

MAVEN Basics

Done by Ravi Theja Kolluru

Email ID: ravi.kolluru@accolitedigital.com

Assignment

1. Perform "mvn install" on the "maven-session" project which was created during the session and share the screen-shots.
2. Create a web-app using the archetype plugin
(<https://maven.apache.org/guides/introduction/introduction-to-archetypes.html>).
3. In the above created web-app add a sample servlet
(<https://javatutorial.net/java-servlet-example>)
4. Use tomcat maven plugin and run the web-app
(<https://howtodoinjava.com/maven/tomcat-maven-plugin-example/>)

ANSWER

Build using mvn install

```
D:\AccoliteSAU\maven-session>mvn install
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.accolite.au:maven-session >-----
[INFO] Building maven-session 1.0-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ maven-session ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\AccoliteSAU\maven-session\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ maven-session ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ maven-session ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\AccoliteSAU\maven-session\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ maven-session ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ maven-session ---
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.accolite.au.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.099 s - in com.accolite.au.AppTest
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] --- maven-jar-plugin:3.0.2:jar (default-jar) @ maven-session ---
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ maven-session ---
[INFO] Installing D:\AccoliteSAU\maven-session\target\maven-session-1.0-SNAPSHOT.jar to C:\Users\Ravi Theja Kolluru\.m2\repository\com\accolite\au\maven-session\1.0-SNAPSHOT\maven-session-1.0-SNAPSHOT.jar
[INFO] Installing D:\AccoliteSAU\maven-session\pom.xml to C:\Users\Ravi Theja Kolluru\.m2\repository\com\accolite\au\maven-session\1.0-SNAPSHOT\maven-session-1.0-SNAPSHOT.pom
[INFO]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 4.304 s
[INFO] Finished at: 2021-01-23T08:47:07+05:30
[INFO] -----
D:\AccoliteSAU\maven-session>
```

Execution of Java Program

Method -1

```
D:\AccoliteSAU\maven-session>mvn exec:java -Dexec.mainClass=com.accolite.au.App
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.accolite.au:maven-session >-----
[INFO] Building maven-session 1.0-SNAPSHOT
[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: 1.840 s
[INFO] Finished at: 2021-01-23T08:50:38+05:30
[INFO] -----
```



Method -2

```
D:\AccoliteSAU\maven-session>java -cp target\maven-session-1.0-SNAPSHOT.jar com.accolite.au.App
Hello World!
```

Create a web-app using the archetype plugin

```
D:\AccoliteSAU\maven-assignment-webapp>mvn archetype:generate -DgroupId=com.accolite.au -DartifactId=maven-assign -Dpackage=com.accolite.au -Dversion=1.0-SNAPSHOT -DarchetypeArtifactId=maven-archetype-webapp
[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-sources @ standalone-pom >>>
[INFO]
[INFO] <<< maven-archetype-plugin:3.2.0:generate (default-cli) < generate-sources @ standalone-pom <<<
[INFO]
[INFO] --- maven-archetype-plugin:3.2.0:generate (default-cli) @ standalone-pom ---
[INFO] Generating project in Interactive mode
[INFO] Using property: groupId = com.accolite.au
[INFO] Using property: artifactId = maven-assign
[INFO] Using property: version = 1.0-SNAPSHOT
[INFO] Using property: package = com.accolite.au
Confirm properties configuration:
groupId: com.accolite.au
artifactId: maven-assign
version: 1.0-SNAPSHOT
package: com.accolite.au
Y: :
```

```
[INFO] -----
[INFO] Using following parameters for creating project from Old (1.x) Archetype: maven-archetype-webapp:1.0
[INFO] -----
[INFO] Parameter: basedir, Value: D:\AccoliteSAU\maven-assignment-webapp
[INFO] Parameter: package, Value: com.accolite.au
[INFO] Parameter: groupId, Value: com.accolite.au
[INFO] Parameter: artifactId, Value: maven-assign
[INFO] Parameter: packageName, Value: com.accolite.au
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] project created from Old (1.x) Archetype in dir: D:\AccoliteSAU\maven-assignment-webapp\maven-assign
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 9.060 s
[INFO] Finished at: 2021-01-23T09:46:13+05:30
[INFO] -----
```

Name	Type	Size
 WEB-INF	File folder	
 index.jsp	JSP File	1 KB

```
<!-- maven plugins -->
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-war-plugin</artifactId>
  <version>2.3</version>
  <configuration>
    <warSourceDirectory>src/main/webapp</warSourceDirectory>
  </configuration>
</plugin>
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-compiler-plugin</artifactId>
  <version>3.1</version>
  <configuration>
    <source>1.8</source>
    <target>1.8</target>
  </configuration>
</plugin>
```

Adding Sample Servlet to web-app

```
ServletSample.java
1 package com.accolite.au;
2
3
4 import java.io.IOException;
5 import javax.servlet.ServletException;
6 import javax.servlet.http.HttpServlet;
7 import javax.servlet.http.HttpServletRequest;
8 import javax.servlet.http.HttpServletResponse;
9
10
11 public class ServletSample extends HttpServlet {
12
13     @Override
14     protected void doGet(HttpServletRequest request, HttpServletResponse response)
15         throws ServletException, IOException {
16         response.getWriter().println("This is a Servlet Example - Assignment");
17     }
18
19     @Override
20     public void init() throws ServletException {
21         System.out.println("Servlet " + this.getServletName() + " has started");
22     }
23
24     @Override
25     public void destroy() {
26         System.out.println("Servlet " + this.getServletName() + " has stopped");
27     }
28 }
29 }
```

```
<!-- javax servlet -->
<dependency>
    <groupId>javax.servlet</groupId>
    <artifactId>javax.servlet-api</artifactId>
    <version>3.1.0</version>
    <scope>provided</scope>
</dependency>
```

Running web-app on TomCat plugin

```
<!-- tomcat plugins -->
<plugin>
  <groupId>org.apache.tomcat.maven</groupId>
  <artifactId>tomcat7-maven-plugin</artifactId>
  <version>2.2</version>
  <configuration>
    <port>9000</port>    //Configure port number
    <path>/spring5-webmvc-demo</path>    //Configure application root URL
  </configuration>
</plugin>
```

```
D:\AccoliteSAU\maven-assignment-webapp\maven-assign>mvn tomcat7:run
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.accolite.au:maven-assign >-----
[INFO] Building maven-assign Maven Webapp 1.0-SNAPSHOT
[INFO] -----[ war ]-----
[INFO]
[INFO] >>> tomcat7-maven-plugin:2.2:run (default-cli) > process-classes @ maven-assign >>>
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ maven-assign ---
[WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] Copying 0 resource
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ maven-assign ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] <<< tomcat7-maven-plugin:2.2:run (default-cli) < process-classes @ maven-assign <<<
[INFO]
[INFO] --- tomcat7-maven-plugin:2.2:run (default-cli) @ maven-assign ---
[INFO] Running war on http://localhost:9000/spring5-webmvc-demo
[INFO] Using existing Tomcat server configuration at D:\AccoliteSAU\maven-assignment-webapp\maven-assign\target\tomcat
[INFO] create webapp with contextPath: /spring5-webmvc-demo
Jan 23, 2021 11:23:58 AM org.apache.coyote.AbstractProtocol init
INFO: Initializing ProtocolHandler ["http-bio-9000"]
Jan 23, 2021 11:23:58 AM org.apache.catalina.core.StandardService startInternal
INFO: Starting service Tomcat
Jan 23, 2021 11:23:58 AM org.apache.catalina.core.StandardEngine startInternal
INFO: Starting Servlet Engine: Apache Tomcat/7.0.47
Servlet ServletSample has started
Jan 23, 2021 11:24:01 AM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-bio-9000"]
```

```
<?xml version="1.0"?>
<!DOCTYPE web-app SYSTEM "http://java.sun.com/dtd/web-app_2_3.dtd" PUBLIC "-//Sun Microsystems,
Inc.//DTD Web Application 2.3//EN">
- <web-app>
  <display-name>Archetype Created Web Application</display-name>
  - <servlet>
    <servlet-name>ServletSample</servlet-name>
    <servlet-class>com.accolite.au.ServletSample</servlet-class>
    <load-on-startup>1</load-on-startup>
  </servlet>
  - <servlet-mapping>
    <servlet-name>ServletSample</servlet-name>
    <url-pattern>/hello</url-pattern>
  </servlet-mapping>
</web-app>
```

