CSI2007
NETWORKING AND COMMUNICATIONS

LAB ASSESMENT

1. IPCONFIG

COMMANDS:

ipconfig

ipconfig /all

ipconfig /renew "Local Area Connection"

ipconfig /flushdns

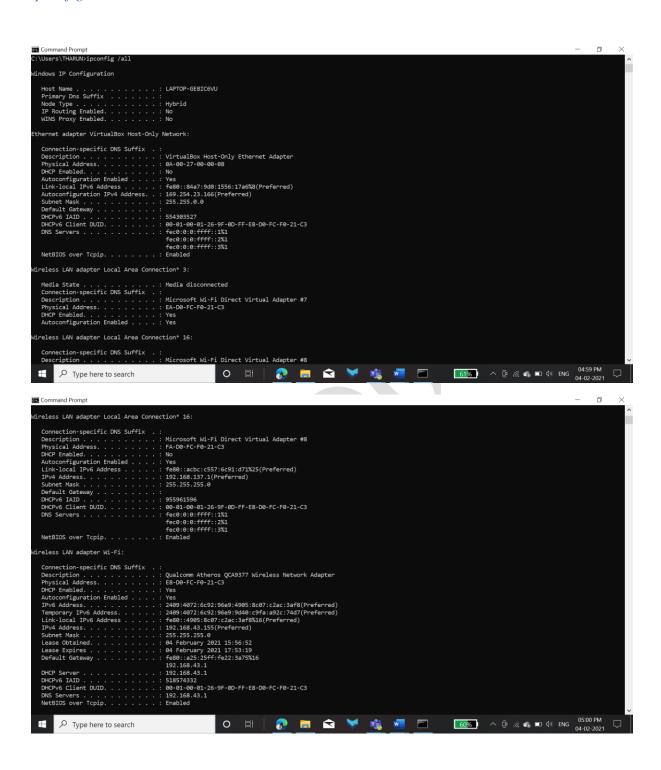ipconfig /displaydns

ipconfig /registerdns

ipconfig /showclassid Local

ipconfig /setclassid "Local Area Connection" TEST

ipconfig

Ipconfig /all

Ipconfig /setclassid


```
C:\Users\THARUN>ipconfig /setclassid "Wi-Fi" TEST
The requested operation requires elevation.
```

Ipconfig /renew

```
C:\Users\THARUN>ipconfig /renew "Local Area Connection* 16"

Windows IP Configuration

Adapter Local Area Connection* 16 is not enabled for DHCP.

C:\Users\THARUN>ipconfig /renew "Wireless LAN adapter Local Area Connection* 16"

Windows IP Configuration

The operation failed as no adapter is in the state permissible for
this operation.
```

Ipconfig /displaydns

```
C:\Users\THARUN>ipconfig /displaydns

Windows IP Configuration

    r4---sn-gwpa-pmhl.googlevideo.com
    ----------------------------------------
    Record Name . . . . . : r4---sn-gwpa-pmhl.googlevideo.com
    Record Type . . . . . : 5
    Time To Live  . . . . : 505
    Data Length . . . . . : 8
    Section . . . . . . . : Answer
    CNAME Record  . . . . : r4.sn-gwpa-pmhl.googlevideo.com


    Record Name . . . . . : r4.sn-gwpa-pmhl.googlevideo.com
    Record Type . . . . . : 28
    Time To Live  . . . . : 505
    Data Length . . . . . : 16
    Section . . . . . . . : Answer
    AAAA Record . . . . . : 2405:200:1630:ff12::f


    r1---sn-gwpa-h55y.googlevideo.com
    ----------------------------------------
    Record Name . . . . . : r1---sn-gwpa-h55y.googlevideo.com
    Record Type . . . . . : 5
    Time To Live  . . . . : 686
    Data Length . . . . . : 8
    Section . . . . . . . : Answer
    CNAME Record  . . . . : r1.sn-gwpa-h55y.googlevideo.com


    Record Name . . . . . : r1.sn-gwpa-h55y.googlevideo.com
    Record Type . . . . . : 1
    Time To Live  . . . . : 686
    Data Length . . . . . : 4
    Section . . . . . . . : Answer
```

.
.
.
.
.
.

```
    Record Name . . . . . : nos.ns1.ff.avast.com
    Record Type . . . . . : 1
    Time To Live  . . . . : 100
    Data Length . . . . . : 4
    Section . . . . . . . : Answer
    A (Host) Record . . . : 5.62.54.63


    Record Name . . . . . : nos.ns1.ff.avast.com
    Record Type . . . . . : 1
    Time To Live  . . . . : 100
    Data Length . . . . . : 4
    Section . . . . . . . : Answer
    A (Host) Record . . . : 5.62.54.89


    Record Name . . . . . : nos.ns1.ff.avast.com
    Record Type . . . . . : 1
    Time To Live  . . . . : 100
    Data Length . . . . . : 4
    Section . . . . . . . : Answer
    A (Host) Record . . . : 5.62.53.53


    114.137.168.192.in-addr.arpa
    ----------------------------------------
    Record Name . . . . . : 114.137.168.192.in-addr.arpa.
    Record Type . . . . . : 12
    Time To Live  . . . . : 517752
    Data Length . . . . . : 8
    Section . . . . . . . : Answer
    PTR Record  . . . . . : RedmiNote5Pro-Redmi.mshome.net

C:\Users\THARUN>
```

Ipconfig /registerdns

```
C:\Users\THARUN>ipconfig /registerdns
The requested operation requires elevation.
```

Ipconfig /flushdns

```
C:\Users\THARUN>ipconfig /flushdns

Windows IP Configuration

Successfully flushed the DNS Resolver Cache.
```

Ipconfig /showclassid

```
C:\Users\THARUN>ipconfig /showclassid Wireless

Windows IP Configuration

The operation failed as no adapter is in the state permissible for
this operation.
```

2. PING

```
C:\Users\THARUN>echo "pinging the loopback address"
"pinging the loopback address"

C:\Users\THARUN>ping 127.0.0.1

Pinging 127.0.0.1 with 32 bytes of data:
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128

Ping statistics for 127.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\THARUN>echo "pinging the ip address of the computer"
"pinging the ip address of the computer"

C:\Users\THARUN>ping 192.168.43.155

Pinging 192.168.43.155 with 32 bytes of data:
Reply from 192.168.43.155: bytes=32 time<1ms TTL=128
Reply from 192.168.43.155: bytes=32 time<1ms TTL=128
Reply from 192.168.43.155: bytes=32 time<1ms TTL=128
Reply from 192.168.43.155: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.43.155:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\Users\THARUN>echo "pinging the default gateway"
"pinging the default gateway"

C:\Users\THARUN>ping 192.168.43.1

Pinging 192.168.43.1 with 32 bytes of data:
Reply from 192.168.43.1: bytes=32 time=58ms TTL=64
Reply from 192.168.43.1: bytes=32 time=5ms TTL=64
Reply from 192.168.43.1: bytes=32 time=5ms TTL=64
Reply from 192.168.43.1: bytes=32 time=5ms TTL=64

Ping statistics for 192.168.43.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 5ms, Maximum = 58ms, Average = 18ms

C:\Users\THARUN>echo "pinging the DNS server"
"pinging the DNS server"

C:\Users\THARUN>ping 192.168.43.1

Pinging 192.168.43.1 with 32 bytes of data:
Reply from 192.168.43.1: bytes=32 time=6ms TTL=64
Reply from 192.168.43.1: bytes=32 time=18ms TTL=64
Reply from 192.168.43.1: bytes=32 time=23ms TTL=64
Reply from 192.168.43.1: bytes=32 time=29ms TTL=64

Ping statistics for 192.168.43.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 6ms, Maximum = 29ms, Average = 19ms
```

3. ARP

```
C:\Users\THARUN>arp

Displays and modifies the IP-to-Physical address translation tables used by
address resolution protocol (ARP).

ARP -s inet_addr eth_addr [if_addr]
ARP -d inet_addr [if_addr]
ARP -a [inet_addr] [-N if_addr] [-v]

  -a          Displays current ARP entries by interrogating the current
              protocol data.  If inet_addr is specified, the IP and Physical
              addresses for only the specified computer are displayed.  If
              more than one network interface uses ARP, entries for each ARP
              table are displayed.
  -g          Same as -a.
  -v          Displays current ARP entries in verbose mode.  All invalid
              entries and entries on the loop-back interface will be shown.
  inet_addr   Specifies an internet address.
  -N if_addr  Displays the ARP entries for the network interface specified
              by if_addr.
  -d          Deletes the host specified by inet_addr. inet_addr may be
              wildcarded with * to delete all hosts.
  -s          Adds the host and associates the Internet address inet_addr
              with the Physical address eth_addr.  The Physical address is
              given as 6 hexadecimal bytes separated by hyphens. The entry
              is permanent.
  eth_addr    Specifies a physical address.
  if_addr     If present, this specifies the Internet address of the
              interface whose address translation table should be modified.
              If not present, the first applicable interface will be used.
Example:
  > arp -s 157.55.85.212   00-aa-00-62-c6-09  .... Adds a static entry.
  > arp -a                                    .... Displays the arp table.
```

```
C:\Users\THARUN>arp -a

Interface: 169.254.23.166 --- 0x8
  Internet Address      Physical Address      Type
  169.254.255.255       ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  239.255.255.250       01-00-5e-7f-ff-fa     static

Interface: 192.168.43.155 --- 0x10
  Internet Address      Physical Address      Type
  192.168.43.1          08-25-25-22-3a-75     dynamic
  192.168.43.255        ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  239.255.102.18        01-00-5e-7f-66-12     static
  239.255.255.250       01-00-5e-7f-ff-fa     static
  255.255.255.255       ff-ff-ff-ff-ff-ff     static

Interface: 192.168.137.1 --- 0x19
  Internet Address      Physical Address      Type
  192.168.137.255       ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  239.255.255.250       01-00-5e-7f-ff-fa     static
  255.255.255.255       ff-ff-ff-ff-ff-ff     static
```

```
C:\Users\THARUN>arp -g

Interface: 169.254.23.166 --- 0x8
  Internet Address      Physical Address      Type
  169.254.255.255       ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  239.255.255.250       01-00-5e-7f-ff-fa     static

Interface: 192.168.43.155 --- 0x10
  Internet Address      Physical Address      Type
  192.168.43.1          08-25-25-22-3a-75     dynamic
  192.168.43.255        ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  239.255.102.18        01-00-5e-7f-66-12     static
  239.255.255.250       01-00-5e-7f-ff-fa     static
  255.255.255.255       ff-ff-ff-ff-ff-ff     static

Interface: 192.168.137.1 --- 0x19
  Internet Address      Physical Address      Type
  192.168.137.255       ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  239.255.255.250       01-00-5e-7f-ff-fa     static
  255.255.255.255       ff-ff-ff-ff-ff-ff     static
```

```
C:\Users\THARUN>arp -d
The ARP entry deletion failed: The requested operation requires elevation.


C:\Users\THARUN>arp -d 224.0.0.22
The ARP entry deletion failed: The requested operation requires elevation.


C:\Users\THARUN>arp -d 192.168.137.1
The ARP entry deletion failed: The requested operation requires elevation.
```

```
C:\Users\THARUN>arp -s

Displays and modifies the IP-to-Physical address translation tables used by
address resolution protocol (ARP).

ARP -s inet_addr eth_addr [if_addr]
ARP -d inet_addr [if_addr]
ARP -a [inet_addr] [-N if_addr] [-v]

  -a            Displays current ARP entries by interrogating the current
                protocol data.  If inet_addr is specified, the IP and Physical
                addresses for only the specified computer are displayed.  If
                more than one network interface uses ARP, entries for each ARP
                table are displayed.
  -g            Same as -a.
  -v            Displays current ARP entries in verbose mode.  All invalid
                entries and entries on the loop-back interface will be shown.
  inet_addr     Specifies an internet address.
  -N if_addr    Displays the ARP entries for the network interface specified
                by if_addr.
  -d            Deletes the host specified by inet_addr. inet_addr may be
                wildcarded with * to delete all hosts.
  -s            Adds the host and associates the Internet address inet_addr
                with the Physical address eth_addr.  The Physical address is
                given as 6 hexadecimal bytes separated by hyphens. The entry
                is permanent.
  eth_addr      Specifies a physical address.
  if_addr       If present, this specifies the Internet address of the
                interface whose address translation table should be modified.
                If not present, the first applicable interface will be used.
Example:
  > arp -s 157.55.85.212   00-aa-00-62-c6-09  .... Adds a static entry.
  > arp -a                                    .... Displays the arp table.
```

4. NETSTAT

netstat -a

netstat -e

```
C:\Users\THARUN>netstat -e
Interface Statistics

                           Received           Sent

Bytes                     529402534      229225429
Unicast packets             3680705        2080113
Non-unicast packets            2961         116518
Discards                          0              0
Errors                            0              0
Unknown protocols                 0
```

netstat -n

```
C:\Users\THARUN>netstat -n

Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    127.0.0.1:1521         127.0.0.1:49676        ESTABLISHED
  TCP    127.0.0.1:49676        127.0.0.1:1521         ESTABLISHED
  TCP    127.0.0.1:56337        127.0.0.1:56674        ESTABLISHED
  TCP    127.0.0.1:56674        127.0.0.1:56337        ESTABLISHED
  TCP    127.0.0.1:60704        127.0.0.1:60705        ESTABLISHED
  TCP    127.0.0.1:60705        127.0.0.1:60704        ESTABLISHED
  TCP    127.0.0.1:60707        127.0.0.1:60708        ESTABLISHED
  TCP    127.0.0.1:60708        127.0.0.1:60707        ESTABLISHED
  TCP    192.168.43.155:60837   161.69.226.22:443      ESTABLISHED
```

netstat -o

```
C:\Users\THARUN>netstat -o

Active Connections

  Proto  Local Address          Foreign Address        State        PID
  TCP    127.0.0.1:1521         LAPTOP-GE8IC6VU:49676  ESTABLISHED  5280
  TCP    127.0.0.1:49676        LAPTOP-GE8IC6VU:1521   ESTABLISHED  5380
  TCP    127.0.0.1:56337        LAPTOP-GE8IC6VU:56674  ESTABLISHED  17492
  TCP    127.0.0.1:56674        LAPTOP-GE8IC6VU:56337  ESTABLISHED  8896
  TCP    127.0.0.1:60704        LAPTOP-GE8IC6VU:60705  ESTABLISHED  924
  TCP    127.0.0.1:60705        LAPTOP-GE8IC6VU:60704  ESTABLISHED  924
  TCP    127.0.0.1:60707        LAPTOP-GE8IC6VU:60708  ESTABLISHED  924
  TCP    127.0.0.1:60708        LAPTOP-GE8IC6VU:60707  ESTABLISHED  924
```

netstat -p

```
C:\Users\THARUN>netstat -p

Active Connections

  Proto  Local Address          Foreign Address        State

C:\Users\THARUN>
```

netstat -s

```
Command Prompt                                                                              —   □   ×
 Neighbor Advertisements   1682        2749
 Redirects                 0           0
 Router Renumberings       0           0
 Type 139                  139         48

TCP Statistics for IPv4

 Active Opens                  = 20362
 Passive Opens                 = 902
 Failed Connection Attempts    = 8396
 Reset Connections             = 4578
 Current Connections           = 9
 Segments Received             = 2898402
 Segments Sent                 = 1552978
 Segments Retransmitted        = 49181

TCP Statistics for IPv6

 Active Opens                  = 5590
 Passive Opens                 = 345
 Failed Connection Attempts    = 999
 Reset Connections             = 1263
 Current Connections           = 0
 Segments Received             = 801796
 Segments Sent                 = 397220
 Segments Retransmitted        = 8560

UDP Statistics for IPv4

 Datagrams Received   = 2565091
 No Ports             = 13069
 Receive Errors       = 18184
 Datagrams Sent       = 408665

UDP Statistics for IPv6

 Datagrams Received   = 109880
 No Ports             = 556
 Receive Errors       = 1872
 Datagrams Sent       = 114178
```

netstat -r


```
Command Prompt                                                                              —   □   ×
C:\Users\THARUN>netstat -r
===========================================================================
Interface List
  8...0a 00 27 00 00 08 ......VirtualBox Host-Only Ethernet Adapter
 26...ea d0 fc f0 21 c3 ......Microsoft Wi-Fi Direct Virtual Adapter #7
 25...fa d0 fc f0 21 c3 ......Microsoft Wi-Fi Direct Virtual Adapter #8
 16...e8 d0 fc f0 21 c3 ......Qualcomm Atheros QCA9377 Wireless Network Adapter
  1...........................Software Loopback Interface 1
===========================================================================

IPv4 Route Table
===========================================================================
Active Routes:
Network Destination        Netmask          Gateway       Interface  Metric
          127.0.0.0        255.0.0.0         On-link        127.0.0.1    331
          127.0.0.1  255.255.255.255         On-link        127.0.0.1    331
    127.255.255.255  255.255.255.255         On-link        127.0.0.1    331
        169.254.0.0      255.255.0.0         On-link    169.254.23.166    281
     169.254.23.166  255.255.255.255         On-link    169.254.23.166    281
    169.254.255.255  255.255.255.255         On-link    169.254.23.166    281
      192.168.137.0    255.255.255.0         On-link     192.168.137.1    281
      192.168.137.1  255.255.255.255         On-link     192.168.137.1    281
    192.168.137.255  255.255.255.255         On-link     192.168.137.1    281
          224.0.0.0        240.0.0.0         On-link        127.0.0.1    331
          224.0.0.0        240.0.0.0         On-link    169.254.23.166    281
          224.0.0.0        240.0.0.0         On-link     192.168.137.1    281
    255.255.255.255  255.255.255.255         On-link        127.0.0.1    331
    255.255.255.255  255.255.255.255         On-link    169.254.23.166    281
    255.255.255.255  255.255.255.255         On-link     192.168.137.1    281
===========================================================================
Persistent Routes:
  None

IPv6 Route Table
===========================================================================
Active Routes:
 If Metric Network Destination      Gateway
  1    331 ::1/128                   On-link
  8    281 fe80::/64                 On-link
 25    281 fe80::/64                 On-link
```

```
 25    281 fe80::/64                              On-link
  8    281 fe80::84a7:9d0:1556:17a6/128
                                                  On-link
 25    281 fe80::acbc:c557:6c91:d71/128
                                                  On-link
  1    331 ff00::/8                               On-link
  8    281 ff00::/8                               On-link
 25    281 ff00::/8                               On-link
===========================================================================
Persistent Routes:
  None

C:\Users\THARUN>
```

netstat interval

```
C:\Users\THARUN>netstat interval

Displays protocol statistics and current TCP/IP network connections.
```

```
Command Prompt                                                                    —    □    ✕
Displays protocol statistics and current TCP/IP network connections.

NETSTAT [-a] [-b] [-e] [-f] [-n] [-o] [-p proto] [-r] [-s] [-x] [-t] [interval]

  -a            Displays all connections and listening ports.
  -b            Displays the executable involved in creating each connection or
                listening port. In some cases well-known executables host
                multiple independent components, and in these cases the
                sequence of components involved in creating the connection
                or listening port is displayed. In this case the executable
                name is in [] at the bottom, on top is the component it called,
                and so forth until TCP/IP was reached. Note that this option
                can be time-consuming and will fail unless you have sufficient
                permissions.
  -e            Displays Ethernet statistics. This may be combined with the -s
                option.
  -f            Displays Fully Qualified Domain Names (FQDN) for foreign
                addresses.
  -n            Displays addresses and port numbers in numerical form.
  -o            Displays the owning process ID associated with each connection.
  -p proto      Shows connections for the protocol specified by proto; proto
                may be any of: TCP, UDP, TCPv6, or UDPv6.  If used with the -s
                option to display per-protocol statistics, proto may be any of:
                IP, IPv6, ICMP, ICMPv6, TCP, TCPv6, UDP, or UDPv6.
  -q            Displays all connections, listening ports, and bound
                nonlistening TCP ports. Bound nonlistening ports may or may not
                be associated with an active connection.
  -r            Displays the routing table.
  -s            Displays per-protocol statistics.  By default, statistics are
                shown for IP, IPv6, ICMP, ICMPv6, TCP, TCPv6, UDP, and UDPv6;
                the -p option may be used to specify a subset of the default.
  -t            Displays the current connection offload state.
  -x            Displays NetworkDirect connections, listeners, and shared
                endpoints.
  -y            Displays the TCP connection template for all connections.
                Cannot be combined with the other options.
  interval      Redisplays selected statistics, pausing interval seconds
                between each display.  Press CTRL+C to stop redisplaying
                statistics.  If omitted, netstat will print the current
                configuration information once.
```

```
⊞    🔍 Type here to search        O  ⧉  🌐 🗂 🗎 🇾 🗎 🗐      20%  ⌃ ⊕ ⊕ 🔋 ☐ � 40) ENG   01:30 PM
                                                                                   07-02-2021
```
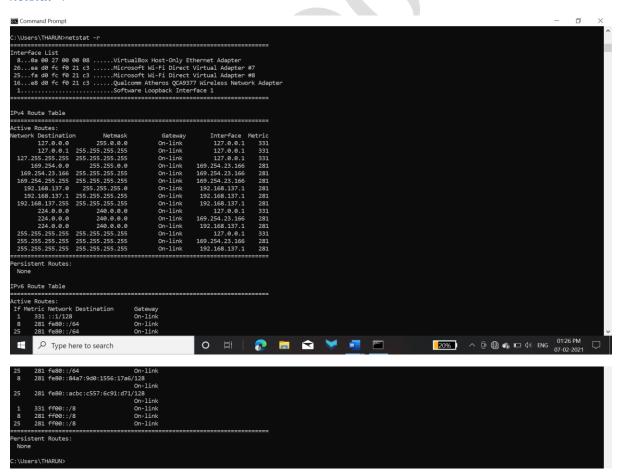
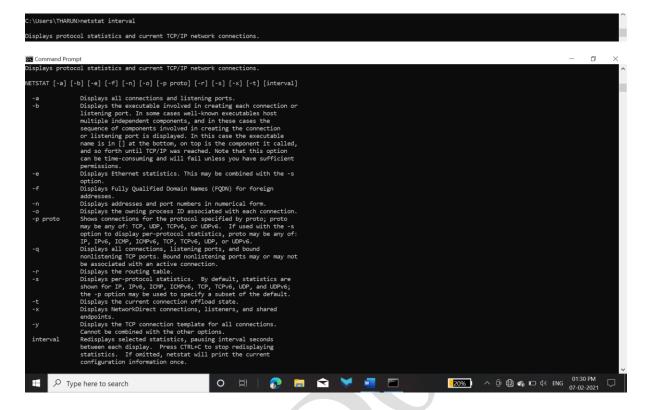## 5. NBTSTAT

nbtstat

```
C:\Users\THARUN>nbtstat

Displays protocol statistics and current TCP/IP connections using NBT
(NetBIOS over TCP/IP).

NBTSTAT [ [-a RemoteName] [-A IP address] [-c] [-n]
        [-r] [-R] [-RR] [-s] [-S] [interval] ]

  -a   (adapter status) Lists the remote machine's name table given its name
  -A   (Adapter status) Lists the remote machine's name table given its
                        IP address.
  -c   (cache)          Lists NBT's cache of remote [machine] names and their IP addresses
  -n   (names)          Lists local NetBIOS names.
  -r   (resolved)       Lists names resolved by broadcast and via WINS
  -R   (Reload)         Purges and reloads the remote cache name table
  -S   (Sessions)       Lists sessions table with the destination IP addresses
  -s   (sessions)       Lists sessions table converting destination IP
                        addresses to computer NETBIOS names.
  -RR  (ReleaseRefresh) Sends Name Release packets to WINS and then, starts Refresh


  RemoteName   Remote host machine name.
  IP address   Dotted decimal representation of the IP address.
  interval     Redisplays selected statistics, pausing interval seconds
               between each display. Press Ctrl+C to stop redisplaying
               statistics.
```
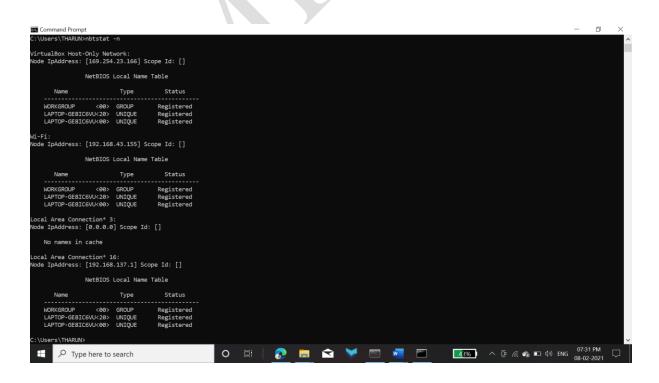
nbtstat -c

```
C:\Users\THARUN>nbtstat -c

VirtualBox Host-Only Network:
Node IpAddress: [169.254.23.166] Scope Id: []

    No names in cache

Wi-Fi:
Node IpAddress: [192.168.43.155] Scope Id: []

    No names in cache

Local Area Connection* 3:
Node IpAddress: [0.0.0.0] Scope Id: []

    No names in cache

Local Area Connection* 16:
Node IpAddress: [192.168.137.1] Scope Id: []

    No names in cache
```

nbtstat -n

```
Command Prompt                                                              —  ☐  ✕
C:\Users\THARUN>nbtstat -n

VirtualBox Host-Only Network:
Node IpAddress: [169.254.23.166] Scope Id: []

            NetBIOS Local Name Table

    Name              Type         Status
    ---------------------------------------------
    WORKGROUP      <00>  GROUP      Registered
    LAPTOP-GE8IC6VU<20>  UNIQUE     Registered
    LAPTOP-GE8IC6VU<00>  UNIQUE     Registered

Wi-Fi:
Node IpAddress: [192.168.43.155] Scope Id: []

            NetBIOS Local Name Table

    Name              Type         Status
    ---------------------------------------------
    WORKGROUP      <00>  GROUP      Registered
    LAPTOP-GE8IC6VU<20>  UNIQUE     Registered
    LAPTOP-GE8IC6VU<00>  UNIQUE     Registered

Local Area Connection* 3:
Node IpAddress: [0.0.0.0] Scope Id: []

    No names in cache

Local Area Connection* 16:
Node IpAddress: [192.168.137.1] Scope Id: []

            NetBIOS Local Name Table

    Name              Type         Status
    ---------------------------------------------
    WORKGROUP      <00>  GROUP      Registered
    LAPTOP-GE8IC6VU<20>  UNIQUE     Registered
    LAPTOP-GE8IC6VU<00>  UNIQUE     Registered

C:\Users\THARUN>
```

nbtstat -r

```
C:\Users\THARUN>nbtstat -r

    NetBIOS Names Resolution and Registration Statistics
    ----------------------------------------------------

    Resolved By Broadcast      = 0
    Resolved By Name Server    = 0

    Registered By Broadcast    = 42
    Registered By Name Server  = 0
```

nbtstat -R

```
C:\Users\THARUN>nbtstat -R
    Failed to Purge the NBT Remote Cache Table.
    Failed to Purge the NBT Remote Cache Table.
    Failed to Purge the NBT Remote Cache Table.
    Failed to Purge the NBT Remote Cache Table.
```

nbtstat -RR

```
C:\Users\THARUN>nbtstat -RR
    Failed Release and Refresh of Registered names
    Access is denied
    Failed Release and Refresh of Registered names
    Access is denied
    Failed Release and Refresh of Registered names
    Access is denied
    Failed Release and Refresh of Registered names
    Access is denied
```

nbtstat -s

```
C:\Users\THARUN>nbtstat -s

VirtualBox Host-Only Network:
Node IpAddress: [169.254.23.166] Scope Id: []

    No Connections

Wi-Fi:
Node IpAddress: [192.168.43.155] Scope Id: []

    No Connections

Local Area Connection* 3:
Node IpAddress: [0.0.0.0] Scope Id: []

    No Connections

Local Area Connection* 16:
Node IpAddress: [192.168.137.1] Scope Id: []

    No Connections
```

nbtstat -S

```
C:\Users\THARUN>nbtstat -S

VirtualBox Host-Only Network:
Node IpAddress: [169.254.23.166] Scope Id: []

    No Connections

Wi-Fi:
Node IpAddress: [192.168.43.155] Scope Id: []

    No Connections

Local Area Connection* 3:
Node IpAddress: [0.0.0.0] Scope Id: []

    No Connections

Local Area Connection* 16:
Node IpAddress: [192.168.137.1] Scope Id: []

    No Connections
```

6. TRACERT

```
C:\Users\THARUN>tracert

Usage: tracert [-d] [-h maximum_hops] [-j host-list] [-w timeout]
               [-R] [-S srcaddr] [-4] [-6] target_name

Options:
    -d                 Do not resolve addresses to hostnames.
    -h maximum_hops    Maximum number of hops to search for target.
    -j host-list       Loose source route along host-list (IPv4-only).
    -w timeout         Wait timeout milliseconds for each reply.
    -R                 Trace round-trip path (IPv6-only).
    -S srcaddr         Source address to use (IPv6-only).
    -4                 Force using IPv4.
    -6                 Force using IPv6.
```