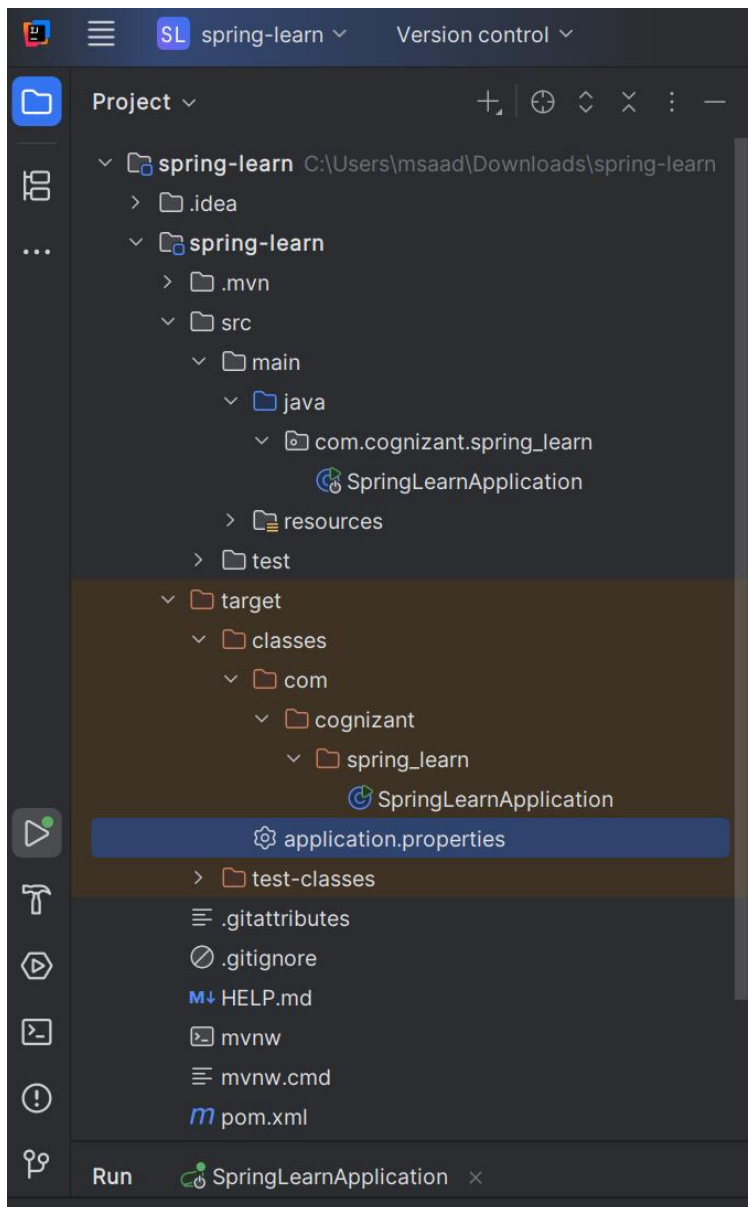


1. spring-rest-handson

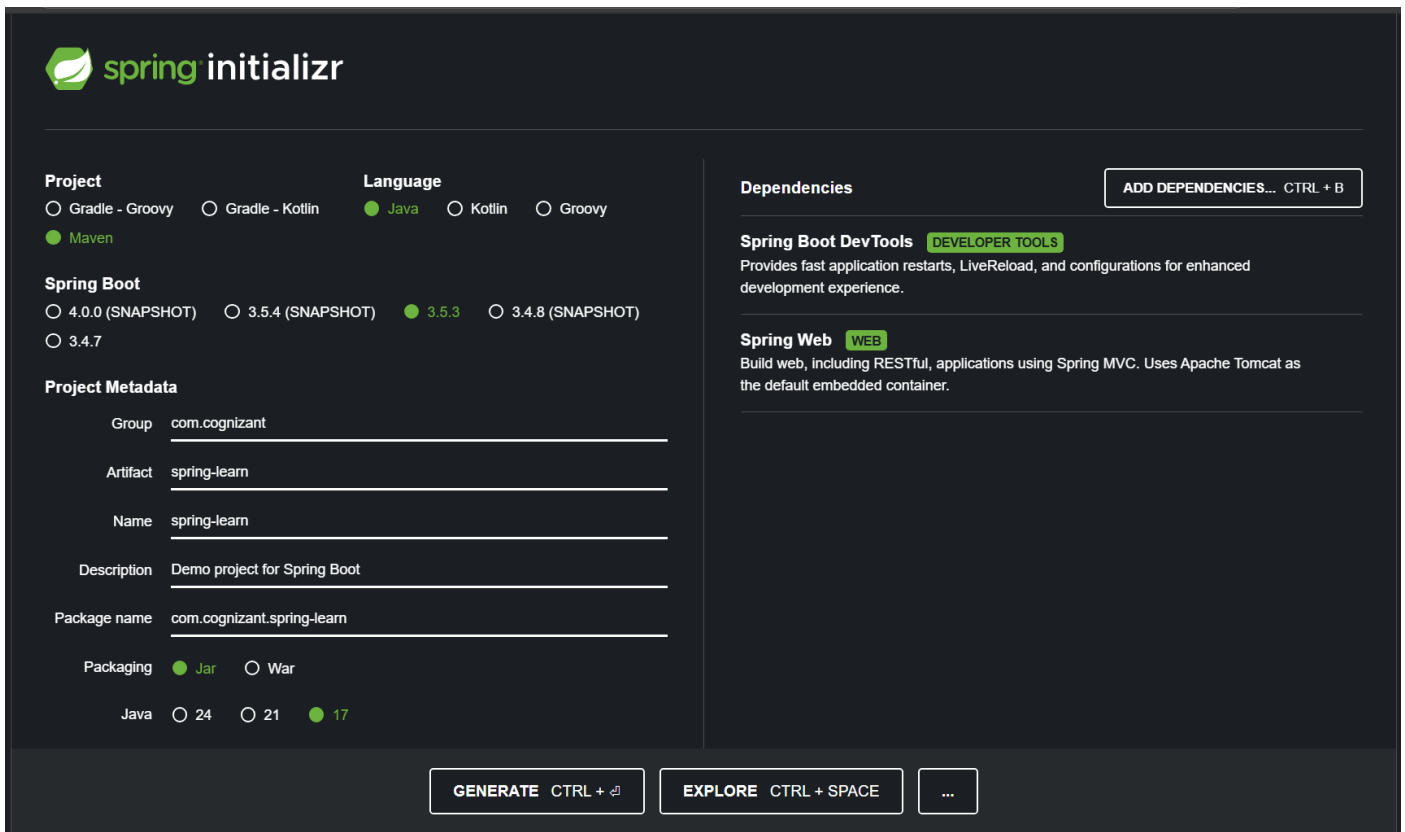
Hands on 1

Create a Spring Web Project using Maven

Folder Structure:



Spring Initializr:



The image shows the Spring Initializr web form, which is used to generate a Spring project. The form is divided into several sections: Project, Language, Spring Boot, Project Metadata, Dependencies, and a bottom bar with buttons.

Project

- ☐ Gradle - Groovy
- ☐ Gradle - Kotlin
- ☒ **Java**
- ☐ Kotlin
- ☐ Groovy

Language

- ☒ **Java**
- ☐ Kotlin
- ☐ Groovy

Spring Boot

- ☐ 4.0.0 (SNAPSHOT)
- ☐ 3.5.4 (SNAPSHOT)
- ☒ **3.5.3**
- ☐ 3.4.8 (SNAPSHOT)
- ☐ 3.4.7

Project Metadata

Group:

Artifact:

Name:

Description:

Package name:

Packaging: ☒ **Jar** ☐ War

Java: ☐ 24 ☐ 21 ☒ **17**

Dependencies

Spring Boot DevTools **DEVELOPER TOOLS**
Provides fast application restarts, LiveReload, and configurations for enhanced development experience.

Spring Web **WEB**
Build web, including RESTful, applications using Spring MVC. Uses Apache Tomcat as the default embedded container.

Buttons:

- GENERATE** CTRL + G
- EXPLORE** CTRL + SPACE
- ...

Pom.xml:

```
<?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 https://maven.apache.org/xsd/maven-
4.0.0.xsd">
    <modelVersion>4.0.0</modelVersion>
    <parent>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-parent</artifactId>
        <version>3.5.3</version>
        <relativePath/> <!-- lookup parent from repository -->
    </parent>
    <groupId>com.cognizant</groupId>
    <artifactId>spring-learn</artifactId>
    <version>0.0.1-SNAPSHOT</version>
    <name>spring-learn</name>
    <description>Demo project for Spring Boot</description>
    <url/>
    <licenses>
        <license/>
    </licenses>
    <developers>
        <developer/>
    </developers>
    <scm>
```

```

    <connection/>
    <developerConnection/>
    <tag/>
    <url/>
</scm>
<properties>
    <java.version>17</java.version>
</properties>
<dependencies>
    <dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-web</artifactId>
    </dependency>

    <dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-devtools</artifactId>
        <scope>runtime</scope>
        <optional>true</optional>
    </dependency>
    <dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-test</artifactId>
        <scope>test</scope>
    </dependency>
</dependencies>

<build>
    <plugins>
        <plugin>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-maven-plugin</artifactId>
        </plugin>
    </plugins>
</build>

</project>

```

SpringLearnApplication.java

```
package com.cognizant.spring_learn;
```

```
import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
```

```
@SpringBootApplication
public class SpringLearnApplication {
```

```

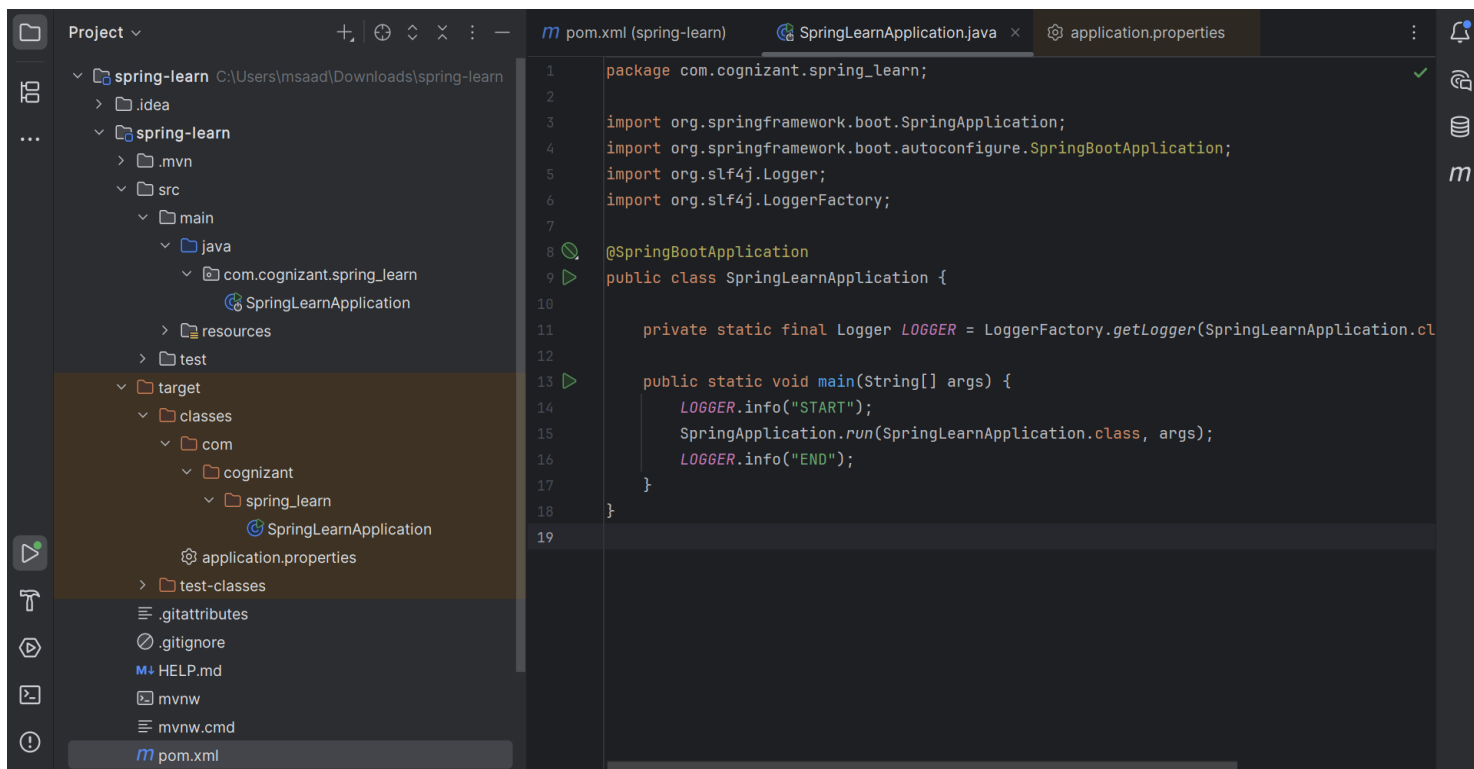
private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);

public static void main(String[] args) {
    LOGGER.info("START");
    SpringApplication.run(SpringLearnApplication.class, args);
    LOGGER.info("END");
}
}

```

application.properties :

spring.application.name=spring-learn



Output:

```
Run SpringLearnApplication x
Console Beans Health Mappings Environment
"C:\Program Files\Java\jdk-23\bin\java.exe" ...
13:01:08.159 [main] INFO com.cognizant.spring_learn.SpringLearnApplication -- START
13:01:08.263 [restartedMain] INFO com.cognizant.spring_learn.SpringLearnApplication -- START

      _--_          -_- _--_   _--_ 
    /\ / ___'___( )__ __ \\\ \\
   ( ( )\_ \ | '_|'_||'_|\V_'_|\\ \\
   \/ ____|_| |_| || || ||(|_|)) ))
     '|____'|_|_|_|_|_|_|_\_\_/ // //
=====|_|=====|_|_/_/_/_/_

:: Spring Boot ::                (v3.5.3)

2025-07-12T13:01:08.540+05:30 INFO 72392 --- [spring-learn] [ restartedMain] c.c.spring_learn.SpringLearnApplication : Starting SprinLe
2025-07-12T13:01:08.541+05:30 INFO 72392 --- [spring-learn] [ restartedMain] c.c.spring_learn.SpringLearnApplication : No active profile
2025-07-12T13:01:08.584+05:30 INFO 72392 --- [spring-learn] [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : Devtools property
2025-07-12T13:01:08.585+05:30 INFO 72392 --- [spring-learn] [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : For additional we
2025-07-12T13:01:09.086+05:30 INFO 72392 --- [spring-learn] [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initializ
2025-07-12T13:01:09.103+05:30 INFO 72392 --- [spring-learn] [ restartedMain] o.apache.catalina.core.StandardService : Starting service
2025-07-12T13:01:09.103+05:30 INFO 72392 --- [spring-learn] [ restartedMain] o.apache.catalina.core.StandardEngine : Starting Servlet 
2025-07-12T13:01:09.129+05:30 INFO 72392 --- [spring-learn] [ restartedMain] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Sprin
2025-07-12T13:01:09.129+05:30 INFO 72392 --- [spring-learn] [ restartedMain] w.s.c.ServletWebServerApplicationContext : Root WebApplicati
2025-07-12T13:01:09.351+05:30 INFO 72392 --- [spring-learn] [ restartedMain] o.s.b.d.a.OptionalLiveReloadServer : LiveReload server
2025-07-12T13:01:09.374+05:30 INFO 72392 --- [spring-learn] [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on
2025-07-12T13:01:09.379+05:30 INFO 72392 --- [spring-learn] [ restartedMain] c.c.spring_learn.SpringLearnApplication : Started SpringLea
2025-07-12T13:01:09.381+05:30 INFO 72392 --- [spring-learn] [ restartedMain] c.c.spring_learn.SpringLearnApplication : END
```

Hands on 4

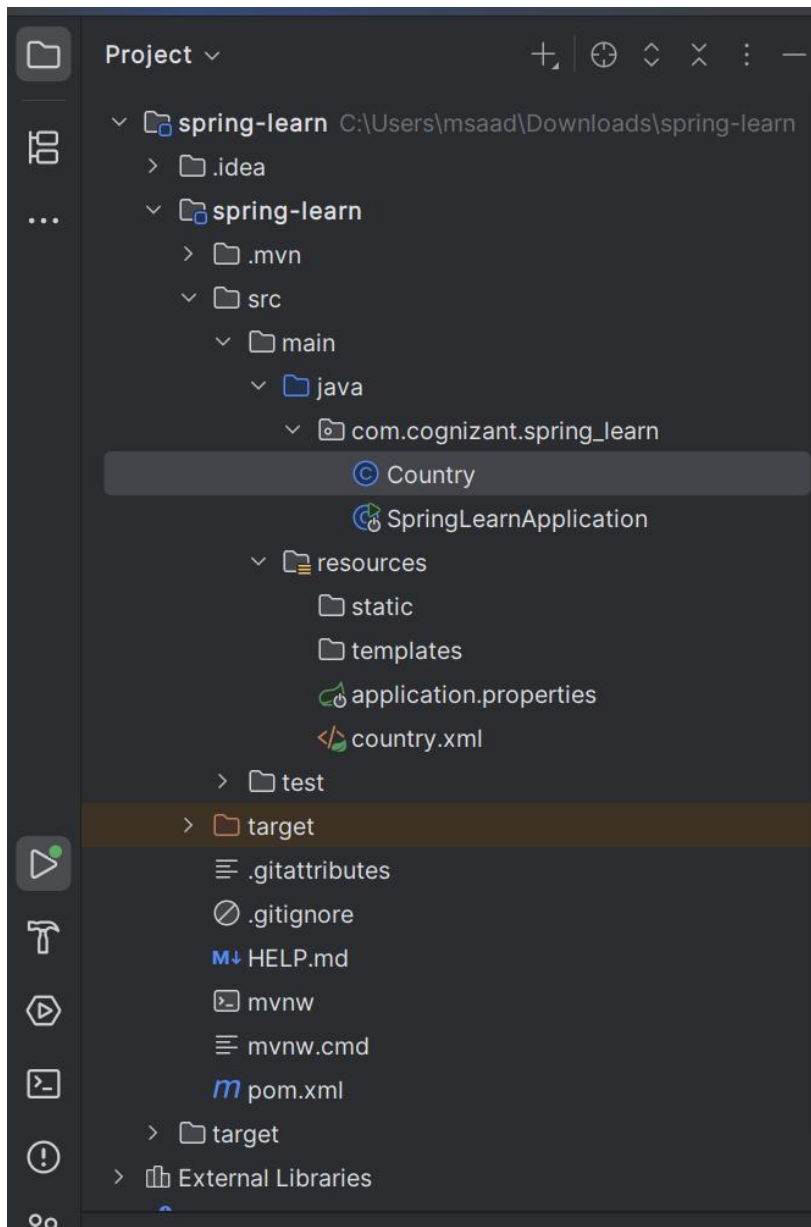
Spring Core – Load Country from Spring Configuration XML

An airlines website is going to support booking on four countries. There will be a drop down on the home page of this website to select the respective country. It is also important to store the two-character ISO code of each country.

Code	Name
US	United States
DE	Germany
IN	India
JP	Japan

Above data has to be stored in spring configuration file. Write a program to read this configuration file and display the details.

Folder Structure:



Country.java

```
package com.cognizant.spring_learn;
```

```
import org.slf4j.Logger;
```

```
import org.slf4j.LoggerFactory;
```

```
public class Country {
```

```
    private static final Logger LOGGER = LoggerFactory.getLogger(Country.class);
```

```
    private String code;
```

```
    private String name;
```

```
    public Country() {
```

```
        LOGGER.debug("Inside Country Constructor.");
```

```
    }
```

```

public String getCode() {
    LOGGER.debug("Inside getCode()");
    return code;
}

public void setCode(String code) {
    LOGGER.debug("Inside setCode()");
    this.code = code;
}

public String getName() {
    LOGGER.debug("Inside getName()");
    return name;
}

public void setName(String name) {
    LOGGER.debug("Inside setName()");
    this.name = name;
}

@Override
public String toString() {
    return "Country [code=" + code + ", name=" + name + "]";
}
}

```

country.xml (src/main/resources)

```

<?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="country" class="com.cognizant.spring_learn.Country">
        <property name="code" value="IN"/>
        <property name="name" value="India"/>
    </bean>

</beans>

```

application.properties (src/main/resources)

```

spring.application.name=spring-learn
logging.level.com.cognizant.spring_learn=DEBUG

```

SpringLearnApplication.java

```
package com.cognizant.spring_learn;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;

@SpringBootApplication
public class SpringLearnApplication {

    private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);

    public void displayCountry() {
        LOGGER.info("START");
        ApplicationContext context = new ClassPathXmlApplicationContext("country.xml");
        Country country = context.getBean("country", Country.class);
        LOGGER.debug("Country : {}", country.toString());
        LOGGER.info("END");
    }

    public static void main(String[] args) {
        LOGGER.info("START");
        SpringApplication.run(SpringLearnApplication.class, args);

        SpringLearnApplication app = new SpringLearnApplication();
        app.displayCountry();

        LOGGER.info("END");
    }
}
```

pom.xml

```
<?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 https://maven.apache.org/xsd/maven-
4.0.0.xsd">
    <modelVersion>4.0.0</modelVersion>
    <parent>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-parent</artifactId>
        <version>3.5.3</version>
        <relativePath/> <!-- lookup parent from repository -->
    </parent>
    <groupId>com.cognizant</groupId>
    <artifactId>spring-learn</artifactId>
```

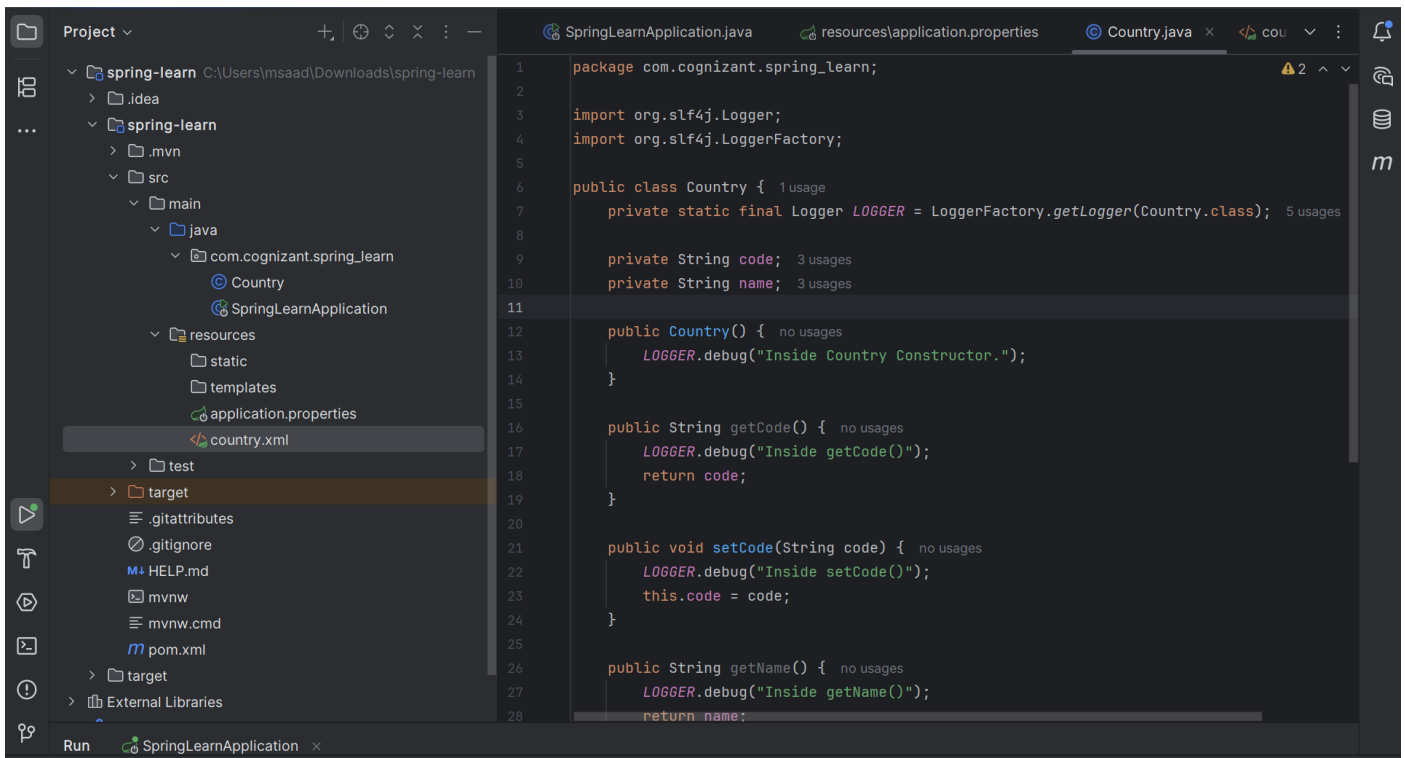


```
<version>0.0.1-SNAPSHOT</version>
<name>spring-learn</name>
<description>Demo project for Spring Boot</description>
<url/>
<licenses>
  <license/>
</licenses>
<developers>
  <developer/>
</developers>
<scm>
  <connection/>
  <developerConnection/>
  <tag/>
  <url/>
</scm>
<properties>
  <java.version>17</java.version>
</properties>
<dependencies>
  <dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-web</artifactId>
  </dependency>

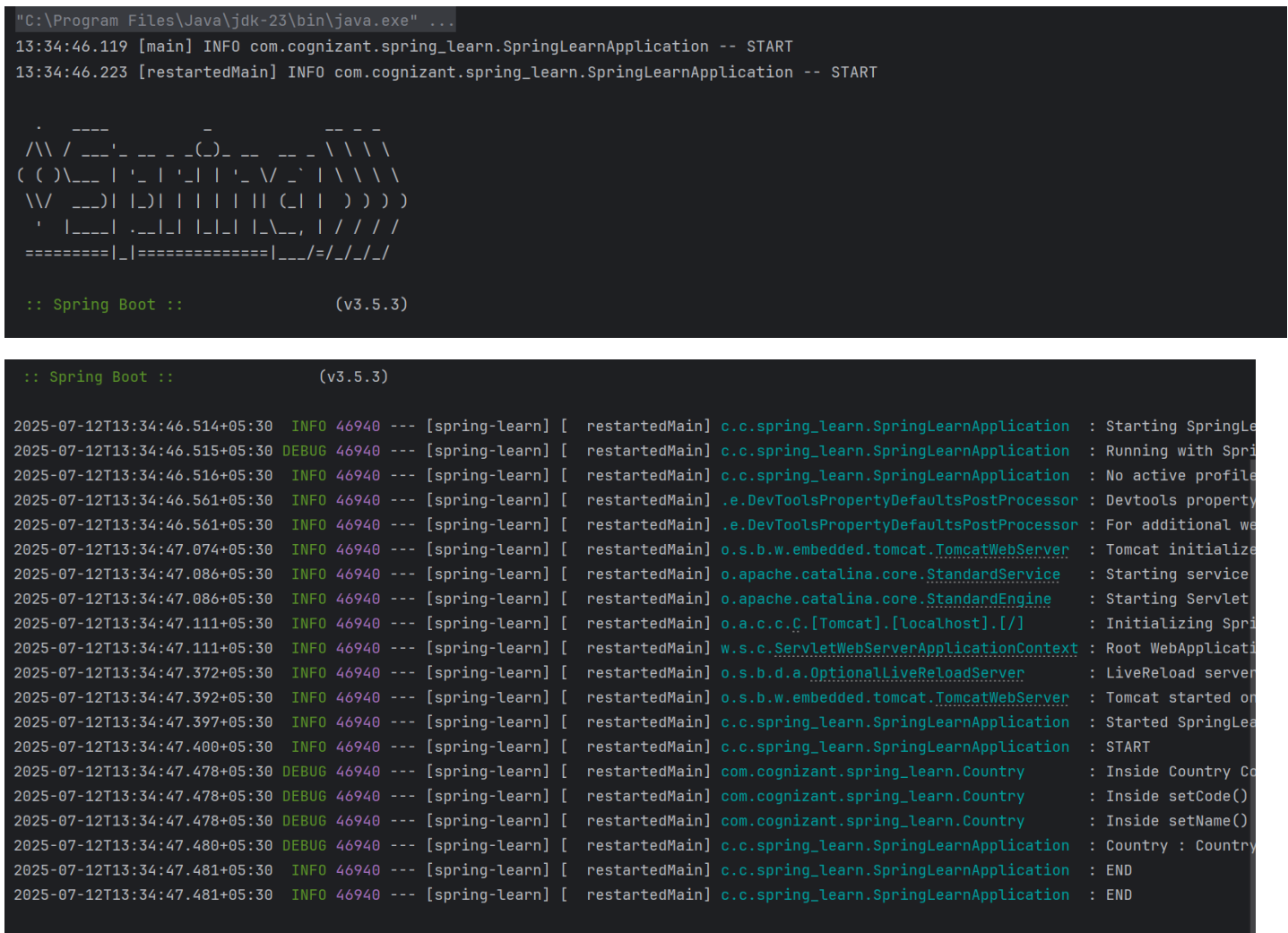
  <dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-devtools</artifactId>
    <scope>runtime</scope>
    <optional>true</optional>
  </dependency>
  <dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-test</artifactId>
    <scope>test</scope>
  </dependency>
</dependencies>

<build>
  <plugins>
    <plugin>
      <groupId>org.springframework.boot</groupId>
      <artifactId>spring-boot-maven-plugin</artifactId>
    </plugin>
  </plugins>
</build>

</project>
```



Output:



```
n] c.c.spring_learn.SpringLearnApplication : Starting SpringLearnApplication using Java 23.0.1 with PID 46940 (C:\Users\msaad\Downloads\sp
n] c.c.spring_learn.SpringLearnApplication : Running with Spring Boot v3.5.3, Spring v6.2.8
n] c.c.spring_learn.SpringLearnApplication : No active profile set, falling back to 1 default profile: "default"
n] .e.DevToolsPropertyDefaultsPostProcessor : Devtools property defaults active! Set 'spring.devtools.add-properties' to 'false' to disable
n] .e.DevToolsPropertyDefaultsPostProcessor : For additional web related logging consider setting the 'logging.level.web' property to 'DEBU
n] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 8080 (http)
n] o.apache.catalina.core.StandardService : Starting service [Tomcat]
n] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.42]
n] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
n] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 550 ms
n] o.s.b.d.a.OptionalLiveReloadServer : LiveReload server is running on port 35729
n] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port 8080 (http) with context path '/'
n] c.c.spring_learn.SpringLearnApplication : Started SpringLearnApplication in 1.172 seconds (process running for 1.579)
n] c.c.spring_learn.SpringLearnApplication : START
n] com.cognizant.spring_learn.Country : Inside Country Constructor.
n] com.cognizant.spring_learn.Country : Inside setCode()
n] com.cognizant.spring_learn.Country : Inside setName()
n] c.c.spring_learn.SpringLearnApplication : Country : Country [code=IN, name=India]
n] c.c.spring_learn.SpringLearnApplication : END
n] c.c.spring_learn.SpringLearnApplication : END
```

Thank You
