**WEEK:3**

**Exercise 2: Implementing Dependency Injection**

**Scenario:**

**In the library management application, you need to manage the dependencies between the BookService and BookRepository classes using Spring's IoC and DI.**

**Steps:**

1. **Modify the XML Configuration:**
   * **Update applicationContext.xml to wire BookRepository into BookService.**
2. **Update the BookService Class:**
   * **Ensure that BookService class has a setter method for BookRepository.**
3. **Test the Configuration:**
   * **Run the LibraryManagementApplication main class to verify the dependency injection.**

**CODE:**

**Applicationcontent.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/schema/beans/spring-beans.xsd"*>**

**<bean id=*"bookRepository"* class=*"cts.repository.BookRepository"* />**

**<bean id=*"bookService"* class=*"cts.service.BookService"*>**

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

**</bean>**

**</beans>**

**package cts.repository;**

**public class BookRepository {**

**public void saveBook(String bookName) {**

**System.*out*.println("BookRepository: Saving book - " + bookName);**

**}**

**}**

**package cts.service;**

**import cts.repository.BookRepository;**

**public class BookService {**

**private BookRepository bookRepository;**

**// Setter for dependency injection**

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

**this.bookRepository = bookRepository;**

**}**

**public void addBook(String bookName) {**

**System.*out*.println("BookService: Adding book - " + bookName);**

**bookRepository.saveBook(bookName);**

**}**

**}**

**package cts;**

**import cts.service.BookService;**

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

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

**public class MainApp {**

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

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

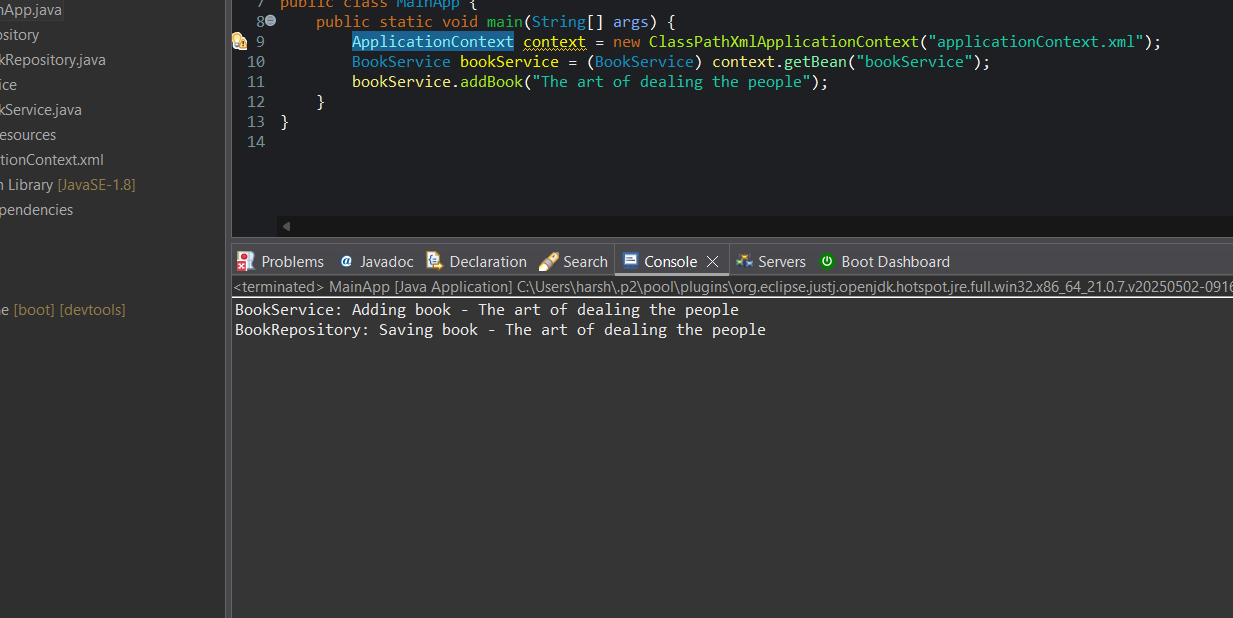
**BookService bookService = (BookService) context.getBean("bookService");**

**bookService.addBook("The art of dealing the people");**

**}**

**}**

**Output:**

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