How to Configure Network Static IP Address in Ubuntu 18.04

-Netplan is a new command-line network configuration utility introduced in Ubuntu 17.10 to manage and configure network settings easily in Ubuntu systems.
-It allows you to configure a network interface using YAML abstraction.
-It works in conjunction with the NetworkManager and systemd-networkd networking daemons (referred to as renderers, you can choose which one of these to use) as interfaces to the kernel.
-It reads network configuration described in /etc/netplan/*.yaml and you can store configurations for all your network interfaces in these files.
-In this article, we will explain how to configure a network static or dynamic IP address for a network interface in Ubuntu 18.04 using Netplan utility.

1. List All Active Network Interfaces on Ubuntu

-First, you need to identify the network interface you are going to configure.
-You can list all attached network interfaces on your system using the ifconfig command as shown.

```
$ ifconfig -a
```

-From the output of the above command, we have 3 interfaces attached to the Ubuntu system: 2 ethernet interfaces and the loop back interface.
-However, the enp0s3 ethernet interface has not been configured and has no static IP address.

2. Set Static IP Address in Ubuntu 18.04

-In this example, we will configure a static IP for the enp0s3 ethernet network interface.
-Open the netplan configuration file using your text editor as shown.

-Important: In case a YAML file is not created by the distribution installer, you can generate the required configuration for the renderers with this command.

```
$ sudo netplan generate
```

-In addition, auto generated files may have different filenames on desktop, servers, cloud instantiations etc (for example 01-network-manager-all.yaml or 01-netcfg.yaml), but all files under /etc/netplan/*.yaml will be read by netplan.

```
$ sudo vim /etc/netplan/01-netcfg.yaml
or
$ sudo vim /etc/netplan/01-network-manager-all.yaml
```

Then add the following configuration under the ethernet section.

```
enp0s8:
dhcp4: no
dhcp6: no
addresses: [192.168.56.110/24, ]
gateway4:  192.168.56.1
nameservers:
addresses: [8.8.8.8, 8.8.4.4]
```

In My Machine,

```
# Let NetworkManager manage all devices on this system
network:
  version: 2
```

```
      renderer: NetworkManager
    ------------------------------------------------------

    Where:
      enp0s8 – network interface name.
      dhcp4 and dhcp6 – dhcp properties of an interface for IPv4 and IPv6 receptively.
      addresses – sequence of static addresses to the interface.
      gateway4 – IPv4 address for default gateway.
      nameservers – sequence of IP addresses for nameserver.

-Once you have added, your configuration file should now have the following content, as shown in the following screenshot.
-The first interface enp0s3 is configured to use DHCP and enp0s8 will use a static IP address.
-The addresses property of an interface expects a sequence entry for example [192.168.14.2/24, "2001:1::1/64"] or [192.168.56.110/24, ] (see netplan man page for more information).

network:
  version: 2
  renderer: NetworkManager
  ethernets:
    enp0s3:
      dhcp4: no
      dhcp6: no
      addresses: [192.168.56.2/24, ]
      gateway4: 192.168.56.0

    enp0s8:
      dhcp4: yes

-Save the file and exit.
-Then apply the recent network changes using following netplan command.

  $ sudo netplan apply
  $ sudo systemctl restart NetworkManager.service

-Now verify all the available network interfaces once more time, the enp0s3 ethernet interface should now be connected to the local network, and have an IP addresses.

  $ ifconfig -a
```