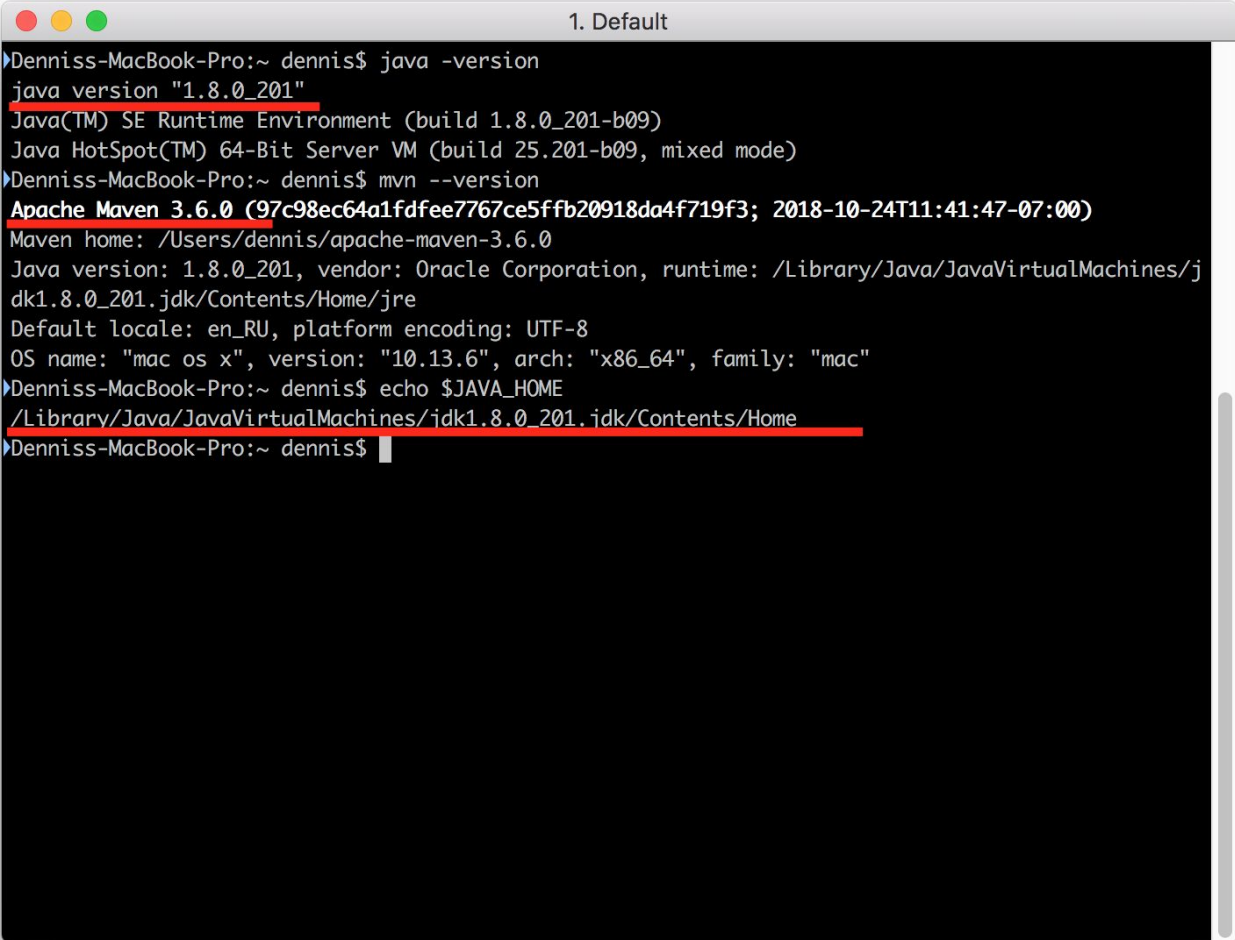


Task 9. Maven**1. Install Maven**

About Maven <https://maven.apache.org/>

I am using MacOS , HighSierra 10.13.6

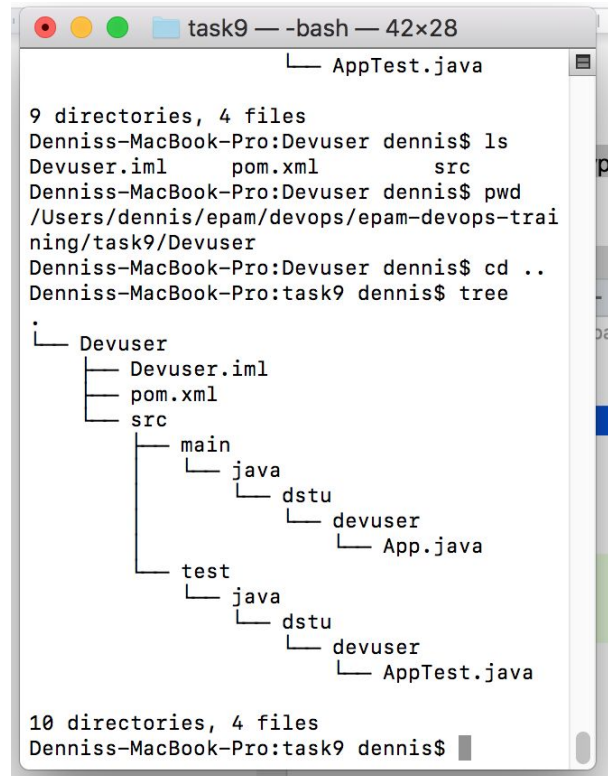


```
1. Default
Denniss-MacBook-Pro:~ dennis$ java -version
java version "1.8.0_201"
Java(TM) SE Runtime Environment (build 1.8.0_201-b09)
Java HotSpot(TM) 64-Bit Server VM (build 25.201-b09, mixed mode)
Denniss-MacBook-Pro:~ dennis$ mvn --version
Apache Maven 3.6.0 (97c98ec64a1fdfee7767ce5fffb20918da4f719f3; 2018-10-24T11:41:47-07:00)
Maven home: /Users/dennis/apache-maven-3.6.0
Java version: 1.8.0_201, vendor: Oracle Corporation, runtime: /Library/Java/JavaVirtualMachines/jdk1.8.0_201.jdk/Contents/Home/jre
Default locale: en_RU, platform encoding: UTF-8
OS name: "mac os x", version: "10.13.6", arch: "x86_64", family: "mac"
Denniss-MacBook-Pro:~ dennis$ echo $JAVA_HOME
/Library/Java/JavaVirtualMachines/jdk1.8.0_201.jdk/Contents/Home
Denniss-MacBook-Pro:~ dennis$
```

Task 1. Maven console application

1.1 Create maven-project

```
mvn archetype:generate
-DgroupId=dstu.devuser
-DartifactId=DEVuser
-Dversion=1.0-SNAPSHOT -DarchetypeArtifactId=maven-archetype-quickstart
```



```
task9 — -bash — 42x28
└─ AppTest.java

9 directories, 4 files
Denniss-MacBook-Pro:Devuser dennis$ ls
Devuser.iml  pom.xml      src
Denniss-MacBook-Pro:Devuser dennis$ pwd
/Users/dennis/epam/devops/epam-devops-training/task9/Devuser
Denniss-MacBook-Pro:Devuser dennis$ cd ..
Denniss-MacBook-Pro:task9 dennis$ tree
.
├── Devuser
│   ├── Devuser.iml
│   ├── pom.xml
│   └── src
│       ├── main
│       │   ├── java
│       │   │   ├── dstu
│       │   │   │   ├── devuser
│       │   │   │   └── App.java
│       │   └── test
│       │       ├── java
│       │       │   ├── dstu
│       │       │   │   ├── devuser
│       │       │   └── AppTest.java
└──
```

10 directories, 4 files
Denniss-MacBook-Pro:task9 dennis\$

Results pom.xml:

```
<?xml version="1.0" encoding="UTF-8"?>

<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>

  <groupId>dstu.devuser</groupId>
  <artifactId>Devuser</artifactId>
  <version>1.0</version>

  <name>Devuser</name>
  <!-- FIXME change it to the project's website -->
  <url>http://www.example.com</url>

  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <maven.compiler.source>1.7</maven.compiler.source>
    <maven.compiler.target>1.7</maven.compiler.target>
  </properties>

  <dependencies>
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>4.11</version>
      <scope>test</scope>
    </dependency>
  </dependencies>

  <build>
    <pluginManagement><!-- lock down plugins versions to avoid using Maven defaults (may be moved to parent pom) -->
      <plugins>
        <!-- clean lifecycle, see https://maven.apache.org/ref/current/maven-core/lifecycles.html#clean_Lifecycle -->
        <plugin>
          <artifactId>maven-clean-plugin</artifactId>
          <version>3.1.0</version>
        </plugin>
        <!-- default lifecycle, jar packaging: see
https://maven.apache.org/ref/current/maven-core/default-bindings.html#Plugin_bindings_for_jar_packaging -->
        <plugin>
          <artifactId>maven-resources-plugin</artifactId>
          <version>3.0.2</version>
        </plugin>
        <plugin>
          <artifactId>maven-compiler-plugin</artifactId>
          <version>3.8.0</version>
        </plugin>
        <plugin>
          <artifactId>maven-surefire-plugin</artifactId>
          <version>2.22.1</version>
        </plugin>
        <plugin>
          <artifactId>maven-jar-plugin</artifactId>
          <version>3.0.2</version>
        </plugin>
        <plugin>
          <artifactId>maven-install-plugin</artifactId>
          <version>2.5.2</version>
        </plugin>
        <plugin>
          <artifactId>maven-deploy-plugin</artifactId>
          <version>2.8.2</version>
        </plugin>
        <!-- site lifecycle, see https://maven.apache.org/ref/current/maven-core/lifecycles.html#site_Lifecycle -->
        <plugin>
          <artifactId>maven-site-plugin</artifactId>
          <version>3.7.1</version>
        </plugin>
        <plugin>
          <artifactId>maven-project-info-reports-plugin</artifactId>
          <version>3.0.0</version>
        </plugin>
      </plugins>
    </pluginManagement>
  </build>
</project>
```

1.2 Learn maven commands:

- mvn validate

```
Denniss-MacBook-Pro:Devuser dennis$ mvn validate
```

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

```
[INFO]
```

```
[INFO] -----< dstu.devuser:Devuser >-----
```

```
[INFO] Building Devuser 1.0
```

```
[INFO] -----[ jar ]-----
```

```
[INFO]
```

```
[INFO] BUILD SUCCESS
```

```
[INFO]
```

```
[INFO] Total time: 0.107 s
```

```
[INFO] Finished at: 2019-08-18T01:10:30-07:00
```

```
[INFO]
```

```
Denniss-MacBook-Pro:Devuser dennis$
```

- mvn compile

```
[INFO] Finished at: 2019-08-17T23:35:15-07:00
```

```
[INFO]
```

```
Denniss-MacBook-Pro:Devuser dennis$ mvn compile
```

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

```
[INFO]
```

```
[INFO] -----< dstu.devuser:Devuser >-----
```

```
[INFO] Building Devuser 1.0
```

```
[INFO] -----[ jar ]-----
```

```
[INFO]
```

```
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ Devuser ---
```

```
[INFO] Using 'UTF-8' encoding to copy filtered resources.
```

```
[INFO] skip non existing resourceDirectory /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/src/main/resources
```

```
[INFO]
```

```
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ Devuser ---
```

```
[INFO] Changes detected - recompiling the module!
```

```
[INFO] Compiling 2 source files to /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/target/classes
```

```
[INFO]
```

```
[INFO] BUILD SUCCESS
```

```
[INFO]
```

```
[INFO] Total time: 1.344 s
```

```
[INFO] Finished at: 2019-08-17T23:36:03-07:00
```

```
[INFO]
```

```
Denniss-MacBook-Pro:Devuser dennis$
```

- mvn test : run tests from test folder

```
Terminal: Local x +
[INFO] skip non existing resourceDirectory /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ Devuser ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 2 source files to /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/target/classes
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ Devuser ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ Devuser ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/target/test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ Devuser ---
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running gstu.devuser.AppTest
[INFO] Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.049 s - in gstu.devuser.AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 2, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO]
[INFO] -----
[INFO] Total time: 2.868 s
[INFO] Finished at: 2019-08-17T23:37:02-07:00
[INFO] -----
Denniss-MacBook-Pro:Devuser dennis$
```

- mvn exec:java -Dexec.mainClass=GSTU.DEVuser.App

```
Terminal: Local x +
Denniss-MacBook-Pro:Devuser dennis$ mvn exec:java -Dexec.mainClass=dstu.devuser.App
[INFO] Scanning for projects...
[INFO]
[INFO] -----< dstu.devuser:Devuser >-----
[INFO] Building Devuser 1.0
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec-maven-plugin:1.6.0:java (default-cli) @ Devuser ---
Hello, Maven
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] -----
[INFO] Total time: 0.773 s
[INFO] Finished at: 2019-08-18T01:07:08-07:00
[INFO] -----
Denniss-MacBook-Pro:Devuser dennis$
```

- mvn jar:jar - сборка проекта;

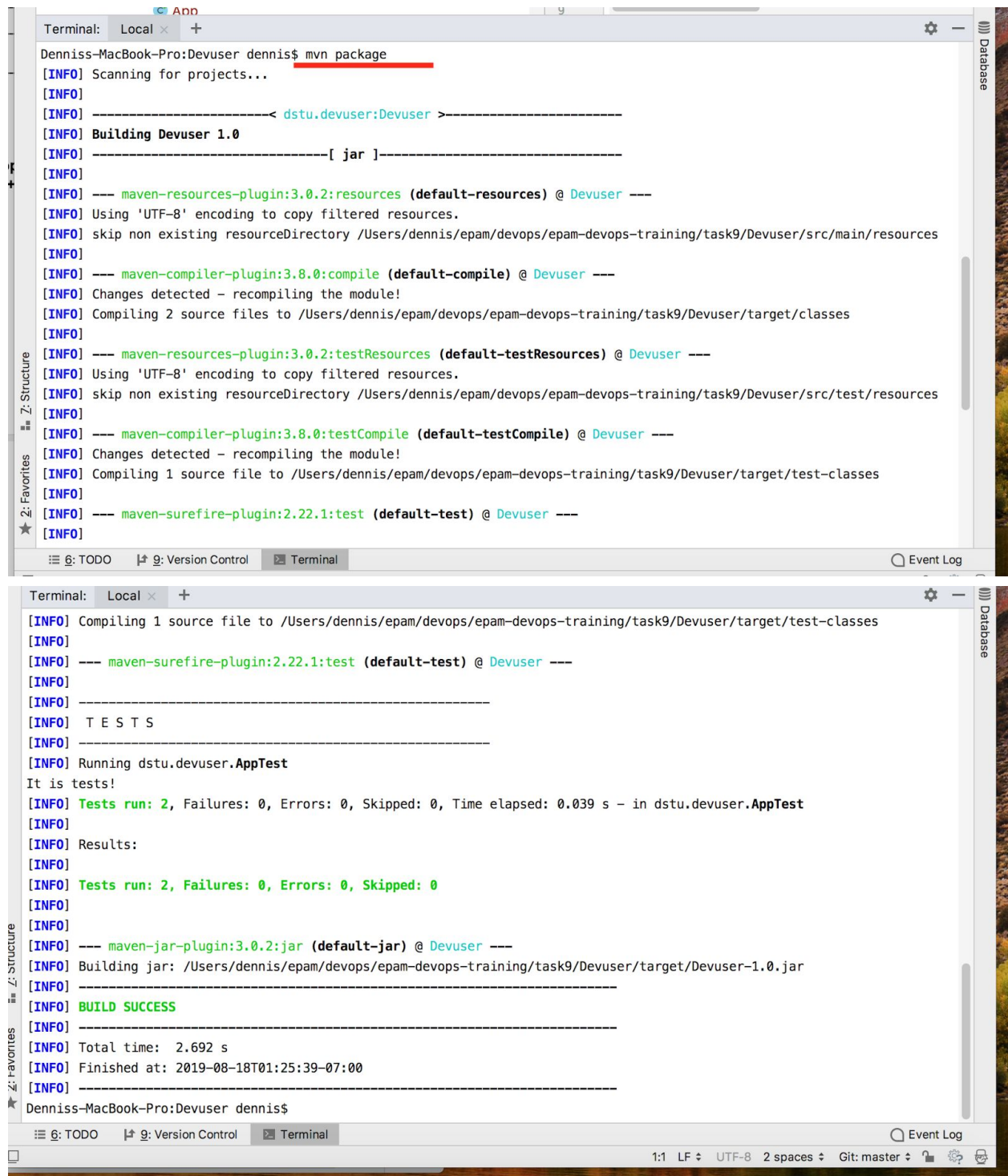
The screenshot displays an IDE interface with the following components:

- Project Structure (Left Sidebar):** Shows a project named 'AppTest' with a 'target' folder containing 'maven-archiver' and 'Devuser-1.0.jar'. Other files include 'Devuser.iml' and 'pom.xml'.
- Code Editor (Main Window):** Displays a snippet of a Maven `pom.xml` file. The visible code includes:

```
<output-test url="file://$MODULE_DIR$/target/" />
<content url="file://$MODULE_DIR$/target/" />
  <sourceFolder url="file://$MODULE_DIR$/src/main/java" />
  <sourceFolder url="file://$MODULE_DIR$/src/main/resources" />
  <excludeFolder url="file://$MODULE_DIR$/target/" />
</content>
<orderEntry type="inheritedJdk" />
<orderEntry type="sourceFolder" forTests="false" />
<orderEntry type="library" scope="TEST" name="junit:junit" />
```
- Terminal (Bottom):** Shows the execution of the command `mvn jar:jar`. The output includes:

```
Password:
sudo: export: command not found
bash: /Users/dennis/.nvm/nvm.sh: No such file or directory
Dennis-MacBook-Pro:Devuser dennis$ mvn jar:jar
[INFO] Scanning for projects...
[INFO]
[INFO] -----< dstu.devuser:Devuser >-----
[INFO] Building Devuser 1.0
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-jar-plugin:3.0.2:jar (default-cli) @ Devuser ---
[WARNING] JAR will be empty - no content was marked for inclusion!
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 0.715 s
[INFO] Finished at: 2019-08-18T01:24:25-07:00
[INFO]
Dennis-MacBook-Pro:Devuser dennis$
```


– mvn package - компиляция + тестирование + сборка;



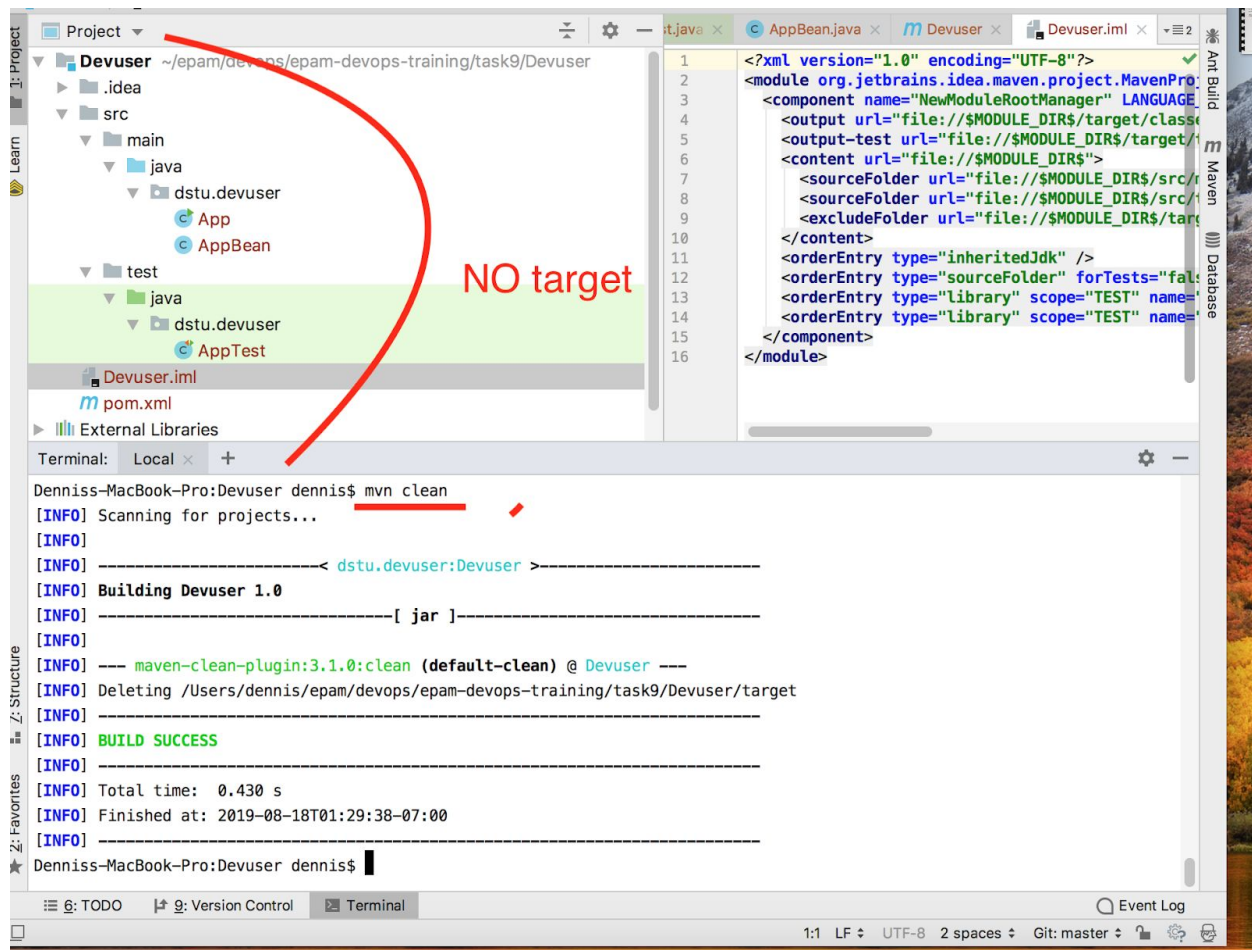
```
Terminal: Local x +
Denniss-MacBook-Pro:Devuser dennis$ mvn package
[INFO] Scanning for projects...
[INFO]
[INFO] -----< dstu.devuser:Devuser >-----
[INFO] Building Devuser 1.0
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ Devuser ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ Devuser ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 2 source files to /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/target/classes
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ Devuser ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ Devuser ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/target/test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ Devuser ---
[INFO]
[INFO] Compiling 1 source file to /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/target/test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ Devuser ---
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running dstu.devuser.AppTest
It is tests!
[INFO] Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.039 s - in dstu.devuser.AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 2, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] --- maven-jar-plugin:3.0.2:jar (default-jar) @ Devuser ---
[INFO] Building jar: /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/target/Devuser-1.0.jar
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] -----
[INFO] Total time: 2.692 s
[INFO] Finished at: 2019-08-18T01:25:39-07:00
[INFO]
Denniss-MacBook-Pro:Devuser dennis$
```

- mvn install -Dmaven.test.skip=true - компиляция + сборка;

```
Dennis-MacBook-Pro:Devuser dennis$ mvn install -Dmaven.test.skip=true
[INFO] Scanning for projects...
[INFO]
[INFO] -----< dstu.devuser:Devuser >-----
[INFO] Building Devuser 1.0
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ Devuser ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ Devuser ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 2 source files to /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/target/classes
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ Devuser ---
[INFO] Not copying test resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ Devuser ---
[INFO] Not compiling test sources
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ Devuser ---
[INFO] Tests are skipped.
[INFO]

[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ Devuser ---
[INFO] Not copying test resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ Devuser ---
[INFO] Not compiling test sources
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ Devuser ---
[INFO] Tests are skipped.
[INFO]
[INFO] --- maven-jar-plugin:3.0.2:jar (default-jar) @ Devuser ---
[INFO] Building jar: /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/target/Devuser-1.0.jar
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ Devuser ---
[INFO] Installing /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/target/Devuser-1.0.jar to /Users/dennis/.m2/repository/dstu/devuser/Devuser/1.0/Devuser-1.0.jar
[INFO] Installing /Users/dennis/epam/devops/epam-devops-training/task9/Devuser/pom.xml to /Users/dennis/.m2/repository/dstu/devuser/Devuser/1.0/Devuser-1.0.pom
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 1.800 s
[INFO] Finished at: 2019-08-18T01:28:33-07:00
[INFO]
Dennis-MacBook-Pro:Devuser dennis$
```


- mvn clean



1.3 Make executable project

Add to pom.xml configuration for maven-jar-plugin:

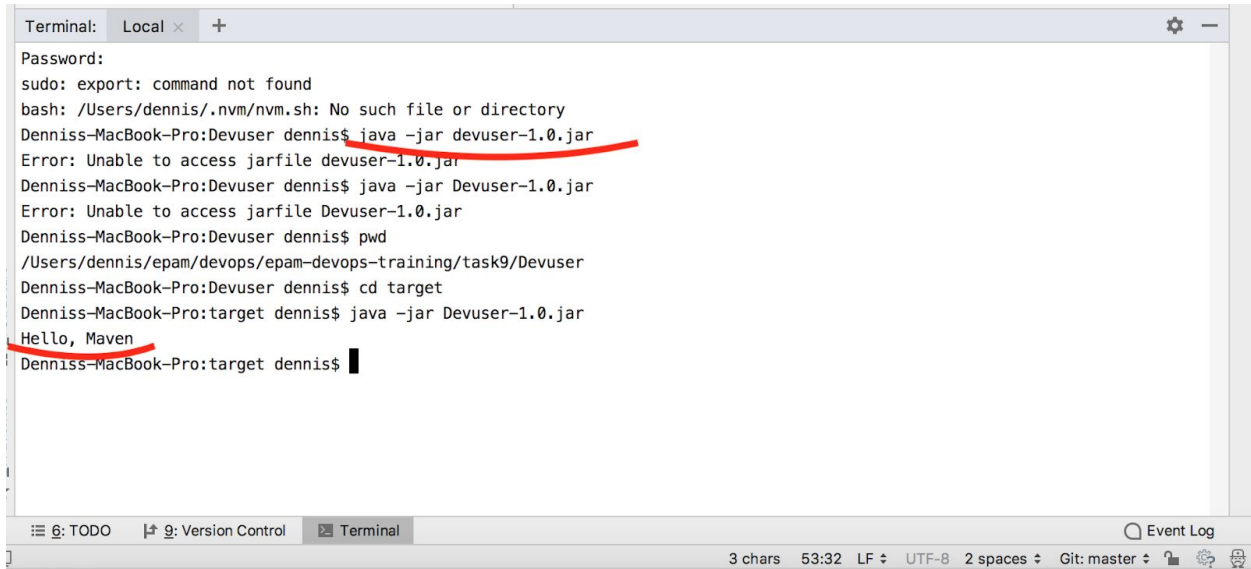
```

<configuration>
  <archive>
    <manifest> <addClasspath>true</addClasspath> <mainClass>gstu.devuser.App</mainClass>
    </manifest>
  </archive>
</configuration>

```

1.4 Start project

mvn package = compile+jar



```
Terminal: Local x +
Password:
sudo: export: command not found
bash: /Users/dennis/.nvm/nvm.sh: No such file or directory
Denniss-MacBook-Pro:Devuser dennis$ java -jar devuser-1.0.jar
Error: Unable to access jarfile devuser-1.0.jar
Denniss-MacBook-Pro:Devuser dennis$ java -jar Devuser-1.0.jar
Error: Unable to access jarfile Devuser-1.0.jar
Denniss-MacBook-Pro:Devuser dennis$ pwd
/Users/dennis/epam/devops/epam-devops-training/task9/Devuser
Denniss-MacBook-Pro:Devuser dennis$ cd target
Denniss-MacBook-Pro:target dennis$ java -jar Devuser-1.0.jar
Hello, Maven
Denniss-MacBook-Pro:target dennis$
```

6: TODO 9: Version Control Terminal Event Log

3 chars 53:32 LF UTF-8 2 spaces Git: master