

EXPERIMENT NO : 1.2

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AIM :

Implement all the networking commands and show their working output.

REQUIREMENTS :

COMMAND PROMPT

STEPS :

OPEN CMD AS ADMINISTRATOR AND TYPE THESE COMMAND FOR OUTPUTS :

- 1. Ping*
- 2. Ipconfig*
- 3. Tracert*
- 4. Nslookup*
- 5. Netstat*
- 6. Arp*
- 7. Hostname*

- 1. PING : The ping command is used to test connectivity between two hosts.*

COMMAND : ping google.com

OUTPUT:

```
Microsoft Windows [Version 10.0.19044.1526]
(c) Microsoft Corporation. All rights reserved.

C:\Users\palla>ping google.com

Pinging google.com [2404:6800:4002:806::200e] with 32 bytes of data:
Request timed out.
Reply from 2404:6800:4002:806::200e: time=164ms
Reply from 2404:6800:4002:806::200e: time=81ms
Reply from 2404:6800:4002:806::200e: time=94ms

Ping statistics for 2404:6800:4002:806::200e:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 81ms, Maximum = 164ms, Average = 113ms
```

2. IPCONFIG:

This command displays all the current TCP/IP network configuration values and refreshes Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS) settings.

COMMAND: *ipconfig*

OUTPUT:

```
C:\Users\palla>ipconfig

Windows IP Configuration

Wireless LAN adapter Local Area Connection* 1:

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

Wireless LAN adapter Local Area Connection* 2:

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

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix  . :
    IPv6 Address. . . . . : 2409:4064:a0a:6a7f:87c:127d:5800:5916
    Temporary IPv6 Address. . . . . : 2409:4064:a0a:6a7f:14cc:dba0:33b4:e0f0
    Link-local IPv6 Address . . . . . : fe80::87c:127d:5800:5916%15
    IPv4 Address. . . . . : 192.168.174.74
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : fe80::e845:9eff:fe20:a743%15
                                192.168.174.214

Ethernet adapter Bluetooth Network Connection:

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

3. TRACERT:

This command is used to diagnose path related problems.

COMMAND : *tracert www.google.co.in*

OUTPUT:

```
Command Prompt

C:\Users\palla>tracert www. google .in
Unable to resolve target system name www..

C:\Users\palla>tracert www.google.in

Tracing route to www.google.in [2404:6800:4002:80b::2003]
over a maximum of 30 hops:

  1  223 ms    3 ms    4 ms  2409:4064:a0a:6a7f::a0
  2  *         *         *    Request timed out.
  3  62 ms     37 ms   38 ms 2405:200:313:a161:4::ff0f
  4  206 ms    60 ms   38 ms 2405:200:801:1000::1e3a
  5  114 ms    31 ms   38 ms 2405:200:801:1000::1e39
  6  80 ms     43 ms   72 ms 2405:200:801:500::1d
  7  84 ms     388 ms 87 ms 2001:4860:1:1::1ea2
  8  152 ms    107 ms  77 ms 2001:4860:1:1::1ea2
  9  193 ms    94 ms   78 ms 2404:6800:811d::1
 10  59 ms     *         *    2001:4860:0:1::34f0
 11  84 ms     60 ms   84 ms 2001:4860:0:1a::3
 12  59 ms     78 ms   79 ms 2001:4860:0:11dd::1
 13  96 ms     *         69 ms 2001:4860:0:1::1823
 14  107 ms    77 ms   79 ms del03s16-in-x03.1e100.net [2404:6800:4002:80b::2003]

Trace complete.
```

4. NSLOOKUP:

NSlookup is a great utility for diagnosing DNS name resolution problems. Just type the NSlookup command and Window will display the name and IP address of the device's default DNS server.

COMMAND : *nslookup*

OUTPUT:

```
Trace complete.

C:\Users\palla>NSLOOKUP
Default Server: UnKnown
Address: 192.168.174.214

>
```

5.NETSTAT:

The command displays active connections, ports on which the computer is listening , Ethernet statistics , the IP routing table and IP statistics.

COMMAND : *netstat*

OUTPUT:

```
Command Prompt
Microsoft Windows [Version 10.0.19044.1526]
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C:\Users\palla>netstat

Active Connections

Proto Local Address           Foreign Address         State
TCP    192.168.174.74:49410    20.198.162.76:https    ESTABLISHED
TCP    192.168.174.74:63038    200:https              ESTABLISHED
TCP    192.168.174.74:63051    a23-213-95-111:http    TIME_WAIT
TCP    192.168.174.74:63052    20.44.229.112:https    ESTABLISHED
TCP    192.168.174.74:63057    219:https              ESTABLISHED
TCP    192.168.174.74:63060    204.79.197.254:https    ESTABLISHED
TCP    192.168.174.74:63061    204.79.197.222:https    ESTABLISHED
TCP    [2409:4064:a0a:6a7f:d92b:69ab:a44:f87a]:62989 sd-in-f188:5228        ESTABLISHED
TCP    [2409:4064:a0a:6a7f:d92b:69ab:a44:f87a]:63053 [2620:1ec:c11::200]:https TIME_WAIT
TCP    [2409:4064:a0a:6a7f:d92b:69ab:a44:f87a]:63054 [2620:1ec:c11::200]:https TIME_WAIT
TCP    [2409:4064:a0a:6a7f:d92b:69ab:a44:f87a]:63055 [2620:1ec:c11::200]:https ESTABLISHED
TCP    [2409:4064:a0a:6a7f:d92b:69ab:a44:f87a]:63058 [2620:1ec:bdf::254]:https ESTABLISHED
TCP    [2409:4064:a0a:6a7f:d92b:69ab:a44:f87a]:63059 [2606:2800:147:120f:30c:1ba0:fc6:265a]:https ESTABLISHED
```

6. Arp :

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.

COMMAND : *Arp -a*

OUTPUT :

```
Command Prompt
TCP    [2409:4064:a0a:6a7f:d92b:69ab:a44:f87a]:63053 [2620:1ec:c11::200]:https TIME_WA
TCP    [2409:4064:a0a:6a7f:d92b:69ab:a44:f87a]:63054 [2620:1ec:c11::200]:https TIME_WA
TCP    [2409:4064:a0a:6a7f:d92b:69ab:a44:f87a]:63055 [2620:1ec:c11::200]:https ESTABL
TCP    [2409:4064:a0a:6a7f:d92b:69ab:a44:f87a]:63058 [2620:1ec:bdf::254]:https ESTABL
TCP    [2409:4064:a0a:6a7f:d92b:69ab:a44:f87a]:63059 [2606:2800:147:120f:30c:1ba0:fc6:2

C:\Users\palla>arp -a


Interface: 192.168.174.74 --- 0xf
Internet Address      Physical Address      Type
192.168.174.214       ea-45-9e-20-a7-43     dynamic
192.168.174.255       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
```

7. HOSTNAME :

Typing Hostname at the command prompt returns the local computer name.

COMMAND : *hostname*

OUTPUT:



C:\> Command Prompt

Microsoft Windows [Version 10.0.19044.1526]
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C:\Users\palla>hostname
LAPTOP-CSUR06LJ

C:\Users\palla>

Thank you.....