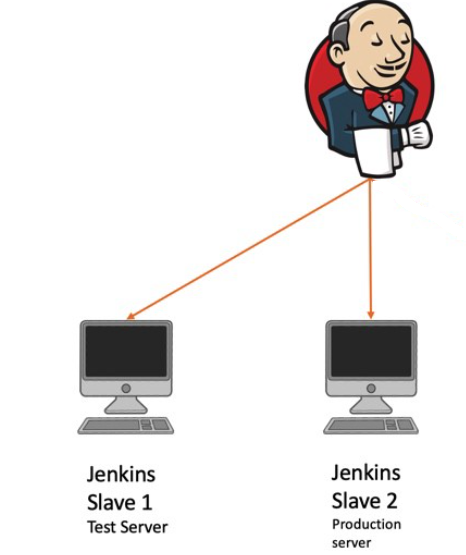
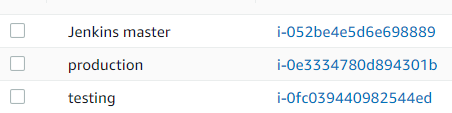
# Problem statement : Need to create Jenkins master and slave architecture in AWS like below in AWS . here one instance will be Jenkins master and other two instances will be jenkins slave nodes namely Testing server and Production server



# Solution : Solution is given below as per the steps

## 1.Launch three instance at AWS with Ubuntu:18.04 AMI , note that all three nodes need to be in same aviability zone, otherwise AWS can charge for bandwidth for different aviability zone.



## 2.Allow port 22, 80, ICMP, 8080 in security group

## 3.Create ssh key at Jenkins master node and copy them to slaves and login once

ubuntu@ip-172-31-47-27:~$ ssh-keygen

Generating public/private rsa key pair.

Enter file in which to save the key (/home/ubuntu/.ssh/id\_rsa):

Enter passphrase (empty for no passphrase):

Enter same passphrase again:

Your identification has been saved in /home/ubuntu/.ssh/id\_rsa.

Your public key has been saved in /home/ubuntu/.ssh/id\_rsa.pub.

The key fingerprint is:

SHA256:JghMm5W3533KM4isNY3KS/UHnAx4dxa3+tmlLcNaxFU ubuntu@ip-172-31-47-27

The key's randomart image is:

+---[RSA 2048]----+

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+----[SHA256]-----+

Now the newly created ssh keys need to install at both slaves nodes at authorized\_keys section

cat .ssh/id\_rsa.pub

ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQC2INJ3xTJnUepfMyLnqQB6IojESx+44/QKWbLpeWJsJUHaLh6k9nscZVt8OD4XA/cTPCrhhrcciC0p9PHK4xF+HHDavvesQSjTlxzevv5GLFTbGNsyFLvHunpFA1Zwh0YbaASJB9VhGkasHwa2uQ2iPDvC5lv20cmsWVXrL9+ODDNpDTrsGv+ntGzjcD1ETiRjvDXALrUy2c0g8mJQIa92Ie3nQTUtbKZiDsusEE2Px/D2GazgQiuLQ6n3q4Wyp/WrLJsLV2FVj4I4ZClDCQWq4UXymKDXebUhIo3jbP5+/hjC/PDo2mqWS8E4u9fwWofJokIOWFZfnDfOrxdmgPfF ubuntu@ip-172-31-47-27

login at both slaves nodes and paste it into authorized\_key section :

cd ~/.ssh/

echo AAAAB3NzaC1yc2EAAAADAQABAAABAQC2INJ3xTJnUepfMyLnqQB6IojESx+44/QKWbLpeWJsJUHaLh6k9nscZVt8OD4XA/cTPCrhhrcciC0p9PHK4xF+HHDavvesQSjTlxzevv5GLFTbGNsyFLvHunpFA1Zwh0YbaASJB9VhGkasHwa2uQ2iPDvC5lv20cmsWVXrL9+ODDNpDTrsGv+ntGzjcD1ETiRjvDXALrUy2c0g8mJQIa92Ie3nQTUtbKZiDsusEE2Px/D2GazgQiuLQ6n3q4Wyp/WrLJsLV2FVj4I4ZClDCQWq4UXymKDXebUhIo3jbP5+/hjC/PDo2mqWS8E4u9fwWofJokIOWFZfnDfOrxdmgPfF ubuntu@ip-172-31-47-27 >> .ssh/authorized\_keys

**Then from jenkins master node ssh login to upcoming slave node at once**

ssh ubuntu@slave-private-ip

## 4.Install Jenkins at Jenkins master server

sudo apt update

sudo apt install openjdk-8-jdk -y

wget -q -O - https://pkg.jenkins.io/debian-stable/jenkins.io.key | sudo apt-key add -

sudo sh -c 'echo deb https://pkg.jenkins.io/debian-stable binary/ > \

/etc/apt/sources.list.d/jenkins.list'

sudo apt-get install jenkins -y

service jenkins status

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

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

Active: active (exited) since Fri 2020-10-23 13:35:14 UTC; 1min 37s ago

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

Process: 19407 ExecStart=/etc/init.d/jenkins start (code=exited,

**Now login at Jenkins GUI , first need to collect admin password from below file and put it to login page**

cat /var/lib/jenkins/secrets/initialAdminPassword

42467d9c18db461687498744acf6c9db

And then login and install suggested plugin from GUI page

Finaly login to Jenkins GUI

## 5.Install java at slave nodes

sudo apt update

sudo apt install openjdk-8-jdk -y

## 6.Configure Jenkins slave and connect with master

**Login slave node and create directory**

sudo mkdir -p /home/ubuntu/jenkins

sudo chmod 777 /home/ubuntu/jenkins

Jenkins master GUI -> Manage Jenkins -> Manage node and cloud -> New node -> then below parameters

**Node name = testing server**

**Click permanent agent**

**Remote root directory = /home/ubuntu/jenkins**

**Usage = Use this node as much as possible**

**Launch method = Launch agents via SSH**

**Host = private ip of the testing server (172.31.36.7)**

**Then press Add key and give following parameters :**

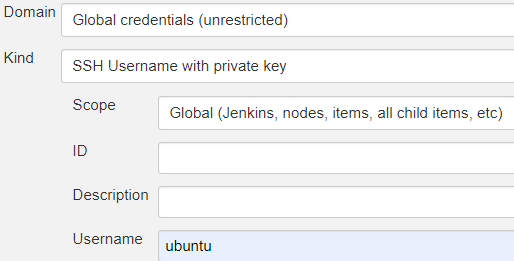
**Domain: Global**

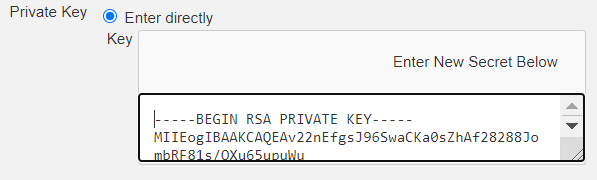
**Kind : SSH username with private key**

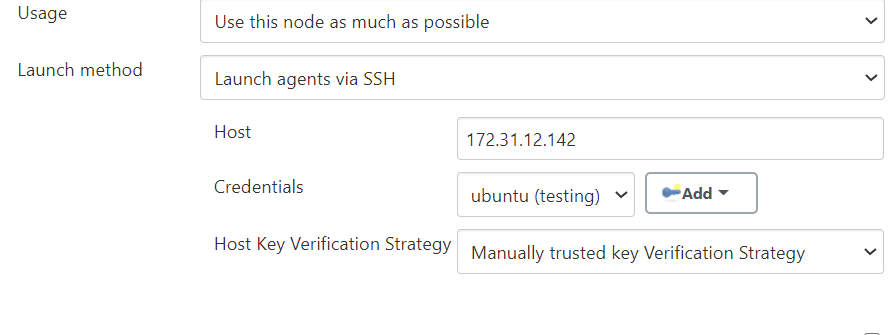
Username : ubuntru

**Private key : copy private key from jenkins master file .ssh/id\_rsa file and paste here**

**Host Key Verification Strategy : Manually trusted verification strategy**







Similar way connect production server as well. Then finally you will able to see two slave nodes testing and production server as synced state as showing below

