Networking Command

It offers many inbuilt commands to diagnose for network issues.

In this article, I will show you useful Linux networking commands, which will help you in troubleshooting.

Ifconfig

ifconfig utility is used to configure network interface parameters.

Mostly we use this command to check the IP address assigned to the system.

```
[root@localhost ~]# ifconfig -a
eno16777736: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
       ether 00:0c:29:c5:a5:61 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 0 (Local Loopback)
       RX packets 2 bytes 140 (140.0 B)
       RX errors 0 dropped 0 overruns 0 frame 0
       TX packets 2 bytes 140 (140.0 B)
       TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
[root@localhost ~]#
```

traceroute

traceroute print the route packets take to network host.

Destination host or IP is mandatory parameter to use this utility

```
[root@localhost ~]# traceroute geekflare.com
traceroute to geekflare.com (162.159.243.243), 30 hops max, 60 byte
packets
1 172.16.179.2 (172.16.179.2) 0.154 ms 0.074 ms 0.074 ms
2 * * *
3 * * *
```

dig

dig (Domain Information Groper) is a flexible tool for interrogating DNS name servers.

It performs DNS lookups and displays the answers that are returned from the name servers.

```
[root@localhost ~]# dig geekflare.com
; <<>> DiG 9.9.4-RedHat-9.9.4-14.el7 <<>> geekflare.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 18699
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; MBZ: 0005 , udp: 4000
;; QUESTION SECTION:
;geekflare.com.                                  IN        A
;; ANSWER SECTION:
geekflare.com.                          5          IN
A          162.159.244.243
geekflare.com.                          5          IN
A          162.159.243.243
;; Query time: 6 msec
;; SERVER: 172.16.179.2#53(172.16.179.2)
;; WHEN: Sun May 01 23:28:19 PDT 2016
;; MSG SIZE rcvd: 74
```

```
[root@localhost ~]#
```

telnet

telnet connect destination host:port via a telnet protocol if connection establishes means connectivity between two hosts is working fine.

```
[root@localhost ~]# telnet geekflare.com 443
Trying 162.159.244.243...
Connected to geekflare.com.
Escape character is '^]'.
```

nslookup

nslookup is a program to query Internet domain name servers.

```
[root@localhost ~]# nslookup geekflare.com
Server:                         172.16.179.2
Address:         172.16.179.2#53
Non-authoritative answer:
Name: geekflare.com
Address: 162.159.243.243
Name: geekflare.com
Address: 162.159.244.243
[root@localhost ~]#
```

netstat

Netstat command allows you a simple way to review each of your network connections and open sockets.

netstat with head output is very helpful while performing web server troubleshooting.

```
[root@localhost ~]# netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address
     State
tcp       0     0 172.16.179.135:58856   mirror.comp.nus.ed:http
TIME_WAIT
tcp       0     0 172.16.179.135:34444   riksun.riken.go.jp:http
ESTABLISHED
tcp       0     0 172.16.179.135:37948   mirrors.isu.net.sa:http
TIME_WAIT
tcp       0     0 172.16.179.135:53128   ossm.utm.my:http
TIME_WAIT
tcp       0     0 172.16.179.135:59723   103.237.168.15:http
TIME_WAIT
tcp       0     0 172.16.179.135:60244   no-ptr.as20860.net:http
TIME_WAIT
```

scp

scp allows you to secure copy files to and from another host in the network.

Ex:

```
scp $filename user@targethost:/$path
```

w

w prints a summary of the current activity on the system, including what each user is doing, and their processes.

Also list the logged in users and system load average for the past 1, 5, and 15 minutes.

```
[root@localhost ~]# w
23:32:48 up 2:52, 2 users, load average: 0.51, 0.36, 0.19
USER     TTY       LOGIN@   IDLE   JCPU   PCPU WHAT
chandan :0       20:41   ?xdm?   7:07 0.13s gdm-session-worker
[pam/gdm-password]
chandan pts/0     20:42   0.00s 0.23s 3.42s /usr/libexec/gnome-
terminal-server
[root@localhost ~]#
```

nmap

nmap is a one of the powerful commands, which checks the opened port on the server.

Usage example:

```
nmap $server_name
```

Enable/Disable Network Interface

You can enable or disable the network interface by using ifup/ifdown commands with ethernet interface parameter.

To enable eth0

```
#ifup eth0
```

To disable eth0

```
#ifdown eth0
```