Configure Static IP Address on Ubuntu Server 22.04

```
user@svr1:~$ ifconfig
eno1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.1.95  netmask 255.255.255.0  broadcast 192.168.1.255
        inet6 fe80::d6ae:52ff:fecd:3bf8  prefixlen 64  scopeid 0x20<link>
        ether d4:ae:52:cd:3b:f8  txqueuelen 1000  (Ethernet)
        RX packets 156399  bytes 144274804 (144.2 MB)
        RX errors 0  dropped 85  overruns 0  frame 0
        TX packets 43997  bytes 7998011 (7.9 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
        device interrupt 16

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 288  bytes 29450 (29.4 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 288  bytes 29450 (29.4 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

user@svr1:~$ cd /etc/netplan/
user@svr1:/etc/netplan$ ls -l
total 4
-rw-r--r-- 1 root root 115 Jun 18 18:43 00-installer-config.yaml
user@svr1:/etc/netplan$ vim 00-installer-config.yaml
user@svr1:/etc/netplan$ ifconfig -a
eno1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.1.95  netmask 255.255.255.0  broadcast 192.168.1.255
        inet6 fe80::d6ae:52ff:fecd:3bf8  prefixlen 64  scopeid 0x20<link>
        ether d4:ae:52:cd:3b:f8  txqueuelen 1000  (Ethernet)
        RX packets 157795  bytes 144372089 (144.3 MB)
        RX errors 0  dropped 85  overruns 0  frame 0
        TX packets 44136  bytes 8018251 (8.0 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
        device interrupt 16

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 288  bytes 29450 (29.4 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 288  bytes 29450 (29.4 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

Let's switch to /etc/netplan subdirectory path and perform a list command to see what is stored in the subdirectory.

```
user@svr1:$ cd /etc/netplan/
user@svr1:/etc/netplan$ ls
user@svr1:/etc/netplan$ 00-installer-config.yaml
```

Then, before we edit the network configuration file, let's make a backup of the '00-installer-config.yaml' file and call it '00-installer-config.yaml-bak' just in case we need to restore it in the future to obtain a dynamic IP lease.

```
user@svr1:/etc/netplan$ cp -v 00-installer-config.yaml 00-installer-config.bak
'00-installer-config.yaml' -> '00-installer-config.bak'
cp: cannot create regular file '00-installer-config.bak': Permission denied
user@svr1:/etc/netplan$ sudo cp -v 00-installer-config.yaml 00-installer-config.yaml-bak
[sudo] password for user:
'00-installer-config.yaml' -> '00-installer-config.yaml-bak'
user@svr1:/etc/netplan$ ls
00-installer-config.yaml  00-installer-config.yaml-bak
user@svr1:/etc/netplan$ sudo vim 00-installer-config.yaml
```

Here is the original dhcp configuration for eno1.

```
# This is the network config written by 'subiquity'
network:
  ethernets:
    eno1:
      dhcp4: true
  version: 2
```

Using Vim editor, here is how to configure the static IP.

```
$ sudo vi 00-installer-config.yaml
```

While within Vim, to the preceding lines of the original configuration, add an IP address, a net mask, and a default gateway. Replace the samples below with the appropriate static values (and you can use your own nameservers rather than Google's) as follows:

```
network:
    ethernets:
      en01:
        addresses:
          - 192.168.1.95/24
        routes:
          - to: default
            via: 192.168.1.1
        nameservers:
```

```
        addresses: [8.8.8.8,8.8.4.4]
      dhcp4: no
  version: 2
```

Another author instead inserts the following content which varies only by two lines (renderer: networkd) and (nameservers):

```
$ sudo vi 00-installer-config.yaml
# This is the network config written by 'subiquity'
network:
  renderer: networkd
  ethernets:
    ens33:
      addresses:
        - 192.168.1.95/24
      nameservers:
        addresses: [4.2.2.2, 8.8.8.8]
      routes:
        - to: default
          via: 192.168.1.1
  version: 2
```

```
user@svr1:/etc/netplan$ vim 00-installer-config.yaml
user@svr1:/etc/netplan$
user@svr1:/etc/netplan$ ls
00-installer-config.yaml  00-installer-config.yaml-bak
```

After Saving the new static configuration using Vim (:w :qs), then apply the changes to netplan as follows:

```
user@svr1:/etc/netplan$ sudo netplan apply
[sudo] password for user:
Failed to reload network settings: No such file or directory
Falling back to a hard restart of systemd-networkd.service
user@svr1:/etc/netplan$ sudo netplan apply
```

Notice that there was an error (failed to load, then the system auto-performed a hard restart of systemd-neworkd.service). This may be the result of using the first example above rather than the second (containing the line 'renderer: networkd'). A re-run of 'sudo netplan apply' like above, there is silent application. Maybe insert the renderer line and re-apply to netplan. See if that is silently applied as well.

Now test the static configuration by running ping, or whatever else may be useful.

```
user@svr1:/etc/netplan$ ping -c 5 www.google.com
PING www.google.com (142.250.217.228) 56(84) bytes of data.
64 bytes from mia07s62-in-f4.1e100.net (142.250.217.228): icmp_seq=1 ttl=117
time=11.8 ms
64 bytes from mia07s62-in-f4.1e100.net (142.250.217.228): icmp_seq=2 ttl=117
time=13.2 ms
64 bytes from mia07s62-in-f4.1e100.net (142.250.217.228): icmp_seq=3 ttl=117
```

```
time=11.4 ms
64 bytes from mia07s62-in-f4.1e100.net (142.250.217.228): icmp_seq=4 ttl=117
time=12.2 ms
64 bytes from mia07s62-in-f4.1e100.net (142.250.217.228): icmp_seq=5 ttl=117
time=12.9 ms

--- www.google.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4006ms
rtt min/avg/max/mdev = 11.387/12.302/13.216/0.674 ms
user@svr1:/etc/netplan$
```

Run ifconfig:

```
$ ifconfig
eno1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.1.95  netmask 255.255.255.0  broadcast 192.168.1.255
        inet6 fe80::d6ae:52ff:fecd:3bf8  prefixlen 64  scopeid 0x20<link>
        ether d4:ae:52:cd:3b:f8  txqueuelen 1000  (Ethernet)
        RX packets 183111  bytes 149312474 (149.3 MB)
        RX errors 0  dropped 88  overruns 0  frame 0
        TX packets 47132  bytes 8346015 (8.3 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
        device interrupt 16

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 374  bytes 38261 (38.2 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 374  bytes 38261 (38.2 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

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