

Project Coordinates

```
<modelVersion>4.0.0</modelVersion>
<groupId>com.example</groupId>
<artifactId>springboot-webapp</artifactId>
<version>0.0.1-SNAPSHOT</version>
<packaging>jar</packaging>
```

- **modelVersion**: Always `4.0.0` for Maven POMs.
 - **groupId**: Identifies your organization/project (`com.example`).
 - **artifactId**: The name of the project (`springboot-webapp`).
 - **version**: Current version of the project (`0.0.1-SNAPSHOT` indicates it's still under development).
 - **packaging**: Defines output type (`jar`, `war`, etc.). Here it's a **JAR file**.
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Parent Section

```
<parent>
  <groupId>org.springframework.boot</groupId>
  <artifactId>spring-boot-starter-parent</artifactId>
  <version>2.7.12</version>
  <relativePath/>
</parent>
```

- Inherits configurations and dependency management from **Spring Boot Starter Parent**.
 - Provides default plugin settings, dependency versions, and build configurations.
 - `relativePath` empty means Maven will fetch the parent from the repository instead of a relative file path.
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Dependencies

This section declares all libraries your project depends on.

```
<dependencies>
  <!-- Web Framework -->
  <dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-web</artifactId>
  </dependency>

  <!-- JPA and Hibernate -->
  <dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-data-jpa</artifactId>
  </dependency>

  <!-- In-memory Database -->
  <dependency>
    <groupId>com.h2database</groupId>
    <artifactId>h2</artifactId>
    <scope>runtime</scope>
  </dependency>

  <!-- Testing framework -->
  <dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-test</artifactId>
    <scope>test</scope>
  </dependency>
</dependencies>
```

- **spring-boot-starter-web** → Enables Spring MVC & embedded Tomcat for web apps.
- **spring-boot-starter-data-jpa** → Adds Spring Data JPA & Hibernate support.
- **h2** → In-memory database for development & testing (**runtime** scope).

- **spring-boot-starter-test** → Includes JUnit, Mockito, Spring Test for unit/integration testing (`test` scope).
-

Build Section

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

- Configures Maven build process.
 - **spring-boot-maven-plugin:**
 - Creates an executable JAR with embedded Tomcat.
 - Handles repackaging tasks so you can run the app via `java -jar target/springboot-webapp-0.0.1-SNAPSHOT.jar`.
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✓ In summary:

This POM defines a **Spring Boot web application** with Spring MVC, Spring Data JPA, H2 DB, and testing setup. It inherits Spring Boot defaults from the parent and uses the Spring Boot Maven plugin to build a runnable JAR.