MAVEN CONCEPTS ASSIGNMENT

Maven Specification on running 'mvn -v' after installation:

```
C:\Users\nishu\Desktop>mvn -v
Apache Maven 3.6.3 (cecedd343002696d0abb50b32b541b8a6ba2883f)
Maven home: C:\Users\nishu\Desktop\apache-maven-3.6.3\bin\..
Java version: 14.0.2, vendor: Oracle Corporation, runtime: C:\Users\nishu\Deskto
p\jdk-14.0.2
Default locale: en_US, platform encoding: Cp1252
OS name: "windows 8.1", version: "6.3", arch: "amd64", family: "windows"
```

CREATING A SAMPLE PROJECT

1) mvn archetype:generate -DgroupId=com.accolite.au -DartifactId=maven-session
-Dpackage=com.accolite.au -Dversion=1.0 -DarchetypeArtifactId=**maven-archetype-quickstart**
-DinteractiveMode=false

```
C:\Users\nishu\Desktop\MavenAssignment>mvn archetype:generate -DgroupId=com.acco
lite.au -DartifactId=maven-session -Dversion=1.0 -Dpackage=com.accolite.au -Darc
hetypeArtifactId=maven-archetype-quickstart -DinteractiveMode=false
[INFO] Scanning for projects...
[INFO]
[INFO] ------------------< org.apache.maven:standalone-pom >-------------------
[INFO] Building Maven Stub Project (No POM) 1
[INFO] --------------------------------[ pom ]---------------------------------
[INFO]
[INFO] >>> maven-archetype-plugin:3.2.0:generate (default-cli) > generate-source
s @ standalone-pom >>>
[INFO]
[INFO] <<< maven-archetype-plugin:3.2.0:generate (default-cli) < generate-source
s @ standalone-pom <<<
[INFO]
[INFO]
[INFO] --- maven-archetype-plugin:3.2.0:generate (default-cli) @ standalone-pom
---
[INFO] Generating project in Batch mode
[INFO] ------------------------------------------------------------------------
```
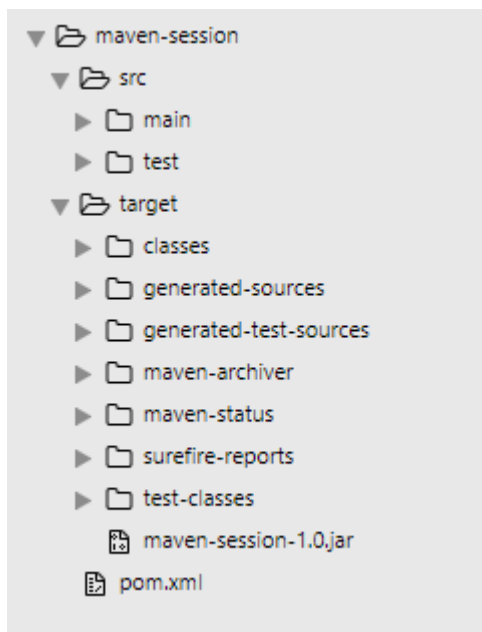
2) Running command 'mvn install' on maven-session created.

```
C:\Users\nishu\Desktop\MavenAssignment\maven-session>mvn install
[INFO] Scanning for projects...
[INFO]
[INFO] ------------------< com.accolite.au:maven-session >--------------------
[INFO] Building maven-session 1.0
[INFO] --------------------------------[ jar ]---------------------------------
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ maven-sess
ion ---
```
    ……..
```
[INFO] Installing C:\Users\nishu\Desktop\MavenAssignment\maven-session\target\ma
ven-session-1.0.jar to C:\Users\nishu\.m2\repository\com\accolite\au\maven-sessi
on\1.0\maven-session-1.0.jar
[INFO] Installing C:\Users\nishu\Desktop\MavenAssignment\maven-session\pom.xml t
o C:\Users\nishu\.m2\repository\com\accolite\au\maven-session\1.0\maven-session-
1.0.pom
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  14.500 s
[INFO] Finished at: 2020-07-30T20:18:32+05:30
[INFO] ------------------------------------------------------------------------
```

3) Tree Structure

```
C:\Users\nishu\Desktop\MavenAssignment\maven-session>tree
Folder PATH listing for volume Windows
Volume serial number is 442B-FB08
C:.
├───src
│   ├───main
│   │   └───java
│   │       └───com
│   │           └───accolite
│   │               └───au
│   └───test
│       └───java
│           └───com
│               └───accolite
│                   └───au
└───target
    ├───classes
    │   └───com
    │       └───accolite
    │           └───au
    ├───generated-sources
    │   └───annotations
    ├───generated-test-sources
    │   └───test-annotations
    ├───maven-archiver
    ├───maven-status
    │   └───maven-compiler-plugin
    │       ├───compile
    │       │   └───default-compile
    │       └───testCompile
    │           └───default-testCompile
    ├───surefire-reports
    └───test-classes
        └───com
            └───accolite
                └───au
```

4) Directory Structure

```
▼ 🗁 maven-session
  ▼ 🗁 src
    ▶ 🗀 main
    ▶ 🗀 test
  ▼ 🗁 target
    ▶ 🗀 classes
    ▶ 🗀 generated-sources
    ▶ 🗀 generated-test-sources
    ▶ 🗀 maven-archiver
    ▶ 🗀 maven-status
    ▶ 🗀 surefire-reports
    ▶ 🗀 test-classes
      📄 maven-session-1.0.jar
    📄 pom.xml
```

5) 'pom.xml' file

```xml
<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/
  maven-v4_0_0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <groupId>com.accolite.au</groupId>
  <artifactId>maven-session</artifactId>
  <packaging>jar</packaging>
  <version>1.0</version>
  <name>maven-session</name>
  <url>http://maven.apache.org</url>
<properties>
    <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>3.8.1</version>
      <scope>test</scope>
    </dependency>
  </dependencies>
</project>
```

6) Executing the project using 'mvn exec:java -Dexec.mainClass=com.accolie.au'

```
C:\Users\nishu\Desktop\MavenAssignment\maven-session>mvn exec:java -Dexec.mainCl
ass=com.accolite.au.App
[INFO] Scanning for projects...
[INFO]
[INFO] -------------------< com.accolite.au:maven-session >--------------------
[INFO] Building maven-session 1.0
[INFO] --------------------------------[ jar ]---------------------------------
[INFO]
[INFO] --- exec-maven-plugin:3.0.0:java (default-cli) @ maven-session ---
Hello World!
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  4.235 s
[INFO] Finished at: 2020-07-30T20:20:09+05:30
[INFO] ------------------------------------------------------------------------
```

CREATE A WEBAPP USING MAVEN

1) mvn archetype:generate -DarchetypeGroupId=org.apache.maven.archetypes
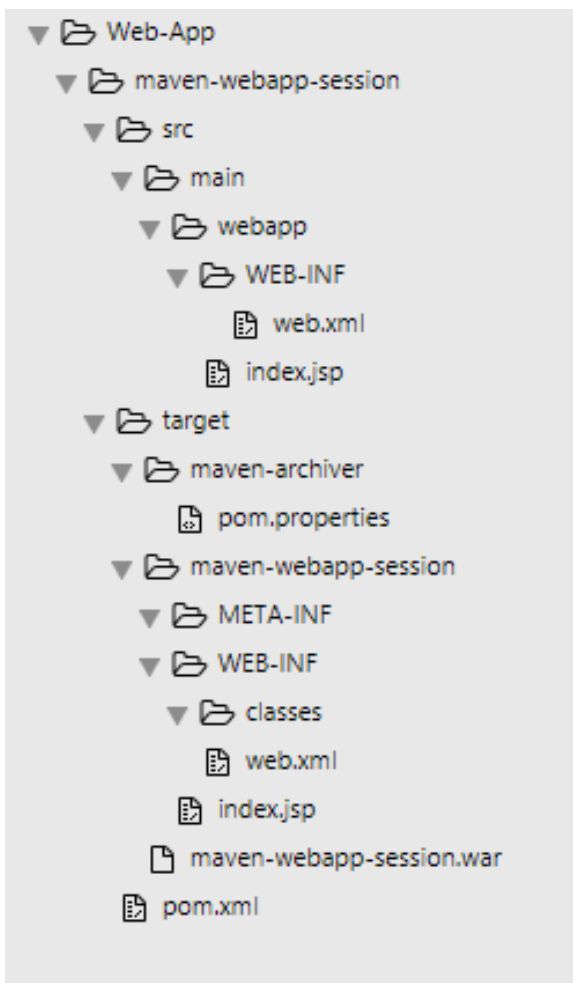-DarchetypeArtifactId=**maven-archetype-webapp** -DarchetypeVersion=1.4

Here we provide necessary fileds like groupId, artifactId as input

```
C:\Users\nishu\Desktop\Web-App>mvn archetype:generate -DarchetypeGroupId=org.apa
che.maven.archetypes -DarchetypeArtifactId=maven-archetype-webapp -DarchetypeVer
sion=1.4
[INFO] Scanning for projects...
[INFO]
[INFO] ------------------< org.apache.maven:standalone-pom >------------------
[INFO] Building Maven Stub Project (No POM) 1
[INFO] --------------------------------[ pom ]--------------------------------
[INFO]
[INFO] >>> maven-archetype-plugin:3.2.0:generate (default-cli) > generate-source
s @ standalone-pom >>>
[INFO]
[INFO] <<< maven-archetype-plugin:3.2.0:generate (default-cli) < generate-source
s @ standalone-pom <<<
[INFO]
[INFO]
[INFO] --- maven-archetype-plugin:3.2.0:generate (default-cli) @ standalone-pom
---
[INFO] Generating project in Interactive mode
[INFO] Archetype repository not defined. Using the one from [org.apache.maven.ar
chetypes:maven-archetype-webapp:1.4] found in catalog remote
Define value for property 'groupId': com.Nishu.au
Define value for property 'artifactId': maven-webapp-session
Define value for property 'version' 1.0-SNAPSHOT: : 1.0
Define value for property 'package' com.Nishu.au: : com.Nishu.au
Confirm properties configuration:
groupId: com.Nishu.au
artifactId: maven-webapp-session
version: 1.0
package: com.Nishu.au
 Y: : Y
[INFO] ----------------------------------------------------------------------
---
[INFO] Using following parameters for creating project from Archetype: maven-arc
hetype-webapp:1.4
[INFO] ----------------------------------------------------------------------
---
[INFO] Parameter: groupId, Value: com.Nishu.au
[INFO] Parameter: artifactId, Value: maven-webapp-session
[INFO] Parameter: version, Value: 1.0
[INFO] Parameter: package, Value: com.Nishu.au
[INFO] Parameter: packageInPathFormat, Value: com/Nishu/au
[INFO] Parameter: package, Value: com.Nishu.au
[INFO] Parameter: groupId, Value: com.Nishu.au
[INFO] Parameter: artifactId, Value: maven-webapp-session
[INFO] Parameter: version, Value: 1.0
[INFO] Project created from Archetype in dir: C:\Users\nishu\Desktop\Web-App\mav
en-webapp-session
[INFO] ----------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ----------------------------------------------------------------------
[INFO] Total time:  01:23 min
[INFO] Finished at: 2020-07-30T20:23:31+05:30
[INFO] ----------------------------------------------------------------------
```

2) Running 'mvn install' on maven-webapp-session created

```
C:\Users\nishu\Desktop\Web-App\maven-webapp-session>mvn install
[INFO] Scanning for projects...
[INFO]
[INFO] --------------------< com.Nishu.au:maven-webapp-session >--------------------
[INFO] Building maven-webapp-session Maven Webapp 1.0
[INFO] --------------------------------[ war ]--------------------------------
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ maven-we
bapp-session ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\nishu\Desktop\Web-App\maven-
webapp-session\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ maven-webapp-
session ---
[INFO] No sources to compile
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @
maven-webapp-session ---
```

3) Directory Structure

```
▼ 🗁 Web-App
  ▼ 🗁 maven-webapp-session
    ▼ 🗁 src
      ▼ 🗁 main
        ▼ 🗁 webapp
          ▼ 🗁 WEB-INF
              📄 web.xml
            📄 index.jsp
    ▼ 🗁 target
      ▼ 🗁 maven-archiver
          📄 pom.properties
      ▼ 🗁 maven-webapp-session
        ▼ 🗁 META-INF
        ▼ 🗁 WEB-INF
          ▼ 🗁 classes
              📄 web.xml
            📄 index.jsp
          📄 maven-webapp-session.war
    📄 pom.xml
```

4) 'pom.xml' file

```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>com.Nishu.au</groupId>
  <artifactId>maven-webapp-session</artifactId>
  <version>1.0</version>
  <packaging>war</packaging>
  <name>maven-webapp-session Maven Webapp</name>
  <!-- FIXME change it to the project's website -->
  <url>http://www.example.com</url>
  <properties>
    ...
  </properties>
  <dependencies>
    ...
  </dependencies>
  <build>
    ...
  </build>
</project>
```