

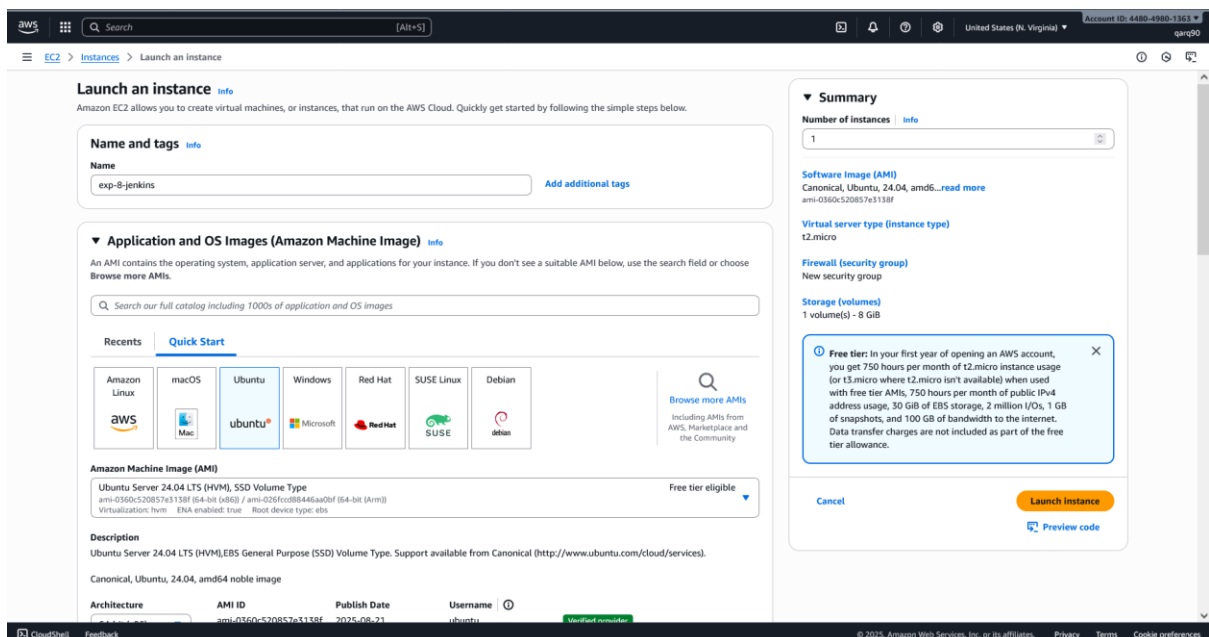
Name: Abdurrahman Qureshi

Roll No: 242466

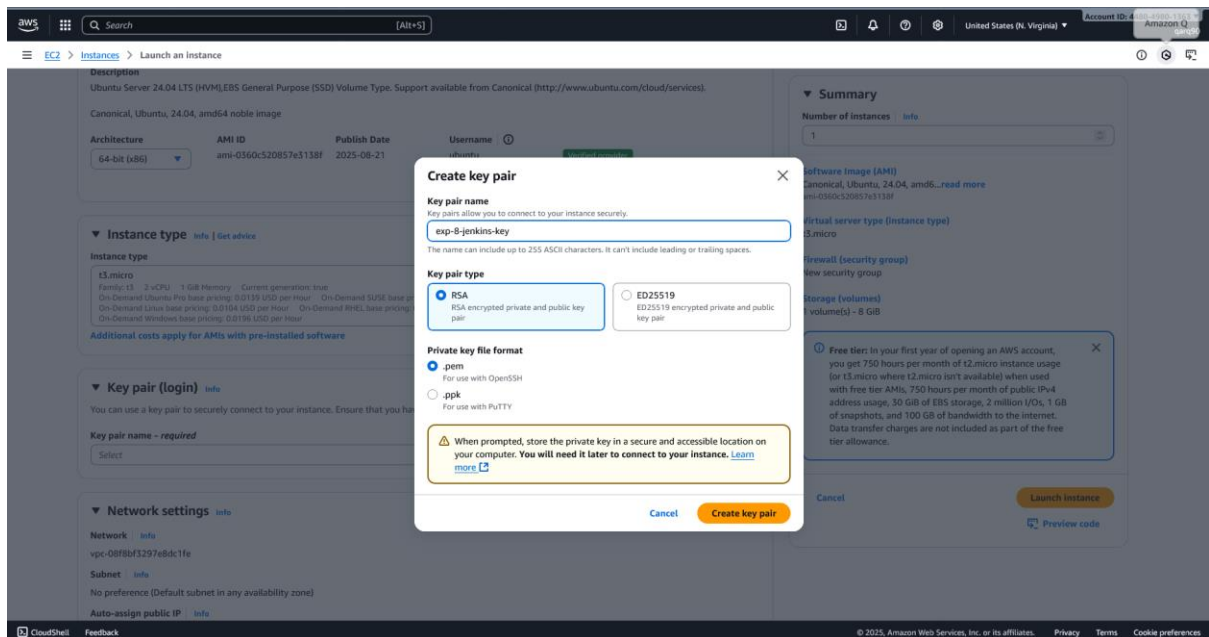
Practical No: 8

Date Of Performance: 06/09/2025

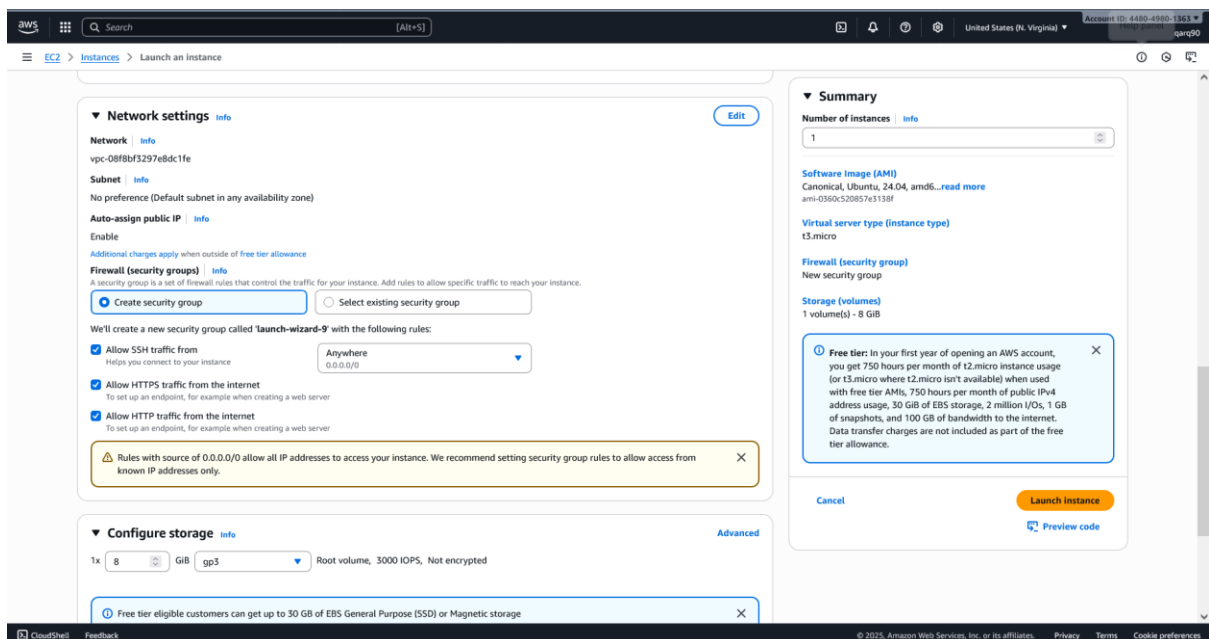
Aim: To understand and demonstrate the use of Jenkins on AWS EC2 Instance



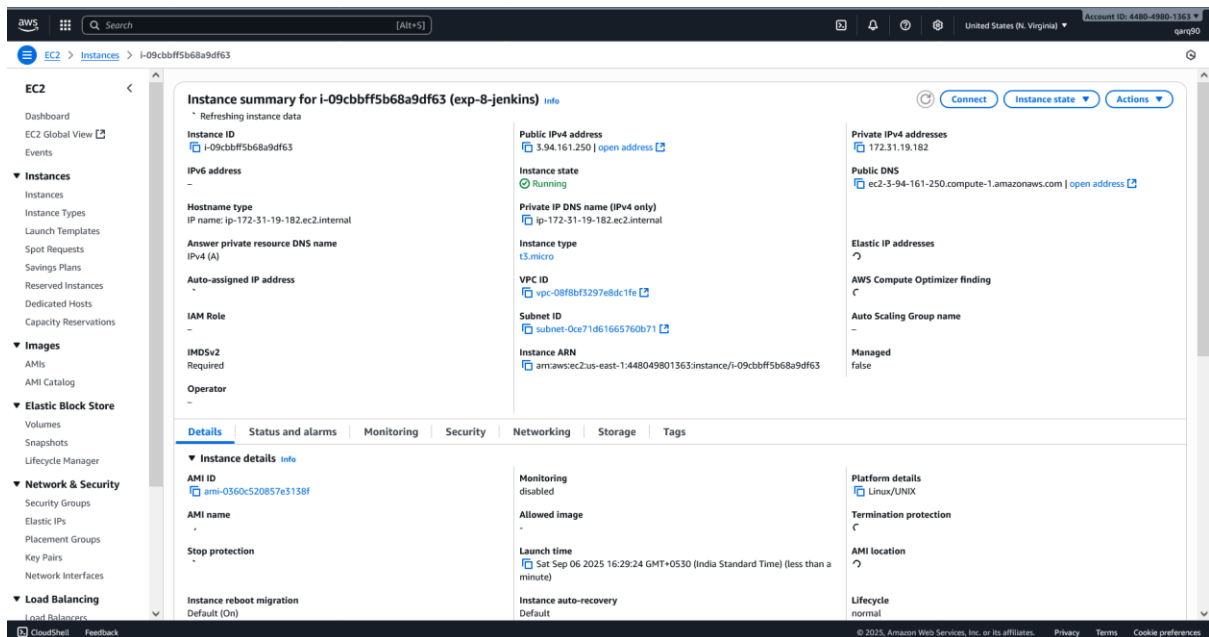
Creating an Instance



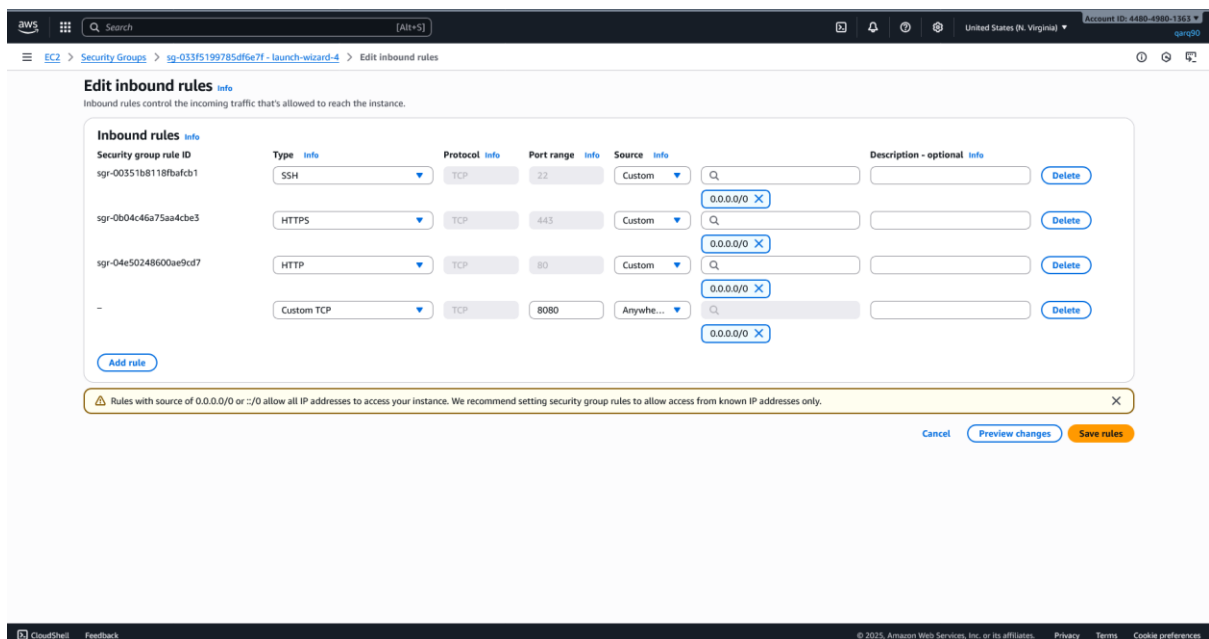
## Creating the Key pair



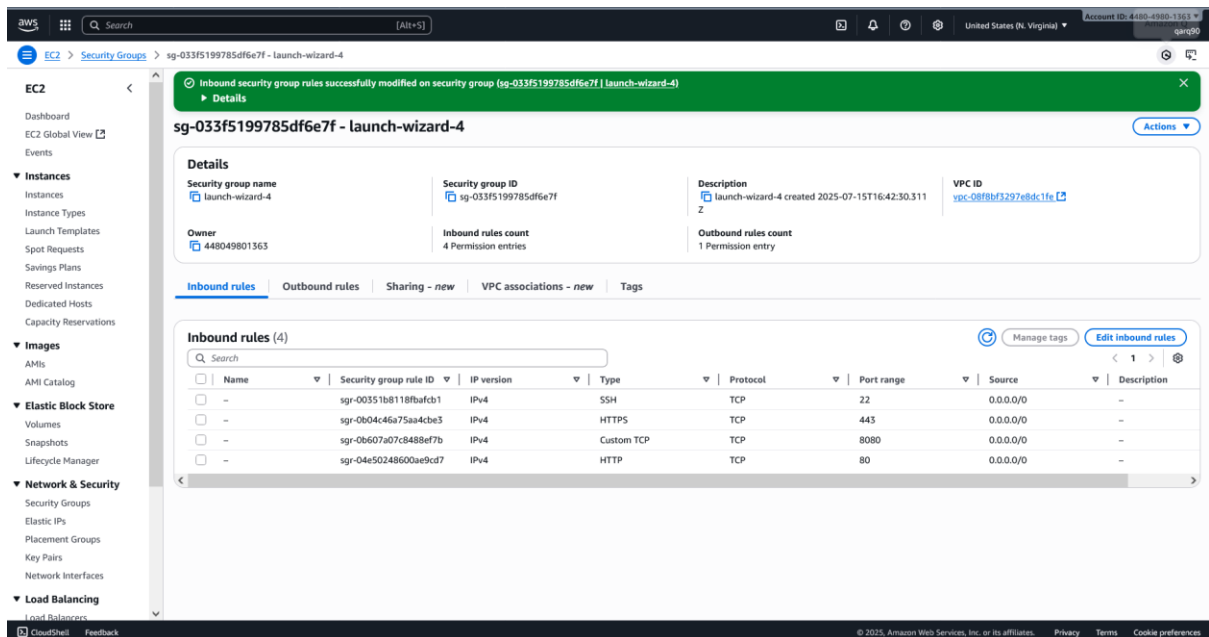
## Configuring Network Settings



## Instance Details



## Editing Inbound Rules for Access



## Inbound rules Updated Successfully

```

Abdurrahman Qureshi@DESKTOP-H2RVSMQ MINGW64 ~/Downloads
$ chmod 400 "exp-8-jenkins-key.pem"

Abdurrahman Qureshi@DESKTOP-H2RVSMQ MINGW64 ~/Downloads
$ ssh -i "exp-8-jenkins-key.pem" ubuntu@ec2-3-94-161-250.compute-1.amazonaws.com
bash: ec2-3-94-161-250.compute-1.amazonaws.com: command not found

Abdurrahman Qureshi@DESKTOP-H2RVSMQ MINGW64 ~/Downloads
$ ssh -i "exp-8-jenkins-key.pem" ubuntu@ec2-3-94-161-250.compute-1.amazonaws.com
The authenticity of host 'ec2-3-94-161-250.compute-1.amazonaws.com (3.94.161.250)' can't be established.
ED25519 key fingerprint is SHA256:cT0u8Yomuj/EQIn0tafIFxTodB2LSK4TENkjUJoQ06k.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-3-94-161-250.compute-1.amazonaws.com' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1011-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sat Sep  6 11:03:44 UTC 2025

System load:  0.01      Temperature:   -273.1 C
Usage of /:   25.6% of 6.7168      Processes:    115
Memory usage: 23%      Users logged in: 0
Swap usage:   0%       IPv4 address for ens5: 172.31.19.182

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update
  
```

## Connecting to the Instance on Alacritty(Terminal)

```
ubuntu@ip-172-31-19-182:~$ sudo apt install openjdk-11-jdk
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-19-182:~$ sudo apt install openjdk-11-jdk
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-common at-spi2-core ca-certificates-java dconf-gsettings-backend dconf-service
  fontconfig-config fonts-dejavu-core fonts-dejavu-extra fonts-dejavu-mono gsettings-desktop-schemas java-common libasound2-data
  libasound2t64 libatk-bridge2.0-0t64 libatk-wrapper-java libatk-wrapper-java-jni libatk1.0-0t64 libatspi2.0-0t64
  libavahi-client3 libavahi-common-data libavahi-common3 libcups2t64 libdconf1 libdrm-amdgpu1 libdrm-intel1 libfontconfig1
  libgbm1 libgif7 libgl1 libgl1-mesa-dri libglvnd0 libglx-mesa0 libglx0 libgraphite2-3 libharfbuzz0b libice-dev libice6
  libjpeg-turbo8 libjpeg8 liblcms2-2 libllvm20 libpciaccess0 libpcsclite1 libpthread-stubs0-dev libsm-dev libsm6 libvulkan1
  libwayland-client0 libwayland-server0 libx11-dev libx11-xcb1 libxau-dev libxaw7 libxcb-dri3-0 libxcb-glx0 libxcb-present0
  libxcb-randr0 libxcb-shape0 libxcb-shm0 libxcb-sync1 libxcb-xfixes0 libxcb1-dev libxcomposite1 libxdmcp-dev libxft2 libxi6
  libxinerama1 libxkbfile1 libxmu6 libxpm4 libxrandr2 libxrender1 libxshmfence1 libxt-dev libxt6t64 libxtst6 libxxf86dga1
  libxxf86vm1 mesa-libgallium mesa-vulkan-drivers openjdk-11-jdk-headless openjdk-11-jre openjdk-11-jre-headless
  session-migration x11-common x11-utils x11proto-dev xorg-sgml-doctools xtrans-dev
Suggested packages:
  default-jre alsa-utils libasound2-plugins cups-common libice-doc liblcms2-utils pcsd libsm-doc libx11-doc libxcb-doc
  libxt-doc openjdk-11-demo openjdk-11-source visualvm libnss-mdns fonts-ipafont-gothic fonts-ipafont-mincho fonts-wqy-microhei
  | fonts-wqy-zenhei fonts-indic mesa-utils
Recommended packages:
  luit
The following NEW packages will be installed:
  alsa-topology-conf alsa-ucm-conf at-spi2-common at-spi2-core ca-certificates-java dconf-gsettings-backend dconf-service
  fontconfig-config fonts-dejavu-core fonts-dejavu-extra fonts-dejavu-mono gsettings-desktop-schemas java-common libasound2-data
  libasound2t64 libatk-bridge2.0-0t64 libatk-wrapper-java libatk-wrapper-java-jni libatk1.0-0t64 libatspi2.0-0t64
  libavahi-client3 libavahi-common-data libavahi-common3 libcups2t64 libdconf1 libdrm-amdgpu1 libdrm-intel1 libfontconfig1
  libgbm1 libgif7 libgl1 libgl1-mesa-dri libglvnd0 libglx-mesa0 libglx0 libgraphite2-3 libharfbuzz0b libice-dev libice6
  libjpeg-turbo8 libjpeg8 liblcms2-2 libllvm20 libpciaccess0 libpcsclite1 libpthread-stubs0-dev libsm-dev libsm6 libvulkan1
  libwayland-client0 libwayland-server0 libx11-dev libx11-xcb1 libxau-dev libxaw7 libxcb-dri3-0 libxcb-glx0 libxcb-present0
  libxcb-randr0 libxcb-shape0 libxcb-shm0 libxcb-sync1 libxcb-xfixes0 libxcb1-dev libxcomposite1 libxdmcp-dev libxft2 libxi6
  libxinerama1 libxkbfile1 libxmu6 libxpm4 libxrandr2 libxrender1 libxshmfence1 libxt-dev libxt6t64 libxtst6 libxxf86dga1
  libxxf86vm1 mesa-libgallium mesa-vulkan-drivers openjdk-11-jdk-headless openjdk-11-jre openjdk-11-jre-headless
  session-migration x11-common x11-utils x11proto-dev xorg-sgml-doctools xtrans-dev
0 upgraded, 93 newly installed, 0 to remove and 0 not upgraded.
Need to get 183 MB of archives.
After this operation, 561 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

## Updating system

```
ubuntu@ip-172-31-19-182:~$ java --version
openjdk 11.0.28 2025-07-15
OpenJDK Runtime Environment (build 11.0.28+6-post-Ubuntu-1ubuntu124.04.1)
OpenJDK 64-Bit Server VM (build 11.0.28+6-post-Ubuntu-1ubuntu124.04.1, mixed mode, sharing)
```

## Checking java version

```
ubuntu@ip-172-31-19-182:~$ sudo apt update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
All packages are up to date.
ubuntu@ip-172-31-19-182:~$ sudo apt install -y jenkins
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Package jenkins is not available, but is referred to by another package.
This may mean that the package is missing, has been obsoleted, or
is only available from another source

E: Package 'jenkins' has no installation candidate
ubuntu@ip-172-31-19-182:~$ sudo apt install jenkins
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package jenkins
ubuntu@ip-172-31-19-182:~$ sudo apt install jenkins
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Package jenkins is not available, but is referred to by another package.
This may mean that the package is missing, has been obsoleted, or
is only available from another source

E: Package 'jenkins' has no installation candidate
ubuntu@ip-172-31-19-182:~$ curl -fsSL https://pkg.jenkins.io/debian/jenkins.io-2023.key | sudo tee /usr/share/keyrings/jenkins-key
ring.asc > /dev/null
ubuntu@ip-172-31-19-182:~$ echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] https://pkg.jenkins.io/debian-stable binar
y/ | sudo tee /etc/apt/sources.list.d/jenkins.list > /dev/null
ubuntu@ip-172-31-19-182:~$
```

## Installing Jenkins

```
ubuntu@ip-172-31-19-182:~$ sudo apt install jenkins -y
Reading state information... Done
All packages are up to date.
ubuntu@ip-172-31-19-182:~$ sudo apt install jenkins -y
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 0 not upgraded.
Need to get 87.3 MB of archives.
After this operation, 88.4 MB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 net-tools amd64 2.10-0.1ubuntu4.4 [204 kB]
Get:2 https://pkg.jenkins.io/debian-stable binary/ jenkins 2.516.2 [87.1 MB]
Fetched 87.3 MB in 9s (9991 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 106005 files and directories currently installed.)
Preparing to unpack .../net-tools_2.10-0.1ubuntu4.4_amd64.deb ...
Unpacking net-tools (2.10-0.1ubuntu4.4) ...
Selecting previously unselected package jenkins.
Preparing to unpack .../jenkins_2.516.2_all.deb ...
Unpacking jenkins (2.516.2) ...
Setting up net-tools (2.10-0.1ubuntu4.4) ...
Setting up jenkins (2.516.2) ...
Created symlink /etc/systemd/system/multi-user.target.wants/jenkins.service → /usr/lib/systemd/system/jenkins.service.
Could not execute systemctl: at /usr/bin/deb-systemd-invoke line 148.
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Pending kernel upgrade!
Running kernel version:
  6.14.0-1011-aws
Diagnostics:
  The currently running kernel version is not the expected kernel version 6.14.0-1012-aws.

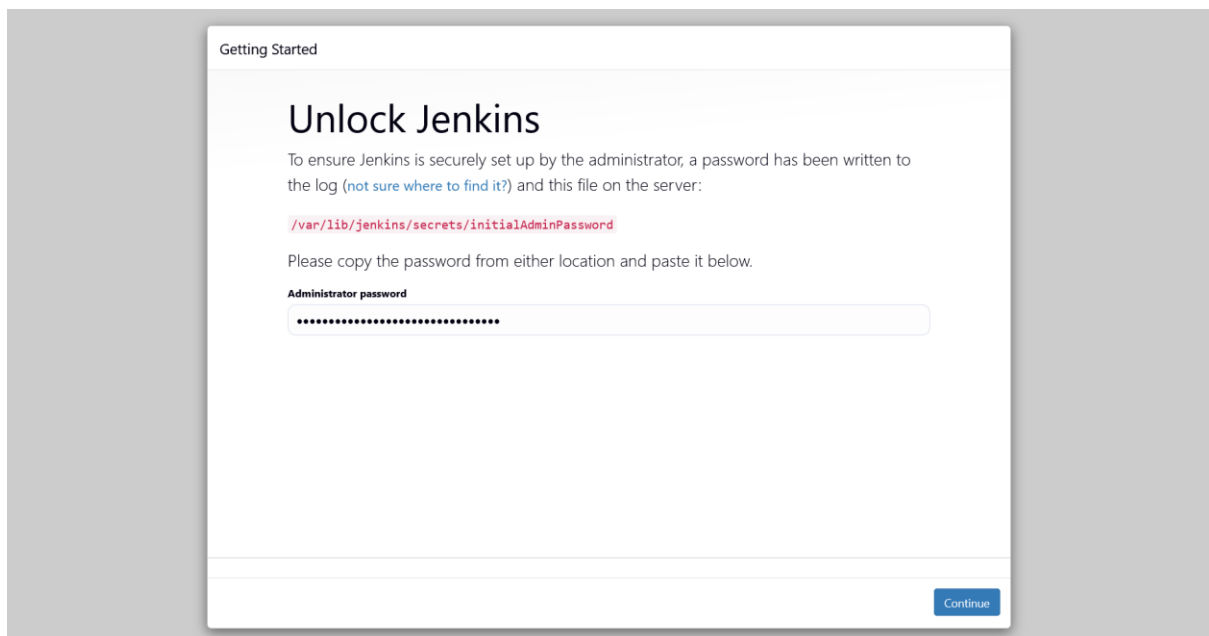
Restarting the system to load the new kernel will not be handled automatically, so you should consider rebooting.
```



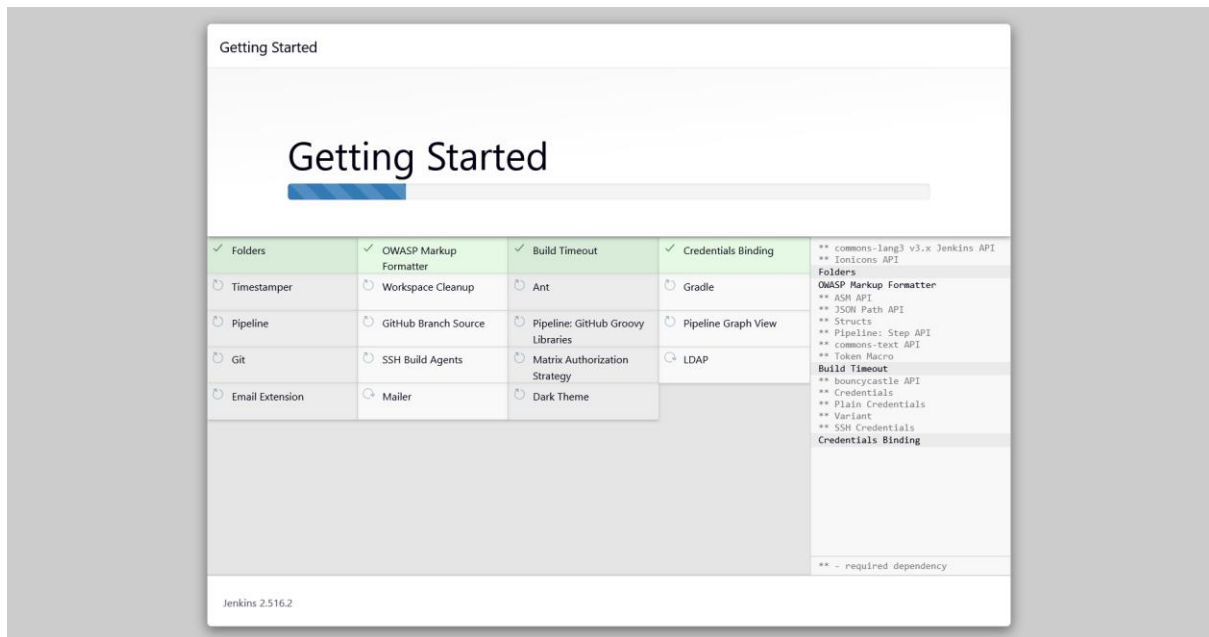
```
ubuntu@ip-172-31-19-182:~$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; preset: enabled)
   Active: active (running) since Sat 2025-09-06 11:35:57 UTC; 9s ago
     Main PID: 13128 (java)
       Tasks: 46 (limit: 1000)
      Memory: 325.6M (peak: 331.5M)
         CPU: 16.631s
    CGroup: /system.slice/jenkins.service
            └─13128 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --h

Sep 06 11:35:53 ip-172-31-19-182 jenkins[13128]: d7947bdeee8b41699511f4b37482a68a
Sep 06 11:35:53 ip-172-31-19-182 jenkins[13128]: This may also be found at: /var/lib/jenkins/secrets/initialAdminPassword
Sep 06 11:35:53 ip-172-31-19-182 jenkins[13128]: *****
Sep 06 11:35:53 ip-172-31-19-182 jenkins[13128]: *****
Sep 06 11:35:57 ip-172-31-19-182 jenkins[13128]: 2025-09-06 11:35:57.401+0000 [id=31] INFO jenkins.InitReactorRunne
Sep 06 11:35:57 ip-172-31-19-182 jenkins[13128]: 2025-09-06 11:35:57.416+0000 [id=23] INFO hudson.lifecycle.Lifecyc
Sep 06 11:35:57 ip-172-31-19-182 systemd[1]: Started jenkins.service - Jenkins Continuous Integration Server.
Sep 06 11:35:57 ip-172-31-19-182 jenkins[13128]: 2025-09-06 11:35:57.630+0000 [id=49] INFO h.m.DownloadService$Down
Sep 06 11:35:57 ip-172-31-19-182 jenkins[13128]: 2025-09-06 11:35:57.631+0000 [id=49] INFO hudson.util.Retrier#star
lines 1-20/20 (END)
```

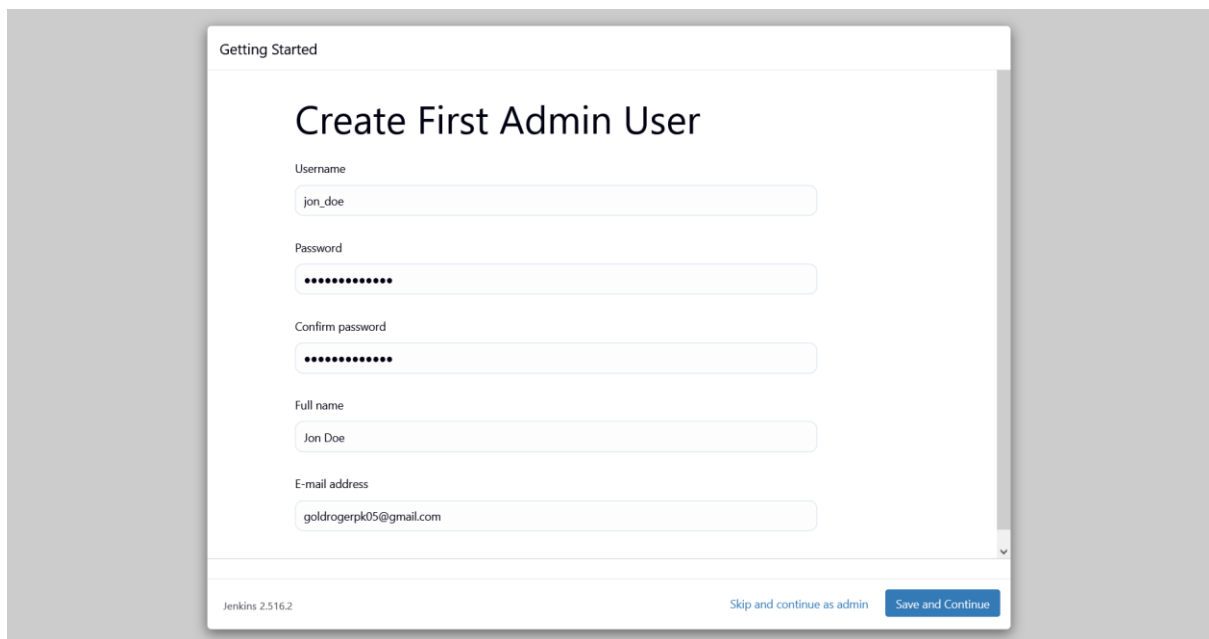
## Starting Jenkins Server



Opened on <http://3.94.161.250:8080>

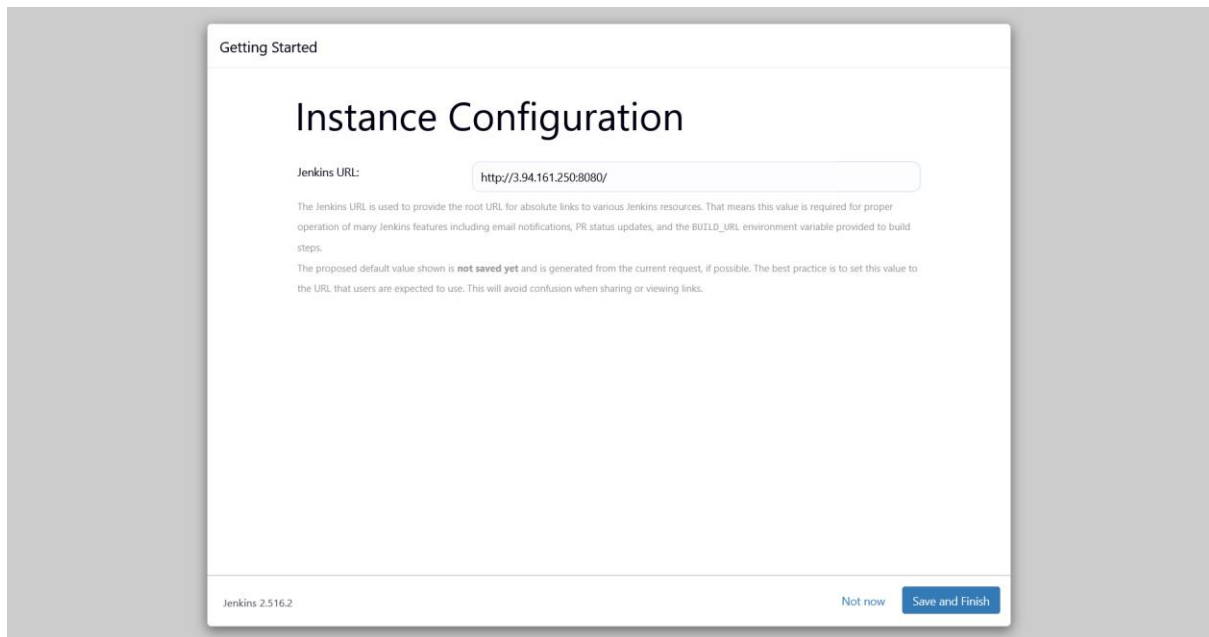


## Installing Plugins



## Creating Admin





The screenshot shows the 'Getting Started' section of the Jenkins installation wizard. The main heading is 'Instance Configuration'. Below it, there is a label 'Jenkins URL:' followed by a text input field containing 'http://3.94.161.250:8080/'. Below the input field, there is a paragraph of text explaining the purpose of the Jenkins URL. At the bottom left, it says 'Jenkins 2.516.2'. At the bottom right, there are two buttons: 'Not now' and 'Save and Finish'.

Getting Started

## Instance Configuration

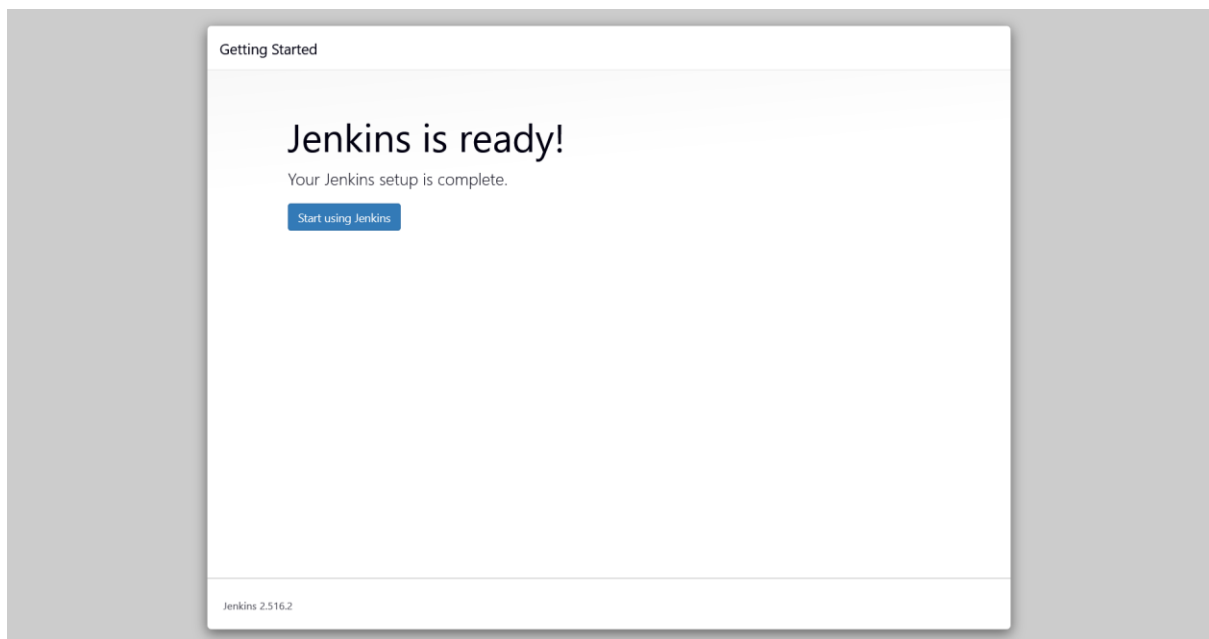
Jenkins URL:

The Jenkins URL is used to provide the root URL for absolute links to various Jenkins resources. That means this value is required for proper operation of many Jenkins features including email notifications, PR status updates, and the `BUILD_URL` environment variable provided to build steps.

The proposed default value shown is **not saved yet** and is generated from the current request, if possible. The best practice is to set this value to the URL that users are expected to use. This will avoid confusion when sharing or viewing links.

Jenkins 2.516.2 Not now Save and Finish

## Connecting Instance



The screenshot shows the 'Getting Started' section of the Jenkins installation wizard after setup completion. The main heading is 'Jenkins is ready!'. Below it, there is a paragraph of text stating 'Your Jenkins setup is complete.' and a button labeled 'Start using Jenkins'. At the bottom left, it says 'Jenkins 2.516.2'.

Getting Started

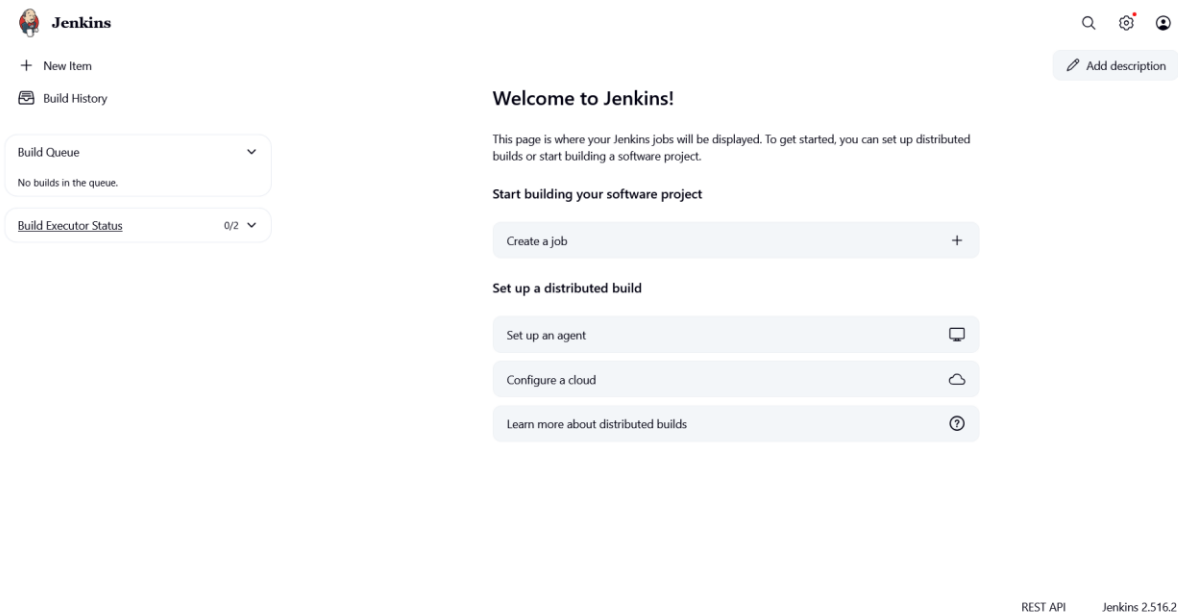
## Jenkins is ready!

Your Jenkins setup is complete.

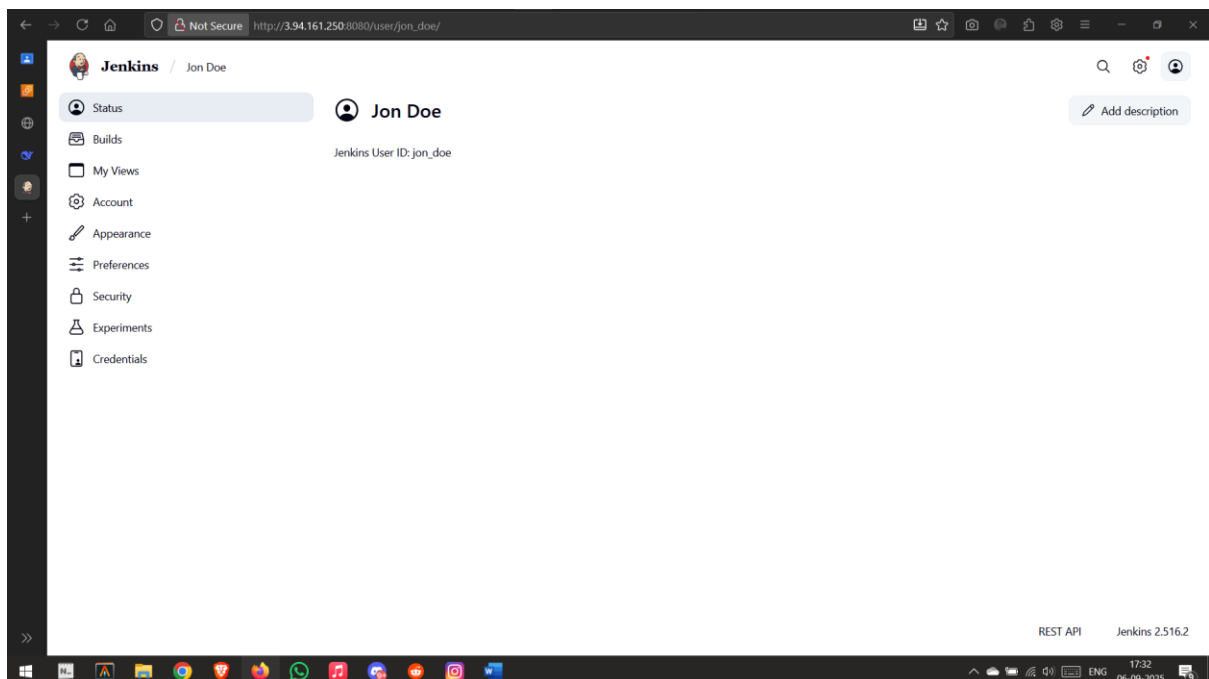
Start using Jenkins

Jenkins 2.516.2

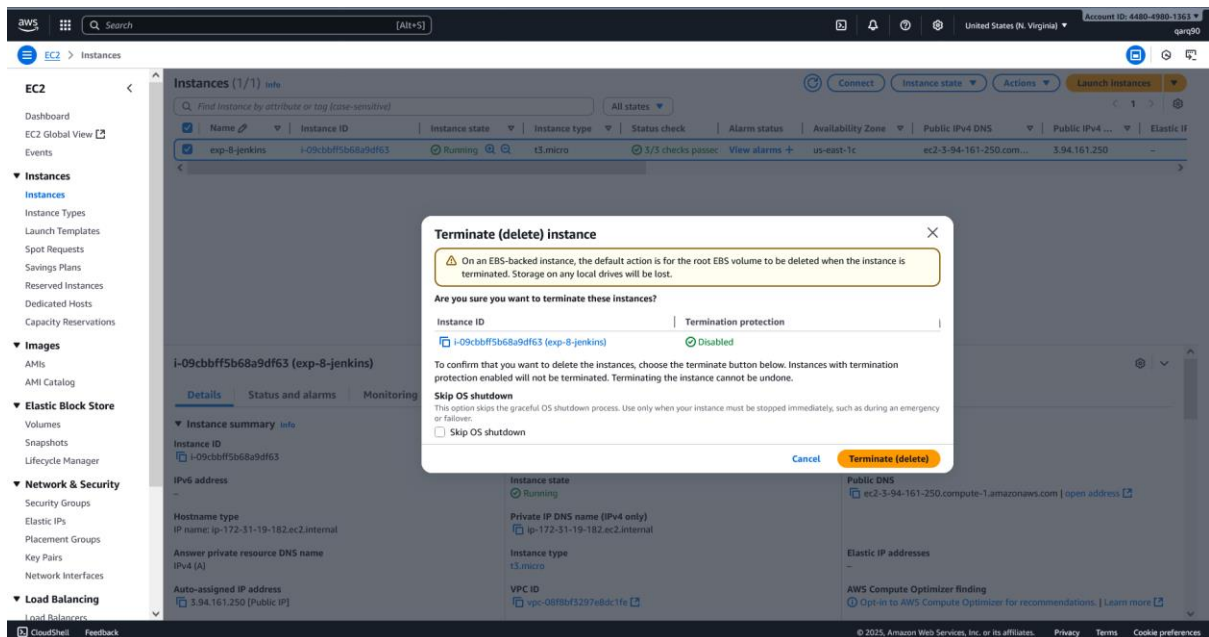
## Setup Completion



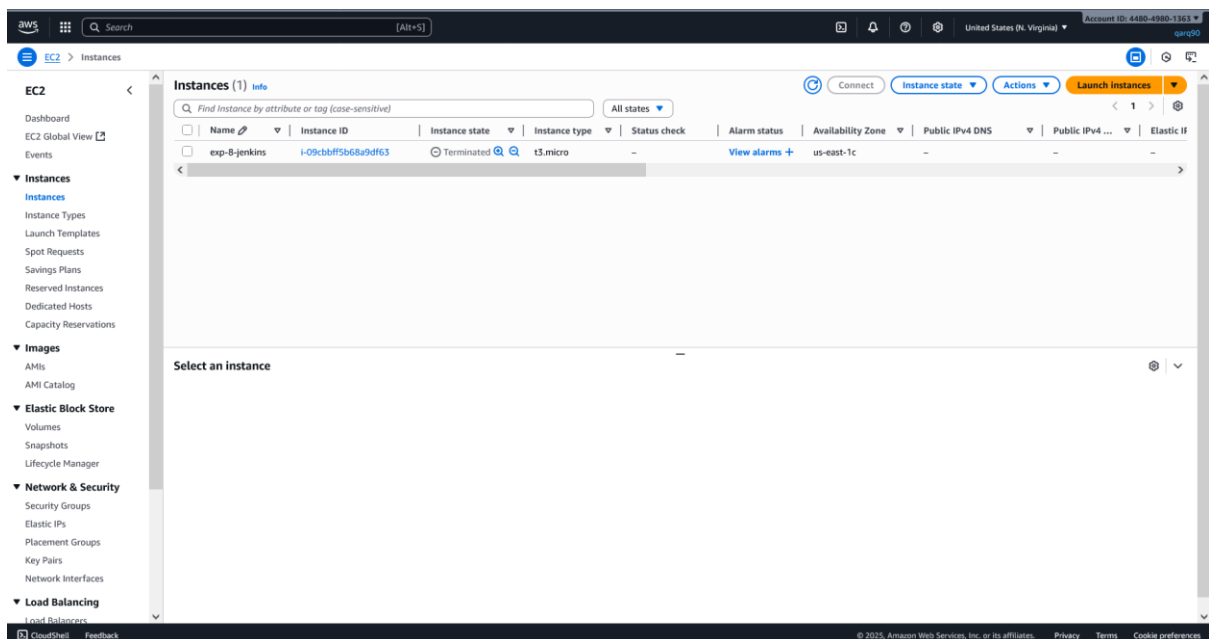
## Jenkins Home Page



## Jenkins User Page



## Deleting Instance



## Instance Terminated Successfully