Packaging Maven Project as Executable Jar

Objective:

Convert the maven project as an executable jar file. It is used to run all the tests by executing jar file.

Run TestNg Programmatically:

To run TestNg tests programmatically instead of testing.xml, create a class with main method and add the below code. We can execute this standalone java class file which will execute all the added TestNg classes.

```java
public class ExecuteTestng {

    public static void main(String[] args) {

        XmlSuite suite = new XmlSuite();
        // Assign suite name
        suite.setName("Suite");

        XmlTest test = new XmlTest(suite);
        // Assign Test name
        test.setName("Test");
        List<XmlClass> classes = new ArrayList<XmlClass>();
        // add all the testng classes
        classes.add(new XmlClass("learning.CreateLead"));
        test.setXmlClasses(classes);

        List<XmlSuite> suites = new ArrayList<XmlSuite>();
        // add suites to be executed
        suites.add(suite);
        TestNG tng = new TestNG();
        tng.setXmlSuites(suites);
        tng.run();

    }

}
```

Add Plugin to pom.xml:

To convert the maven project as an executable jar file, below plugin needs to be added to the pom.xml below </dependencies>.

```xml
<build>
        <plugins>
            <plugin>
                <groupId>org.apache.maven.plugins</groupId>
                <artifactId>maven-assembly-plugin</artifactId>
                <version>3.1.1</version>
                <configuration>
                    <descriptorRefs>
                        <descriptorRef>jar-with-dependencies</descriptorRef>
                    </descriptorRefs>
                    <archive>
                        <manifest>
                            <mainClass>learning.ExecuteTestng</mainClass>
                        </manifest>
                    </archive>
                </configuration>
                <executions>
                    <execution>
                        <phase>package</phase>
                        <goals>
                            <goal>single</goal>
                        </goals>
                    </execution>
                </executions>
            </plugin>
        </plugins>
    </build>
```

Update correct class file:

Correct class file which is having the TestNg execution code should be updated in the <mainClass> as below.

```
<manifest>

    <mainClass>learning.ExecuteTestng</mainClass>

</manifest>
```

Execute the jar file:

➢ Now go to your eclipse workspace in your system directory -> go to your project folder -> target folder -> run the jar file that ends with '-jar-with-dependencies.jar'.

➢ Launch your command prompt from this path.

➢ Now run this command '**java –jar *filename*.jar**'.