

Creating Virtual Interface and Assign Multiple IP Addresses.

Current IP of the server : 10.130.18.11. Virtual IPs being assigned to server : 10.130.18.22, 10.130.18.23, 10.130.18.24 to our server..

Go to `network-scripts` directory and copy the existing `ifcfg-eth0` file. Make sure you are using a static ip for your server.

```
cd /etc/sysconfig/network-scripts/
```

static ip assigned scripts looks as below.

```
[ahmed@ahmed-server network-scripts]$ sudo vim ifcfg-eth0
```

```
DEVICE="eth0"  
BOOTPROTO=static  
NM_CONTROLLED="no"  
ONBOOT=yes  
TYPE="Ethernet"  
IPADDR=10.130.18.11  
NETMASK=255.255.255.192  
GATEWAY=10.138.18.1  
HWADDR=A0:0C:29:28:A7:4C
```

Make sure we copy the same script as `ifcfg-eth0:0/1/2`

```
sudo cp ifcfg-eth0 ifcfg-eth0:0  
sudo cp ifcfg-eth0:0 ifcfg-eth0:1  
sudo cp ifcfg-eth0:0 ifcfg-eth0:2
```

Change the copied script as below. Here we are assigned the Virtual IP addresses to the Server.

ifcfg-eth0:0 Configuration

```
[ahmed@ahmed-server network-scripts]$ sudo vim ifcfg-eth0:0
```

```
DEVICE="eth0:0"  
BOOTPROTO=static  
NM_CONTROLLED="no"  
ONBOOT=yes  
TYPE="Ethernet"  
IPADDR=10.130.18.22  
NETMASK=255.255.255.192  
GATEWAY=10.138.18.1  
HWADDR=A0:0C:29:28:A7:4C
```

ifcfg-eth0:1 Configuration

```
[ahmed@ahmed-server network-scripts]$ sudo vim ifcfg-eth0:1
```

```
DEVICE="eth0:1"  
BOOTPROTO=static  
NM_CONTROLLED="no"  
ONBOOT=yes  
TYPE="Ethernet"  
IPADDR=10.130.18.23  
NETMASK=255.255.255.192  
GATEWAY=10.138.18.1  
HWADDR=A0:0C:29:28:A7:4C
```

ifcfg-eth0:2 Configuration

```
[ahmed@ahmed-server network-scripts]$ sudo vim ifcfg-eth0:2
```

```
DEVICE="eth0:2"  
BOOTPROTO=static  
NM_CONTROLLED="no"  
ONBOOT=yes  
TYPE="Ethernet"  
IPADDR=10.130.18.24  
NETMASK=255.255.255.192  
GATEWAY=10.138.18.1  
HWADDR=A0:0C:29:28:A7:4C
```

Now lets restart the network so that the changes take affect.

```
[ahmed@ahmed-server network-scripts]$ sudo /etc/init.d/network restart  
Shutting down interface eth0: [ OK ]  
Shutting down loopback interface: [ OK ]  
Bringing up loopback interface: [ OK ]  
Bringing up interface eth0: Determining if ip address 10.130.18.11 is already  
in use for device eth0...  
[ OK ]
```

Checking the configuration.

```
[ahmed@ahmed-server network-scripts]$ ifconfig  
eth0      Link encap:Ethernet  HWaddr A0:0C:29:28:A7:4C  
          inet addr:10.130.18.11  Bcast:10.130.18.63  Mask:255.255.255.192  
          inet6 addr: fe80::a2d3:c1ff:fe9:d8dc/64 Scope:Link  
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1  
          RX packets:74 errors:0 dropped:0 overruns:0 frame:0  
          TX packets:56 errors:0 dropped:0 overruns:0 carrier:0  
          collisions:0 txqueuelen:1000  
          RX bytes:6687 (6.5 KiB)  TX bytes:10366 (10.1 KiB)  
          Interrupt:32  
  
eth0:0    Link encap:Ethernet  HWaddr A0:0C:29:28:A7:4C
```

```
inet addr:10.130.18.22 Bcast:10.130.18.63 Mask:255.255.255.192
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
Interrupt:32
```

```
eth0:1 Link encap:Ethernet HWaddr A0:0C:29:28:A7:4C
inet addr:10.130.18.23 Bcast:10.130.18.63 Mask:255.255.255.192
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
Interrupt:32
```

```
eth0:2 Link encap:Ethernet HWaddr A0:0C:29:28:A7:4C
inet addr:10.130.18.24 Bcast:10.130.18.63 Mask:255.255.255.192
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
Interrupt:32
```

Let Ping those IPs.

```
ahmed@ahmed-second-server:~# ping 10.130.18.11
PING 10.130.18.11 (10.130.18.11) 56(84) bytes of data.
64 bytes from 10.130.18.11: icmp_req=2 ttl=59 time=0.288 ms
64 bytes from 10.130.18.11: icmp_req=3 ttl=59 time=0.962 ms
64 bytes from 10.130.18.11: icmp_req=4 ttl=59 time=0.287 ms
^C
--- 10.130.18.11 ping statistics ---
4 packets transmitted, 3 received, 25% packet loss, time 3008ms
rtt min/avg/max/mdev = 0.287/0.512/0.962/0.318 ms
ahmed@ahmed-second-server:~# ping 10.130.18.22
PING 10.130.18.22 (10.130.18.22) 56(84) bytes of data.
64 bytes from 10.130.18.22: icmp_req=1 ttl=59 time=0.680 ms
64 bytes from 10.130.18.22: icmp_req=2 ttl=59 time=1.67 ms
64 bytes from 10.130.18.22: icmp_req=3 ttl=59 time=0.274 ms
^C
--- 10.130.18.22 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2004ms
rtt min/avg/max/mdev = 0.274/0.877/1.678/0.590 ms
ahmed@ahmed-second-server:~# ping 10.130.18.23
PING 10.130.18.23 (10.130.18.23) 56(84) bytes of data.
64 bytes from 10.130.18.23: icmp_req=2 ttl=59 time=0.853 ms
64 bytes from 10.130.18.23: icmp_req=3 ttl=59 time=0.626 ms
64 bytes from 10.130.18.23: icmp_req=4 ttl=59 time=0.346 ms
^C
--- 10.130.18.23 ping statistics ---
4 packets transmitted, 3 received, 25% packet loss, time 3014ms
rtt min/avg/max/mdev = 0.346/0.608/0.853/0.208 ms
```

Assign Multiple IP Address Range

If you would like to create a range of Multiple IP Addresses to a particular interface called “ifcfg-eth0“, we use “ifcfg-eth0-range0” and copy the contents of ifcfg-eth0 on it as shown below.

```
[ahmed@ahmed-server network-scripts]$ sudo cp -p ifcfg-eth0 ifcfg-eth0-range0
```

Now open “ifcfg-eth0-range0” file and add “IPADDR_START” and “IPADDR_END” IP address range as shown below.

```
[ahmed@ahmed-server network-scripts]# vi ifcfg-eth0-range0
```

```
#DEVICE="eth0"  
#BOOTPROTO=static  
#NM_CONTROLLED="no"  
#ONBOOT=yes  
TYPE="Ethernet"  
IPADDR_START=10.130.18.22  
IPADDR_END=10.130.18.24  
IPV6INIT=no
```

Save it and restart/start network service

```
[ahmed@ahmed-server network-scripts]$ sudo /etc/init.d/network restart  
Shutting down interface eth0: [ OK ]  
Shutting down loopback interface: [ OK ]  
Bringing up loopback interface: [ OK ]  
Bringing up interface eth0: Determining if ip address 10.130.18.11 is already in  
use for device eth0...  
[ OK ]
```

Checking the configuration. Verify that virtual interfaces are created with IP Address.

```
[ahmed@ahmed-server network-scripts]$ ifconfig  
eth0      Link encap:Ethernet  HWaddr A0:0C:29:28:A7:4C  
          inet addr:10.130.18.11  Bcast:10.130.18.63  Mask:255.255.255.192  
          inet6 addr: fe80::a2d3:c1ff:fe9:d8dc/64  Scope:Link  
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1  
          RX packets:74  errors:0  dropped:0  overruns:0  frame:0  
          TX packets:56  errors:0  dropped:0  overruns:0  carrier:0  
          collisions:0  txqueuelen:1000  
          RX bytes:6687 (6.5 KiB)  TX bytes:10366 (10.1 KiB)  
          Interrupt:32  
  
eth0:0    Link encap:Ethernet  HWaddr A0:0C:29:28:A7:4C  
          inet addr:10.130.18.22  Bcast:10.130.18.63  Mask:255.255.255.192  
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1  
          Interrupt:32  
  
eth0:1    Link encap:Ethernet  HWaddr A0:0C:29:28:A7:4C  
          inet addr:10.130.18.23  Bcast:10.130.18.63  Mask:255.255.255.192  
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1  
          Interrupt:32  
  
eth0:2    Link encap:Ethernet  HWaddr A0:0C:29:28:A7:4C  
          inet addr:10.130.18.24  Bcast:10.130.18.63  Mask:255.255.255.192  
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1  
          Interrupt:32
```

More Info :

<http://www.tecmint.com/create-multiple-ip-addresses-to-one-single-network-interface/>
<http://linuxconfig.org/configuring-virtual-network-interfaces-in-linux>
<http://www.jamescoyle.net/how-to/307-create-a-virtual-ip-address-in-linux>
<https://myunixlab.wordpress.com/2011/02/04/how-to-add-virtual-ip-address-in-linux/>