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

* pom.xml file

<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/maven-v4\_0\_0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>com.library</groupId>

<artifactId>LibraryManagement</artifactId>

<packaging>jar</packaging>

<version>1.0-SNAPSHOT</version>

<name>LibraryManagement</name>

<url>http://maven.apache.org</url>

<dependencies>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context</artifactId>

<version>5.3.30</version>

</dependency>

<dependency>

<groupId>junit</groupId>

<artifactId>junit</artifactId>

<version>3.8.1</version>

<scope>test</scope>

</dependency>

</dependencies>

</project>

* 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 in Service layer: " + title);

bookRepository.saveBook(title);

}

}

* 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">

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

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

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

</bean>

</beans>

* LibrayApp.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");

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

bookService.addBook("The Spring Beginner Guide");

}

}

* A computer screen with white text

  AI-generated content may be incorrect.Output

**Exercise 2: Implementing Dependency Injection**

* Will add this setter in BookService file

public void setBookRepository(BookRepository bookRepository) {

this.bookRepository = bookRepository;

}

* BookService.java

package com.library.service;

import com.library.repository.BookRepository;

public class BookService {

private BookRepository bookRepository;

//Added part (setter)

public void setBookRepository(BookRepository bookRepository) {

this.bookRepository = bookRepository;

}

public void addBook(String title) {

System.out.println("Adding book in Service layer: " + title);

bookRepository.saveBook(title);

}

}

* Output

A screen shot of a computer

AI-generated content may be incorrect.

**Exercise 4: Creating and Configuring a Maven Project**

* 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/maven-v4\_0\_0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>com.library</groupId>

<artifactId>LibraryManagement</artifactId>

<packaging>jar</packaging>

<version>1.0-SNAPSHOT</version>

<name>LibraryManagement</name>

<url>http://maven.apache.org</url>

<dependencies>

<!-- Spring Context -->

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context</artifactId>

<version>5.3.30</version>

</dependency>

<!-- Spring AOP -->

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-aop</artifactId>

<version>5.3.30</version>

</dependency>

<!-- Spring Web MVC -->

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-webmvc</artifactId>

<version>5.3.30</version>

</dependency>

<dependency>

<groupId>junit</groupId>

<artifactId>junit</artifactId>

<version>3.8.1</version>

<scope>test</scope>

</dependency>

</dependencies>

<build>

<plugins>

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-compiler-plugin</artifactId>

<version>3.8.1</version>

<configuration>

<source>1.8</source>

<target>1.8</target>

</configuration>

</plugin>

</plugins>

</build>

</project>

* OUTPUT

A screenshot of a computer program

AI-generated content may be incorrect.