Computer Networks - Exp 2

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Aim

To study and execute different networking commands

Commands

1. ipconfig

IT stands for Internet Protocol Configuration.The ipconfig command lists the network interfaces attached to the PC along with other statistics such as the IP addresses associated with each interface, subnet mask and default gateway for all adapters. This is a command-line application which displays all the current TCP/IP(Transmission Control Protocol / Internet Protocol) network configuration, refreshes the DHCP (Dynamic Host Configuration Protocol) and DNS (Domain Name Server).

Display the basic TCP/IP configuration for all adapters

C:\Users\Greha>**ipconfig**

Windows IP Configuration

Unknown adapter ProtonVPN TUN:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :

Ethernet adapter vEthernet (WSL):

Connection-specific DNS Suffix . :

Link-local IPv6 Address . . . . . : fe80::494c:b6fa:cc57:d035%44
IPv4 Address. . . . . : 172.20.112.1
Subnet Mask . . . . . : 255.255.240.0
Default Gateway . . . . . :

Unknown adapter Local Area Connection:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :

Wireless LAN adapter Local Area Connection* 10:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :

Wireless LAN adapter Local Area Connection* 11:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :

Wireless LAN adapter Wi-Fi:

Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::6152:e1cb:609:f795%19
IPv4 Address. . . . . : 192.168.0.102
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.0.1

2. ipconfig -all

Displays the full TCP/IP configuration for all adapters. Adapters can represent physical interfaces, such as installed network adapters, or logical interfaces, such as dial-up connections.

Display the basic TCP/IP configuration for all adapters

C:\Users\Greha>**ipconfig -all**

Windows IP Configuration

Host Name . . . . . : DESKTOP-DC7H32B
Primary Dns Suffix . . . . . :

Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No

Unknown adapter ProtonVPN TUN:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
Description . . . . . : ProtonVPN Tunnel
Physical Address. . . . . :
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes

Ethernet adapter vEthernet (WSL):

Connection-specific DNS Suffix . :
Description . . . . . : Hyper-V Virtual Ethernet Adapter
Physical Address. . . . . : 00-15-5D-2D-16-84
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::494c:b6fa:cc57:d035%44(Preferred)
IPv4 Address. . . . . : 172.20.112.1(Preferred)
Subnet Mask . . . . . : 255.255.240.0
Default Gateway . . . . . :
DHCPv6 IAID . . . . . : 738202973
DHCPv6 Client DUID. . . . . : 00-01-00-01-28-F7-08-4D-64-6C-80-53-98-47
NetBIOS over Tcpip. . . . . : Enabled

Unknown adapter Local Area Connection:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
Description . . . . . : TAP-ProtonVPN Windows Adapter V9
Physical Address. . . . . : 00-FF-67-A2-02-8A
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes

Wireless LAN adapter Local Area Connection* 10:

Media State . . . . . : Media disconnected

Connection-specific DNS Suffix . :

Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter

Physical Address. . . . . : 66-6C-80-53-98-47

DHCP Enabled. . . . . : Yes

Autoconfiguration Enabled . . . . : Yes

Wireless LAN adapter Local Area Connection* 11:

Media State . . . . . : Media disconnected

Connection-specific DNS Suffix . :

Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter #2

Physical Address. . . . . : 76-6C-80-53-98-47

DHCP Enabled. . . . . : Yes

Autoconfiguration Enabled . . . . : Yes

Wireless LAN adapter Wi-Fi:

Connection-specific DNS Suffix . :

Description . . . . . : Qualcomm QCA61x4A 802.11ac Wireless Adapter

Physical Address. . . . . : 64-6C-80-53-98-47

DHCP Enabled. . . . . : Yes

Autoconfiguration Enabled . . . . : Yes

Link-local IPv6 Address . . . . . : fe80::6152:e1cb:609:f795%19(Preferred)

IPv4 Address. . . . . : 192.168.0.102(Preferred)

Subnet Mask . . . . . : 255.255.255.0

Lease Obtained. . . . . : Sunday, April 3, 2022 9:16:38 PM

Lease Expires . . . . . : Monday, April 4, 2022 4:17:42 AM

Default Gateway . . . . . : 192.168.0.1

DHCP Server . . . . . : 192.168.0.1

DHCPv6 IAID . . . . . : 291794048

DHCPv6 Client DUID. . . . . : 00-01-00-01-28-F7-08-4D-64-6C-80-53-98-47

DNS Servers . . . . . : 192.168.0.1

NetBIOS over Tcpip. . . . . : Enabled

3. ping

Short for packet internet groper, the ping command is used to check connectivity between 2 systems or servers.Verifies IP-level connectivity to another TCP/IP computer by sending Internet Control Message Protocol (ICMP) echo Request messages. The receipt of corresponding echo Reply messages are displayed, along with round-trip times. ping is the primary TCP/IP command used to troubleshoot connectivity, reachability, and name resolution. You can also use this command to test both the computer name and the IP address of the computer.

To ping the destination 10.120.63.65

C:\Users\Greha>**ping 192.168.0.102**
Pinging 192.168.0.102 with 32 bytes of data:
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.0.102:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms

4. ping -t

Specifies ping continue sending echo Request messages to the destination until interrupted. To interrupt and display statistics, press CTRL+ENTER. To interrupt and quit this command, press CTRL+C

To ping -t the destination 10.120.63.65

C:\Users\Greha>**ping -t 192.168.0.102**
Pinging 192.168.0.102 with 32 bytes of data:

Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128
Reply from 192.168.0.102: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.0.102:

Packets: Sent = 12, Received = 12, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

Control-C

^C

5. netstat

The netstat command displays a variety of network statistics about a computer's active TCP/IP connections. . It can display the routing table, ports that various services are listening on, and TCP connections. This command has a number of different functions, but the most useful of these is to display network summary information for the device.

Display network interfaces attached to your PC

C:\Users\Greha>**netstat**

Active Connections

Proto	Local Address	Foreign Address	State
TCP	127.0.0.1:49670	DESKTOP-DC7H32B:49671	ESTABLISHED

```
TCP    127.0.0.1:49671        DESKTOP-DC7H32B:49670  ESTABLISHED
TCP    127.0.0.1:49672        DESKTOP-DC7H32B:49673  ESTABLISHED
TCP    127.0.0.1:49673        DESKTOP-DC7H32B:49672  ESTABLISHED
TCP    127.0.0.1:54444        DESKTOP-DC7H32B:54445  ESTABLISHED
TCP    127.0.0.1:54445        DESKTOP-DC7H32B:54444  ESTABLISHED
TCP    127.0.0.1:58398        DESKTOP-DC7H32B:58399  ESTABLISHED
TCP    127.0.0.1:58399        DESKTOP-DC7H32B:58398  ESTABLISHED
TCP    127.0.0.1:58400        DESKTOP-DC7H32B:58401  ESTABLISHED
TCP    127.0.0.1:58401        DESKTOP-DC7H32B:58400  ESTABLISHED
TCP    127.0.0.1:58402        DESKTOP-DC7H32B:58403  ESTABLISHED
TCP    127.0.0.1:58403        DESKTOP-DC7H32B:58402  ESTABLISHED
TCP    127.0.0.1:58404        DESKTOP-DC7H32B:58405  ESTABLISHED
TCP    127.0.0.1:58405        DESKTOP-DC7H32B:58404  ESTABLISHED
TCP    127.0.0.1:61391        DESKTOP-DC7H32B:65001  ESTABLISHED
TCP    127.0.0.1:63143        DESKTOP-DC7H32B:63144  ESTABLISHED
TCP    127.0.0.1:63144        DESKTOP-DC7H32B:63143  ESTABLISHED
TCP    127.0.0.1:65001        DESKTOP-DC7H32B:61391  ESTABLISHED
TCP    192.168.0.102:49461    20.197.71.89:443       ESTABLISHED
TCP    192.168.0.102:49927    25:443                 TIME_WAIT
TCP    192.168.0.102:49930    ec2-52-10-149-213:443  TIME_WAIT
TCP    192.168.0.102:49931    ec2-52-10-149-213:443  TIME_WAIT
TCP    192.168.0.102:49933    200:443                TIME_WAIT
TCP    192.168.0.102:49935    ec2-52-10-149-213:443  TIME_WAIT
TCP    192.168.0.102:49936    ec2-52-10-149-213:443  TIME_WAIT
TCP    192.168.0.102:49937    162.125.69.19:443      ESTABLISHED
TCP    192.168.0.102:49939    200:443                TIME_WAIT
TCP    192.168.0.102:49940    ec2-52-10-149-213:443  TIME_WAIT
TCP    192.168.0.102:49941    ec2-52-10-149-213:443  TIME_WAIT
TCP    192.168.0.102:49942    151.101.154.248:443    ESTABLISHED
TCP    192.168.0.102:49943    ec2-35-81-100-74:443   ESTABLISHED
TCP    192.168.0.102:49944    ec2-35-81-100-74:443   ESTABLISHED
TCP    192.168.0.102:50464    162.125.19.9:443       ESTABLISHED
TCP    192.168.0.102:50546    219:443                ESTABLISHED
```

6. netstat -an

The netstat -an command prints out the TCP connections as well as UDP connections.

C:\Users\Greha>**netstat -an**

Active Connections

Proto	Local Address	Foreign Address	State
TCP	0.0.0.0:135	0.0.0.0:0	LISTENING
TCP	0.0.0.0:445	0.0.0.0:0	LISTENING
TCP	0.0.0.0:3306	0.0.0.0:0	LISTENING
TCP	0.0.0.0:5040	0.0.0.0:0	LISTENING
TCP	0.0.0.0:5700	0.0.0.0:0	LISTENING
TCP	0.0.0.0:6646	0.0.0.0:0	LISTENING
TCP	0.0.0.0:7680	0.0.0.0:0	LISTENING
TCP	0.0.0.0:17500	0.0.0.0:0	LISTENING
TCP	0.0.0.0:27121	0.0.0.0:0	LISTENING
TCP	0.0.0.0:33060	0.0.0.0:0	LISTENING
TCP	0.0.0.0:49664	0.0.0.0:0	LISTENING
TCP	0.0.0.0:49665	0.0.0.0:0	LISTENING
TCP	0.0.0.0:49666	0.0.0.0:0	LISTENING
TCP	0.0.0.0:49667	0.0.0.0:0	LISTENING
TCP	0.0.0.0:49668	0.0.0.0:0	LISTENING
TCP	0.0.0.0:49674	0.0.0.0:0	LISTENING
TCP	127.0.0.1:843	0.0.0.0:0	LISTENING
TCP	127.0.0.1:6463	0.0.0.0:0	LISTENING
TCP	127.0.0.1:8884	0.0.0.0:0	LISTENING
TCP	127.0.0.1:9012	0.0.0.0:0	LISTENING
TCP	127.0.0.1:17600	0.0.0.0:0	LISTENING
TCP	127.0.0.1:27017	0.0.0.0:0	LISTENING
TCP	127.0.0.1:49670	127.0.0.1:49671	ESTABLISHED
TCP	127.0.0.1:49671	127.0.0.1:49670	ESTABLISHED

```
TCP    127.0.0.1:49672        127.0.0.1:49673        ESTABLISHED
TCP    127.0.0.1:49673        127.0.0.1:49672        ESTABLISHED
TCP    127.0.0.1:49702        0.0.0.0:0              LISTENING
TCP    127.0.0.1:54444        127.0.0.1:54445        ESTABLISHED
TCP    127.0.0.1:54445        127.0.0.1:54444        ESTABLISHED
TCP    127.0.0.1:58398        127.0.0.1:58399        ESTABLISHED
TCP    127.0.0.1:58399        127.0.0.1:58398        ESTABLISHED
TCP    127.0.0.1:58400        127.0.0.1:58401        ESTABLISHED
TCP    127.0.0.1:58401        127.0.0.1:58400        ESTABLISHED
TCP    127.0.0.1:58402        127.0.0.1:58403        ESTABLISHED
TCP    127.0.0.1:58403        127.0.0.1:58402        ESTABLISHED
TCP    127.0.0.1:58404        127.0.0.1:58405        ESTABLISHED
TCP    127.0.0.1:58405        127.0.0.1:58404        ESTABLISHED
TCP    127.0.0.1:61391        127.0.0.1:65001        ESTABLISHED
TCP    127.0.0.1:61589        0.0.0.0:0              LISTENING
TCP    127.0.0.1:63143        127.0.0.1:63144        ESTABLISHED
TCP    127.0.0.1:63144        127.0.0.1:63143        ESTABLISHED
TCP    127.0.0.1:65001        0.0.0.0:0              LISTENING
TCP    127.0.0.1:65001        127.0.0.1:61391        ESTABLISHED
TCP    172.20.112.1:139       0.0.0.0:0              LISTENING
TCP    192.168.0.102:139      0.0.0.0:0              LISTENING
TCP    192.168.0.102:49461    20.197.71.89:443       ESTABLISHED
TCP    192.168.0.102:49948    35.81.100.74:443       TIME_WAIT
TCP    192.168.0.102:49949    35.81.100.74:443       TIME_WAIT
TCP    192.168.0.102:49950    13.67.9.5:443          TIME_WAIT
TCP    192.168.0.102:49954    35.81.100.74:443       TIME_WAIT
TCP    192.168.0.102:49955    35.81.100.74:443       TIME_WAIT
TCP    192.168.0.102:49958    20.54.24.246:443       TIME_WAIT
TCP    192.168.0.102:49959    20.54.24.246:443       ESTABLISHED
TCP    192.168.0.102:49961    35.81.100.74:443       TIME_WAIT
TCP    192.168.0.102:49962    35.81.100.74:443       TIME_WAIT
TCP    192.168.0.102:49964    35.81.100.74:443       TIME_WAIT
TCP    192.168.0.102:49965    35.81.100.74:443       TIME_WAIT
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TCP    192.168.0.102:49967    13.107.213.68:443      ESTABLISHED
TCP    192.168.0.102:49969    35.197.154.200:443     TIME_WAIT
TCP    192.168.0.102:49971    52.114.16.141:443      TIME_WAIT
TCP    192.168.0.102:49972    54.149.54.1:443        TIME_WAIT
TCP    192.168.0.102:49973    54.149.54.1:443        TIME_WAIT
TCP    192.168.0.102:49974    35.197.154.200:443     TIME_WAIT
TCP    192.168.0.102:49975    35.82.117.62:443       TIME_WAIT
TCP    192.168.0.102:49976    35.186.224.13:443      TIME_WAIT
TCP    192.168.0.102:49978    35.82.117.62:443       TIME_WAIT
TCP    192.168.0.102:49980    13.69.116.104:443      TIME_WAIT
TCP    192.168.0.102:49981    13.69.116.104:443      TIME_WAIT
TCP    192.168.0.102:49982    54.149.54.1:443        ESTABLISHED
TCP    192.168.0.102:49983    54.149.54.1:443        ESTABLISHED
TCP    192.168.0.102:49984    35.186.224.13:443      ESTABLISHED
TCP    192.168.0.102:49985    35.186.224.25:443      ESTABLISHED
TCP    192.168.0.102:49986    151.101.154.248:443    ESTABLISHED
TCP    192.168.0.102:49987    151.101.154.248:443    ESTABLISHED
TCP    192.168.0.102:49988    151.101.154.248:443    ESTABLISHED
TCP    192.168.0.102:50464    162.125.19.9:443       ESTABLISHED
TCP    192.168.0.102:50546    35.247.144.219:443     ESTABLISHED
TCP    192.168.0.102:50892    35.186.224.39:443      ESTABLISHED
TCP    192.168.0.102:54328    162.159.130.234:443    ESTABLISHED
TCP    192.168.0.102:56329    35.186.224.47:443      ESTABLISHED
TCP    192.168.0.102:56334    54.159.116.102:443     ESTABLISHED
TCP    192.168.0.102:56336    23.98.104.194:443      ESTABLISHED
TCP    192.168.0.102:56338    20.197.71.89:443       ESTABLISHED
TCP    192.168.0.102:57035    52.114.32.217:443      ESTABLISHED
TCP    192.168.0.102:57036    13.76.153.29:443       ESTABLISHED
TCP    192.168.0.102:60293    162.125.19.131:443     ESTABLISHED
TCP    192.168.0.102:60854    31.13.79.53:443        ESTABLISHED
TCP    192.168.0.102:63391    35.186.224.25:443      TIME_WAIT
TCP    192.168.0.102:64232    52.114.14.201:443      ESTABLISHED
TCP    192.168.0.102:65206    104.40.53.219:443      CLOSE_WAIT
```

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TCP    192.168.0.102:65211    52.177.138.113:443     CLOSE_WAIT
TCP    [::]:135               [::]:0                 LISTENING
TCP    [::]:445               [::]:0                 LISTENING
TCP    [::]:3306              [::]:0                 LISTENING
TCP    [::]:5700              [::]:0                 LISTENING
TCP    [::]:7680              [::]:0                 LISTENING
TCP    [::]:17500             [::]:0                 LISTENING
TCP    [::]:27121             [::]:0                 LISTENING
TCP    [::]:33060             [::]:0                 LISTENING
TCP    [::]:49664             [::]:0                 LISTENING
TCP    [::]:49665             [::]:0                 LISTENING
TCP    [::]:49666             [::]:0                 LISTENING
TCP    [::]:49667             [::]:0                 LISTENING
TCP    [::]:49668             [::]:0                 LISTENING
TCP    [::]:49674             [::]:0                 LISTENING
TCP    [::1]:49669            [::]:0                 LISTENING
UDP    0.0.0.0:53             *:*
UDP    0.0.0.0:500            *:*
UDP    0.0.0.0:4500           *:*
UDP    0.0.0.0:5050           *:*
UDP    0.0.0.0:5353           *:*
UDP    0.0.0.0:5355           *:*
UDP    0.0.0.0:6646           *:*
UDP    0.0.0.0:17500          *:*
UDP    0.0.0.0:51205          *:*
UDP    0.0.0.0:51206          *:*
UDP    0.0.0.0:51894          *:*
UDP    0.0.0.0:54227          *:*
UDP    0.0.0.0:54868          *:*
UDP    0.0.0.0:54939          142.251.42.42:443
UDP    0.0.0.0:57229          *:*
UDP    0.0.0.0:58611          162.159.135.232:443
UDP    0.0.0.0:59157          *:*
```

```
UDP    0.0.0.0:59867          *:*
UDP    0.0.0.0:59911          *:*
UDP    0.0.0.0:61404          *:*
UDP    0.0.0.0:63701          142.250.183.78:443
UDP    127.0.0.1:1900         *:*
UDP    127.0.0.1:10040        *:*
UDP    127.0.0.1:49664        127.0.0.1:49664
UDP    127.0.0.1:51785        *:*
UDP    127.0.0.1:53104        *:*
UDP    172.20.112.1:137       *:*
UDP    172.20.112.1:138       *:*
UDP    172.20.112.1:1900      *:*
UDP    172.20.112.1:2177      *:*
UDP    172.20.112.1:5353      *:*
UDP    172.20.112.1:51783     *:*
UDP    192.168.0.102:137      *:*
UDP    192.168.0.102:138      *:*
UDP    192.168.0.102:1900     *:*
UDP    192.168.0.102:2177     *:*
UDP    192.168.0.102:5353     *:*
UDP    192.168.0.102:51784    *:*
UDP    [::]:500               *:*
UDP    [::]:4500              *:*
UDP    [::]:5353              *:*
UDP    [::]:5355              *:*
UDP    [::]:51207             *:*
UDP    [::]:51894             *:*
UDP    [::]:54227             *:*
UDP    [::]:54868             *:*
UDP    [::]:57229             *:*
UDP    [::]:59158             *:*
UDP    [::]:59867             *:*
UDP    [::]:59911             *:*
```

```
UDP    [::]:61404             *:*
UDP    [::1]:1900             *:*
UDP    [::1]:5353             *:*
UDP    [::1]:51782            *:*
UDP    [fe80::494c:b6fa:cc57:d035%44]:1900  *:*
UDP    [fe80::494c:b6fa:cc57:d035%44]:2177  *:*
UDP    [fe80::494c:b6fa:cc57:d035%44]:51780  *:*
UDP    [fe80::6152:e1cb:609:f795%19]:1900  *:*
UDP    [fe80::6152:e1cb:609:f795%19]:2177  *:*
UDP    [fe80::6152:e1cb:609:f795%19]:51781  *:*
```

7. pathping

Provides information about network latency and network loss at intermediate hops between a source and destination. This command sends multiple echo Request messages to each router between a source and destination, over a period of time, and then computes results based on the packets returned from each router. Because this command displays the degree of packet loss at any given router or link, you can determine which routers or subnets might be having network problems

Path pinging www.mu.ac.in

C:\Users\Greha>**pathping www.mu.ac.in**

Tracing route to www.mu.ac.in [14.139.125.195]

over a maximum of 30 hops:

```
 0  DESKTOP-DC7H32B [192.168.0.102]
 1  192.168.0.1
 2  100.93.152.1
 3  114.79.129.57.dvois.com [114.79.129.57]
 4    *        *        *
```

Computing statistics for 75 seconds...

^C

8. arp -a

The ARP command corresponds to the Address Resolution Protocol. Although it is easy to think of network communications in terms of IP addressing, packet delivery is ultimately dependent on the Media Access Control (MAC) address of the device's network adapter. This is where the Address Resolution Protocol comes into play. Its job is to map IP addresses to MAC addresses.

C:\Users\Greha>**arp -a**

Interface: 192.168.0.102 --- 0x13

Internet Address	Physical Address	Type
192.168.0.1	b0-be-76-41-f4-f2	dynamic
192.168.0.122	62-a4-b7-09-91-62	dynamic
192.168.0.200	62-a4-b7-09-91-62	dynamic
192.168.0.255	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

Interface: 172.20.112.1 --- 0x2c

Internet Address	Physical Address	Type
172.20.127.255	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

9. nslookup

The nslookup utility is a command-line tool that is used for making DNS lookups in a bid to retrieve domain names and A records. Type the nslookup command, and Windows will display the name and IP address of the device's default DNS server. From there, you can type host names in an effort to see if the DNS server is able to resolve the specified host name.

C:\Users\Greha>**nslookup**
Default Server: UnKnown
Address: 192.168.0.1

>