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 -->

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-core</artifactId>

<version>5.3.9</version>

</dependency>

<!-- Spring Context dependency -->

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context</artifactId>

<version>5.3.9</version>

</dependency>

<!-- Spring AOP dependency -->

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-aop</artifactId>

<version>5.3.9</version>

</dependency>

<!-- AspectJ dependency for enabling AOP features -->

<dependency>

<groupId>org.aspectj</groupId>

<artifactId>aspectjweaver</artifactId>

<version>1.9.7</version>

</dependency>

</dependencies>

</project>

LoggingAspect

package com.library.aspect;

import org.aspectj.lang.ProceedingJoinPoint;

import org.aspectj.lang.annotation.Around;

import org.aspectj.lang.annotation.Aspect;

import org.springframework.stereotype.Component;

@Aspect

@Component

public class LoggingAspect {

@Around("execution(\* com.library.service.\*.\*(..))")

public Object logExecutionTime(ProceedingJoinPoint joinPoint) throws Throwable {

long start = System.currentTimeMillis();

Object proceed = joinPoint.proceed();

long executionTime = System.currentTimeMillis() - start;

System.out.println(joinPoint.getSignature() + " executed in " + executionTime + "ms");

return proceed;

}

}

applicationContext.xml

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

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

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/aop

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

<!-- Enable AspectJ support -->

<aop:aspectj-autoproxy/>

<!-- Bean definition for BookRepository -->

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

<!-- Bean definition for BookService with dependency injection -->

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

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

</bean>

<!-- Bean definition for LoggingAspect -->

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

</beans>

Main.java

package com.library;

import com.library.service.BookService;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

public class Main {

public static void main(String[] args) {

// Load the Spring context

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

// Get the BookService bean

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

// Test the BookService and observe the logs

bookService.addBook("Spring in Action");

}

}

Saving book: Spring in Action

BookService.addBook executed in 20ms

Book added: Spring in Action