**Create a Spring Web Project using Maven**

**1. Objective:**

To create a basic Spring Boot web application using Maven and understand the folder structure, configuration files, and project dependencies.

**2. Project Setup Steps:**

**Step 1: Project Generation from Spring Initializr**

* Go to <https://start.spring.io>
* Choose:
  + **Group:** com.cognizant
  + **Artifact:** spring-learn
  + **Dependencies:** Spring Web, Spring Boot DevTools
  + Generate as Maven Project and Java 17+

**Step 2: Open in IntelliJ IDEA**

* Extract the ZIP file.
* Open IntelliJ IDEA → **File > New > Project from Existing Sources** → Select the extracted folder → Choose **Maven**.

Step 3: Maven Build from Terminal

**3. Folder Structure Walkthrough:**

* **src/main/java**

Contains the application source code.

* **src/main/resources**

Holds configuration files like application.properties.

* **src/test/java**

Contains unit tests.

**4. Explanation of Key Components:**

* **SpringLearnApplication.java**

Entry point of the Spring Boot application.

* **Purpose of @SpringBootApplication**
* Combines @Configuration, @EnableAutoConfiguration, and @ComponentScan.
* Automatically configures the application and scans packages for components.
* **pom.xml File**

Manages project dependencies and build configuration.

* **Key Elements in your pom.xml:**
* Spring Boot parent
* DevTools and Web dependencies
* Plugin management
* **Dependency Tree**

To view:

* Go to **View > Tool Windows > Maven** → Click on **Dependencies** tab.

**5. Output and Logs:**

**Running the Application:**

* Right-click SpringLearnApplication.java → **Run 'SpringLearnApplication.main()'**

**Console Output:**

* IntelliJ Run panel shows logs and custom message:  
  SpringLearnApplication Started!

**pom.xml – Default Structure:**

<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.cognizant</groupId>

<artifactId>spring-learn</artifactId>

<version>0.0.1-SNAPSHOT</version>

<name>spring-learn</name>

<description>Demo project for Spring Boot</description>

<packaging>jar</packaging>

<parent>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-parent</artifactId>

<version>3.2.3</version>

<relativePath/>

</parent>

<properties>

<java.version>17</java.version>

</properties>

<dependencies>

<!-- Spring Web -->

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-web</artifactId>

</dependency>

<!-- Spring Boot DevTools -->

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-devtools</artifactId>

<scope>runtime</scope>

<optional>true</optional>

</dependency>

</dependencies>

<build>

<plugins>

<!-- Spring Boot Maven Plugin -->

<plugin>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-maven-plugin</artifactId>

<version>3.2.3</version>

</plugin>

</plugins>

</build>

</project>