**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.

**pom.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"

xmlns:aop="http://www.springframework.org/schema/aop"

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

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

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

http://www.springframework.org/schema/aop

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

<!-- Bean definition for BookRepository -->

<bean id="bookRepository" class="com.library.repository.BookRepository"/>

<!-- Bean definition for BookService -->

<bean id="bookService" class="com.library.service.BookService">

<property name="bookRepository" ref="bookRepository"></property>

</bean>

</beans>

1. **Update the BookService Class:**
   * Ensure that the **BookService** class has a setter method for **BookRepository**.

**BookService.java🡪**

package com.library.service;

import com.library.repository.BookRepository;

public class BookService {

private BookRepository bookRepository;

public void setBookRepository(BookRepository bookRepository) {

this.bookRepository = bookRepository;

}

// method for testing

public void testMessage() {

System.out.println("BookService test message...");

}

}

1. **Run the Application:**
   * Create a main class to load the Spring context and test the configuration.

**LibraryManagementApplication.java🡪**

package com.library;

import org.springframework.context.support.ClassPathXmlApplicationContext;

import com.library.service.BookService;

public class LibraryManagementApplication {

    public static void main(String[] args) {

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

//      context object has method getBean() returns the bean object

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

//      test injection

        bookService.testMessage();

    }

}