**JENKINS SETUP**

* **Launch instance for master machine where you want to install Jenkins and make sure port number should be 8080**
* **Install Java:**

**$sudo apt update**

**$sudo apt install openjdk-8-jdk**

* **Add the Jenkins Debian repository**

**Import the GPG keys of the Jenkins repository using wget command**

**$wget -q -o -https://pkg.jenkins.io/Debian/Jenkins.io.key | sudo apt-key add-**

**The command should give ouput as OK**

**Next, add Jenkins repository to the system with:**

**$sudo sh -c 'echo deb http://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'**

* **Install Jenkins:**

**$sudo apt update**

**$sudo apt install Jenkins**

**Verify by printing the service status:**

**$systemctl status Jenkins**

**Output:**

**jenkins.service - LSB: Start Jenkins at boot time**

**Loaded: loaded (/etc/init.d/jenkins; generated)**

**Active: active (exited) since Wed 2018-08-22 13:03:08 PDT; 2min 16s ago**

**Docs: man:systemd-sysv-generator(8)**

**Tasks: 0 (limit: 2319)**

**CGroup: /system.slice/jenkins.service**

* **Adjusting Firewall:**

**$sudo ufw allow 8080**

**$sudo ufw status**

* **Go to web browser and enter the publicip of machine like ipaddress:8080**
* **Enter the password:**

**In the machine, $sudo cat /var/lib/Jenkins/secrets/InitialAdminPassword**

* **After Jenkins is installed, you need to create a slave machine**
* **On the slave machine install java,maven**
  + **Install java:**

**$sudo apt update**

**$sudo apt install default -jdk**

**Verify the installation:**

**java -version**

* **Install Maven:**

**$sudo apt update**

**$sudo apt install maven**

**Verify the installation:**

**$mvn -version**

* **Download Apache Maven:**

**$wget https://www-us.apache.org/dist/maven/maven-3/3.6.0/binaries/apache-maven-3.6.0-bin.tar.gz -P /tmp**

**Extract the archve in the /opt directory:**

**$sudo tar xf /tmp/apache-maven-\*.tar.gz -C /opt**

**$sudo ln -s /opt/apache-maven-3.6.0 /opt/maven**

* **Setup environmental variables:**

**$sudo nano /etc/profile.d/maven.sh**

**Paste the following:**

**export JAVA\_HOME=/usr/lib/jvm/default-java**

**export M2\_HOME=/opt/maven**

**export MAVEN\_HOME=/opt/maven**

**export PATH=${M2\_HOME}/bin:${PATH}**

**ctrl + x . It will ask to save say ‘y’ and press any key**

**Make the script executable by typing:**

**$sudo chmod +x /etc/profile.d/maven.sh**

**Finally load the environment variables using source command**

**source /etc/profile.d/maven.sh**

* **Verify the installation:**

**mvn –version**

**SSH key generation:**

* **In slave machine:**

**$sudo adduser username**

**Enter Password**

**$su username**

**$ssh\_keygen -t rsa -N “” -f /home/username/.ssh/id\_rsa**

**$cd /home/username/.ssh**

**$cat id\_rsa.pub > authorized\_keys**

**$chmod 700 authorized\_keys**

**$more id\_rsa (key is diplayed)**

* **In master machine:**

**$sudo mkdir -p /var/lib/username(in this machine)/.ssh**

**$cd /var/lib/username/.ssh**

**$sudo ssh\_keyscan -H ipaddressofslave >> /var/lib/username/.ssh/known\_hosts**

**(In this step if you get permission denied, $sudo vi /etc/ssh/ssh\_config and change password authentication to yes and save (:wq))**

**$chmod 700 known\_hosts**

**Jenkins Setup:**

* **Create a node**
* **Remote root directory : /home/usernameofslave**

**(in the slave machine enter pwd and paste that link)**

* **Host : ip address of slave machine**
* **Credentials : adduser**

**(username of slave machine in which ssh key is created and copy and paste the ssh key)**

* **(In node)Evironmental variables : In slave machine**

**echo $JAVA\_HOME**

**echo $M2\_HOME**

**echo $PATH - paste these links**

* **Tools : Install git**

**$sudo apt update**

**$sudo apt install git**

**$which git/$whereis git - copy and paste the link**

* **(In configure system)Environmental variables: In master machine**

**echo $JAVA\_HOME**

**echo $PATH – paste these links**

* **Tools : install git in master machine. which git/whereis git and paste the link**