

Name: Bodakhe Samruddhi Dadasaheb

PRN:2124UDSF1053

SET 3

Q.1

Ans:

```
sanjivani@sanjivani-MS-7E44:~$ sudo apt update
sudo apt install nginx -y
sudo systemctl start nginx
sudo systemctl enable nginx
sudo systemctl status nginx
Hit:1 https://download.docker.com/linux/ubuntu noble InRelease
Ign:2 https://pkg.jenkins.io/debian binary/ InRelease
Hit:3 https://pkg.jenkins.io/debian binary/ Release
Hit:5 http://archive.ubuntu.com/ubuntu noble InRelease
Get:6 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Hit:7 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:8 https://ppa.launchpadcontent.net/ansible/ansible/ubuntu noble InRelease
Get:9 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:10 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]
Get:11 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [377 kB]
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:14 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7,148 B]
Get:15 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:16 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [11.0 kB]
Get:17 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 824 kB in 2s (409 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
4 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  nginx-common
Suggested packages:
  fcgiwrap nginx-doc
The following NEW packages will be installed:
  nginx nginx-common
0 upgraded, 2 newly installed, 0 to remove and 4 not upgraded.
Need to get 564 kB of archives.
After this operation, 1,596 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx-common all 1.24.0-2ubuntu7.5 [43.4 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx amd64 1.24.0-2ubuntu7.5 [520 kB]
Fetched 564 kB in 2s (320 kB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 226472 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.24.0-2ubuntu7.5_all.deb ...
Unpacking nginx-common (1.24.0-2ubuntu7.5) ...
```

```
Terminal
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
● 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 Wed 2025-10-15 12:47:03 IST; 2s ago
     Docs: man:nginx(8)
    Main PID: 20722 (nginx)
      Tasks: 13 (limit: 18694)
    Memory: 8.9M (peak: 20.8M)
       CPU: 93ms
    CGroup: /system.slice/nginx.service
            └─20722 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
              └─20724 "nginx: worker process"
                └─20725 "nginx: worker process"
                  └─20726 "nginx: worker process"
                    └─20727 "nginx: worker process"
                      └─20728 "nginx: worker process"
                        └─20729 "nginx: worker process"
                          └─20730 "nginx: worker process"
                            └─20731 "nginx: worker process"
                              └─20732 "nginx: worker process"
                                └─20733 "nginx: worker process"
                                  └─20734 "nginx: worker process"
                                    └─20735 "nginx: worker process"

Oct 15 12:47:03 sanjivani-MS-7E44 systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server:
Oct 15 12:47:03 sanjivani-MS-7E44 systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server:
sanjivani@sanjivani-MS-7E44:~$ nano hosts.ini
sanjivani@sanjivani-MS-7E44:~$ nano nginx-playbook.yml
sanjivani@sanjivani-MS-7E44:~$ ansible-playbook -i hosts.ini nginx-playbook.yml

PLAY [Install and start Nginx on managed node] *****

TASK [Gathering Facts] *****
[WARNING]: Platform linux on host localhost is using the discovered Python interpreter at /usr/bin/python3.12, but future versions of this library will support only versions 3.10 through 3.11. See https://docs.ansible.com/ansible-core/2.18/reference_appendices/interpreter_discovery.html for more information.
ok: [localhost]

TASK [Update apt cache] *****
changed: [localhost]

TASK [Install Nginx] *****
ok: [localhost]

TASK [Ensure Nginx service is running] *****
ok: [localhost]
```

Playbook:

```
GNU nano 7.2 nginx-playbook.yml
---
- name: Install and start Nginx on managed node
  hosts: webserver      # Target the managed node group
  become: yes           # Use sudo
  tasks:
    - name: Update apt cache
      apt:
        update_cache: yes

    - name: Install Nginx
      apt:
        name: nginx
        state: present

    - name: Ensure Nginx service is running
      service:
        name: nginx
        state: started
        enabled: yes
```

Q.2

Ans:

```
Oct 15 11:39
Terminal

sanjivani@sanjivani-MS-7E44:~$ docker --version
Docker version 28.5.1, build e180ab8
sanjivani@sanjivani-MS-7E44:~$ sudo apt update
sudo apt install -y docker.io
sudo systemctl enable --now docker
Ign:1 https://pkg.jenkins.io/debian binary/ InRelease
Hit:2 https://pkg.jenkins.io/debian binary/ Release
Hit:3 https://download.docker.com/linux/ubuntu noble InRelease
Hit:5 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:6 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:7 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:8 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:9 https://ppa.launchpadcontent.net/ansible/ansible/ubuntu noble InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
4 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Some packages could not be installed. This may mean that you have
requested an impossible situation or if you are using the unstable
distribution that some required packages have not yet been created
or been moved out of Incoming.
The following information may help to resolve the situation:

The following packages have unmet dependencies:
 containerd.io : Conflicts: containerd
E: Error, pkgProblemResolver::Resolve generated breaks, this may be caused by held packages.
Synchronizing state of docker.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable docker
sanjivani@sanjivani-MS-7E44:~$ sudo apt update
Ign:1 https://pkg.jenkins.io/debian binary/ InRelease
Hit:2 https://pkg.jenkins.io/debian binary/ Release
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:5 https://ppa.launchpadcontent.net/ansible/ansible/ubuntu noble InRelease
Hit:6 https://download.docker.com/linux/ubuntu noble InRelease
Hit:7 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:8 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:9 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
4 packages can be upgraded. Run 'apt list --upgradable' to see them.
sanjivani@sanjivani-MS-7E44:~$ sudo apt install -y docker.io
Reading package lists... Done
```

```
Oct 15 11:34
Terminal

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/get-started/

sanjivani@sanjivani-MS-7E44:~$ mkdir ~/docker-python
cd ~/docker-python
sanjivani@sanjivani-MS-7E44:~/docker-python$ nano app.py
sanjivani@sanjivani-MS-7E44:~/docker-python$ nano Dockerfile
sanjivani@sanjivani-MS-7E44:~/docker-python$ docker build -t python-hello .
[+] Building 0.9s (8/8) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 268B
=> [internal] load metadata for docker.io/library/python:3.12-slim
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/3] FROM docker.io/library/python:3.12-slim@sha256:dc9e92fcdc085ad86dda976f4cfc58856dba33a438a16db37ff00151b285c8ca
=> => resolve docker.io/library/python:3.12-slim@sha256:dc9e92fcdc085ad86dda976f4cfc58856dba33a438a16db37ff00151b285c8ca 10.37kB / 10.37kB
=> => sha256:dc9e92fcdc085ad86dda976f4cfc58856dba33a438a16db37ff00151b285c8ca 1.75kB / 1.75kB
=> => sha256:b6ee69a447f51566a9eb35a1ce5f0b98fcaca995ffa4317be02ee1ce864d33b8 1.75kB / 1.75kB
=> => sha256:26ef4fe66f23f401facd721c2794a8eb9b0f97b1c44c9ac98852e6c441a580d 5.58kB / 5.58kB
=> => sha256:8c7716127147648c1751940b9709b6325f2256298d3201662eca2701cadd2cdf 29.78MB / 29.78MB
=> => sha256:2d939f7b801c4b30dd7e958d99d18e61c6ebbcab6a254abcbcfbd2678d780bfd 4.25MB / 4.25MB
=> => sha256:1dd1df8954c91ccf128b1b667f07b2317759315a368ec7f106a2a803bc71802d 12.11MB / 12.11MB
=> => sha256:61aaec5b5fd48bb70aea7705aa27ecaba298d628393bce46603723a8a12d62c51 250B / 250B
=> => extracting sha256:8c7716127147648c1751940b9709b6325f2256298d3201662eca2701cadd2cdf
=> => extracting sha256:2d939f7b801c4b30dd7e958d99d18e61c6ebbcab6a254abcbcfbd2678d780bfd
=> => extracting sha256:1dd1df8954c91ccf128b1b667f07b2317759315a368ec7f106a2a803bc71802d
=> => extracting sha256:61aaec5b5fd48bb70aea7705aa27ecaba298d628393bce46603723a8a12d62c51
=> [internal] load build context
=> => transferring context: 72B
=> [2/3] WORKDIR /app
=> [3/3] COPY app.py .
=> exporting to image
=> => exporting layers
=> => writing image sha256:428ba704236c2258ed7cf93737f2b807d7c4a78ea95ce964d8ea1d6029b97f06
=> => naming to docker.io/library/python-hello
sanjivani@sanjivani-MS-7E44:~/docker-python$ docker run --rm python-hello
Hello from Docker and Python!
sanjivani@sanjivani-MS-7E44:~/docker-python$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
python-hello   latest    428ba704236c   45 seconds ago 127MB
hello-world    latest    1b44b5a3e06a   2 months ago  10.1kB
sanjivani@sanjivani-MS-7E44:~/docker-python$
```

Q.3

```

sanjivani@sanjivani-MS-7E44:~/docker-python$ cd
sanjivani@sanjivani-MS-7E44:~$ git --version
git version 2.43.0
sanjivani@sanjivani-MS-7E44:~$ sudo apt update
sudo apt install git -y
Hit:1 https://download.docker.com/linux/ubuntu noble InRelease
Ign:2 https://pkg.jenkins.io/debian binary/ InRelease
Hit:3 https://pkg.jenkins.io/debian binary/ Release
Hit:5 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:6 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:7 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:8 https://ppa.launchpadcontent.net/ansible/ansible/ubuntu noble InRelease
Hit:9 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
4 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
git is already the newest version (1:2.43.0-1ubuntu7.3).
git set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.
sanjivani@sanjivani-MS-7E44:~$ git config --global user.name "Samruddhibodakhe001"
git config --global user.email "samruddhi.bodakhe24@sanjivani.edu.in"
sanjivani@sanjivani-MS-7E44:~$ git config --list
user.email=samruddhi.bodakhe24@sanjivani.edu.in
user.name=Samruddhibodakhe001
sanjivani@sanjivani-MS-7E44:~$ mkdir MyGitProject
cd MyGitProject
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ git init
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint:   git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:   git branch -m <name>
Initialized empty Git repository in /home/sanjivani/MyGitProject/.git/
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ touch index.html
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ cd MyGitProject
bash: cd: MyGitProject: No such file or directory

```

```

Building dependency tree... Done
Reading state information... Done
git is already the newest version (1:2.43.0-1ubuntu7.3).
git set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.
sanjivani@sanjivani-MS-7E44:~$ git config --global user.name "Samruddhibodakhe001"
git config --global user.email "samruddhi.bodakhe24@sanjivani.edu.in"
sanjivani@sanjivani-MS-7E44:~$ git config --list
user.email=samruddhi.bodakhe24@sanjivani.edu.in
user.name=Samruddhibodakhe001
sanjivani@sanjivani-MS-7E44:~$ mkdir MyGitProject
cd MyGitProject
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ git init
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint:   git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:   git branch -m <name>
Initialized empty Git repository in /home/sanjivani/MyGitProject/.git/
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ touch index.html
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ cd MyGitProject
bash: cd: MyGitProject: No such file or directory
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ pwd
/home/sanjivani/MyGitProject
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ nano index.html
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ git add index.html
git commit -m "Initial commit"
[master (root-commit) 1fc49c7] Initial commit
 1 file changed, 9 insertions(+)
 create mode 100644 index.html
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ git add index.html
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ git commit -m "Initial commit"
On branch master
nothing to commit, working tree clean
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ git remote add origin https://github.com/Samruddhibodakhe001/MyGitProject.git
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ git remote -v
origin https://github.com/Samruddhibodakhe001/MyGitProject.git (fetch)
origin https://github.com/Samruddhibodakhe001/MyGitProject.git (push)
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ git branch -M main
sanjivani@sanjivani-MS-7E44:~/MyGitProject$ git push -u origin main

```