

# Assignment 1

**Part1: Record the following TCP/IP information for your computer in addition to providing the necessary screenshot. Use the Wireless or Ethernet interface through which you access the Internet.**

IP Address	192.168.0.108
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.1
Physical Address	34-7D-F6-52-F1-D4

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Loading personal and system profiles took 553ms.
PS C:\Users\9851a> cd Desktop
PS C:\Users\9851a\Desktop> mkdir Apurba_Kumar_Majumder-AA.SC.U3CSC2107362

Directory: C:\Users\9851a\Desktop

Mode                LastWriteTime         Length Name
----                -
d-----          06-04-2023    23:26         Apurba_Kumar_Majumder-AA.SC.U3CSC2107362

PS C:\Users\9851a\Desktop> cd Apurba_Kumar_Majumder-AA.SC.U3CSC2107362
PS C:\Users\9851a\Desktop\Apurba_Kumar_Majumder-AA.SC.U3CSC2107362> ipconfig /all

Windows IP Configuration

    Host Name . . . . . : Apurba
    Primary Dns Suffix . . . . . :
    Node Type . . . . . : Hybrid
    IP Routing Enabled. . . . . : No
    WINS Proxy Enabled. . . . . : No

Ethernet adapter Ethernet:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix . :
    Description . . . . . : Realtek PCIe GbE Family Controller
    Physical Address. . . . . : 18-C0-4D-03-45-58
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes

Unknown adapter Local Area Connection:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix . :
    Description . . . . . : TAP-Windows Adapter V9
    Physical Address. . . . . : 00-FF-42-49-93-97
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes

Wireless LAN adapter Local Area Connection* 1:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix . :
    Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter
    Physical Address. . . . . : 34-7D-F6-52-F1-D5
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes

Wireless LAN adapter Local Area Connection* 2:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix . :
    Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter #2
    Physical Address. . . . . : 36-7D-F6-52-F1-D4
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
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Wireless LAN adapter Local Area Connection* 2:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix . : 
    Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter #2
    Physical Address. . . . . : 36-7D-F6-52-F1-D4
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix . : 
    Description . . . . . : Intel(R) Dual Band Wireless-AC 3168
    Physical Address. . . . . : 34-7D-F6-52-F1-D4
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    Link-local IPv6 Address . . . . . : fe80::ee47:10a2:7a68:642%3(Preferred)
    IPv4 Address. . . . . : 192.168.0.108(Preferred)
    Subnet Mask . . . . . : 255.255.255.0
    Lease Obtained. . . . . : 06 April 2023 19:41:05
    Lease Expires . . . . . : 07 April 2023 00:31:49
    Default Gateway . . . . . : 192.168.0.1
    DHCP Server . . . . . : 192.168.0.1
    DHCPv6 IAID . . . . . : 53771766
    DHCPv6 Client DUID. . . . . : 00-01-00-01-2B-08-2B-8C-18-C0-4D-03-45-58
    DNS Servers . . . . . : 192.168.0.1
    NetBIOS over Tcpip. . . . . : Enabled
PS C:\Users\9851a\Desktop\Apurba_Kumar_Majumder-AA.SC.U3CSC2107362>

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**Part 2- Using ping and tracert to troubleshoot connecting to the Internet. Learn to use the TCP/IP Packet Internet Groper (ping) and traceroute (tracert) command from a PC/laptop. Provide necessary screenshots for each of the listed questions.**

1. ping the IP address of google.co.in or any URL.

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PS C:\Users\9851a\Desktop\Apurba_Kumar_Majumder-AA.SC.U3CSC2107362> ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time=2ms TTL=118
Reply from 8.8.8.8: bytes=32 time=13ms TTL=118
Reply from 8.8.8.8: bytes=32 time=1ms TTL=118
Reply from 8.8.8.8: bytes=32 time=2ms TTL=118

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 13ms, Average = 4ms
PS C:\Users\9851a\Desktop\Apurba_Kumar_Majumder-AA.SC.U3CSC2107362>

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2. Trace the intermediary devices to reach google.co.in or any server.

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PS C:\Users\9851a\Desktop\Apurba_Kumar_Majumder-AA.SC.U3CSC2107362> tracert www.google.com

Tracing route to www.google.com [142.250.195.4]
over a maximum of 30 hops:

  1  <1 ms  <1 ms  <1 ms  192.168.0.1
  2  55 ms  2 ms  4 ms  10.183.0.1
  3  2 ms  1 ms  2 ms  broadband.actcorp.in [49.207.34.213]
  4  3 ms  1 ms  1 ms  broadband.actcorp.in [49.207.34.233]
  5  3 ms  3 ms  2 ms  broadband.actcorp.in [49.207.47.221]
  6  14 ms  15 ms  13 ms  142.251.249.3
  7  2 ms  2 ms  1 ms  142.251.52.211
  8  2 ms  2 ms  2 ms  del12s09-in-f4.1e100.net [142.250.195.4]

Trace complete.
PS C:\Users\9851a\Desktop\Apurba_Kumar_Majumder-AA.SC.U3CSC2107362>

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**Part-3: What is the mode of Internet access at your home? Choose the option that is listed and give brief explanation of it.**

- a. DSL
- b. Cable
- c. Cellular
- d. Dial-up Telephone

DSL: It provide high speed internet with comfortable for home.

Answer: In Our home we use Cellular Internet Access.

1. Cellular internet access at home involves using a cellular network to connect to the internet instead of traditional wired internet connections like DSL or cable. This type of internet access uses cellular towers and radio waves to transmit data between your devices and the internet.
2. To set up cellular internet access at home, you will need a cellular router or hotspot that connects to the cellular network and provides Wi-Fi connectivity to your devices. Some mobile carriers offer specific plans and devices for home use, while others may offer mobile plans that allow you to use your phone as a hotspot.
3. One advantage of cellular internet access is that it can be used in areas where wired internet options are not available or where the wired internet infrastructure is outdated. Another advantage is that cellular internet access is mobile, which means you can take your cellular router or hotspot with you when you travel or move to a new location.

4. However, cellular internet access typically comes with data usage limits and can be more expensive than wired internet options, especially for heavy internet users or for households that require multiple devices to be connected simultaneously. Additionally, the quality and speed of cellular internet access can be affected by factors like distance from cellular towers, network congestion, and weather conditions