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# Week 3

# SPRING CORE MAVEN Exercise 1: Configuring a Basic Spring Application

**Code:**  
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>  
 <dependency>  
 <groupId>org.springframework</groupId>  
 <artifactId>spring-context</artifactId>  
 <version>5.3.30</version>  
 </dependency>  
 </dependencies>  
 <build>  
 <plugins>  
 <plugin>  
 <groupId>org.apache.maven.plugins</groupId>  
 <artifactId>maven-compiler-plugin</artifactId>  
 <version>3.8.1</version>  
 <configuration>  
 <source>1.8</source>  
 <target>1.8</target>  
 </configuration>  
 </plugin>  
 </plugins>  
 </build>  
</project>  
  
applicationContext.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  
 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"/>  
</beans>  
  
BookRepository.java:  
package com.library.repository;  
public class BookRepository {}  
  
BookService.java:  
package com.library.service;  
public class BookService {}  
  
LibraryManagementApplication.java:  
package com.library;  
import org.springframework.context.ApplicationContext;  
import org.springframework.context.support.ClassPathXmlApplicationContext;  
public class LibraryManagementApplication {  
 public static void main(String[] args) {  
 ApplicationContext context = new ClassPathXmlApplicationContext("applicationContext.xml");  
 System.out.println("Spring context loaded successfully!");  
 }  
}

**Output:**

Spring context loaded successfully!

## Exercise 2: Implementing Dependency Injection

**Code:**

applicationContext.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  
 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>  
  
BookRepository.java:  
package com.library.repository;  
public class BookRepository {  
 public String getBookTitle() {  
 return "Effective Java by Joshua Bloch";  
 }  
}  
  
BookService.java:  
package com.library.service;  
import com.library.repository.BookRepository;  
public class BookService {  
 private BookRepository bookRepository;  
 public void setBookRepository(BookRepository bookRepository) {  
 this.bookRepository = bookRepository;  
 }  
 public void displayBook() {  
 System.out.println("Book fetched from repository: " + bookRepository.getBookTitle());  
 }  
}  
  
LibraryManagementApplication.java:  
package com.library;  
import org.springframework.context.ApplicationContext;  
import org.springframework.context.support.ClassPathXmlApplicationContext;  
import com.library.service.BookService;  
public class LibraryManagementApplication {  
 public static void main(String[] args) {  
 ApplicationContext context = new ClassPathXmlApplicationContext("applicationContext.xml");  
 BookService bookService = context.getBean("bookService", BookService.class);  
 bookService.displayBook();  
 }  
}

**Output:**

Book fetched from repository: Effective Java by Joshua Bloch

## Exercise 3: Creating and Configuring a Maven Project

**Code:**

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>  
 <dependency>  
 <groupId>org.springframework</groupId>  
 <artifactId>spring-context</artifactId>  
 <version>5.3.30</version>  
 </dependency>  
 <dependency>  
 <groupId>org.springframework</groupId>  
 <artifactId>spring-aop</artifactId>  
 <version>5.3.30</version>  
 </dependency>  
 <dependency>  
 <groupId>org.springframework</groupId>  
 <artifactId>spring-webmvc</artifactId>  
 <version>5.3.30</version>  
 </dependency>  
 </dependencies>  
 <build>  
 <plugins>  
 <plugin>  
 <groupId>org.apache.maven.plugins</groupId>  
 <artifactId>maven-compiler-plugin</artifactId>  
 <version>3.8.1</version>  
 <configuration>  
 <source>1.8</source>  
 <target>1.8</target>  
 </configuration>  
 </plugin>  
 </plugins>  
 </build>  
</project>

**Output:**

Maven project builds successfully with Spring dependencies configured.