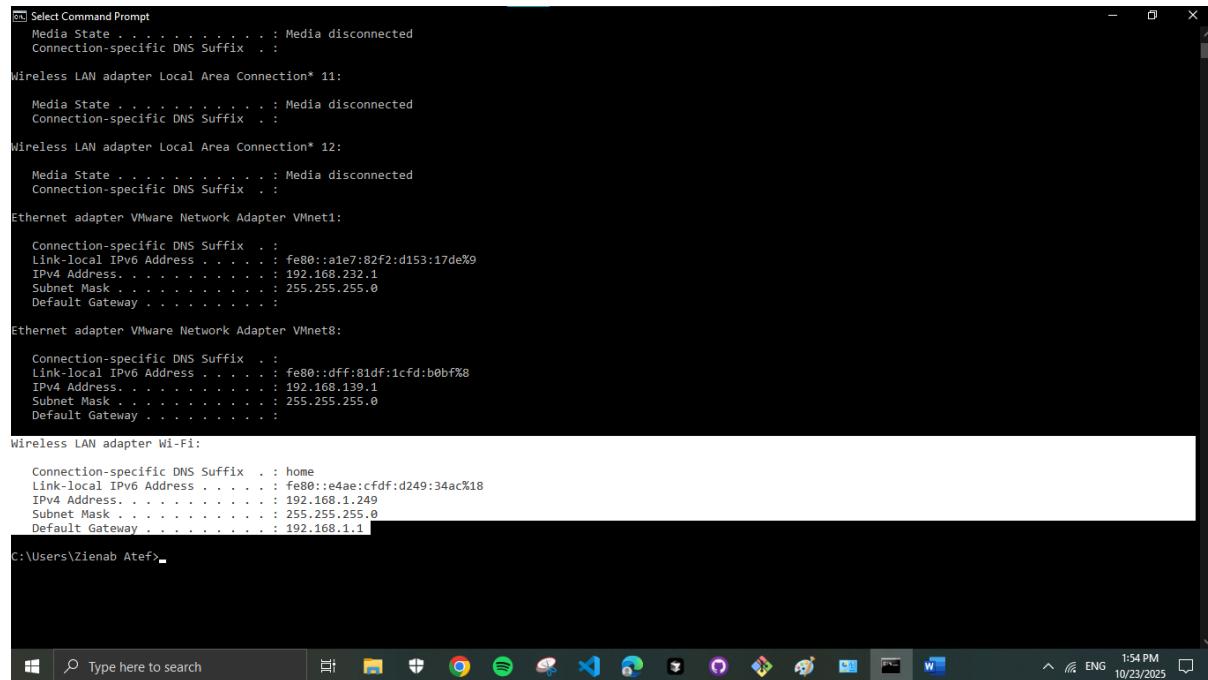


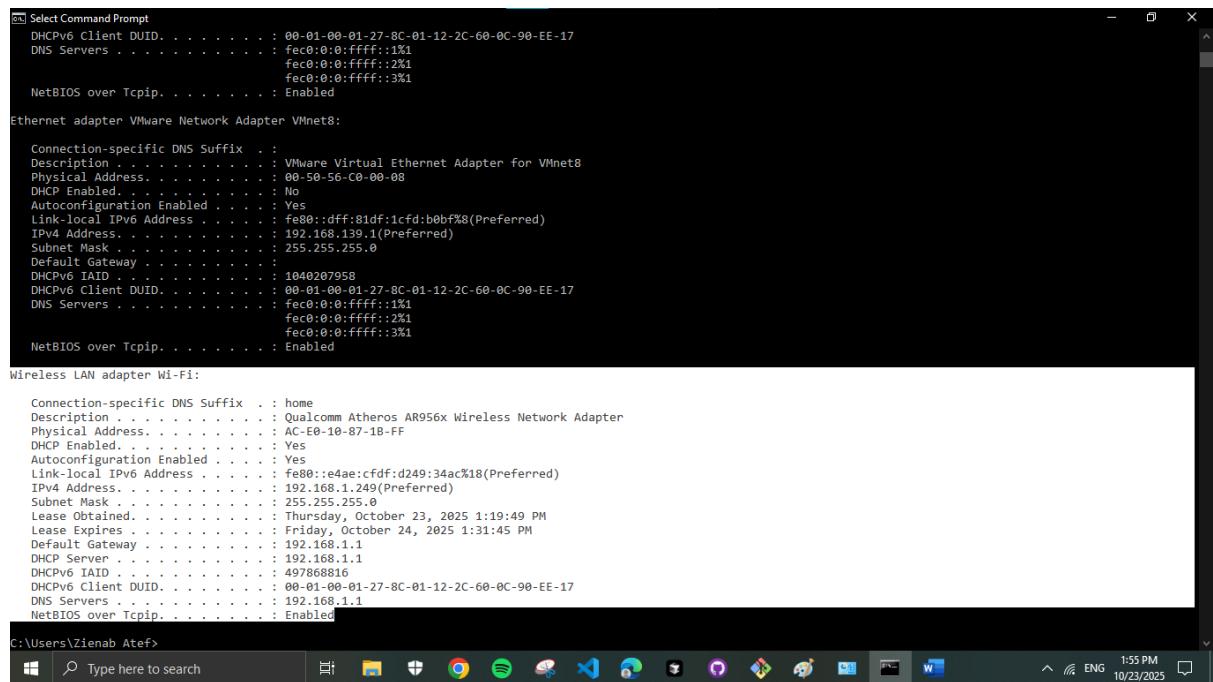
1. ipconfig command

> ipconfig



```
Windows PowerShell
Select Command Prompt
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 Local Area Connection* 12:
    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix . . .
Ethernet adapter VMware Network Adapter VMnet1:
    Connection-specific DNS Suffix . . .
    Link-local IPv6 Address . . . . . : fe80::a1e7:82f2:d153:17de%9
    IPv4 Address . . . . . : 192.168.232.1
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . :
Ethernet adapter VMware Network Adapter VMnet8:
    Connection-specific DNS Suffix . . .
    Link-local IPv6 Address . . . . . : fe80::dff:81df:1cfb:b0bf%8
    IPv4 Address . . . . . : 192.168.1.139
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . :
Wireless LAN adapter Wi-Fi:
    Connection-specific DNS Suffix . . . . . : home
    Link-local IPv6 Address . . . . . : fe80::e4ae:cfd9:d249:34ac%18
    IPv4 Address . . . . . : 192.168.1.249
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.1
C:\Users\Zienab Atef>
```

```
> ipconfig /all
```



```
Windows Command Prompt
Select Command Prompt

DHCPv6 Client DUID. . . . . : 00-01-00-01-27-8C-01-12-2C-60-0C-90-EE-17
DNS Servers . . . . . : fec0:0:0:ffff::1%1
                         fec0:0:0:ffff::2%1
                         fec0:0:0:ffff::3%1
NetBIOS over Tcpip. . . . . : Enabled

Ethernet adapter VMware Network Adapter VMnet8:

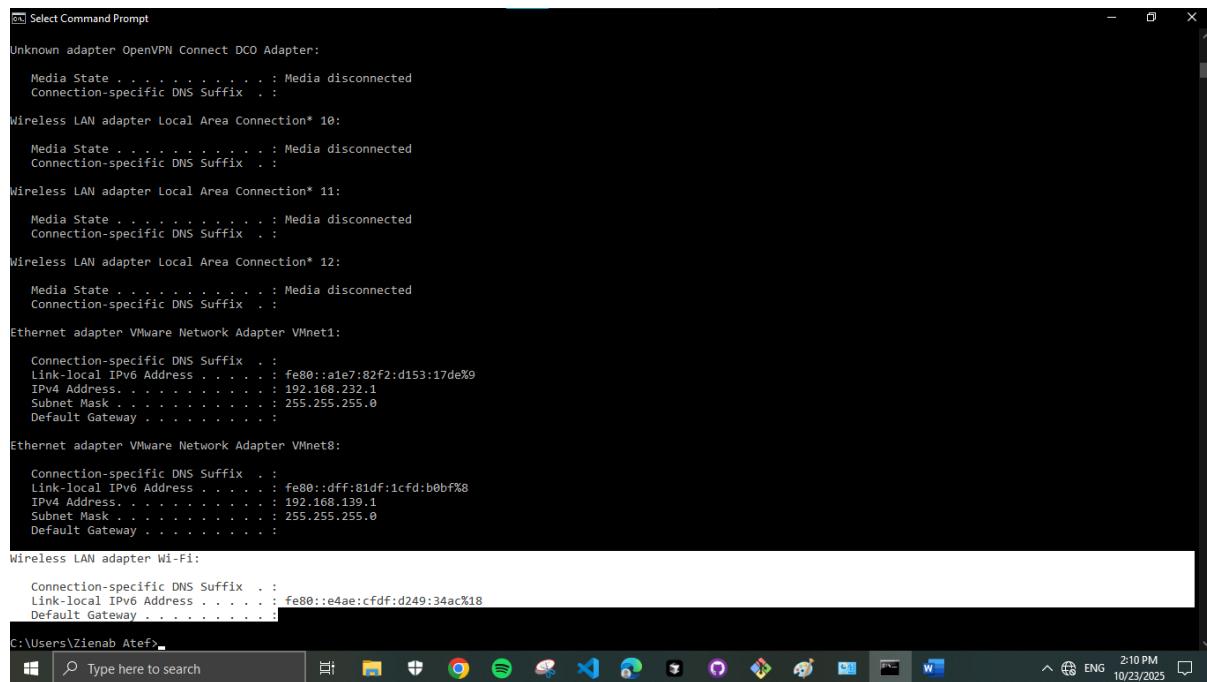
Connection-specific DNS Suffix . : VMware Virtual Ethernet Adapter for VMnet8
Description . . . . . : VMware Virtual Ethernet Adapter for VMnet8
Physical Address . . . . . : 00-50-56-C0-00-08
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::d00:1ff:fe50:56c0%1(PREFERRED)
IPv4 Address. . . . . : 192.168.139.1(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
DHCPv6 IAID . . . . . : 1040207958
DHCPv6 Client DUID. . . . . : 00-01-00-01-27-8C-01-12-2C-60-0C-90-EE-17
DNS Servers . . . . . : fec0:0:0:ffff::1%1
                         fec0:0:0:ffff::2%1
                         fec0:0:0:ffff::3%1
NetBIOS over Tcpip. . . . . : Enabled

Wireless LAN adapter Wi-Fi:

Connection-specific DNS Suffix . : home
Description . . . . . : Qualcomm Atheros AR956x Wireless Network Adapter
Physical Address. . . . . : AC-E0-10-87-1B-FF
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::e4ae:cfd%1(PREFERRED)
IPv4 Address. . . . . : 192.168.1.249(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : Thursday, October 23, 2025 1:19:49 PM
Lease Expires . . . . . : Friday, October 24, 2025 1:31:45 PM
Default Gateway . . . . . : 192.168.1.1
DHCP Server . . . . . : 192.168.1.1
DHCPv6 IAID . . . . . : 497868816
DHCPv6 Client DUID. . . . . : 00-01-00-01-27-8C-01-12-2C-60-0C-90-EE-17
DNS Servers . . . . . : 192.168.1.1
NetBIOS over Tcpip. . . . . : Enabled

C:\Users\Zainab Atef>
```

```
> ipconfig /release
```



The screenshot shows a Windows Command Prompt window titled "Select Command Prompt". The output of the "ipconfig /release" command is displayed, listing various network adapters and their current state. The adapters shown include "Unknown adapter OpenVPN Connect DCO Adapter", "Wireless LAN adapter Local Area Connection* 10", "Wireless LAN adapter Local Area Connection* 11", "Wireless LAN adapter Local Area Connection* 12", "Ethernet adapter VMware Network Adapter VMnet1", "Ethernet adapter VMware Network Adapter VMnet8", and "Wireless LAN adapter Wi-Fi". The "VMnet1" adapter is currently connected, while others are media disconnected. The "VMnet8" adapter has a connection-specific DNS suffix of ".":

```
Unknown adapter OpenVPN Connect DCO Adapter:
  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 Local Area Connection* 12:
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . . .

Ethernet adapter VMware Network Adapter VMnet1:
  Connection-specific DNS Suffix . . .
  Link-local IPv6 Address . . . . . : fe80::a1e7:82f2:d153:17de%9
  IPv4 Address . . . . . : 192.168.232.1
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . :

Ethernet adapter VMware Network Adapter VMnet8:
  Connection-specific DNS Suffix . . .
  Link-local IPv6 Address . . . . . : fe80::dff:81df:1cfb:b0bf%8
  IPv4 Address . . . . . : 192.168.139.1
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . :

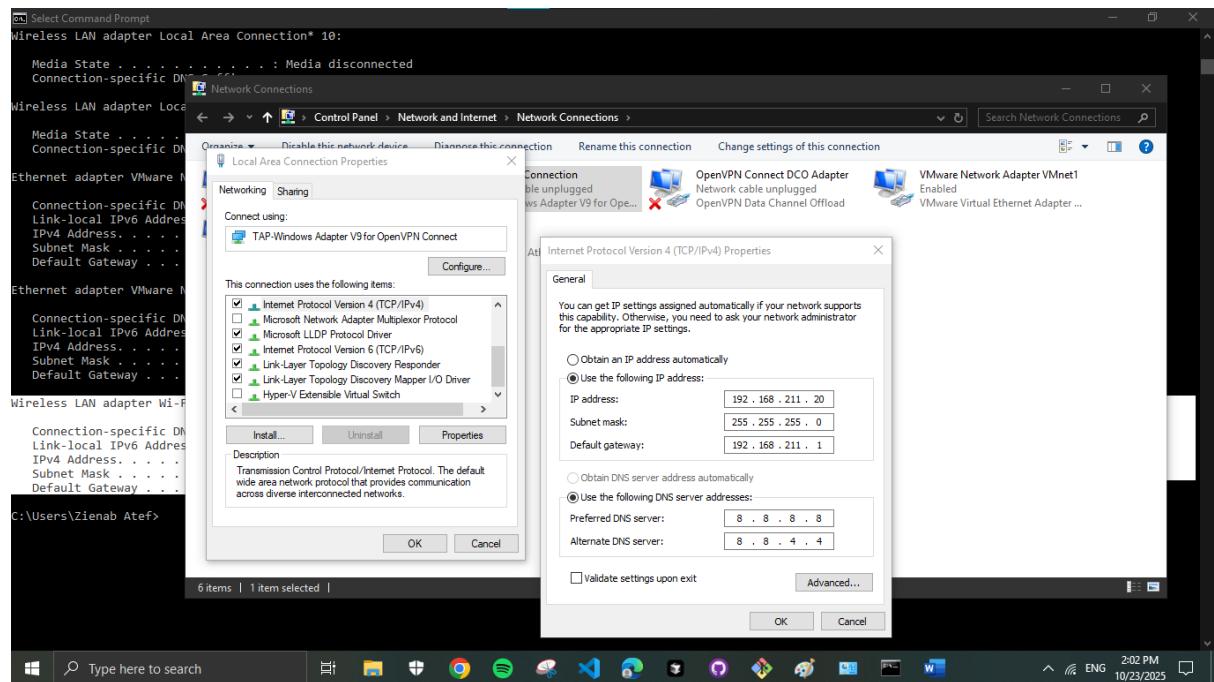
Wireless LAN adapter Wi-Fi:
  Connection-specific DNS Suffix . . .
  Link-local IPv6 Address . . . . . : fe80::e4ae:cfdf:d249:34ac%18
  Default Gateway . . . . . :

C:\Users\Zienab Atef>
```

> ipconfig /renew

```
Windows PowerShell - Select Command Prompt
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 . . .
Ethernet adapter VMware Network Adapter VMnet1:
  Connection-specific DNS Suffix . . .
  Link-local IPv6 Address . . . . . : fe80::a1e7:82f2:d153:17de%9
  IPv4 Address . . . . . : 192.168.232.1
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . .
Ethernet adapter VMware Network Adapter VMnet8:
  Connection-specific DNS Suffix . . .
  Link-local IPv6 Address . . . . . : fe80::dff:81df:1cf8:b0bf%8
  IPv4 Address . . . . . : 192.168.139.1
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . .
Wireless LAN adapter Wi-Fi:
  Connection-specific DNS Suffix . . . . . : home
  Link-local IPv6 Address . . . . . : fe80::e4ae:cfd8:d249:34ac%18
  IPv4 Address . . . . . : 192.168.1.249
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . : 192.168.1.1
C:\Users\Zienab Atef>
```

2. Configure IP address manually



My real IP (static) address

The screenshot shows a web browser window with the URL <https://whatismyipaddress.com>. The page displays the user's IP address as 197.48.46.99, which is highlighted in blue. Below the IP address, it says "IPv6: Not detected". On the left, there is a sidebar with "My IP Information" showing: ISP: TE Data, City: Alexandria, Region: Al Iskandariyah, Country: Egypt. A red button labeled "HIDE MY IP ADDRESS NOW" is prominently displayed. To the right, a map of the world shows the location of the IP address with a red pin. A tooltip over the pin says "Click for more details about 197.48.46.99". Below the map, there are links for "Location not accurate?" and "Update My IP Location".

3. ping command

> ping 192.168.1.1

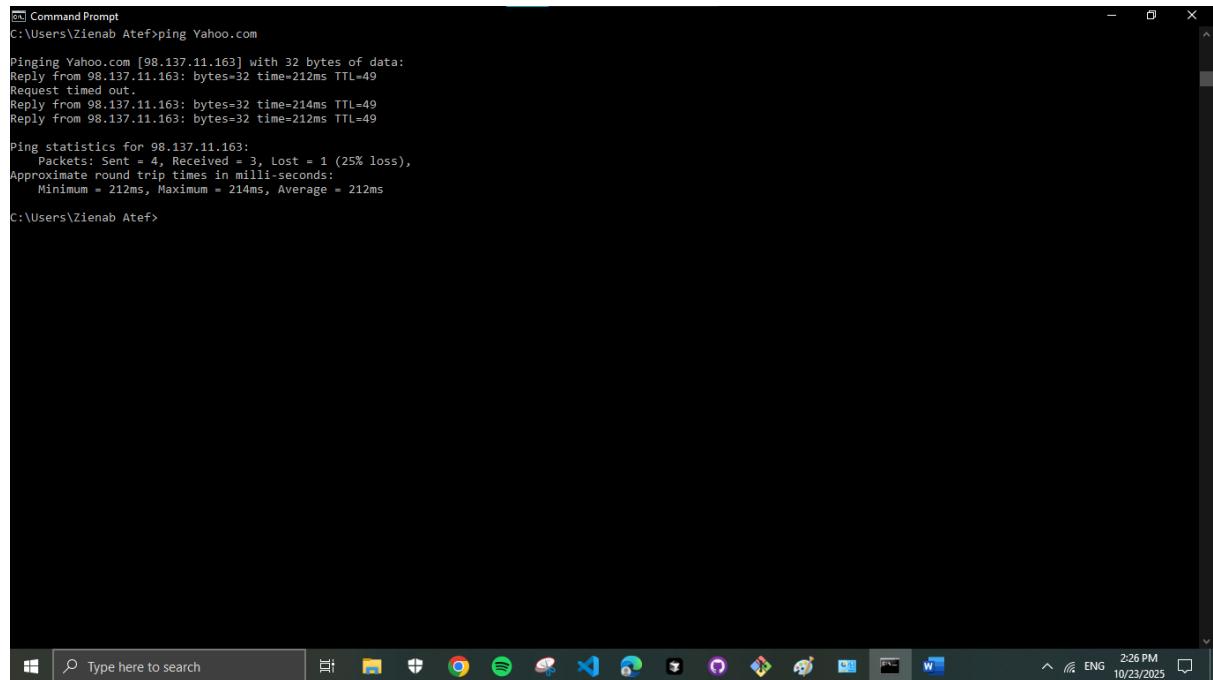
```
Windows PowerShell
C:\> ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time=1ms TTL=64

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

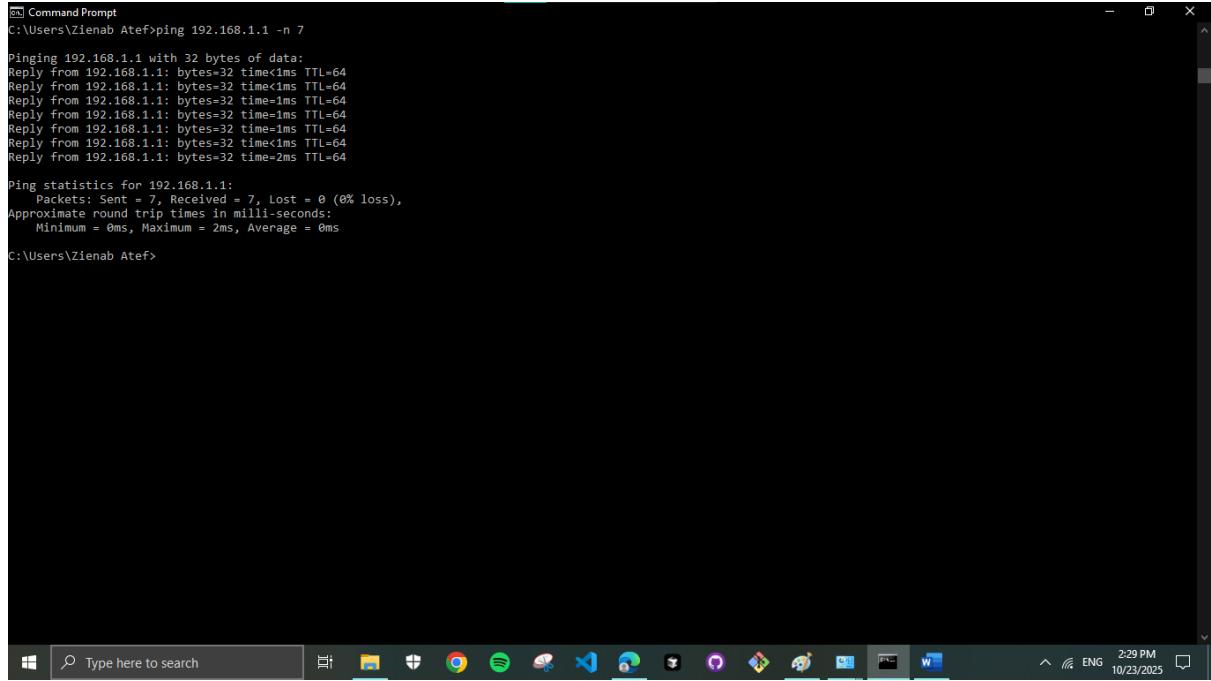
> ping Yahoo.com



Command Prompt
C:\Users\Zienab Atef>ping Yahoo.com
Pinging Yahoo.com [98.137.11.163] with 32 bytes of data:
Reply from 98.137.11.163: bytes=32 time=212ms TTL=49
Request timed out.
Reply from 98.137.11.163: bytes=32 time=214ms TTL=49
Reply from 98.137.11.163: bytes=32 time=212ms TTL=49
Ping statistics for 98.137.11.163:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 212ms, Maximum = 214ms, Average = 212ms
C:\Users\Zienab Atef>

```
> ping 192.168.1.1 -t
```

```
> ping 192.168.1.1 -n 7
```



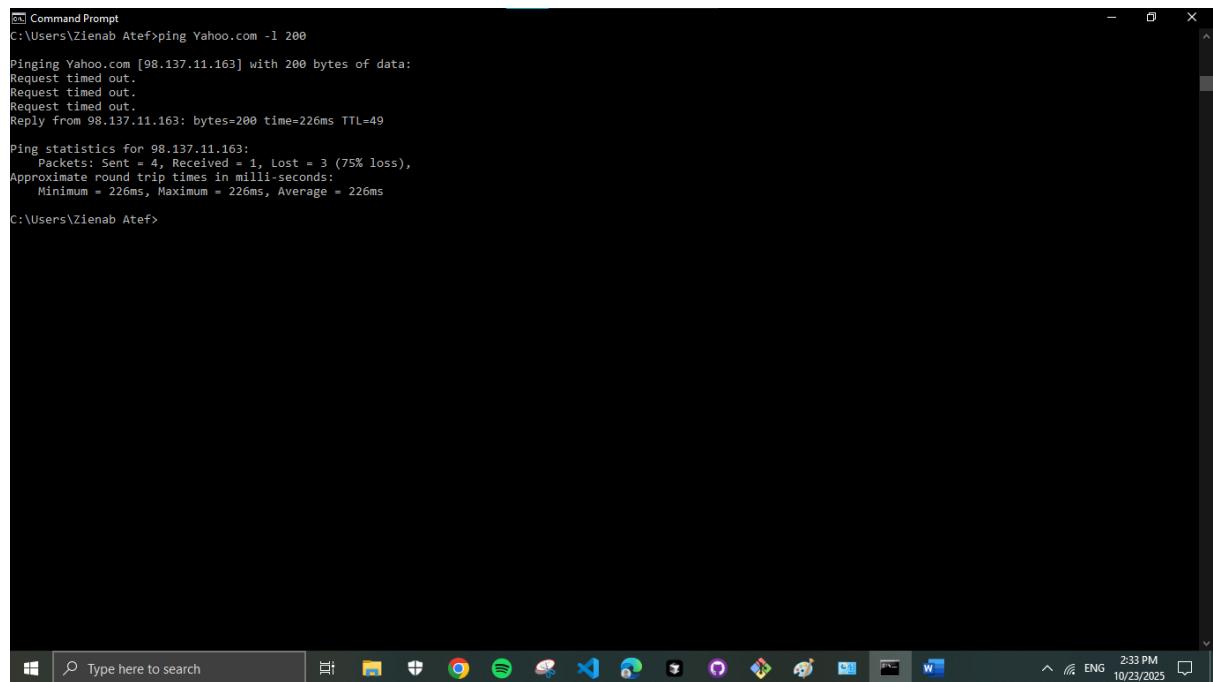
```
Administrator: Command Prompt
C:\Users\Zienab Atef>ping 192.168.1.1 -n 7

Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time=1ms TTL=64
Reply from 192.168.1.1: bytes=32 time=2ms TTL=64

Ping statistics for 192.168.1.1:
    Packets: Sent = 7, Received = 7, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\Users\Zienab Atef>
```

```
> ping Yahoo.com -l 200
```



A screenshot of a Windows operating system desktop. In the center is a Command Prompt window titled "Command Prompt". The command entered is "ping Yahoo.com -l 200". The output shows the ping request being sent to the IP address 98.137.11.163, but it times out. The statistics at the end show 4 packets sent, 1 received, and 3 lost (75% loss). The taskbar at the bottom shows the Start button, a search bar with placeholder text "Type here to search", and icons for various pinned apps like File Explorer, Edge, and File History. The system tray shows the date and time as 10/23/2025 at 2:33 PM, along with network and battery status.

```
Administrator: Command Prompt
C:\Users\Zienab Atef>ping Yahoo.com -l 200

Pinging Yahoo.com [98.137.11.163] with 200 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Reply from 98.137.11.163: bytes=200 time=226ms TTL=49

Ping statistics for 98.137.11.163:
    Packets: Sent = 4, Received = 1, Lost = 3 (75% loss),
Approximate round trip times in milli-seconds:
    Minimum = 226ms, Maximum = 226ms, Average = 226ms

C:\Users\Zienab Atef>
```

```
> ping Yahoo.com -l 200 -n 7
```

The screenshot shows a Windows Command Prompt window titled "Command Prompt". The command entered was "ping Yahoo.com -l 200 -n 7". The output shows the following results:

```
C:\Users\Zienab Atef>ping Yahoo.com -l 200 -n 7

Pinging Yahoo.com [74.6.143.26] with 200 bytes of data:
Reply from 74.6.143.26: bytes=200 time=180ms TTL=49
Reply from 74.6.143.26: bytes=200 time=180ms TTL=49
Reply from 74.6.143.26: bytes=200 time=179ms TTL=49
Request timed out.
Reply from 74.6.143.26: bytes=200 time=180ms TTL=50
Reply from 74.6.143.26: bytes=200 time=194ms TTL=49
Reply from 74.6.143.26: bytes=200 time=194ms TTL=49

Ping statistics for 74.6.143.26:
    Packets: Sent = 7, Received = 6, Lost = 1 (14% loss),
Approximate round trip times in milli-seconds:
    Minimum = 179ms, Maximum = 194ms, Average = 184ms

C:\Users\Zienab Atef>
```

The taskbar at the bottom of the screen shows various pinned icons, including File Explorer, Edge, and other system icons. The system tray indicates the date and time as 10/23/2025 at 2:35 PM, and the language setting as ENG.

4. MAC address

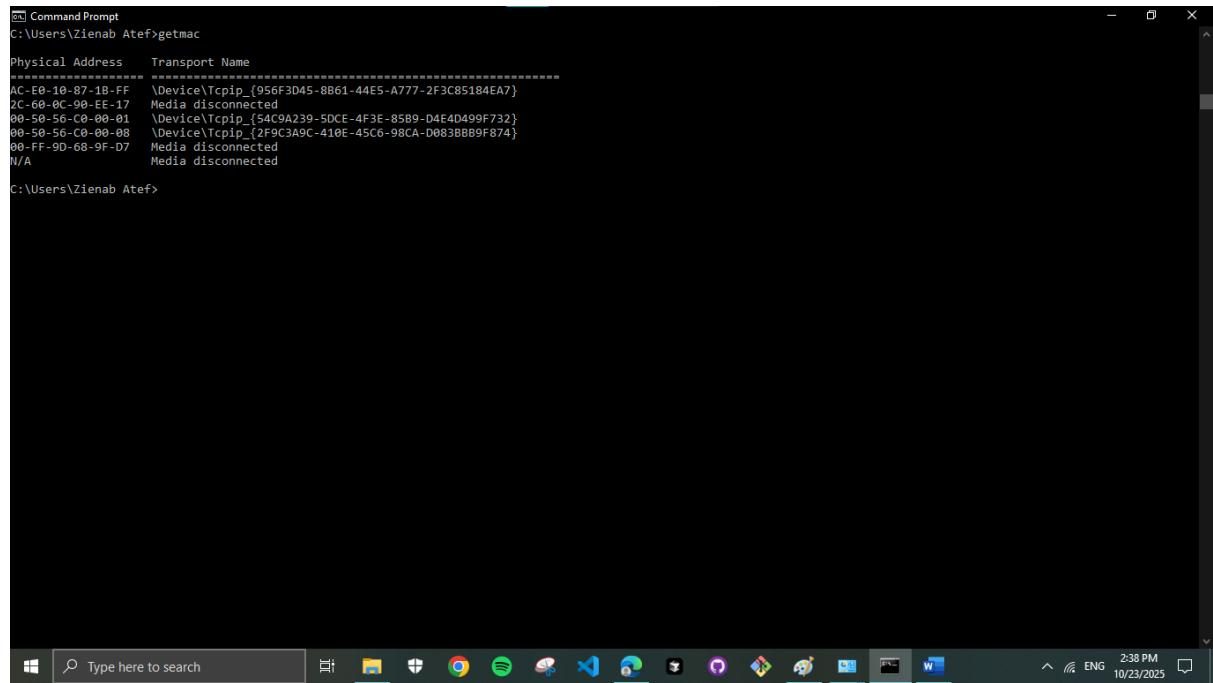
> ipconfig /all

```
C:\ Select Command Prompt
Physical Address. . . . . : 00-50-56-C0-00-08
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::dff:1cfdf:b0bf%0(PREFERRED)
IPv4 Address. . . . . : 192.168.139.1(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
DHCPv6 IAID . . . . . : 1040207958
DHCPv6 Client DUID. . . . . : 00-01-00-01-27-8C-01-12-2C-60-0C-90-EE-17
DNS Servers . . . . . : fec0:0:0:ffff::1%1
                           fec0:0:0:ffff::2%1
                           fec0:0:0:ffff::3%1
NetBIOS over Tcpip. . . . . : Enabled

Wireless LAN adapter Wi-Fi:
Connection-specific DNS Suffix . . . . . : home
Description . . . . . : Qualcomm Atheros AR956x Wireless Network Adapter
Physical Address. . . . . : AC-E0-10-87-1B-FR
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::e4ae:cfdः:d249:34ac%18(PREFERRED)
IPv4 Address. . . . . : 192.168.1.249(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : Thursday, October 23, 2025 2:20:48 PM
Lease Expires . . . . . : Friday, October 24, 2025 2:20:49 PM
Default Gateway . . . . . : 192.168.1.1
DHCP Server . . . . . : 192.168.1.1
DHCPv6 IAID . . . . . : 497868816
DHCPv6 Client DUID. . . . . : 00-01-00-01-27-8C-01-12-2C-60-0C-90-EE-17
DNS Servers . . . . . : 192.168.1.1
NetBIOS over Tcpip. . . . . : Enabled

C:\Users\Zienab Atef>
```

> getmac

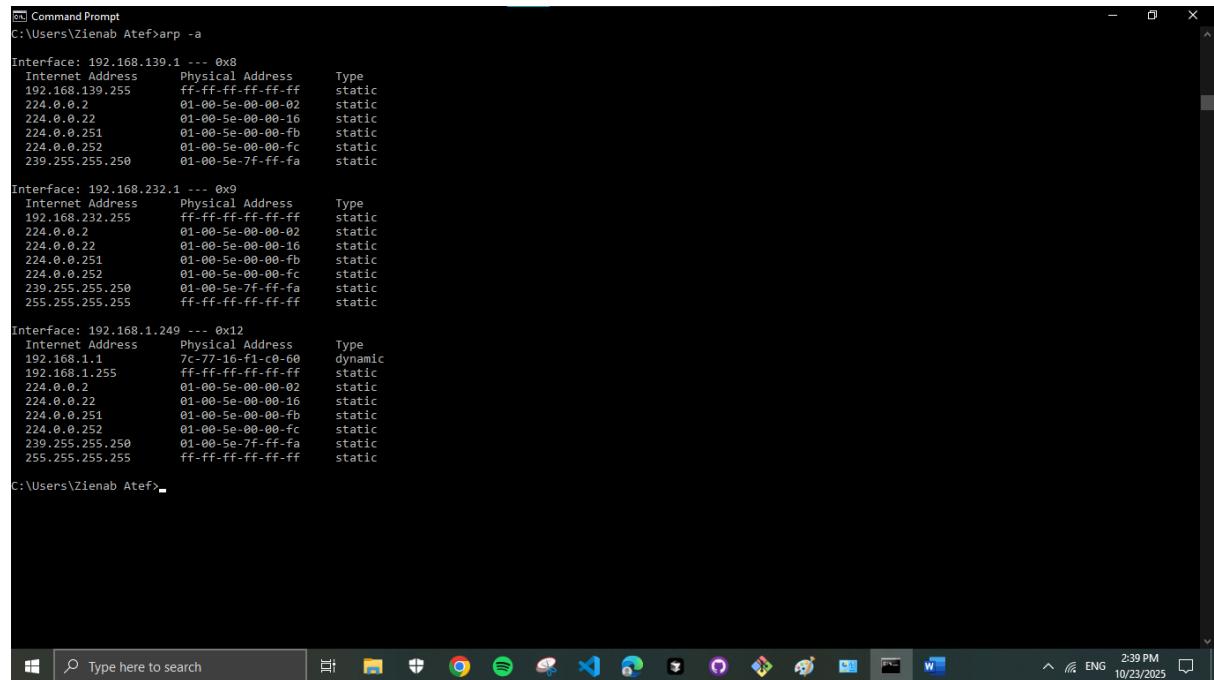


```
Command Prompt
C:\Users\Zienab Atef>getmac
Physical Address      Transport Name
=====
AC-E0-10-87-1B-FF  \Device\Tcpip_{956F3D45-8B61-44E5-A777-2F3C85184EA7}
2C-60-0C-90-EE-17  Media disconnected
00-50-56-C0-00-01  \Device\Tcpip_{54C9A239-5DCE-4F3E-85B9-D4E4D499F732}
00-50-56-C0-00-08  \Device\Tcpip_{2F9C3A9C-410E-45C6-98CA-D083BBB9F874}
00-FF-9D-68-9F-D7  Media disconnected
N/A                Media disconnected

C:\Users\Zienab Atef>
```

5. arp command

> arp -a



```
C:\Users\Zienab Atef>arp -a

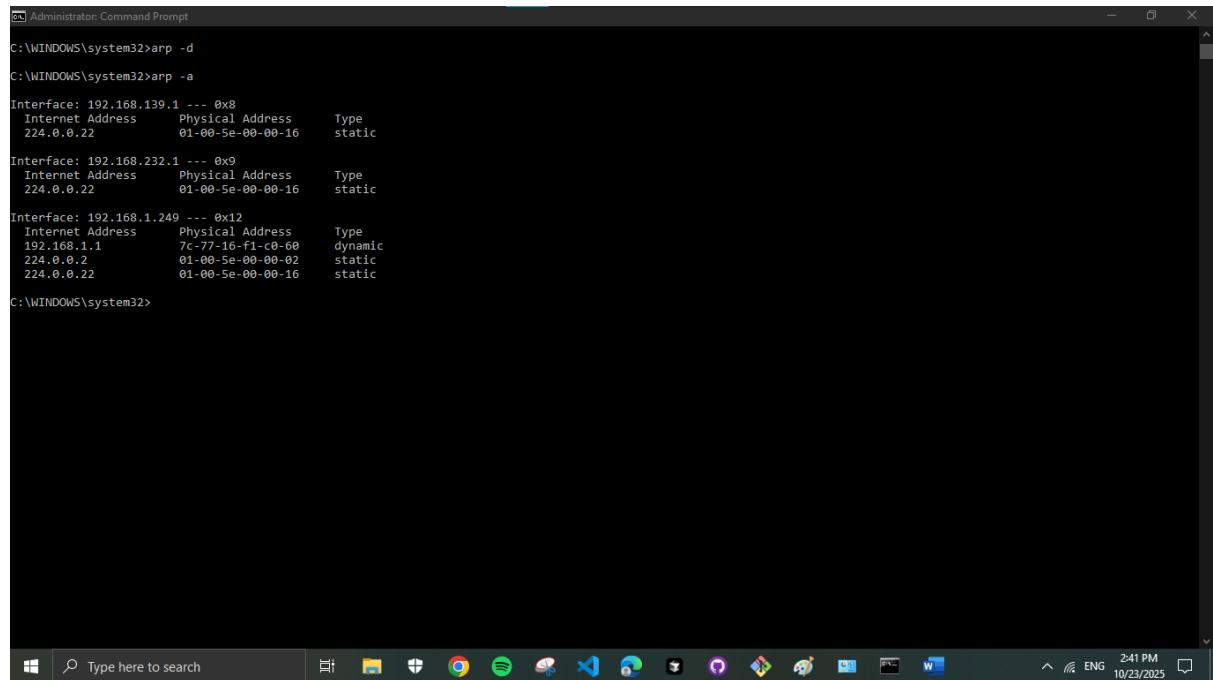
Interface: 192.168.139.1 --- 0x8
Internet Address      Physical Address      Type
192.168.139.255        ff-ff-ff-ff-ff-ff    static
224.0.0.2              01-00-5e-00-00-02    static
224.0.0.23              01-00-5e-00-00-16    static
224.0.0.251             01-00-5e-00-00-fb    static
224.0.0.252             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: 192.168.232.1 --- 0x9
Internet Address      Physical Address      Type
192.168.232.255        ff-ff-ff-ff-ff-ff  static
224.0.0.2               01-00-5e-00-00-02    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: 192.168.1.249 --- 0x12
Internet Address      Physical Address      Type
192.168.1.1             ff-7f-16-ff-ff-69    dynamic
192.168.1.255            ff-ff-ff-ff-ff-ff  static
224.0.0.2                01-00-5e-00-00-02    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

C:\Users\Zienab Atef>
```

> arp -d



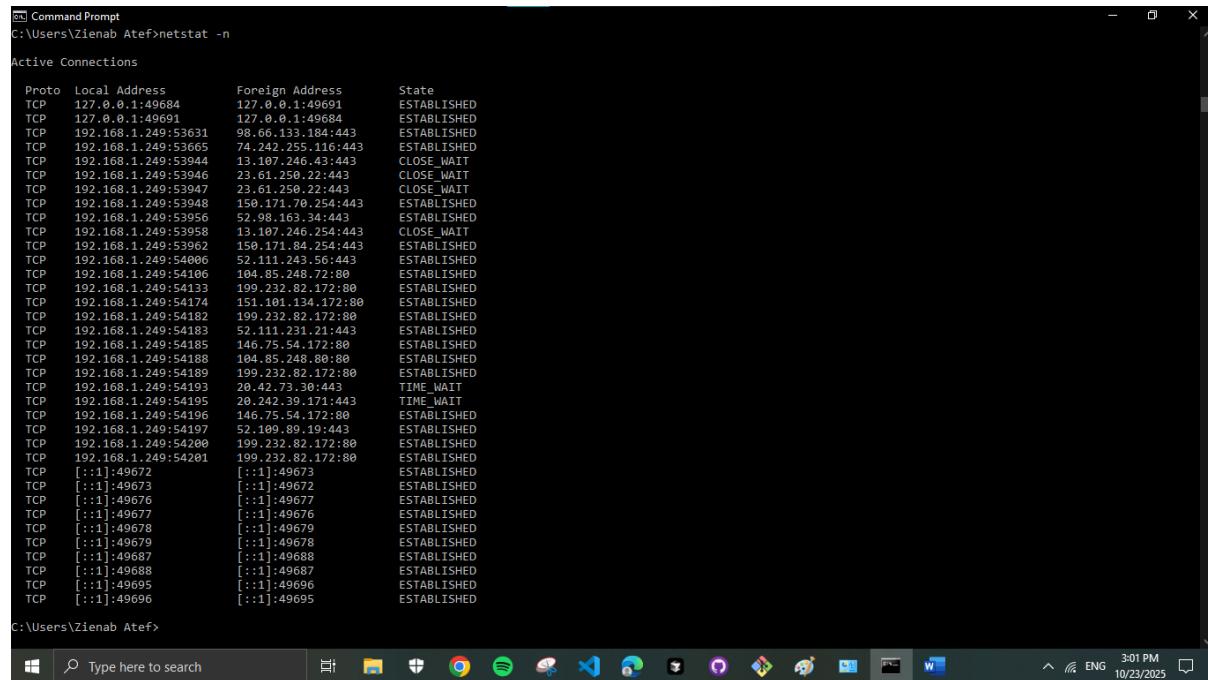
The screenshot shows a Windows Command Prompt window titled "Administrator: Command Prompt". The command "arp -d" was run, which deleted all existing ARP entries. Then, "arp -a" was run, displaying the current ARP table. The output shows three entries:

Interface	Internet Address	Physical Address	Type
192.168.139.1 --- 0x8	224.0.0.22	01-00-5e-00-00-16	static
192.168.232.1 --- 0x9	224.0.0.22	01-00-5e-00-00-16	static
192.168.1.249 --- 0x12	192.168.1.1	7c-77-16-f1-c8-60	dynamic
	224.0.0.2	01-00-5e-00-00-02	static
	224.0.0.22	01-00-5e-00-00-16	static

C:\WINDOWS\system32>

6. Opened ports and sessions

> netstat -n



```
Windows Command Prompt
C:\Users\Zienab Atef>netstat -n

Active Connections

Proto Local Address          Foreign Address        State
TCP   127.0.0.1:49684        127.0.0.1:49691      ESTABLISHED
TCP   127.0.0.1:49691        127.0.0.1:49694      ESTABLISHED
TCP   192.168.1.249:53631    98.66.133.184:443    ESTABLISHED
TCP   192.168.1.249:53665    74.242.255.116:443   ESTABLISHED
TCP   192.168.1.249:53944    13.107.246.43:443    CLOSE_WAIT
TCP   192.168.1.249:53946    23.61.250.22:443    CLOSE_WAIT
TCP   192.168.1.249:53947    23.61.250.22:443    CLOSE_WAIT
TCP   192.168.1.249:53948    150.171.70.254:443   ESTABLISHED
TCP   192.168.1.249:53956    52.98.163.34:443    ESTABLISHED
TCP   192.168.1.249:53958    13.107.246.254:443   CLOSE_WAIT
TCP   192.168.1.249:53962    150.171.84.254:443   ESTABLISHED
TCP   192.168.1.249:54006    52.111.243.56:443   ESTABLISHED
TCP   192.168.1.249:54106    104.85.248.72:80     ESTABLISHED
TCP   192.168.1.249:54133    199.232.82.172:80    ESTABLISHED
TCP   192.168.1.249:54174    151.101.134.172:80    ESTABLISHED
TCP   192.168.1.249:54182    199.232.82.172:80    ESTABLISHED
TCP   192.168.1.249:54183    52.111.231.21:443   ESTABLISHED
TCP   192.168.1.249:54185    146.75.54.172:80     ESTABLISHED
TCP   192.168.1.249:54188    104.85.248.80:80     ESTABLISHED
TCP   192.168.1.249:54189    199.232.82.172:80    ESTABLISHED
TCP   192.168.1.249:54193    20.47.73.38:443    TIME_WAIT
TCP   192.168.1.249:54195    20.242.30.171:443   TIME_WAIT
TCP   192.168.1.249:54196    140.75.54.172:80     ESTABLISHED
TCP   192.168.1.249:54197    52.109.89.19:443   ESTABLISHED
TCP   192.168.1.249:54200    199.232.82.172:80    ESTABLISHED
TCP   192.168.1.249:54201    199.232.82.172:80    ESTABLISHED
TCP   [::]:49672              [::]:49673      ESTABLISHED
TCP   [::]:49673              [::]:49672      ESTABLISHED
TCP   [::]:49676              [::]:49677      ESTABLISHED
TCP   [::]:49677              [::]:49676      ESTABLISHED
TCP   [::]:49678              [::]:49679      ESTABLISHED
TCP   [::]:49679              [::]:49678      ESTABLISHED
TCP   [::]:49687              [::]:49688      ESTABLISHED
TCP   [::]:49688              [::]:49687      ESTABLISHED
TCP   [::]:49695              [::]:49696      ESTABLISHED
TCP   [::]:49696              [::]:49695      ESTABLISHED

C:\Users\Zienab Atef>
```

> netstat -a 192.168.1.1

```
Administrator: Command Prompt - netstat -a 192.168.1.1
C:\Users\Zienab Atef>netstat -a 192.168.1.1

Active Connections

Proto Local Address          Foreign Address        State
TCP   0.0.0.0:135             DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:445             DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:903             DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:913             DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:2343            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:3389            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:3580            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:3582            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:5040             DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:5357            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:7680             DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:8880             DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:49664            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:49665            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:49666            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:49667            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:49668            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:49671            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:49693            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:59110            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:59111            DESKTOP-QONTRAS3:0  LISTENING
TCP   0.0.0.0:59112            DESKTOP-QONTRAS3:0  LISTENING
TCP   127.0.0.1:40684           DESKTOP-QONTRAS3:0  LISTENING
TCP   127.0.0.1:40684           kubernetes:49691  ESTABLISHED
TCP   127.0.0.1:40691           kubernetes:49684  ESTABLISHED
TCP   192.168.1.249:139          DESKTOP-QONTRAS3:0  LISTENING
TCP   192.168.1.249:53631         98.66.133.184:https ESTABLISHED
TCP   192.168.1.249:53665         74.242.255.116:https ESTABLISHED
TCP   192.168.1.249:53944         13.107.246.43:https CLOSE_WAIT
TCP   192.168.1.249:53946         a23.61.250.22:https CLOSE_WAIT
TCP   192.168.1.249:53947         a23.61.250.22:https CLOSE_WAIT
TCP   192.168.1.249:53948         150.171.70.254:https ESTABLISHED
TCP   192.168.1.249:53956         52.98.163.34:https ESTABLISHED
TCP   192.168.1.249:53958         13.97.246.254:https CLOSE_WAIT
TCP   192.168.1.249:53962         150.171.84.254:https ESTABLISHED
TCP   192.168.1.249:54206         52.111.243.56:https ESTABLISHED
TCP   192.168.1.249:54282         199.232.82.172:http  ESTABLISHED
TCP   192.168.1.249:54283         199.232.82.172:http  TIME_WAIT
TCP   192.168.1.249:54211         52.111.243.73:https ESTABLISHED
```

Why nslookup command is returning only one IP address of google.com?

The reason for that lies in the DNS lookup process. Google's IP addresses are used to perform load balancing, where the load balancer server's IP remains the same, and the internal server forwards the request to a particular server with the least load based on the load balancing algorithm. In contrast, Yahoo's IP addresses do not change and are used for authoritative DNS server queries.

7. Domain name system

```
> nslookup Yahoo.com
```

```
Windows PowerShell - Select Command Prompt
C:\Users\Zienab Atef>nslookup Yahoo.com
Server: home
Address: 192.168.1.1

Non-authoritative answer:
Name:    Yahoo.com
Addresses:  2001:4998:24:120d::1:0
           2001:4998:44:3507::8000
           2001:4998:24:120d::1:1
           2001:4998:124:1507::f001
           2001:4998:44:3507::8001
           2001:4998:124:1507::f000
           74.6.143.26
           74.6.143.25
           98.137.11.164
           98.137.11.163
           74.6.231.21
           74.6.231.20

C:\Users\Zienab Atef>
```

> nslookup 87.248.113.14

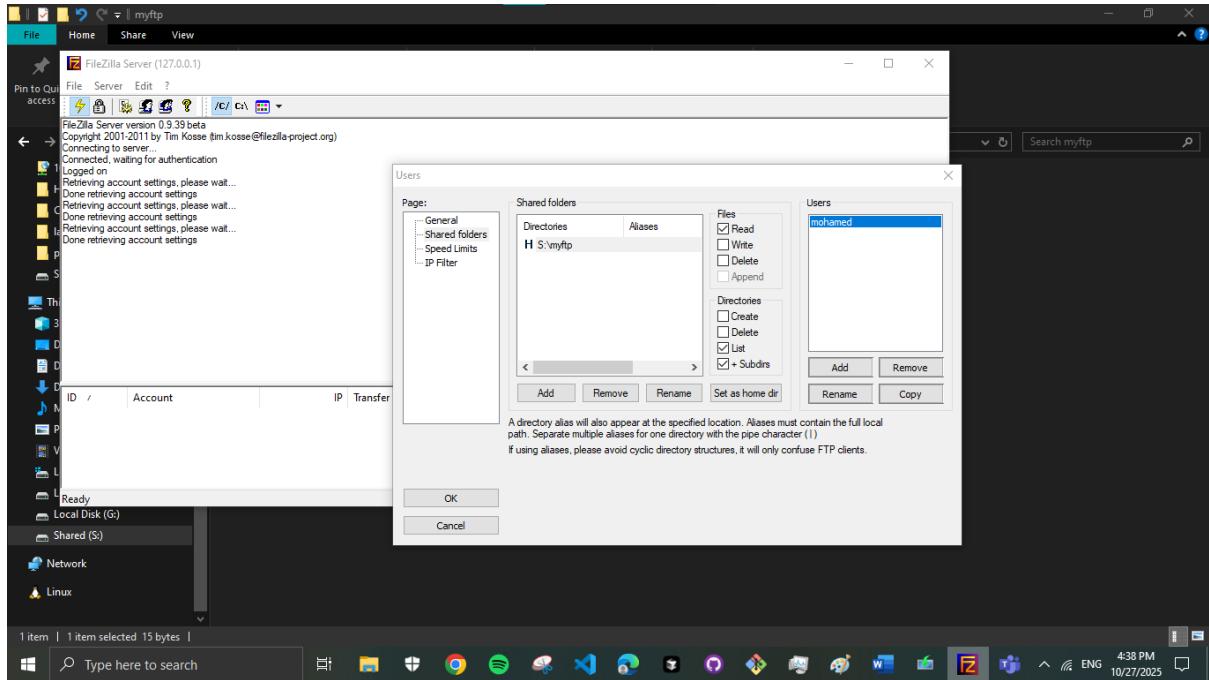
The screenshot shows a Windows operating system desktop. In the center is a Command Prompt window titled "Select Command Prompt". The command entered is "nslookup 87.248.113.14". The output shows the server is "home" at address "192.168.1.1", and the name "et23-1.bas1-1-edg.amb.yahoo.com" is associated with the IP address "87.248.113.14". The Command Prompt prompt is "C:\Users\Zienab Atef>". Below the Command Prompt is the Windows taskbar, which includes a search bar, pinned icons for File Explorer, Task View, Start, and Edge, and other pinned apps like Spotify, Microsoft Edge, and File Explorer. The system tray shows the date and time as "10/27/2025 11:46 AM" and the language as "ENG".

```
EN Select Command Prompt
C:\Users\Zienab Atef>nslookup 87.248.113.14
Server:  home
Address: 192.168.1.1
Name:    et23-1.bas1-1-edg.amb.yahoo.com
Address: 87.248.113.14

C:\Users\Zienab Atef>
```

8. Dealing with FTP

Configure FTP server 127.0.0.1:14147



Configure FTP clients

Method 2 (using CMD)

The screenshot shows a Windows desktop environment. In the foreground, a Command Prompt window titled 'C:\Windows\System32\cmd.exe - ftp' is open, displaying a session with a local client and a FileZilla Server running on port 127.0.0.1. The client has logged in as 'mohamed'. The server is waiting for authentication. The transfer log shows the upload of file 'a.txt' and the download of file 'b.txt'.

```
S:\>client>ftp  
ftp> open 127.0.0.1  
Connected to 127.0.0.1.  
229 FileZilla Server version 0.9.39 beta  
220 Written by Tim Kosse (Tim.Kosse@gmx.de)  
220 Please visit http://sourceforge.net/projects/filezilla/  
530 Please log in with USER and PASS first.  
User (127.0.0.1:(none)): mohamed  
331 Password required for mohamed  
Password:  
230 Logged on  
200 Port command successful  
150 Opening data channel for directory list.  
-rw-r--r-- 1 ftp ftp 15 Oct 27 16:32 a.txt  
226 Transfer OK  
ftp: 59 bytes received in 0.01Seconds 5.90Kbytes/sec.  
ftp> lcd  
Local directory now S:\client.  
ftp> put b.txt  
200 Port command successful  
150 Opening data channel for file transfer.  
226 Transfer OK  
ftp: 7 bytes sent in 0.08Seconds 0.09Kbytes/sec.  

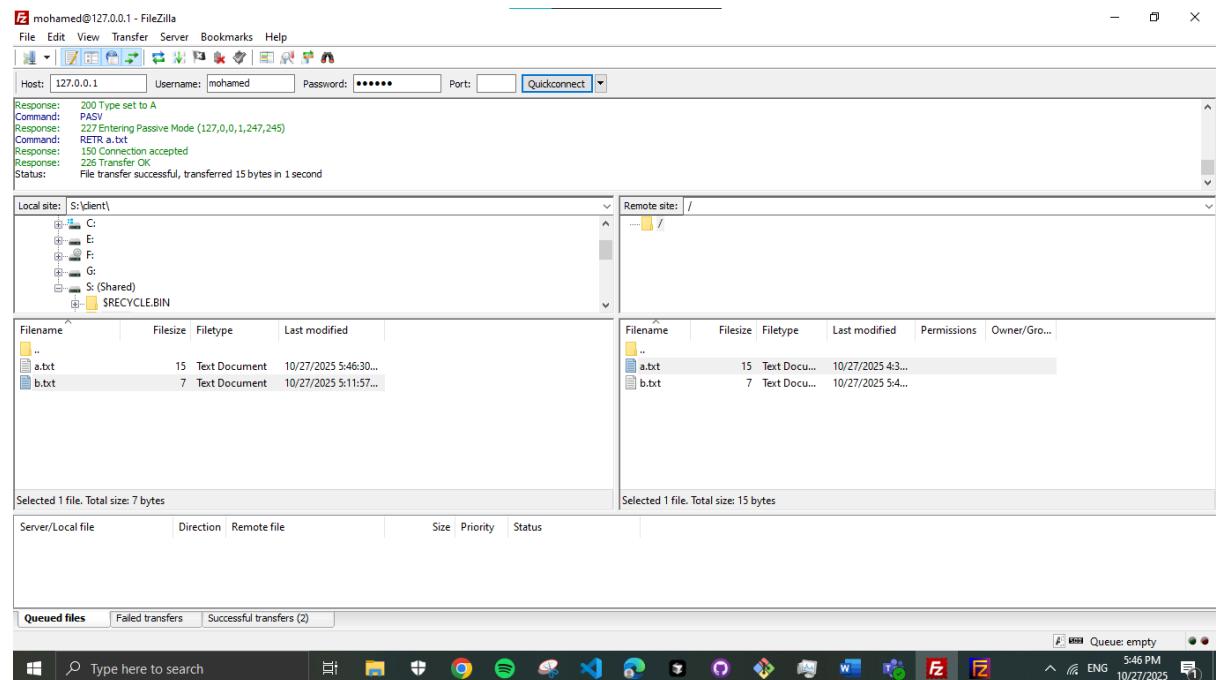
```

In the background, a FileZilla Server interface window titled 'FileZilla Server (127.0.0.1)' is visible, showing the connection status and a transfer list. The transfer list table is as follows:

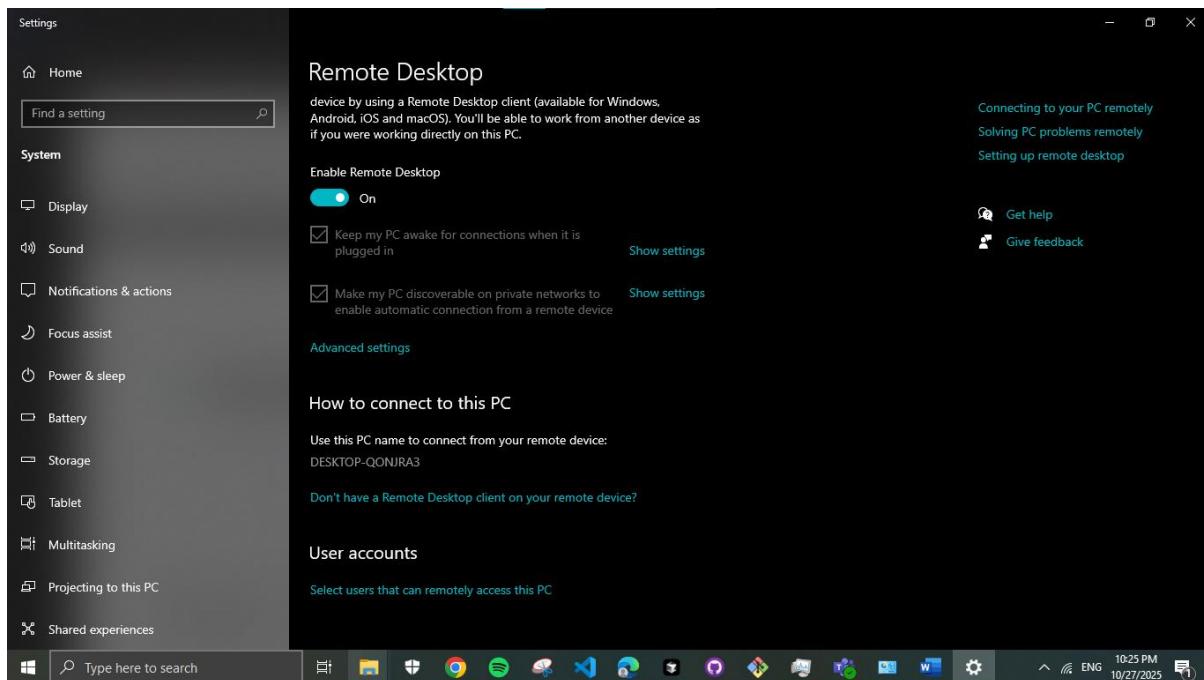
ID	/	Account	IP	Transfer	Progress	Speed
000008		mohamed	127.0.0.1			

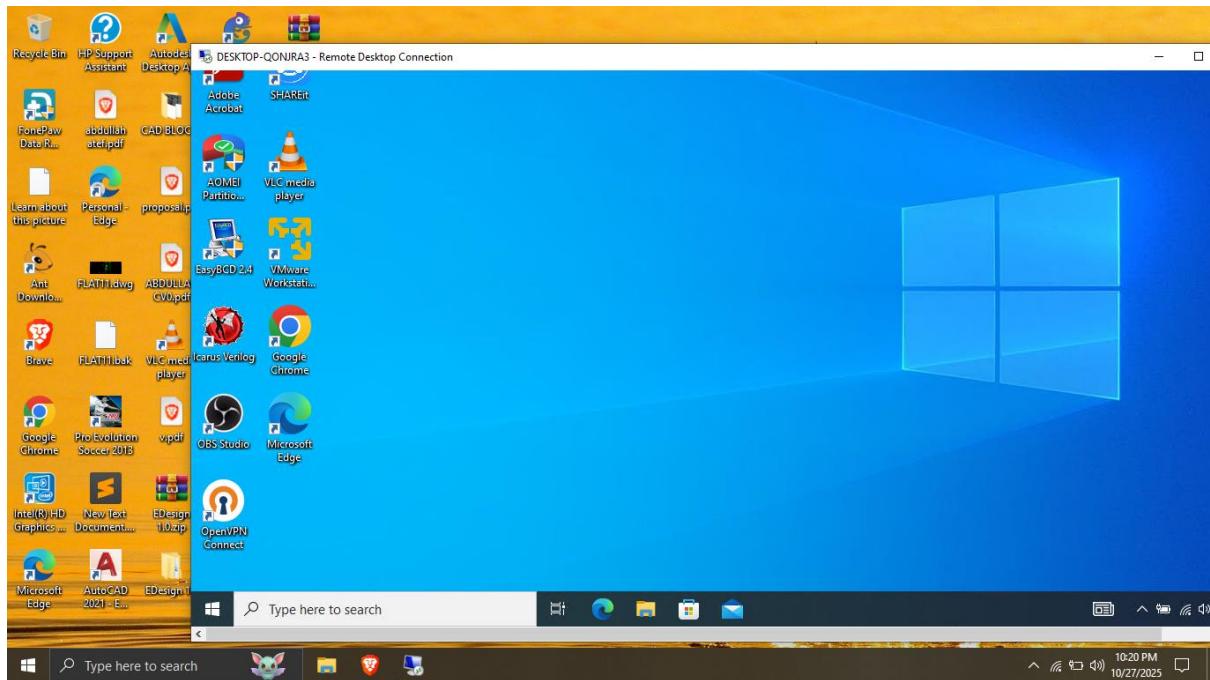
The status bar at the bottom of the desktop shows the date and time as '10/27/2025 5:16 PM'.

Method 3 (using Third party tool)

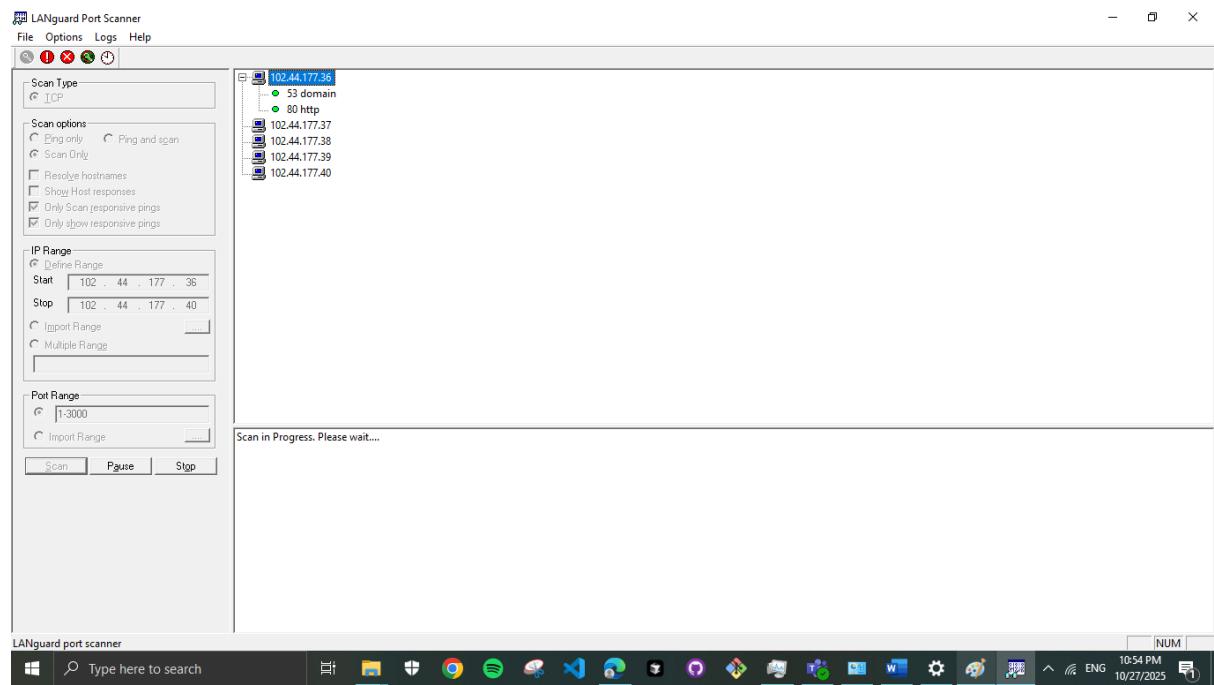


9. Remote Administration (using RDP)





10. LANguard port scanner



11. Advanced firewall options

