# APPLICATION DEPLOYMENT

**GITREPO URL:** https://github.com/Freakyted/capstone.git

**DOCKER IMAGE NAME:** nginximage
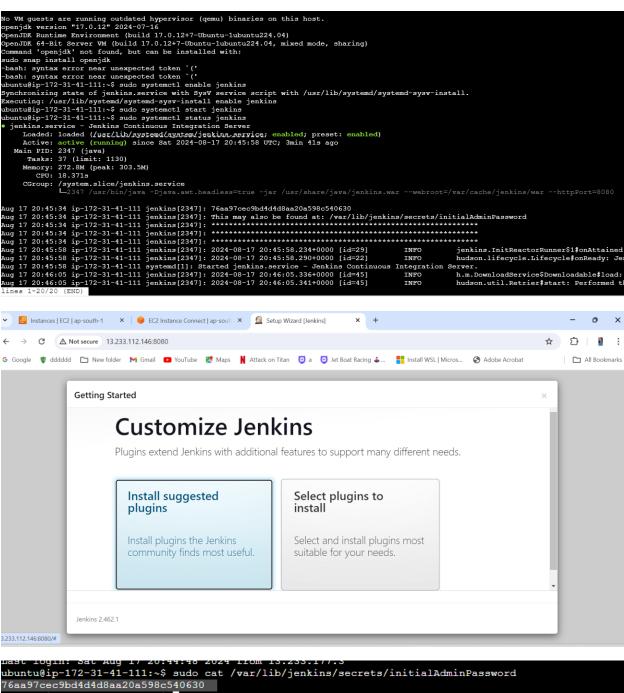
## 1.DOCKERIZE THE APPLICATION BY CREATING DOCKERFILE

```
REPOSITORY                  TAG        IMAGE ID       CREATED             SIZE
keerthana00/capstone_prod   latest     33401bb15281   34 minutes ago      190MB
capstone                    latest     33401bb15281   34 minutes ago      190MB
capstone_app                latest     33401bb15281   34 minutes ago      190MB
nginximage                  latest     33401bb15281   34 minutes ago      190MB
keerthana00/capstone_dev    latest     33401bb15281   34 minutes ago      190MB
<none>                      <none>     5381ae372158   49 minutes ago      191MB
capstoneapp                 latest     23b8d11a5ba7   57 minutes ago      191MB
<none>                      <none>     1f2a65047f66   About an hour ago   191MB
<none>                      <none>     45771dfe2d71   About an hour ago   320MB
<none>                      <none>     92f0cbeebaa9   About an hour ago   319MB
nginx                       latest     5ef79149e0ec   4 days ago          188MB
node                        14-alpine  0dac3dc27b1a   16 months ago       119MB
ubuntu@ip-172-31-1-58:~/capstone$ docker ps
CONTAINER ID   IMAGE          COMMAND                 CREATED          STATUS          PORTS                                                          NAMES
2aca484d4de5   capstone_app   "/docker-entrypoint.…"  20 minutes ago   Up 20 minutes   80/tcp, 0.0.0.0:3000->3000/tcp, :::3000->3000/tcp              capstone_app_1
867a59479e03   nginximage     "/docker-entrypoint.…"  33 minutes ago   Up 33 minutes   0.0.0.0:80->80/tcp, :::80->80/tcp                              mynignxcointainer
ubuntu@ip-172-31-1-58:~/capstone$
```
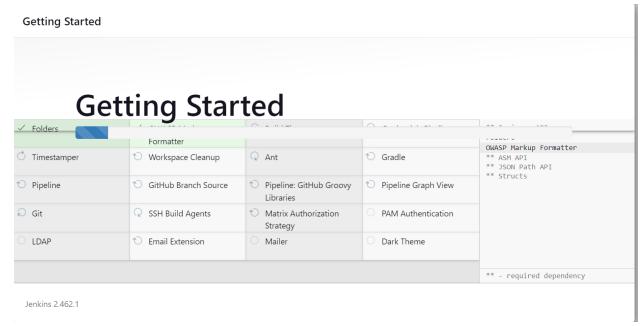
## 2. JENKINS- EXECUTE STEPS

```
ubuntu@ip-172-31-41-111:~$ sudo wget -O /usr/share/keyrings/jenkins-keyring.asc \
  https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
echo "deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc]" \
  https://pkg.jenkins.io/debian-stable binary/ | sudo tee \
  /etc/apt/sources.list.d/jenkins.list > /dev/null
sudo apt-get update
sudo apt-get install jenkins
--2024-08-17 20:44:56--  https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
Resolving pkg.jenkins.io (pkg.jenkins.io)... 151.101.154.133, 2a04:4e42:24::645
Connecting to pkg.jenkins.io (pkg.jenkins.io)|151.101.154.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3175 (3.1K) [application/pgp-keys]
Saving to: '/usr/share/keyrings/jenkins-keyring.asc'

/usr/share/keyrings/jenkins-keyring.asc    100%[==============================================================================================================>]   3.10K  --.-KB/s    in 0s

2024-08-17 20:44:57 (39.7 MB/s) - '/usr/share/keyrings/jenkins-keyring.asc' saved [3175/3175]

Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Ign:4 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:5 https://pkg.jenkins.io/debian-stable binary/ Release
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [348 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [323 kB]
Hit:8 http://security.ubuntu.com/ubuntu noble-security InRelease
Fetched 797 kB in 1s (930 kB/s)
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  net-tools
```

```
no VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-41-111:~$ sudo apt update
sudo apt install fontconfig openjdk-17-jre
java -version
openjdk version "17.0.8" 2023-07-18
OpenJDK Runtime Environment (build 17.0.8+7-Debian-1deb12u1)
OpenJDK 64-Bit Server VM (build 17.0.8+7-Debian-1deb12u1, mixed mode, sharing)
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Ign:4 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:5 https://pkg.jenkins.io/debian-stable binary/ Release
Hit:6 http://security.ubuntu.com/ubuntu noble-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
25 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  adwaita-icon-theme gtk-update-icon-cache hicolor-icon-theme humanity-icon-theme libcairo-gobject2 libcairo2 libdatrie1 libdeflate0 libgail-common libgail18t64 libgdk-pixbuf-2.0-0 libgdk-pixbuf2.0-bin
  libgdk-pixbuf2.0-common libgtk2.0-0t64 libgtk2.0-bin libgtk2.0-common libjbig0 liblerc4 libpango-1.0-0 libpangocairo-1.0-0 libpangoft2-1.0-0 libpixman-1-0 librsvg2-2 librsvg2-common libsharpyuv0
  libthai-data libthai0 libtiff6 libwebp7 libxcb-render0 libxcursor1 libxdamage1 openjdk-17-jre-headless ubuntu-mono
Suggested packages:
  gvfs librsvg2-bin libnss-mdns fonts-ipafont-gothic fonts-ipafont-mincho fonts-wqy-microhei | fonts-wqy-zenhei fonts-indic
The following NEW packages will be installed:
  adwaita-icon-theme fontconfig gtk-update-icon-cache hicolor-icon-theme humanity-icon-theme libcairo-gobject2 libcairo2 libdatrie1 libdeflate0 libgail-common libgail18t64 libgdk-pixbuf-2.0-0
  libgdk-pixbuf2.0-bin libgdk-pixbuf2.0-common libgtk2.0-0t64 libgtk2.0-bin libgtk2.0-common libjbig0 liblerc4 libpango-1.0-0 libpangocairo-1.0-0 libpangoft2-1.0-0 libpixman-1-0 librsvg2-2 librsvg2-common
  libsharpyuv0 libthai-data libthai0 libtiff6 libwebp7 libxcb-render0 libxcursor1 libxdamage1 openjdk-17-jre openjdk-17-jre-headless ubuntu-mono
0 upgraded, 36 newly installed, 0 to remove and 25 not upgraded.
Need to get 57.3 MB of archives.
After this operation, 254 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 libgdk-pixbuf2.0-common all 2.42.10+dfsg-3ubuntu3.1 [8024 B]
```

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.
openjdk version "17.0.12" 2024-07-16
OpenJDK Runtime Environment (build 17.0.12+7-Ubuntu-1ubuntu224.04)
OpenJDK 64-Bit Server VM (build 17.0.12+7-Ubuntu-1ubuntu224.04, mixed mode, sharing)
Command 'openjdk' not found, but can be installed with:
sudo snap install openjdk
-bash: syntax error near unexpected token `('
-bash: syntax error near unexpected token `('
ubuntu@ip-172-31-41-111:~$ sudo systemctl enable jenkins
Synchronizing state of jenkins.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable jenkins
ubuntu@ip-172-31-41-111:~$ sudo systemctl start jenkins
ubuntu@ip-172-31-41-111:~$ 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 2024-08-17 20:45:58 UTC; 3min 41s ago
   Main PID: 2347 (java)
      Tasks: 37 (limit: 1130)
     Memory: 272.8M (peak: 303.5M)
        CPU: 18.371s
     CGroup: /system.slice/jenkins.service
             └─2347 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

Aug 17 20:45:34 ip-172-31-41-111 jenkins[2347]: 76aa97cec9bd4d4d8aa20a598c540630
Aug 17 20:45:34 ip-172-31-41-111 jenkins[2347]: This may also be found at: /var/lib/jenkins/secrets/initialAdminPassword
Aug 17 20:45:34 ip-172-31-41-111 jenkins[2347]: *************************************************************
Aug 17 20:45:34 ip-172-31-41-111 jenkins[2347]: *************************************************************
Aug 17 20:45:34 ip-172-31-41-111 jenkins[2347]: *************************************************************
Aug 17 20:45:58 ip-172-31-41-111 jenkins[2347]: 2024-08-17 20:45:58.234+0000 [id=29]          INFO          jenkins.InitReactorRunner$1#onAttained:
Aug 17 20:45:58 ip-172-31-41-111 jenkins[2347]: 2024-08-17 20:45:58.290+0000 [id=22]          INFO          hudson.lifecycle.Lifecycle#onReady: Je
Aug 17 20:45:58 ip-172-31-41-111 systemd[1]: Started jenkins.service - Jenkins Continuous Integration Server.
Aug 17 20:46:05 ip-172-31-41-111 jenkins[2347]: 2024-08-17 20:46:05.336+0000 [id=45]          INFO          h.m.DownloadService$Downloadable#load:
Aug 17 20:46:05 ip-172-31-41-111 jenkins[2347]: 2024-08-17 20:46:05.341+0000 [id=45]          INFO          hudson.util.Retrier#start: Performed th
lines 1-20/20 (END)
```



## Getting Started

# Customize Jenkins

Plugins extend Jenkins with additional features to support many different needs.

**Install suggested plugins**

Install plugins the Jenkins community finds most useful.

**Select plugins to install**

Select and install plugins most suitable for your needs.

Jenkins 2.462.1
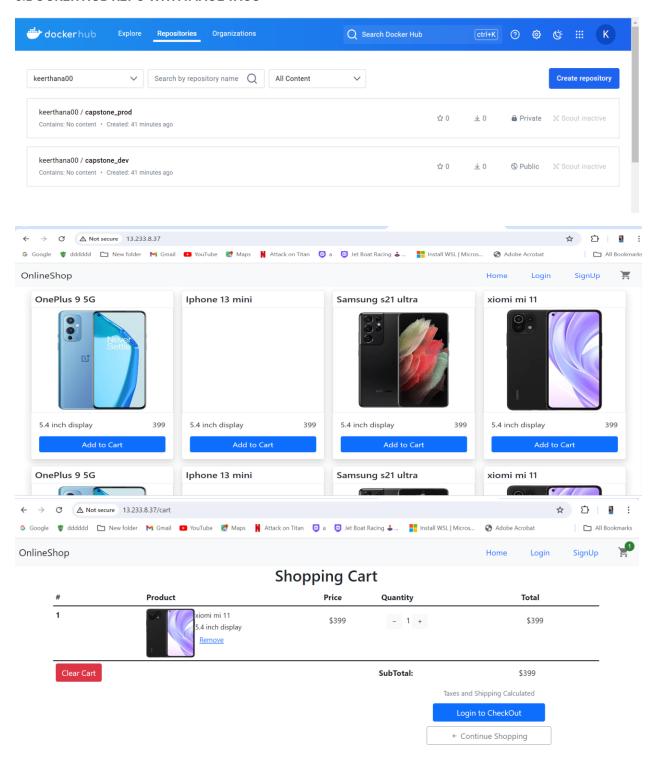
```
Last login: Sat Aug 17 20:44:48 2024 from 13.233.177.3
ubuntu@ip-172-31-41-111:~$ sudo cat /var/lib/jenkins/secrets/initialAdminPassword
76aa97cec9bd4d4d8aa20a598c540630
ubuntu@ip-172-31-41-111:~$
```

Getting Started

# Getting Started

| ✓ Folders | | | | |
|---|---|---|---|---|
| | Formatter | | | |
| ↻ Timestamper | ↻ Workspace Cleanup | ↻ Ant | ↻ Gradle | |
| ↻ Pipeline | ↻ GitHub Branch Source | ↻ Pipeline: GitHub Groovy Libraries | ↻ Pipeline Graph View | |
| ↻ Git | ↻ SSH Build Agents | ↻ Matrix Authorization Strategy | ○ PAM Authentication | |
| ○ LDAP | ↻ Email Extension | ○ Mailer | ○ Dark Theme | |

```
OWASP Markup Formatter
** ASM API
** JSON Path API
** Structs
```

```
** - required dependency
```

Jenkins 2.462.1

LOGIN PAGE



**Sign in to Jenkins**

Username

Password

☐ Keep me signed in

Sign in

**3.DOCKER HUB REPO WITH IMAGE TAGS**
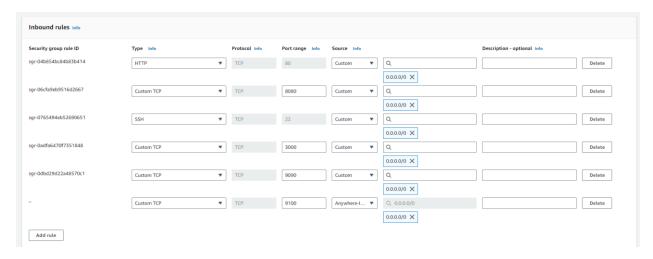
**4.AWS-EC2 CONSOLE**



**5.AWS-SG CONFIGURATIONS**

## Inbound rules Info

| Security group rule ID | Type Info | Protocol Info | Port range Info | Source Info | | Description - optional Info | |
|---|---|---|---|---|---|---|---|
| sgr-04b854bc84b83b414 | HTTP ▾ | TCP | 80 | Custom ▾ | 🔍    0.0.0.0/0 ✕ | | Delete |
| sgr-06cfa9eb9516d2667 | Custom TCP ▾ | TCP | 8080 | Custom ▾ | 🔍    0.0.0.0/0 ✕ | | Delete |
| sgr-0765494eb52690651 | SSH ▾ | TCP | 22 | Custom ▾ | 🔍    0.0.0.0/0 ✕ | | Delete |
| sgr-0adfa6470f7351848 | Custom TCP ▾ | TCP | 3000 | Custom ▾ | 🔍    0.0.0.0/0 ✕ | | Delete |
| sgr-0dbd29d22a48570c1 | Custom TCP ▾ | TCP | 9090 | Custom ▾ | 🔍    0.0.0.0/0 ✕ | | Delete |
| – | Custom TCP ▾ | TCP | 9100 | Anywhere-I... ▾ | 🔍 0.0.0.0/0    0.0.0.0/0 ✕ | | Delete |

Add rule

## 6.COMPLETE SETUP WIZARD OF JENKINSFILE

### Status
### Changes
### Console Output
### Edit Build Information
### Delete build '#1'
### Timings
### Git Build Data

## ✓ Console Output

[Download] [Copy] [View as plain text]

```
Started by user KEERTHANA
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/capstone_project
The recommended git tool is: NONE
No credentials specified
Cloning the remote Git repository
Cloning repository https://github.com/Freakyted/capstone.git
 > git init /var/lib/jenkins/workspace/capstone_project # timeout=10
Fetching upstream changes from https://github.com/Freakyted/capstone.git
 > git --version # timeout=10
 > git --version # 'git version 2.34.1'
 > git fetch --tags --force --progress -- https://github.com/Freakyted/capstone.git
+refs/heads/*:refs/remotes/origin/* # timeout=10
 > git config remote.origin.url https://github.com/Freakyted/capstone.git # timeout=10
 > git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
Seen branch in repository origin/dev
Seen branch in repository origin/main
```

### Git Build Data

```
Fetching upstream changes from https://github.com/Freakyted/capstone.git
 > git --version # timeout=10
 > git --version # 'git version 2.34.1'
 > git fetch --tags --force --progress -- https://github.com/Freakyted/capstone.git
+refs/heads/*:refs/remotes/origin/* # timeout=10
 > git config remote.origin.url https://github.com/Freakyted/capstone.git # timeout=10
 > git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
Seen branch in repository origin/dev
Seen branch in repository origin/main
Seen 2 remote branches
 > git show-ref --tags -d # timeout=10
Checking out Revision 2c520c8828a84b35ef05bd8bdb14c29281bef71a (origin/dev)
 > git config core.sparsecheckout # timeout=10
 > git checkout -f 2c520c8828a84b35ef05bd8bdb14c29281bef71a # timeout=10
Commit message: "jenkinsfile"
First time build. Skipping changelog.
Finished: SUCCESS
```

## Webhooks                                    [Add webhook]

Webhooks allow external services to be notified when certain events happen. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our Webhooks Guide.

> ● http://13.233.8.37:8080/github-web... (push)          [Edit] [Delete]
>
> This hook has never been triggered.

**Monitoring setup**

## Targets

All    Unhealthy

### prometheus (1/1 up)    show less

| Endpoint | State | Labels | Last Scrape | Scrape Duration | Error |
|----------|-------|--------|-------------|-----------------|-------|
| http://localhost:9090/metrics | UP | instance="localhost:9090"  job="prometheus" | 3.527s | 4.509ms | |