Name : Komal Mhetre

Role : DevOps Engineer

Task: Installation and R&D on Jenkins

Jenkins is an open-source automation server widely used for building, deploying, and automating projects. Jenkins support many applications. It is famous open-source tool.

Jenkins is a CI-CD.

CI-CD is a continuous your cycle workflow and deployment.

To automate the software and development workflow and deploy better quality code more obtain using the continuous and to build, test and deploy helps avoid works and code failure.

1.First update package repositories.

Sudo apt-get update

```
ubuntu@ip-172-31-2-153:~$ sudo apt-get update
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [11
```

2.Installation of Java Development Kit,

Jenkins requires Java to run. Install OpenJDK. For OpenJDK:

Sudo apt install openjdk-11-jdk

```
ubuntu@ip-172-31-2-153:~$ 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-core ca-certificates-java
```

3.Using this below command check the version of Java.

Java --version

```
ubuntu@ip-172-31-2-153:~$ java --version
openjdk 11.0.22 2024-01-16
OpenJDK Runtime Environment (build 11.0.22+7-post-Ubuntu-0ubuntu222.04
OpenJDK 64-Bit Server VM (build 11.0.22+7-post-Ubuntu-0ubuntu222.04.1,
ubuntu@ip-172-31-2-153:~$ []
```

4.Before the installation of Jenkins, install the packages related to it and the packages will be

curl -fsSL https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key| sudo tee \
/usr/share/keyrings/jenkins-keyring.asc > /dev/null

echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] \https://pkg.jenkins.io/debian-
stable binary/ | sudo
tee
Vetc/apt/sources.list.d
/jenkins.list > /dev/null

```
ubuntu@ip-172-31-2-153:~$ curl -fsSL https://pkg.jenkins.io/debian-stab
  /usr/share/keyrings/jenkins-keyring.asc > /dev/null
ubuntu@ip-172-31-2-153:~$ echo deb [signed-by=/usr/share/keyrings/jenki
  https://pkg.jenkins.io/debian-stable binary/ | sudo tee \
  /etc/apt/sources.list.d/jenkins.list > /dev/null
```

5.Now here is installation of Jenkins

Sudo apt-get install Jenkins

```
ubuntu@ip-172-31-2-153:~$ 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
```

6.Then start the Jenkins service, and enable Jenkins to start on Boot.

Follow the below commands

a.Sudo systemctl start Jenkins

b.Sudo systemctl enable Jenkins

```
ubuntu@ip-172-31-2-153:~$ sudo systemctl start jenkins
ubuntu@ip-172-31-2-153:~$ sudo systemctl enable jenkins
Synchronizing state of jenkins.service with SysV service scr
Executing: /lib/systemd/systemd-sysv-install enable jenkins
```

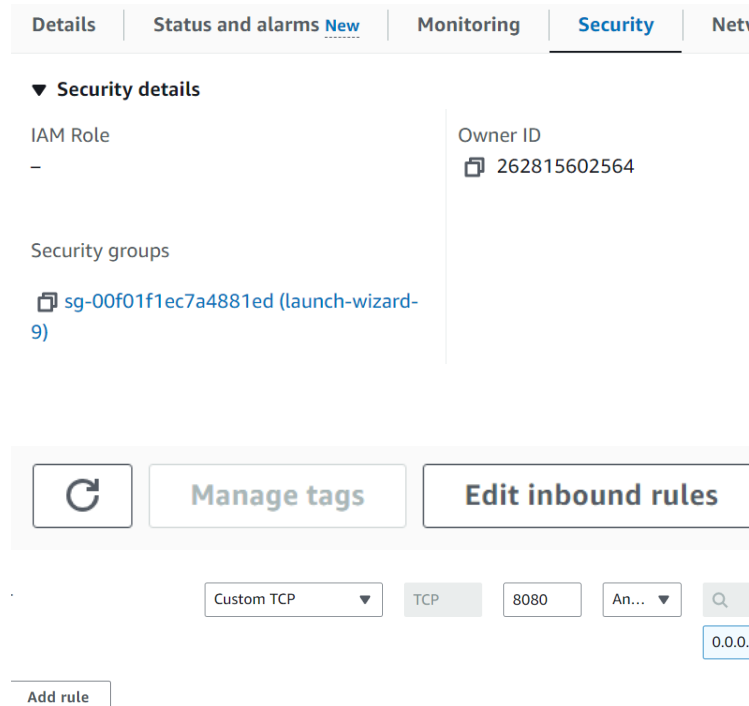7.Now check the Jenkins status. Whether it is running or not.

Sudo systemctl status Jenkins

```
ubuntu@ip-172-31-2-153:~$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
     Loaded: loaded (/lib/systemd/system/jenkins.service; enabled; vendor p
     Active: active (running) since Wed 2024-03-06 12:42:31 UTC; 5min ago
   Main PID: 6025 (java)
      Tasks: 37 (limit: 1121)
     Memory: 302.8M
```

8. Then access Jenkins in a Web Browser. Using default port number IP:8080

ⓘ 35.154.213.129:8080

9. If port 8080 is not functioning for Jenkins, navigate to the server, choose the security settings edit the inbond rule, and include port 8080. Save the modification and the access it through the browser, it should be operational now.

Details	Status and alarms New	Monitoring	Security	Netv

▼ **Security details**

IAM Role
–

Owner ID
☐ 262815602564

Security groups

☐ sg-00f01f1ec7a4881ed (launch-wizard-9)

C	Manage tags	Edit inbound rules

| Custom TCP ▼ | TCP | 8080 | An... ▼ | 🔍 |
| | | | | 0.0.0.0/0 ✕ |

Add rule

10.Now unlock the Jenkins to retrieve for initial administrator password

11. Continue with the Jenkins setup in the web interface, selecting plugins, creating an admin user,

And configuring Jenkins.

Getting Started

✓ Folders	OWASP Markup Formatter	Build Timeout	Credentia
✓ Timestamper	↻ Workspace Cleanup	↱ Ant	↻ Gradle
↻ Pipeline	↩ GitHub Branch Source	↻ Pipeline: GitHub Groovy Libraries	↻ Pipeline: S
↱ Git	↱ SSH Build Agents	↻ Matrix Authorization	↱ PAM Auth

12.Upon completing all the outlined steps, you will be greeted with the Jenkins welcome page.

Jenkins

Search (CTRL+K)

Dashboard >

+ New Item

People

Build History

Welcome to Jenkins!

This page is where your Jenkins jobs wi
builds or start building a software proje