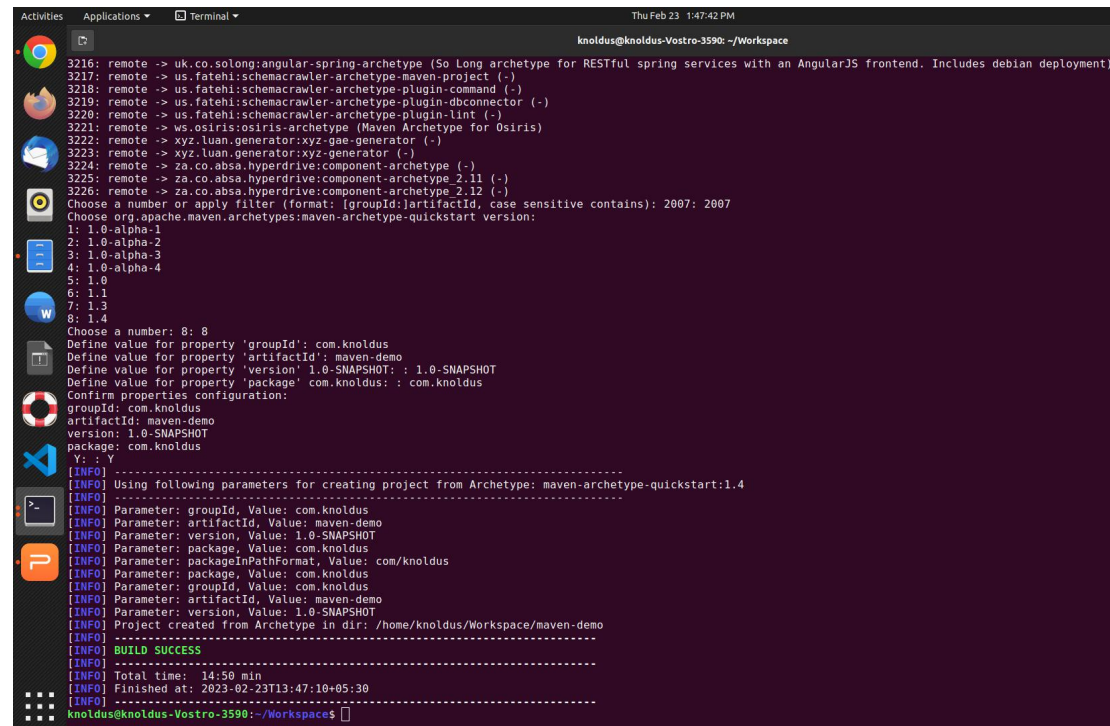


Name: Akash Singh
Employee Code: 1874

Screenshot related to the Maven assignment.

Installation using Command Promt.

1. Maven project setup:



```
knoldus@knoldus-Vostro-3590: ~/Workspace
3216: remote -> uk.co.solong:angular-spring-archetype (So Long archetype for RESTful spring services with an AngularJS frontend. Includes debian deployment)
3217: remote -> us.fatehi:schemacrawler-archetype-maven-project (-)
3218: remote -> us.fatehi:schemacrawler-archetype-plugin-command (-)
3219: remote -> us.fatehi:schemacrawler-archetype-plugin-dbconnector (-)
3220: remote -> us.fatehi:schemacrawler-archetype-plugin-lint (-)
3221: remote -> ws.osiris:osiris-archetype (Maven Archetype for Osiris)
3222: remote -> xyz.luan.generator:xyz-gae-generator (-)
3223: remote -> xyz.luan.generator:xyz-generator (-)
3224: remote -> za.co.absa.hyperdrive:component-archetype (-)
3225: remote -> za.co.absa.hyperdrive:component-archetype 2.11 (-)
3226: remote -> za.co.absa.hyperdrive:component-archetype 2.12 (-)
Choose a number or apply filter (format: [groupId:artifactId, case sensitive contains): 2007: 2007
Choose org.apache.maven.archetypes:maven-archetype-quickstart version:
1: 1.0-alpha-1
2: 1.0-alpha-2
3: 1.0-alpha-3
4: 1.0-alpha-4
5: 1.0
6: 1.1
7: 1.3
8: 1.4
Choose a number: 8: 8
Define value for property 'groupId': com.knoldus
Define value for property 'artifactId': maven-demo
Define value for property 'version': 1.0-SNAPSHOT: 1.0-SNAPSHOT
Define value for property 'package': com.knoldus: com.knoldus
Confirm properties configuration:
groupId: com.knoldus
artifactId: maven-demo
version: 1.0-SNAPSHOT
package: com.knoldus
Y: : Y
[INFO] -----
[INFO] Using following parameters for creating project from Archetype: maven-archetype-quickstart:1.4
[INFO] -----
[INFO] Parameter: groupId, Value: com.knoldus
[INFO] Parameter: artifactId, Value: maven-demo
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Parameter: package, Value: com.knoldus
[INFO] Parameter: packageInPathFormat, Value: com/knoldus
[INFO] Parameter: package, Value: com.knoldus
[INFO] Parameter: groupId, Value: com.knoldus
[INFO] Parameter: artifactId, Value: maven-demo
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Project created from Archetype in dir: /home/knoldus/Workspace/maven-demo
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 14:50 min
[INFO] Finished at: 2023-02-23T13:47:10+05:30
[INFO] -----
knoldus@knoldus-Vostro-3590: ~/Workspace$
```

2. After this navigate to project directory and open the open the project in IntelliJ.

3. Perform following operations:

- Create a directory **stringmanipulation** which will have the main **pom.xml**.

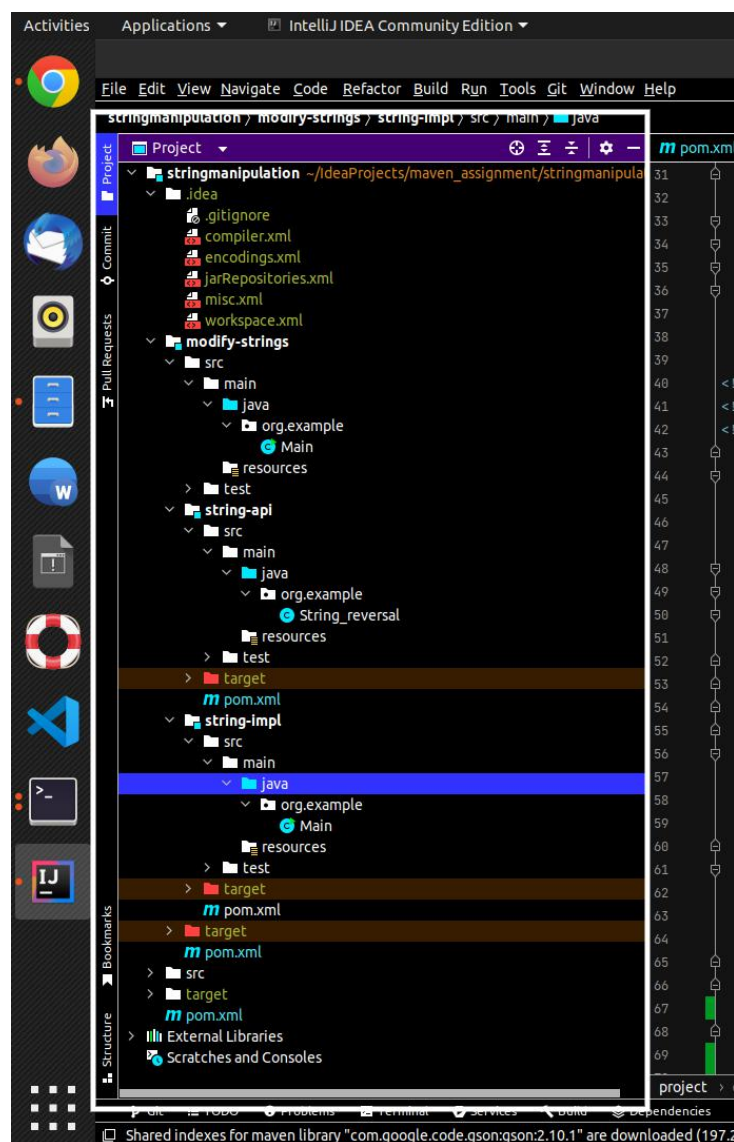
- navigate into the directory and create one module named **modify-strings** which will have its own **pom.xml** file.

- Navigate into modify-string and create two more modules named **string-api** and **string-impl** with a pom.xml

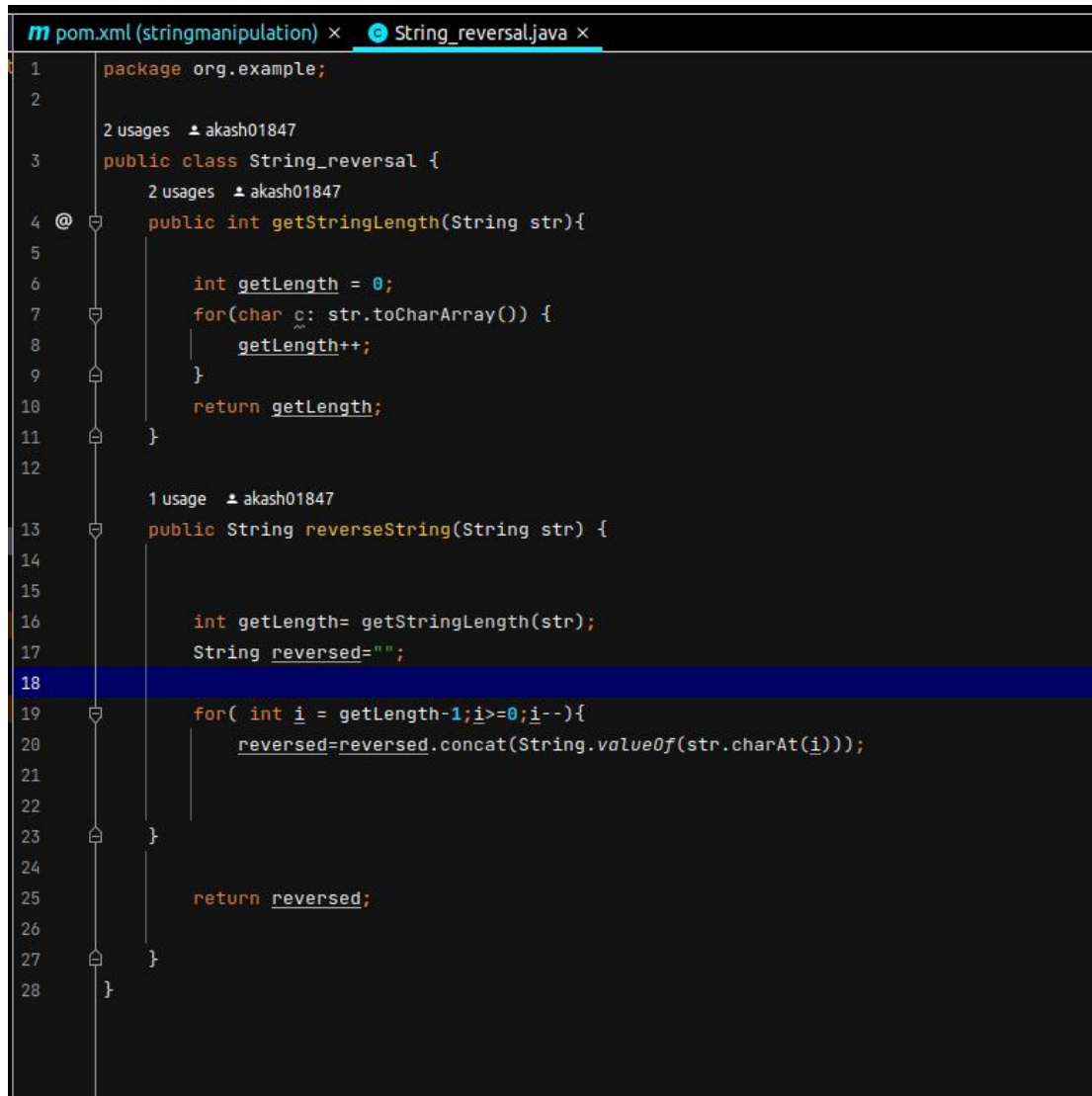
- **string-api** and **string-impl** will have their own **pom.xml** files.

- Inside **string-api** : Make two methods
 1. **reverseString()**
 2. **getStringLength()**and give the implementation of these methods.
- Inside **string-impl** : This will be the main class and call these methods here. Take the string input from the user.

4. After this you will get a directory structure as shown below:



5. Edit your main.java file and make two methods **reverseString()** and **getStringLength()** as shown below:

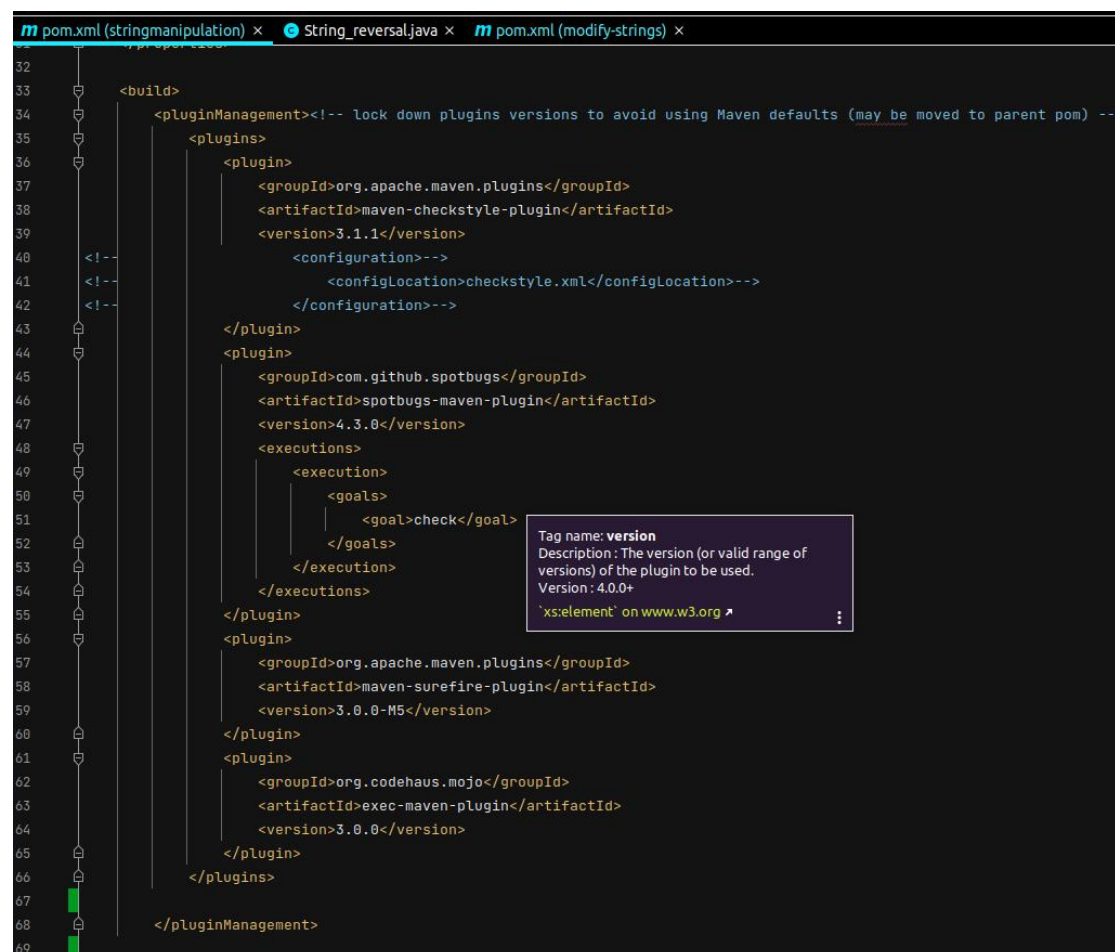


```
1 package org.example;
2
3 public class String_reversal {
4     @ 2 usages  akash01847
5     public int getStringLength(String str){
6         int getLength = 0;
7         for(char c: str.toCharArray()) {
8             getLength++;
9         }
10        return getLength;
11    }
12
13    1 usage  akash01847
14    public String reverseString(String str) {
15
16        int getLength= getStringLength(str);
17        String reversed="";
18
19        for( int i = getLength-1;i>=0;i--){
20            reversed=reversed.concat(String.valueOf(str.charAt(i)));
21        }
22
23        return reversed;
24    }
25 }
26
27
28
```

6. Add all the dependencies and maven plugins to pom.xml file.

-> Mandatory dependencies/plugins that should be in your parent pom:

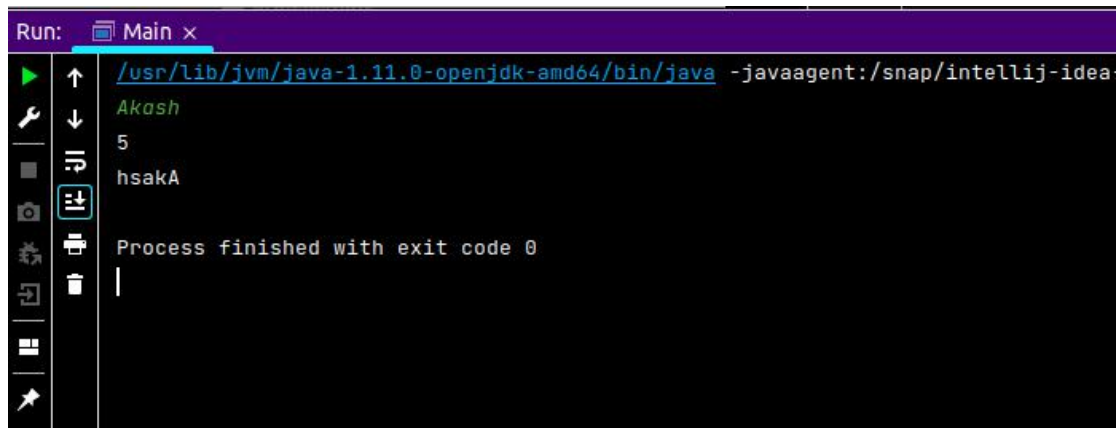
- maven-checkstyle-plugin
- spotbugs-maven-plugin
- maven-surefire-plugin
- exec-maven-plugin



```
32
33
34 <build>
35   <pluginManagement><!-- lock down plugins versions to avoid using Maven defaults (may be moved to parent pom) -->
36   <plugins>
37     <plugin>
38       <groupId>org.apache.maven.plugins</groupId>
39       <artifactId>maven-checkstyle-plugin</artifactId>
40       <version>3.1.1</version>
41       <configuration>-->
42       <configLocation>checkstyle.xml</configLocation>-->
43     </plugin>
44     <plugin>
45       <groupId>com.github.spotbugs</groupId>
46       <artifactId>spotbugs-maven-plugin</artifactId>
47       <version>4.3.0</version>
48       <executions>
49         <execution>
50           <goals>
51             <goal>check</goal>
52           </goals>
53         </execution>
54       </executions>
55     </plugin>
56     <plugin>
57       <groupId>org.apache.maven.plugins</groupId>
58       <artifactId>maven-surefire-plugin</artifactId>
59       <version>3.0.0-M5</version>
60     </plugin>
61     <plugin>
62       <groupId>org.codehaus.mojo</groupId>
63       <artifactId>exec-maven-plugin</artifactId>
64       <version>3.0.0</version>
65     </plugin>
66   </plugins>
67 </pluginManagement>
68
69
```

Tag name: version
Description: The version (or valid range of versions) of the plugin to be used.
Version: 4.0.0+
'xs:element' on www.w3.org

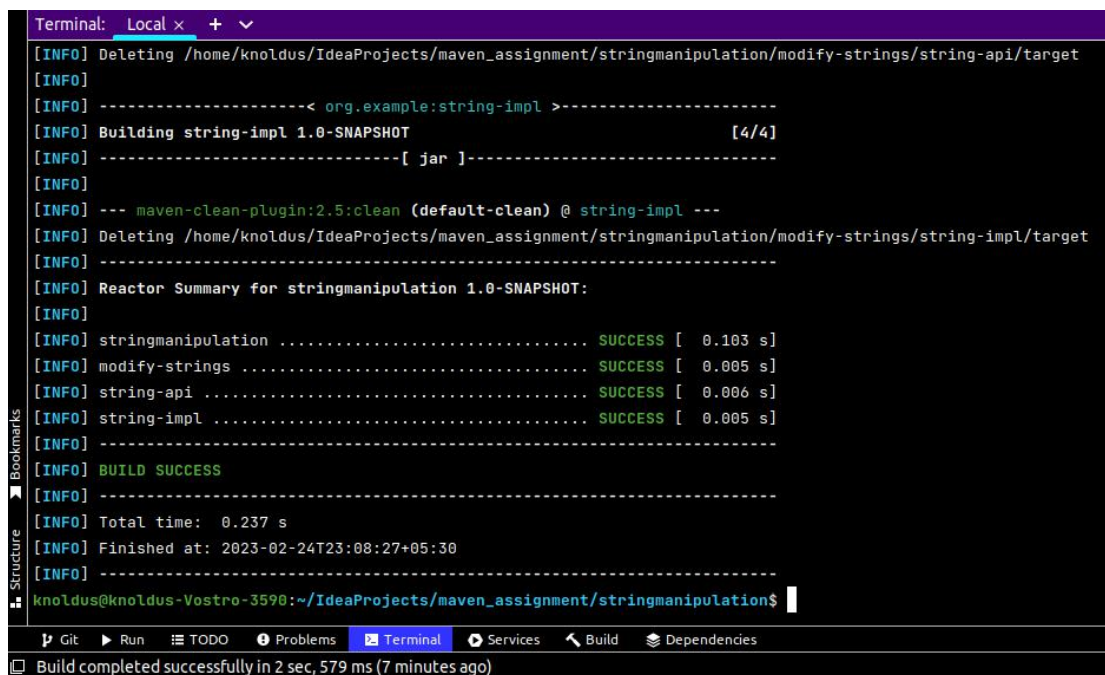
7. Run your project and see whether it is returning output or not as shown below:



```
Run: Main x
/usr/lib/jvm/java-1.11.0-openjdk-amd64/bin/java -javaagent:/snap/intellij-idea
Akash
5
hsakA
Process finished with exit code 0
```

8. Type a command in terminal :
mvn clean

You would get a output as shown below:

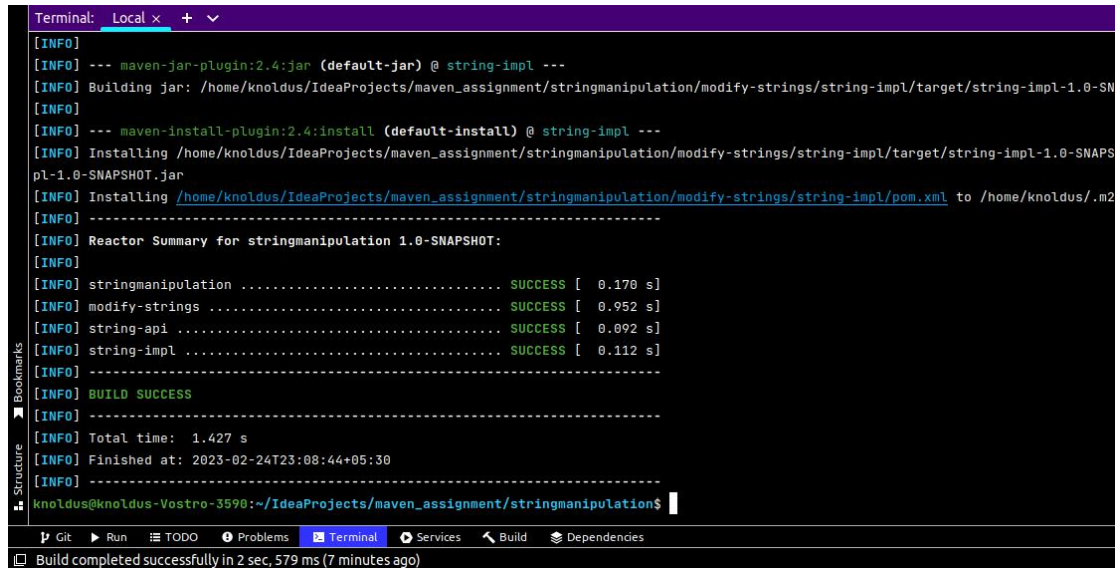


```
Terminal: Local x + v
[INFO] Deleting /home/knoldus/IdeaProjects/maven_assignment/stringmanipulation/modify-strings/string-api/target
[INFO]
[INFO] -----< org.example:string-impl >-----
[INFO] Building string-impl 1.0-SNAPSHOT [4/4]
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ string-impl ---
[INFO] Deleting /home/knoldus/IdeaProjects/maven_assignment/stringmanipulation/modify-strings/string-impl/target
[INFO]
[INFO] Reactor Summary for stringmanipulation 1.0-SNAPSHOT:
[INFO]
[INFO] stringmanipulation ..... SUCCESS [ 0.103 s]
[INFO] modify-strings ..... SUCCESS [ 0.005 s]
[INFO] string-api ..... SUCCESS [ 0.006 s]
[INFO] string-impl ..... SUCCESS [ 0.005 s]
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 0.237 s
[INFO] Finished at: 2023-02-24T23:08:27+05:30
[INFO]
knoldus@knoldus-Vostro-3590:~/IdeaProjects/maven_assignment/stringmanipulation$
```

9. Then type:

mvn install

You would get a output as shown below:



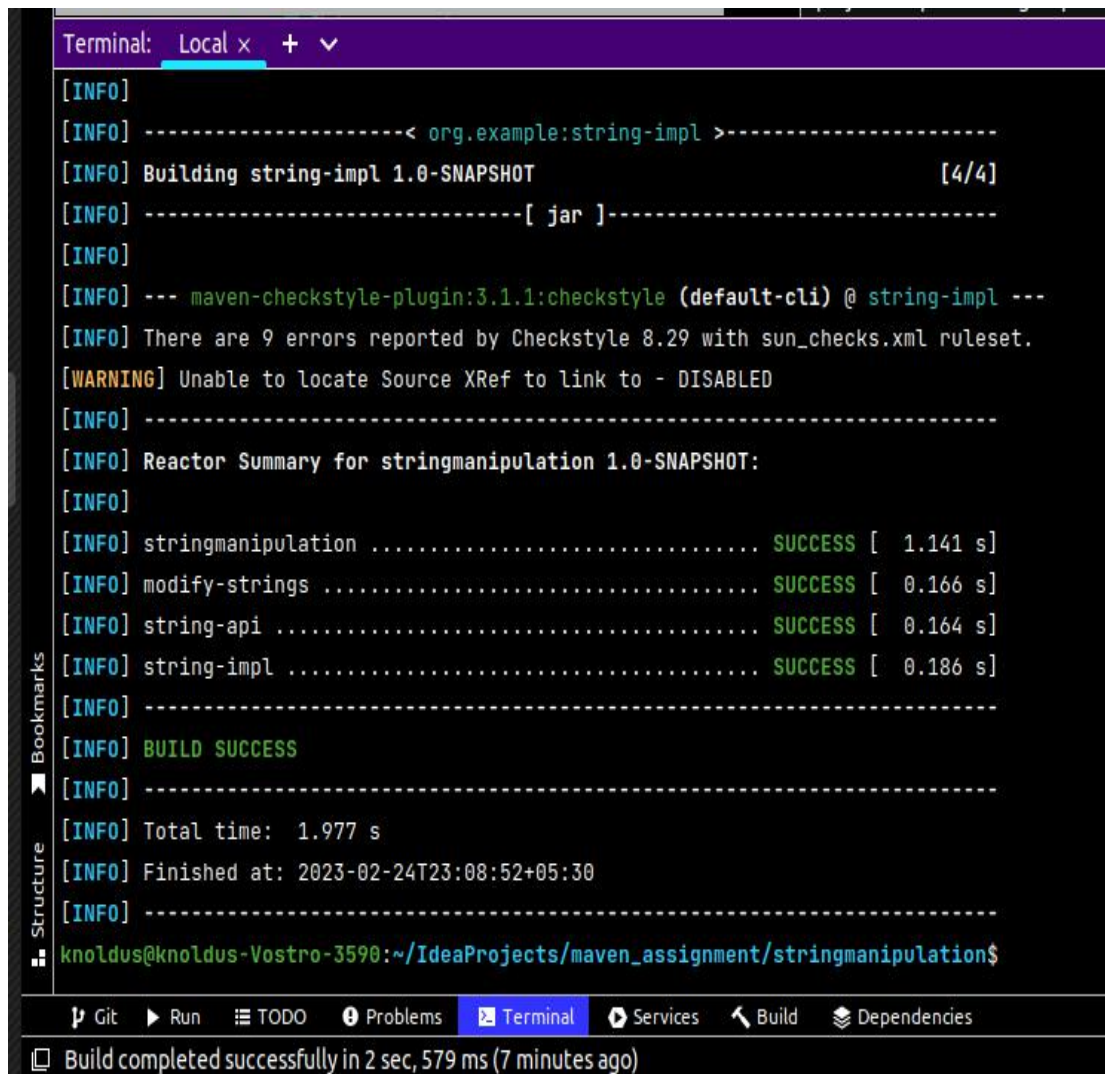
```
Terminal: Local x + v
[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ string-impl ---
[INFO] Building jar: /home/knoldus/IdeaProjects/maven_assignment/stringmanipulation/modify-strings/string-impl/target/string-impl-1.0-SNAPSHOT.jar
[INFO]
[INFO] --- maven-install-plugin:2.4:install (default-install) @ string-impl ---
[INFO] Installing /home/knoldus/IdeaProjects/maven_assignment/stringmanipulation/modify-strings/string-impl/target/string-impl-1.0-SNAPSHOT.jar
[INFO] Installing /home/knoldus/IdeaProjects/maven_assignment/stringmanipulation/modify-strings/string-impl/pom.xml to /home/knoldus/.m2
[INFO]
[INFO] -----
[INFO] Reactor Summary for stringmanipulation 1.0-SNAPSHOT:
[INFO]
[INFO] stringmanipulation ..... SUCCESS [ 0.170 s]
[INFO] modify-strings ..... SUCCESS [ 0.952 s]
[INFO] string-api ..... SUCCESS [ 0.092 s]
[INFO] string-impl ..... SUCCESS [ 0.112 s]
[INFO]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO]
[INFO] -----
[INFO] Total time: 1.427 s
[INFO] Finished at: 2023-02-24T23:08:44+05:30
[INFO] -----
knoldus@knoldus-Vostro-3590:~/IdeaProjects/maven_assignment/stringmanipulation$
```

Build completed successfully in 2 sec, 579 ms (7 minutes ago)

10. Then type:

mvn checkstyle:checkstyle

To check whether all the plugins are installed or not, if all things go then then you get the output as success as shown below:

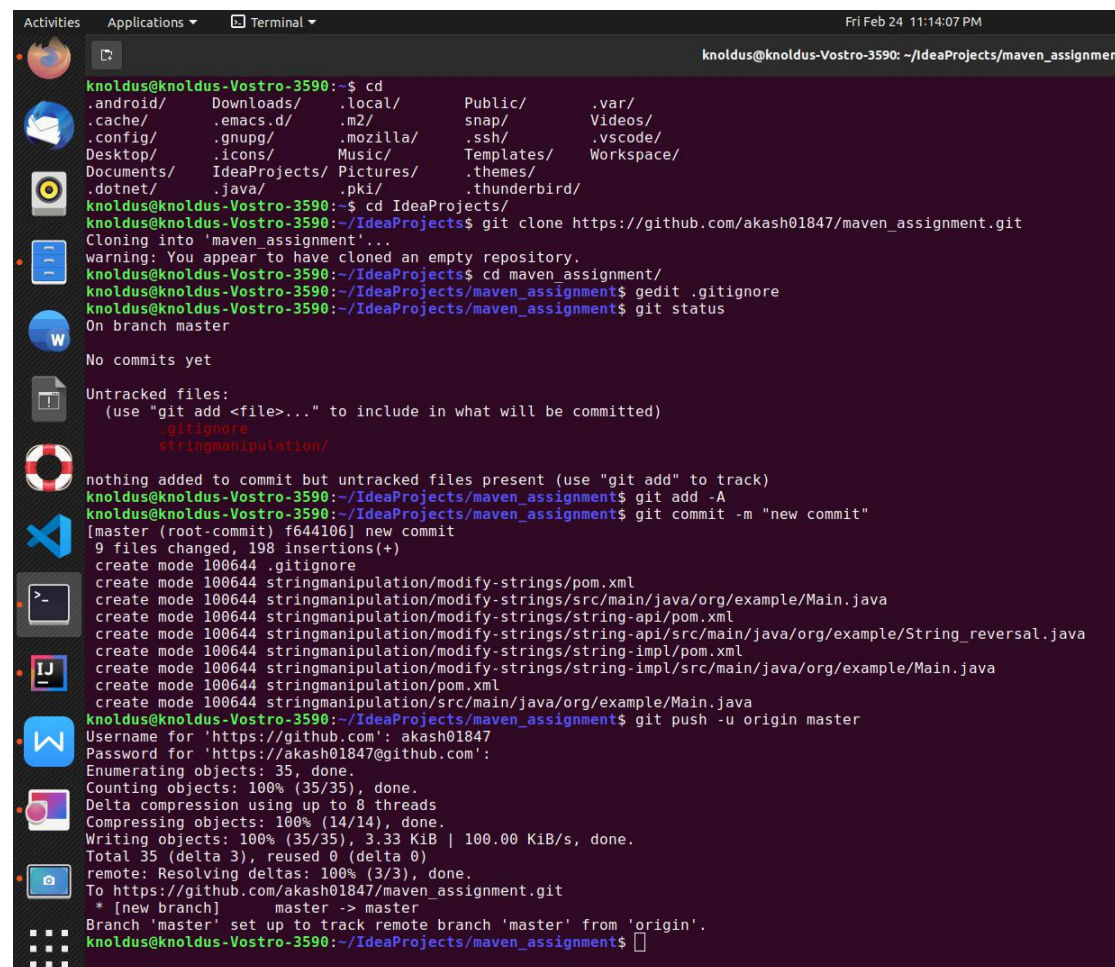


```
Terminal: Local x + v
[INFO]
[INFO] -----< org.example:string-impl >-----
[INFO] Building string-impl 1.0-SNAPSHOT [4/4]
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-checkstyle-plugin:3.1.1:checkstyle (default-cli) @ string-impl ---
[INFO] There are 9 errors reported by Checkstyle 8.29 with sun_checks.xml ruleset.
[WARNING] Unable to locate Source XRef to link to - DISABLED
[INFO] -----
[INFO] Reactor Summary for stringmanipulation 1.0-SNAPSHOT:
[INFO]
[INFO] stringmanipulation ..... SUCCESS [ 1.141 s]
[INFO] modify-strings ..... SUCCESS [ 0.166 s]
[INFO] string-api ..... SUCCESS [ 0.164 s]
[INFO] string-impl ..... SUCCESS [ 0.186 s]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 1.977 s
[INFO] Finished at: 2023-02-24T23:08:52+05:30
[INFO] -----
knoIdus@knoIdus-Vostro-3590:~/IdeaProjects/maven_assignment/stringmanipulation$
```

Build completed successfully in 2 sec, 579 ms (7 minutes ago)

11. After you get this screen with success message your task is complete.

12. Now Push your code to git repository by adding the .gitignore file and add target and .target in .gitignore file and finally push it to your desired repository:



```
knoldus@knoldus-Vostro-3590: ~$ cd
knoldus@knoldus-Vostro-3590: ~/IdeaProjects$ git clone https://github.com/akash01847/maven_assignment.git
Cloning into 'maven assignment'...
warning: You appear to have cloned an empty repository.
knoldus@knoldus-Vostro-3590: ~/IdeaProjects/maven_assignment$ gedit .gitignore
knoldus@knoldus-Vostro-3590: ~/IdeaProjects/maven_assignment$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .gitignore
        stringmanipulation/

nothing added to commit but untracked files present (use "git add" to track)
knoldus@knoldus-Vostro-3590: ~/IdeaProjects/maven_assignment$ git add -A
knoldus@knoldus-Vostro-3590: ~/IdeaProjects/maven_assignment$ git commit -m "new commit"
[master (root-commit) f644106] new commit
 9 files changed, 198 insertions(+)
 create mode 100644 .gitignore
 create mode 100644 stringmanipulation/modify-strings/pom.xml
 create mode 100644 stringmanipulation/modify-strings/src/main/java/org/example/Main.java
 create mode 100644 stringmanipulation/modify-strings/string-api/pom.xml
 create mode 100644 stringmanipulation/modify-strings/string-api/src/main/java/org/example/String_reversal.java
 create mode 100644 stringmanipulation/modify-strings/string-impl/pom.xml
 create mode 100644 stringmanipulation/modify-strings/string-impl/src/main/java/org/example/Main.java
 create mode 100644 stringmanipulation/pom.xml
 create mode 100644 stringmanipulation/src/main/java/org/example/Main.java
knoldus@knoldus-Vostro-3590: ~/IdeaProjects/maven_assignment$ git push -u origin master
Username for 'https://github.com': akash01847
Password for 'https://akash01847@github.com':
Enumerating objects: 35, done.
Counting objects: 100% (35/35), done.
Delta compression using up to 8 threads
Compressing objects: 100% (14/14), done.
Writing objects: 100% (35/35), 3.33 KiB | 100.00 KiB/s, done.
Total 35 (delta 3), reused 0 (delta 0)
remote: Resolving deltas: 100% (3/3), done.
To https://github.com/akash01847/maven_assignment.git
 * [new branch]      master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
knoldus@knoldus-Vostro-3590: ~/IdeaProjects/maven_assignment$
```

All Done.

Github Repo Link:

https://github.com/akash01847/maven_assignment