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CY201 Basic Network Commands

Lab:

Ping Google/Gogl:

```
Pinging google.com [172.217.9.78] with 32 bytes of data:
Reply from 172.217.9.78: bytes=32 time=18ms TTL=50
Reply from 172.217.9.78: bytes=32 time=18ms TTL=50
Reply from 172.217.9.78: bytes=32 time=18ms TTL=50
Reply from 172.217.9.78: bytes=32 time=20ms TTL=50

Ping statistics for 172.217.9.78:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 18ms, Maximum = 20ms, Average = 18ms

C:\>ping gogl.com

Pinging gogl.com [69.162.80.57] with 32 bytes of data:
Request timed out.
Reply from 69.162.80.57: bytes=32 time=35ms TTL=48
Reply from 69.162.80.57: bytes=32 time=36ms TTL=48
Reply from 69.162.80.57: bytes=32 time=35ms TTL=48

Ping statistics for 69.162.80.57:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 35ms, Maximum = 36ms, Average = 35ms
```

IPConfig:

```
C:\>ipconfig

Windows IP Configuration


Ethernet adapter Ethernet 2:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::a599:46f:860a:bed4%11
   IPv4 Address. . . . . . . . . . . : 192.168.2.232
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.2.1
```

Tracert:

```
C:\>tracert google.com

Tracing route to google.com [172.217.9.78]
over a maximum of 30 hops:

  1    <1 ms    <1 ms    <1 ms  router.asus.com [192.168.2.1]
  2     *        *        *     Request timed out.
  3     9 ms     8 ms     9 ms  96-34-57-104.static.unas.mo.charter.com [96.34.57.104]
  4    12 ms    12 ms    12 ms  nxs01olvemo-eth-1-4.olve.mo.charter.com [96.34.49.177]
  5    16 ms    15 ms    15 ms  bbr01blvlil-bue-110.blvl.il.charter.com [96.34.2.170]
  6    19 ms    15 ms    15 ms  bbr01olvemo-bue-3.olve.mo.charter.com [96.34.0.14]
  7    19 ms    24 ms    23 ms  bbr02chcgil-bue-2.chcg.il.charter.com [96.34.0.12]
  8    18 ms    19 ms    22 ms  prr01chcgil-bue-4.chcg.il.charter.com [96.34.3.11]
  9    17 ms    18 ms    18 ms  prr01chcgil-gbe-0-7-0-3.chcg.il.charter.com [96.34.152.117]
 10    24 ms    21 ms    25 ms  216.239.51.189
 11    22 ms    17 ms    18 ms  72.14.239.115
 12    19 ms    19 ms    19 ms  ord38s09-in-f14.1e100.net [172.217.9.78]

Trace complete.
```

Netstat:

```
C:\>netstat

Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    127.0.0.1:5354         DESKTOP-A7UIP6V:54993  ESTABLISHED
  TCP    127.0.0.1:5354         DESKTOP-A7UIP6V:54994  ESTABLISHED
  TCP    127.0.0.1:54879        DESKTOP-A7UIP6V:65001  ESTABLISHED
  TCP    127.0.0.1:54993        DESKTOP-A7UIP6V:5354   ESTABLISHED
  TCP    127.0.0.1:54994        DESKTOP-A7UIP6V:5354   ESTABLISHED
  TCP    127.0.0.1:65001        DESKTOP-A7UIP6V:54879  ESTABLISHED
  TCP    192.168.2.232:55018    52.230.222.68:https    ESTABLISHED
  TCP    192.168.2.232:55137    47:https               ESTABLISHED
  TCP    192.168.2.232:55183    ord36s04-in-f106:https  CLOSE_WAIT
  TCP    192.168.2.232:55184    ord38s01-in-f10:https  ESTABLISHED
  TCP    192.168.2.232:55189    ord36s04-in-f106:https  CLOSE_WAIT
  TCP    192.168.2.232:55269    HP1E272C:8080          ESTABLISHED
  TCP    192.168.2.232:60630    do-39:https            ESTABLISHED
  TCP    192.168.2.232:60634    192.168.2.125:8009     ESTABLISHED
  TCP    192.168.2.232:60635    Chromecast:8009        ESTABLISHED
  TCP    192.168.2.232:60648    74.125.124.188:5228    ESTABLISHED
  TCP    192.168.2.232:60866    ord37s09-in-f13:https  CLOSE_WAIT
  TCP    192.168.2.232:61171    216:4070               ESTABLISHED
  TCP    192.168.2.232:61178    47:https               ESTABLISHED
  TCP    192.168.2.232:61754    162.159.135.234:https  ESTABLISHED
  TCP    192.168.2.232:62202    104.22.7.150:https     TIME_WAIT
  TCP    192.168.2.232:62528    112:https              ESTABLISHED
  TCP    192.168.2.232:62532    104.19.143.111:https   ESTABLISHED
  TCP    192.168.2.232:62533    208:https              ESTABLISHED
```

ARP -a:

```
C:\>arp -a

Interface: 192.168.2.232 --- 0xb
  Internet Address      Physical Address      Type
  192.168.2.1           04-d4-c4-37-e2-58     dynamic
  192.168.2.125         54-60-09-44-40-68     dynamic
  192.168.2.126         e4-f0-42-b1-c9-fc     dynamic
  192.168.2.160         f0-92-1c-1e-27-2c     dynamic
  192.168.2.255         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
```

NSLookup Google:

```
C:\>nslookup google.com
Server:  router.asus.com
Address:  192.168.2.1

Non-authoritative answer:
Name:    google.com
Addresses:  2607:f8b0:4009:803::200e
          172.217.9.78
```

Post-Lab Questions:

1. Which command – line utility program is used to find the primary DNS suffix, IP v4 and IP v6 addresses for your computer?

IPConfig /all

2. The ---------- command causes a data packet to be sent to a specific IP address and then returns to the initiating machine.

Ping

3. Which command detects whether routers along a communication path are functioning?

Tracert

4. Which utility program is used to examine current network connections?

NETSTAT

5. The ---------- utility is used to map IP addresses to MAC address.

ARP

6. Which utility command is used to examine a list of all the shared devices on a LAN?

net view