Linux exercise 13-Networking

1. What is the current IP address on your Ubuntu?

```
jean@ubuntu:~$ ip address 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
       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 08:00:27:6f:fd:10 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic enp0s3
       valid_lft 85104sec preferred_lft 85104sec
    inet6 fe80::a00:27ff:fe6f:fd10/64 scope link
       valid_lft forever preferred_lft forever
jean@ubuntu:~$
```

2. Find IP addresses of the websites listed below. Then add alternative names presented inside brackets for these hostnames into the hosts file. Test names with ping command.

    a. www.ubuntu.com (homepage)

    b. www.linux.org (lforum)

    c. www.kernel.org (karch)

```
  GNU nano 4.8
127.0.0.1 localhost
127.0.1.1 ubuntu
91.189.88.180 homepage
172.64.162.11 lforum
198.145.29.83 karch

# The following lines are desirable for IPv6 capable hosts
::1     ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
```

```
jean@ubuntu:~$ ping homepage
PING homepage (91.189.88.180) 56(84) bytes of data.
64 bytes from homepage (91.189.88.180): icmp_seq=1 ttl=51 time=52.7 ms
64 bytes from homepage (91.189.88.180): icmp_seq=2 ttl=51 time=51.9 ms
^C
--- homepage ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1002ms
rtt min/avg/max/mdev = 51.909/52.315/52.722/0.406 ms
jean@ubuntu:~$ ping lforum
PING lforum (172.64.162.11) 56(84) bytes of data.
64 bytes from lforum (172.64.162.11): icmp_seq=1 ttl=56 time=35.0 ms
64 bytes from lforum (172.64.162.11): icmp_seq=2 ttl=56 time=34.6 ms
^C
--- lforum ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1002ms
rtt min/avg/max/mdev = 34.612/34.799/34.986/0.187 ms
jean@ubuntu:~$ ping karch
PING karch (198.145.29.83) 56(84) bytes of data.
64 bytes from karch (198.145.29.83): icmp_seq=1 ttl=49 time=195 ms
64 bytes from karch (198.145.29.83): icmp_seq=2 ttl=49 time=203 ms
64 bytes from karch (198.145.29.83): icmp_seq=3 ttl=49 time=194 ms
^C
--- karch ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2001ms
rtt min/avg/max/mdev = 193.887/197.380/203.459/4.314 ms
jean@ubuntu:~$ _
```

3. Use netstat to list all UDP ports your computer is listening.

```
jean@ubuntu:~$ sudo netstat -au
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
udp        0      0 localhost:domain        0.0.0.0:*
udp        0      0 ubuntu:bootpc           0.0.0.0:*
jean@ubuntu:~$ _
```

4. Test the connectivity to address *www.techradar.com* with ping command using ten packets. What is the average ping time and what is the name of the server that responds?

Avg ping time 32.454 ms, Server name: 199.232.194.114

```
jean@ubuntu:~$ ping techradar.com -c 10
PING techradar.com (199.232.194.114) 56(84) bytes of data.
64 bytes from 199.232.194.114 (199.232.194.114): icmp_seq=1 ttl=56 time=72.7 ms
64 bytes from 199.232.194.114 (199.232.194.114): icmp_seq=2 ttl=56 time=27.8 ms
64 bytes from 199.232.194.114 (199.232.194.114): icmp_seq=3 ttl=56 time=25.0 ms
64 bytes from 199.232.194.114 (199.232.194.114): icmp_seq=4 ttl=56 time=37.6 ms
64 bytes from 199.232.194.114 (199.232.194.114): icmp_seq=5 ttl=56 time=25.6 ms
64 bytes from 199.232.194.114 (199.232.194.114): icmp_seq=6 ttl=56 time=26.1 ms
64 bytes from 199.232.194.114 (199.232.194.114): icmp_seq=7 ttl=56 time=27.5 ms
64 bytes from 199.232.194.114 (199.232.194.114): icmp_seq=8 ttl=56 time=25.8 ms
64 bytes from 199.232.194.114 (199.232.194.114): icmp_seq=9 ttl=56 time=25.2 ms
64 bytes from 199.232.194.114 (199.232.194.114): icmp_seq=10 ttl=56 time=31.3 ms

--- techradar.com ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9020ms
rtt min/avg/max/mdev = 25.014/32.454/72.676/13.902 ms
jean@ubuntu:~$
```

5. Install a network monitor tool called *NetHogs* to your Ubuntu. Open a new SSH connection to your virtual machine (for example using Putty) and start NetHogs tool through this window. Now install MySQL server from the other window using the command presented below. How is this installation process shown in NetHogs and what is approximately the download speed (KB/sec)?

Download speed 0.129KB/sec