Install Nginx in Your Linux OS, here we are using “Ubuntu” as a Linux OS which has been installed in a Virtual Machine.

1. Go to Command Prompt,

    i. Search “cmd” in your Ubuntu Machine to get the terminal.
    ii. Run the below command to get if any updates are present currently.
    “sudo apt update”

    iii. Now Install Ngnix

    “sudo apt-get install nginx”

```
swapna@swapna-VirtualBox:~$ sudo apt update
[sudo] password for swapna:
Get:1 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Hit:2 http://in.archive.ubuntu.com/ubuntu focal InRelease
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Me
tadata [25.3 kB]
Fetched 361 kB in 4s (80.5 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
195 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

```
swapna@swapna-VirtualBox:~$ sudo apt-get install nginx
[sudo] password for swapna:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter
  libnginx-mod-mail libnginx-mod-stream nginx-common nginx-core
Suggested packages:
  fcgiwrap nginx-doc
The following NEW packages will be installed:
  libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter
  libnginx-mod-mail libnginx-mod-stream nginx nginx-common nginx-c
0 upgraded, 7 newly installed, 0 to remove and 44 not upgraded.
Need to get 605 kB of archives.
```

2. Enable Ngnix & check the status of it.

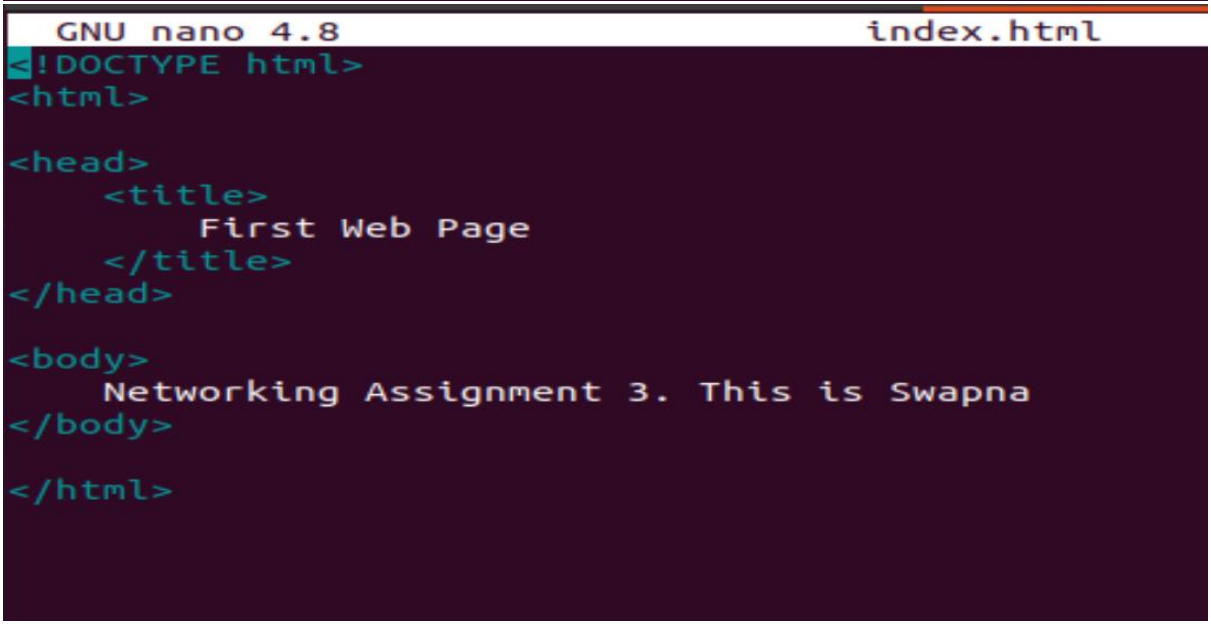
    “sudo systemctl enable nginx”

    “sudo systemctl status nginx”

```
swapna@swapna-VirtualBox:~$ sudo systemctl enabl nginx
Unknown operation enabl.
swapna@swapna-VirtualBox:~$
swapna@swapna-VirtualBox:~$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
     Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset>
     Active: active (running) since Wed 2023-08-02 12:05:43 IST; 11min ago
       Docs: man:nginx(8)
   Main PID: 58772 (nginx)
      Tasks: 2 (limit: 4542)
     Memory: 3.0M
     CGroup: /system.slice/nginx.service
             ├─58772 nginx: master process /usr/sbin/nginx -g daemon on; maste>
             └─58773 nginx: worker process
```

3. Now go to “/var/www” location & Create a “new_html” folder & inside that creates an HTML file, as we need to deploy that HTML file.

   “cd /var/www/”
   “Sudo mkdir new_html”
   “sudo nano index.html
   “cat index.html”



4. Then change configuration in ngnix config folder.
   “cd /etc/nginx”
   “Cd site-available/”
   “Sudo nano default”
   **Here redirect the “var/www/html” folder to “var/www/new_html”

```
swapna@swapna-VirtualBox:/var/www/new_html$ cd /etc/nginx/
swapna@swapna-VirtualBox:/etc/nginx$ ls
conf.d           koi-win             nginx.conf        sites-enabled
fastcgi.conf     mime.types          proxy_params      snippets
fastcgi_params   modules-available   scgi_params       uwsgi_params
koi-utf          modules-enabled     sites-available   win-utf
swapna@swapna-VirtualBox:/etc/nginx$ cd s
sites-available/ sites-enabled/   snippets/
swapna@swapna-VirtualBox:/etc/nginx$ cd sites-available/
swapna@swapna-VirtualBox:/etc/nginx/sites-available$ ls
default
swapna@swapna-VirtualBox:/etc/nginx/sites-available$ sudo nano default
swapna@swapna-VirtualBox:/etc/nginx/sites-available$
```

```
swapna@swapna-VirtualBox: /etc/nginx/sites-available
  GNU nano 4.8                                default
        # Note: You should disable gzip for SSL traffic.
        # See: https://bugs.debian.org/773332
        #
        # Read up on ssl_ciphers to ensure a secure configurat
        # 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/new_html;

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

5. Restart Nginx service again and refresh localhost.

   “sudo service ngnix restart”

6. Now scan the virtual machine using Nmap in HOST Machine.

“ifconfig” = run this to get the IP address of the VM

```
swapna@swapna-VirtualBox:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.0.2.15  netmask 255.255.255.0  broadcast 10.0.2.255
        inet6 fe80::c0ca:4316:36af:8653  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:f4:7b:7c  txqueuelen 1000  (Ethernet)
        RX packets 18793  bytes 24429807 (24.4 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 4753  bytes 384977 (384.9 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
```

Zenmap

Scan Tools Profile Help

Target: 10.0.2.15 Profile: Intense scan Scan

Command: nmap -T4 -A -v 10.0.2.15

Hosts Services

OS Host

10.0.2.15

Filter Hosts

Nmap Output Ports / Hosts Topology Host Details Scans

nmap -T4 -A -v 10.0.2.15

```
Completed Traceroute at 18:12, 3.03s elapsed
Initiating Parallel DNS resolution of 2 hosts. at 18:12
Completed Parallel DNS resolution of 2 hosts. at 18:12, 0.03s elapsed
NSE: Script scanning 10.0.2.15.
Initiating NSE at 18:12
Completed NSE at 18:13, 37.14s elapsed
Initiating NSE at 18:13
Completed NSE at 18:13, 9.25s elapsed
Initiating NSE at 18:13
Completed NSE at 18:13, 0.00s elapsed
Nmap scan report for 10.0.2.15
Host is up (0.035s latency).
Not shown: 997 filtered tcp ports (no-response)
PORT     STATE SERVICE VERSION
21/tcp   open  ftp?
554/tcp  open  rtsp?
1723/tcp open  pptp?
Warning: OSScan results may be unreliable because we could not find at least 1 open and 1 closed port
OS fingerprint not ideal because: Missing a closed TCP port so results incomplete
No OS matches for host
Uptime guess: 35.394 days (since Wed Jun 28 08:45:47 2023)
Network Distance: 5 hops
TCP Sequence Prediction: Difficulty=263 (Good luck!)
IP ID Sequence Generation: All zeros

TRACEROUTE (using port 80/tcp)
HOP RTT      ADDRESS
1   3.00 ms  192.168.184.229
2   ... 4
5   38.00 ms 10.0.2.15

NSE: Script Post-scanning.
Initiating NSE at 18:13
Completed NSE at 18:13, 0.00s elapsed
```