

Maven Example

Steps

Generate project:

```
mvn archetype:generate -DgroupId=com.example -DartifactId=my-console-app -DarchetypeArtifactId=maven-archetype-quickstart -DinteractiveMode=false
```

Edit pom.xml.

Add compiler source and target versions:

```
<properties>  
  <maven.compiler.source>21</maven.compiler.source>  
  <maven.compiler.target>21</maven.compiler.target>  
</properties>
```

Specify the main class:

```
<build>  
  <plugins>  
    <plugin>  
      <groupId>org.apache.maven.plugins</groupId>  
      <artifactId>maven-jar-plugin</artifactId>  
      <configuration>  
        <archive>  
          <manifest>  
            <addClasspath>true</addClasspath>  
            <mainClass>com.example.App</mainClass>  
          </manifest>  
        </archive>  
      </configuration>  
    </plugin>  
  </plugins>  
</build>
```

Build .jar:

```
mvn clean package
```

The .jar file is generated inside the target directory. Run it:

```
java -jar my-console-app-1.0-SNAPSHOT.jar
```

Output:

Hello World!

Add a Dependency

```
<dependency>
  <groupId>org.json</groupId>
  <artifactId>json</artifactId>
  <version>20250517</version>
</dependency>
```

Include Dependencies in Jar



If you use this, you no longer need the maven-jar-plugin plugin entry.

```
<plugin>
  <artifactId>maven-assembly-plugin</artifactId>
  <executions>
    <execution>
      <phase>package</phase>
      <goals>
        <goal>single</goal>
      </goals>
    </execution>
  </executions>
  <configuration>
    <descriptorRefs>
      <descriptorRef>jar-with-dependencies</descriptorRef>
    </descriptorRefs>
    <archive>
      <manifest>
        <addClasspath>>true</addClasspath>
        <mainClass>com.example.App</mainClass>
      </manifest>
    </archive>
  </configuration>
</plugin>
```

Makefile

```
default:
  @echo 'Targets:'
  @echo '  package    -- Build the .jar file(s)'
```

```
@echo ' list      -- Show .jar file(s) '
@echo ' run       -- Run the "lite" .jar file (dependencies not
included) '
@echo ' run-full  -- Run the "full" .jar file (dependencies included) '

package:
  mvn clean package

list:
  cd target; ls -lh *.jar

run:
  cd target; java -jar my-console-app-1.0-SNAPSHOT.jar

run-full:
  cd target; java -jar my-console-app-1.0-SNAPSHOT-jar-with-
dependencies.jar
```

Complete Updated Pom Example

pom.xml

```
<?xml version="1.0"?>
<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/maven-v4_0_0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <groupId>com.example</groupId>
  <artifactId>my-console-app</artifactId>
  <packaging>jar</packaging>
  <version>1.0-SNAPSHOT</version>
  <name>my-console-app</name>
  <url>http://maven.apache.org</url>
  <dependencies>
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>3.8.1</version>
      <scope>test</scope>
    </dependency>
    <dependency>
      <groupId>org.json</groupId>
      <artifactId>json</artifactId>
      <version>20250517</version>
    </dependency>
  </dependencies>
  <properties>
    <maven.compiler.source>21</maven.compiler.source>
```

```
<maven.compiler.target>21</maven.compiler.target>
</properties>
<build>
  <plugins>
    <plugin>
      <artifactId>maven-assembly-plugin</artifactId>
      <executions>
        <execution>
          <phase>package</phase>
          <goals>
            <goal>single</goal>
          </goals>
        </execution>
      </executions>
      <configuration>
        <descriptorRefs>
          <descriptorRef>jar-with-dependencies</descriptorRef>
        </descriptorRefs>
        <archive>
          <manifest>
            <addClasspath>>true</addClasspath>
            <mainClass>com.example.App</mainClass>
          </manifest>
        </archive>
      </configuration>
    </plugin>
  </plugins>
</build>
</project>
```

java

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