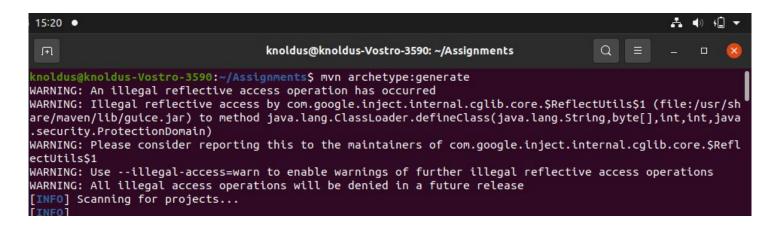# Maven Multi-Module Assignment

Steps:

>> mvn archetype:generate

// command to create maven project

Now it will ask for to choose architecture type for creating a project:

>> 2007

// command to choose architecture type

Now it will ask for maven archetype version:

>> 8

// this command will choose 1.4 version from given list

Now it will ask for groupId: We will Enter the name of Whatever Organization we are creating project for.

>> com.knoldus

// command is used the enter the name of Organization

Now it will ask for artifactId: We will Enter the Project Name here.

>> stringmanipulation

// command is used the enter the name of Project

Now it will ask for version: We will Enter the Version here.

>> 1.0-SNAPSHOT

// command is used the enter the version of Project.

Now it will ask for package name: We will Enter the package name here.

>> com.knoldus

// command is used the enter the package name..

Above Commands Output:

```
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': stringmanipulation
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: stringmanipulation
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: stringmanipulation
[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: stringmanipulation
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Project created from Archetype in dir: /home/knoldus/Assignments/stringmanipulation
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  05:36 min
[INFO] Finished at: 2023-02-24T15:21:58+05:30
[INFO] ------------------------------------------------------------------------
knoldus@knoldus-Vostro-3590:~/Assignments$ 
```

Now we will edit pom.xml file of project we created earlier:

In the pom.xml file we will add the line <packaging>pom</packaging> as you can see in screenshot below:

We have mentioned this line because now this will work as container of sub-modules.

```xml
1  <?xml version="1.0" encoding="UTF-8"?>
2
3  <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XM
4    xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/mav
5    <modelVersion>4.0.0</modelVersion>
6
7    <groupId>com.knoldus</groupId>
8    <artifactId>stringmanipulation</artifactId>
9    <version>1.0-SNAPSHOT</version>
10   <packaging>pom</packaging>
11
12   <name>stringmanipulation</name>
13   <!-- FIXME change it to the project's website -->
14   <url>http://www.example.com</url>
15
16   <properties>
```

Now we will create the next module in stringmanipulation directory:

Module Name: modify-strings

>> mvn archetype:generate
// command to create another module in stringmanipulation project.

Now it will again ask to choose architecture type for this module:

We will use the same command as we did earlier

>> 2007

// command to choose architecture type

>> 8

// this command will choose 1.4 version from given list

>> com.knoldus

// command is used the enter the name of Organization

>> modify-strings

// command is used the enter the name of another module

 >> 1.0-SNAPSHOT

// command is used the enter the version of Project.

>> com.knoldus

// command is used the enter the package name.

Above Commands Output:

```
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': modify-strings
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: modify-strings
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: modify-strings
[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: modify-strings
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Project created from Archetype in dir: /home/knoldus/Assignments/stringmanipulation/modify-strings
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  26.949 s
[INFO] Finished at: 2023-02-24T15:52:37+05:30
[INFO] ------------------------------------------------------------------------
knoldus@knoldus-Vostro-3590:~/Assignments/stringmanipulation$
```

Now we will again edit pom.xml file of module we created earlier(modify-strings):

In the pom.xml file we will again add the line <packaging>pom</packaging> as you can see in screenshot below:

We have mentioned this line because now this module will work as container of sub-modules.


```
     pom.xml
     ~/Assignments/stringmanipulation/modify-strings
 1 <?xml version="1.0" encoding="UTF-8"?>
 2 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocati
 3   <modelVersion>4.0.0</modelVersion>
 4   <parent>
 5     <artifactId>stringmanipulation</artifactId>
 6     <groupId>com.knoldus</groupId>
 7     <version>1.0-SNAPSHOT</version>
 8   </parent>
 9
10   <groupId>com.knoldus</groupId>
11   <artifactId>modify-strings</artifactId>
12   <version>1.0-SNAPSHOT</version>
13   <packaging>pom</packaging>
14
15   <name>modify-strings</name>
16   <!-- FIXME change it to the project's website -->
17   <url>http://www.example.com</url>
18
```

Now we will create another modules in modify-strings module:

Module 1: string-api

>> mvn archetype:generate

// command to create maven project

>> 2007

// command to choose architecture type

>> 8

// this command will choose 1.4 version from given list

>> com.knoldus

// command is used the enter the name of Organization

>> string-api

// command is used the enter the name of child module created under modify-string module

>> 1.0-SNAPSHOT

// command is used the enter the version of Project.

>> com.knoldus

// command is used the enter the package name.

Above Commands Output:

```
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': string-api
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: string-api
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: string-api
[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: string-api
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Project created from Archetype in dir: /home/knoldus/Assignments/stringmanipulation/modify-strings
/string-api
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  33.522 s
[INFO] Finished at: 2023-02-24T15:59:13+05:30
[INFO] ------------------------------------------------------------------------
knoldus@knoldus-Vostro-3590:~/Assignments/stringmanipulation/modify-strings$
```

Now we will create another modules in same directory(modify-strings) module:

Module 1: string-impl

>> mvn archetype:generate

// command to create maven project

>> 2007

// command to choose architecture type

>> 8

// this command will choose 1.4 version from given list

>> com.knoldus

// command is used the enter the name of Organization

>> string-impl

// command is used the enter the name of child module created under modify-string module

>> 1.0-SNAPSHOT

// command is used the enter the version of module.

>> com.knoldus

// command is used the enter the package name of string-impl module.

Project Hierarchy:

```
┌─────────────────────┐
│ stringmanipulation  │
└─────────────────────┘
           │
           ▼
    ┌─────────────────┐
    │ modify-strings  │
    └─────────────────┘
           │
           │    ┌──────────────┐
           ├───▶│ string-api   │
           │    └──────────────┘
           │
           │    ┌──────────────┐
           └───▶│ string-impl  │
                └──────────────┘
```