

DEVOPS PROFESSIONAL CERTIFICATION PROGRAM

Lab – 4: Build Processing - Maven

- Review Maven Configuration / Setup
- Create Maven Project using plugins Example, Jar & war
- Execute maven goals (tasks)
- Construct simple JUnit code and understand assert statements & Reports

Explore

- Configuring pom.xml for process management
- Explore configuring pom.xml for pre-steps to compile/test-compile
- Define & process test environment to perform “integration-test” & ”verify”
- Understand complete maven goals life cycle

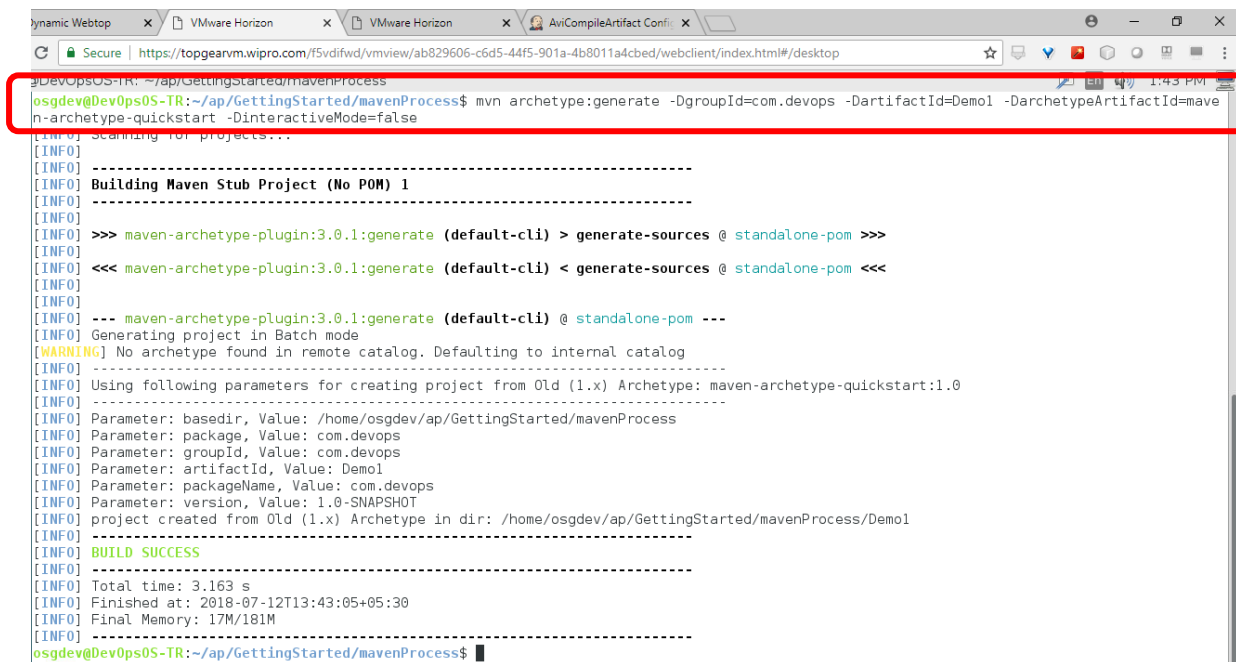


1. Maven Configuration / Setup (Review)

- **Set Environment variable**
 - **JAVA_HOME** - point to the base directory location (JAVA_HOME to <yourpath>\jdk1.x.x)
 - **MAVEN_HOME** - point to the base directory location(<yourpath>\apache-maven-3.x.x)
 - **M2_HOME** - point to the base directory location (<yourpath>\apache-maven-3.x.x)
- **Path** - JAVA Compiler, append Java compiler location to System Path (<yourpath>\jdk1.x.x\bin)
- Note Append the string ;%M2% to the end of the system variable **PATH**

2. Generate maven project using Archetype plugin

a. Generate project structure whose artifact type would be jar – Quickstart Type



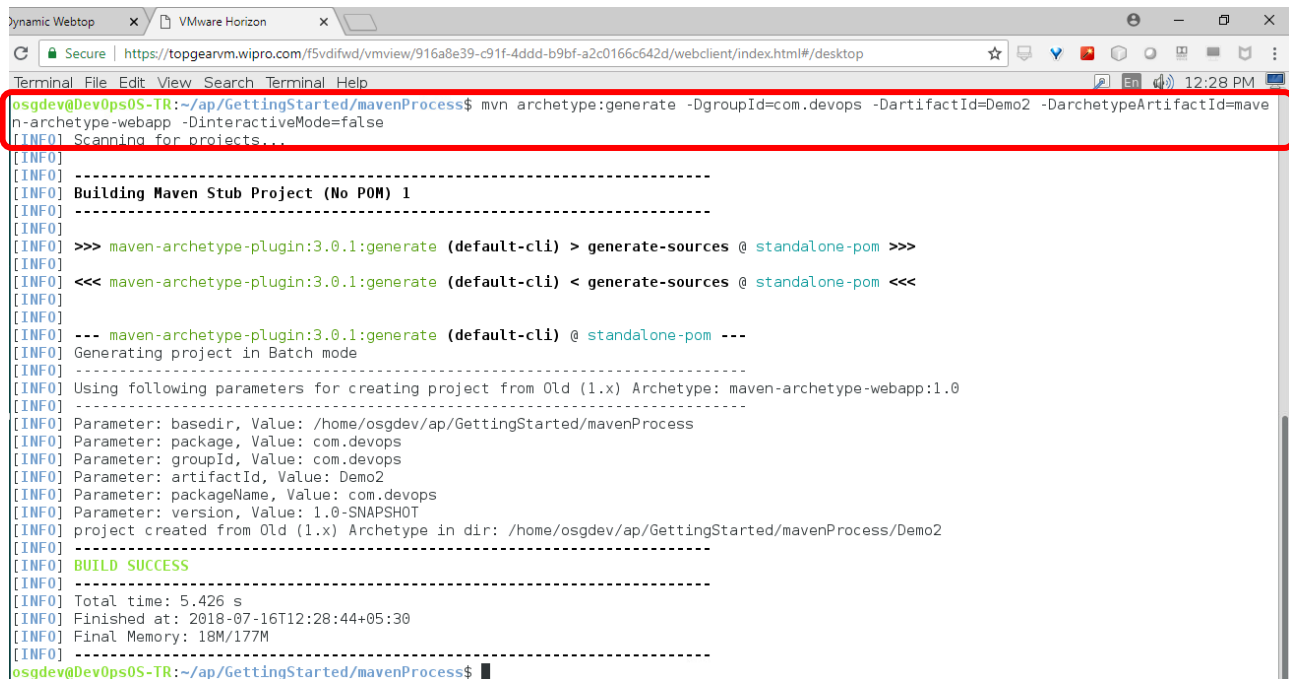
```
osgdev@DevOps05-TR: ~/ap/GettingStarted/mavenProcess$ mvn archetype:generate -DgroupId=com.devops -DartifactId=Demo1 -DarchetypeArtifactId=maven-archetype-quickstart -DinteractiveMode=false
[INFO] Scanning for projects...
[INFO] -----
[INFO] Building Maven Stub Project (No POM) 1
[INFO] -----
[INFO] >>> maven-archetype-plugin:3.0.1:generate (default-cli) > generate-sources @ standalone-pom >>>
[INFO] <<< maven-archetype-plugin:3.0.1:generate (default-cli) < generate-sources @ standalone-pom <<<
[INFO] --- maven-archetype-plugin:3.0.1:generate (default-cli) @ standalone-pom ---
[INFO] Generating project in Batch mode
[WARNING] No archetype found in remote catalog. Defaulting to internal catalog
[INFO] Using following parameters for creating project from Old (1.x) Archetype: maven-archetype-quickstart:1.0
[INFO] Parameter: basedir, Value: /home/osgdev/ap/GettingStarted/mavenProcess
[INFO] Parameter: package, Value: com.devops
[INFO] Parameter: groupId, Value: com.devops
[INFO] Parameter: artifactId, Value: Demo1
[INFO] Parameter: packageName, Value: com.devops
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] project created from Old (1.x) Archetype in dir: /home/osgdev/ap/GettingStarted/mavenProcess/Demo1
[INFO] BUILD SUCCESS
[INFO] Total time: 3.163 s
[INFO] Finished at: 2018-07-12T13:43:05+05:30
[INFO] Final Memory: 17M/181M
[INFO] -----
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess$
```

- Review project structure and check auto-generated pom.xml, sample main code and Junit test code



```
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess$ tree
.
├── Demo1
│   ├── pom.xml
│   └── src
│       ├── main
│       │   ├── java
│       │   │   └── com
│       │   │       └── devops
│       │           └── App.java
│       └── test
│           ├── java
│           │   ├── com
│           │   └── devops
│           └── AppTest.java
└── 10 directories, 3 files
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess$
```

b. Generate project structure whose artifact type would be war.



```

Dynamic Webtop x VMware Horizon x
Secure | https://topgearvm.wipro.com/f5vdifwd/vmview/916a8e39-c91f-4ddd-b9bf-a2c0166c642d/webclient/index.html#/desktop
Terminal File Edit View Search Terminal Help
osgdev@Dev0ps0S-TR:~/ap/GettingStarted/mavenProcess$ mvn archetype:generate -DgroupId=com.devops -DartifactId=Demo2 -DarchetypeArtifactId=mave
n-archetype-webapp -DinteractiveMode=false
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building Maven Stub Project (No POM) 1
[INFO] -----
[INFO]
[INFO] >>> maven-archetype-plugin:3.0.1:generate (default-cli) > generate-sources @ standalone-pom >>>
[INFO]
[INFO] <<< maven-archetype-plugin:3.0.1:generate (default-cli) < generate-sources @ standalone-pom <<<
[INFO]
[INFO] --- maven-archetype-plugin:3.0.1:generate (default-cli) @ standalone-pom ---
[INFO] Generating project in Batch mode
[INFO]
[INFO] -----
[INFO] Using following parameters for creating project from Old (1.x) Archetype: maven-archetype-webapp:1.0
[INFO]
[INFO] -----
[INFO] Parameter: basedir, Value: /home/osgdev/ap/GettingStarted/mavenProcess
[INFO] Parameter: package, Value: com.devops
[INFO] Parameter: groupId, Value: com.devops
[INFO] Parameter: artifactId, Value: Demo2
[INFO] Parameter: packageName, Value: com.devops
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] project created from Old (1.x) Archetype in dir: /home/osgdev/ap/GettingStarted/mavenProcess/Demo2
[INFO]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO]
[INFO] Total time: 5.426 s
[INFO] Finished at: 2018-07-16T12:28:44+05:30
[INFO] Final Memory: 18M/177M
[INFO]
[INFO] -----
osgdev@Dev0ps0S-TR:~/ap/GettingStarted/mavenProcess$

```

```

osgdev@Dev0ps0S-TR:~/ap/GettingStarted/mavenProcess$ tree
.
├── Demo1
│   ├── pom.xml
│   └── src
│       ├── main
│       │   ├── java
│       │   │   ├── com
│       │   │   │   ├── devops
│       │   │   │   └── App.java
│       │   └── test
│       │       ├── java
│       │       │   ├── com
│       │       │   └── devops
│       │       └── AppTest.java
│       └── resources
│           ├── webapp
│           │   ├── index.jsp
│           │   ├── WEB-INF
│           │   └── web.xml
│           └── web.xml
└── Demo2
    ├── pom.xml
    └── src
        ├── main
        │   ├── resources
        │   ├── webapp
        │   │   ├── index.jsp
        │   │   ├── WEB-INF
        │   │   └── web.xml
        └── web.xml
16 directories, 6 files
osgdev@Dev0ps0S-TR:~/ap/GettingStarted/mavenProcess$

```

3. Quickstart Type Project – Compile / run maven goals and review folder(s) / files

```
Dynamic Webtop x VMware Horizon x VMware Horizon x AviCompileArtifact Config x
Secure | https://topgearvm.wipro.com/f5vdfwd/vmview/ab829606-c6d5-44f5-901a-4b8011a4cbcd/webclient/index.html#/desktop
@DevOpsOS-TR: ~/ap/GettingStarted/mavenProcess/Demo1
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$ mvn compile
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building Demo1 1.0-SNAPSHOT
[INFO] -----
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Demo1 ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ Demo1 ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file to /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/classes
[INFO]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO]
[INFO] Total time: 4.735 s
[INFO] Finished at: 2018-07-12T13:47:12+05:30
[INFO] Final Memory: 13M/182M
[INFO]
[INFO] -----
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$
```

```
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$ tree
```

```
.
├── pom.xml
├── src
│   ├── main
│   │   ├── java
│   │   │   └── com
│   │   │       └── devops
│   │   │           └── App.java
│   └── test
│       ├── java
│       │   └── com
│       │       └── devops
│       │           └── AppTest.java
├── target
│   ├── classes
│   │   └── com
│   │       └── devops
│   │           └── App.class
│   ├── maven-status
│   │   ├── maven-compiler-plugin
│   │   │   └── compile
│   │   │       └── default-compile
│   │   │           ├── createdFiles.lst
│   │   │           └── inputFiles.lst
```

```
17 directories, 6 files
```

```
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$
```

1. Run goal: Clean and review folder / files

```
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$ mvn clean
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building Demo1 1.0-SNAPSHOT
[INFO] -----
[INFO]
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ Demo1 ---
[INFO] Deleting /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 0.687 s
[INFO] Finished at: 2018-07-12T13:48:40+05:30
[INFO] Final Memory: 7M/75M
[INFO] -----
```

```
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$ tree
.
├── pom.xml
└── src
    ├── main
    │   ├── java
    │   │   └── com
    │   │       └── devops
    │   │           └── App.java
    └── test
        ├── java
        │   └── com
        │       └── devops
        │           └── AppTest.java

9 directories, 3 files
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$
```

2. Run goal: Test and review folder / files

```
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$ mvn test
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building Demo1 1.0-SNAPSHOT
[INFO] -----
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Demo1 ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ Demo1 ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file to /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/classes
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ Demo1 ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ Demo1 ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file to /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ Demo1 ---
[INFO] Surefire report directory: /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/surefire-reports
```

T E S T S

Running com.devops.AppTest

Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.033 sec

Results :

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

```
[INFO] -----  
[INFO] BUILD SUCCESS  
[INFO] -----  
[INFO] Total time: 4.532 s  
[INFO] Finished at: 2018-07-12T13:49:28+05:30  
[INFO] Final Memory: 16M/180M  
[INFO] -----  
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$
```

osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1\$ tree

```
.  
├── pom.xml  
├── src  
│   ├── main  
│   │   ├── java  
│   │   │   ├── com  
│   │   │   │   ├── devops  
│   │   │   │   │   └── App.java  
│   │   └── test  
│   │       ├── java  
│   │       │   ├── com  
│   │       │   │   ├── devops  
│   │       │   │   │   └── AppTest.java  
│   └── target  
│       ├── classes  
│       │   ├── com  
│       │   │   ├── devops  
│       │   │   │   └── App.class  
│       ├── maven-status  
│       │   ├── maven-compiler-plugin  
│       │   │   ├── compile  
│       │   │   │   ├── default-compile  
│       │   │   │   │   ├── createdFiles.lst  
│       │   │   │   │   └── inputFiles.lst  
│       │   │   └── testCompile  
│       │   │       ├── default-testCompile  
│       │   │       │   ├── createdFiles.lst  
│       │   │       │   └── inputFiles.lst  
│       ├── surefire-reports  
│       │   ├── com.devops.AppTest.txt  
│       │   └── TEST-com.devops.AppTest.xml  
│       └── test-classes  
│           ├── com  
│           │   └── devops  
│           │       └── AppTest.class
```

23 directories, 11 files

osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1\$

3. Run goal: Clean and package, also review folder / files

```

osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$ mvn clean package
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building Demo1 1.0-SNAPSHOT
[INFO] -----
[INFO]
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ Demo1 ---
[INFO] Deleting /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Demo1 ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ Demo1 ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file to /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/classes
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ Demo1 ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ Demo1 ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file to /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ Demo1 ---
[INFO] Surefire report directory: /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/surefire-reports

T E S T S
-----
Running com.devops.AppTest
Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.024 sec

Results :

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

[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ Demo1 ---
[INFO] Building jar: /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/Demo1-1.0-SNAPSHOT.jar
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 6.591 s
[INFO] Finished at: 2018-07-12T13:54:47+05:30
[INFO] Final Memory: 17M/147M
[INFO] -----
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$ █

osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$ tree
.
├── pom.xml
├── src
│   ├── main
│   │   ├── java
│   │   │   ├── com
│   │   │   │   └── devops
│   │   │       └── App.java
│   │   └── test
│   │       ├── java
│   │       │   ├── com
│   │       │   │   └── devops
│   │       │       └── AppTest.java
│   └── target
│       ├── classes
│       │   ├── com
│       │   │   └── devops
│       │       └── App.class
│       ├── Demo1-1.0-SNAPSHOT.jar
│       ├── maven-archiver
│       │   └── pom.properties
│       ├── maven-status
│       │   └── maven-compiler-plugin
│       │       ├── compile
│       │       │   ├── default-compile
│       │       │   │   ├── createdFiles.lst
│       │       │   │   └── inputFiles.lst
│       │       └── testCompile
│       │           ├── default-testCompile
│       │           │   ├── createdFiles.lst
│       │           │   └── inputFiles.lst
│       ├── surefire-reports
│       │   ├── com.devops.AppTest.txt
│       │   └── TEST-com.devops.AppTest.xml
│       ├── test-classes
│       │   ├── com
│       │   │   └── devops
│       │       └── AppTest.class
└── 24 directories, 13 files
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$ █

```

4. Run goal: test-compile & review folder / files

```

osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$ mvn test-compile
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building Demo1 1.0-SNAPSHOT
[INFO] -----
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Demo1 ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ Demo1 ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file to /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/classes
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ Demo1 ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ Demo1 ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file to /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/test-classes
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] -----
[INFO] Total time: 2.567 s
[INFO] Finished at: 2018-07-12T14:02:28+05:30
[INFO] Final Memory: 14M/177M
[INFO] -----
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$

```

5. Run goal: Verify & review folder / files



```

dynamic Webtop x VMware Horizon x VMware Horizon x AviCompileArtifact Confir x
Secure https://topgearvm.wipro.com/f5vdfwvd/vmview/ab829606-c6d5-44f5-901a-4b8011a4cbcd/webclient/index.html#/desktop
}DevOpsOS-TR: ~/ap/GettingStarted/mavenProcess/Demo1
[INFO] Final Memory: 14M/177M
[INFO] -----
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$ mvn verify
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building Demo1 1.0-SNAPSHOT
[INFO] -----
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Demo1 ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ Demo1 ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ Demo1 ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ Demo1 ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ Demo1 ---
[INFO] Surefire report directory: /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/surefire-reports

T E S T S
-----
Running com.devops.AppTest
Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.019 sec

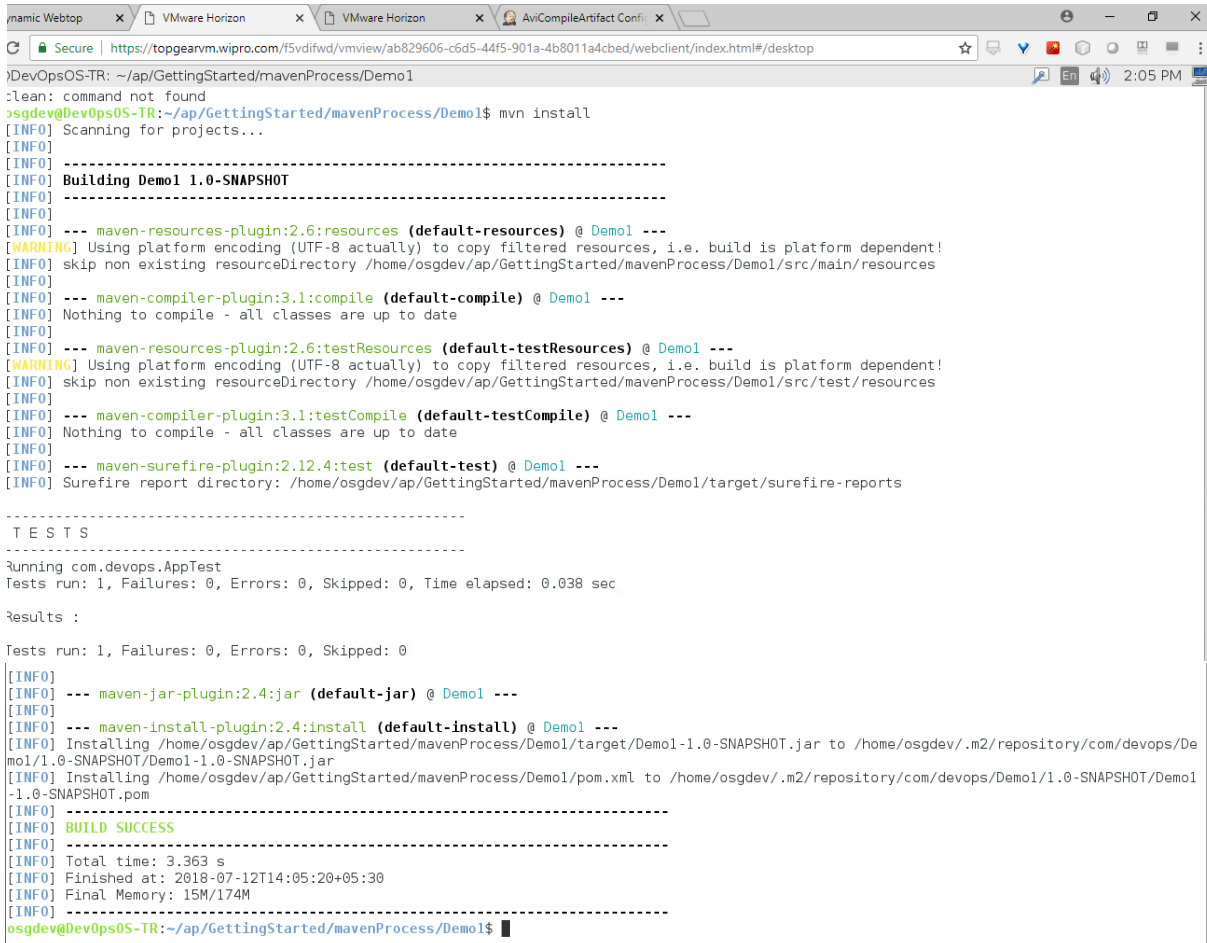
Results :

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

[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ Demo1 ---
[INFO] Building jar: /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/Demo1-1.0-SNAPSHOT.jar
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] -----
[INFO] Total time: 3.107 s
[INFO] Finished at: 2018-07-12T14:03:20+05:30
[INFO] Final Memory: 15M/174M
[INFO] -----
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$

```


6. Run goal: install & review folder / files



```

DevOpsOS-TR: ~/ap/GettingStarted/mavenProcess/Demol1
:clean: command not found
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demol1$ mvn install
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building Demol 1.0-SNAPSHOT
[INFO] -----
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Demol ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demol1/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ Demol ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ Demol ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demol1/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ Demol ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ Demol ---
[INFO] Surefire report directory: /home/osgdev/ap/GettingStarted/mavenProcess/Demol1/target/surefire-reports

-----
T E S T S
-----
Running com.devops.AppTest
Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.038 sec


Results :

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

[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ Demol ---
[INFO]
[INFO] --- maven-install-plugin:2.4:install (default-install) @ Demol ---
[INFO] Installing /home/osgdev/ap/GettingStarted/mavenProcess/Demol1/target/Demol-1.0-SNAPSHOT.jar to /home/osgdev/.m2/repository/com/devops/Demol1/1.0-SNAPSHOT/Demol-1.0-SNAPSHOT.jar
[INFO] Installing /home/osgdev/ap/GettingStarted/mavenProcess/Demol1/pom.xml to /home/osgdev/.m2/repository/com/devops/Demol1/1.0-SNAPSHOT/Demol1-1.0-SNAPSHOT.pom
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 3.363 s
[INFO] Finished at: 2018-07-12T14:05:20+05:30
[INFO] Final Memory: 15M/174M
[INFO]
[INFO]
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demol1$

```

7. Run goal: Deploy & review folder / files



```

osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demol1$ mvn deploy
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building Demol 1.0-SNAPSHOT
[INFO] -----
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Demol ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demol1/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ Demol ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ Demol ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/osgdev/ap/GettingStarted/mavenProcess/Demol1/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ Demol ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ Demol ---
[INFO] Surefire report directory: /home/osgdev/ap/GettingStarted/mavenProcess/Demol1/target/surefire-reports

-----
T E S T S
-----
Running com.devops.AppTest
Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.041 sec

Results :

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

```

```
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ Demo1 ---
[INFO] --- maven-install-plugin:2.4:install (default-install) @ Demo1 ---
[INFO] Installing /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/target/Demo1-1.0-SNAPSHOT.jar to /home/osgdev/.m2/repository/com/devops/Demo1/1.0-SNAPSHOT/Demo1-1.0-SNAPSHOT.jar
[INFO] Installing /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/pom.xml to /home/osgdev/.m2/repository/com/devops/Demo1/1.0-SNAPSHOT/Demo1-1.0-SNAPSHOT.pom
[INFO] --- maven-deploy-plugin:2.7:deploy (default-deploy) @ Demo1 ---
[INFO] -----
[INFO] BUILD FAILURE
[INFO] -----
[INFO] Total time: 3.778 s
[INFO] Finished at: 2018-07-12T14:06:53+05:30
[INFO] Final Memory: 11M/173M
[INFO] -----
[ERROR] Failed to execute goal org.apache.maven.plugins:maven-deploy-plugin:2.7:deploy (default-deploy) on project Demo1: Deployment failed: repository element was not specified in the POM inside distributionManagement element or in -DaltDeploymentRepository=id::layout::url parameter
-> [Help 1]
[ERROR]
[ERROR] To see the full stack trace of the errors, re-run Maven with the -e switch.
[ERROR] Re-run Maven using the -X switch to enable full debug logging.
[ERROR]
[ERROR] For more information about the errors and possible solutions, please read the following articles:
[ERROR] [Help 1] http://cwiki.apache.org/confluence/display/MAVEN/MojoExecutionException
osgdev@DevOps05-TR:~/ap/GettingStarted/mavenProcess/Demo1$
```

Note: To run usefully ‘deploy’ goal, requires pom.xml configuration either “distributionManagement” or any other suitable plugin.

A. Configuring “distributionManagement” – Deploy artifact into Artifactory

1. Step1: Start Jfrog artifactory and login
2. Step2: Get Distribution Management and place within pom.xml
 - Artifactory Repository Browser> libs-snapshot >Set Me Up>

```
1 <distributionManagement>
2   <snapshotRepository>
3     <id>snapshots</id>
4     <name>TG-DEVOPS-05225-snapshots</name>
5     <url>http://localhost:5040/artifactory/libs-snapshot-local</url>
6   </snapshotRepository>
7 </distributionManagement>
```

3. Step3: Get settings.xml and place within local repository (.m2)

Set Me Up

to the code snippets

Type Password

Releases ?

libs-release

Snapshots ?

libs-snapshot

☐ Mirror Any ?

libs-snapshot

Plugin Releases ?

libs-release

Plugin Snapshots ?

libs-snapshot

Generate Settings

Download Snippet

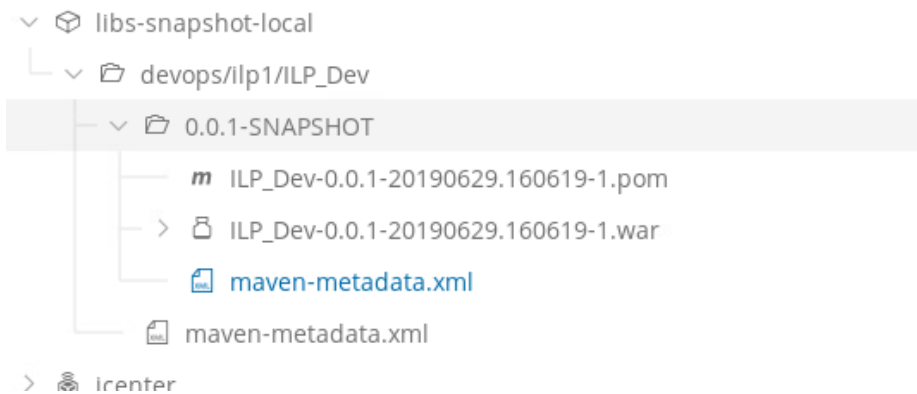
Deploy Settings

- Step4: Configure Jfrog details within Maven settings.xml

```
<server>
  <id>central</id>
  <username>devops</username>
  <password>devops</password>
</server>
</servers>
```

- Step5: run maven goal with 'deploy' and validate deployment of artifact in Jfrog

```
Uploading to snapshots: http://localhost:5040/artifactory/libs-snapshot-local/devops/ilp1/ILP_Dev/0.0.1-SNAPSHOT/maven-me
tadata.xml
Uploaded to snapshots: http://localhost:5040/artifactory/libs-snapshot-local/devops/ilp1/ILP_Dev/0.0.1-SNAPSHOT/maven-me
tadata.xml (768 B at 16 kB/s)
Uploading to snapshots: http://localhost:5040/artifactory/libs-snapshot-local/devops/ilp1/ILP_Dev/maven-metadata.xml
Uploaded to snapshots: http://localhost:5040/artifactory/libs-snapshot-local/devops/ilp1/ILP_Dev/maven-metadata.xml (314
B at 5.6 kB/s)
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 16.542 s
[INFO] Finished at: 2019-06-29T21:36:20+05:30
[INFO] Final Memory: 25M/215M
[INFO] -----
```



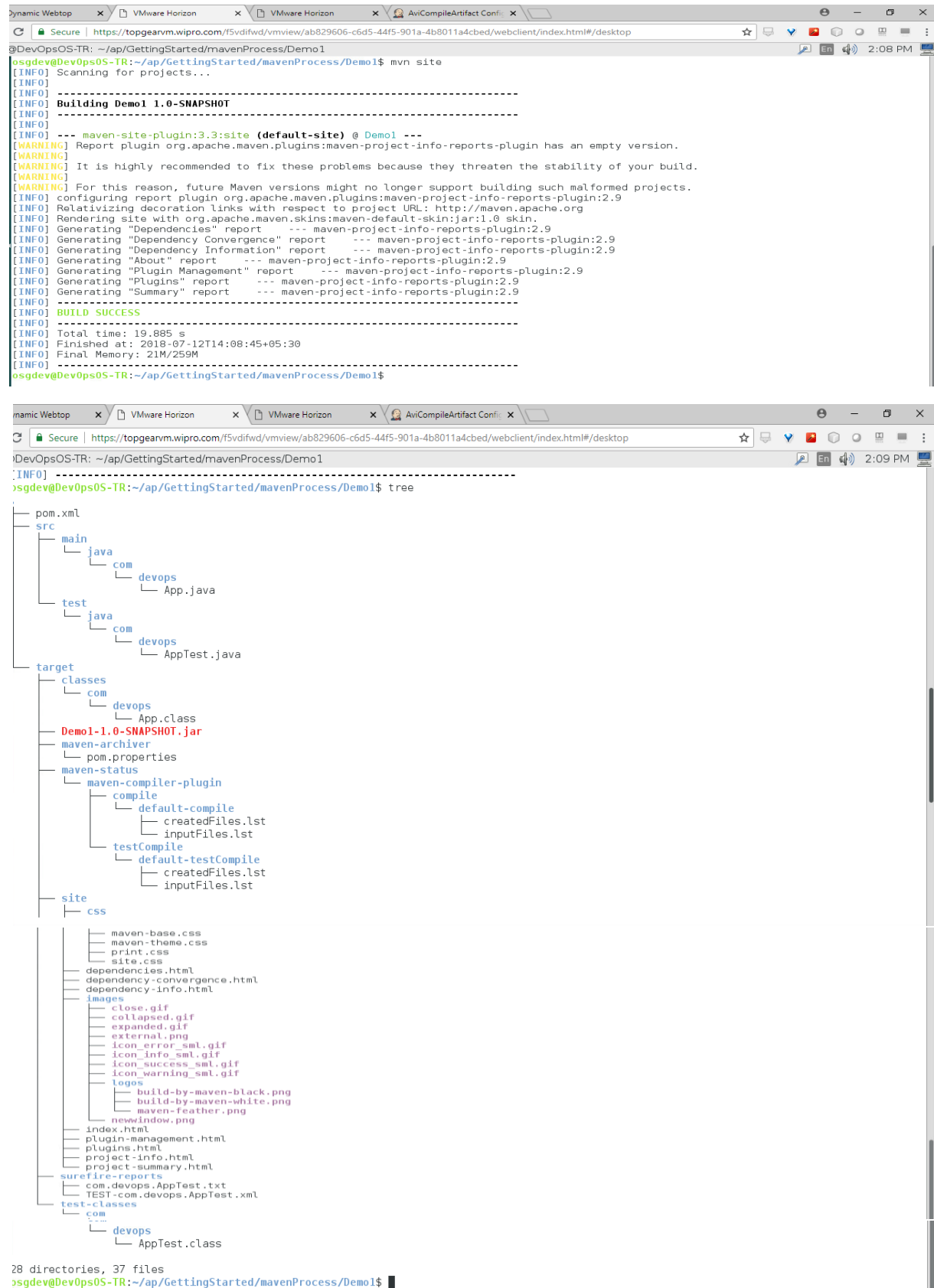
B. Configuring build process with plugin (tomcat7 & Maven-deploy) for running 'deploy' – Deploy artifact into webserver

- Step1: Configure tomcat 7 & Maven-deploy plugin within build section of pom.xml

```
<plugin>
  <groupId>org.apache.tomcat.maven</groupId>
  <artifactId>tomcat7-maven-plugin</artifactId>
  <version>2.1</version>
  <configuration>
    <url>http://localhost:5050/manager/text</url>
    <server>myserver</server>
    <path>/ILP_Bookstore</path>
  </configuration>
</plugin>
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-deploy-plugin</artifactId>
  <version>2.7</version>
</plugin>
```

- Step2: start tomcat (ensure service is running as per pom configuration)
- Step3: run maven goal with : mvn tomcat7:deploy -Dtomcat.username=admin -Dtomcat.password=admin

8. Run goal: Site & review folder / files



```

@DevOpsOS-TR: ~/ap/GettingStarted/mavenProcess/Demo1
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$ mvn site
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building Demo1 1.0-SNAPSHOT
[INFO] -----
[INFO]
[INFO] --- maven-site-plugin:3.3:site (default-site) @ Demo1 ---
[WARNING] Report plugin org.apache.maven.plugins:maven-project-info-reports-plugin has an empty version.
[WARNING] It is highly recommended to fix these problems because they threaten the stability of your build.
[WARNING]
[WARNING] For this reason, future Maven versions might no longer support building such malformed projects.
[INFO] configuring report plugin org.apache.maven.plugins:maven-project-info-reports-plugin:2.9
[INFO] Relativizing decoration links with respect to project URL: http://maven.apache.org
[INFO] Rendering site with org.apache.maven.skis:maven-default-skin:jar:1.0 skin.
[INFO] Generating "Dependencies" report --- maven-project-info-reports-plugin:2.9
[INFO] Generating "Dependency Convergence" report --- maven-project-info-reports-plugin:2.9
[INFO] Generating "Dependency Information" report --- maven-project-info-reports-plugin:2.9
[INFO] Generating "About" report --- maven-project-info-reports-plugin:2.9
[INFO] Generating "Plugin Management" report --- maven-project-info-reports-plugin:2.9
[INFO] Generating "Plugins" report --- maven-project-info-reports-plugin:2.9
[INFO] Generating "Summary" report --- maven-project-info-reports-plugin:2.9
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] -----
[INFO] Total time: 19.885 s
[INFO] Finished at: 2018-07-12T14:08:45+05:30
[INFO] Final Memory: 21M/259M
[INFO]
[INFO] -----
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$

@DevOpsOS-TR: ~/ap/GettingStarted/mavenProcess/Demo1
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$ tree
.
├── pom.xml
├── src
│   ├── main
│   │   ├── java
│   │   │   ├── com
│   │   │   │   ├── devops
│   │   │   │   │   └── App.java
│   │   └── test
│   │       ├── java
│   │       │   ├── com
│   │       │   │   ├── devops
│   │       │   │   │   └── AppTest.java
│   └── target
│       ├── classes
│       │   ├── com
│       │   │   └── devops
│       │       └── App.class
│       ├── Demo1-1.0-SNAPSHOT.jar
│       ├── maven-archiver
│       ├── pom.properties
│       ├── maven-status
│       │   ├── maven-compiler-plugin
│       │   │   ├── compile
│       │   │   │   ├── default-compile
│       │   │   │   │   ├── createdFiles.lst
│       │   │   │   │   └── inputFiles.lst
│       │   │   └── testCompile
│       │   │       ├── default-testCompile
│       │   │       │   ├── createdFiles.lst
│       │   │       │   └── inputFiles.lst
│       └── site
│           └── css
│               ├── maven-base.css
│               ├── maven-theme.css
│               ├── print.css
│               ├── site.css
│               ├── dependencies.html
│               ├── dependency-convergence.html
│               ├── dependency-info.html
│               ├── images
│               │   ├── close.gif
│               │   ├── collapsed.gif
│               │   ├── expanded.gif
│               │   ├── external.png
│               │   ├── icon_error_sml.gif
│               │   ├── icon_info_sml.gif
│               │   ├── icon_success_sml.gif
│               │   ├── icon_warning_sml.gif
│               │   ├── logos
│               │   │   ├── build-by-maven-black.png
│               │   │   ├── build-by-maven-white.png
│               │   │   └── maven-feather.png
│               │   └── newwindow.png
│               ├── index.html
│               ├── plugin-management.html
│               ├── plugins.html
│               ├── project-info.html
│               ├── project-summary.html
│               ├── surefire-reports
│               │   ├── com.devops.AppTest.txt
│               │   └── TEST-com.devops.AppTest.xml
│               ├── test-classes
│               │   ├── com
│               │   │   └── devops
│               │       └── AppTest.class
└── 28 directories, 37 files
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$

```

Note: Use below snippet while executing “site” if required

```
<plugin>
<groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-site-plugin</artifactId>
  <version>3.7.1</version>
</plugin>
<plugin>
<groupId>org.apache.maven.plugins</groupId>
<artifactId>maven-project-info-reports-plugin</artifactId>
<version>3.0.0</version>
</plugin>
```