

Assignment 1

Create a simple FreeStyle Job To Install Nginx on the server

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JENKINS:

Jenkins is an open-source automation server used for Continuous Integration (CI) and Continuous Deployment (CD). It automates the process of building, testing, and deploying applications, making software development more efficient and reliable.

Key Features of Jenkins:

- **Automation** – Automates repetitive tasks such as builds, testing, and deployments.
- **Plugins** – Supports over 1,800 plugins to integrate with various tools such as Git, Docker, Kubernetes, and Ansible.
- **Pipeline Support** – Allows defining workflows using Jenkins Pipeline (Groovy-based scripting) for better flexibility.
- **Distributed Builds** – Supports execution on multiple machines to optimize build performance.
- **Easy Integration** – Works seamlessly with version control systems such as Git, GitHub.

Steps to Create a Freestyle Job to Install Nginx

Jenkins allows users to create **Freestyle Jobs**, which are basic projects that can execute scripts or commands to perform automation tasks. The following steps outline how to create a Freestyle Job in Jenkins to **install and configure Nginx** on a server.

Step 1: Open Jenkins Dashboard

- Log in to Jenkins.
- Click on "**New Item**" from the Jenkins Dashboard.

Step 2: Create a Freestyle Project

- Enter a suitable job name.
- Select **Freestyle Project**.
- Click **OK** to proceed.

Step 3: Configure the Build Steps

- Scroll down to the **Build** section.

- Click on **"Add build step"** and select **"Execute shell"**.

Step 4: Add the Shell Script for Nginx Installation

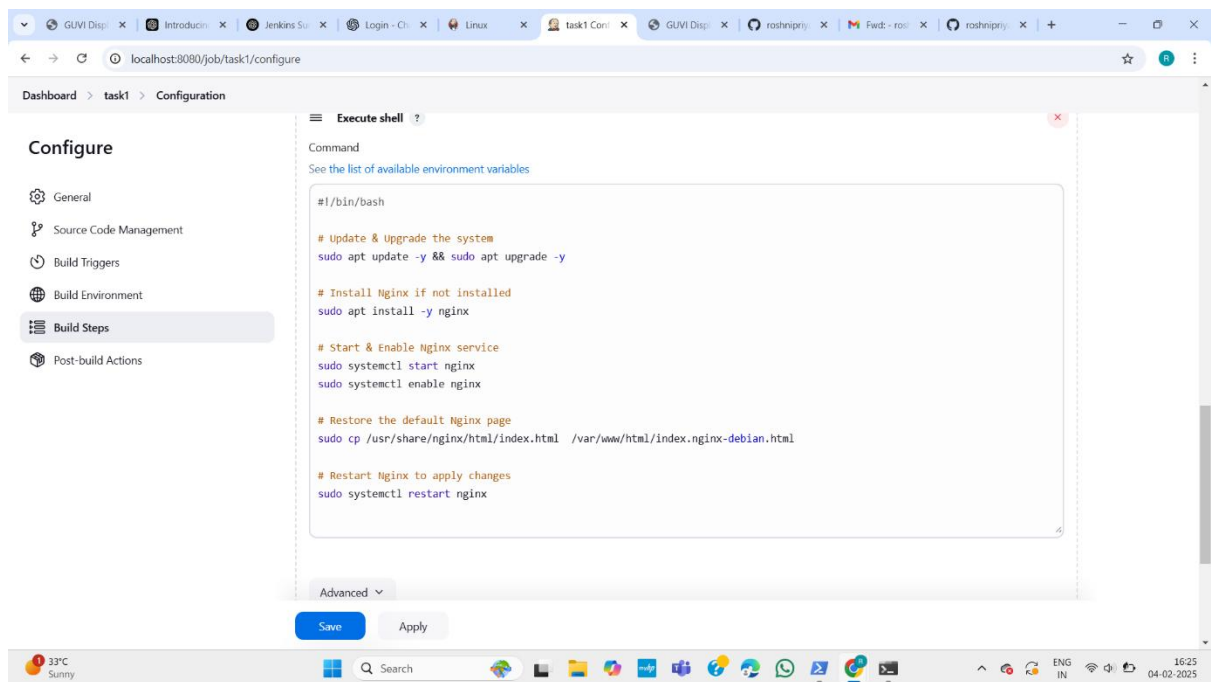
- In the script box, enter the following commands.

```
sudo apt update  
sudo apt install -y nginx  
sudo systemctl start nginx  
sudo systemctl enable nginx
```

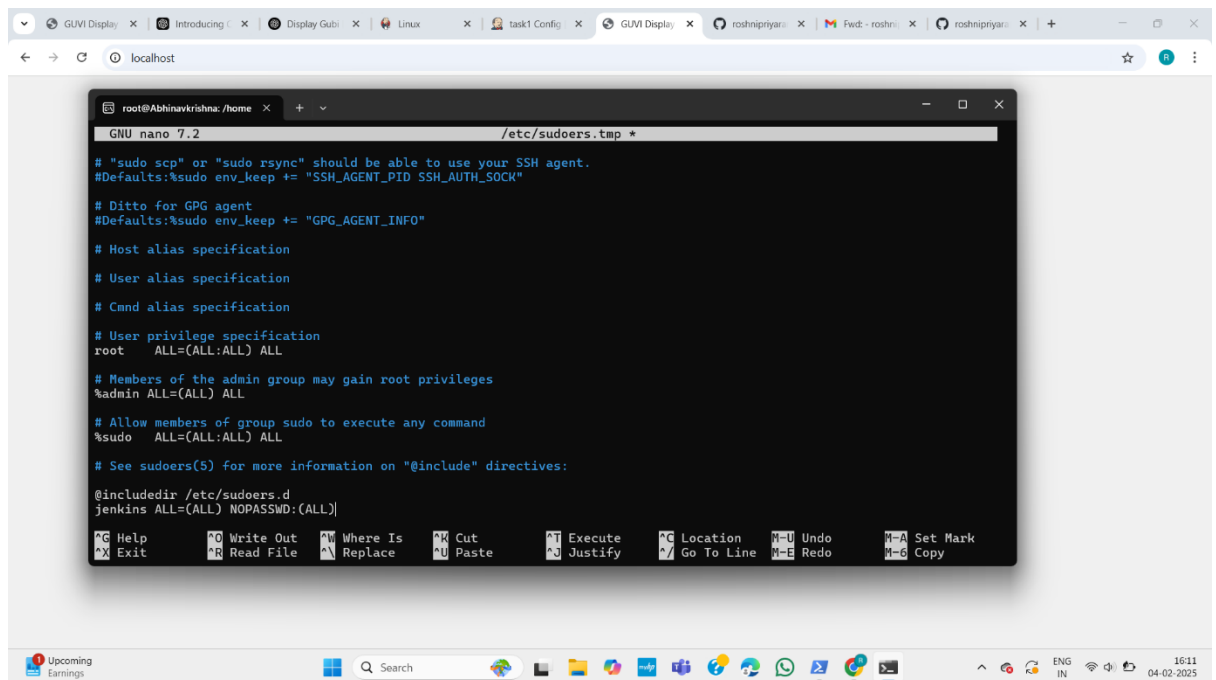
Step 5: Save and Execute the Job

- Click **Save** to store the job configuration.
- Click **"Build Now"** to start the installation process.
- Check the **Build Console Output** to verify if the job executes successfully.

1. Installing Nginx:



2. Updating Access for Jenkins:



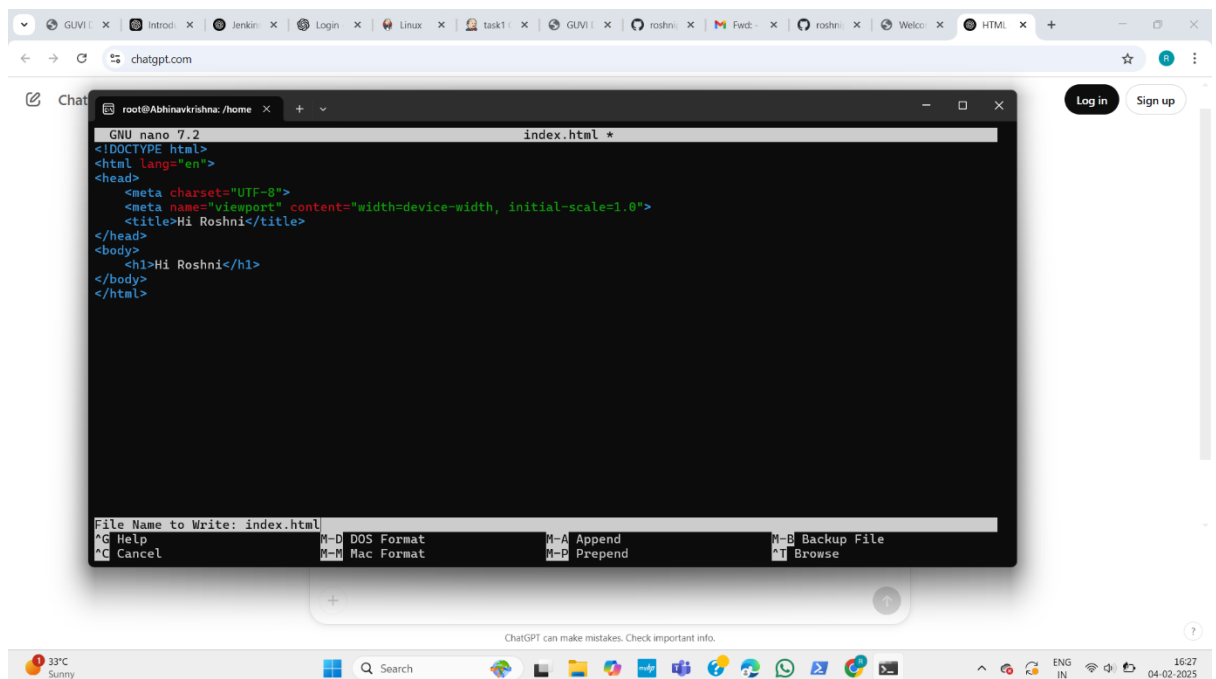
The screenshot shows a terminal window with the nano 7.2 editor open to the file /etc/sudoers.tmp. The file contains the following content:

```
GNU nano 7.2 /etc/sudoers.tmp *
# "sudo scp" or "sudo rsync" should be able to use your SSH agent.
#Defaults:%sudo env_keep += "SSH_AGENT_PID SSH_AUTH_SOCK"
# Ditto for GPG agent
#Defaults:%sudo env_keep += "GPG_AGENT_INFO"
# Host alias specification
# User alias specification
# Cmnd alias specification
# User privilege specification
root    ALL=(ALL:ALL) ALL
# Members of the admin group may gain root privileges
%admin   ALL=(ALL) ALL
# Allow members of group sudo to execute any command
%sudo   ALL=(ALL:ALL) ALL
# See sudoers(5) for more information on "@include" directives:

@include /etc/sudoers.d
jenkins  ALL=(ALL) NOPASSWD: (ALL)
```

The terminal window is titled 'root@Abhinavkrishna: /home'. The bottom status bar shows system information: 33°C Sunny, Search, and the date 04-02-2025.

3. Code:

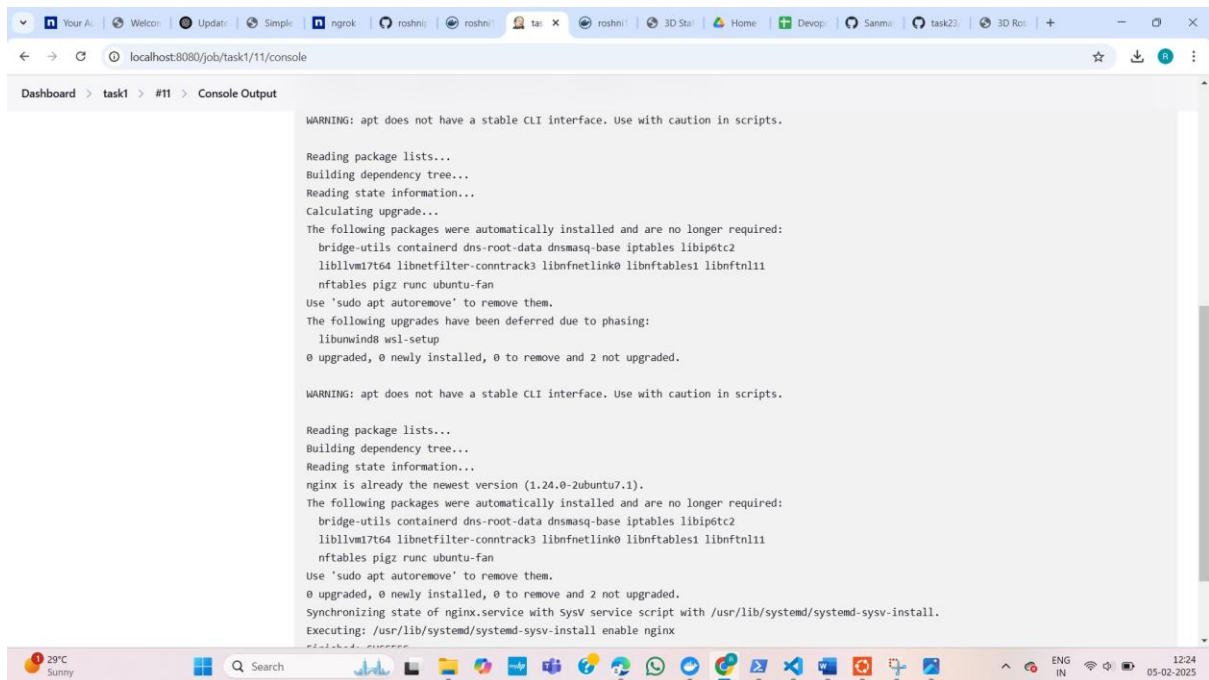


The screenshot shows a terminal window with the nano 7.2 editor open to the file index.html. The file contains the following HTML code:

```
GNU nano 7.2 index.html *
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Hi Roshni</title>
</head>
<body>
  <h1>Hi Roshni</h1>
</body>
</html>
```

The terminal window is titled 'root@Abhinavkrishna: /home'. The bottom status bar shows system information: 33°C Sunny, Search, and the date 04-02-2025.

4. Console Output:



```
Dashboard > task1 > #11 > Console Output

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Reading package lists...
Building dependency tree...
Reading state information...
Calculating upgrade...

The following packages were automatically installed and are no longer required:
  bridge-utils containerd dns-root-data dnsmasq-base iptables libip6tc2
  liblvm2764 libnetfilter-contrack3 libnfnetlink0 libnftables1 libnftnl11
  nftables pigz runc ubuntu-fan
Use 'sudo apt autoremove' to remove them.
The following upgrades have been deferred due to phasing:
  libunwind8 wsl-setup
0 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Reading package lists...
Building dependency tree...
Reading state information...
nginx is already the newest version (1.24.0-2ubuntu7.1).
The following packages were automatically installed and are no longer required:
  bridge-utils containerd dns-root-data dnsmasq-base iptables libip6tc2
  liblvm2764 libnetfilter-contrack3 libnfnetlink0 libnftables1 libnftnl11
  nftables pigz runc ubuntu-fan
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.
Synchronizing state of nginx.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable nginx
```

5. Chrome Output:

