**Exercise 5: Configuring the Spring IoC Container**

**Scenario:**

The library management application requires a central configuration for beans and dependencies.

**Steps:**

1. **Create Spring Configuration File:**
   * Create an XML configuration file named **applicationContext.xml** in the **src/main/resources** directory.
   * Define beans for **BookService** and **BookRepository** in the XML file.
2. **Update the BookService Class:**
   * Ensure that the **BookService** class has a setter method for **BookRepository**.
3. **Run the Application:**
   * Create a main class to load the Spring context and test the configuration.

spring.datasource.url=jdbc:h2:mem:librarydb

spring.datasource.driver-class-name=org.h2.Driver

spring.datasource.username=sa

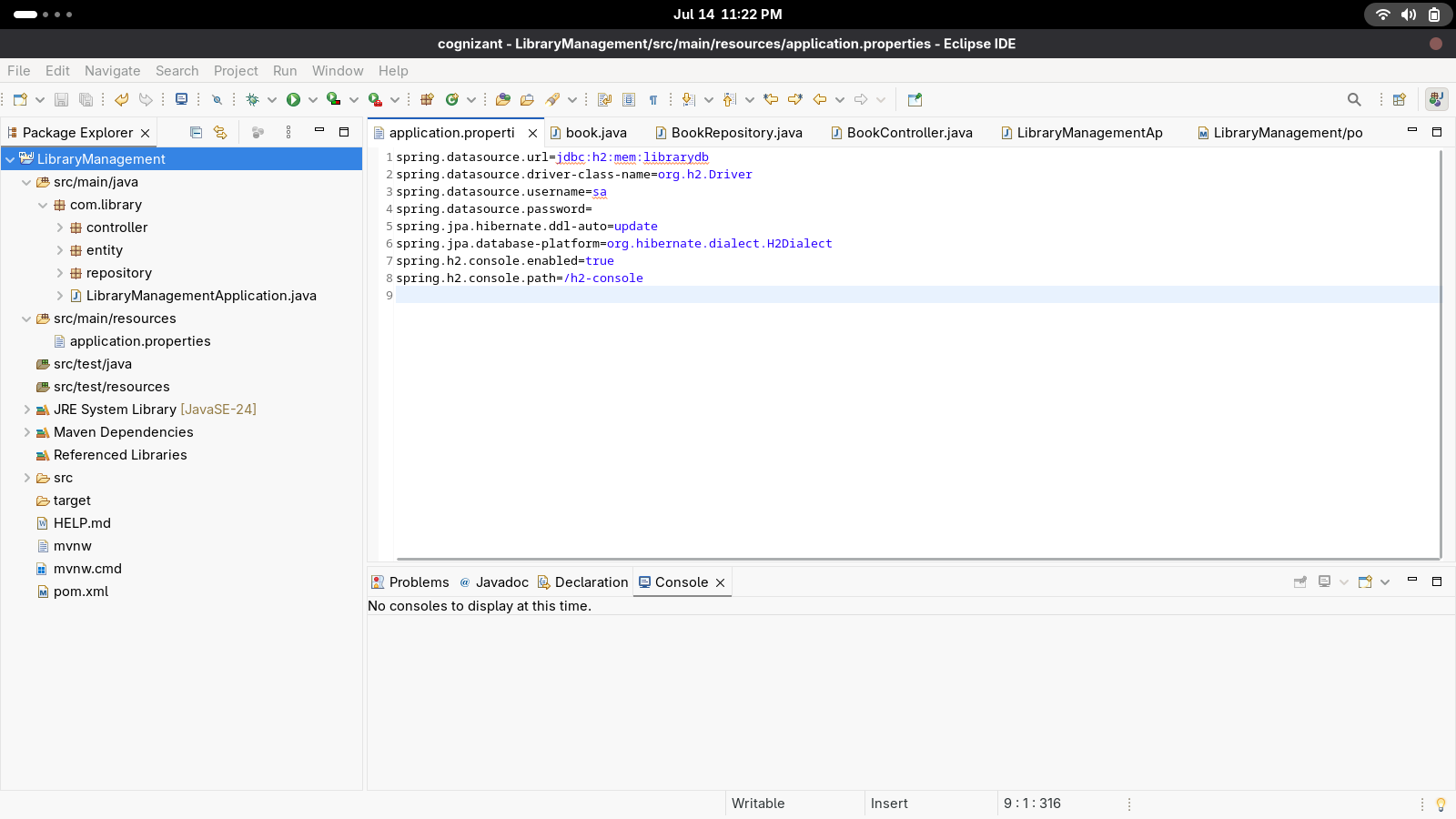
spring.datasource.password=

spring.jpa.hibernate.ddl-auto=update

spring.jpa.database-platform=org.hibernate.dialect.H2Dialect

spring.h2.console.enabled=true

spring.h2.console.path=/h2-console

<?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/xsd/maven-4.0.0.xsd">

<modelVersion>4.0.0</modelVersion>

<parent>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-parent</artifactId>

<version>4.0.0-SNAPSHOT</version>

<relativePath/> <!-- lookup parent from repository -->

</parent>

<groupId>com.library</groupId>

<artifactId>LibraryManagement</artifactId>

<version>0.0.1-SNAPSHOT</version>

<name>LibraryManagement</name>

<description>Demo project for Spring Boot</description>

<url/>

<licenses>

<license/>

</licenses>

<developers>

<developer/>

</developers>

<scm>

<connection/>

<developerConnection/>

<tag/>

<url/>

</scm>

<properties>

<java.version>24</java.version>

</properties>

<dependencies>

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-data-jpa</artifactId>

</dependency>

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-web</artifactId>

</dependency>

<dependency>

<groupId>com.h2database</groupId>

<artifactId>h2</artifactId>

<scope>runtime</scope>

</dependency>

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-test</artifactId>

<scope>test</scope>

</dependency>

</dependencies>

<build>

<plugins>

<plugin>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-maven-plugin</artifactId>

</plugin>

</plugins>

</build>

<repositories>

<repository>

<id>spring-milestones</id>

<name>Spring Milestones</name>

<url>https://repo.spring.io/milestone</url>

<snapshots>

<enabled>false</enabled>

</snapshots>

</repository>

<repository>

<id>spring-snapshots</id>

<name>Spring Snapshots</name>

<url>https://repo.spring.io/snapshot</url>

<releases>

<enabled>false</enabled>

</releases>

</repository>

</repositories>

<pluginRepositories>

<pluginRepository>

<id>spring-milestones</id>

<name>Spring Milestones</name>

<url>https://repo.spring.io/milestone</url>

<snapshots>

<enabled>false</enabled>

</snapshots>

</pluginRepository>

<pluginRepository>

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<name>Spring Snapshots</name>

<url>https://repo.spring.io/snapshot</url>

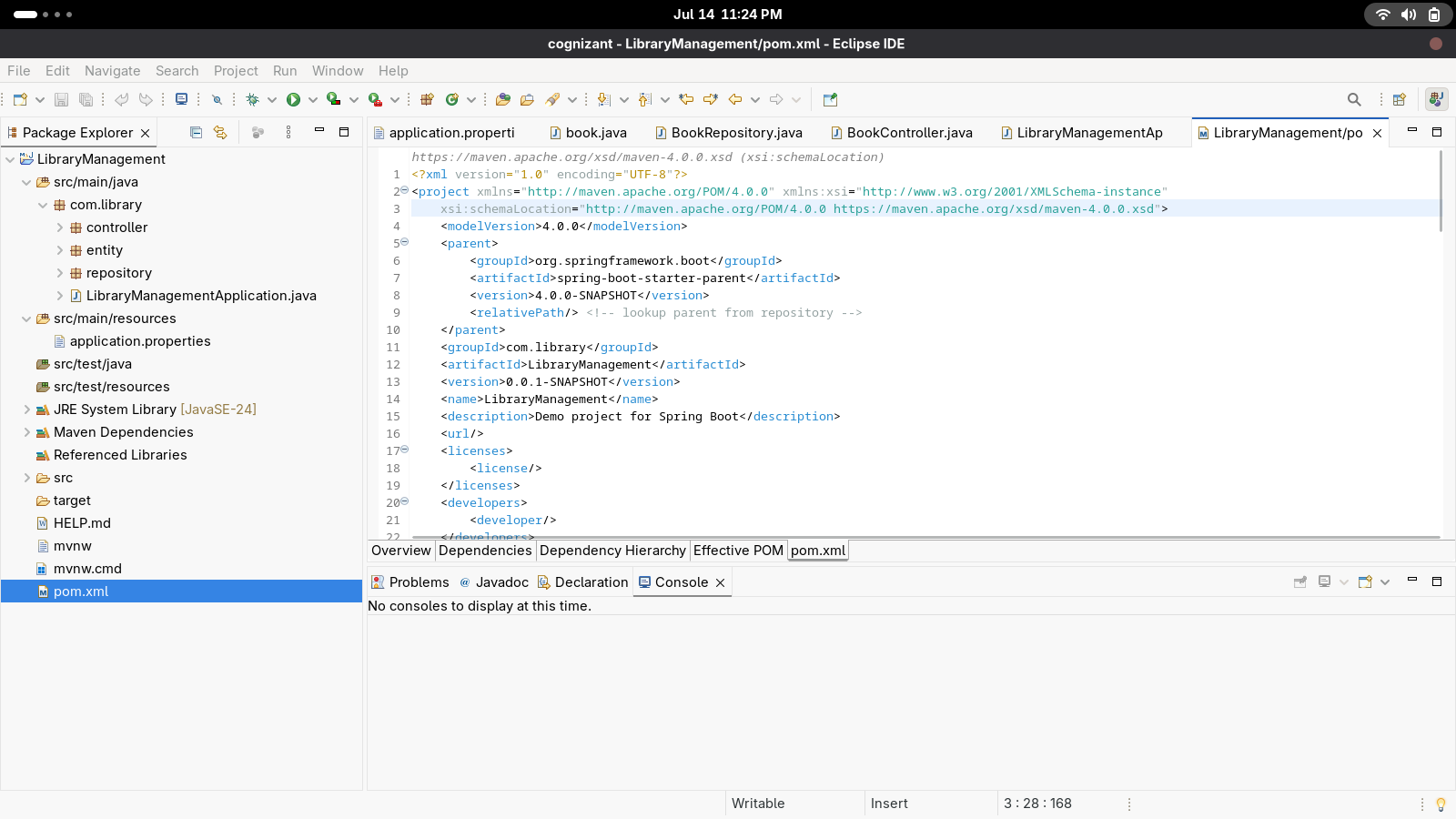
<releases>

<enabled>false</enabled>

</releases>

</pluginRepository>

</pluginRepositories>

**</project>  
Setter method** 

**package** com.library.service;

**import** com.library.repository.BookRepository;

**import** org.springframework.stereotype.Service;

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

@Service

**public** **class** BookService {

@Autowired

**private** BookRepository bookRepository;

**public** BookService(BookRepository bookRepository) {

**this**.bookRepository = bookRepository;

}

**public** **void** setBookRepository(BookRepository bookRepository) {

**this**.bookRepository = bookRepository;

}

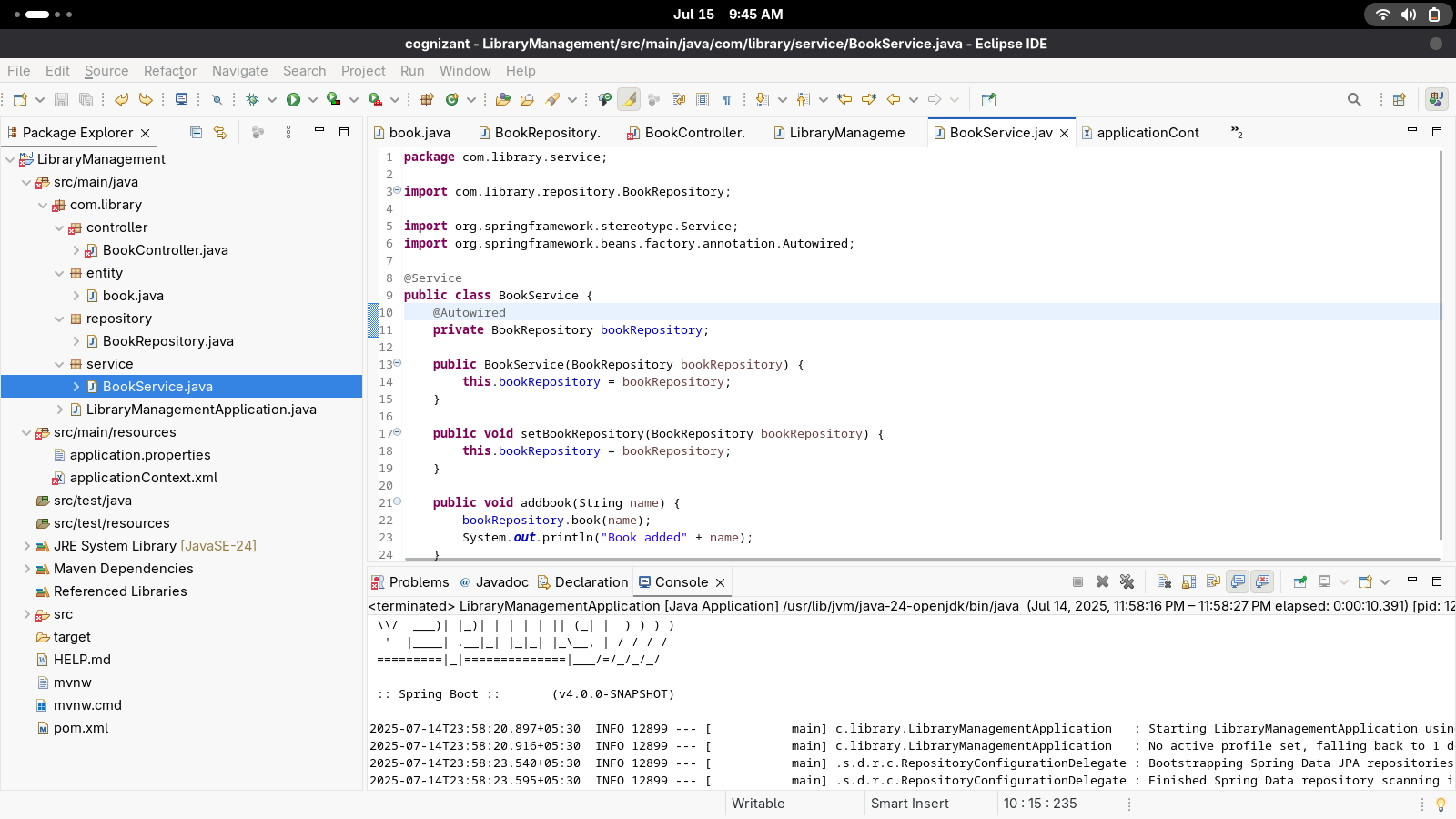
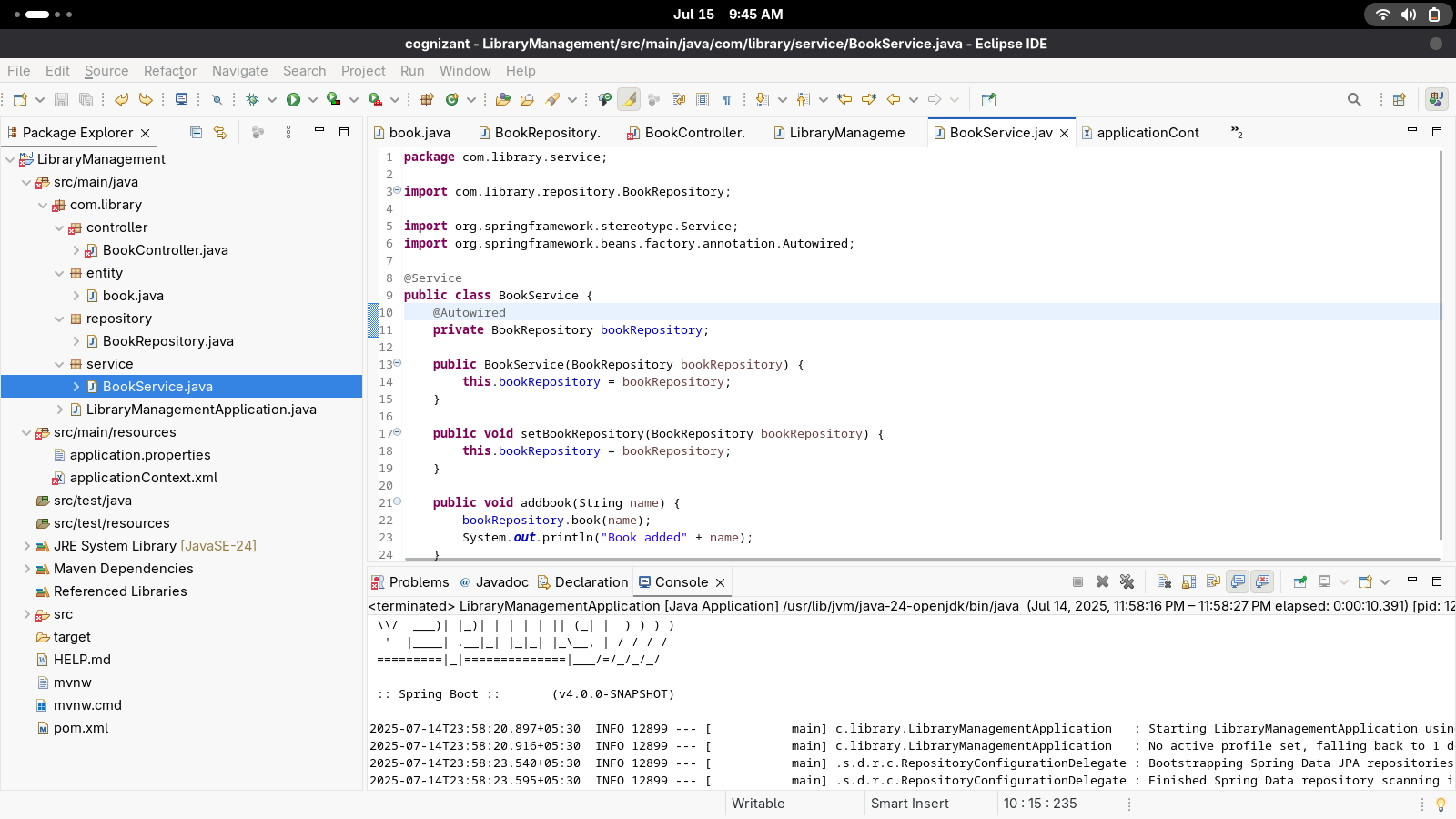
**public** **void** addbook(String name) {

bookRepository.book(name);

System.***out***.println("Book added" + name);

}

**}**



**package** com.library;

**import** com.library.service.BookService;

**import** org.springframework.context.ApplicationContext;

**import** org.springframework.context.support.ClassPathXmlApplicationContext;

**public** **class** LibraryTestApp {

**public** **static** **void** main(String[] args) {

ApplicationContext context = **new** ClassPathXmlApplicationContext("applicationContext.xml");

BookService bookService = context.getBean("bookService", BookService.**class**);

bookService.addbook("Spring Boot Basics");

}

}

