**Steps to Build and Deploy an Enterprise Project application to JBoss 7.1.1.Final using Maven**

Step 1: Create a folder (jee6samples)

Step 2: cd to created folder

Step 3: mvn archetype:generate - 1 for EAR (sample-ear)

Step 4: mvn archetype:generate - 1 for WEB (sample-web)

Step 5: mvn archetype:generate - 1 for EJB (sample-ejb)

Step 6: Create a pom.xml file inside the folder created in step 1.

Sample Content of this pom.xml

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<?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>org.naveen.jee6.samples</groupId>

<artifactId> jee6samples</artifactId>

<version>1.0-SNAPSHOT</version>

<packaging>pom</packaging>

<name>SampleApp1</name>

<modules>

<module>EAR MODULE NAME</module>

<module>WEB MODULE NAME</module>

<module>EJB MODULE NAME</module>

</modules>

</project>

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Step 7: cd to EAR Module Folder and run mvn eclipse:eclipse

Step 8: cd to WEB Module Folder and run mvn eclipse:eclipse

Step 9: cd to EJB Module Folder and run mvn eclipse:eclipse

Step 10: Open and Edit EAR module pom file to add parent pom reference as follows:

Eg.

<parent>

<artifactId>jee6samples</artifactId>

<groupId>org.naveen.jee6.samples</groupId>

<version>1.0-SNAPSHOT</version>

</parent>

Step 11: cd back to parent folder (created in step 1: jee6samples)

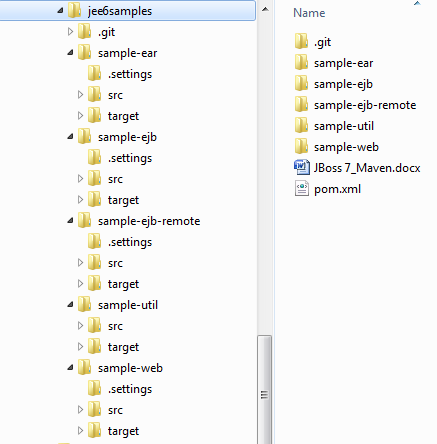
Step 12: mvn clean

Step 13: mvn package

Step 14: mvn install - Will install the EAR to local repo

Step 15: mvn -pl sample-ear jboss-as:redeploy -- Will dpeloy the EAR to local JBoss server

Reference Folder Structure:



**sample-ear pom.xml file:**

<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>

<parent>

<artifactId>jee6samples</artifactId>

<groupId>org.naveen.jee6.samples</groupId>

<version>1.0-SNAPSHOT</version>

</parent>

<groupId>org.naveen.jee6.samples</groupId>

<artifactId>sample1-ear</artifactId>

<version>1.0-SNAPSHOT</version>

<packaging>ear</packaging>

<name>sample1-ear</name>

<properties>

<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>

</properties>

<dependencies>

<dependency>

<groupId>org.naveen.jee6.samples</groupId>

<artifactId>sample-ejb</artifactId>

<version>1.0-SNAPSHOT</version>

<type>ejb</type>

</dependency>

<dependency>

<groupId>org.naveen.jee6.samples</groupId>

<artifactId>sample-web</artifactId>

<version>1.0-SNAPSHOT</version>

<type>war</type>

</dependency>

</dependencies>

<build>

<plugins>

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-compiler-plugin</artifactId>

<version>2.3.2</version>

<configuration>

<source>1.6</source>

<target>1.6</target>

</configuration>

</plugin>

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-ear-plugin</artifactId>

<version>2.6</version>

<configuration>

<version>6</version>

<defaultLibBundleDir>lib</defaultLibBundleDir>

</configuration>

</plugin>

<plugin>

<groupId>org.jboss.as.plugins</groupId>

<artifactId>jboss-as-maven-plugin</artifactId>

<version>7.1.1.Final</version>

</plugin>

</plugins>

</build>

</project>

**sample-ejb/pom.xml file:**

<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>org.naveen.jee6.samples</groupId>

<artifactId>sample-ejb</artifactId>

<version>1.0-SNAPSHOT</version>

<packaging>ejb</packaging>

<name>sample1-ejb</name>

<properties>

<endorsed.dir>${project.build.directory}/endorsed</endorsed.dir>

<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>

</properties>

<dependencies>

<dependency>

<groupId>javax</groupId>

<artifactId>javaee-api</artifactId>

<version>6.0</version>

<scope>provided</scope>

</dependency>

</dependencies>

<build>

<plugins>

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-compiler-plugin</artifactId>

<version>2.3.2</version>

<configuration>

<source>1.6</source>

<target>1.6</target>

<compilerArguments>

<endorseddirs>${endorsed.dir}</endorseddirs>

</compilerArguments>

</configuration>

</plugin>

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-ejb-plugin</artifactId>

<version>2.3</version>

<configuration>

<ejbVersion>3.1</ejbVersion>

</configuration>

</plugin>

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-dependency-plugin</artifactId>

<version>2.1</version>

<executions>

<execution>

<phase>validate</phase>

<goals>

<goal>copy</goal>

</goals>

<configuration>

<outputDirectory>${endorsed.dir}</outputDirectory>

<silent>true</silent>

<artifactItems>

<artifactItem>

<groupId>javax</groupId>

<artifactId>javaee-endorsed-api</artifactId>

<version>6.0</version>

<type>jar</type>

</artifactItem>

</artifactItems>

</configuration>

</execution>

</executions>

</plugin>

</plugins>

</build>

</project>

**sample-web/pom.xml file:**

<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>org.naveen.jee6.samples</groupId>

<artifactId>sample-web</artifactId>

<version>1.0-SNAPSHOT</version>

<packaging>war</packaging>

<name>sample1-web</name>

<properties>

<endorsed.dir>${project.build.directory}/endorsed</endorsed.dir>

<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>

</properties>

<dependencies>

<dependency>

<groupId>javax</groupId>

<artifactId>javaee-web-api</artifactId>

<version>6.0</version>

<scope>provided</scope>

</dependency>

<dependency>

<groupId>org.naveen.jee6.samples</groupId>

<artifactId>sample1-ejb</artifactId>

<version>1.0-SNAPSHOT</version>

</dependency>

</dependencies>

<build>

<plugins>

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-compiler-plugin</artifactId>

<version>2.3.2</version>

<configuration>

<source>1.6</source>

<target>1.6</target>

<compilerArguments>

<endorseddirs>${endorsed.dir}</endorseddirs>

</compilerArguments>

</configuration>

</plugin>

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-war-plugin</artifactId>

<version>2.1.1</version>

<configuration>

<failOnMissingWebXml>false</failOnMissingWebXml>

</configuration>

</plugin>

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-dependency-plugin</artifactId>

<version>2.1</version>

<executions>

<execution>

<phase>validate</phase>

<goals>

<goal>copy</goal>

</goals>

<configuration>

<outputDirectory>${endorsed.dir}</outputDirectory>

<silent>true</silent>

<artifactItems>

<artifactItem>

<groupId>javax</groupId>

<artifactId>javaee-endorsed-api</artifactId>

<version>6.0</version>

<type>jar</type>

</artifactItem>

</artifactItems>

</configuration>

</execution>

</executions>

</plugin>

</plugins>

</build>

</project>

**Tips**

To refer EJB classes inside WEB module, add ejb module as a dependency in WEB module pom file.

To create a utility project and add that to EAR file

Step 1: mvn archetype:generate - choose option for simple maven project.

Step 2: add this module to parent pom file (jee6samples /pom.xml)

Step 4: Add this module as dependency to required modules.

How to Deploy EAR/WAR/ JAR to standalone JBoss Server?

Copy file to /jboss-as-7.1.1.Final/standalone/deployments folder.

Using JBoss Modules

Step 1: Create a simple maven java project (sample-config).

Step 2: Package and Install sample-config project. (mvn package install).

Step 3: Create a folder inside JBOSS\_HOME/modules folder. (JBOSS\_HOME/modules/org/Naveen/jee6/samples/main).

Step 4: Copy module jar file to module folder.

cp target/sample-config-1.0-SNAPSHOT.jar /cygdrive/c/jboss-as-711/jboss-as-7.1.1.Final/modules/org/naveen/jee6/samples/main

Step 5: Create module.xml file inside module folder.

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

<module xmlns=*"urn:jboss:module:1.1"* name=*"org.naveen.jee6.samples"*>

<resources>

<resource-root path=*"sample-config-1.0-SNAPSHOT.jar"* />

</resources>

</module>

Step 6: Start server. If everything goes correct a file with extention .index will get created. (sample-config-1.0-SNAPSHOT.jar.index).

**Using modules in a WAR file.**

Create a file named **jboss-deployment-structure.xml** inside WEB-INF folder.

<jboss-deployment-structure>

<deployment>

<dependencies>

<module name=*"org.naveen.jee6.samples"* services=*"export"* />

</dependencies>

</deployment>

</jboss-deployment-structure>

**Using modules in an EAR file.**

Step1: Create **jboss-deployment-structure.xml** inside META-INF folder of ear.

Step 2: Add Dependencies to module in META-INF/MANIFEST.MF file.

This can be done using maven war plugin by adding following snippet to pom.xml file:

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-war-plugin</artifactId>

<version>2.2</version>

<configuration>

<failOnMissingWebXml>false</failOnMissingWebXml>

<archive>

<manifestEntries>

<Dependencies>

org.naveen.jee6.samples

</Dependencies>

</manifestEntries>

</archive>

</configuration>

</plugin>