**Exercise 7: Implementing Constructor and Setter Injection**

**CODE :**

**Pom.xml**

<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

http://maven.apache.org/xsd/maven-4.0.0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>com.example</groupId>

<artifactId>library-management</artifactId>

<version>1.0-SNAPSHOT</version>

<dependencies>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context</artifactId>

<version>5.3.27</version>

</dependency>

</dependencies>

</project>

**BookServiceConstructor.java**

package com.example.service;

import com.example.repository.BookRepository;

public class BookServiceConstructor {

private BookRepository bookRepository;

public BookServiceConstructor(BookRepository bookRepository) {

this.bookRepository = bookRepository;

}

public void showBooks() {

System.out.println("Inside BookServiceConstructor: Showing books...");

bookRepository.display();

}

}

**BookServiceSetter.java**

package com.example.service;

import com.example.repository.BookRepository;

public class BookServiceSetter {

private BookRepository bookRepository;

public void setBookRepository(BookRepository bookRepository) {

this.bookRepository = bookRepository;

}

public void showBooks() {

System.out.println("Inside BookServiceSetter: Showing books...");

bookRepository.display();

}

}

**applicationContext.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="com.example.repository.BookRepository" />

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

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

</bean>

<bean id="bookServiceConstructor" class="com.example.service.BookServiceConstructor">

<constructor-arg ref="bookRepository" />

</bean>

<bean id="bookServiceSetter" class="com.example.service.BookServiceSetter">

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

</bean>

</beans>

**LibraryManagementApplication.java**

package com.example;

import com.example.service.BookService;

import com.example.service.BookServiceConstructor;

import com.example.service.BookServiceSetter;

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

oldService.showBooks();

BookServiceConstructor constructorService = (BookServiceConstructor) context.getBean("bookServiceConstructor");

constructorService.showBooks();

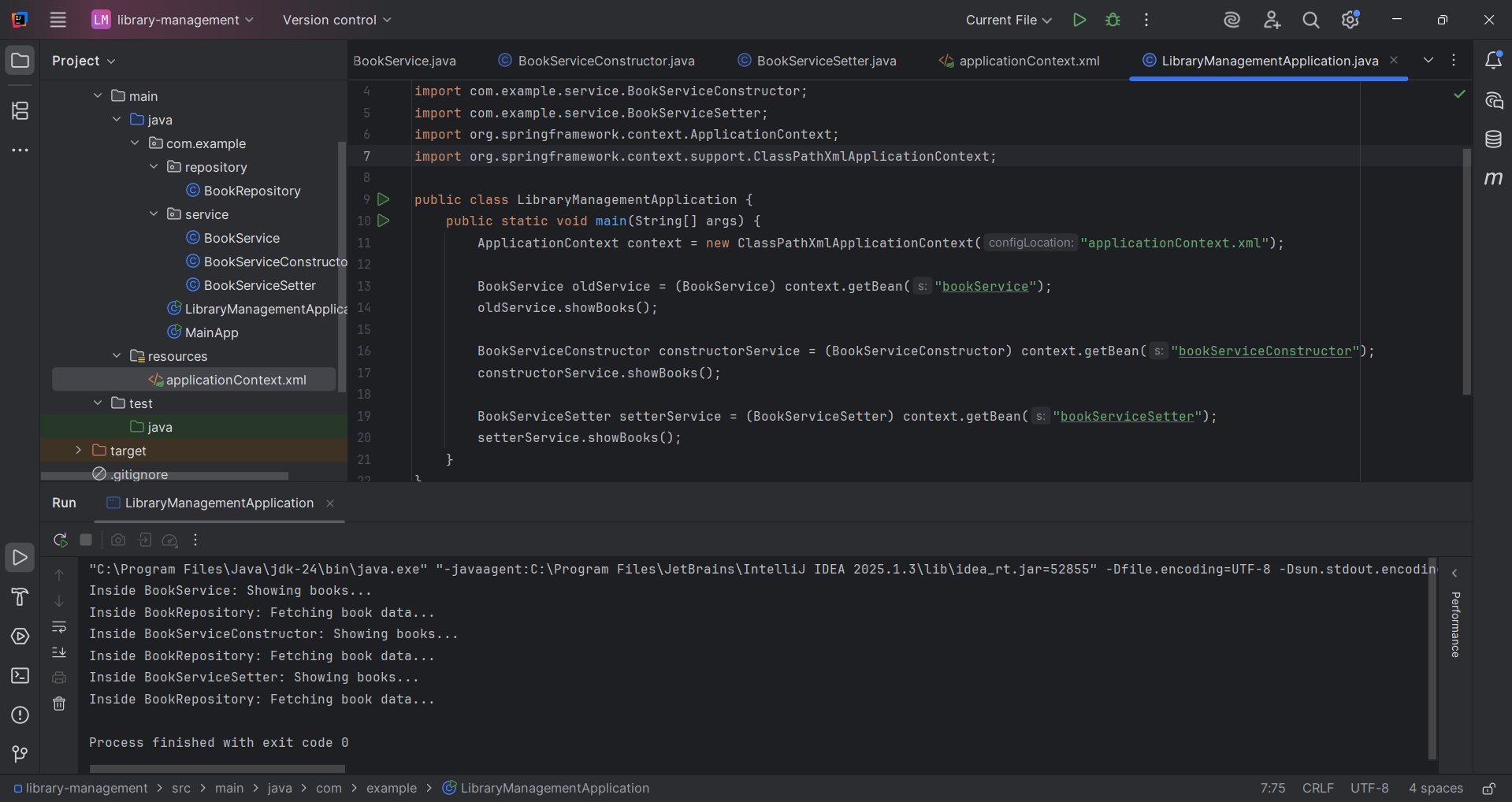
BookServiceSetter setterService = (BookServiceSetter) context.getBean("bookServiceSetter");

setterService.showBooks();

}

}

**OUTPUT :**

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