

1. **Provision an Ubuntu Machine using Terraform script –**
2. **Install Terraform first using below commands –**

* wget <https://releases.hashicorp.com/terraform/0.14.5/terraform_0.14.5_linux_amd64.zip>
* unzip terraform\_0.14.5\_linux\_amd64.zip
* echo $PATH
* sudo mv terraform /usr/bin/ && rm terraform\_0.14.5\_linux\_amd64.zip
* terraform -v

1. Use below script to provision EC2 and Tomcat server -



1. **Install Tomcat on the provisioned machine as above -**

apt-get install java-1.8\*

sudo apt install default-jdk

java -version

cd /opt

ls -l

wget https://mirror.olnevhost.net/pub/apache/tomcat/tomcat-9/v9.0.41/bin/apache-tomcat-9.0.41.tar.gz

ls -lrt

tar -zvxf apache-tomcat-9.0.41.tar.gz

ls -l

cd apache-tomcat-9.0.41

cd bin

pwd

ps -ef | grep tomcat

chmod +x startup.sh

chmod +x shutdown.sh

echo $PATH

* Below command is used to create a start and stop tomcat servers using tomcatup and tomcatdown command from anywhere of the directory

*ln -s /opt/apache-tomcat-9.0.41/bin/startup.sh /usr/local/bin/tomcatup*

*ln -s /opt/apache-tomcat-9.0.41/bin/shutdown.sh /usr/local/bin/tomcatdown*

* cd conf
* vi server.xml 🡪 need to update the port number as 8090 to run tomcat on this port
* find / -name context.xml
* vi /opt/apache-tomcat-9.0.41/webapps/host-manager/META-INF/context.xml
* vi /opt/apache-tomcat-9.0.41/webapps/manager/META-INF/context.xml
* vi conf/tomcat-users.xml 🡪 we mentioned the below lines in order to use deloyer/deployer credentials at Jenkins (manage credentials)

<role rolename="manager-gui"/>

<role rolename="manager-script"/>

<role rolename="manager-jmx"/>

<role rolename="manager-status"/>

<user username="admin" password="admin" roles="manager-gui, manager-script, manager-jmx, manager-status"/>

<user username="deployer" password="deployer" roles="manager-script"/>

<user username="tomcat" password="s3cret" roles="manager-gui"/>

1. **Install a Jenkins on another server.**

* Install and Set up JAVA and Maven on this Jenkins Ubuntu server
* Also set home path @ Jenkins UI Dashboard

root@ip-172-31-86-2:~# cat .profile

# ~/.profile: executed by Bourne-compatible login shells.

if [ "$BASH" ]; then

if [ -f ~/.bashrc ]; then

. ~/.bashrc

fi

fi

mesg n || true

JAVA\_HOME=/usr/lib/jvm/java-1.8.0-openjdk-amd64

M2\_HOME=/opt/maven/apache-maven-3.6.3

M2=$M2\_HOME/bin

Export PATH

3.1) Install deploy to container “Jenkins plugins” in order to run application on Tomcat.

3.2) set the deployer/deployer credentials in Jenkins for tomcat.

Manage Credentials @ Jenkins UI

3.3) Build a maven project that has been pulled up from my Github and deployed to the Tomcat apache server (Hello-World) applications to Tomcat server and that can be accessible ob below URL -

* <http://publicIP:8090/hello-world>

**Jenkins Job – Screen shots:**

Description - This was the job wherein I have created a maven project of Hello World application and deployed to the Tomcat Server.





