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Day 24:::

Task 1: Build Lifecycle Demonstrate the use of Maven lifecycle phases (clean, compile, test, package, install, deploy) by executing them on a sample project and documenting what happens in each phase.

Solution:::

CODE:::

```
package com.wipro.maven;  
  
public class App {  
    public static void main(String[] args) {  
        System.out.println("Hello Maven!");  
    }  
}
```

```
package com.example.maven;  
  
import static org.junit.Assert.assertTrue;  
  
import org.junit.Test;  
  
public class AppTest {  
    @Test  
    public void testApp() {  
        assertTrue(true);  
    }  
}
```

All phases of life cycle:::

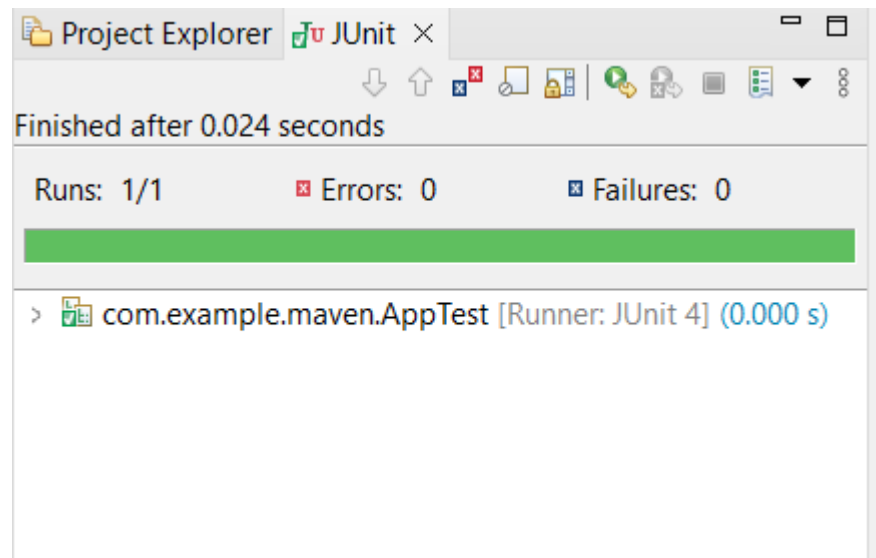
- 1) Clean:
Deletes the target directory, which contains compiled classes, generated artifacts, and other build files. It ensures a clean build environment.
- 2) Compile:
Compiles the source code (src/main/java) into bytecode (.class files) and places them in the target/classes directory.
- 3) Test:
Runs tests located in src/test/java using a testing framework (like JUnit). Maven looks for test classes named *Test.java by default. Test results are reported to the console.
- 4) Package:
Packages the compiled code (target/classes), resources (src/main/resources), and test classes (target/test-classes) into a distributable format, such as a JAR or WAR file. The packaged artifact is placed in the target directory.
- 5) Install:
Installs the packaged artifact (target/*.jar or target/*.war) into the local Maven repository (~/.m2/repository). This makes it available for other projects to use as a dependency.
- 6) Deploy:
Copies the packaged artifact to a remote repository (if configured), such as Nexus or Artifactory. This phase is typically used in enterprise environments for sharing artifacts across teams.

In short:

- clean: Cleans the project by deleting the target directory.
 - compile: Compiles the main source code files.
 - test: Runs tests using a suitable testing framework.
 - package: Packages compiled code and resources into a distributable format.
 - install: Installs the package into the local Maven repository.
 - deploy: Copies the final package to a remote repository for sharing.
-
-

OUTPUT:::

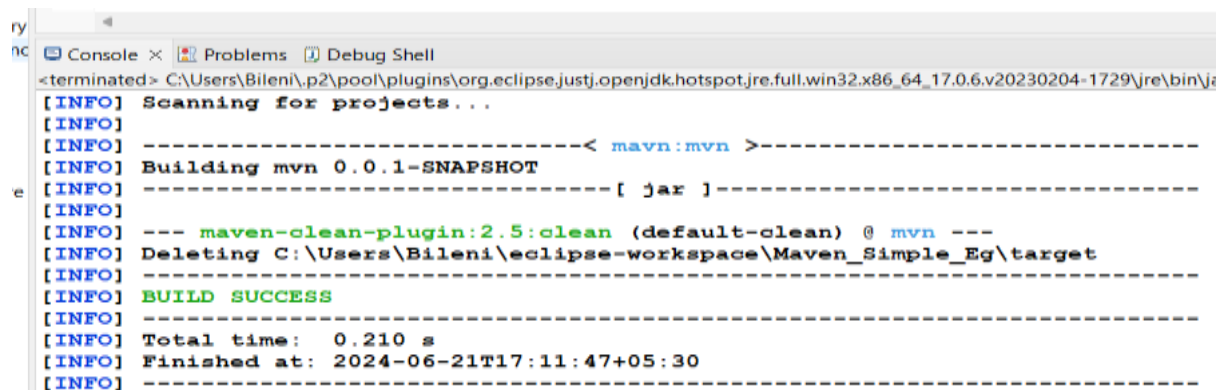
o/p of test class:-



Maven Build:-



Maven Clean::



Maven Install:::

```
Console X Problems Debug Shell
<terminated> C:\Users\Bileni\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.6.v20230204-1729\jre\bin\javaw.exe (21-Jun-2024, 5:28:32 pm) [pid: 22316]
[INFO] Building jar: C:\Users\Bileni\eclipse-workspace\Maven_Simple_Eg\target\mvn-0.0.1-SNAPSHOT.jar
[INFO]
[INFO] --- maven-install-plugin:2.4:install (default-install) @ mvn ---
[INFO] Installing C:\Users\Bileni\eclipse-workspace\Maven_Simple_Eg\target\mvn-0.0.1-SNAPSHOT.jar to C:\Users\Bileni\.m2\repository\mvn\mvn-0.0.1-SNAPSHOT.jar
[INFO] Installing C:\Users\Bileni\eclipse-workspace\Maven_Simple_Eg\pom.xml to C:\Users\Bileni\.m2\repository\mvn\mvn-0.0.1-SNAPSHOT.pom
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 2.282 s
[INFO] Finished at: 2024-06-21T17:28:35+05:30
[INFO]
```

Maven Test:::

```
Console X Problems Debug Shell
<terminated> C:\Users\Bileni\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.6.v20230204-1729\jre\bin\javaw.exe (21-Jun-2024, 5:30:51 pm) [pid: 22316]

Results :

Tests run: 1, Failures: 0, Errors: 0, Skipped: 0

[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 1.077 s
[INFO] Finished at: 2024-06-21T17:30:51+05:30
[INFO]
```

Maven Verify:::

```
Console X Problems Debug Shell
<terminated> C:\Users\Bileni\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.6.v20230204-1729\jre\bin\javaw.exe (21-Jun-2024, 5:31:21 pm) [pid: 22316]

Tests run: 1, Failures: 0, Errors: 0, Skipped: 0

[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ mvn ---
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 1.201 s
[INFO] Finished at: 2024-06-21T17:31:21+05:30
[INFO]
```

Maven Source::::

```
Console × Problems Debug Shell
<terminated> C:\Users\Bileni\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64
[INFO] Scanning for projects...
[INFO]
[INFO] -----< mvn:mvn >-----
[INFO] Building mvn 0.0.1-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 0.087 s
[INFO] Finished at: 2024-06-21T17:34:52+05:30
[INFO] -----
```