

Q3) Manually configure a static IP to your device

I will be using a Ubuntu VM for this example. This VM has a bridged adapter to my ethernet port. So it becomes easy for me to ping from my host to the VM.

Firstly, let us note the original dynamic IP:

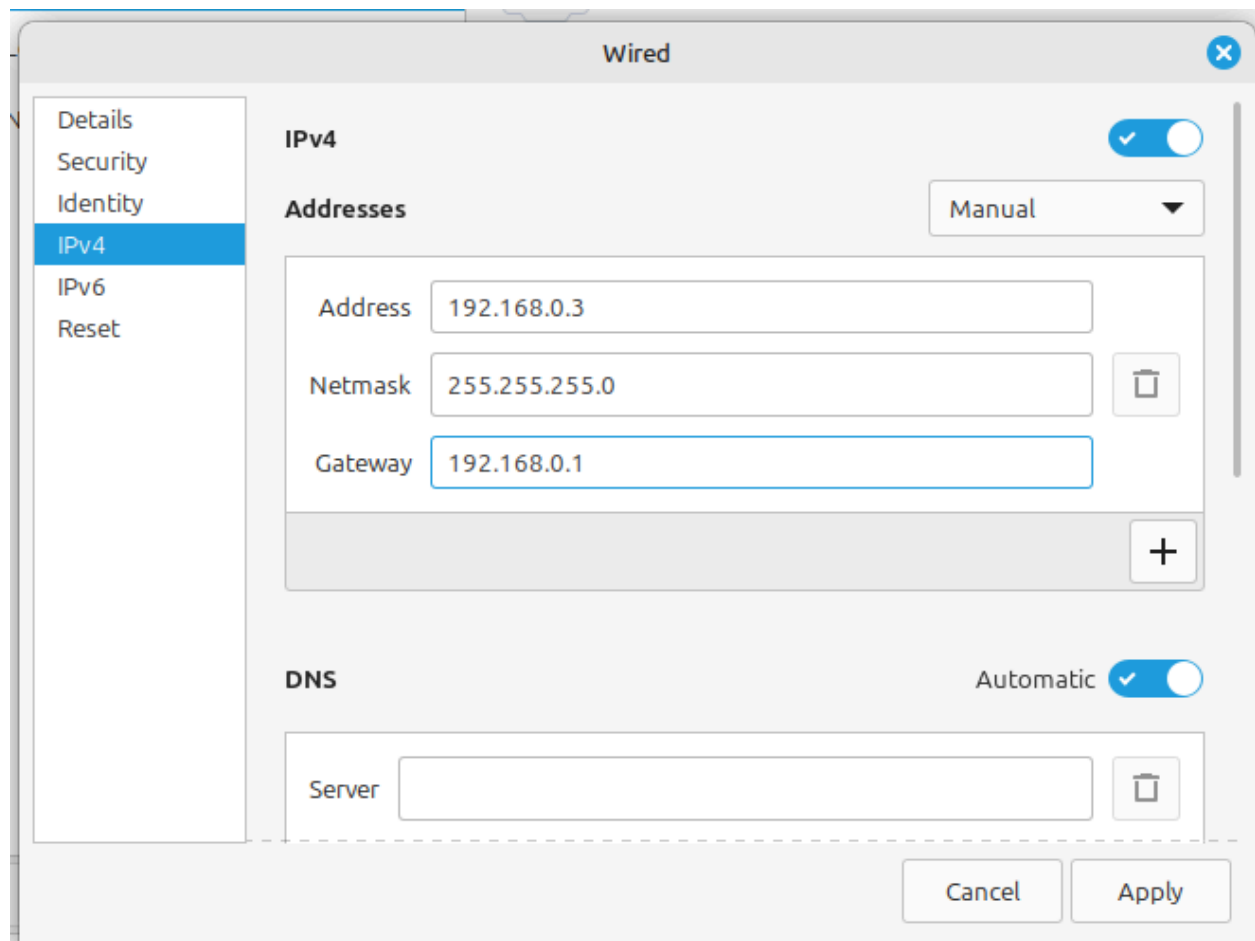
```
mint-vm@mintvm-VirtualBox: ~  
mint-vm@mintvm-VirtualBox:~$ ip addr show  
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000  
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00  
    inet 127.0.0.1/8 scope host lo  
        valid_lft forever preferred_lft forever  
    inet6 ::1/128 scope host noprefixroute  
        valid_lft forever preferred_lft forever  
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000  
    link/ether 08:00:27:db:69:b0 brd ff:ff:ff:ff:ff:ff  
    inet 192.168.0.115/24 brd 192.168.0.255 scope global dynamic noprefixroute enp0s3  
        valid_lft 86344sec preferred_lft 86344sec  
    inet6 2406:7400:c4:2363:1e81:a65d:7d12:9058/64 scope global temporary dynamic  
        valid_lft 300sec preferred_lft 120sec  
    inet6 2406:7400:c4:2363:59fb:227:56fa:8119/64 scope global dynamic mngtmpaddr noprefixroute  
        valid_lft 300sec preferred_lft 120sec  
    inet6 fe80::17c2:eccd:989e:d6aa/64 scope link noprefixroute  
        valid_lft forever preferred_lft forever  
mint-vm@mintvm-VirtualBox:~$
```

From here, we can see that the network interface connected is **enp0s3**, with an IP address of 192.168.0.115

PINGING FROM HOST TO VM IS WORKING:

```
kevin@pop-os:~$ ping 192.168.0.115  
PING 192.168.0.115 (192.168.0.115) 56(84) bytes of data.  
64 bytes from 192.168.0.115: icmp_seq=1 ttl=64 time=0.493 ms  
64 bytes from 192.168.0.115: icmp_seq=2 ttl=64 time=0.327 ms  
64 bytes from 192.168.0.115: icmp_seq=3 ttl=64 time=0.575 ms  
64 bytes from 192.168.0.115: icmp_seq=4 ttl=64 time=0.232 ms  
^C  
--- 192.168.0.115 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3067ms  
rtt min/avg/max/mdev = 0.232/0.406/0.575/0.134 ms  
kevin@pop-os:~$
```

Now, let us assign a static IP to this VM. For that, go to the Network Settings (in Linux Mint Cinnamon DE) - IPv4:



After pressing apply, the newly edited configuration gets accepted.

Now, let us check the IP address:

```
mint-vm@mintvm-VirtualBox: ~  
mint-vm@mintvm-VirtualBox:~$ ip addr show  
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000  
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00  
    inet 127.0.0.1/8 scope host lo  
        valid_lft forever preferred_lft forever  
    inet6 ::1/128 scope host noprefixroute  
        valid_lft forever preferred_lft forever  
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000  
    link/ether 08:00:27:db:69:b0 brd ff:ff:ff:ff:ff:ff  
    inet 192.168.0.3/24 brd 192.168.0.255 scope global noprefixroute enp0s3  
        valid_lft forever preferred_lft forever  
    inet6 2406:7400:c4:2363:3dd6:3da:2f57:9703/64 scope global temporary dynamic  
        valid_lft 299sec preferred_lft 119sec  
    inet6 2406:7400:c4:2363:59fb:227:56fa:8119/64 scope global dynamic mngtmpaddr noprefixroute  
        valid_lft 299sec preferred_lft 119sec  
    inet6 fe80::17c2:eccd:989e:d6aa/64 scope link noprefixroute  
        valid_lft forever preferred_lft forever  
mint-vm@mintvm-VirtualBox:~$
```

As we can see, the IP address has been changed to 192.168.0.3/24, as we have specified.

Pinging from host to vm:

```
kevin@pop-os:~$ ping 192.168.0.115  
PING 192.168.0.115 (192.168.0.115) 56(84) bytes of data.  
^C  
--- 192.168.0.115 ping statistics ---  
2 packets transmitted, 0 received, 100% packet loss, time 1016ms  
  
kevin@pop-os:~$ ping 192.168.0.3  
PING 192.168.0.3 (192.168.0.3) 56(84) bytes of data.  
64 bytes from 192.168.0.3: icmp_seq=1 ttl=64 time=0.754 ms  
64 bytes from 192.168.0.3: icmp_seq=2 ttl=64 time=0.588 ms  
64 bytes from 192.168.0.3: icmp_seq=3 ttl=64 time=0.305 ms  
^C  
--- 192.168.0.3 ping statistics ---  
3 packets transmitted, 3 received, 0% packet loss, time 2051ms  
rtt min/avg/max/mdev = 0.305/0.549/0.754/0.185 ms  
kevin@pop-os:~$
```

We can see, we cannot ping to the old IP (192.168.0.115), but we can successfully ping to new IP address (192.168.0.3)