**EXERCISE 8: IMPLEMENTING BASIC AOP WITH SPRING**

**Step 1: Define an Aspect**

package com.library.aspect;

import org.aspectj.lang.JoinPoint;

import org.aspectj.lang.annotation.After;

import org.aspectj.lang.annotation.Aspect;

import org.aspectj.lang.annotation.Before;

import org.springframework.stereotype.Component;

@Aspect

@Component

public class LoggingAspect {

@Before("execution(\* com.library.service.BookService.performSomeService(..))")

public void logBefore(JoinPoint joinPoint) {

System.out.println("Before method: " + joinPoint.getSignature().toShortString());

}

@After("execution(\* com.library.service.BookService.performSomeService(..))")

public void logAfter(JoinPoint joinPoint) {

System.out.println("After method: " + joinPoint.getSignature().toShortString());

}

}

**Step 3: Configure the Aspect**

<?xml version="1.0" encoding="UTF-8"?>

<beans xmlns="http://www.springframework.org/schema/beans"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xmlns:context="http://www.springframework.org/schema/context"

xmlns:aop="http://www.springframework.org/schema/aop"

xsi:schemaLocation="http://www.springframework.org/schema/beans

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

http://www.springframework.org/schema/context

http://www.springframework.org/schema/context/spring-context.xsd

http://www.springframework.org/schema/aop

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

<!-- Enable component scanning for the com.library package -->

<context:component-scan base-package="com.library"/>

<!-- Enable AspectJ auto-proxying -->

<aop:aspectj-autoproxy/>

<!-- Register the aspect -->

<bean id="loggingAspect" class="com.library.aspect.LoggingAspect"/>

</beans>

**Step 4: Test the Aspect**

package com.library;

import com.library.service.BookService;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

public class MainApplication {

public static void main(String[] args) {

// Load the Spring context from applicationContext.xml

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

// Retrieve the BookService bean

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

// Use the BookService to perform some action

bookService.performSomeService();

}

}