**Spring Core Maven**

**EXERCISE 5: Configuring the Spring IoC Container**

**Source Code**

* + **Create a New Maven Project:**

File → New → Maven Project -> **/LibraryIoCConfig**

* + Add Spring Dependencies in **pom.xml**

1. <project xmlns="http://maven.apache.org/POM/4.0.0"
2. xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3. xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
4. https://maven.apache.org/xsd/maven-4.0.0.xsd">
5. <modelVersion>4.0.0</modelVersion>
6. <groupId>com.library</groupId>
7. <artifactId>LibraryIoCConfig</artifactId>
8. <version>0.0.1-SNAPSHOT</version>
9. <properties>
10. <maven.compiler.source>1.8</maven.compiler.source>
11. <maven.compiler.target>1.8</maven.compiler.target>
12. </properties>
13. <dependencies>
14. <!-- Spring Core Context -->
15. <dependency>
16. <groupId>org.springframework</groupId>
17. <artifactId>spring-context</artifactId>
18. <version>5.3.32</version>
19. </dependency>
20. <!-- Logging -->
21. <dependency>
22. <groupId>commons-logging</groupId>
23. <artifactId>commons-logging</artifactId>
24. <version>1.2</version>
25. </dependency>
26. </dependencies>
27. <!-- Java compiler plugin -->
28. <build>
29. <plugins>
30. <plugin>
31. <groupId>org.apache.maven.plugins</groupId>
32. <artifactId>maven-compiler-plugin</artifactId>
33. <version>3.8.1</version>
34. <configuration>
35. <source>1.8</source>
36. <target>1.8</target>
37. </configuration>
38. </plugin>
39. </plugins>
40. </build>
41. </project>

✔️ **Right-click project → Maven → Update Project**  
 Make sure dependencies are downloaded (spring-context, commons-logging)

* + Create Java Packages and Classes

Create the following inside **src/main/java**:

* + com.library.repository.BookRepository
  + com.library.service.BookService
  + com.library.repository.BookRepository

1. package com.library.repository;
2. public class BookRepository {
3. public void saveBook(String title) {
4. System.***out***.println("Book saved: " + title);
5. }
6. }
   * com.library.service.BookService
7. package com.library.service;
8. import com.library.repository.BookRepository;
9. public class BookService {
10. private BookRepository bookRepository;
11. // Setter injection (required for Spring IoC)
12. public void setBookRepository(BookRepository bookRepository) {
13. this.bookRepository = bookRepository;
14. }
15. public void addBook(String title) {
16. System.***out***.println("Adding book: " + title);
17. bookRepository.saveBook(title);
18. }
19. }
    * **Create Spring XML Configuration**

* In src/main/resources → create **applicationContext.xml**

1. <?xml version="1.0" encoding="UTF-8"?>
2. <beans xmlns="http://www.springframework.org/schema/beans"
3. xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
4. xsi:schemaLocation="http://www.springframework.org/schema/beans
5. http://www.springframework.org/schema/beans/spring-beans.xsd">
6. <!-- BookRepository Bean -->
7. <bean id="bookRepository" class="com.library.repository.BookRepository" />
8. <!-- BookService Bean with Setter Injection -->
9. <bean id="bookService" class="com.library.service.BookService">
10. <property name="bookRepository" ref="bookRepository" />
11. </bean>
12. </beans>
    * **Create Main Class to Run**

📁 com.library.main.**LibraryApp**

1. package com.library.main;
2. import com.library.service.BookService;
3. import org.springframework.context.ApplicationContext;
4. import org.springframework.context.support.ClassPathXmlApplicationContext;
5. public class LibraryApp {
6. public static void main(String[] args) {
7. ApplicationContext context = new ClassPathXmlApplicationContext("applicationContext.xml");
8. BookService bookService = (BookService) context.getBean("bookService");
9. bookService.addBook("Spring IoC Rocks");
10. }
11. }
    * **Run the Application**

Right-click on LibraryApp.java → Run As → Java Application

**Output**

