Build Tool assignment

#Write a shell script to automate Install git, install maven, install java, install tomcat pull repository which contains source code , build java application using maven steps. And set tomcat server user configuration setting.

```
# Update package list
sudo yum update -y

# Install Git
sudo yum install -y  git

# Install Java
sudo yum install -y  java

# Install Maven
sudo yum install  -y  maven

#tomcat installation
#download tomcat application using wget
 wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.91/bin/apache-tomcat-9.0.91.tar.gz

#uzip the the downloaded file
tar -xvzf apache-tomcat-9.0.91.tar.gz

#remove compressed (tar.gz) file
rm -rf apache-tomcat-9.0.91.tar.gz

#rename the file
mv apache-tomcat-9.0.91 tomcat

#start the tomcat
sh /home/ec2-user/tomcat/bin/startup.sh

#clone source code to local repo
git clone https://github.com/sunilb66/java-hello-world-with-maven

cd java-hello-world-with-maven
mvn clean install
cd target
cp    /home/ec2-user/java-hello-world-with-maven/target/jb-hello-world-maven-0.2.0.jar    /home/ec2-user/tomcat/webapps/
```

Steps to configure tomcat server user configuration setting (server status/manger/host manager)

1) Add port number 8080 in inbound rules of EC2 instance
2) Navigate to path /home/ec2-user/tomcat/webapps/manager/META-INF
3) Vi context.xml
4) Comment out the value

    <!-- <Valve className="org.apache.catalina.valves.RemoteAddrValve"

    allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" />-->

5) Navigate to path /home/ec2-user/tomcat/webapps/host-manager/META-INF
6) Vi context.xml
7) Comment out the value

    <!-- <Valve className="org.apache.catalina.valves.RemoteAddrValve"

    allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" />-->

8) Navigate the path cd tomcat/conf
9) vi tomcat-users.xml
10) add roles and set username, passwords (admin,admin-gui,manager,manager-gui)
11) Restart the tomcat sh tomcat/bin startup.sh

```
[ec2-user@ip-172-31-28-255 ~]$ cat shell.sh
# Update package list
sudo yum update -y

# Install Git
sudo yum install -y git

# Install Java Development Kit (JDK)
sudo yum install -y java

# Install Maven
sudo yum install -y maven


#tomcat installation

#download tomcat from internet use wget
  wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.91/bin/apache-tomcat-9.0.91.tar.gz
tar -xvzf apache-tomcat-9.0.91.tar.gz
rm -rf apache-tomcat-9.0.91.tar.gz
mv apache-tomcat-9.0.91 tomcat
sh /home/ec2-user/tomcat/bin/startup.sh


#clone source code to lacal repo
git clone https://github.com/sunilb66/java-hello-world-with-maven

cd java-hello-world-with-maven
mvn clean install
cd target
cp /home/ec2-user/java-hello-world-with-maven/target/jb-hello-world-maven-0.2.0.jar /home/ec2-user/tomcat/webapps/
```

```
[ec2-user@ip-172-31-28-255 ~]$ ./shell.sh
Last metadata expiration check: 0:54:59 ago on Tue Aug  6 03:05:07 2024.
Dependencies resolved.
Nothing to do.
Complete!
Last metadata expiration check: 0:54:59 ago on Tue Aug  6 03:05:07 2024.
Package git-2.40.1-1.amzn2023.0.3.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
Last metadata expiration check: 0:55:00 ago on Tue Aug  6 03:05:07 2024.
Package java-22-amazon-corretto-1:22.0.2+9-1.amzn2023.1.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
Last metadata expiration check: 0:55:00 ago on Tue Aug  6 03:05:07 2024.
Package maven-1:3.8.4-3.amzn2023.0.5.noarch is already installed.
Dependencies resolved.
Nothing to do.
Complete!
```

```
apache-tomcat-9.0.91/bin/ciphers.sh
apache-tomcat-9.0.91/bin/configtest.sh
apache-tomcat-9.0.91/bin/daemon.sh
apache-tomcat-9.0.91/bin/digest.sh
apache-tomcat-9.0.91/bin/makebase.sh
apache-tomcat-9.0.91/bin/setclasspath.sh
apache-tomcat-9.0.91/bin/shutdown.sh
apache-tomcat-9.0.91/bin/startup.sh
apache-tomcat-9.0.91/bin/tool-wrapper.sh
apache-tomcat-9.0.91/bin/version.sh
Using CATALINA_BASE:   /home/ec2-user/tomcat
Using CATALINA_HOME:   /home/ec2-user/tomcat
Using CATALINA_TMPDIR: /home/ec2-user/tomcat/temp
Using JRE_HOME:        /usr
Using CLASSPATH:       /home/ec2-user/tomcat/bin/bootstrap.jar:/home/ec2-user/tomcat/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
```

```
Cloning into 'java-hello-world-with-maven'...
remote: Enumerating objects: 81, done.
remote: Total 81 (delta 0), reused 0 (delta 0), pack-reused 81
Receiving objects: 100% (81/81), 14.96 KiB | 2.99 MiB/s, done.
Resolving deltas: 100% (27/27), done.
[INFO] Scanning for projects...
[INFO]
[INFO] -------------< org.springframework:jb-hello-world-maven >-------------
[INFO] Building jb-hello-world-maven 0.2.0
[INFO] ------------------------------[ jar ]------------------------------
[INFO]
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ jb-hello-world-maven ---
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ jb-hello-world-maven ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/ec2-user/java-hello-world-with-maven/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ jb-hello-world-maven ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 2 source files to /home/ec2-user/java-hello-world-with-maven/target/classes
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ jb-hello-world-maven ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/ec2-user/java-hello-world-with-maven/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ jb-hello-world-maven ---
[INFO] No sources to compile
[INFO]
[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ jb-hello-world-maven ---
[INFO] No tests to run.
[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ jb-hello-world-maven ---
[INFO] Building jar: /home/ec2-user/java-hello-world-with-maven/target/jb-hello-world-maven-0.2.0.jar
```

```
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ jb-hello-world-maven ---
[INFO] Building jar: /home/ec2-user/java-hello-world-with-maven/target/jb-hello-world-maven-0.2.0.jar
[INFO]
[INFO] --- maven-shade-plugin:2.1:shade (default) @ jb-hello-world-maven ---
[INFO] Including joda-time:joda-time:jar:2.2 in the shaded jar.
[INFO] Replacing original artifact with shaded artifact.
[INFO] Replacing /home/ec2-user/java-hello-world-with-maven/target/jb-hello-world-maven-0.2.0.jar with /home/ec2-user/java-hello-world
-with-maven/target/jb-hello-world-maven-0.2.0-shaded.jar
[INFO] Dependency-reduced POM written at: /home/ec2-user/java-hello-world-with-maven/dependency-reduced-pom.xml
[INFO]
[INFO] --- maven-install-plugin:2.4:install (default-install) @ jb-hello-world-maven ---
[INFO] Installing /home/ec2-user/java-hello-world-with-maven/target/jb-hello-world-maven-0.2.0.jar to /home/ec2-user/.m2/repository/or
g/springframework/jb-hello-world-maven/0.2.0/jb-hello-world-maven-0.2.0.jar
[INFO] Installing /home/ec2-user/java-hello-world-with-maven/dependency-reduced-pom.xml to /home/ec2-user/.m2/repository/org/springfra
mework/jb-hello-world-maven/0.2.0/jb-hello-world-maven-0.2.0.pom
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  5.454 s
[INFO] Finished at: 2024-08-06T04:00:19Z
[INFO] ------------------------------------------------------------------------
```

ec2-user@ip-172-31-28-255:~/tomcat/webapps/manager/META-INF

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!--
  Licensed to the Apache Software Foundation (ASF) under one or more
  contributor license agreements.  See the NOTICE file distributed with
  this work for additional information regarding copyright ownership.
  The ASF licenses this file to You under the Apache License, Version 2.0
  (the "License"); you may not use this file except in compliance with
  the License.  You may obtain a copy of the License at

      http://www.apache.org/licenses/LICENSE-2.0

  Unless required by applicable law or agreed to in writing, software
  distributed under the License is distributed on an "AS IS" BASIS,
  WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
  See the License for the specific language governing permissions and
  limitations under the License.
-->
<Context antiResourceLocking="false" privileged="true" >
  <CookieProcessor className="org.apache.tomcat.util.http.Rfc6265CookieProcessor"
                   sameSiteCookies="strict" />
  <!-- <Valve className="org.apache.catalina.valves.RemoteAddrValve"
         allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" />-->
  <Manager sessionAttributeValueClassNameFilter="java\.lang\.(?:Boolean|Integer|Long|Number|String)|org\.apache\.catalina\.filters\.Cs
rfPreventionFilter\$LruCache(?:\$1)?|java\.util\.(?:Linked)?HashMap"/>
</Context>
~
~
```

ec2-user@ip-172-31-28-255:~/tomcat/webapps/host-manager/META-INF

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!--
  Licensed to the Apache Software Foundation (ASF) under one or more
  contributor license agreements.  See the NOTICE file distributed with
  this work for additional information regarding copyright ownership.
  The ASF licenses this file to You under the Apache License, Version 2.0
  (the "License"); you may not use this file except in compliance with
  the License.  You may obtain a copy of the License at

      http://www.apache.org/licenses/LICENSE-2.0

  Unless required by applicable law or agreed to in writing, software
  distributed under the License is distributed on an "AS IS" BASIS,
  WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
  See the License for the specific language governing permissions and
  limitations under the License.
-->
<Context antiResourceLocking="false" privileged="true" >
  <CookieProcessor className="org.apache.tomcat.util.http.Rfc6265CookieProcessor"
                   sameSiteCookies="strict" />
  <!--  <Valve className="org.apache.catalina.valves.RemoteAddrValve"
         allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" /> -->
  <Manager sessionAttributeValueClassNameFilter="java\.lang\.(?:Boolean|Integer|Long|Number|String)|org\.apache\.catalina\.filters\.Cs
rfPreventionFilter\$LruCache(?:\$1)?|java\.util\.(?:Linked)?HashMap"/>
</Context>
~
~
```

```
  wish to configure one or more of these users for use with the manager web
  application, do not forget to remove the <!.. ..> that surrounds them. You
  will also need to set the passwords to something appropriate.
-->
<!--
  <user username="admin" password="<must-be-changed>" roles="manager-gui"/>
  <user username="robot" password="<must-be-changed>" roles="manager-script"/>
-->
<!--
  The sample user and role entries below are intended for use with the
  examples web application. They are wrapped in a comment and thus are ignored
  when reading this file. If you wish to configure these users for use with the
  examples web application, do not forget to remove the <!.. ..> that surrounds
  them. You will also need to set the passwords to something appropriate.
-->
<!--
  <role rolename="tomcat"/>
  <role rolename="role1"/>
  <user username="tomcat" password="<must-be-changed>" roles="tomcat"/>
  <user username="both" password="<must-be-changed>" roles="tomcat,role1"/>
  <user username="role1" password="<must-be-changed>" roles="role1"/>
-->




  <role rolename="admin"/>
  <role rolename="admin-gui"/>
  <role rolename="manager"/>
  <role rolename="manager-gui"/>
  <user username="admin" password="1234" roles="admin,admin-gui,manager,manager-gui"/>

</tomcat-users>
~
~
```

Home   Documentation   Configuration   Examples   Wiki   Mailing Lists   Find Help

Apache Tomcat/9.0.91

APACHE SOFTWARE FOUNDATION
http://www.apache.org/

If you're seeing this, you've successfully installed Tomcat. Congratulations!

Recommended Reading:

Security Considerations How-To

Manager Application How-To

Clustering/Session Replication How-To

Server Status

Manager App

Host Manager

Developer Quick Start

Tomcat Setup	Realms & AAA	Examples	Servlet Specifications
First Web Application	JDBC DataSources		Tomcat Versions

Managing Tomcat

For security, access to the manager webapp is restricted. Users are defined in:

$CATALINA_HOME/conf/tomcat-users.xml

In Tomcat 9.0 access to the manager application is split between different users. Read more...

Release Notes

Changelog

Documentation

Tomcat 9.0 Documentation

Tomcat 9.0 Configuration

Tomcat Wiki

Find additional important configuration information in:

$CATALINA_HOME/RUNNING.txt

Developers may be interested in:

Tomcat 9.0 Bug Database

Getting Help

FAQ and **Mailing Lists**

The following mailing lists are available:

tomcat-announce
Important announcements, releases, security vulnerability notifications. (Low volume).

tomcat-users
User support and discussion

taglibs-user
User support and discussion for Apache Taglibs

tomcat-dev

Sign in

http://54.221.49.230:8080

Your connection to this site is not private

Username   admin

Password   ••••

Sign in   Cancel

Server Status

Manager

List Applications	HTML Manager Help	Manager Help	Complete Server Status

Server Information

Tomcat Version	JVM Version	JVM Vendor	OS Name	OS Version	OS Architecture	Hostname	IP Address
Apache Tomcat/9.0.91	22.0.2+9-FR	Amazon.com Inc.	Linux	6.1.97-104.177.amzn2023.x86_64	amd64	ip-172-31-28-255.ec2.internal	172.31.28.255

JVM

Free Memory: 11.81 MiB Total Memory: 29.14 MiB Max Memory: 230.12 MiB

Memory Pool	Type	Initial	Total	Maximum	Used
Eden Space	Heap memory	4.31 MiB	8.06 MiB	63.56 MiB	2.56 MiB (4%)
Survivor Space	Heap memory	0.50 MiB	1.00 MiB	7.87 MiB	1.00 MiB (12%)
Tenured Gen	Heap memory	10.68 MiB	20.07 MiB	158.68 MiB	13.76 MiB (8%)
CodeHeap 'non-nmethods'	Non-heap memory	2.43 MiB	2.43 MiB	5.55 MiB	1.26 MiB (22%)
CodeHeap 'non-profiled nmethods'	Non-heap memory	2.43 MiB	2.43 MiB	117.22 MiB	1.89 MiB (1%)
CodeHeap 'profiled nmethods'	Non-heap memory	2.43 MiB	8.75 MiB	117.21 MiB	8.69 MiB (7%)
Compressed Class Space	Non-heap memory	0.00 MiB	2.62 MiB	1024.00 MiB	2.48 MiB (0%)

Tomcat Web Application Manager

Message:	OK

Manager

List Applications	HTML Manager Help	Manager Help	Server Status

Applications

Path	Version	Display Name	Running	Sessions	Commands
/	None specified	Welcome to Tomcat	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/docs	None specified	Tomcat Documentation	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/examples	None specified	Servlet and JSP Examples	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/host-manager	None specified	Tomcat Host Manager Application	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
					Start Stop Reload Undeploy

← → C ⓘ 54.221.49.230:8080/host-manager/html

Sign in

http://54.221.49.230:8080
Your connection to this site is not private

Username | admin
Password | ••••

Sign in   Cancel

← → C ⚠ Not secure 54.221.49.230:8080/host-manager/html ☆ ⬇ s

APACHE SOFTWARE FOUNDATION

Tomcat Virtual Host Manager

Message:	OK

Host Manager			
List Virtual Hosts	HTML Host Manager Help	Host Manager Help	Server Status

Host name

Host name	Host aliases	Commands
localhost		Host Manager installed - commands disabled

Add Virtual Host

Host

Name:
Aliases:
App base:
AutoDeploy ☑