

JENKINS AND NGINX

STEP 1: Install Ubuntu and use the Ubuntu OS

STEP2 : Open the terminal in the Ubuntu

STEP 3: Make sure your Ubuntu has java . If not install java using

```
sudo apt install openjdk-17-jdk -y
```

Once you install java , check the version using “java -version”

```
voviya@VOVIYA:~$ sudo apt install openjdk-17-jdk -y
[sudo] password for voviya:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
openjdk-17-jdk is already the newest version (17.0.14+7-1~24.04).
The following package was automatically installed and is no longer required:
  libllvm17t64
Use 'sudo apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 13 not upgraded.
```

STEP 4: Now install Jenkins and add the following commands

```
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
```

```
voviya@VOVIYA:~$ sudo wget -O /usr/share/keyrings/jenkins-keyring.asc \
https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
--2025-03-18 10:34:12-- https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
Resolving pkg.jenkins.io (pkg.jenkins.io)... 151.101.2.133, 151.101.66.133, 151.101.130.133, ...
Connecting to pkg.jenkins.io (pkg.jenkins.io)|151.101.2.133|: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 100%[=====] 3.10K 6.12KB/s in 0.5s

2025-03-18 10:34:15 (6.12 KB/s) - '/usr/share/keyrings/jenkins-keyring.asc' saved [3175/3175]
```

STEP 5: After step 4 , run the following commands to run the jenkins

```
sudo systemctl enable jenkins
```

```
sudo systemctl start jenkins
```

```
sudo systemctl status jenkins
```

```
voviya@VOVIYA:~$ 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
voviya@VOVIYA:~$ sudo systemctl start jenkins
voviya@VOVIYA:~$ 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 Tue 2025-03-18 08:54:41 UTC; 1h 42min ago
     Main PID: 179 (java)
       Tasks: 59 (limit: 9329)
      Memory: 984.7M ()
     CGroup: /system.slice/jenkins.service
             └─179 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

Mar 18 08:54:38 VOVIIA jenkins[179]: 2025-03-18 08:54:38.460+0000 [id=49] INFO h.p.b.g.GlobalTimeOutConfiguration#load: global ti
Mar 18 08:54:40 VOVIIA jenkins[179]: 2025-03-18 08:54:40.811+0000 [id=51] INFO jenkins.InitReactorRunner$1#onAttained: System con
Mar 18 08:54:40 VOVIIA jenkins[179]: 2025-03-18 08:54:40.812+0000 [id=51] INFO jenkins.InitReactorRunner$1#onAttained: System con
Mar 18 08:54:40 VOVIIA jenkins[179]: 2025-03-18 08:54:40.895+0000 [id=43] INFO jenkins.InitReactorRunner$1#onAttained: Loaded all
Mar 18 08:54:40 VOVIIA jenkins[179]: 2025-03-18 08:54:40.904+0000 [id=53] INFO jenkins.InitReactorRunner$1#onAttained: Configurati
Mar 18 08:54:41 VOVIIA jenkins[179]: 2025-03-18 08:54:41.034+0000 [id=31] INFO jenkins.InitReactorRunner$1#onAttained: Completed >
Mar 18 08:54:41 VOVIIA jenkins[179]: 2025-03-18 08:54:41.109+0000 [id=25] INFO hudson.lifecycle.Lifecycle#onReady: Jenkins is ful
Mar 18 08:54:41 VOVIIA systemd[1]: Started jenkins.service - Jenkins Continuous Integration Server.
```

STEP 6: Now your jenkins is running , go to localhost:8080 , you should see the administration page.

STEP 7: In the terminal again type the following command ,

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

```
voviya@VOVIYA:~$ sudo cat /var/lib/jenkins/secrets/initialAdminPassword
6bb78fbebddd43ff9da544b7bb23633c
voviya@VOVIYA:~$ sudo apt-get install nginx
[sudo] password for voviya:
```

STEP 9: Now you have your password generated , enter this password in the admin page and enter basic details and finish necessary resources installation and you will be taken into the jenkins interface

STEP 10: Give your project a name, and in configure in the shell, type in the following commands and save it .

```
#!/bin/bash
# Update package lists
sudo apt update -y

# Install Nginx
sudo apt install -y nginx

# Start and enable Nginx
sudo systemctl start nginx
sudo systemctl enable nginx

# Verify Nginx is running
systemctl status nginx
```

Dashboard > nginx-deployment > Configuration

Configure

- General
- Source Code Management
- Triggers
- Environment
- Build Steps**
- Post-build Actions

Command
[See the list of available environment variables](#)

```
#!/bin/bash
# Update package lists
sudo apt update -y

# Install Nginx
sudo apt install -y nginx

# Start and enable Nginx
sudo systemctl start nginx
sudo systemctl enable nginx

# Verify Nginx is running
systemctl status nginx
```

Advanced ▾

Add build step ▾

Save Apply

STEP 11: Go to your terminal and run the following command,

```
sudo apt-get install nginx
sudo systemctl restart nginx
```

```
voviya@VOVIYA:~$ sudo systemctl restart jenkins
voviya@VOVIYA:~$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; pres>
   Active: active (running) since Tue 2025-03-18 05:27:42 UTC; 3s ago
   Main PID: 10295 (java)
     Tasks: 60 (limit: 9329)
    Memory: 656.0M ()
   CGroup: /system.slice/jenkins.service
           └─10295 /usr/bin/java -Djava.awt.headless=true -jar /usr/share>
```

STEP 12: If you have a successful build, your console output looks like this

Dashboard > nginx-deployment > #3 > Console Output

Status

</> Changes

Console Output

Edit Build Information

Delete build '#3'

Timings

Previous Build

Console Output

```
Started by user Voviya T
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/nginx-deployment
[nginx-deployment] $ /bin/bash /tmp/jenkins8320773001779325424.sh
sudo: a terminal is required to read the password; either use the -S option to read from standard input or configure an askpass helper
sudo: a password is required
sudo: a terminal is required to read the password; either use the -S option to read from standard input or configure an askpass helper
sudo: a password is required
sudo: a terminal is required to read the password; either use the -S option to read from standard input or configure an askpass helper
sudo: a password is required
sudo: a terminal is required to read the password; either use the -S option to read from standard input or configure an askpass helper
sudo: a password is required
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
   Active: active (running) since Tue 2025-03-18 05:55:43 UTC; 2h 0min ago
     Docs: man:nginx(8)
   Main PID: 11175 (nginx)
     Tasks: 13 (limit: 9329)
    Memory: 8.7M ()
   CGroup: /system.slice/nginx.service
           └─11175 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             └─11176 "nginx: worker process"
               └─11177 "nginx: worker process"
                 └─11178 "nginx: worker process"
                   └─11179 "nginx: worker process"
                     └─11180 "nginx: worker process"
                       └─11181 "nginx: worker process"
                         └─11183 "nginx: worker process"
                           └─11184 "nginx: worker process"
                             └─11185 "nginx: worker process"
                               └─11186 "nginx: worker process"
                                 └─11187 "nginx: worker process"
                                   └─11188 "nginx: worker process"

Finished: SUCCESS
```

