DevOps Training-Day-1

Installing and Setting Up WSL with Ubuntu on Windows 10

Step 1: Enable WSL

Before installing Ubuntu, ensure that WSL is enabled on your Windows system. **Enable WSL Feature**

1. Open **PowerShell** as Administrator and run:
2. wsl --install

This installs the default Linux distribution and enables necessary components. 3. If WSL is already installed but not enabled, use:

4. dism.exe /online /enable-feature /featurename:Microsoft-Windows-Subsystem-Linux /all /norestart
5. Enable the Virtual Machine Platform feature (required for WSL 2): 6. dism.exe /online /enable-feature /featurename:VirtualMachinePlatform /all /norestart 7. Restart your computer to apply changes.

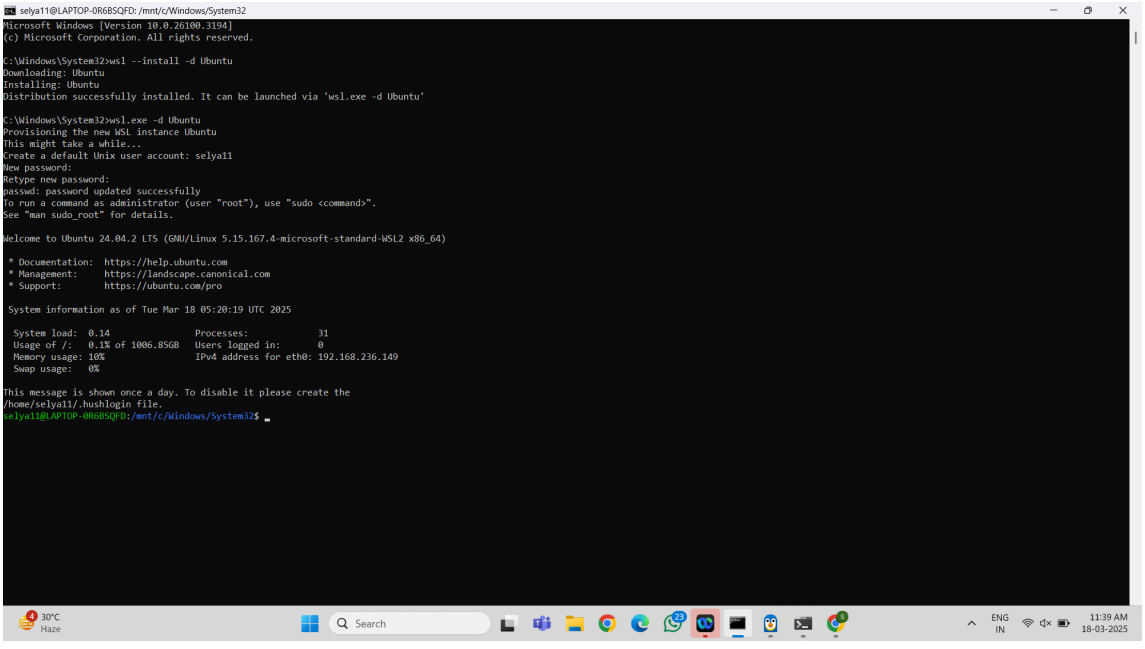
Step 2: Install Ubuntu

1. Open **Command Prompt** or **PowerShell** and run:
2. wsl --install -d Ubuntu

If the installation fails due to timeout issues, retry the command after shutting down WSL: wsl --shutdown

wsl --install -d Ubuntu

3. Once installed, start Ubuntu:
4. wsl.exe -d Ubuntu



Step 3: Set Up Ubuntu

When Ubuntu runs for the first time, it will ask you to create a new user account.

1. **Enter a username** (must start with a lowercase letter or underscore, and contain only lowercase letters, digits, underscores, and dashes).
2. **Set a password** (enter and confirm the password). If passwords do not match, you will need to retry.
3. Once successful, Ubuntu will be set up and ready to use.

Step 4: Verify Installation

To check the installed distributions and their versions:
wsl -l -v

To verify Ubuntu is running:

wsl -d Ubuntu

Step 5: Configure Ubuntu

Update System Packages

After logging in, update the package list and upgrade installed packages:

sudo apt update && sudo apt upgrade -y

Set Default WSL Version

To use WSL 2 as the default version for future installations:

wsl --set-default-version 2

To check the current WSL version:

wsl -l -v

To convert an existing installation to WSL 2:

wsl --set-version Ubuntu 2

Step 6: Enable .hushlogin to Suppress Login Message

To disable the daily login message, create a .hushlogin file in your home

directory: touch ~/.hushlogin

Additional Commands

Restart WSL:

wsl --shutdown

Uninstall a Distribution:

wsl --unregister Ubuntu

Access Windows Files in WSL:

cd /mnt/c

Conclusion

You have successfully installed and set up WSL with Ubuntu on Windows 10. You can now use the Ubuntu terminal to run Linux commands and manage your system efficiently.

Step-by-Step Guide to Creating a Freestyle Job in Jenkins to Install Nginx on a Local Ubuntu VM

Prerequisites for Setting Up a Freestyle Job to Install Nginx in Jenkins

Before creating the Freestyle Job, ensure that the following prerequisites are

met: **1. Install Jenkins on Ubuntu (If Not Installed)**

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

Step 1: Update Package Lists

sudo apt update -y

Step 2: Install Java (Required for Jenkins)

sudo apt install -y openjdk-17-jdk

Step 3: Verify Java Version

java -version

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

selya11@LAPTOP-0R6BSQFD:~$ java --version
Command 'java' not found, but can be installed with:
sudo apt install openjdk-17-jre-headless  # version 17.0.12+7-1ubuntu2~24.04, or
sudo apt install openjdk-21-jre-headless  # version 21.0.4+7-1ubuntu2~24.04
sudo apt install default-jre              # version 2:1.17-75
```

Step 4: Add Jenkins Repository Key

(Note: The apt-key add command is deprecated in newer Ubuntu versions. Use the correct method below.)

Correct Way to Add Jenkins Repository (Without apt-key)
Step 4.1: Add Jenkins GPG Key

wget -q -O- https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key | sudo tee /usr/share/keyrings/jenkinskeyring.asc > /dev/null

Step 4.2: Add 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

Step 5: Install Jenkins

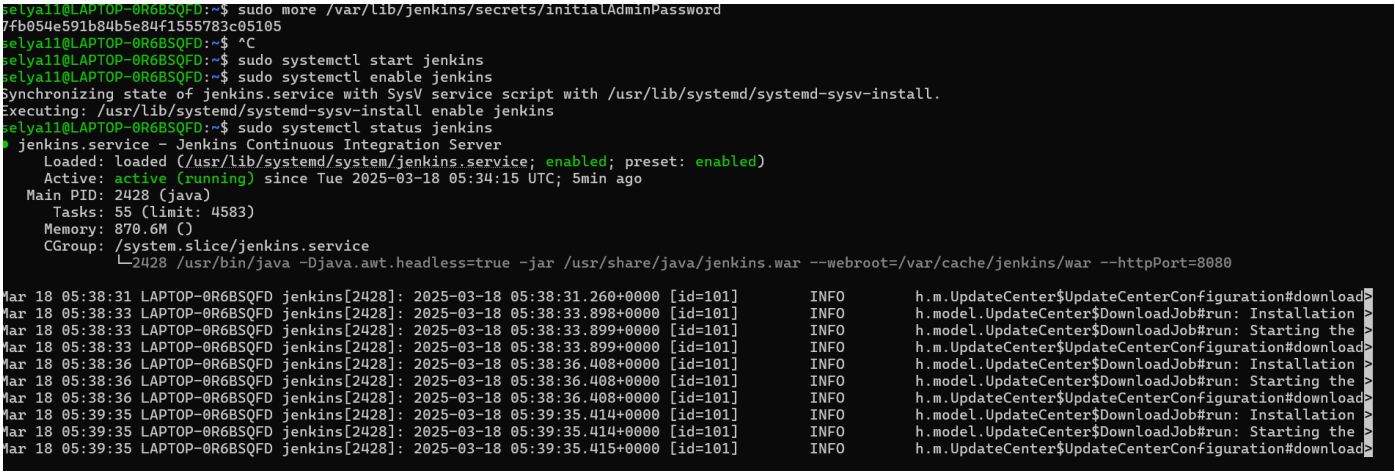
sudo apt update -y

sudo apt install -y jenkins

Step 6: Start and Enable Jenkins Service

sudo systemctl start jenkins

sudo systemctl enable jenkins



Step 7: Check Jenkins Status

sudo systemctl status jenkins

2. Access Jenkins Web Interface

Jenkins will be available at http://<VM_IP>:8080

To Get the Jenkins Server URL, Follow These Steps:

Method 1: Check the Default URL

By default, Jenkins runs on port 8080. Open in a browser:

http://<your-server-ip>:8080

If you're on the same machine as Jenkins, use:

http://localhost:8080

Method 2: Get Server IP Address

hostname -I

or

ip a | grep inet

Method 3: Check Jenkins Logs (If Unable to Access)

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

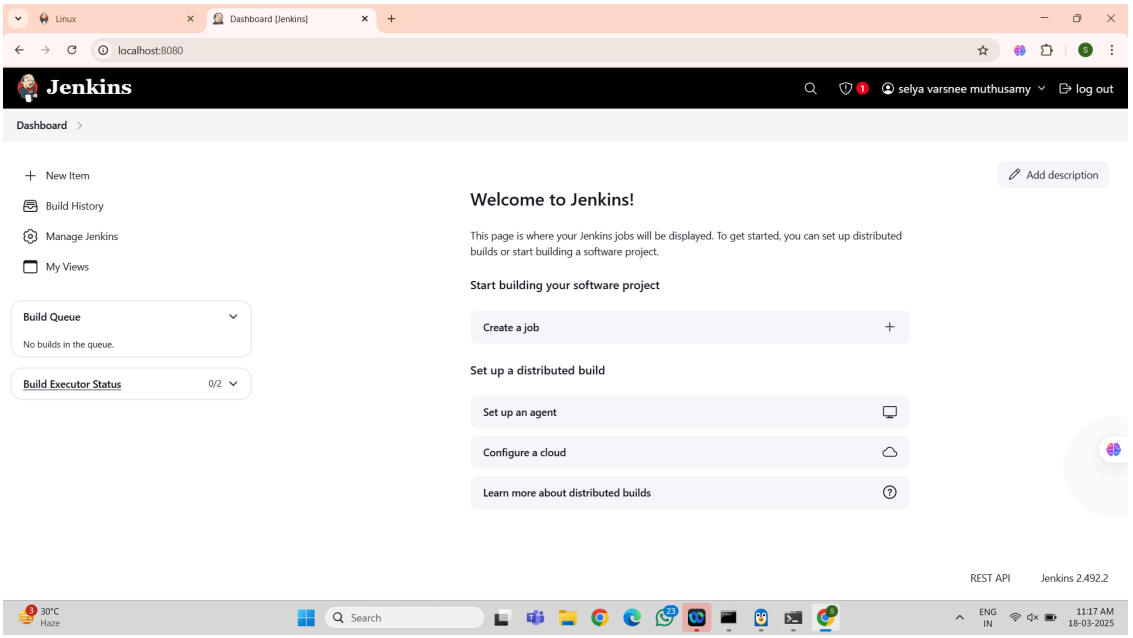
Look for lines mentioning *"Jenkins is fully up and running"* and the URL.

3. Access Jenkins Web Interface and Log In

1. Open a browser and go to http://<JENKINS_SERVER_IP>:8080
2. Enter the username (admin) and the admin password retrieved from the following command:

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

3. Choose *Install Suggested Plugins* (recommended) or manually select plugins.



4. Ensure Sudo Access for Jenkins User

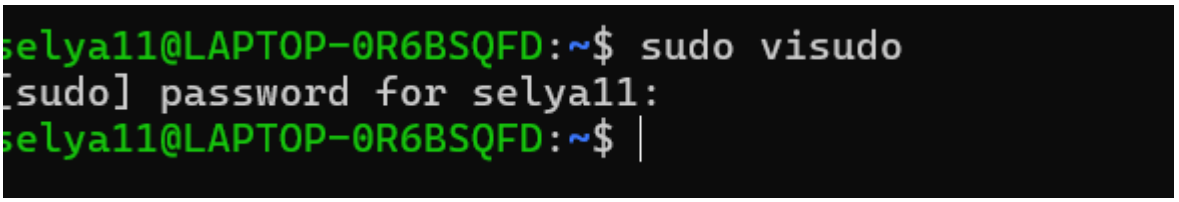
Jenkins runs as a system user (jenkins). If your script requires sudo, allow Jenkins to execute commands without a password:

sudo visudo

Add the following line at the end of the file:

jenkins ALL=(ALL) NOPASSWD: ALL

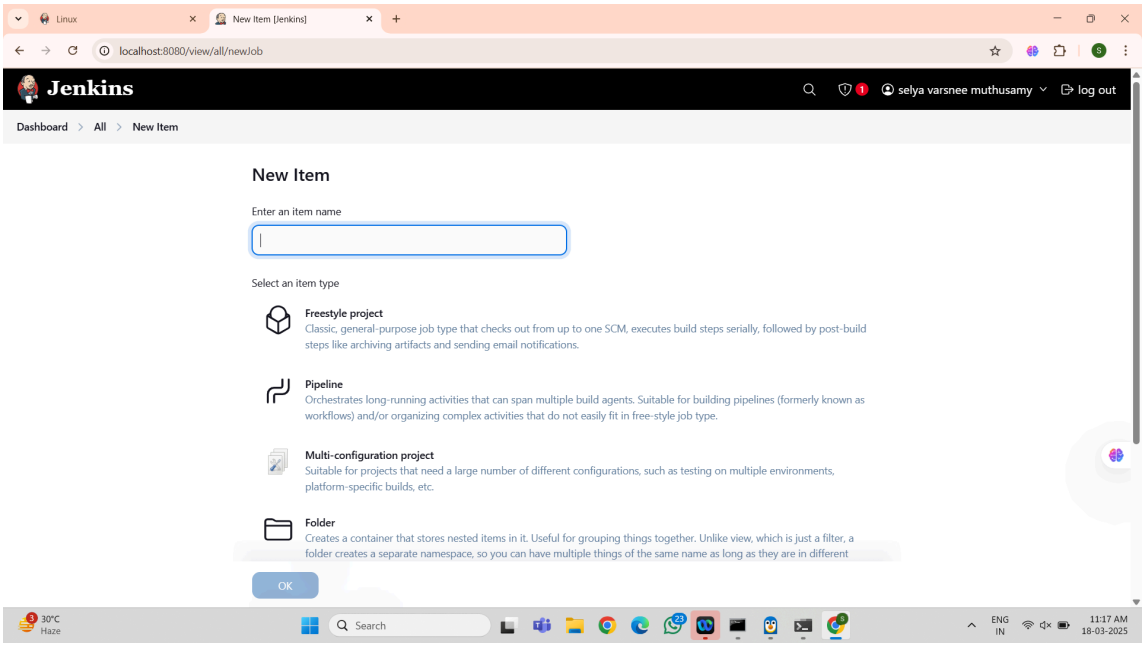
Save and exit.



Step-by-Step Guide to Creating a Freestyle Job in Jenkins to Install

Nginx Step 1: Create a New Freestyle 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**.



Step 2: Configure the Job

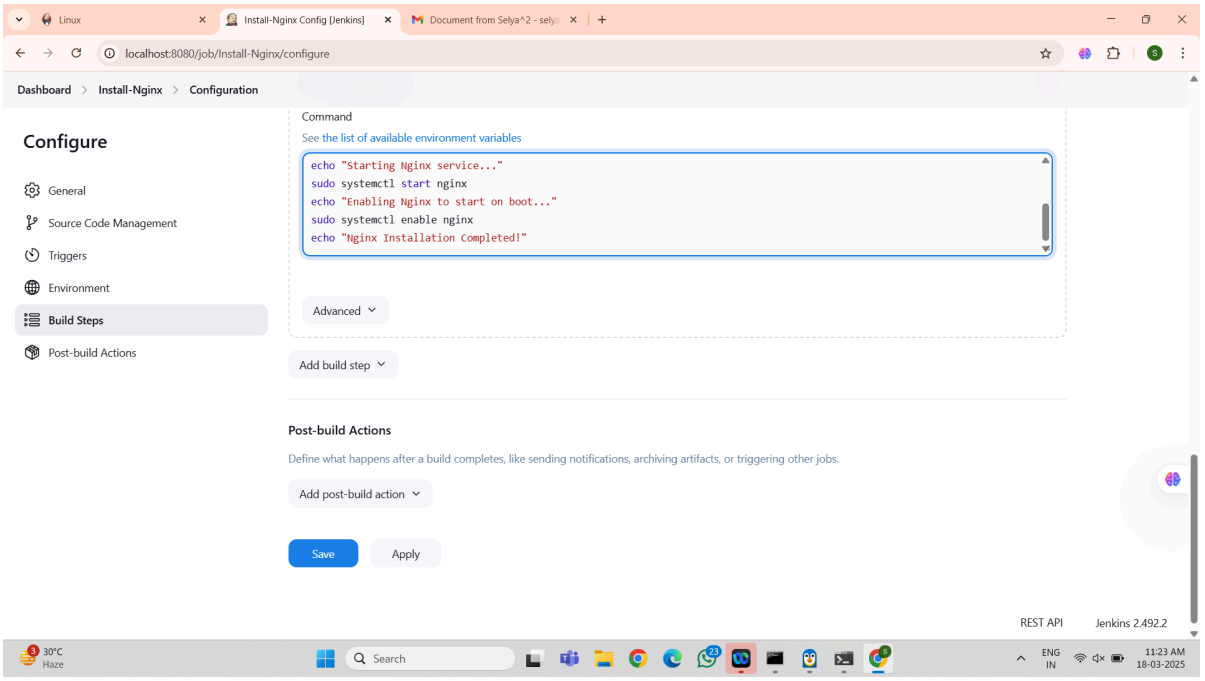
Add Build Step

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

```
#!/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!"
```

Step 3: Save and Run the Job

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



Step 4: Verify the Installation

1. Check Nginx Status

systemctl status nginx

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

```
selya11@LAPTOP-0R6BSQFD:~$ systemctl status nginx
● 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 06:03:47 UTC; 13min ago
```

2. Open Nginx in Browser

http://<VM_IP>

You should see the default Nginx welcome page.

Conclusion

You have successfully set up a Jenkins Freestyle Job to install Nginx on a local Ubuntu VM. This guide covers everything from Jenkins installation, configuration, and running the job to verify that Nginx is installed and running correctly.

Now, your Jenkins automation is ready to deploy Nginx effortlessly!