

Jenkins Setup

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ASHOK IT

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Step - 1: Login into your AWS cloud account and navigate to EC2 service



Sign in

☒ **Root user**

Account owner that performs tasks requiring unrestricted access. [Learn more](#)

☐ **IAM user**

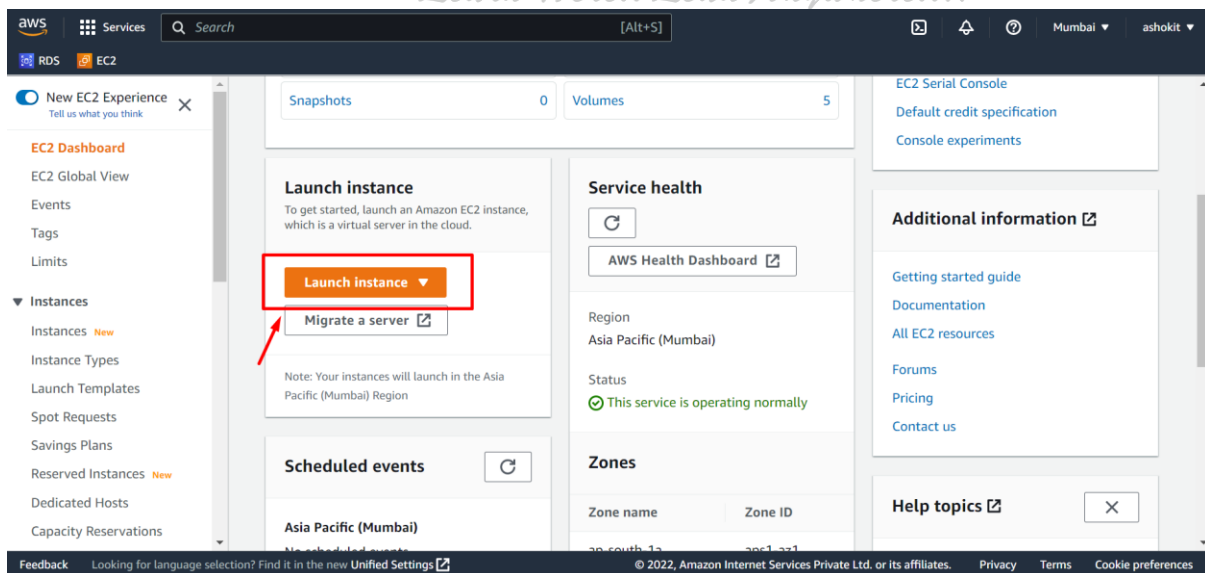
User within an account that performs daily tasks. [Learn more](#)

Root user email address

username@example.com

Next

Step - 2: Click on 'Launch Instance'



Step - 3 : Give name for instance and select AMI (I am selecting UBUNTU AMI)

Name

Jenkins-VM

Add additional tags

▼ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Q Search our full catalog including 1000s of application and OS images

Recents

Quick Start

Amazon Linux

aws

macOS

Mac

Ubuntu

ubuntu

Windows

Microsoft

Red Hat

Red Hat

S

>

Q

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type

Free tier eligible

ami-062df10d14676e201 (64-bit (x86)) / ami-0c66c4f14d217d16f (64-bit (Arm))

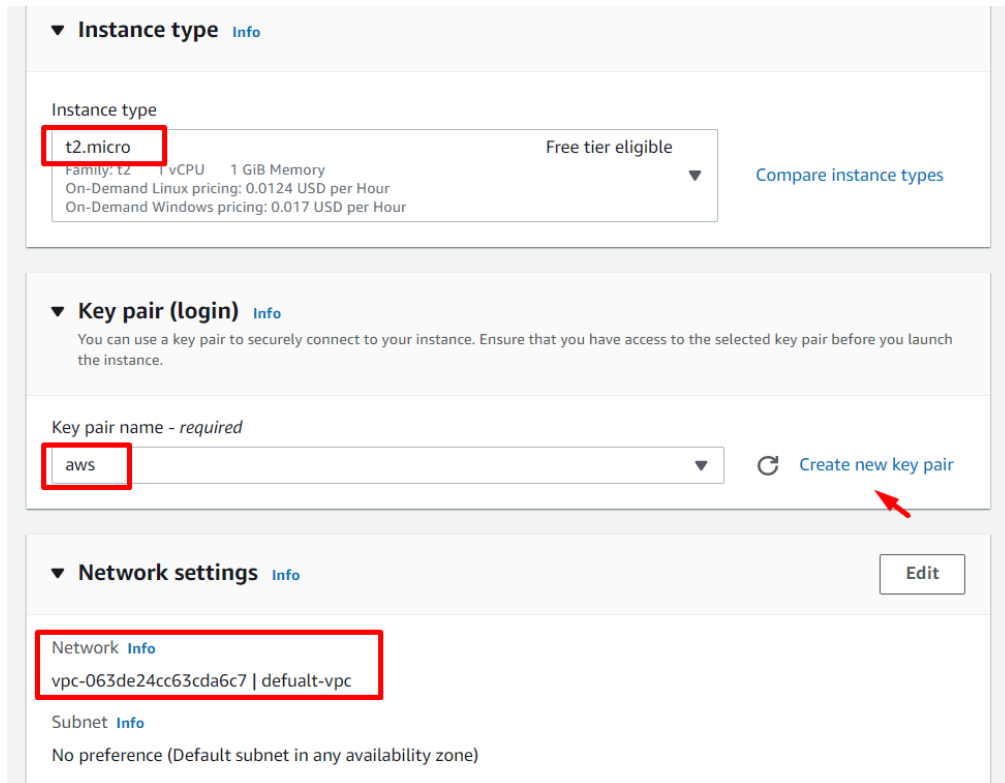
Virtualization: hvm ENA enabled: true Root device type: ebs

Step - 4 : Keep instance type as t2.mico (it is free tier eligible) and select Key Pair.

Note: If key-pair not available, create new pair and select it.

(When we create new key pair it will down .pem file. Keep it safely. We need that .pem file to connect with the machine using SSH)

3



▼ **Instance type** [Info](#)

Instance type
t2.micro Free tier eligible [Compare instance types](#)
Family: t2 1 vCPU 1 GiB Memory
On-Demand Linux pricing: 0.0124 USD per Hour
On-Demand Windows pricing: 0.017 USD per Hour

▼ **Key pair (login)** [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

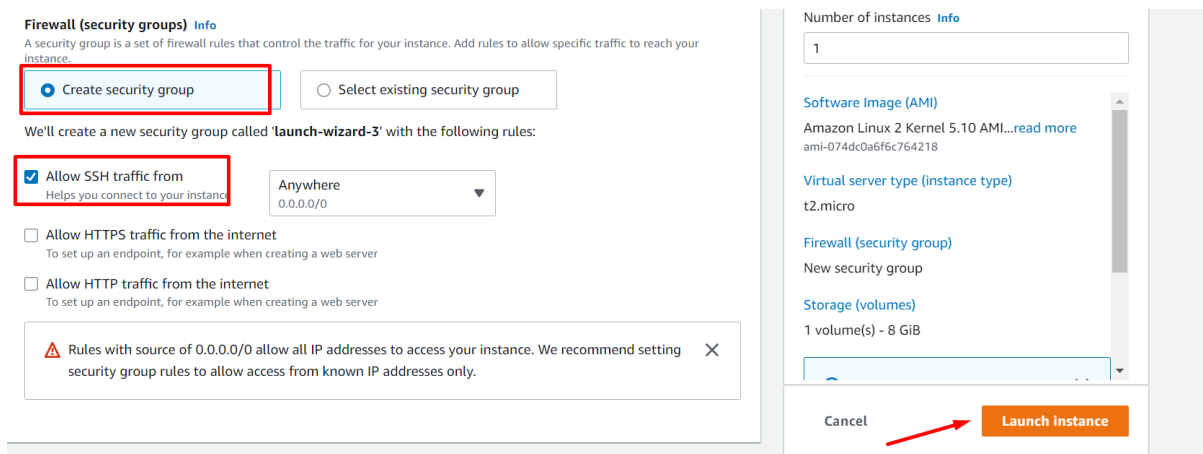
Key pair name - required
aws [Create new key pair](#)

▼ **Network settings** [Info](#) [Edit](#)

Network [Info](#)
vpc-063de24cc63cda6c7 | default-vpc

Subnet [Info](#)
No preference (Default subnet in any availability zone)

Step - 5 : Select Security Group Settings to allow SSH traffic and click on 'Launch Instance' button



Firewall (security groups) [Info](#)

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group ☐ Select existing security group

We'll create a new security group called 'launch-wizard-3' with the following rules:

☒ Allow SSH traffic from
Helps you connect to your instance

Anywhere
0.0.0.0/0

☐ Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server

☐ Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

⚠ Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only. ✕

Number of instances [Info](#)
1

Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...[read more](#)
ami-074dc0a6f6c764218

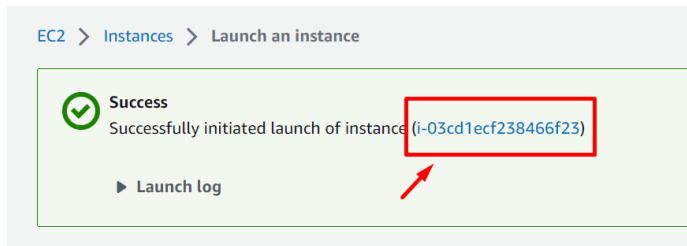
Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

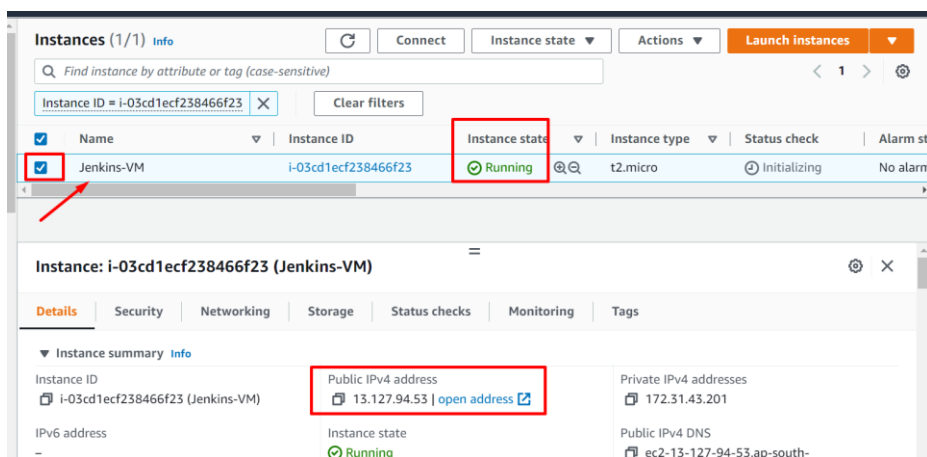
Storage (volumes)
1 volume(s) - 8 GiB

[Cancel](#) [Launch instance](#)

Step - 6 : Once instance got created then click on instance id which is showing like below.

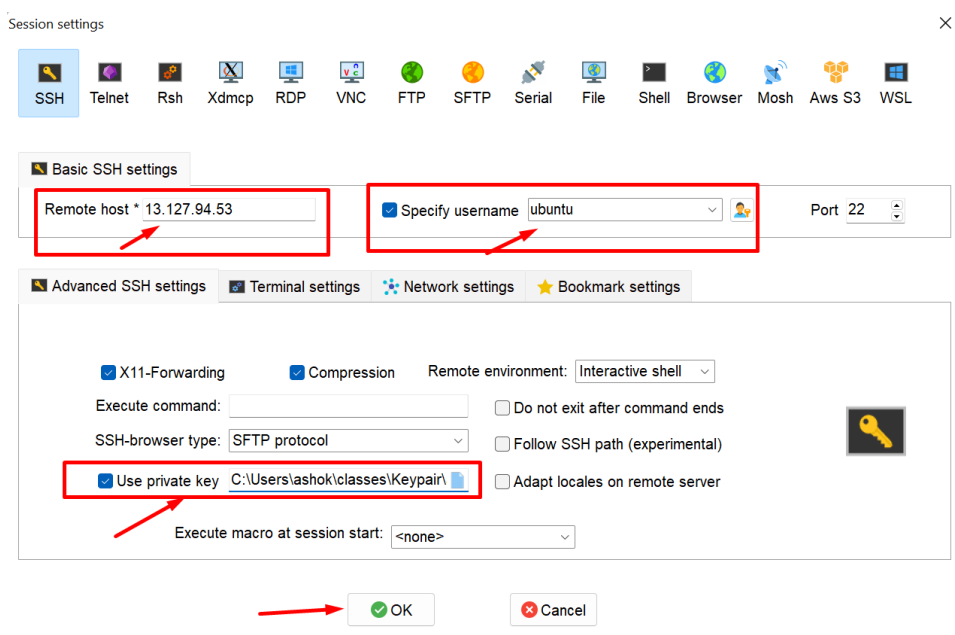


Step - 7 : Select Instance name checkbox and see Public IP of the instance.

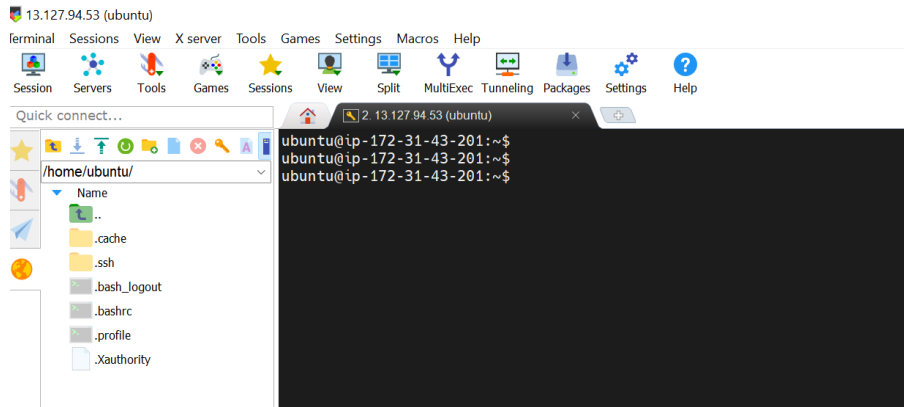


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Step – 8: Open MobaXterm software and Connect to Jenkins VM

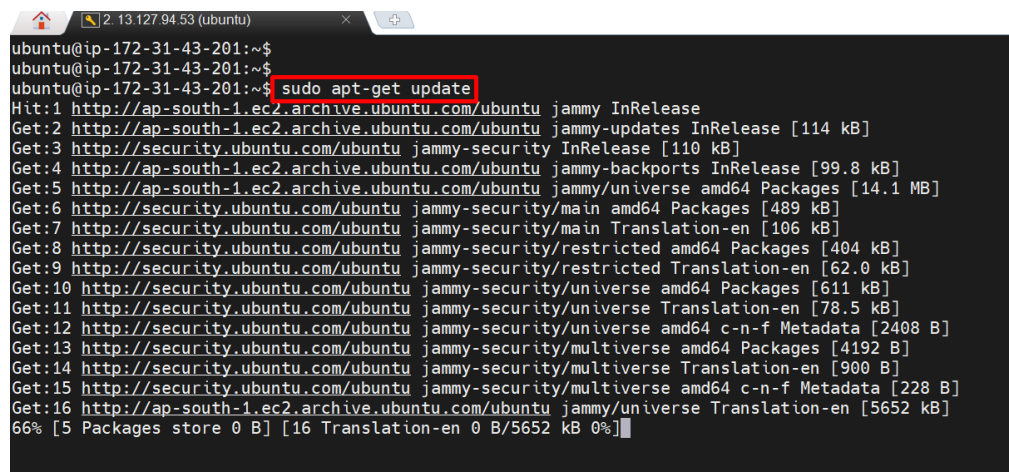


Note: After successful connection with Virtual Machine, we can see below terminal

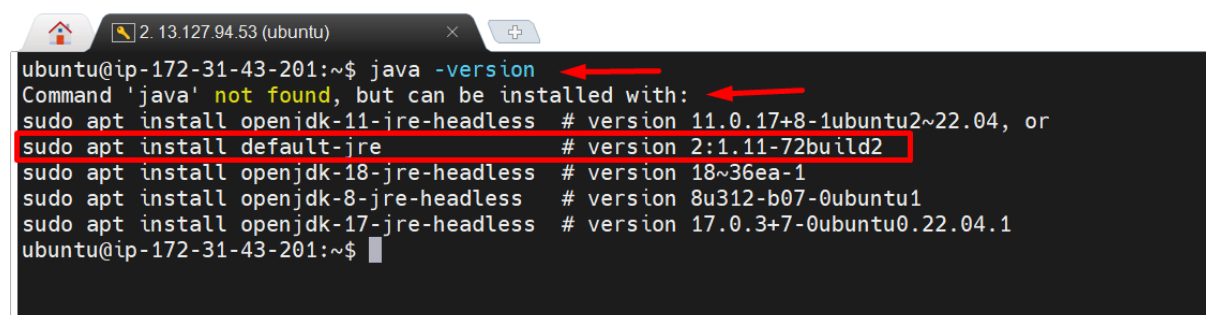


Step – 9 : Update packages using below command

`$ sudo apt-get update`



Step – 10 : Check Java version



Step – 11: Install Java using below command

\$ sudo apt-get install default-jre

```

ubuntu@ip-172-31-43-201:~$ java -version
Command 'java' not found, but can be installed with:
sudo apt install openjdk-11-jre-headless # version 11.0.17+8-1ubuntu2~22.04, or
sudo apt install default-jre # version 2:1.11-72build2
sudo apt install openjdk-18-jre-headless # version 18~36ea-1
sudo apt install openjdk-8-jre-headless # version 8u312-b07-0ubuntu1
sudo apt install openjdk-17-jre-headless # version 17.0.3+7-0ubuntu0.22.04.1
ubuntu@ip-172-31-43-201:~$ sudo apt install default-jre
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
 alsa-topology-conf alsa-ucm-conf at-spi2-core ca-certificates-java dconf-gsettings-backend dconf-service
  default-jre-headless fontconfig-config fonts-dejavu-core fonts-dejavu-extra gsettings-desktop-schemas java-common
  libasound2 libasound2-data libatk-bridge2.0-0 libatk-wrapper-java libatk-wrapper-java-jni libatk1.0-0 libatk1.0-data
  libatspi2.0-0 libavahi-client3 libavahi-common-data libavahi-common3 libcupstools2 libdconf1 libdrm-amdgpu1 libdrm-intel1

```

Step – 12 : Verify Java Version

```

ubuntu@ip-172-31-43-201:~$
ubuntu@ip-172-31-43-201:~$
ubuntu@ip-172-31-43-201:~$
ubuntu@ip-172-31-43-201:~$ java -version
openjdk version "11.0.17" 2022-10-18
OpenJDK Runtime Environment (build 11.0.17+8-post-Ubuntu-1ubuntu22.04)
OpenJDK 64-Bit Server VM (build 11.0.17+8-post-Ubuntu-1ubuntu22.04, mixed mode, sharing)
ubuntu@ip-172-31-43-201:~$

```

Step – 13 : Add Jenkins key to repository by executing below commands

\$ 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 update

```

ubuntu@ip-172-31-43-201:~$
ubuntu@ip-172-31-43-201:~$
ubuntu@ip-172-31-43-201:~$ wget -q -O - https://pkg.jenkins.io/debian-stable/jenkins.io.key | sudo apt-key add -
Warning: apt-key is deprecated. Manage keyring files in trusted.gpg.d instead (see apt-key(8)).
OK
ubuntu@ip-172-31-43-201:~$ sudo sh -c 'echo deb https://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'
ubuntu@ip-172-31-43-201:~$ sudo apt-get update
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Get:2 https://pkg.jenkins.io/debian-stable binary/ Release [2044 B]
Get:3 https://pkg.jenkins.io/debian-stable binary/ Release.gpg [833 B]
Hit:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Hit:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
Get:6 https://pkg.jenkins.io/debian-stable binary/ Packages [23.6 kB]
Hit:7 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
Fetched 26.5 kB in 1s (47.7 kB/s)
Reading package lists... Done
W: https://pkg.jenkins.io/debian-stable/binary/Release.gpg: Key is stored in legacy trusted.gpg keyring (/etc/apt/trusted.gpg), see the DEPRECATION in apt-key(8) for details.
ubuntu@ip-172-31-43-201:~$

```

Step – 14 : Install Jenkins software using below command

\$ sudo apt-get install jenkins

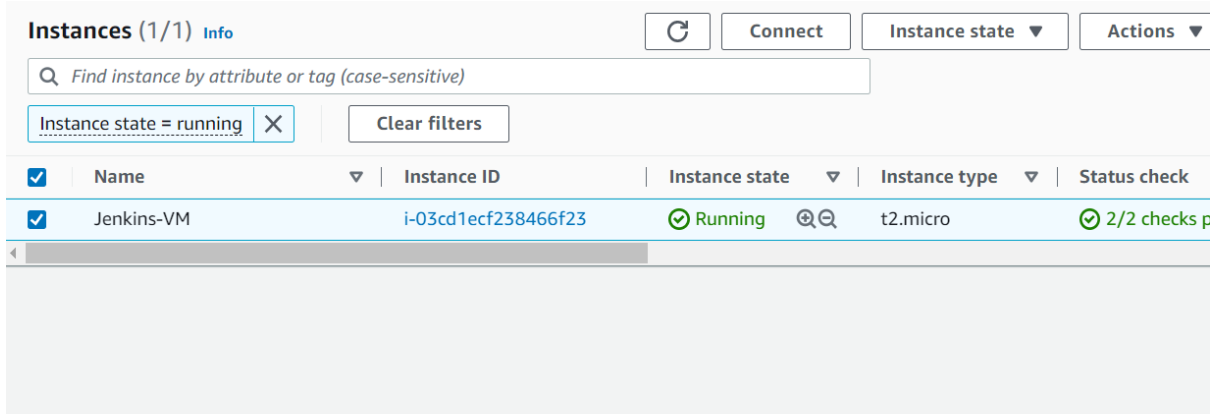
```
ick connect... 2. 13.127.94.53 (ubuntu)
ubuntu@ip-172-31-43-201:~$
ubuntu@ip-172-31-43-201:~$
ubuntu@ip-172-31-43-201:~$
ubuntu@ip-172-31-43-201:~$ sudo apt-get install jenkins
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  net-tools
The following NEW packages will be installed:
  jenkins net-tools
0 upgraded, 2 newly installed, 0 to remove and 84 not upgraded.
Need to get 93.0 MB of archives.
After this operation, 94.4 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

Step – 15 : Check status of Jenkins Server using below command

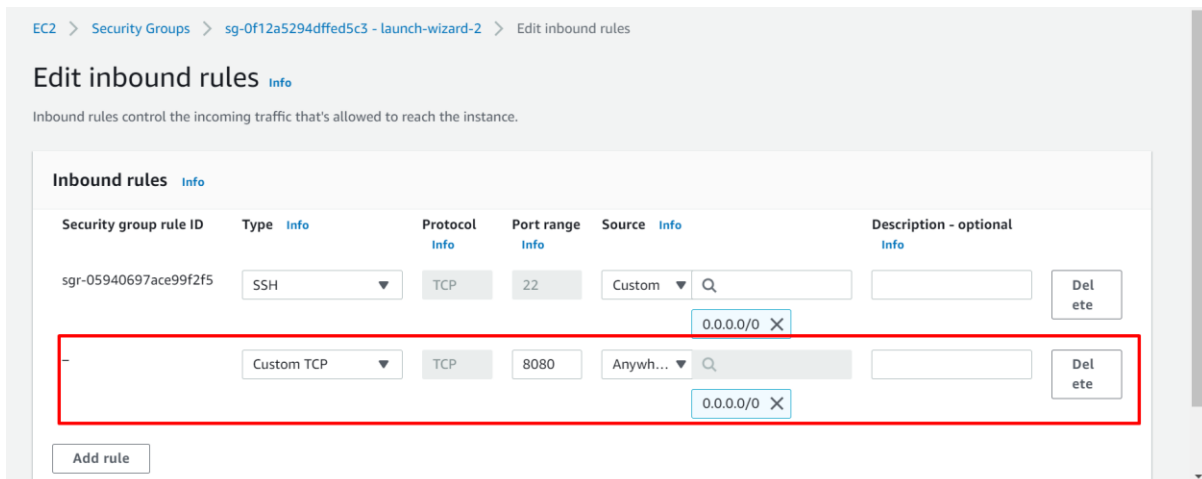
\$ sudo systemctl status jenkins

```
ick connect... 2. 13.127.94.53 (ubuntu)
ubuntu@ip-172-31-43-201:~$
ubuntu@ip-172-31-43-201:~$
ubuntu@ip-172-31-43-201:~$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/lib/systemd/system/jenkins.service; enabled; vendor preset: enabled)
   Active: active (running) since Fri 2022-11-18 15:03:14 UTC; 5min ago
     Main PID: 5159 (java)
       Tasks: 36 (limit: 1143)
      Memory: 310.7M
         CPU: 40.152s
        CGroup: /system.slice/jenkins.service
                └─5159 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war

Nov 18 15:02:42 ip-172-31-43-201 jenkins[5159]: This may also be found at: /var/lib/jenkins/secrets/initialAdminPassword
Nov 18 15:02:42 ip-172-31-43-201 jenkins[5159]: *****
Nov 18 15:02:42 ip-172-31-43-201 jenkins[5159]: *****
Nov 18 15:02:42 ip-172-31-43-201 jenkins[5159]: *****
Nov 18 15:03:14 ip-172-31-43-201 jenkins[5159]: 2022-11-18 15:03:14.013+0000 [id=28] INFO jenkins.InitReactorRu
Nov 18 15:03:14 ip-172-31-43-201 jenkins[5159]: 2022-11-18 15:03:14.038+0000 [id=22] INFO hudson.lifecycle.Life
Nov 18 15:03:14 ip-172-31-43-201 systemd[1]: Started Jenkins Continuous Integration Server.
Nov 18 15:03:14 ip-172-31-43-201 jenkins[5159]: 2022-11-18 15:03:14.939+0000 [id=44] INFO h.m.DownloadService$D
Nov 18 15:03:14 ip-172-31-43-201 jenkins[5159]: 2022-11-18 15:03:14.940+0000 [id=44] INFO hudson.util.Retrier#s
Nov 18 15:03:14 ip-172-31-43-201 jenkins[5159]: 2022-11-18 15:03:14.944+0000 [id=44] INFO hudson.model.AsyncPer
lines 1-20/20 (END)
```

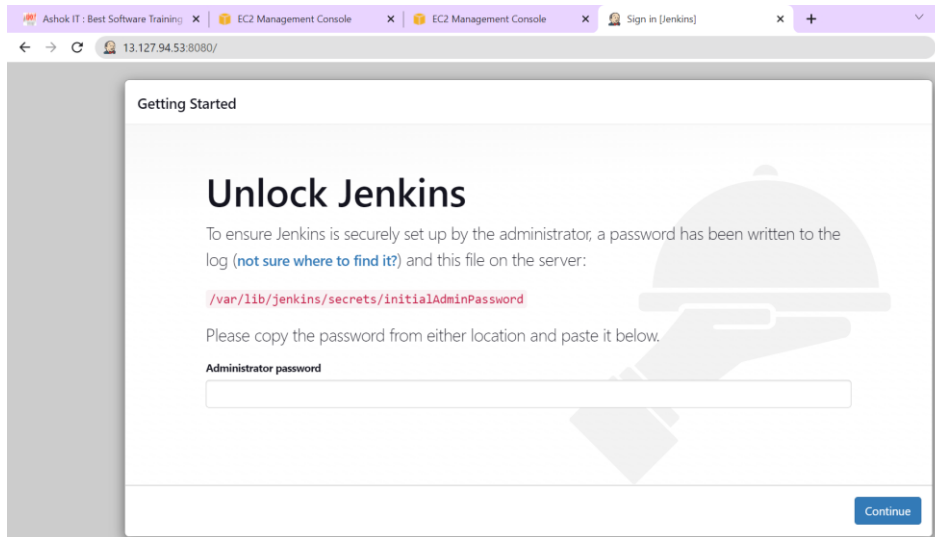

Step – 16 : Open Security Group of our JENKINS VM

The screenshot shows the AWS Management Console 'Instances' page. A filter is applied for 'Instance state = running'. The table lists one instance, 'Jenkins-VM', with ID 'i-03cd1ecf238466f23', state 'Running', type 't2.micro', and '2/2 checks passed'. Below the table, the 'Instance: i-03cd1ecf238466f23 (Jenkins-VM)' details are shown, including a red box around the 'Security groups' section which lists 'sg-0f12a5294dffed5c3 (launch-wizard-2)'.

Step – 17: Add below Inbound rule to allow 8080 protocol

The screenshot shows the 'Edit inbound rules' page for the security group 'sg-0f12a5294dffed5c3 - launch-wizard-2'. The page displays a table of inbound rules. A new rule is being added, highlighted by a red box. The rule is named 'Custom TCP', has a protocol of 'TCP', a port range of '8080', and a source of 'Anywh...'. The 'Add rule' button is visible at the bottom left.

Step – 18 : Access Jenkins Server in browser using public IP like below

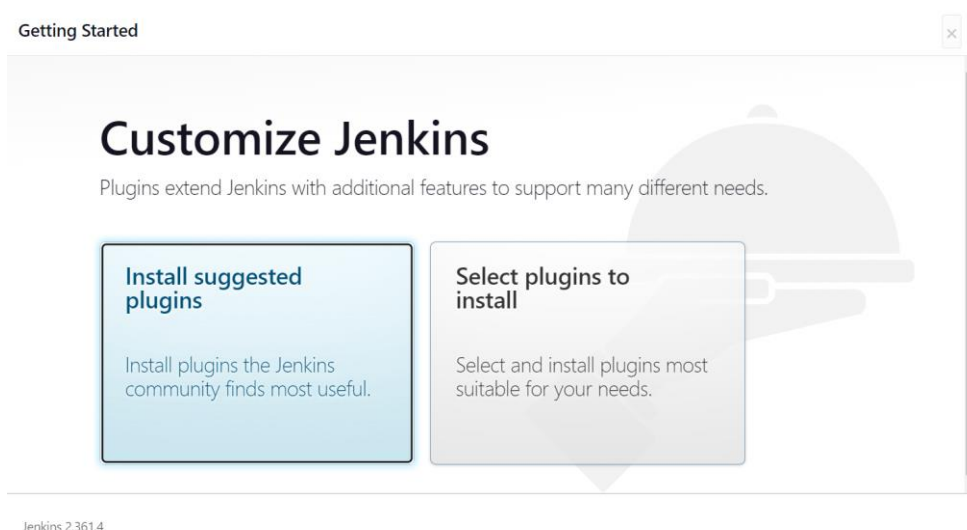


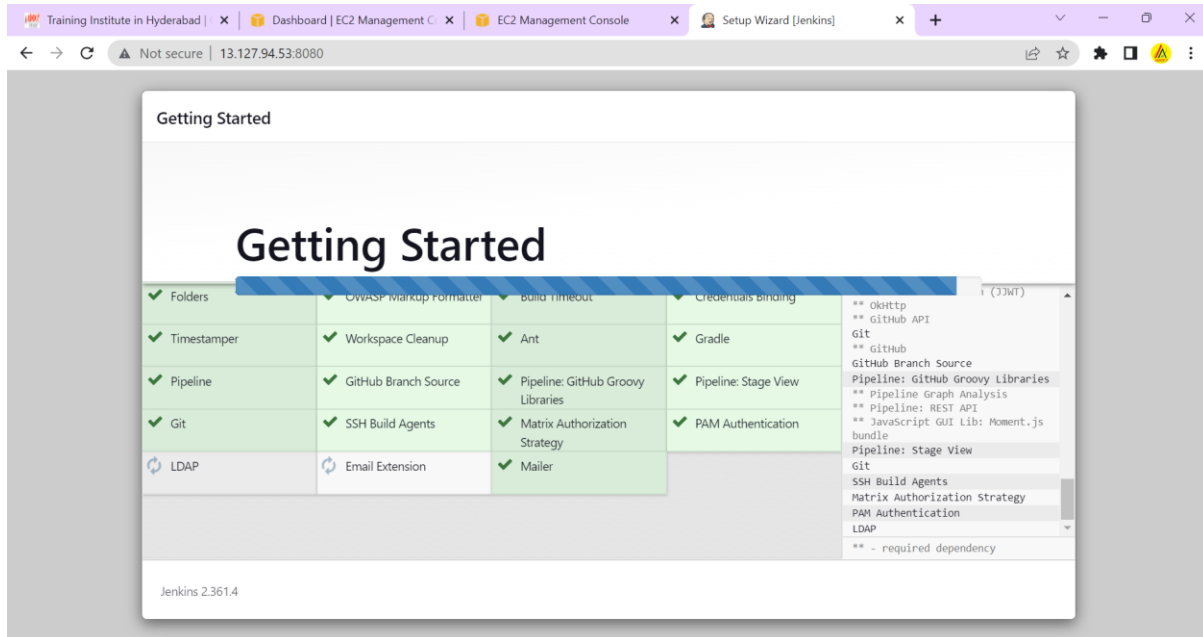
Step – 19 : To unlock Jenkins we need admin password; we can copy that using below command

```
$ sudo cat /var/lib/jenkins/secrets/initialAdminPassword
```

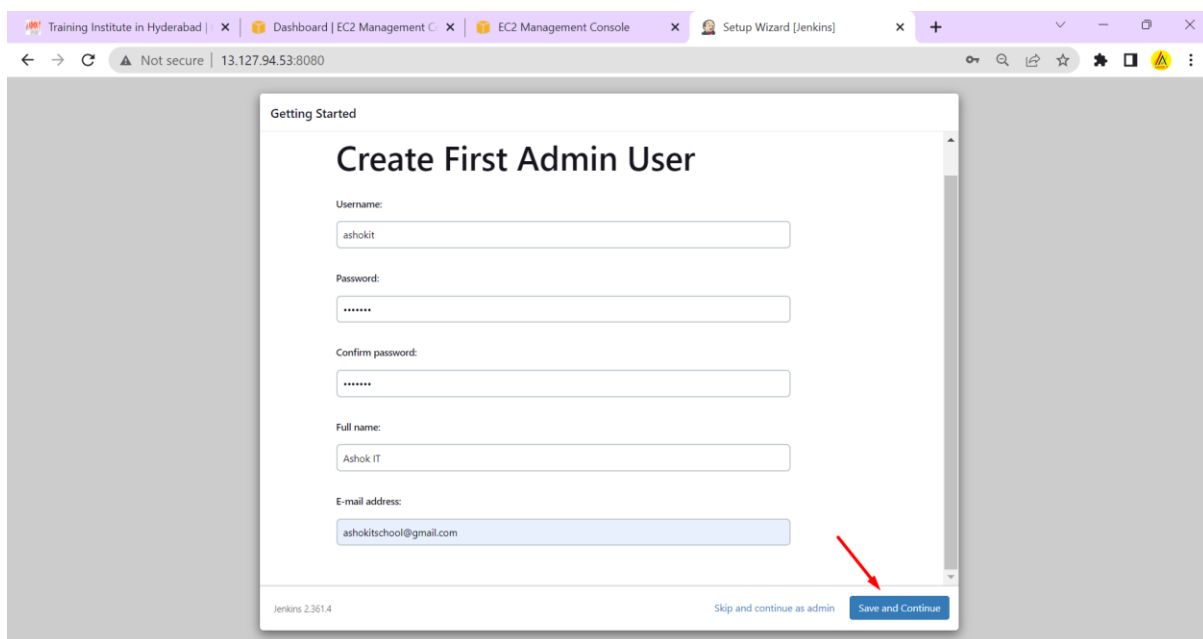
```
ubuntu@ip-172-31-43-201:~$  
ubuntu@ip-172-31-43-201:~$ sudo cat /var/lib/jenkins/secrets/initialAdminPassword  
ed634d751a774f959c5631fa85b8d20b  
ubuntu@ip-172-31-43-201:~$
```

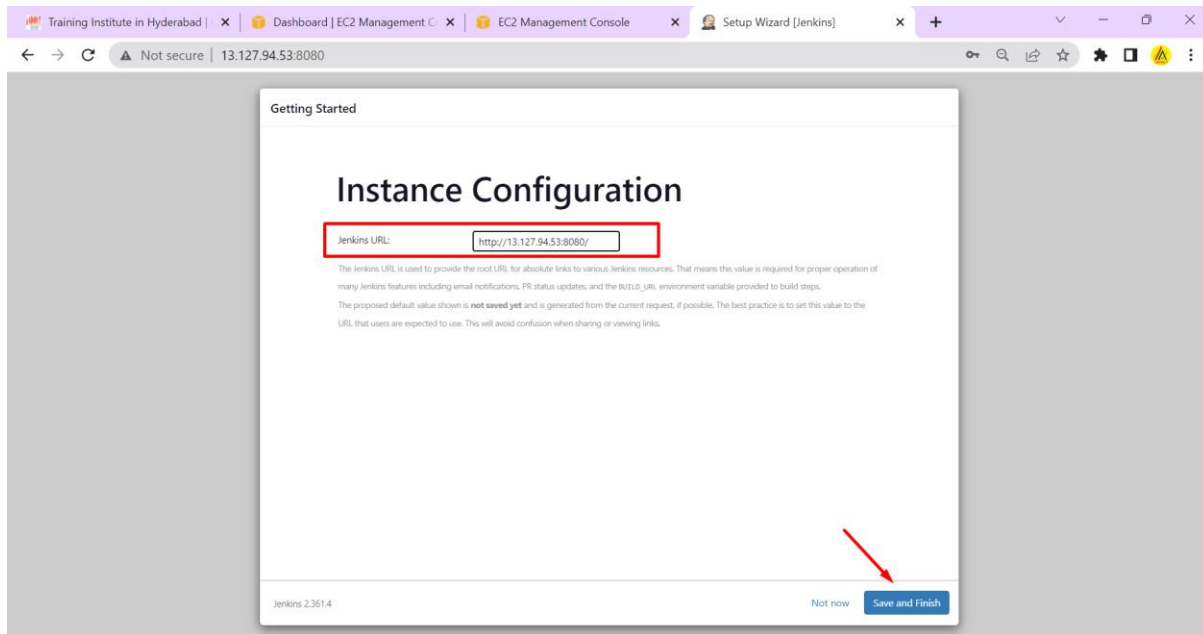
Step – 20 : Click on Install Suggested Plugins



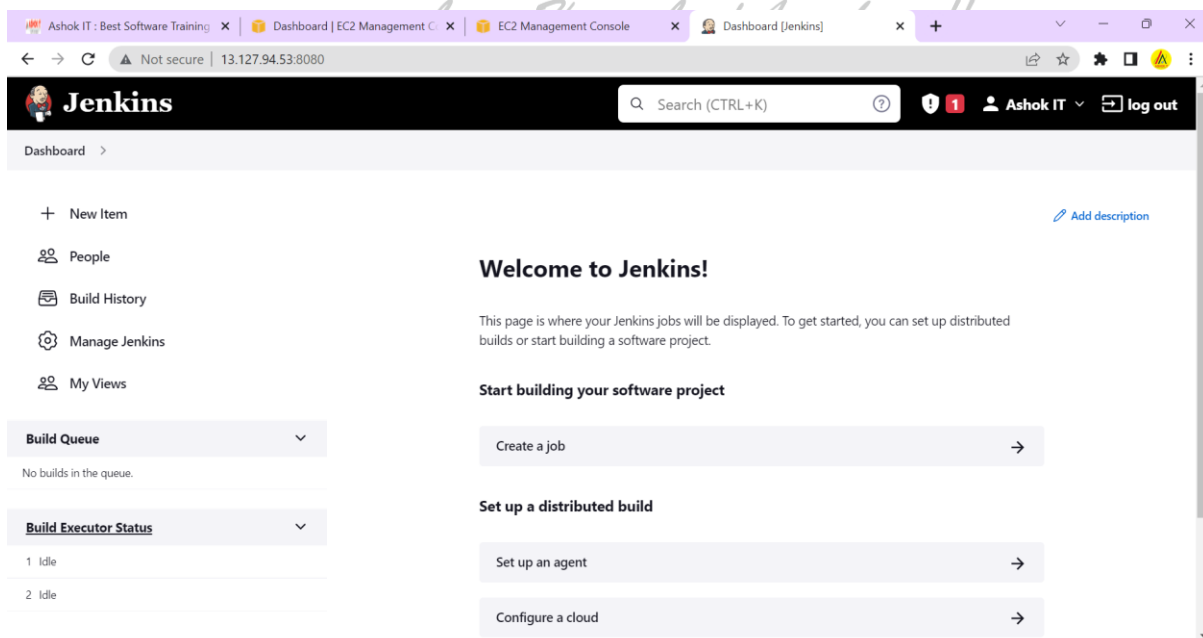


Step – 21 : Create Admin User account



Step – 22 : Just Save and Finish in below screen

Note: Once setup is completed, we can see Jenkins dashboard like below.



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