Basic Computer Networks and network commands

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Network components

Modem

Router

Repeater

switch

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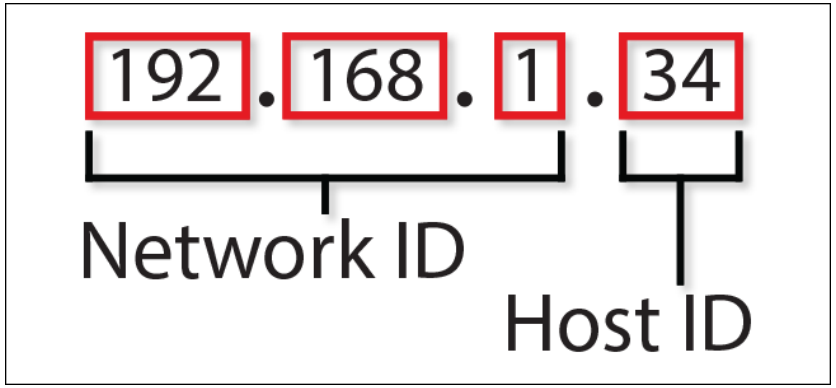
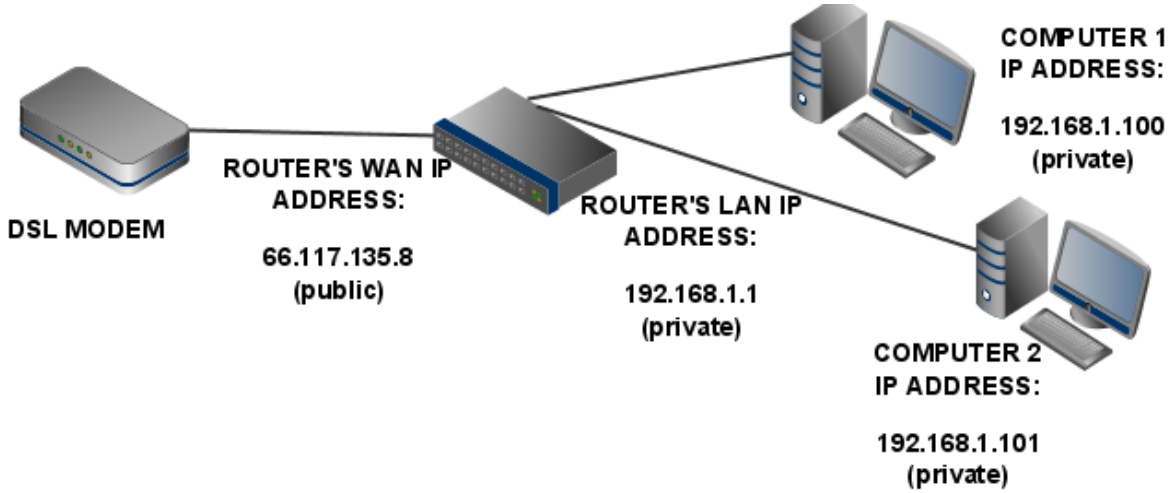
IP_Address





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Protocol & Port

Definition for protocol:

Network Protocols are a set of rules governing exchange of information in an easy, reliable and secure way. Before we discuss the most common protocols used

Definition for port:

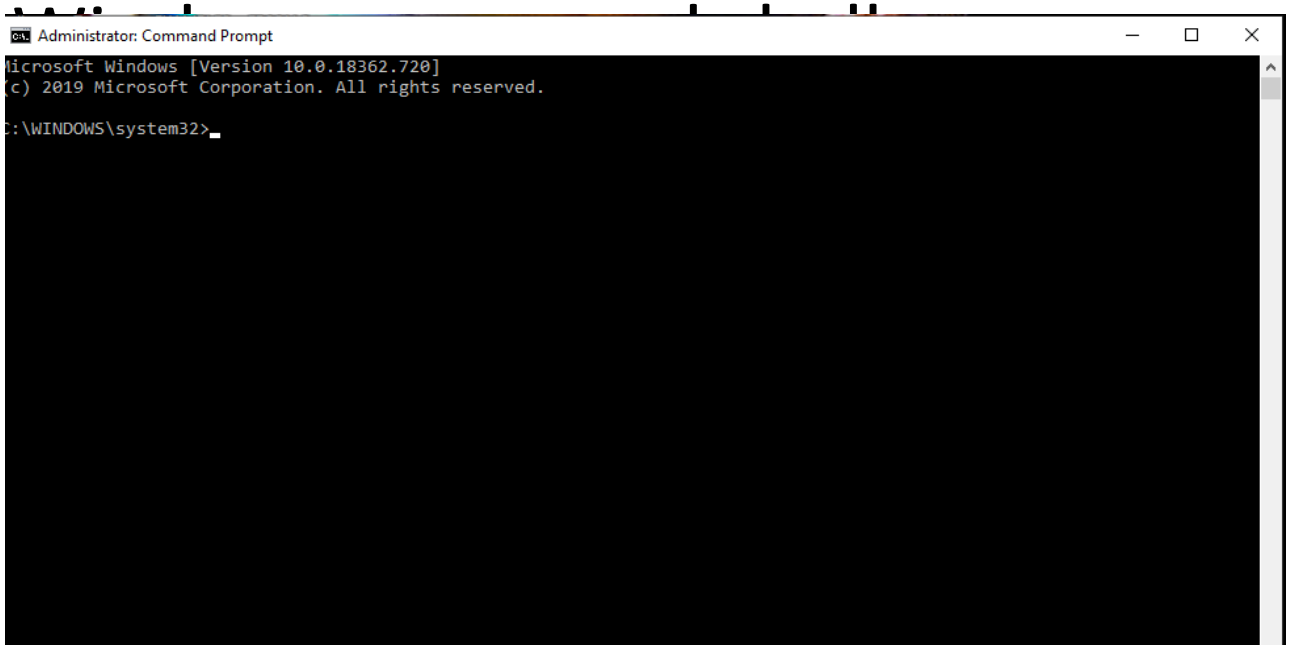
A port number is a way to identify a specific process to which an Internet or other network message is to be forwarded when it arrives at a server.

Port #	Protocol
21	FTP Control
20	FTP Data
23	Telnet
25	SMTP
53	DNS
80	HTTP
110	POP3
143	IMAP
443	HTTPS

Practical session

Basic networking commands

Network commands



Discussing following commands

- ✓ Ping
- ✓ Ipconfig
- ✓ HOST Tracert & nslookup
- ✓ Netstat
- ✓ Arp -a

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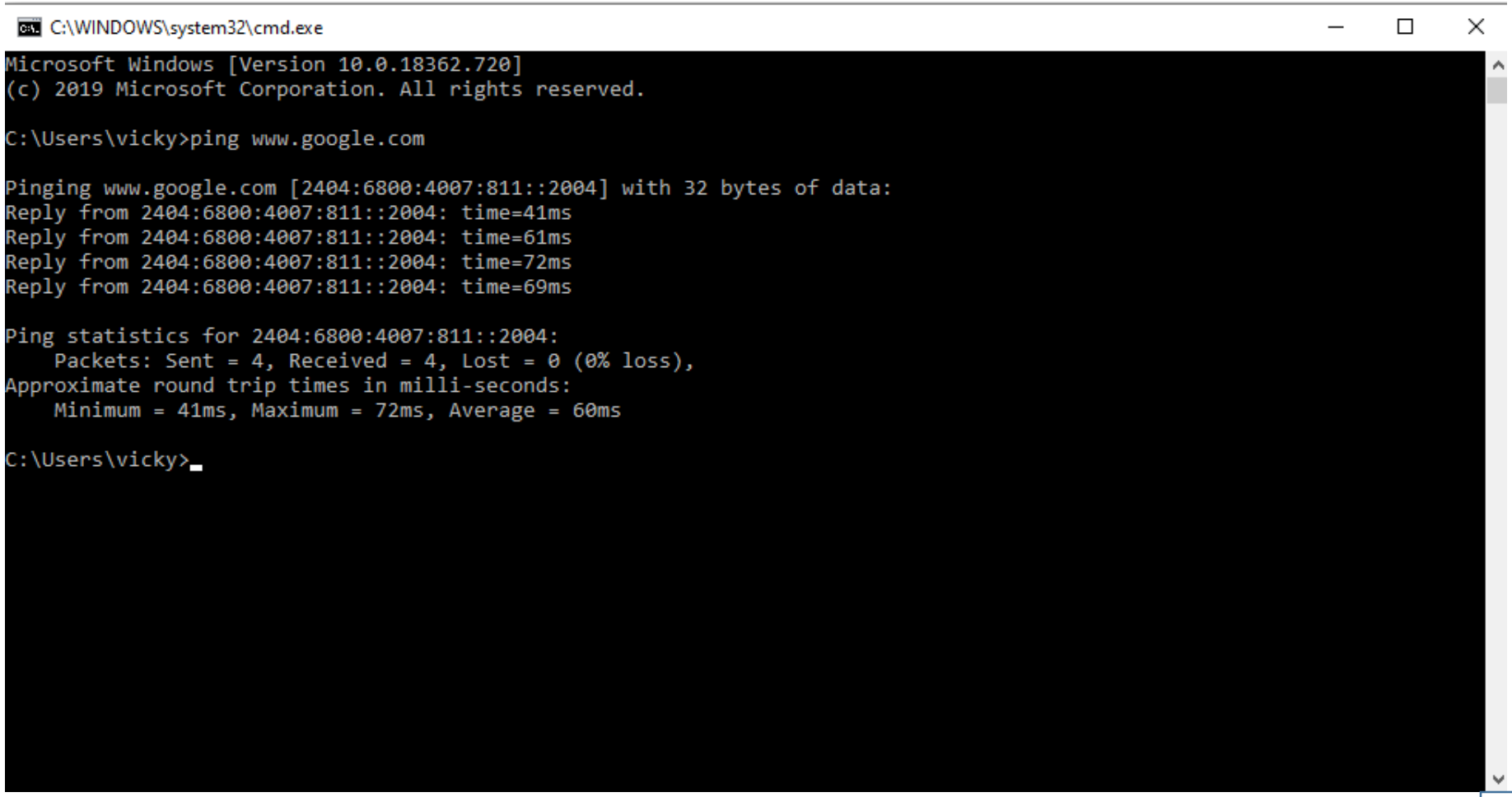
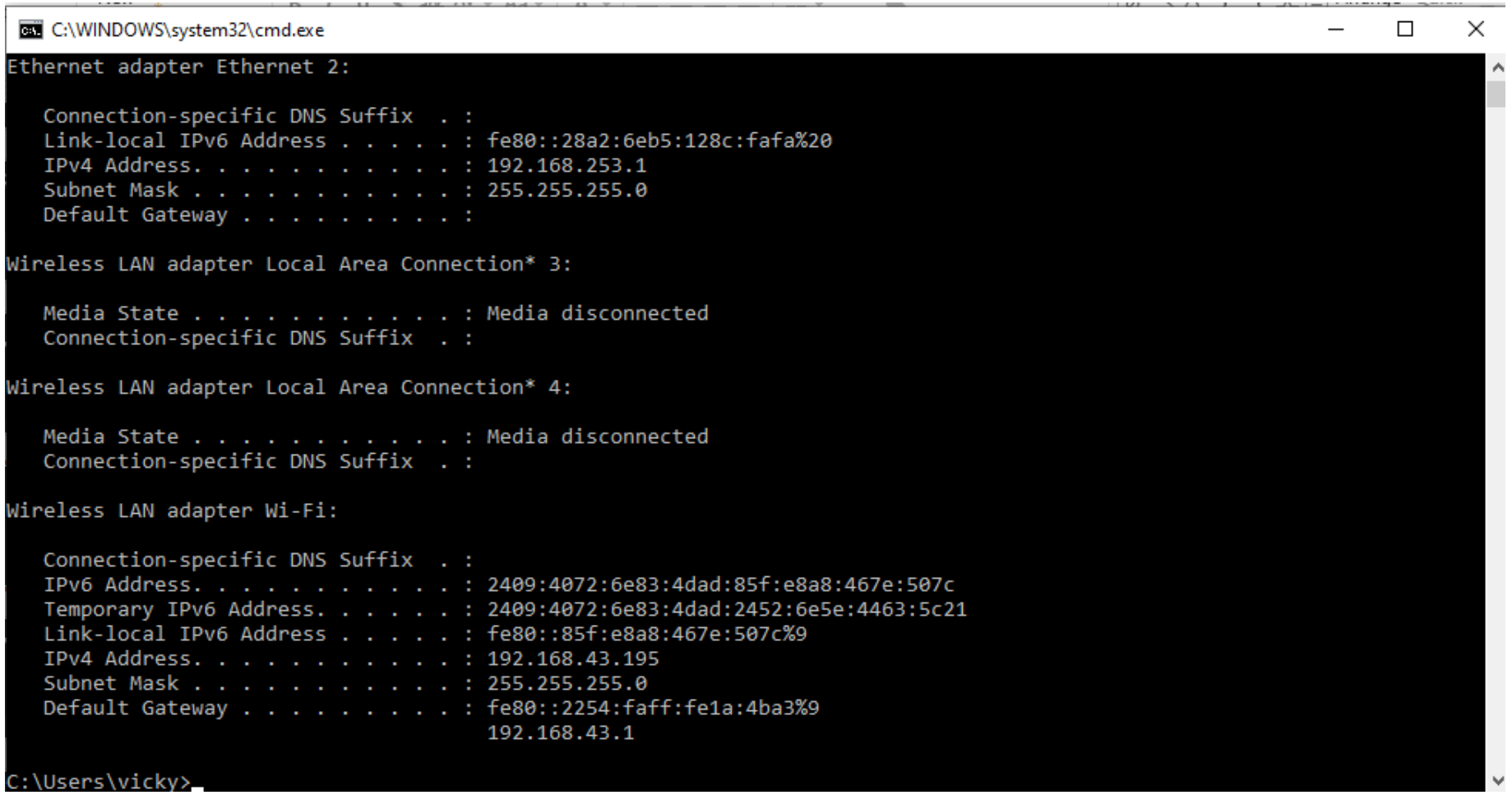
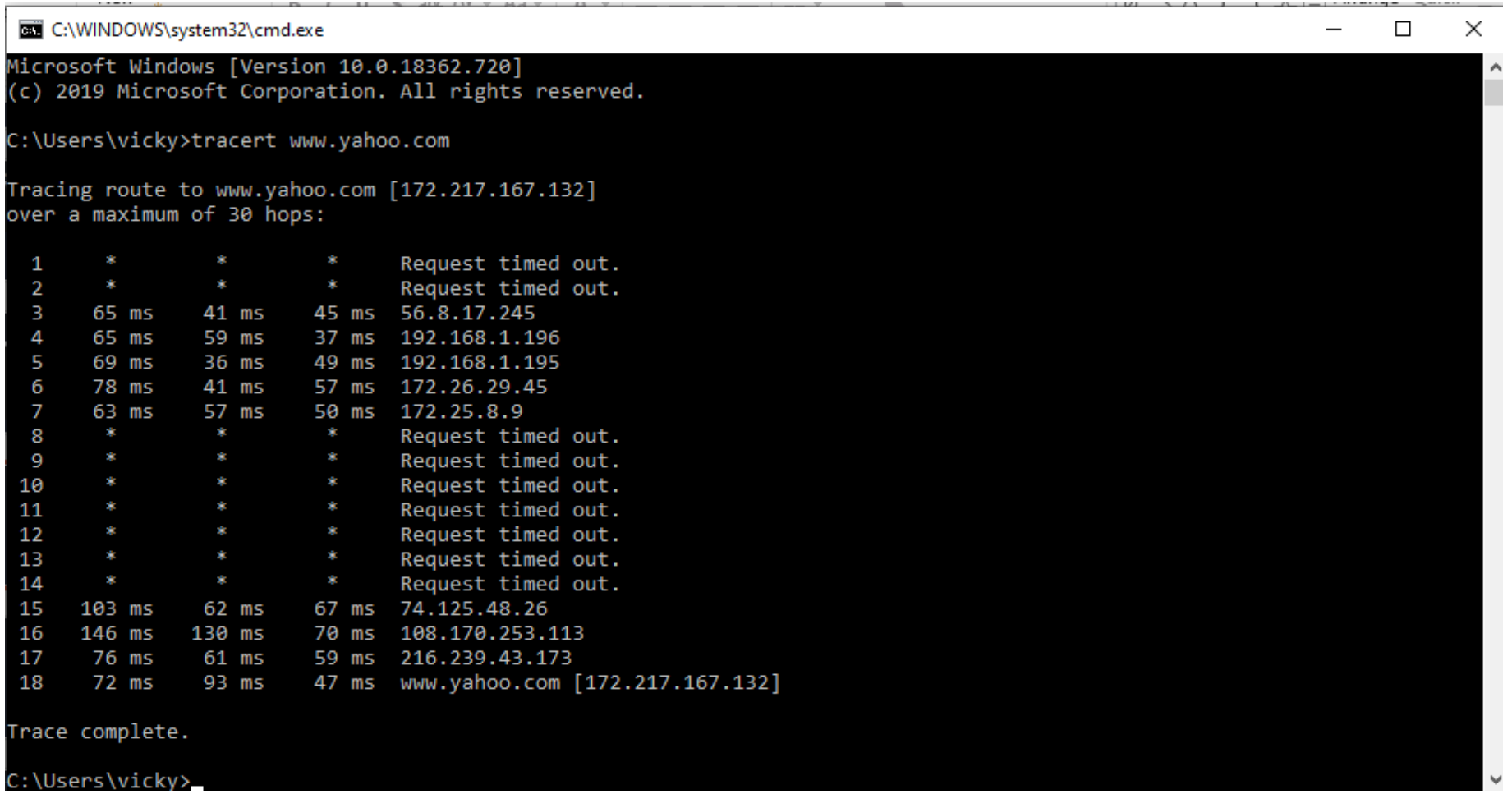
Ping


C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.18362.720]
(c) 2019 Microsoft Corporation. All rights reserved.
C:\Users\vicky>ping www.google.com
Pinging www.google.com [2404:6800:4007:811::2004] with 32 bytes of data:
Reply from 2404:6800:4007:811::2004: time=41ms
Reply from 2404:6800:4007:811::2004: time=61ms
Reply from 2404:6800:4007:811::2004: time=72ms
Reply from 2404:6800:4007:811::2004: time=69ms
Ping statistics for 2404:6800:4007:811::2004:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 41ms, Maximum = 72ms, Average = 60ms
C:\Users\vicky>

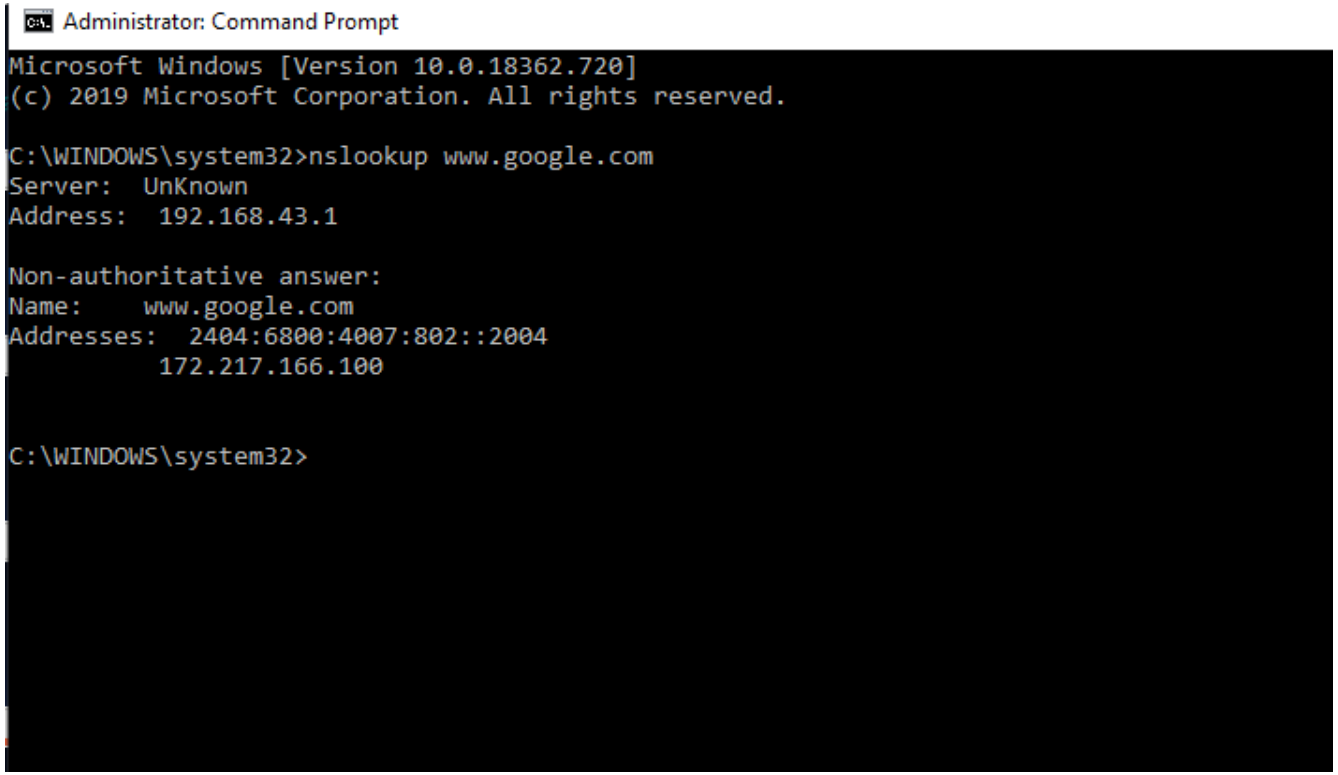
Ipconfig


C:\WINDOWS\system32\cmd.exe
Ethernet adapter Ethernet 2:
Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::28a2:6eb5:128c:fafa%20
IPv4 Address. . . . . : 192.168.253.1
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
Wireless LAN adapter Local Area Connection* 3:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
Wireless LAN adapter Local Area Connection* 4:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
Wireless LAN adapter Wi-Fi:
Connection-specific DNS Suffix . :
IPv6 Address. . . . . : 2409:4072:6e83:4dad:85f:e8a8:467e:507c
Temporary IPv6 Address. . . . . : 2409:4072:6e83:4dad:2452:6e5e:4463:5c21
Link-local IPv6 Address . . . . . : fe80::85f:e8a8:467e:507c%9
IPv4 Address. . . . . : 192.168.43.195
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : fe80::2254:faff:fe1a:4ba3%9
192.168.43.1
C:\Users\vicky>

Tracert


C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.18362.720]
(c) 2019 Microsoft Corporation. All rights reserved.
C:\Users\vicky>tracert www.yahoo.com
Tracing route to www.yahoo.com [172.217.167.132]
over a maximum of 30 hops:
1 * * * Request timed out.
2 * * * Request timed out.
3 65 ms 41 ms 45 ms 56.8.17.245
4 65 ms 59 ms 37 ms 192.168.1.196
5 69 ms 36 ms 49 ms 192.168.1.195
6 78 ms 41 ms 57 ms 172.26.29.45
7 63 ms 57 ms 50 ms 172.25.8.9
8 * * * Request timed out.
9 * * * Request timed out.
10 * * * Request timed out.
11 * * * Request timed out.
12 * * * Request timed out.
13 * * * Request timed out.
14 * * * Request timed out.
15 103 ms 62 ms 67 ms 74.125.48.26
16 146 ms 130 ms 70 ms 108.170.253.113
17 76 ms 61 ms 59 ms 216.239.43.173
18 72 ms 93 ms 47 ms www.yahoo.com [172.217.167.132]
Trace complete.
C:\Users\vicky>

nslookup



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