

How to configure static IP addresses on Linux

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IP addresses on Linux systems are usually automatically assigned by the server Dynamic Host Configuration Protocol (DHCP). They are called "dynamic addresses" and can be changed whenever the system is restarted. However, when a system acts as a server or is managed remotely, it is more convenient to have a static address. Static IP addresses provide a consistent and consistent connection for users and applications.

Fortunately, the steps needed to change the Linux system IP address from dynamic to static are quite easy. However, the process will vary slightly depending on the distribution you are using. Today's article will look at how to manage this task on both Red Hat systems (RHEL) and Ubuntu.

There is no simple command to determine if the IP address on a Linux system is assigned by DHCP or a static address. If the IP address on the Linux system changes when the system restarts, this is obviously a dynamic address. But even dynamic addresses may not change. The best way is to look at the configuration file.

RHEL 8

To configure a static IP address on a Red Hat system, start by listing the connection of Network Manager. The **nmcli** command shown below will list the network connections and devices on the system. Note that the device name and connection name are not the same.

```
$ nmcli dev status DEVICE TYPE STATE CONNECTION wlo1 wifi connected Comtrend7FB9
```

To change the network interface from dynamic to static, you need to edit the file in the **/ etc / sysconfig / network-scripts directory**, representing the common interface. In this example, the file is called **ifcfg-Comtrend7BF9** (**ifcfg-** followed by the name of the connection). The **"BOOTPROTO = dhcp"** boot protocol line needs to be changed to **"BOOTPROTO = static"** . In addition, the IP address used must be added to the file. The end result will look like this:

```
HWADDR=7C:67:2A:CF:EF:9F ESSID=Comtrend7FB9 MODE=Managed KEY_MGMT=WPA-PSK SECURITY
```

Run `systemctl restart NetworkManager` for changes to take effect.

Ubuntu 18.10

The `nmcli` command (network manager command line interface) can be used to list network interfaces on the Ubuntu system. In the output below, we see both the loopback interface and the public network listed. Devices on the system may have a different name, reflecting the location of the hardware.

```
Ubuntu> nmcli d
DEVICE TYPE STATE CONNECTION
enp0s25 ethernet unmanaged -- lo lo
```

To check the network interface configuration settings on the Ubuntu system, you will use the following command:

```
Ubuntu> cat /etc/network/interfaces
# interfaces(5) file used by ifup(8) and ifdown(8)

auto lo
iface lo inet loopback
```

As you can see from the last line in this output, the `eth0` interface is currently assigned by DHCP. To change the settings successfully, you will change "`dhcp`" to "`static`" and add some other lines. For example, in the file like the image below, '`dhcp`' has been changed to '`static`' and specifies the IP address you want to use with other settings:

```
# interfaces(5) file used by ifup(8) and ifdown(8)
auto lo
iface lo inet loopback

```

Restart the network or system service for the changes to take effect.

Changing network settings should only be done when they do not affect existing connections and you can back up changes if needed. Make a copy of any configuration file before you change it. Then give the file a recognizable name.

Hope you are successful.

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