**Configuring Network and IP Settings for Logging PC (Ubuntu 18.04 LTS Bionic Beaver)**

**Step 1:**

Determine what network interfaces are available.

Use the ip link show command to show the current network interfaces:

sanae59@sansa:~$ ip link show

1: lo: <LOOPBACK,UP,LOWER\_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen 1000

link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00

2: eno1: <BROADCAST,MULTICAST,UP,LOWER\_UP> mtu 1500 qdisc mq state UP mode DEFAULT group default qlen 1000

link/ether ac:1f:6b:48:76:18 brd ff:ff:ff:ff:ff:ff

3: eno2: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN mode DEFAULT group default qlen 1000

link/ether ac:1f:6b:48:76:19 brd ff:ff:ff:ff:ff:ff

4: eno3: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN mode DEFAULT group default qlen 1000

link/ether ac:1f:6b:48:76:1a brd ff:ff:ff:ff:ff:ff

5: eno4: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN mode DEFAULT group default qlen 1000

link/ether ac:1f:6b:48:76:1b brd ff:ff:ff:ff:ff:ff

In the above example the network interfaces are designated eno1, eno2, eno3, eno4.

Use the ifconfig -a command to show the current network settings:

sanae59@sansa:~$ ifconfig -a

eno1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500

inet 10.160.11.108 netmask 255.255.254.0 broadcast 10.160.11.255

inet6 fe80::ae1f:6bff:fe48:7618 prefixlen 64 scopeid 0x20<link>

ether ac:1f:6b:48:76:18 txqueuelen 1000 (Ethernet)

RX packets 43176 bytes 11489928 (11.4 MB)

RX errors 0 dropped 6 overruns 0 frame 0

TX packets 2321 bytes 186379 (186.3 KB)

TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

eno2: flags=4098<BROADCAST,MULTICAST> mtu 1500

ether ac:1f:6b:48:76:19 txqueuelen 1000 (Ethernet)

RX packets 0 bytes 0 (0.0 B)

RX errors 0 dropped 0 overruns 0 frame 0

TX packets 0 bytes 0 (0.0 B)

TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

eno3: flags=4098<BROADCAST,MULTICAST> mtu 1500

ether ac:1f:6b:48:76:1a txqueuelen 1000 (Ethernet)

RX packets 0 bytes 0 (0.0 B)

RX errors 0 dropped 0 overruns 0 frame 0

TX packets 0 bytes 0 (0.0 B)

TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

eno4: flags=4098<BROADCAST,MULTICAST> mtu 1500

ether ac:1f:6b:48:76:1b txqueuelen 1000 (Ethernet)

RX packets 0 bytes 0 (0.0 B)

RX errors 0 dropped 0 overruns 0 frame 0

TX packets 0 bytes 0 (0.0 B)

TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

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 164 bytes 13376 (13.3 KB)

RX errors 0 dropped 0 overruns 0 frame 0

TX packets 164 bytes 13376 (13.3 KB)

TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

In the above example only eno1 has been assigned an IP address. The other three have not been configured.

Make a note of the designation of your network interface that you want to configure e.g.  eno1

Ubuntu 18.04 makes use of a different method of configuring the network interface. The etc/network/interface file has been replaced with a \*.yaml file, which is in the /etc/netplan directory. Issue the ls command to view the default file. It should be named something like 01-netcfg.yaml. If it does not exist, create it with the command:

$ sudo touch /etc/netplan/01-netcfg.yaml

**Step 2:**

Set up the network interface to get settings from DHCP or with a static IP address.

The layout of the \*.yaml file is important. Note that the indentations must be correct and you should use spaces and not tabs when doing the indentation. You must be consistent with your indents, or the file will not work.

Setting the address is not in the same fashion as you did with Ubuntu 16.04 or earlier. With the old method, you set IP address and netmask, like so:

address = 192.168.1.206

netmask = 255.255.255.0

With netplan, these are set with a single line:

address = [192.168.1.206/24]

To configure the network, open your default \*. yaml file e.g.:

$ sudo nano /etc/netplan/01-netcfg.yaml

Enter the following into the file for DHCP.

network:

renderer: networkd

ethernets:

eno1:

dhcp4: yes

version: 2

Enter the following for a static IP. Use your site specific IP, gateway and DNS addresses instead of the example ones shown.

network:

ethernets:

eno1:

addresses: [10.160.21.4/24] #PrefixLength

gateway4: 10.160.21.254

dhcp4: no

nameservers:

addresses: [8.8.8.8, 8.8.4.4]

optional: true

version: 2

Once you have entered your settings, you need to restart the network using netplan.

$ sudo netplan apply

The above command will restart networking and apply the new configuration. You should not see any output.