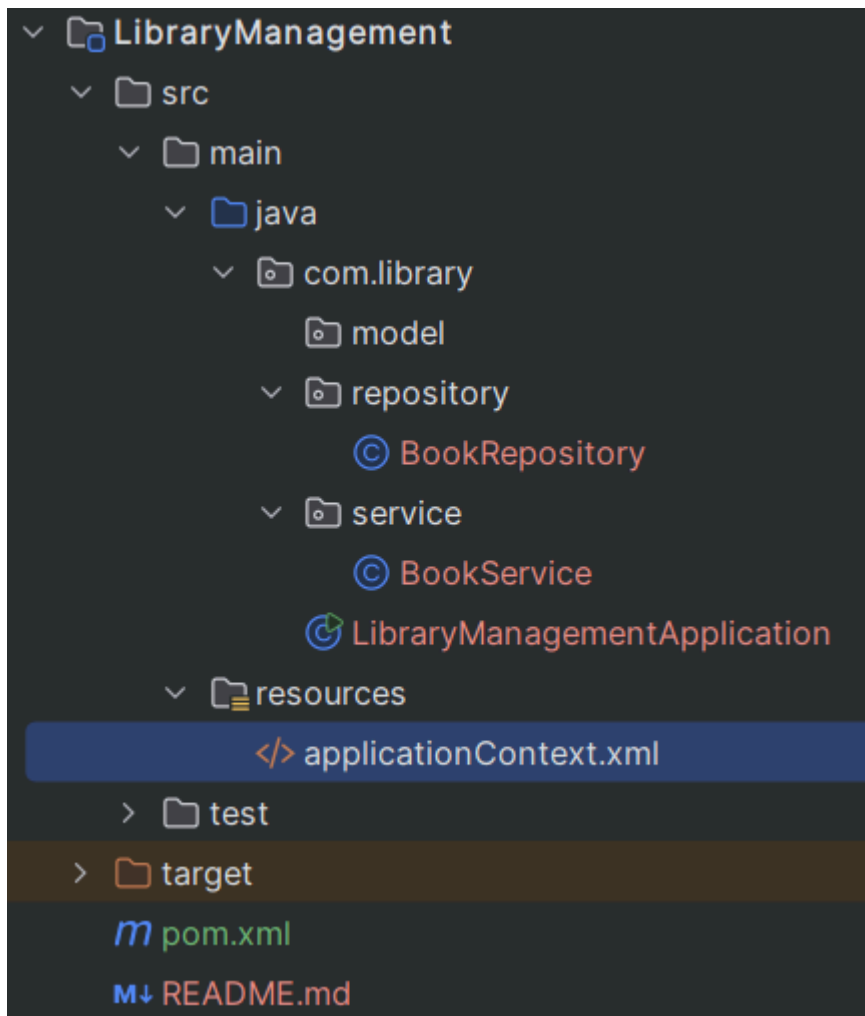


Spring Core Maven Exercises

Source code: [Here](#)

Exercise 1: Configuring a Basic Spring Application

We have created a Spring Core project and created beans for service and repository classes in `applicationContext.xml` (in `java/resources`)



Code

```
<?xml version="1.0" encoding="UTF-8"?>
<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>org.example</groupId>
<artifactId>LibraryManagement</artifactId>
<version>1.0-SNAPSHOT</version>

<properties>          <maven.compiler.source>21</maven.compiler.source>
    <maven.compiler.target>21</maven.compiler.target>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
</properties>
<dependencies>
    <dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-core</artifactId>
        <version>6.2.8</version>
    </dependency>

    <dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-context</artifactId>
        <version>6.2.8</version>
    </dependency>
</dependencies>
</project>

```

```

<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">

    <!-- Repository Bean -->
    <bean id="bookRepository" class="com.library.repository.BookRepository"
/>

    <!-- Service Bean with Dependency Injection -->
    <bean id="bookService" class="com.library.service.BookService">
        <property name="bookRepository" ref="bookRepository" />
    </bean></beans>

```

```

package com.library;

import com.library.service.BookService;
import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;

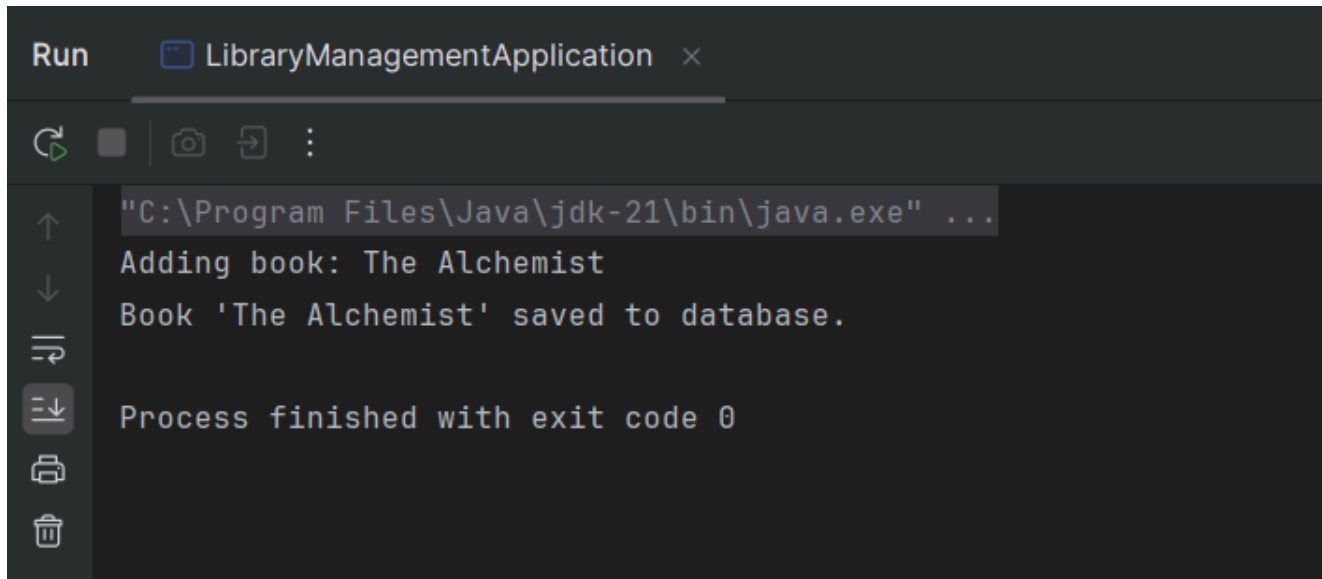
public class LibraryManagementApplication {
    public static void main(String[] args) {
        ApplicationContext context = new
        ClassPathXmlApplicationContext("applicationContext.xml");
    }
}

```

```
        BookService bookService = context.getBean("bookService",
BookService.class);
        bookService.addBook("The Alchemist");
    }
}

// There are other two classes i.e., BookRepository, Book Service
```

Output



```
Run LibraryManagementApplication x
"C:\Program Files\Java\jdk-21\bin\java.exe" ...
Adding book: The Alchemist
Book 'The Alchemist' saved to database.
Process finished with exit code 0
```

Exercise 2: Implementing Dependency Injection

Here we have injected `BookRepository` dependency into `BookService` class.

Code

```
package com.library.service;

import com.library.repository.BookRepository;

public class BookService {
    private BookRepository bookRepository;

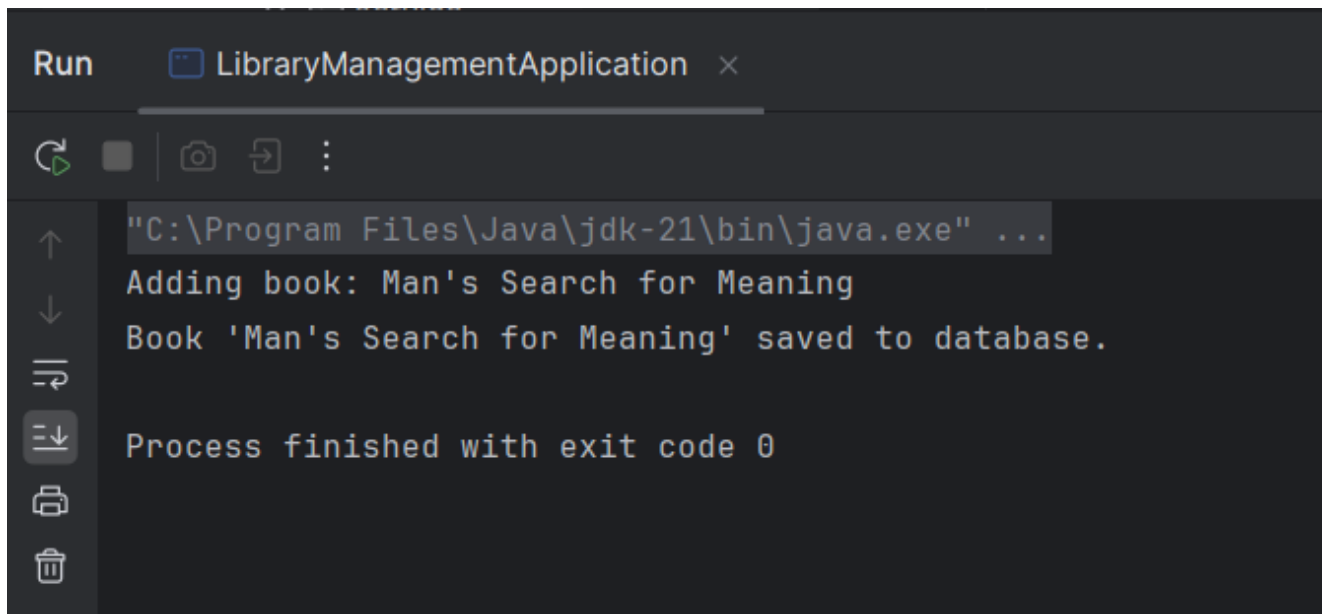
    public void setBookRepository(BookRepository bookRepository) {
        this.bookRepository = bookRepository;
    }

    public void addBook(String title) {
        System.out.println("Adding book: " + title);
        bookRepository.saveBook(title);
    }
}
```

```
}  
}
```

```
package com.library.repository;  
  
public class BookRepository {  
    public void saveBook(String title) {  
        System.out.println("Book '" + title + "' saved to database.");  
    }  
}
```

Output



```
Run  LibraryManagementApplication x  
"C:\Program Files\Java\jdk-21\bin\java.exe" ...  
Adding book: Man's Search for Meaning  
Book 'Man's Search for Meaning' saved to database.  
Process finished with exit code 0
```

Exercise 4: Creating and Configuring a Maven Project

Configured our `LibraryManagement` project with dependencies like `spring-context`, `spring-aop`, `spring-webmvc` and in `pom.xml` configured to build with java version 21 for better compatibility with newer versions of these spring dependencies.

```
<dependencies>  
    <!-- https://mvnrepository.com/artifact/org.springframework/spring-core -->  
    <dependency>  
        <groupId>org.springframework</groupId>  
        <artifactId>spring-core</artifactId>  
        <version>6.2.8</version>  
    </dependency>  
    <!-- https://mvnrepository.com/artifact/org.springframework/spring-context -->  
    <dependency>
```

```
    <groupId>org.springframework</groupId>
    <artifactId>spring-context</artifactId>
    <version>6.2.8</version>
</dependency>
<dependency>        <groupId>org.springframework</groupId>
    <artifactId>spring-aop</artifactId>
    <version>6.2.8</version>
</dependency>
<dependency>        <groupId>org.springframework</groupId>
    <artifactId>spring-webmvc</artifactId>
    <version>6.2.8</version>
</dependency>
</dependencies>
```

```
<build>
    <plugins>
        <plugin>
            <groupId>org.apache.maven.plugins</groupId>
            <artifactId>maven-compiler-plugin</artifactId>
            <version>3.11.0</version>
            <configuration>
                <release>21</release>
            </configuration>
        </plugin>
    </plugins>
</build>
```