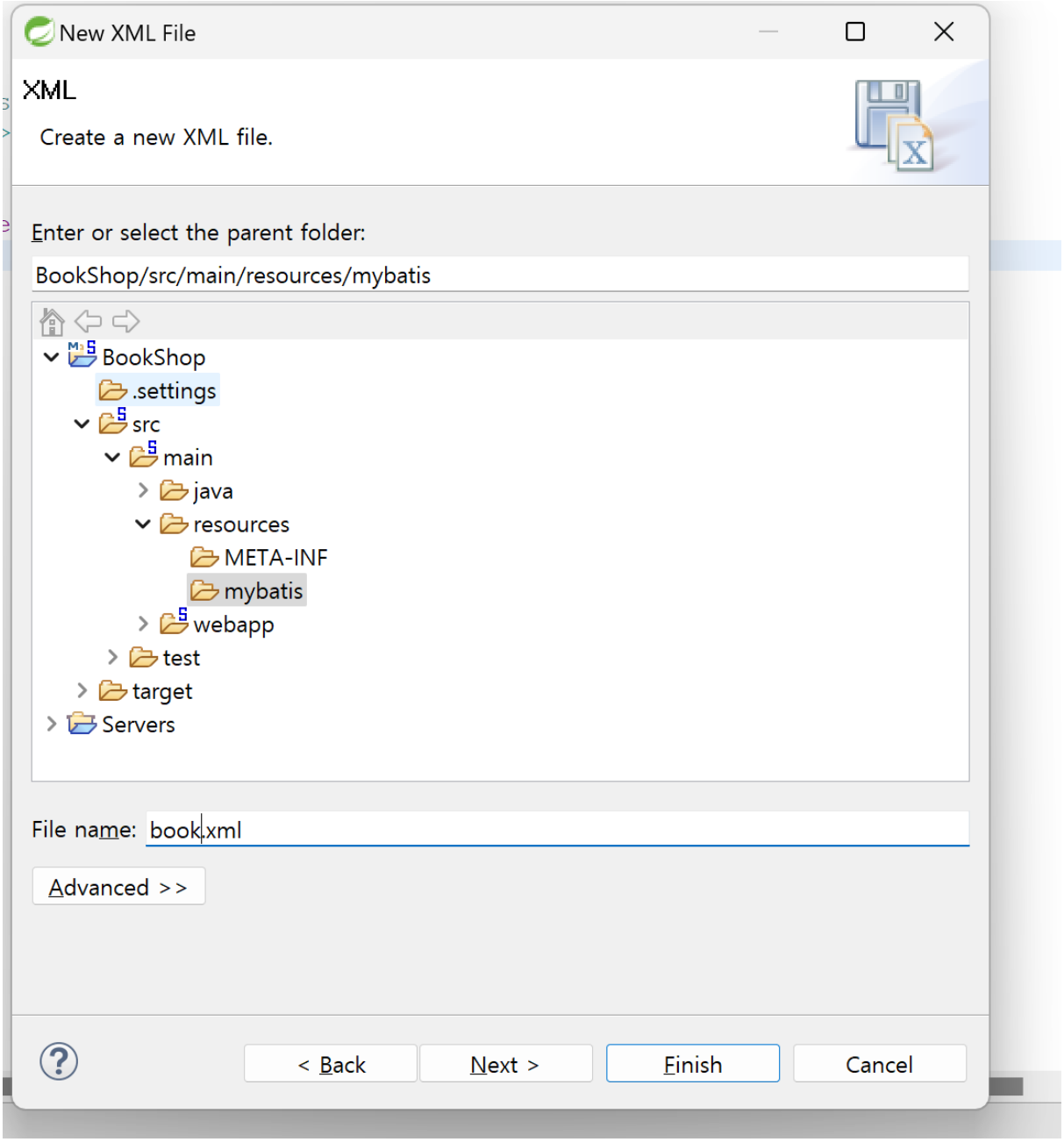
book.xml 만들어야함

---

book.xml 만들기


Package Explorer
BookShop
src/main/java
src/main/resources
META-INF
log4j.xml
mybatis-config.xml
src/test/java
src/test/resources
JRE System Library [JavaSE-11]
Maven Dependencies
src
main
webapp
resources
WEB-INF
classes
spring
appServlet
root-context.xml
views
web.xml
test
target
pom.xml
NollaeProject
Servers
BookShop/pom.xml
web.xml
root-context.xml
mybatis-config.xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE configuration PUBLIC "-//mybatis.org//DTD Config 3.0//EN" "https://mybatis.o
<configuration>
<typeAliases>
<typeAlias
</typeAliases>
<mappers>
<mapper re
</mappers>
</configuration>
New Folder
Folder
Create a new folder resource.
Enter or select the parent folder:
BookShop/src/main/resources
BookShop
.settings
src
main
java
resources
webapp
test
target
Servers
Folder name: mybatis
Advanced >>
< Back
Next >
Finish
Cancel
Servers
Boot Dashboard
Design
Source


Package Explorer
BookShop
src/main/java
src/main/resources
META-INF
mybatis
log4j.xml
mybatis-config.xml
src/test/java
src/test/resources
JRE System Library [JavaSE-11]
Maven Dependencies
src
main
webapp
resources
WEB-INF
classes
spring
appServlet
root-context.xml
views
web.xml
test
target
pom.xml
NollaeProject
Servers
BookShop/pom.xml
web.xml
root-context.xml
mybatis-config.xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE configuration PUBLIC "-//mybatis.org//DTD Config 3.0//EN" "https://mybatis.org/
<configuration>
<typeAliases>
<typeAlias
</typeAliases>
<mappers>
<mapper re
</mappers>
</configuration>
Select a wizard
Select a wizard
Create a new XML file
Wizards:
xml
Eclipse Modeling Framework
Ecore to XML Mapping
Web Services
Web Service
Web Service Client
XML
XML File
XML Schema File
Examples
Editing and validating XML files
< Back
Next >
Finish
Cancel


New XML File
XML
Create a new XML file.
Enter or select the parent folder:
BookShop/src/main/resources/mybatis
BookShop
.settings
src
main
java
resources
META-INF
mybatis
webapp
test
target
Servers
File name: book.xml
Advanced >>
< Back
Next >
Finish
Cancel

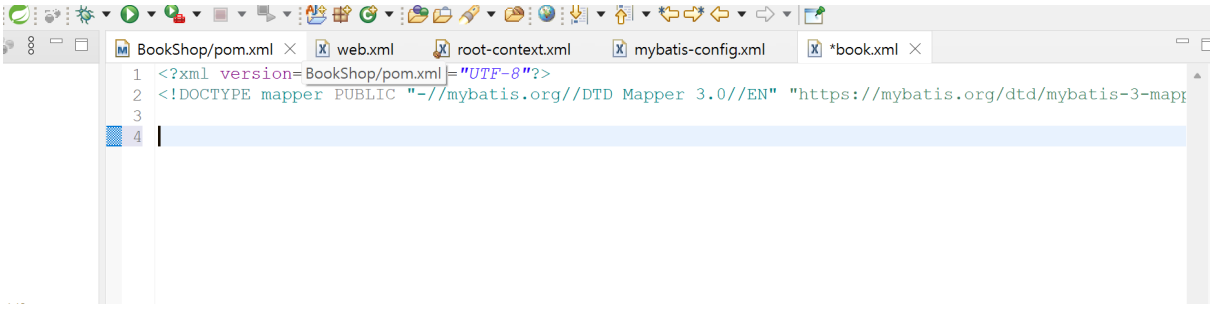
매핑된 SQL 구문 살펴보기

이 시점에 SqlSession이나 Mapper클래스가 정확히 어떻게 실행되는지 궁금
하지만 다음의 두가지 예제를 통해 정확히 어떻게 작동하는지에 대해서는 ?

위 예제처럼 구문은 XML이나 애노테이션을 사용해서 정의할 수 있다. 그럼
바티스를 사용했었다면 쉽게 이해되겠지만 XML 매핑 문서에 이전보다 많은

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE mapper
  PUBLIC "-//mybatis.org//DTD Mapper 3.0//EN"
  "https://mybatis.org/dtd/mybatis-3-mapper.dtd">
<mapper namespace="org.mybatis.example.BlogMapper">
  <select id="selectBlog" resultType="Blog">
    select * from Blog where id = #{id}
  </select>
</mapper>
```

간단한 예제치고는 조금 복잡해 보이지만 실제로는 굉장히 간단하다. 한 개

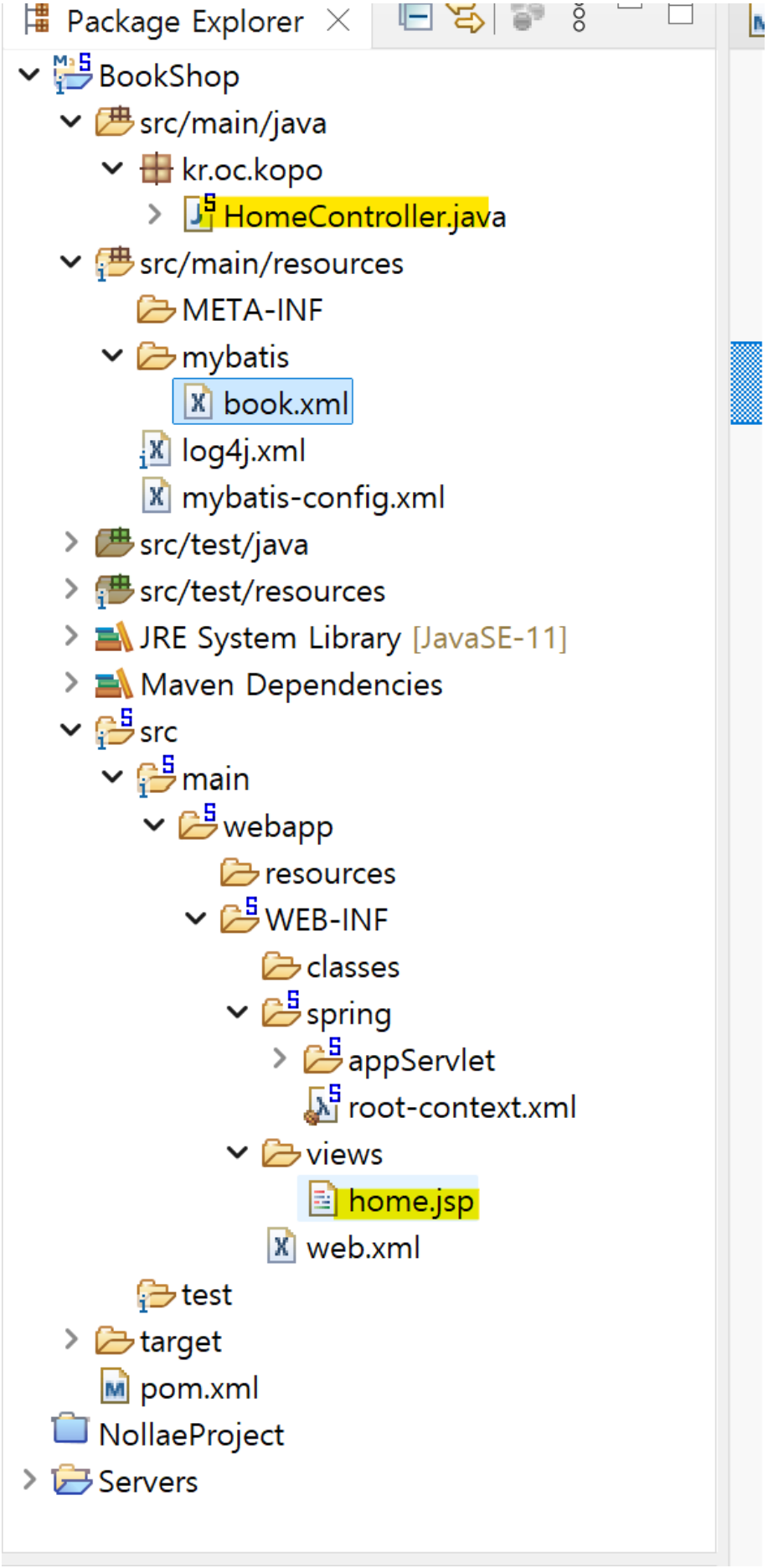



```
<!DOCTYPE mapper
  PUBLIC "-//mybatis.org//DTD Mapper 3.0//EN"
  "https://mybatis.org/dtd/mybatis-3-mapper.dtd">
```

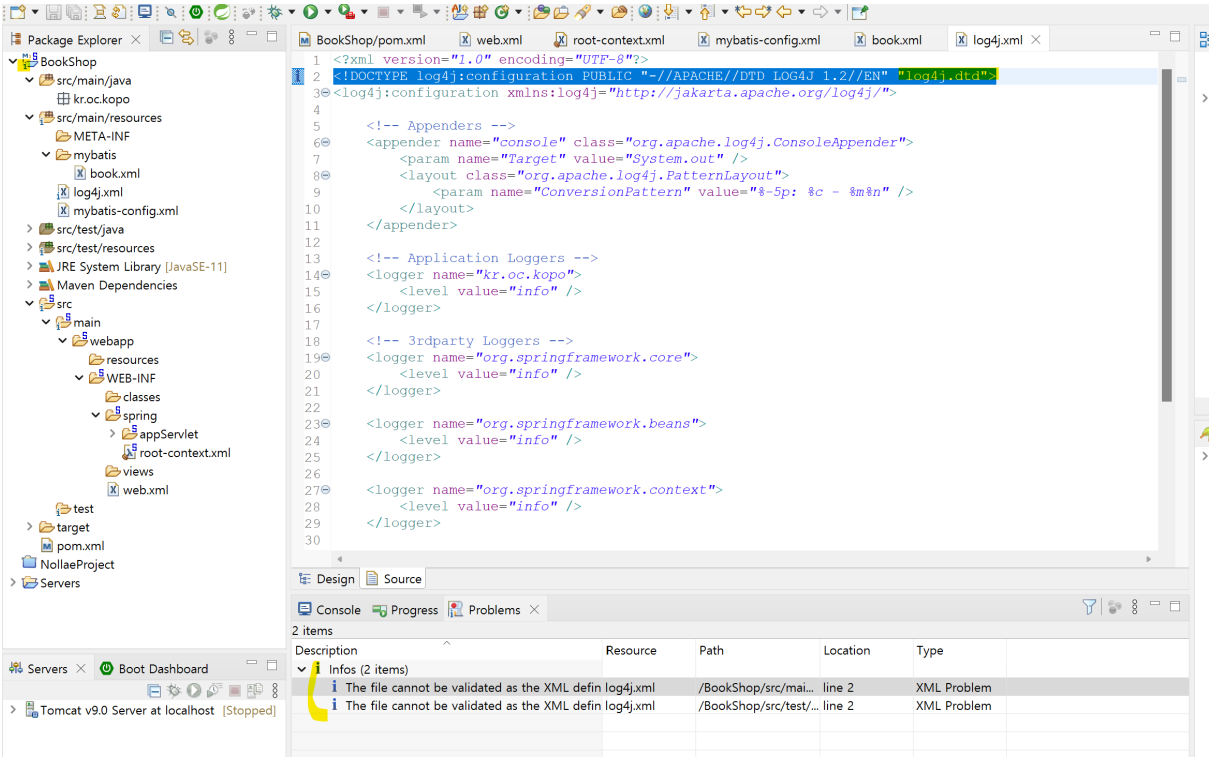
BookShop/pom.xml | web.xml | root-context.xml | mybatis-config.xml | book.xml

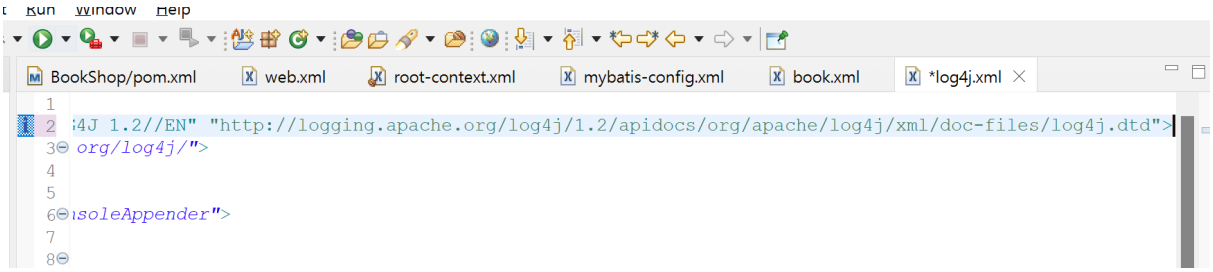
```xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE mapper PUBLIC "-//mybatis.org//DTD Mapper 3.0//EN" "https://myba
<mapper namespace="book">
    <select id="list">
        SELECT * FROM book
    </select>

</mapper>
```

아래 두 항목은 삭제


Package Explorer
BookShop
src/main/java
kr.oc.kopo
HomeController.java
src/main/resources
META-INF
mybatis
book.xml
log4j.xml
mybatis-config.xml
src/test/java
src/test/resources
JRE System Library [JavaSE-11]
Maven Dependencies
src
main
webapp
resources
WEB-INF
classes
spring
appServlet
root-context.xml
views
home.jsp
web.xml
test
target
pom.xml
NollaeProject
Servers

아래 Problems에 뜨는 오류 → log4j 기본 dtd가 오류를 일으킨다.



```
<!-- 수정 전 -->
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE log4j:configuration PUBLIC "-//APACHE//DTD LOG4J 1.2//EN" "log4j.dtd">
<log4j:configuration xmlns:log4j="http://jakarta.apache.org/log4j/">

<!-- 수정 후 -->
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE log4j:configuration PUBLIC "-//APACHE//DTD LOG4J 1.2//EN"
    "http://logging.apache.org/log4j/1.2/apidocs/org/apache/log4j/xml/doc-files/log4j.dtd">
<log4j:configuration xmlns:log4j="http://jakarta.apache.org/log4j/">
```

```
"http://logging.apache.org/log4j/1.2/apidocs/org/apache/log4j
```