Day 1 – SIVAKUMAR

Freestyle Job in Jenkins to Install Nginx on a Local Ubuntu VM

Prerequisites

Before creating the Freestyle Job, ensure the following prerequisites are met:

Install Jenkins on Ubuntu (If Not Installed)

If Jenkins is not installed on your Ubuntu VM, follow these steps:

1. Update Package Lists

```
sudo apt update -y
```

```
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

sivakumarp@Sivakumar:~$ sudo apt update -y
[sudo] password for sivakumarp:
Get:1 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [670 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [130 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [9004 B]
```

2. Install Java (Required for Jenkins)

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

3. Verify Java Version

```
java -version
```

4. Add the Jenkins Repository Key (Updated Method for Ubuntu 20.04 and Later)
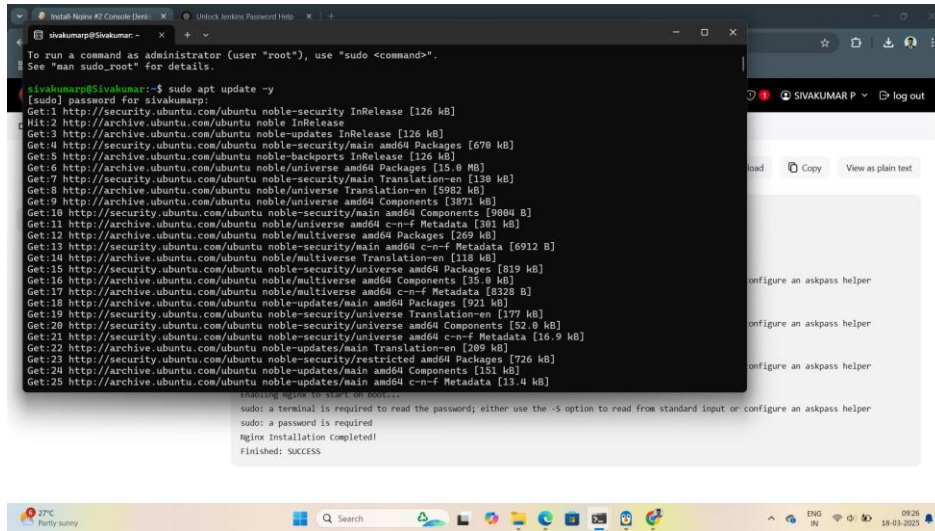
```
wget -q -O- https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key | sudo
tee /usr/share/keyrings/jenkins-keyring.asc > /dev/null
```

5. Add the Jenkins Repository

```
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
```

6. Install Jenkins

```
sudo apt update -y
sudo apt install -y Jenkins
```


7. Start and Enable Jenkins Service

```
sudo systemctl start jenkins
sudo systemctl enable jenkins
```

8. Check Jenkins Status

```
sudo systemctl status jenkins
```

Jenkins will be available at `http:// 172.29.51.240:8080`.

Get Jenkins Server URL

Method 1: Check the Default URL

By default, Jenkins runs on port 8080. Try opening:

- `http:// 172.29.51.240:8080`
- If running locally, use: `http://localhost:8080`

Method 2: Get Server IP Address

```
hostname -I
```

or

```
ip a | grep inet
```

Method 3: Check Jenkins Logs

```
sudo journalctl -u jenkins --no-pager --lines=50
```

Look for lines mentioning "Jenkins is fully up and running" and the URL.

Access Jenkins

1. Open a browser and go to `http:// 172.29.51.240:8080`
2. Login to Jenkins using the default username `admin`
3. Choose **"Install Suggested Plugins"** (recommended) or manually select plugins.

Ensure Sudo Access for Jenkins User

Jenkins runs as the system user `jenkins`. To allow it to execute commands without password prompts:

```
sudo visudo
```

Add the following line at the end:

```
jenkins ALL=(ALL) NOPASSWD: ALL
```

Save and exit.

Retrieve Jenkins Admin Password

After installation, Jenkins requires an initial admin password:

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

Copy and paste this password when logging into Jenkins for the first time.

Create a New Freestyle Job

Steps to Create the Job

1. Click on **"New Item"** from the Jenkins Dashboard.
2. Enter a name for the job, e.g., **"Install-Nginx"**.
3. Select **"Freestyle project"**.
4. Click **OK**.

Configure the Job

1. Add a Build Step

1. Scroll down to **Build** → Click **"Add build step"** → Select **"Execute shell"**.
2. Paste the following script in the command box:

```bash
#!/bin/bash

echo "Updating package lists..."
sudo apt update -y

echo "Installing Nginx..."
sudo apt install -y nginx

echo "Starting Nginx service..."
sudo systemctl start nginx

echo "Enabling Nginx to start on boot..."
sudo systemctl enable nginx

echo "Nginx Installation Completed!"
```

Save and Run the Job

1. Click **Save**.
2. Click **Build Now**.
3. Check the **Console Output** to verify the installation.
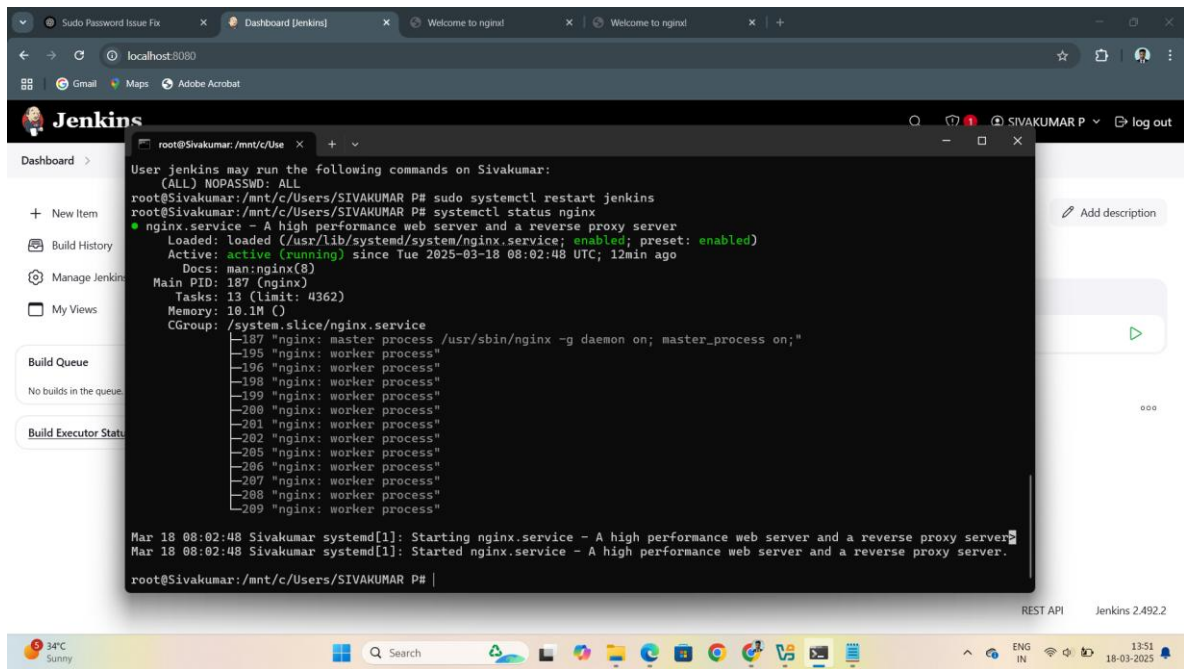

Verify the Installation

1. Check Nginx Status

Run the following command on your Ubuntu VM:
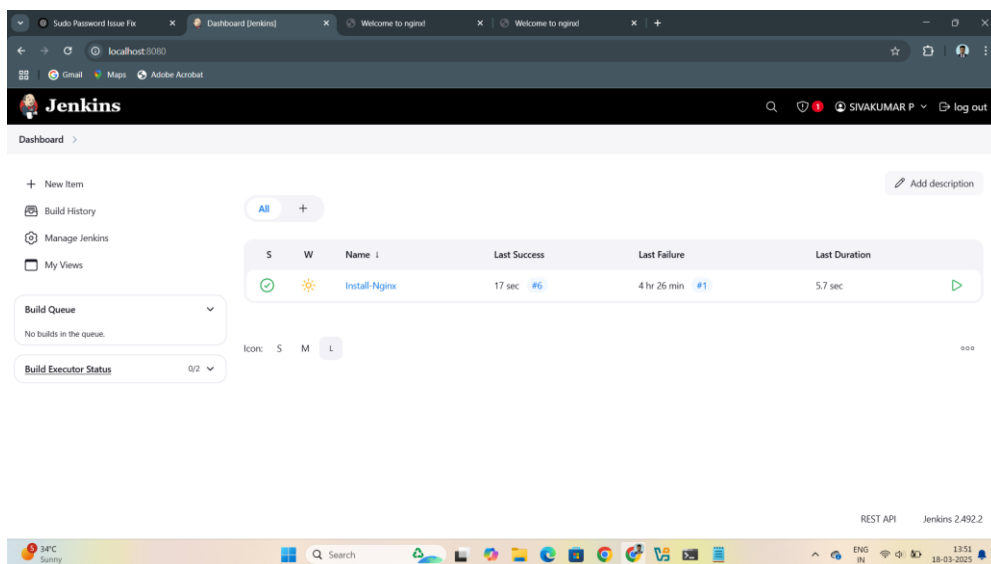
```
systemctl status nginx
```

If running, you should see output like **"active (running)"**.

2. Verify Nginx Webpage

Open a browser and go to http://172.29.51.240; you should see the default Nginx page.

This completes the Jenkins Freestyle Job setup for installing Nginx on a local Ubuntu VM.

Jenkins

SIVAKUMAR P   log out

Dashboard > Install-Nginx > #2 > Console Output

Status

Changes

Console Output

Edit Build Information

Delete build '#2'

Timings

Previous Build

✓ **Console Output**

Download   Copy   View as plain text

```
Started by user SIVAKUMAR P
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/Install-Nginx
[Install-Nginx] $ /bin/bash /tmp/jenkins15009213970252416472.sh
Updating package lists...
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
Installing Nginx...
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
Starting Nginx service...
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
Enabling Nginx to start on boot...
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 Installation Completed!
Finished: SUCCESS
```

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Partly sunny

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