Answer 2:

Step 1: Modify the XML Configuration

Update the applicationContext.xml file to wire BookRepository into BookService:

<?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

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

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

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

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

</bean>

</beans>

In the above configuration, we have defined two beans: bookRepository and bookService. The bookService bean has a property bookRepository which is wired to the bookRepository bean using the ref attribute.

Step 2: Update the BookService Class

Ensure that the BookService class has a setter method for BookRepository:

package com.library.service;

public class BookService {

private BookRepository bookRepository;

public void setBookRepository(BookRepository bookRepository) {

this.bookRepository = bookRepository;

}

public void addBook(String title, String author) {

// TO DO: implement book addition logic using bookRepository

System.out.println("Adding book: " + title + " by " + author);

}

}

In the above code, we have added a setter method setBookRepository to inject the BookRepository instance into the BookService class.

Step 3: Test the Configuration

Run the LibraryManagementApplication main class to verify the dependency injection:

package com.library;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

public class LibraryManagementApplication {

public static void main(String[] args) {

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

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

bookService.addBook("Java Programming", "John Doe");

}

}

When you run the LibraryManagementApplication class, it should load the Spring context, wire the BookRepository instance into the BookService class, and execute the addBook method. The output should be:

Adding book: Java Programming by John Doe