

Task 1: Execute Maven Commands to Compile and Run Tests

Topic: Maven Life Cycle

Description: Use Maven to compile a simple Java project and run its tests. This exercise will test the fresher's ability to interact with Maven, which is commonly used for building and managing any Java-based project.

Steps:

Open the command line or terminal.

Navigate to the directory of a pre-existing simple Java project (this could be provided as a ZIP file for the purpose of the interview task).

Execute `mvn compile` to compile the Java source files of the project.

Next, run `mvn test` to execute the tests in the project.

Describe what the `mvn package` command does and when you would use it.

What Maven package :

- **Compiles the Code:** It compiles the Java source files.
- **Runs the Tests:** It runs the test cases.
- **Packages the Code:** It packages the compiled code, resources, and dependencies into a distributable format (e.g., JAR or WAR) specified in the `pom.xml` file. The output file is typically placed in the `target` directory.

When we Use Maven package:

- **Creating a Deployable Artifact:** Use `maven package` when you need to create a JAR or WAR file for deployment to a server or for distribution.
- **After Successful Compilation and Testing:** Ensure your code compiles successfully and passes all tests before packaging it.
- **Before Integration or Deployment:** Before deploying your application to a production environment or integrating it into a larger system, use this command to generate the necessary artifact.

mvn test:

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22631.3672]
(c) Microsoft Corporation. All rights reserved.

D:\Wipro\Capstone Project\CapstoneProject\Capstone_project>mvn test
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.CapstoneProject:Capstone_project >-----
[INFO] Building Capstone_project 0.0.1-SNAPSHOT
[INFO] from pom.xml
[INFO]
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- resources:3.0.2:resources (default-resources) @ Capstone_project ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\Wipro\Capstone Project\CapstoneProject\Capstone_project\src\main\resources
[INFO]
[INFO] --- compiler:3.8.0:compile (default-compile) @ Capstone_project ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to D:\Wipro\Capstone Project\CapstoneProject\Capstone_project\Capstone_project\target\classes
[INFO]
[INFO] --- resources:3.0.2:testResources (default-testResources) @ Capstone_project ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\Wipro\Capstone Project\CapstoneProject\Capstone_project\Capstone_project\src\test\resources
[INFO]
[INFO] --- compiler:3.8.0:testCompile (default-testCompile) @ Capstone_project ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to D:\Wipro\Capstone Project\CapstoneProject\Capstone_project\Capstone_project\target\test-classes
[INFO]
[INFO] --- surefire:2.22.1:test (default-test) @ Capstone_project ---
Download from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit3/2.22.1/surefire-junit3-2.22.1.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit3/2.22.1/surefire-junit3-2.22.1.pom (2.5 kB at 3.2 kB/s)
Download from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit3/2.22.1/surefire-junit3-2.22.1.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit3/2.22.1/surefire-junit3-2.22.1.jar (27 kB at 209 kB/s)
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.CapstoneProject.Capstone_project.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.002 s - in com.CapstoneProject.Capstone_project.AppTest
[INFO]
```

```
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.CapstoneProject.Capstone_project.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.002 s - in com.CapstoneProject.Capstone_project.AppTest
[INFO] Results:
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 5.644 s
[INFO] Finished at: 2024-06-19T10:42:14+05:30
[INFO] -----
```