



Troubleshooting networking on Linux



Checking NIC

```
#ifconfig
```

```
enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
```

```
inet 192.168.56.114 netmask 255.255.255.0 broadcast 192.168.56.255
```

```
inet6 fe80::9d23:bdfb:237b:714b prefixlen 64 scopeid 0x20<link>
```

```
ether 08:00:27:9c:bb:a8 txqueuelen 1000 (Ethernet)
```

```
RX packets 178 bytes 18651 (18.6 KB)
```

```
RX errors 0 dropped 50 overruns 0 frame 0
```

```
TX packets 161 bytes 25003 (25.0 KB)
```

```
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

Here Dropped packets is 50. Solution is increase buffer size of NIC if its not fully utilized.



Checking buffer size of NIC RX (receive buffer size is only 256 but can be max 4096)

```
#sudo ethtool -g enp0s8
```

Ring parameters for enp0s8:

Pre-set maximums:

RX: 4096

RX Mini: n/a

RX Jumbo: n/a

TX: 4096

Current hardware settings:

RX: 256

RX Mini: n/a

RX Jumbo: n/a

TX: 256



Setting buffer to 4096

```
sudo ethtool -G enp0s8 rx 4096 tx 4096
```



Checking again Buffer size of NIC

```
# sudo ethtool -g enp0s8
```

Ring parameters for enp0s8:

Pre-set maximums:

RX: 4096

RX Mini: n/a

RX Jumbo: n/a

TX: 4096

Current hardware settings:

RX: 4096

RX Mini: n/a

RX Jumbo: n/a

TX: 4096



Checking network queue for TCP/UDP services

```
#sudo netstat -tanpu
```

active Internet connections (servers and established)

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	State	PID/Program name
tcp	14000	25000	0.0.0.0:443	0.0.0.0:*	LISTEN	861/httpd
udp	12000	2400	0.0.0.0:53	0.0.0.0:*	LISTEN	600/named

Here web service and dns service is overloaded with large receive and send queue. Solution is increase thread of web service(httpd) and dns(named) service. Or add more server with load balance so, queue will not overloaded

