Day 24 Assignments:.

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.

1. clean

This phase removes files generated by previous builds, cleaning up the project directory.

```
[INFO] Scanning for projects...
[INFO]
[INFO] [1m------------------------<
[0;36mcom.example:sample-app[0;1m >----------------------
[m
[INFO] [1mBuilding sample-app 1.0-SNAPSHOT[m
[INFO]    from pom.xml
[INFO] [1m--------------------------------[ jar ]---------
------------------------[m
[INFO]
[INFO] [1m--- [0;32mclean:3.2.0:clean[m [1m(default-
clean)[m @ [36msample-app[0;1m ---[m
[INFO] [1m------------------------------------------------
---------------------[m
[INFO] [1;32mBUILD SUCCESS[m
[INFO] [1m------------------------------------------------
---------------------[m
[INFO] Total time:  0.818 s
[INFO] Finished at: 2024-06-23T15:05:54+05:30
[INFO] [1m------------------------------------------------
---------------------[m
```

2. compile

This phase compiles the source code of the project.

```
[INFO] Scanning for projects...
[INFO]
[INFO] [1m----------------------<
[0;36mcom.example:sample-app[0;1m >----------------------
[m
[INFO] [1mBuilding sample-app 1.0-SNAPSHOT[m
[INFO]    from pom.xml
[INFO] [1m--------------------------------[ jar ]---------
------------------------[m
[INFO]
[INFO] [1m--- [0;32mresources:3.3.1:resources[m
[1m(default-resources)[m @ [36msample-app[0;1m ---[m
[WARNING] Using platform encoding (UTF-8 actually) to copy
filtered resources, i.e. build is platform dependent!
[INFO] Copying 0 resource from src\main\resources to
target\classes
[INFO]
[INFO] [1m--- [0;32mcompiler:3.11.0:compile[m [1m(default-
compile)[m @ [36msample-app[0;1m ---[m
[INFO] Nothing to compile - all classes are up to date
[INFO] [1m---------------------------------------------
------------------------[m
[INFO] [1;32mBUILD SUCCESS[m
[INFO] [1m---------------------------------------------
------------------------[m
[INFO] Total time:  1.423 s
[INFO] Finished at: 2024-06-23T15:14:22+05:30
[INFO] [1m---------------------------------------------
------------------------[m
```

3. test

This phase runs the unit tests using a testing
framework (e.g., JUnit).

```
[INFO] Scanning for projects...
```

```
[INFO]
[INFO] [1m------------------------<
[0;36mcom.example:sample-app[0;1m >----------------------
[m
[INFO] [1mBuilding sample-app 1.0-SNAPSHOT[m
[INFO]   from pom.xml
[INFO] [1m--------------------------------[ jar ]---------
------------------------[m
[INFO]
[INFO] [1m--- [0;32mresources:3.3.1:resources[m
[1m(default-resources)[m @ [36msample-app[0;1m ---[m
[WARNING] Using platform encoding (UTF-8 actually) to copy
filtered resources, i.e. build is platform dependent!
[INFO] Copying 0 resource from src\main\resources to
target\classes
[INFO]
[INFO] [1m--- [0;32mcompiler:3.11.0:compile[m [1m(default-
compile)[m @ [36msample-app[0;1m ---[m
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] [1m--- [0;32mresources:3.3.1:testResources[m
[1m(default-testResources)[m @ [36msample-app[0;1m ---[m
[WARNING] Using platform encoding (UTF-8 actually) to copy
filtered resources, i.e. build is platform dependent!
[INFO] Copying 0 resource from src\test\resources to
target\test-classes
[INFO]
[INFO] [1m--- [0;32mcompiler:3.11.0:testCompile[m
[1m(default-testCompile)[m @ [36msample-app[0;1m ---[m
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] [1m--- [0;32msurefire:3.2.2:test[m [1m(default-
test)[m @ [36msample-app[0;1m ---[m
[INFO] [1m-------------------------------------------------
------------------------[m
[INFO] [1;32mBUILD SUCCESS[m
[INFO] [1m-------------------------------------------------
------------------------[m
[INFO] Total time:  4.696 s
[INFO] Finished at: 2024-06-23T15:11:41+05:30
[INFO] [1m-------------------------------------------------
------------------------[m
```

4. package

This phase packages the compiled code into a distributable format, such as a JAR or WAR file.

```
[INFO] Scanning for projects...
[INFO]
[INFO] [1m------------------------<
[0;36mcom.example:sample-app[0;1m >----------------------
[m
[INFO] [1mBuilding sample-app 1.0-SNAPSHOT[m
[INFO]    from pom.xml
[INFO] [1m--------------------------------[ jar ]---------
------------------------------[m
[INFO]
[INFO] [1m--- [0;32mresources:3.3.1:resources[m
[1m(default-resources)[m @ [36msample-app[0;1m ---[m
[WARNING] Using platform encoding (UTF-8 actually) to copy
filtered resources, i.e. build is platform dependent!
[INFO] Copying 0 resource from src\main\resources to
target\classes
[INFO]
[INFO] [1m--- [0;32mcompiler:3.11.0:compile[m [1m(default-
compile)[m @ [36msample-app[0;1m ---[m
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] [1m--- [0;32mresources:3.3.1:testResources[m
[1m(default-testResources)[m @ [36msample-app[0;1m ---[m
[WARNING] Using platform encoding (UTF-8 actually) to copy
filtered resources, i.e. build is platform dependent!
[INFO] Copying 0 resource from src\test\resources to
target\test-classes
[INFO]
[INFO] [1m--- [0;32mcompiler:3.11.0:testCompile[m
[1m(default-testCompile)[m @ [36msample-app[0;1m ---[m
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] [1m--- [0;32msurefire:3.2.2:test[m [1m(default-
test)[m @ [36msample-app[0;1m ---[m
```

```
[INFO]
[INFO] [1m--- [0;32mjar:3.3.0:jar[m [1m(default-jar)[m @
[36msample-app[0;1m ---[m
[INFO] Building jar: C:\Users\user\eclipse-
workspace\Maven\target\sample-app-1.0-SNAPSHOT.jar
[INFO] [1m-----------------------------------------------
------------------------[m
[INFO] [1;32mBUILD SUCCESS[m
[INFO] [1m-----------------------------------------------
------------------------[m
[INFO] Total time:  3.711 s
[INFO] Finished at: 2024-06-23T15:13:54+05:30
[INFO] [1m-----------------------------------------------
------------------------[m
```