ASSIGNMENT

NETWORKING&SYSTEM ADMINISTRATION LAB

Submitted by:

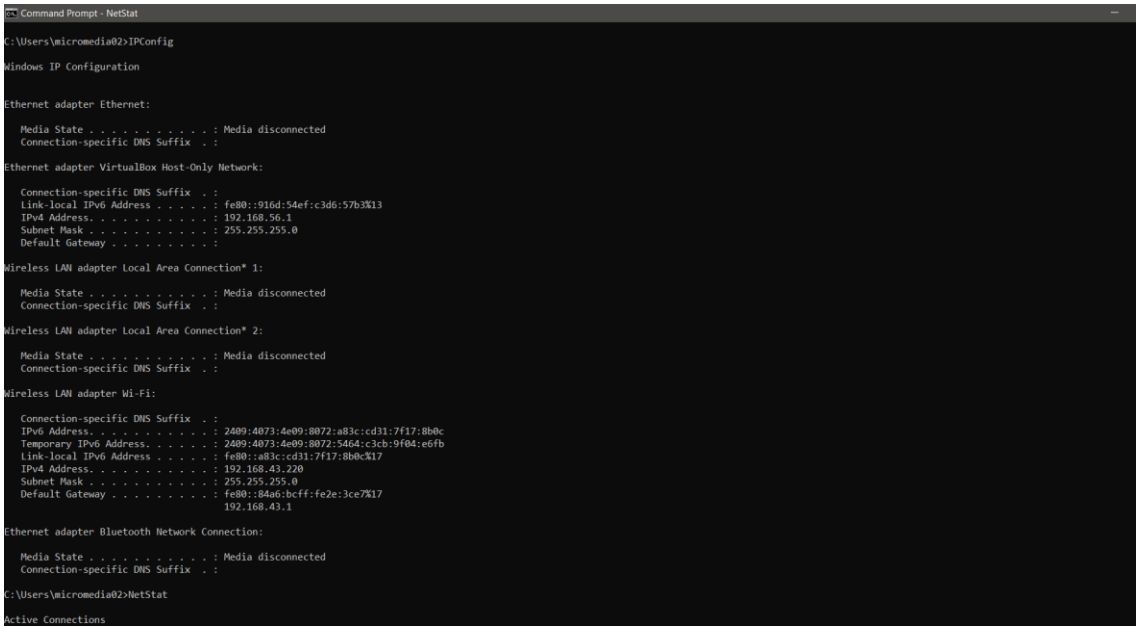
Jisha Chacko

S2RMCA:A batch

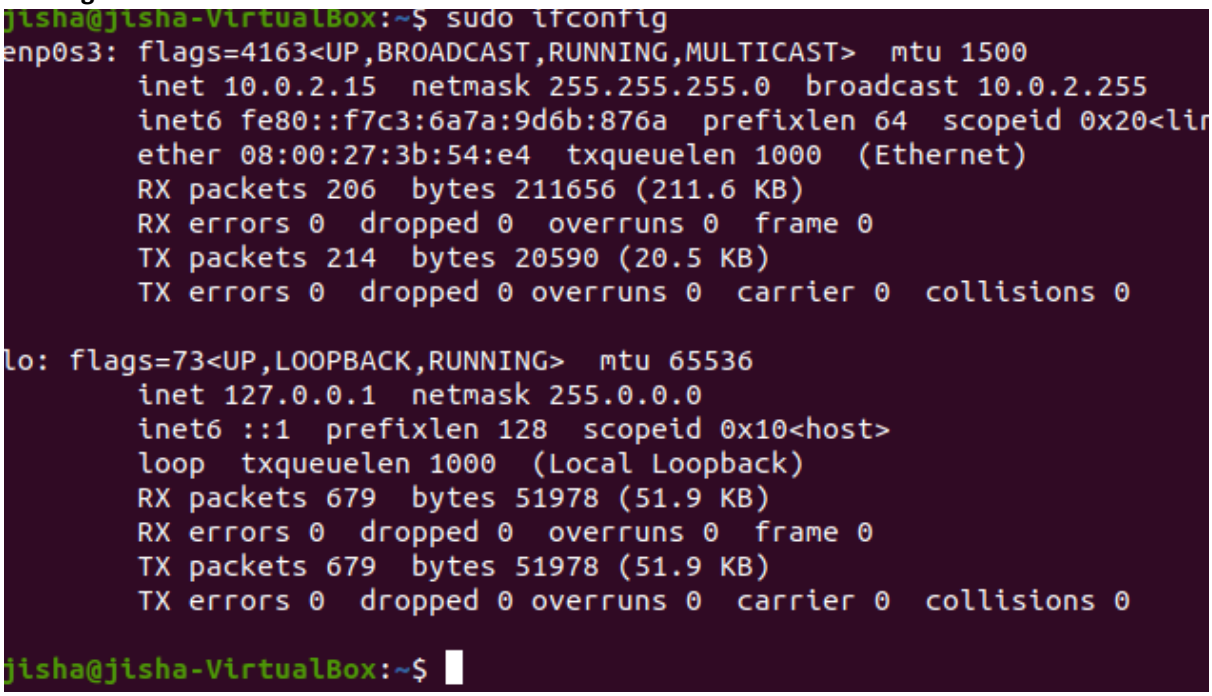
Rollno:44

1.Try out these network commands in Window as well as in Linux and perform at least 4 options with each command: ping route traceroute, nslookup,Ip Config, NetStat

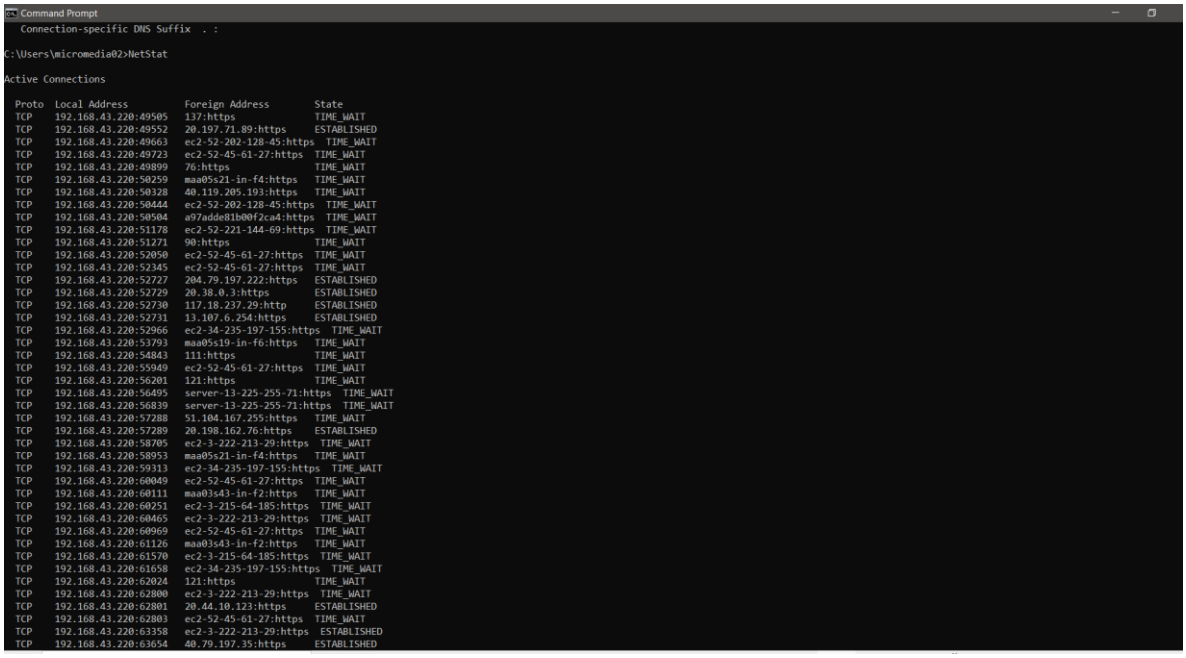
Ipconfig



ifconfig



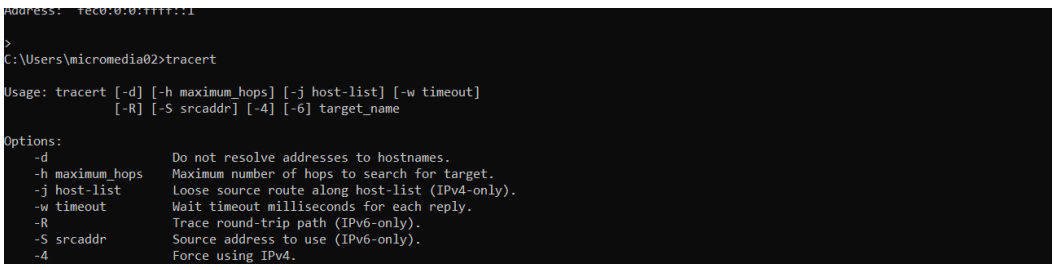
Netstat



Netstat in linux

```
jisha@jisha-VirtualBox:~$ sudo netstat
[sudo] password for jisha:
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
udp        0      0 jisha-VirtualBox:bootpc _gateway:bootps         ESTABLISHED
Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags       Type       State         I-Node   Path
unix  2      [ ]         DGRAM                    25065    /run/user/1000/systemd/notify
unix  2      [ ]         DGRAM                    15163    /run/systemd/journal/syslog
unix  16     [ ]         DGRAM                    15173    /run/systemd/journal/dev-log
unix  8      [ ]         DGRAM                    15177    /run/systemd/journal/socket
unix  3      [ ]         DGRAM                    15149    /run/systemd/notify
unix  3      [ ]         STREAM     CONNECTED     31986
unix  3      [ ]         STREAM     CONNECTED     28502    /run/user/1000/bus
unix  3      [ ]         STREAM     CONNECTED     30760
unix  3      [ ]         STREAM     CONNECTED     32000
unix  3      [ ]         STREAM     CONNECTED     29165
unix  3      [ ]         STREAM     CONNECTED     25890    /run/systemd/journal/stdout
unix  3      [ ]         STREAM     CONNECTED     31917
unix  3      [ ]         STREAM     CONNECTED     25837
unix  3      [ ]         STREAM     CONNECTED     30547
unix  3      [ ]         STREAM     CONNECTED     29168    /run/dbus/system_bus_socket
unix  3      [ ]         STREAM     CONNECTED     28905    /run/systemd/journal/stdout
unix  3      [ ]         STREAM     CONNECTED     31987    /run/systemd/journal/stdout
unix  2      [ ]         DGRAM                    25832
unix  3      [ ]         STREAM     CONNECTED     30736    /run/dbus/system_bus_socket
unix  3      [ ]         STREAM     CONNECTED     31697    /run/user/1000/bus
unix  3      [ ]         STREAM     CONNECTED     28904    /run/systemd/journal/stdout
unix  3      [ ]         STREAM     CONNECTED     18638
```

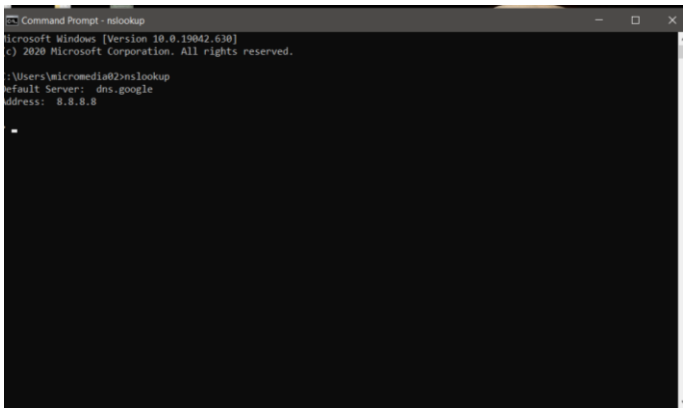
Traceroute



Traceroute in linux

```
jisha@jisha-VirtualBox:~$ traceroute www.google.com
traceroute to www.google.com (142.250.182.4), 30 hops max, 60 byte packets
 1  _gateway (10.0.2.2)  1.613 ms  1.635 ms  1.620 ms
 2  * * *
 3  * * *
 4  * * *
 5  * * *
 6  * * *
 7  * * *
 8  * * *
 9  * * *
10  * * *
11  * * *
12  * * *
13  * * *
14  * * *
15  * * *
16  * * *
17  * * *
18  * * *
19  * * *
20  * * *
21  * * *
22  * * *
23  * * *
24  * * *
25  * * *
26  * * *
27  * * *
28  * * *
```

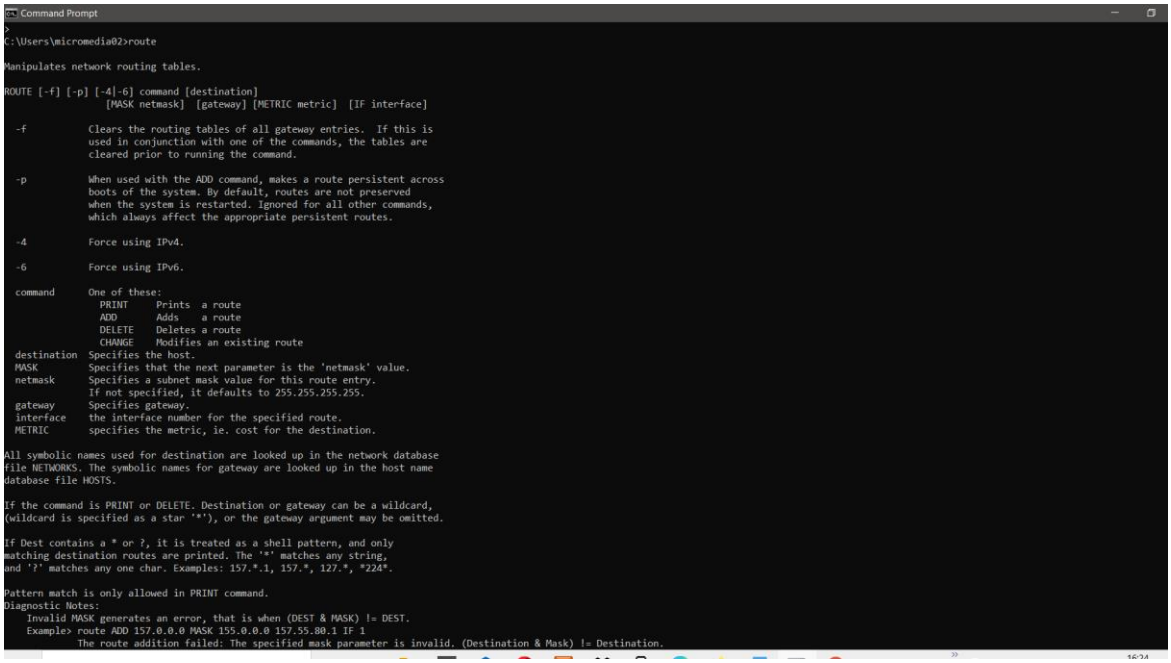
Nslookup



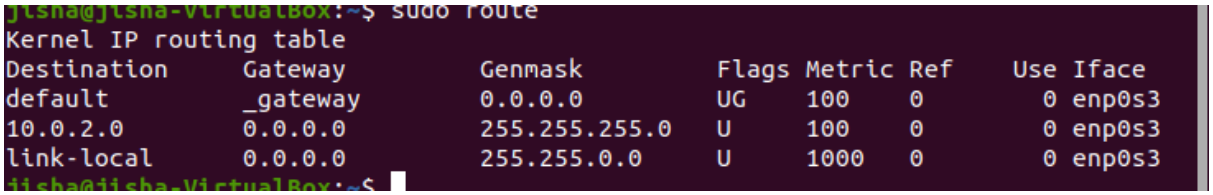
Nslookup in linux

```
jisha@jisha-VirtualBox:~$ nslookup google.com
Server:         127.0.0.53
Address:        127.0.0.53#53

Non-authoritative answer:
Name:   google.com
Address: 142.250.196.14
Name:   google.com
Address: 2404:6800:4007:823::200e

jisha@jisha-VirtualBox:~$
```

Route



Route in linux



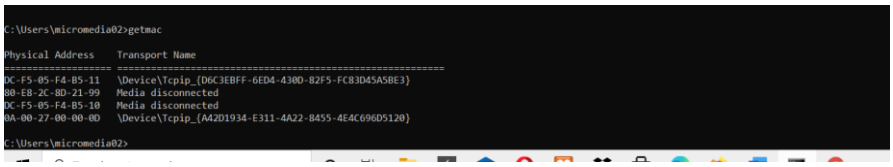
Ping

Ping in linux

```
jisha@jisha-VirtualBox:~$ ping www.google.com
PING www.google.com (142.250.195.196) 56(84) bytes of data.
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=1 ttl=111 time=193 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=2 ttl=111 time=63.4 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=3 ttl=111 time=108 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=4 ttl=111 time=80.1 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=5 ttl=111 time=77.2 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=6 ttl=111 time=270 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=7 ttl=111 time=91.7 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=8 ttl=111 time=63.1 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=9 ttl=111 time=83.4 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=10 ttl=111 time=95.7 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=11 ttl=111 time=87.9 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=12 ttl=111 time=76.0 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=13 ttl=111 time=84.9 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=14 ttl=111 time=67.8 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=15 ttl=111 time=61.7 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=16 ttl=111 time=58.2 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=17 ttl=111 time=55.4 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=18 ttl=111 time=60.1 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=19 ttl=111 time=66.9 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=20 ttl=111 time=67.7 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=21 ttl=111 time=83.8 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=22 ttl=111 time=53.6 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=23 ttl=111 time=58.7 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=24 ttl=111 time=89.0 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=25 ttl=111 time=64.1 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=26 ttl=111 time=92.1 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=27 ttl=111 time=91.0 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=28 ttl=111 time=102 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=29 ttl=111 time=57.8 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=30 ttl=111 time=81.8 ms
```

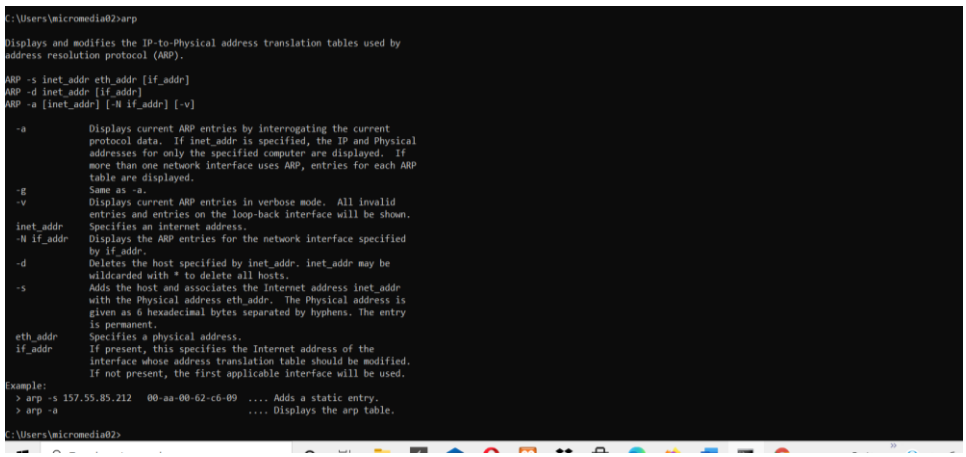
1. Identify and perform 5 more network commands and it's working

Getmac

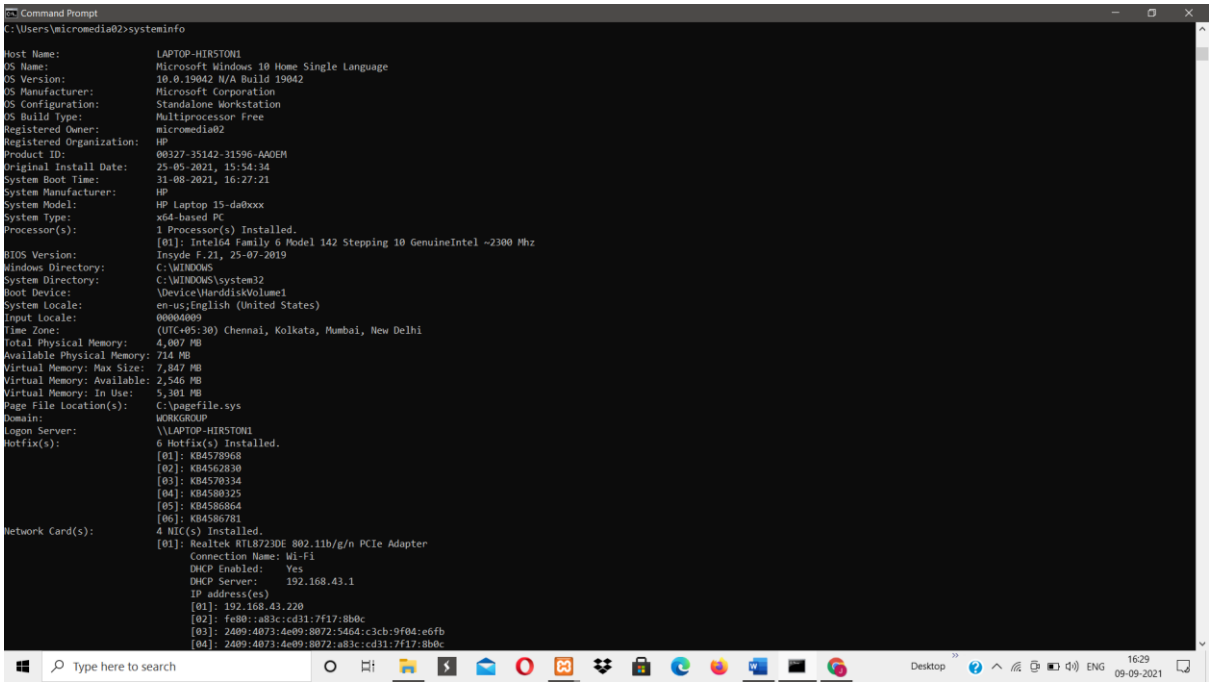


Hostname

ARP

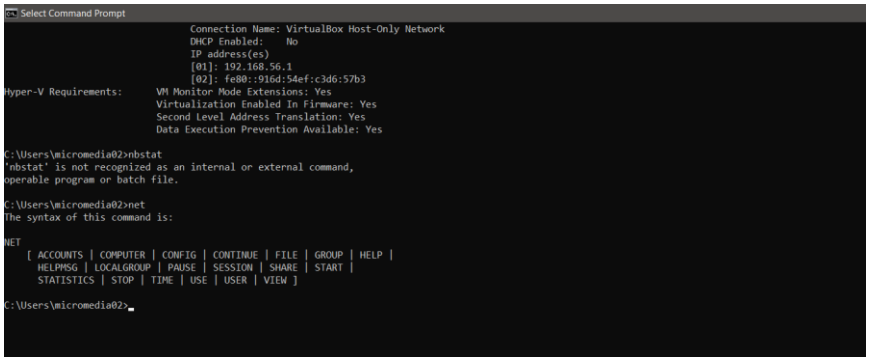


Systeminfo

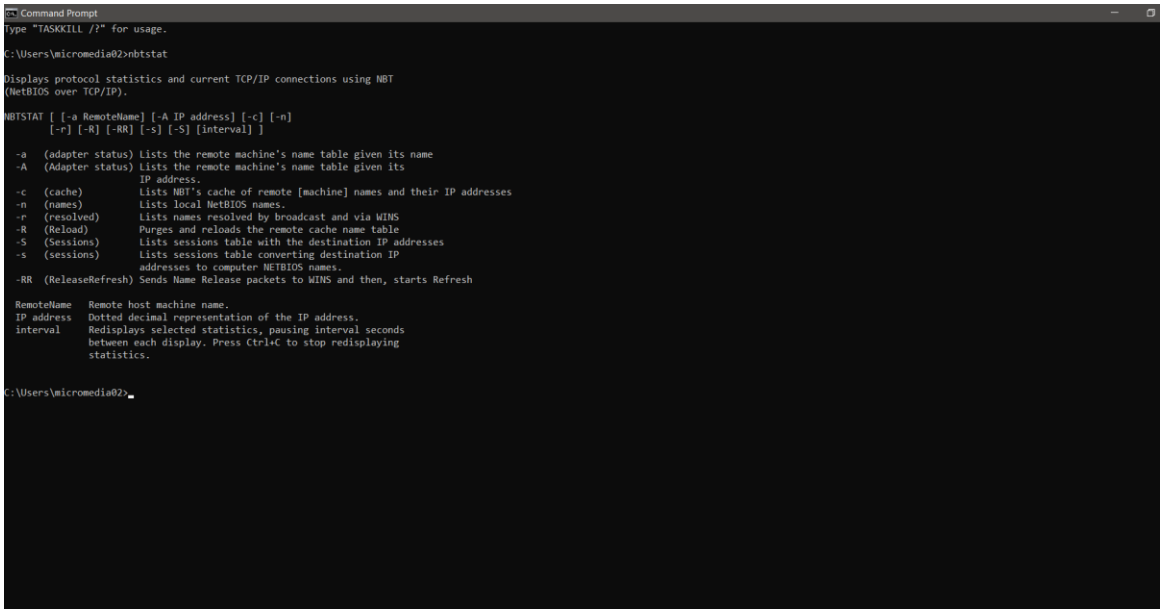


Pathping

Net

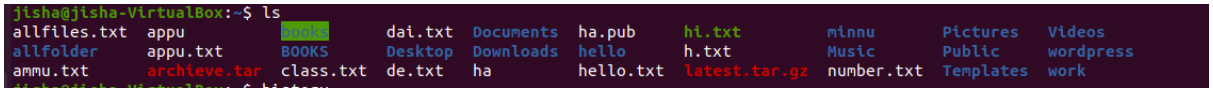


Nbtstat



Linux commands

ls



```
jisha@jisha-VirtualBox:~$ touch test1.txt
jisha@jisha-VirtualBox:~$ mkdir book
jisha@jisha-VirtualBox:~$ ls
allfiles.txt  appu          book    class.txt  de.txt     ha      hello.txt  latest.tar.gz  number.txt  Templates  wordpress
allfolder     appu.txt      books   dai.txt    Documents  ha.pub  hi.txt     minnu          Pictures    test1.txt  work
ammu.txt      archieve.tar  BOOKS   Desktop    Downloads  hello   h.txt      Music          Public      Videos
jisha@jisha-VirtualBox:~$ pwd
/home/jisha
jisha@jisha-VirtualBox:~$ sudo hostname
jisha-VirtualBox
```

dig

```
jisha@jisha-VirtualBox:~$ dig google.com

; <<>> DiG 9.16.1-Ubuntu <<>> google.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 38604
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;google.com.                    IN      A

;; ANSWER SECTION:
google.com.             224     IN      A       142.250.205.238

;; Query time: 71 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Sun Sep 12 14:41:33 IST 2021
;; MSG SIZE  rcvd: 55
```

arp

```
jisha@jisha-VirtualBox:~$ arp -e
Address                  HWtype  HWaddress           Flags Mask            Iface
_gateway                 ether   52:54:00:12:35:02   C                     enp0s3
jisha@jisha-VirtualBox:~$
```

host

```
       -6 use IPv6 query transport only
jisha@jisha-VirtualBox:~$ host google.com
google.com has address 142.250.205.238
google.com has IPv6 address 2404:6800:4007:808::200e
google.com mail is handled by 10 aspmx.l.google.com.
google.com mail is handled by 20 alt1.aspmx.l.google.com.
google.com mail is handled by 30 alt2.aspmx.l.google.com.
google.com mail is handled by 50 alt4.aspmx.l.google.com.
google.com mail is handled by 40 alt3.aspmx.l.google.com.
jisha@jisha-VirtualBox:~$
```