**WEEK : 3**

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

**Scenario:**

Your company is developing a web application for managing a library. You need to use the Spring Framework to handle the backend operations.

**Steps:**

1. **Set Up a Spring Project:**
   * Create a Maven project named **LibraryManagement**.
   * Add Spring Core dependencies in the **pom.xml** file.
2. **Configure the Application Context:**
   * Create an XML configuration file named **applicationContext.xml** in the **src/main/resources** directory.
   * Define beans for **BookService** and **BookRepository** in the XML file.
3. **Define Service and Repository Classes:**
   * Create a package **com.library.service** and add a class **BookService**.
   * Create a package **com.library.repository** and add a class **BookRepository**.
4. **Run the Application:**
   * Create a main class to load the Spring context and test the configuration.

CODE:

Mainapp.java:

package cts;

import cts.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("The art of beginning alnoe");

bookService.addBook("Do the Epic shit");

}

}

BookRepository:

package cts.repository;

public class BookRepository {

public void saveBook(String bookName) {

System.***out***.println("BookRepository: Saving book - " + bookName);

}

}

BookService:

package cts.service;

import cts.repository.BookRepository;

public class BookService {

private BookRepository bookRepository;

public void setBookRepository(BookRepository bookRepository) {

this.bookRepository = bookRepository;

}

public void addBook(String bookName) {

System.***out***.println("BookService: Adding book - " + bookName);

bookRepository.saveBook(bookName);

}

}

Applicationcontent.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*

*https://www.springframework.org/schema/beans/spring-beans.xsd"*>

<**bean** id=*"bookRepository"* class=*"cts.repository.BookRepository"* />

<**bean** id=*"bookService"* class=*"cts.service.BookService"*>

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

</**bean**>

</**beans**>

Output:

