1. **Install nginx**
   command: sudo apt-get install nginx

```
ubuntu@ip-172-31-41-2:~$ sudo apt-get install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64 liblua5.4-0
Use 'sudo apt autoremove' to remove them.
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 552 kB of archives.
After this operation, 1596 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://ap-northeast-3.ec2.archive.ubuntu.com/ubuntu noble/main amd64 nginx-common all 1.24.0-2ubuntu7 [31.2 kB]
Get:2 http://ap-northeast-3.ec2.archive.ubuntu.com/ubuntu noble/main amd64 nginx amd64 1.24.0-2ubuntu7 [521 kB]
Fetched 552 kB in 0s (22.7 MB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 72640 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.24.0-2ubuntu7_all.deb ...
Unpacking nginx-common (1.24.0-2ubuntu7) ...
Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.24.0-2ubuntu7_amd64.deb ...
Unpacking nginx (1.24.0-2ubuntu7) ...
Setting up nginx (1.24.0-2ubuntu7) ...
Setting up nginx-common (1.24.0-2ubuntu7) ...
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-41-2:~$
```

2. **Check the status of nginx service**
   sudo systemctl status nginx

```
ubuntu@ip-172-31-41-2:~$ sudo 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 Fri 2024-05-17 11:43:23 UTC; 1min 9s ago
       Docs: man:nginx(8)
    Process: 1721 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
    Process: 1723 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
   Main PID: 1724 (nginx)
      Tasks: 2 (limit: 1130)
     Memory: 1.7M (peak: 1.9M)
        CPU: 13ms
     CGroup: /system.slice/nginx.service
             ├─1724 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             └─1725 "nginx: worker process"

May 17 11:43:23 ip-172-31-41-2 systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
May 17 11:43:23 ip-172-31-41-2 systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
ubuntu@ip-172-31-41-2:~$
```

3. Verify nginx installation

Run the wget command: wget http://localhost/. You should see the nginx default index page index.html got downloaded successfully.

```
ubuntu@ip-172-31-41-2:~$ wget http://localhost/
--2024-05-17 11:46:53--  http://localhost/
Resolving localhost (localhost)... 127.0.0.1
Connecting to localhost (localhost)|127.0.0.1|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 19 [text/html]
Saving to: 'index.html'

index.html                    100%[===================================================================>]      19  --.-KB/s    in 0s

2024-05-17 11:46:53 (2.58 MB/s) - 'index.html' saved [19/19]

ubuntu@ip-172-31-41-2:~$
ubuntu@ip-172-31-41-2:~$
```

4. Create website directory

sudo mkdir /var/www/sonal-website

5. Create a simple HTML code to the index.hml file:

Please refer the link of the added HTML code from this link:
https://github.com/sonalbatch5/devops_assignment/blob/main/network_assignment/question1/index.html

6. Set permissions

sudo chown -R www-data sonal-website

sudo chown -R 755 sonal-website

```
ubuntu@ip-172-31-41-2:/var/www$ sudo chown -R www-data sonal-website
ubuntu@ip-172-31-41-2:/var/www$ sudo chown -R 755 sonal-website/
ubuntu@ip-172-31-41-2:/var/www$
```

7. Create nginx configuration

cp -rf /etc/nginx/sites-available/default /etc/nginx/sites-available/sonal-website

And add the below configuration:

```
# Please see /usr/share/doc/nginx-doc/examples/ for more detailed examples.
##

# Default server configuration
#
server {
        listen 80;
        listen [::]:80;

        # SSL configuration
        #
        # listen 443 ssl default_server;
        # listen [::]:443 ssl default_server;
        #
        # Note: You should disable gzip for SSL traffic.
        # See: https://bugs.debian.org/773332
        #
        # Read up on ssl_ciphers to ensure a secure configuration.
        # See: https://bugs.debian.org/765782
        #
        # Self signed certs generated by the ssl-cert package
        # Don't use them in a production server!
        #
        # include snippets/snakeoil.conf;

        root /var/www/html;

        # Add index.php to the list if you are using PHP
        index index.html index.htm index.nginx-debian.html;

        server_name sonal-website;

        location / {
                # First attempt to serve request as file, then
                # as directory, then fall back to displaying a 404.
                try_files $uri $uri/ =404;
        }

        # pass PHP scripts to FastCGI server
        #
        #location ~ \.php$ {
        #       include snippets/fastcgi-php.conf;
        #
        #       # With php-fpm (or other unix sockets):
```

8. **Enable the website with below command:**

sudo ln -s /etc/nginx/sites-available/sonal-website /etc/nginx-sites/enabled

```
ubuntu@ip-172-31-41-2:/var/www$
ubuntu@ip-172-31-41-2:/var/www$ sudo ln -s /etc/nginx/sites-available/sonal-website /etc/nginx/sites-enabled/
```

9. **Test nginx configuration**

nginx -t

10. **Restart nginx**

    sudo systemctl restart nginx

```
ubuntu@ip-172-31-41-2:/var/www$ sudo systemctl restart nginx
ubuntu@ip-172-31-41-2:/var/www$ sudo 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 Fri 2024-05-17 12:02:59 UTC; 8s ago
       Docs: man:nginx(8)
    Process: 2208 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
    Process: 2211 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
   Main PID: 2212 (nginx)
      Tasks: 2 (limit: 1130)
     Memory: 1.7M (peak: 2.4M)
        CPU: 13ms
     CGroup: /system.slice/nginx.service
             ├─2212 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             └─2213 "nginx: worker process"

May 17 12:02:59 ip-172-31-41-2 systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
May 17 12:02:59 ip-172-31-41-2 systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
ubuntu@ip-172-31-41-2:/var/www$
```

11. **Add below entry in the /etc/hosts file**

    127.0.0.1 sonal-website

12. **Open a web browser and nagivate to http://sonal-website** . You should
    see your website running.
    wget http://sonal-webiste should also download the index.html file