

**TASK 1 - Run Nginx using Jenkins**  
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**Aim:**

To install and run the Nginx web server on an Ubuntu system using Jenkins.

**Steps to Run the Task:**

**Step 1: Access Jenkins**

Open Jenkins in a web browser: `http://your-server-ip:8080`

Login with your credentials.

**Step 2: Create a New Jenkins Job**

Click on New Item → Enter a job name → Select Freestyle project → Click OK.

**Step 3: Add Execute Shell Build Step**

Scroll to the Build section.

Click Add build step → Select Execute Shell.

Enter the following commands:

Commands to Install and Run Nginx:

```
#!/bin/bash
echo "Updating package list..."
sudo apt update

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

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

echo "Allowing firewall access..."
sudo ufw allow 'Nginx Full'

echo "Checking Nginx status..."
systemctl status nginx
```

**Step 5: Save and Run the Job**

Click Save and then Build Now.

Monitor the Console Output to verify installation.

**Step 6: Verify Nginx Installation**

You should see the Nginx default welcome page.

The image displays two screenshots of the Jenkins web interface, illustrating the configuration and execution of a build job.

**Top Screenshot: Jenkins Configuration Page**

The top screenshot shows the Jenkins "Configure" page for a job named "Basic". The left sidebar lists various configuration sections: General, Source Code Management, Triggers, Environment, Build Steps, and Post-build Actions. The "Build Steps" section is selected.

Under "Build Steps", there is a section titled "Execute shell" with a command field containing the following commands:

```
echo "040705" | sudo -S apt update -y
echo "040705" | sudo -S apt install nginx -y
echo "040705" | sudo -S systemctl start nginx
echo "040705" | sudo -S systemctl enable nginx
echo "040705" | sudo -S systemctl
```

Below the command field, there is an "Advanced" section and an "Add build step" button. At the bottom, there is a "Post-build Actions" section with an "Add post-build action" button and "Save" and "Apply" buttons.

**Bottom Screenshot: Jenkins Console Output**

The bottom screenshot shows the Jenkins "Console Output" page for the same job. The output displays the execution of the shell commands, including system updates and Nginx installation.

The console output shows the following sequence of events:

- Started by user VIBUDESH R B
- Running as SYSTEM
- Building in workspace /var/lib/jenkins/workspace/Basic
- [Basic] \$ /bin/sh -xe /tmp/jenkins2231346396574614204.sh
- + echo 040705
- + sudo -S apt update -y
- WARNING: apt does not have a stable CLI interface. Use with caution in scripts.
- Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease
- Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease
- Hit:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease
- Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease
- Reading package lists...
- Building dependency tree...
- Reading state information...
- 120 packages can be upgraded. Run 'apt list --upgradable' to see them.
- + echo 040705
- + sudo -S apt install nginx -y
- WARNING: apt does not have a stable CLI interface. Use with caution in scripts.
- Reading package lists...
- Building dependency tree...
- Reading state information...
- The following package was automatically installed and is no longer required:
- libnss3-tools
- Use 'sudo apt autoremove' to remove it.
- The following additional packages will be installed:
- nginx-common
- Suggested packages:
- fcgiwrap nginx-doc
- The following NEW packages will be installed:

