Implementing Dependency Injection

Configuring a Basic Spring Application

Step 1:

Create a Maven Project. And create 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 https://maven.apache.org/xsd/maven-4.0.0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>com.library</groupId>

<artifactId>LibraryManagement</artifactId>

<version>0.0.1-SNAPSHOT</version>

<dependencies>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context</artifactId>

<version>5.3.33</version>

</dependency>

</dependencies>

</project>

Step 2:

Create the java files that will add the books in the repository and will set the repository.

BookRepository.java

package com.library.repository;

public class BookRepository {

public void saveBook(String bookName)

{

System.out.println("The book " + bookName + " is saved to the database");

}

}

BookService.java

package com.library.service;

import com.library.repository.BookRepository;

public class BookService {

private BookRepository br;

public void setBookRepository(BookRepository br) {

this.br = br;

}

public void addBook(String bookName)

{

System.out.println("Adding the book : " + bookName);

br.saveBook(bookName);

}

}

Step 3: Create the main App:

MainApp.java

package com.library;

import com.library.service.BookService;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

import java.util.\*;

public class MainApp {

public static void main(String[] agrs)

{

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

Scanner sc = new Scanner(System.in);

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

System.out.println("Enter how many books you want to enter: ");

int n = sc.nextInt();

int i = 0;

do {

System.out.println("Enter a book Name: ");

bookService.addBook(sc.next());

}while(i<n);

sc.close();

}

}

Step 4: Next create an .xml file that will configure all the beans.

<?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>

Output:

