

```
mushroomyumi@Mushroom: ~/Desktop/Windows/Python/naktab137/week10/hw
~/Desktop/Windows/Python/naktab137/week10/hw

mushroomyumi@Mushroom:~/Desktop/Windows/Python/naktab137/week10/hw$ ls
a_test.txt b_test.txt c.txt d.txt downloader.sh log.txt
mushroomyumi@Mushroom:~/Desktop/Windows/Python/naktab137/week10/hw$ ls | sort
a_test.txt
b_test.txt
c.txt
d.txt
downloader.sh
log.txt
mushroomyumi@Mushroom:~/Desktop/Windows/Python/naktab137/week10/hw$ ls | sort -r
log.txt
downloader.sh
d.txt
c.txt
b_test.txt
a_test.txt
mushroomyumi@Mushroom:~/Desktop/Windows/Python/naktab137/week10/hw$ ls -lt
total 0
-rwxrwxrwx 1 root root 12 Nov 15 11:02 d.txt
-rwxrwxrwx 1 root root 0 Nov 15 10:55 c.txt
-rwxrwxrwx 1 root root 0 Nov 15 10:55 b_test.txt
-rwxrwxrwx 1 root root 0 Nov 15 10:55 a_test.txt
-rwxrwxrwx 1 root root 175 Nov 15 10:51 downloader.sh
-rwxrwxrwx 1 root root 30 Nov 15 10:51 log.txt
mushroomyumi@Mushroom:~/Desktop/Windows/Python/naktab137/week10/hw$ ls -a
. .v.txt a_test.txt b_test.txt c.txt d.txt downloader.sh log.txt
mushroomyumi@Mushroom:~/Desktop/Windows/Python/naktab137/week10/hw$ ls -alt
total 0
drwxrwxrwx 1 root root 448 Nov 15 11:05 .
-rwxrwxrwx 1 root root 0 Nov 15 11:03 .v.txt
-rwxrwxrwx 1 root root 12 Nov 15 11:02 d.txt
-rwxrwxrwx 1 root root 0 Nov 15 10:55 c.txt
-rwxrwxrwx 1 root root 0 Nov 15 10:55 b_test.txt
-rwxrwxrwx 1 root root 0 Nov 15 10:55 a_test.txt
-rwxrwxrwx 1 root root 175 Nov 15 10:51 downloader.sh
-rwxrwxrwx 1 root root 30 Nov 15 10:51 log.txt
drwxrwxrwx 1 root root 232 Nov 15 10:39 .
mushroomyumi@Mushroom:~/Desktop/Windows/Python/naktab137/week10/hw$ ls | wc -l
6
mushroomyumi@Mushroom:~/Desktop/Windows/Python/naktab137/week10/hw$ ls -a | wc -l
9
mushroomyumi@Mushroom:~/Desktop/Windows/Python/naktab137/week10/hw$ ls | grep "Test" -i
a_test.txt
b_test.txt
mushroomyumi@Mushroom:~/Desktop/Windows/Python/naktab137/week10/hw$
```

```
mushroomyumi@Mushroom: ~  
mushroomyumi@Mushroom:~$ sudo nmap -sP 192.168.1.0/24  
Starting Nmap 7.95 ( https://nmap.org ) at 2025-11-19 00:35 +0330  
Stats: 0:00:00 elapsed; 0 hosts completed (0 up), 255 undergoing ARP Ping Scan  
ARP Ping Scan Timing: About 50.39% done; ETC: 00:35 (0:00:00 remaining)  
Nmap scan report for _gateway (192.168.1.1)  
Host is up (0.0066s latency).  
MAC Address: A4:2B:B0:28:A2:50 (TP-Link Technologies)  
Nmap scan report for 192.168.1.100  
Host is up (0.068s latency).  
MAC Address: 4C:F2:02:D3:1A:28 (Xiaomi Communications)  
Nmap scan report for Mushroom (192.168.1.103)  
Host is up.  
Nmap done: 256 IP addresses (3 hosts up) scanned in 2.06 seconds  
mushroomyumi@Mushroom:~$ ping -c 5 192.168.1.1  
PING 192.168.1.1 (192.168.1.1) 56(84) bytes of data.  
64 bytes from 192.168.1.1: icmp_seq=1 ttl=64 time=3.76 ms  
64 bytes from 192.168.1.1: icmp_seq=2 ttl=64 time=7.85 ms  
64 bytes from 192.168.1.1: icmp_seq=3 ttl=64 time=4.75 ms  
64 bytes from 192.168.1.1: icmp_seq=4 ttl=64 time=2.63 ms  
64 bytes from 192.168.1.1: icmp_seq=5 ttl=64 time=3.22 ms  
  
--- 192.168.1.1 ping statistics ---  
5 packets transmitted, 5 received, 0% packet loss, time 4006ms  
rtt min/avg/max/mdev = 2.628/4.442/7.853/1.843 ms  
mushroomyumi@Mushroom:~$ ping -c 5 8.8.8.8  
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.  
64 bytes from 8.8.8.8: icmp_seq=1 ttl=113 time=411 ms  
64 bytes from 8.8.8.8: icmp_seq=2 ttl=113 time=44.3 ms  
64 bytes from 8.8.8.8: icmp_seq=3 ttl=113 time=73.8 ms  
64 bytes from 8.8.8.8: icmp_seq=4 ttl=113 time=38.3 ms  
64 bytes from 8.8.8.8: icmp_seq=5 ttl=113 time=736 ms  
  
--- 8.8.8.8 ping statistics ---  
5 packets transmitted, 5 received, 0% packet loss, time 4003ms  
rtt min/avg/max/mdev = 38.276/260.681/736.359/275.663 ms  
mushroomyumi@Mushroom:~$
```

Sudo nmap baraye namayeshe host haye connect shode be yek network moshtarak mibahsad (netmask bayad dade shaved)

-c baraye count mibashad va tedad ping haei ke packet mifrestand zamane tahvil namayesh dade mishavad.

```
mushroomyumi@Mushroom: ~  
mushroomyumi@Mushroom:~$ traceroute www.google.com  
traceroute to www.google.com (216.239.38.120), 30 hops max, 60 byte packets  
1 _gateway (192.168.1.1) 3.113 ms 3.089 ms 3.045 ms  
2 2.190.128.1 (2.190.128.1) 16.250 ms 18.087 ms 19.708 ms  
3 172.19.1.49 (172.19.1.49) 21.457 ms 23.337 ms 24.280 ms  
4 10.22.27.41 (10.22.27.41) 25.229 ms 27.439 ms 30.103 ms  
5 10.21.249.198 (10.21.249.198) 31.330 ms 32.984 ms 34.156 ms  
6 * * *  
7 * * *  
8 * * *  
9 * * *  
10 * * *  
11 * * *  
12 any-in-2678.1e100.net (216.239.38.120) 39.731 ms 38.771 ms 40.665 ms  
mushroomyumi@Mushroom:~$ traceroute -m 12 www.google.com  
traceroute to www.google.com (216.239.38.120), 12 hops max, 60 byte packets  
1 _gateway (192.168.1.1) 3.810 ms 4.161 ms 4.140 ms  
2 2.190.128.1 (2.190.128.1) 17.261 ms 18.563 ms 19.765 ms  
3 172.19.1.49 (172.19.1.49) 22.160 ms 23.909 ms 24.922 ms  
4 10.22.27.41 (10.22.27.41) 26.879 ms 29.755 ms 30.472 ms  
5 10.21.249.198 (10.21.249.198) 32.644 ms 34.621 ms 35.316 ms  
6 * * *  
7 * * *  
8 * * *  
9 * * *  
10 * * *  
11 * * *  
12 any-in-2678.1e100.net (216.239.38.120) 38.353 ms 40.052 ms 42.728 ms  
mushroomyumi@Mushroom:~$ traceroute 192.168.1.1  
traceroute to 192.168.1.1 (192.168.1.1), 30 hops max, 60 byte packets  
1 _gateway (192.168.1.1) 2.638 ms 2.752 ms 4.293 ms  
mushroomyumi@Mushroom:~$ ~
```

Traceroute baraye namayeshe masire hop ha mibashad:

Gateway 192.168.1.1 mibashad va ebteda host az gateway router oboor mikonad va az local kharej mishavad va varede ISP mishavad va bad az gozar az tedadi IP chand ja block mishavad va be maghsad miresad.

```
mushroomyumi@Mushroom: ~  
mushroomyumi@Mushroom:~$ ifconfig  
enp1s0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500  
    ether 74:86:7a:05:26:17 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 1000 (Local Loopback)  
    RX packets 3218 bytes 271756 (271.7 KB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 3218 bytes 271756 (271.7 KB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
wlp2s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 192.168.1.103 netmask 255.255.255.0 broadcast 192.168.1.255  
    inet6 fe80::807d:732e:7be0:57a6 prefixlen 64 scopeid 0x20<link>  
    ether b8:76:3f:2b:d6:a3 txqueuelen 1000 (Ethernet)  
    RX packets 24873 bytes 26037818 (26.0 MB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 19024 bytes 4791510 (4.7 MB)  
    TX errors 0 dropped 7 overruns 0 carrier 0 collisions 0  
  
mushroomyumi@Mushroom:~$ ip route show  
default via 192.168.1.1 dev wlp2s0 proto dhcp src 192.168.1.103 metric 600  
192.168.1.0/24 dev wlp2s0 proto kernel scope link src 192.168.1.103 metric 600  
mushroomyumi@Mushroom:~$ ifconfig wlp2s0 | grep 'inet ' | awk '{print $2}'  
192.168.1.103  
mushroomyumi@Mushroom:~$ sudo ifconfig wlp2s0 0.0.0.0  
mushroomyumi@Mushroom:~$ ifconfig wlp2s0 | grep 'inet ' | awk '{print $2}'  
mushroomyumi@Mushroom:~$ sudo ifconfig wlp2s0 192.168.1.102 netmask 255.255.255.0  
mushroomyumi@Mushroom:~$ sudo route add default gw 192.168.1.1  
mushroomyumi@Mushroom:~$ ifconfig wlp2s0 | grep 'inet ' | awk '{print $2}'  
192.168.1.102  
mushroomyumi@Mushroom:~$
```

‘Inet’ ro grep mikonim ke inet6 ham grep nashavad v aba awk split mikonim va item dovom ro print mikonim ke inet ya ip host ro behemoon neshoon bede

```
mushroomyumi@Mushroom: ~  
mushroomyumi@Mushroom:~$ netstat -n | grep ESTABLISHED  
tcp      0      0 192.168.1.102:54856    35.186.224.44:443    ESTABLISHED  
tcp      0      0 192.168.1.102:46750    142.250.186.110:443   ESTABLISHED  
tcp      0      0 192.168.1.102:46762    142.250.186.110:443   ESTABLISHED  
tcp      0      0 192.168.1.102:50898    142.250.185.202:443   ESTABLISHED  
tcp      0      0 192.168.1.102:42024    146.75.122.248:443    ESTABLISHED  
tcp      0      0 192.168.1.102:42028    146.75.122.248:443    ESTABLISHED  
tcp      0      0 192.168.1.102:42032    146.75.122.248:443    ESTABLISHED  
tcp      0      0 192.168.1.102:42044    146.75.122.248:443    ESTABLISHED  
tcp      0      0 192.168.1.102:56416    52.0.66.35:443        ESTABLISHED  
tcp      0      0 192.168.1.102:45094    18.244.18.38:443       ESTABLISHED  
tcp      0      0 192.168.1.102:46018    146.75.122.248:443    ESTABLISHED  
tcp      0      0 192.168.1.102:46028    146.75.122.248:443    ESTABLISHED  
tcp      0      0 192.168.1.102:37868    172.64.155.209:443    ESTABLISHED  
tcp      0      0 192.168.1.102:55270    104.18.32.47:443       ESTABLISHED  
tcp      0      0 192.168.1.102:50772    18.244.18.38:443       ESTABLISHED  
tcp      0      0 192.168.1.102:51926    142.250.186.78:443     ESTABLISHED  
tcp      0      0 192.168.1.102:44376    142.250.185.163:443    ESTABLISHED  
tcp      0      0 192.168.1.102:36112    65.9.175.23:443        ESTABLISHED  
tcp      0      0 192.168.1.102:36138    65.9.175.23:443        ESTABLISHED  
tcp      0      0 192.168.1.102:51406    151.101.3.42:443       ESTABLISHED  
tcp      0      0 192.168.1.102:58026    142.250.181.232:443    ESTABLISHED  
tcp      0      0 192.168.1.102:36060    146.75.116.157:443     ESTABLISHED  
tcp      0      0 192.168.1.102:36076    146.75.116.157:443     ESTABLISHED  
tcp      0      0 192.168.1.102:53884    35.186.224.24:443      ESTABLISHED  
tcp      0      0 192.168.1.102:35610    151.101.66.91:443      ESTABLISHED  
tcp      0      180 192.168.1.103:42990    104.18.39.21:443       ESTABLISHED  
tcp      0      0 192.168.1.102:33010    199.232.210.250:443    ESTABLISHED  
tcp      0      0 192.168.1.102:33026    199.232.210.250:443    ESTABLISHED  
tcp      0      0 192.168.1.102:32930    216.239.32.181:443     ESTABLISHED  
tcp      0      0 192.168.1.102:32940    216.239.32.181:443     ESTABLISHED  
tcp      0      0 192.168.1.102:35090    142.251.143.67:443     ESTABLISHED  
tcp      0      0 192.168.1.102:33478    35.186.224.26:443      ESTABLISHED  
tcp      0      0 192.168.1.102:38190    18.239.208.100:443     ESTABLISHED  
tcp      0      0 192.168.1.102:38192    18.239.208.100:443     ESTABLISHED  
tcp      0      0 192.168.1.102:35298    35.186.224.41:443      ESTABLISHED  
tcp      0      0 192.168.1.102:56938    74.125.206.188:5228    ESTABLISHED  
tcp      0      0 192.168.1.102:34148    35.186.224.24:443      ESTABLISHED  
tcp      0      0 192.168.1.102:34150    35.186.224.24:443      ESTABLISHED  
tcp      0      0 192.168.1.102:47148    172.64.155.119:443     ESTABLISHED  
tcp      0      0 192.168.1.102:36148    172.217.23.110:443     ESTABLISHED  
udp      0      0 192.168.1.102:53572    35.186.224.28:443      ESTABLISHED  
udp      0      0 192.168.1.102:42411    216.239.38.120:443     ESTABLISHED  
udp      0      0 192.168.1.103:68       192.168.1.1:67         ESTABLISHED  
mushroomyumi@Mushroom:~$ netstat -n | grep tcp  
tcp      0      0 192.168.1.102:54856    35.186.224.44:443    ESTABLISHED  
tcp      0      0 192.168.1.102:46750    142.250.186.110:443   ESTABLISHED  
tcp      0      0 192.168.1.102:46762    142.250.186.110:443   ESTABLISHED  
tcp      0      0 192.168.1.102:50898    142.250.185.202:443   ESTABLISHED  
tcp      0      0 192.168.1.102:42024    146.75.122.248:443    ESTABLISHED  
tcp      0      0 192.168.1.102:42028    146.75.122.248:443    ESTABLISHED  
tcp      0      0 192.168.1.102:42032    146.75.122.248:443    ESTABLISHED  
tcp      0      0 192.168.1.102:42044    146.75.122.248:443    ESTABLISHED  
tcp      0      0 192.168.1.102:56416    52.0.66.35:443        ESTABLISHED  
tcp      0      0 192.168.1.102:45094    18.244.18.38:443       ESTABLISHED
```

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mushroomyumi@Mushroom: ~  
tcp      0      0 192.168.1.102:36148 172.217.23.110:443 ESTABLISHED  
udp      0      0 192.168.1.102:53572 35.186.224.28:443 ESTABLISHED  
udp      0      0 192.168.1.102:42411 216.239.38.120:443 ESTABLISHED  
udp      0      0 192.168.1.103:68 192.168.1.1:67 ESTABLISHED  
mushroomyumi@Mushroom:~$ netstat -n | grep tcp  
tcp      0      0 192.168.1.102:54856 35.186.224.44:443 ESTABLISHED  
tcp      0      0 192.168.1.102:46750 142.250.186.110:443 ESTABLISHED  
tcp      0      0 192.168.1.102:46762 142.250.186.110:443 ESTABLISHED  
tcp      0      0 192.168.1.102:50898 142.250.185.202:443 ESTABLISHED  
tcp      0      0 192.168.1.102:42024 146.75.122.248:443 ESTABLISHED  
tcp      0      0 192.168.1.102:42028 146.75.122.248:443 ESTABLISHED  
tcp      0      0 192.168.1.102:42032 146.75.122.248:443 ESTABLISHED  
tcp      0      0 192.168.1.102:42044 146.75.122.248:443 ESTABLISHED  
tcp      0      0 192.168.1.102:56416 52.0.66.35:443 ESTABLISHED  
tcp      0      0 192.168.1.102:45094 18.244.18.38:443 ESTABLISHED  
tcp      0      0 192.168.1.102:46018 146.75.122.248:443 ESTABLISHED  
tcp      0      0 192.168.1.102:46028 146.75.122.248:443 ESTABLISHED  
tcp      0      0 192.168.1.102:37868 172.64.155.209:443 ESTABLISHED  
tcp      0      0 192.168.1.102:55270 104.18.32.47:443 ESTABLISHED  
tcp      0      0 192.168.1.102:50772 18.244.18.38:443 ESTABLISHED  
tcp      0      0 192.168.1.102:51926 142.250.186.78:443 ESTABLISHED  
tcp      0      0 192.168.1.102:44376 142.250.185.163:443 ESTABLISHED  
tcp      0      0 192.168.1.102:36112 65.9.175.23:443 ESTABLISHED  
tcp      0      0 192.168.1.102:36138 65.9.175.23:443 ESTABLISHED  
tcp      0      0 192.168.1.102:51406 151.101.3.42:443 ESTABLISHED  
tcp      0      0 192.168.1.102:58026 142.250.181.232:443 ESTABLISHED  
tcp      0      0 192.168.1.102:36060 146.75.116.157:443 ESTABLISHED  
tcp      0      0 192.168.1.102:36076 146.75.116.157:443 ESTABLISHED  
tcp      0      0 192.168.1.102:53884 35.186.224.24:443 ESTABLISHED  
tcp      0      0 192.168.1.102:35610 151.101.66.91:443 ESTABLISHED  
tcp      0      1 192.168.1.102:49568 10.10.34.36:443 SYN_SENT  
tcp      0      1 192.168.1.102:49576 10.10.34.36:443 SYN_SENT  
tcp      0      1 192.168.1.102:49592 10.10.34.36:443 SYN_SENT  
tcp      0      1 192.168.1.102:49606 10.10.34.36:443 SYN_SENT  
tcp      0 180 192.168.1.103:42990 104.18.39.21:443 ESTABLISHED  
tcp      0      0 192.168.1.102:33010 199.232.210.250:443 ESTABLISHED  
tcp      0      0 192.168.1.102:33026 199.232.210.250:443 ESTABLISHED  
tcp      0      0 192.168.1.102:32930 216.239.32.181:443 ESTABLISHED  
tcp      0      0 192.168.1.102:32940 216.239.32.181:443 ESTABLISHED  
tcp      0      0 192.168.1.102:35090 142.251.143.67:443 ESTABLISHED  
tcp      0      1 192.168.1.103:57950 172.64.155.209:443 FIN_WAIT1  
tcp      0      1 192.168.1.103:58846 74.125.130.188:5228 FIN_WAIT1  
tcp      0      0 192.168.1.102:33478 35.186.224.26:443 ESTABLISHED  
tcp      0      0 192.168.1.102:38190 18.239.208.100:443 ESTABLISHED  
tcp      0      0 192.168.1.102:38192 18.239.208.100:443 ESTABLISHED  
tcp      0      0 192.168.1.102:35298 35.186.224.41:443 ESTABLISHED  
tcp      0      0 192.168.1.102:56938 74.125.206.188:5228 ESTABLISHED  
tcp      0      0 192.168.1.102:34148 35.186.224.24:443 ESTABLISHED  
tcp      0      0 192.168.1.102:34150 35.186.224.24:443 ESTABLISHED  
tcp      0      0 192.168.1.102:47148 172.64.155.119:443 ESTABLISHED  
tcp      0      0 192.168.1.102:36148 172.217.23.110:443 ESTABLISHED  
mushroomyumi@Mushroom:~$ netstat -n | grep udp  
udp      0      0 192.168.1.102:42411 216.239.38.120:443 ESTABLISHED  
udp      0      0 192.168.1.103:68 192.168.1.1:67 ESTABLISHED  
mushroomyumi@Mushroom:~$ ';
```

```
mushroomyumi@Mushroom: ~  
mushroomyumi@Mushroom:~$ netstat -h  
usage: netstat [-vWenNcCF] [<Af>] -r          netstat {-V|--version|-h|--help}  
netstat [-vWnNcaeol] [<Socket> ...]  
netstat { [-vWenNac] -i | [-cnNe] -M | -s [-otuw] }  
  
-r, --route          display routing table  
-i, --interfaces     display interface table  
-g, --groups         display multicast group memberships  
-s, --statistics     display networking statistics (like SNMP)  
-M, --masquerade     display masqueraded connections  
  
-v, --verbose        be verbose  
-W, --wide           don't truncate IP addresses  
-n, --numeric        don't resolve names  
--numeric-hosts      don't resolve host names  
--numeric-ports      don't resolve port names  
--numeric-users      don't resolve user names  
-N, --symbolic       resolve hardware names  
-e, --extend         display other/more information  
-p, --programs       display PID/Program name for sockets  
-o, --timers         display timers  
-c, --continuous    continuous listing  
  
-l, --listening     display listening server sockets  
-a, --all            display all sockets (default: connected)  
-F, --fib            display Forwarding Information Base (default)  
-C, --cache          display routing cache instead of FIB  
-Z, --context        display SELinux security context for sockets  
  
<Socket>={-t|--tcp} {-u|--udp} {-U|--udplite} {-S|--sctp} {-w|--raw}  
           {-x|--unix} --ax25 --ipx --netrom  
<Af>=Use '-6|-4' or '-A <af>' or '--<af>'; default: inet  
List of possible address families (which support routing):  
inet (DARPA Internet) inet6 (IPv6) ax25 (AMPR AX.25)  
netrom (AMPR NET/ROM) rose (AMPR ROSE) ipx (Novell IPX)  
ddp (Appletalk DDP) x25 (CCITT X.25)  
mushroomyumi@Mushroom:~$ netstat -s  
Ip:  
Forwarding: 2  
34220 total packets received  
11 with invalid addresses  
0 forwarded  
0 incoming packets discarded  
34150 incoming packets delivered  
24172 requests sent out  
771 dropped because of missing route  
OutTransmits: 24675  
Icmp:  
188 ICMP messages received  
0 input ICMP message failed  
ICMP input histogram:  
destination unreachable: 131  
timeout in transit: 30  
echo replies: 27  
608 ICMP messages sent
```

Ba `-h` statistics ro peyda mikonim (`-s`) va sepa etelate morede nazar ro daryaft mikonim.

```
mushroomyumi@Mushroom: ~  
mushroomyumi@Mushroom:~$ nslookup google.com  
Server:      127.0.0.53  
Address:     127.0.0.53#53  
  
Non-authoritative answer:  
Name:   google.com  
Address: 216.239.38.120  
  
mushroomyumi@Mushroom:~$ nslookup 8.8.8.8  
8.8.8.8.in-addr.arpa    name = dns.google.  
  
Authoritative answers can be found from:  
  
mushroomyumi@Mushroom:~$ nslookup google.com 8.8.8.8  
Server:      8.8.8.8  
Address:     8.8.8.8#53  
  
Non-authoritative answer:  
Name:   google.com  
Address: 216.239.38.120  
Name:   google.com  
Address: 2001:4860:4802:32::78  
  
mushroomyumi@Mushroom:~$
```



```
mushroomyumi@Mushroom: ~  
mushroomyumi@Mushroom:~$ sudo nano /etc/hosts
```

```
mushroomyumi@Mushroom: ~ — sudo nano /etc/hosts  
GNU nano 8.4 /etc/hosts  
127.0.0.1 localhost  
127.0.1.1 Mushroom  
192.168.1.50 myserver.local  
  
# 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  
  
[ Read 11 lines ]  
^G Help      ^O Write Out  ^F Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo  
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line  M-E Redo
```

```
mushroomyumi@Mushroom:~$ nslookup myserver.local
Server:      127.0.0.53
Address:     127.0.0.53#53

Name:   myserver.local
Address: 192.168.1.50

mushroomyumi@Mushroom:~$ nslookup 192.168.1.50
50.1.168.192.in-addr.arpa      name = myserver.local.

mushroomyumi@Mushroom:~$
```

Yek address custom ijad karde va myserver.local ijad karde va yek IP custom midahim va mitavan an ra lookup ya reverse lookup kard.

HTTP:

GET: baraye daryaft etelaat.

POST: baraye ersale etelaat jaded.

PUT: baraye update kardan etelaat va jaygozin kardan.

DELETE: baraye pak kardan etelaat.

IP: address va makan baraye mabda va maghsad ersal etelaat mibashad.

TCP: in protocol manand peik amal mikonad va motmaen mishavad ke etelaat ersal mishavad va agar baraye mesal packet loss bokhorad dobare ersal mikonad amniat bishtari nesbat be UDP darad va UDP be onvane protocol baraye kar haei ke sorat ahamiat bishtari darad estefade mishavad.

Routers: modem va gateway baraye etesal be global internet mibashad.

Switch: Etesal chand host be ham dar yek network.

DNS: manande dictionary baraye tabdil domain name be address mibashad

127.0.0.53 ham address local dns linux mibashad va mitavan query kardan az yek dns digar estefade kard.