Exercise 1: Configuring a Basic Spring Application

# Overview

This document describes the steps followed to complete Exercise 1 for setting up a basic Spring application using Spring Core with XML configuration. The project simulates a simple library management backend setup using Spring beans, dependency injection, and modular code structure.

# Step 1: Maven Project Setup

A Maven project named 'LibraryManagement' was created using IntelliJ and start.spring.io (without Spring Boot dependencies).

The following dependency was added manually to the pom.xml:

<dependency>  
 <groupId>org.springframework</groupId>  
 <artifactId>spring-context</artifactId>  
 <version>5.3.32</version>  
</dependency>

# Step 2: XML Configuration

An XML configuration file named 'applicationContext.xml' was created in src/main/resources directory with the following content:

<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>

# Step 3: Java Classes

## BookRepository.java

package com.library.repository;  
  
public class BookRepository {  
 public void saveBook(String title) {  
 System.out.println("Saving book: " + title);  
 }  
}

## 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 void addBook(String title) {  
 System.out.println("Adding book to library: " + title);  
 bookRepository.saveBook(title);  
 }  
}

# Step 4: Running the Application

## MainApp.java

package com.library;  
  
import com.library.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("Spring in Action");  
 }  
}

# Execution Result