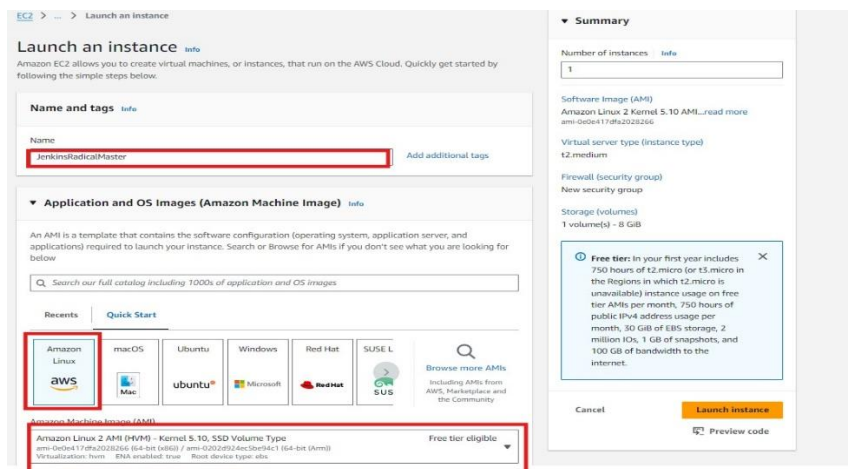


Jenkins Installation on AWS EC2 Instance

(Part 1)

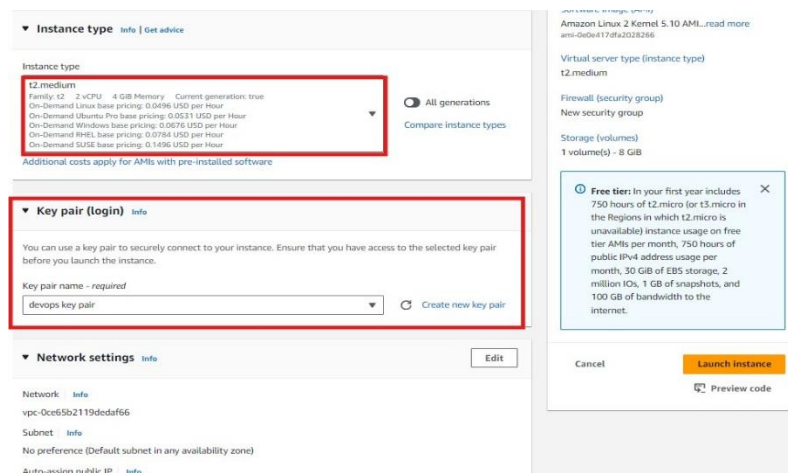
1. Create an EC2 Instance:

- Name the instance "JenkinsMaster".
- Set the Amazon Machine Image (AMI) to Amazon Linux 2 AMI.



2. Configure Instance Type:

- Choose t2.medium as the instance type for better performance.
- Use the default key pair for authentication.



3. Launch the Instance:

- After clicking Launch Instance, wait until the instance status shows Running.

4. Edit Security Group Inbound Rules:

- Go to the Security tab and open the Security Group link in a new tab.

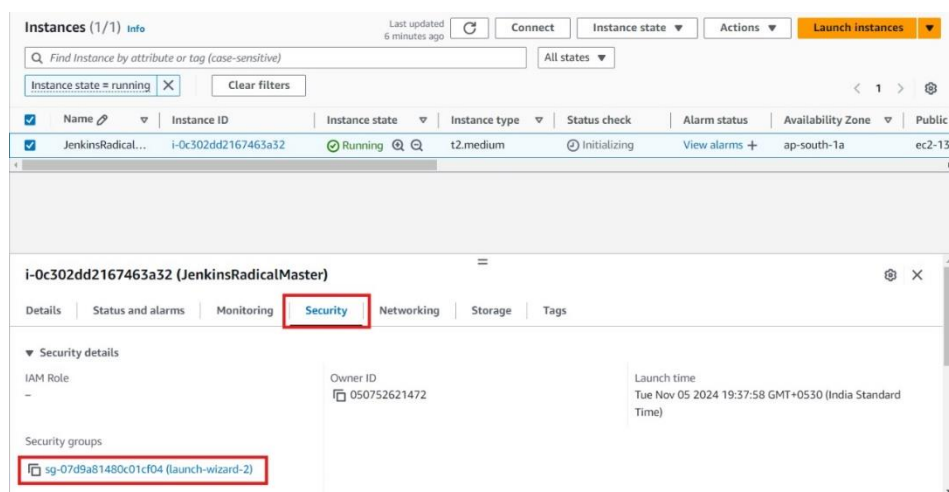
- Click on Edit inbound rules.

- Add a new rule:

- Port Range: 8080

- Source: Anywhere (IPv4)

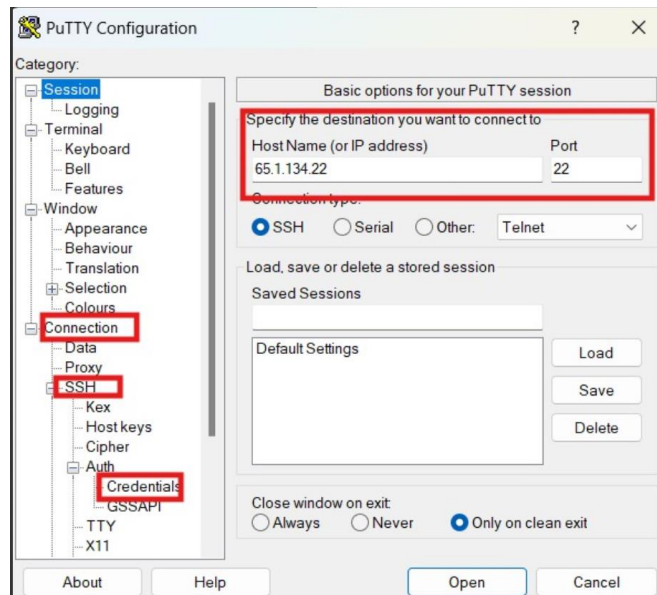
- Click Save changes.



5. Connect to the Instance via PuTTY:

- Open PuTTY and paste the Public IP Address of the EC2 instance.

- Navigate to Connection → SSH → Auth → Credentials, and add the default private key.



6. Log in to the Instance:

- Log in as `ec2-user`:
- Switch to superuser:

`sudo su -`

7. Update YUM Package Manager:

`yum -y update`

```
[root@ip-172-31-44-67 ~]# yum -y update
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core | 3.6 KB 00:00
Resolving Dependencies
--> Running transaction check
--> Package amazon-sm-agent.x86_64 0:3.3.989.0-1.amzn2 will be updated
--> Package amazon-sm-agent.x86_64 0:3.3.989.0-1.amzn2 will be an update
--> Package kernel.x86_64 0:5.10.227-219.884.amzn2 will be installed
--> Processing Dependency: amd-ucode-firmware >= 20200421-83.git78c3348.amzn2 fo
r package: kernel-5.10.227-219.884.amzn2.x86_64
--> Package libdwelf.x86_64 0:20130207-4.amzn2.0.2 will be updated
--> Package libdwelf.x86_64 0:20130207-4.amzn2.0.2 will be an update
--> Package openssl.x86_64 1:1.0.2k-24.amzn2.0.13 will be updated
--> Package openssl.x86_64 1:1.0.2k-24.amzn2.0.14 will be an update
--> Package openssl-libs.x86_64 1:1.0.2k-24.amzn2.0.13 will be updated
--> Package openssl-libs.x86_64 1:1.0.2k-24.amzn2.0.14 will be an update
--> Package python.x86_64 0:2.7.18-1.amzn2.0.6 will be updated
--> Package python.x86_64 0:2.7.18-1.amzn2.0.9 will be an update
--> Package python-devel.x86_64 0:2.7.18-1.amzn2.0.8 will be updated
--> Package python-devel.x86_64 0:2.7.18-1.amzn2.0.9 will be an update
--> Package python-lbna.noarch 0:2.4-1.amzn2 will be updated
--> Package python-lbna.noarch 0:2.4-1.amzn2.0.1 will be an update
--> Package python-libs.x86_64 0:2.7.18-1.amzn2.0.6 will be updated
--> Package python-libs.x86_64 0:2.7.18-1.amzn2.0.9 will be an update
--> Package python3.x86_64 0:3.7.16-1.amzn2.0.6 will be updated
--> Package python3.x86_64 0:3.7.16-1.amzn2.0.7 will be an update
--> Package python3-libs.x86_64 0:3.7.16-1.amzn2.0.6 will be updated
--> Package python3-libs.x86_64 0:3.7.16-1.amzn2.0.7 will be an update
--> Package python3-pip.noarch 0:20.2.2-1.amzn2.0.6 will be updated
--> Package python3-pip.noarch 0:20.2.2-1.amzn2.0.7 will be an update
--> Running transaction check
--> Package amd-ucode-firmware.noarch 0:20200421-83.git78c3348.amzn2 will be in
stalled
--> Finished Dependency Resolution

Dependencies Resolved

Package Arch Version Repository Size
-----
Installing:
kernel x86_64 5.10.227-219.884.amzn2 amzn2extra-kernel-5.10 34 M
Updating:
amazon-sm-agent x86_64 3.3.989.0-1.amzn2 amzn2-core 50 M
libdwelf x86_64 0:20130207-4.amzn2.0.2 amzn2-core 105 k
openssl x86_64 1:1.0.2k-24.amzn2.0.14 amzn2-core 498 k
openssl-libs x86_64 1:1.0.2k-24.amzn2.0.14 amzn2-core 1.2 M
python x86_64 0:2.7.18-1.amzn2.0.6 amzn2-core 92 k
python-devel x86_64 0:2.7.18-1.amzn2.0.8 amzn2-core 404 k
```

8. Install Git:

`yum install -y git`

```
root@ip-172-31-44-01 ~# yum install -y git
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
--> Package git.x86_64 0:2.40.1-1.amzn2.0.3 will be installed
--> Processing Dependency: git-core = 2.40.1-1.amzn2.0.3 for package: git-2.40.1-1.amzn2.0.3.x86_64
--> Processing Dependency: git-core-doc = 2.40.1-1.amzn2.0.3 for package: git-2.40.1-1.amzn2.0.3.x86_64
--> Processing Dependency: perl-Git = 2.40.1-1.amzn2.0.3 for package: git-2.40.1-1.amzn2.0.3.x86_64
--> Processing Dependency: perl(Git) for package: git-2.40.1-1.amzn2.0.3.x86_64
--> Processing Dependency: perl(Freeze) for package: git-2.40.1-1.amzn2.0.3.x86_64
--> Running transaction check
--> Package git-core.x86_64 0:2.40.1-1.amzn2.0.3 will be installed
--> Package git-core-doc.noarch 0:2.40.1-1.amzn2.0.3 will be installed
--> Package perl-Git.noarch 0:2.40.1-1.amzn2.0.3 will be installed
--> Processing Dependency: perl(Error) for package: perl-Git-2.40.1-1.amzn2.0.3.noarch
--> Package perl-TermReadKey.x86_64 0:2.30-20.amzn2.0.2 will be installed
--> Running transaction check
--> Package perl-Error.noarch 1:0.17020-2.amzn2 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

Package Arch Version Repository Size
Installing:
git x86_64 2.40.1-1.amzn2.0.3 amzn2-core 54 k
Installing for dependencies:
git-core x86_64 2.40.1-1.amzn2.0.3 amzn2-core 10 M
git-core-doc noarch 2.40.1-1.amzn2.0.3 amzn2-core 3.0 M
perl-Error noarch 1:0.17020-2.amzn2 amzn2-core 32 k
perl-Git noarch 2.40.1-1.amzn2.0.3 amzn2-core 42 k
perl-TermReadKey x86_64 2.30-20.amzn2.0.2 amzn2-core 31 k

Transaction Summary
Install 1 Package (+5 Dependent packages)

Total download size: 13 M
Installed size: 44 M
Downloading packages:
(1/6): git-2.40.1-1.amzn2.0.3.x86_64.rpm | 54 kB 00:00:00
(2/6): git-core-doc-2.40.1-1.amzn2.0.3.noarch.rpm | 3.0 MB 00:00:00
(3/6): perl-Error-0.17020-2.amzn2.noarch.rpm | 32 kB 00:00:00
(4/6): perl-Git-2.40.1-1.amzn2.0.3.noarch.rpm | 42 kB 00:00:00
(5/6): git-core-2.40.1-1.amzn2.0.3.x86_64.rpm | 10 MB 00:00:00
(6/6): perl-TermReadKey-2.30-20.amzn2.0.2.x86_64.rpm | 31 kB 00:00:00
Total 57 MB/s | 13 MB 00:00:00
```

9. Install Java:

`yum install -y java-17-amazon-corretto`

`yum install -y java-17-amazon-corretto-devel`

10. Install Maven:

- Download and extract Maven:

`cd /opt`

`sudo wget https://dlcdn.apache.org/maven/maven-3/3.9.4/binaries/apache-maven-3.9.4-bin.tar.gz`

`sudo tar xvf apache-maven-3.9.4-bin.tar.gz`

- Set up environment variables:

`echo "export M2_HOME=/opt/apache-maven-3.9.4" >> ~/.bash_profile`

`echo "export M2=$M2_HOME/bin" >> ~/.bash_profile`

`echo "export PATH=$M2:$PATH" >> ~/.bash_profile`

```
source ~/.bash_profile
```

```
echo $M2_HOME
```

11. Verify Installations:

- Check versions:

```
git --version
```

```
java --version
```

```
/opt/apache-maven-3.9.4/bin/mvn --version
```

12. Add Jenkins Repository and Key:

```
sudo wget -O /etc/yum.repos.d/jenkins.repo  
https://pkg.jenkins.io/redhat-stable/jenkins.repo
```

```
sudo rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io-2023.key
```

13. Install Jenkins and Dependencies:

```
sudo yum upgrade
```

```
sudo yum install fontconfig -y java-17-openjdk
```

```
sudo yum install -y Jenkins
```

14. Start Jenkins and Enable at Boot:

```
sudo systemctl daemon-reload
```

```
service jenkins start
```

```
chkconfig jenkins on
```

15. Check Jenkins Status:

```
service jenkins status
```

```

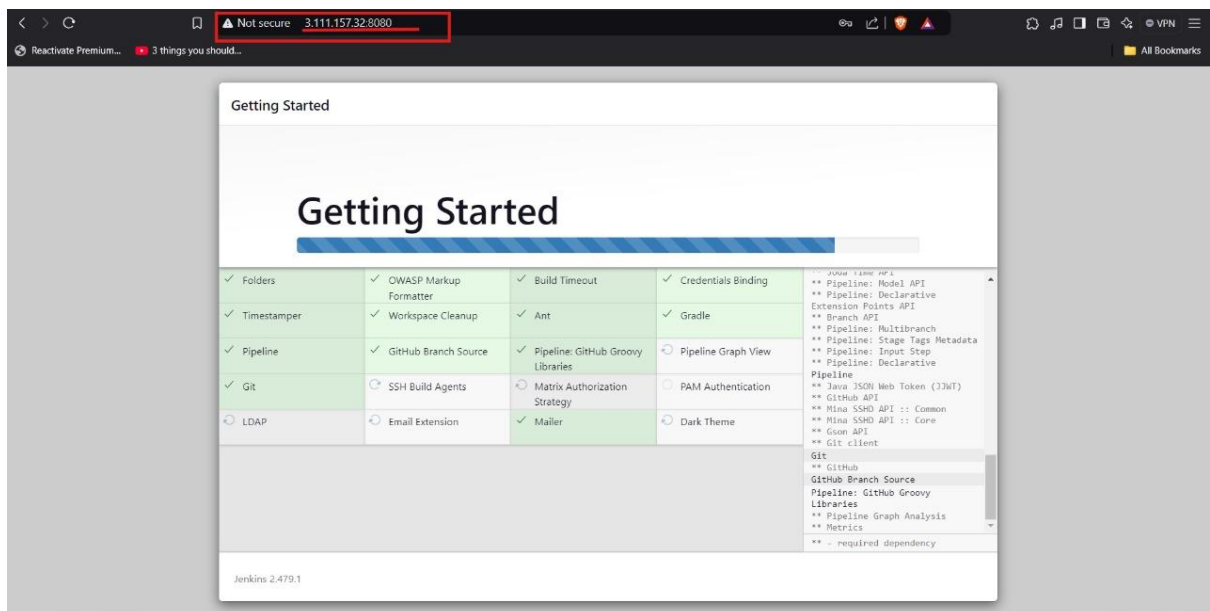
[root@ip-172-31-44-67 bin]# service jenkins status
Redirecting to /bin/systemctl status jenkins.service
● Jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; vendor preset: disabled)
   Active: active (running) since Tue 2024-11-05 15:24:05 UTC; 1min 51s ago
     Main PID: 8751 (java)
    CGroup: /system.slice/jenkins.service
            └─8751 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=&C/jenkins/war --httpport=8080

Nov 05 15:23:59 ip-172-31-44-67.ap-south-1.compute.internal jenkins[8751]: *****
Nov 05 15:23:59 ip-172-31-44-67.ap-south-1.compute.internal jenkins[8751]: *****
Nov 05 15:24:05 ip-172-31-44-67.ap-south-1.compute.internal jenkins[8751]: 2024-11-05 15:24:05.510+0000 [id=32] INFO jenkins.InitReactorRunner$1#onAttained: Comple...alization
Nov 05 15:24:05 ip-172-31-44-67.ap-south-1.compute.internal jenkins[8751]: 2024-11-05 15:24:05.532+0000 [id=23] INFO hudson.lifecycle.Lifecycle#onReady: Jenkins is...d running
Nov 05 15:24:05 ip-172-31-44-67.ap-south-1.compute.internal system[1]: Started Jenkins Continuous Integration Server.
Nov 05 15:24:06 ip-172-31-44-67.ap-south-1.compute.internal jenkins[8751]: 2024-11-05 15:24:06.364+0000 [id=49] INFO h.m.DownloadService$Downloadable#load: Obtaine...Installer
Nov 05 15:24:06 ip-172-31-44-67.ap-south-1.compute.internal jenkins[8751]: 2024-11-05 15:24:06.365+0000 [id=49] INFO hudson.util.Retrier#start: Performed the actio...ttempt #:
Nov 05 15:24:12 ip-172-31-44-67.ap-south-1.compute.internal system[1]: [/usr/lib/systemd/system/jenkins.service:16] Unknown lvalue 'StartLimitBurst' in section 'Unit'
Nov 05 15:24:12 ip-172-31-44-67.ap-south-1.compute.internal system[1]: [/usr/lib/systemd/system/jenkins.service:17] Unknown lvalue 'StartLimitIntervalSec' in section 'Unit'
Hint: Some lines were ellipsized, use -l to show in full.
[root@ip-172-31-44-67 bin]#

```

16. Access Jenkins Web Interface:

- Copy the Public IP address of the EC2 instance and open it in your browser, appending :8080 (e.g., `http://<your-ip>:8080`).

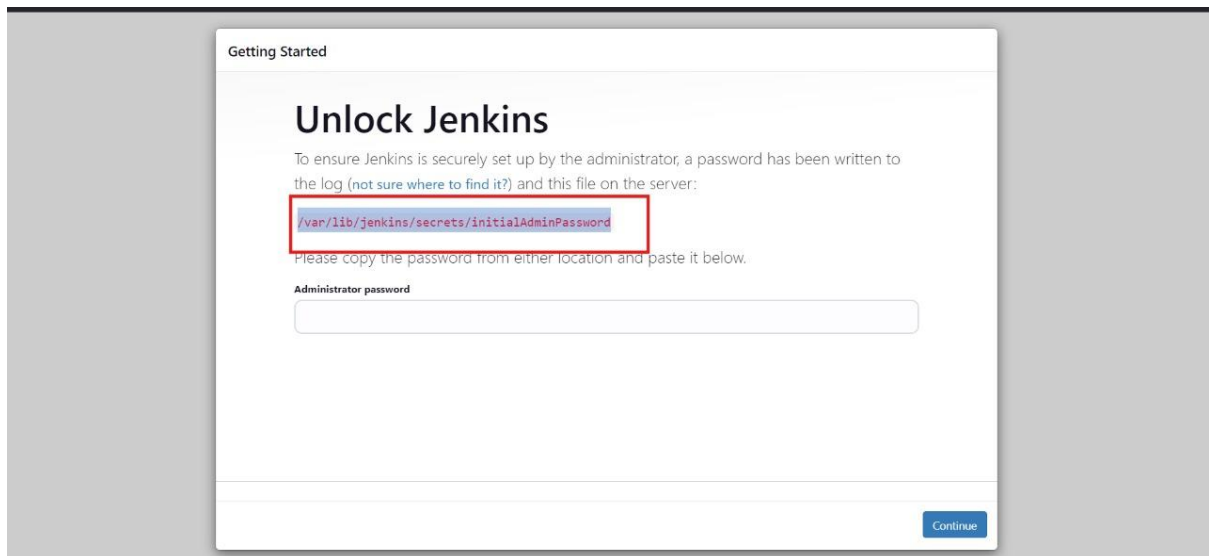


17. Unlock Jenkins:

- Copy the file path for the initial password provided by Jenkins.
- In PuTTY, view the password:

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

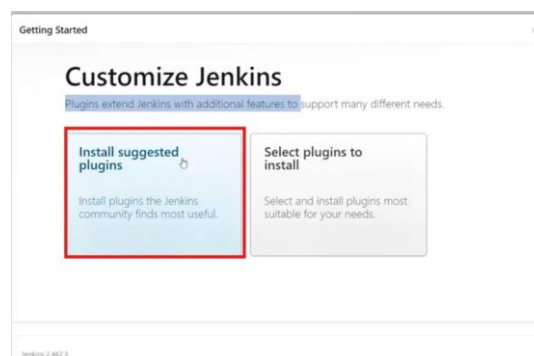
- Copy the password, paste it into the Jenkins unlock screen, and proceed.



```
root@ip-172-31-44-67:/opt/apache-maven-3.9.4/bin
[root@ip-172-31-44-67 bin]# cat /var/lib/jenkins/secrets/initialAdminPassword
f15843fcbbfc44e1a23479ef149014bc
[root@ip-172-31-44-67 bin]#
```

18. Install Plugins:

- Select Install suggested plugins.



19. Set Up Admin User:

- Fill in the details:
- Username: jenkinsmaster
- Password: jenkinsmaster
- Full Name: jenkinsmaster
- Email: jenkinsmaster@gmail.com
- Click Save and Finish



The screenshot shows the 'Getting Started' page of Jenkins with the 'Create First Admin User' form. The form has four input fields: 'Username' (containing 'jenkinsadmin'), 'Password' (masked with dots), 'Confirm password' (masked with dots), and 'Full name' (containing 'jenkinsadmin'). The 'Username' and 'Full name' fields are highlighted with red rectangles. At the bottom, there are two buttons: 'Skip and continue as admin' and 'Save and Continue'.

Getting Started

Create First Admin User

Username
jenkinsadmin

Password

Confirm password

Full name
jenkinsadmin

Jenkins 2.479.1

[Skip and continue as admin](#) [Save and Continue](#)

20. Complete Installation:

- Once done, Jenkins is set up and ready to use.