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

**Steps:**

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

1. **Create a Maven Project**:
   * Project name: LibraryManagement
   * Standard Maven directory structure.
2. **Add Spring Core Dependency** :

<dependencies>  
 <dependency>  
 <groupId>org.springframework</groupId>  
 <artifactId>spring-context</artifactId>  
 <version>5.3.30</version>  
 </dependency>  
</dependencies>

### **Step 2: Configure the Application Context**

<?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 Repository Bean 🡪  
 <bean id=”bookRepository” class=”com.library.repository.BookRepository” />  
  
 <!—Define Service Bean and Inject Repository 🡪  
 <bean id=”bookService” class=”com.library.service.BookService”>  
 <property name=”bookRepository” ref=”bookRepository” />  
 </bean>  
  
</beans>

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

**com.library.repository.BookRepository.java**

package com.library.repository;  
  
public class BookRepository {  
 public String showBook() {  
 return "Spring in Action by Craig Walls";  
 }  
}

**com.library.service.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;  
 }  
  
 public String displayBook() {  
 return "Book: " + bookRepository.showBook();  
 }  
}

### **Step 4: Run the Application**

**LibraryMainApp.java**

package com.library;  
  
import com.library.service.BookService;  
import org.springframework.context.ApplicationContext;  
import org.springframework.context.support.ClassPathXmlApplicationContext;  
  
public class LibraryMainApp {  
 public static void main(String[] args) {  
 ApplicationContext context = new ClassPathXmlApplicationContext("applicationContext.xml");  
 BookService bookService = (BookService) context.getBean("bookService");  
 System.out.println(bookService.displayBook());  
 }  
}

**Output:**

