**Exercise 1: Configuring a Basic Spring Application**

**Step 1: Set Up a Spring Project**

**a. Create Maven project** named LibraryManagement

**b. Add Spring Core dependencies** to 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.library</groupId>

<artifactId>LibraryManagement</artifactId>

<version>1.0-SNAPSHOT</version>

<dependencies>

<!-- Spring Core -->

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context</artifactId>

<version>5.3.22</version>

</dependency>

</dependencies>

</project>

**Step 2: Configure the Application Context**  
**a. Create XML file**: src/main/resources/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

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

<!-- Define BookRepository bean -->

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

<!-- Define BookService bean and inject BookRepository -->

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

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

</bean>

</beans>

**Step 3: Define Service and Repository Classes**

**a. BookRepository**  
File: src/main/java/com/library/repository/BookRepository.java

package com.library.repository;

public class BookRepository {

public void save(String bookName) {

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

}

}

**b. BookService**  
File: src/main/java/com/library/service/BookService.java

package com.library.service;

import com.library.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.save(bookName);

}

}

**Step 4: Run the Application**

**Main class**  
File: src/main/java/com/library/LibraryApp.java

package com.library;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

import com.library.service.BookService;

public class LibraryApp {

public static void main(String[] args) {

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

// Get BookService bean

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

// Test the configuration

bookService.addBook("Effective Java");

}

}

**OUTPUT:**

BookService: Adding book - Effective Java

BookRepository: Saving book - Effective Java