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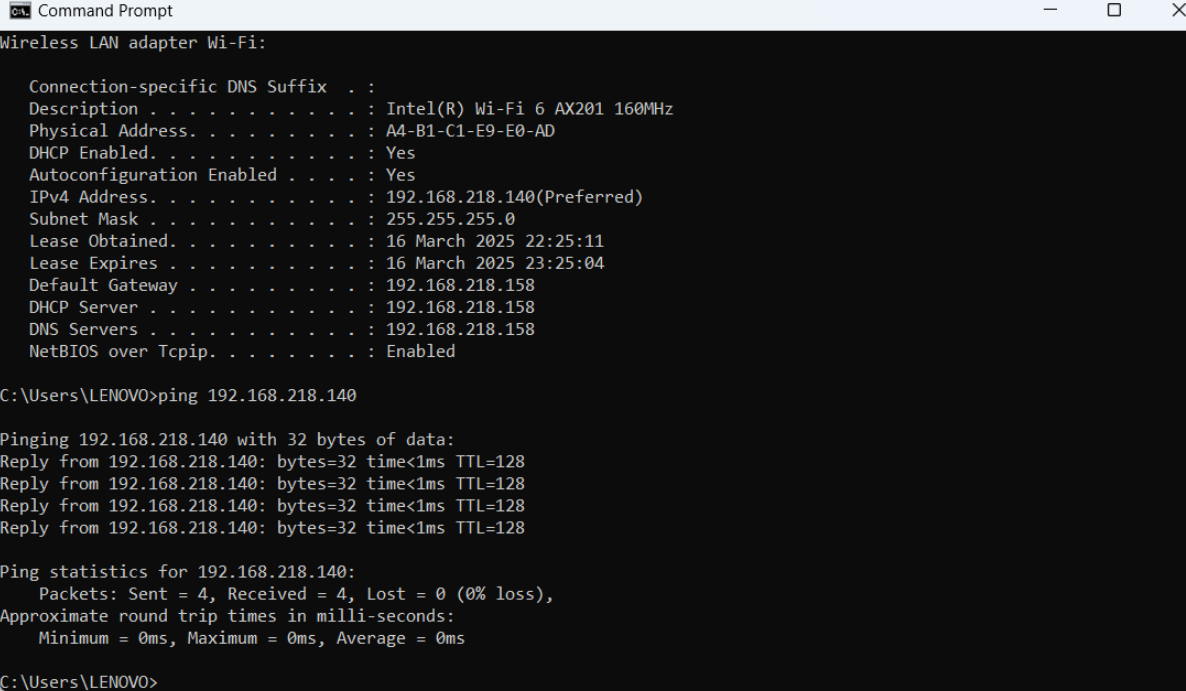
Network Training Programme

Module 6

Q1. Capture and analyze ARP packets using Wireshark. Inspect the ARP request and reply frames when your device attempts to find the router's MAC address.

Pinging to my Router using ping command in CMD

Router IP Address: **192.168.218.140**



```
C:\> Command Prompt

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix . : 
    Description . . . . . : Intel(R) Wi-Fi 6 AX201 160MHz
    Physical Address. . . . . : A4-B1-C1-E9-E0-AD
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    IPv4 Address. . . . . : 192.168.218.140(Preferred)
    Subnet Mask . . . . . : 255.255.255.0
    Lease Obtained. . . . . : 16 March 2025 22:25:11
    Lease Expires . . . . . : 16 March 2025 23:25:04
    Default Gateway . . . . . : 192.168.218.158
    DHCP Server . . . . . : 192.168.218.158
    DNS Servers . . . . . : 192.168.218.158
    NetBIOS over Tcpip. . . . . : Enabled

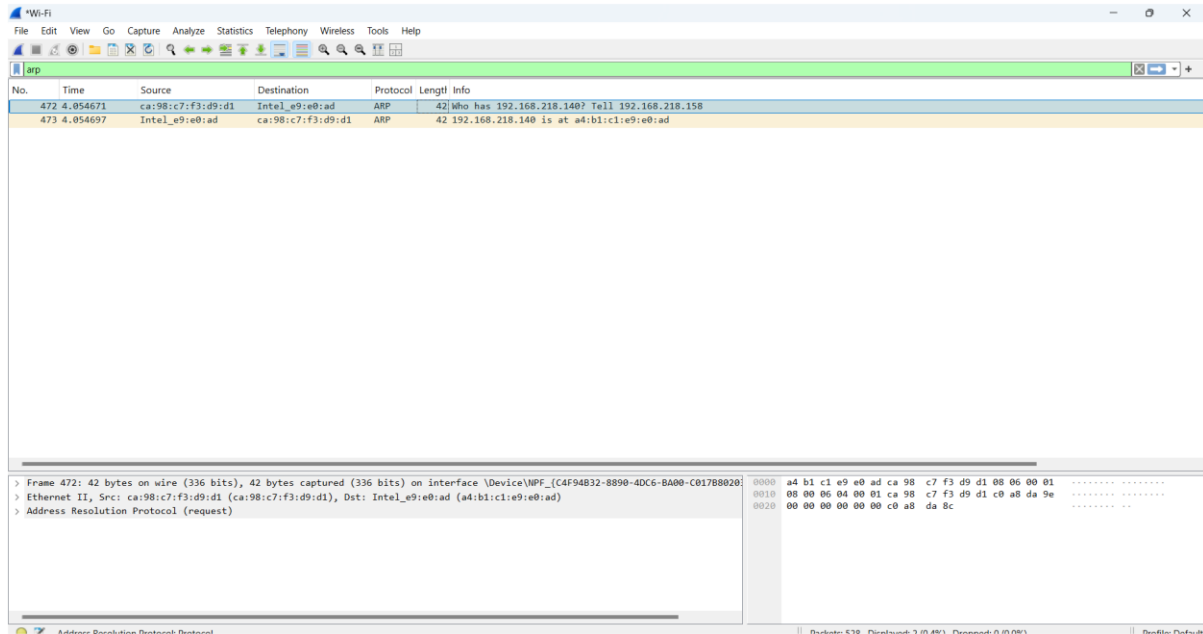
C:\Users\LENOVO>ping 192.168.218.140

Pinging 192.168.218.140 with 32 bytes of data:
Reply from 192.168.218.140: bytes=32 time<1ms TTL=128
Reply from 192.168.218.140: bytes=32 time<1ms TTL=128
Reply from 192.168.218.140: bytes=32 time<1ms TTL=128
Reply from 192.168.218.140: bytes=32 time<1ms TTL=128

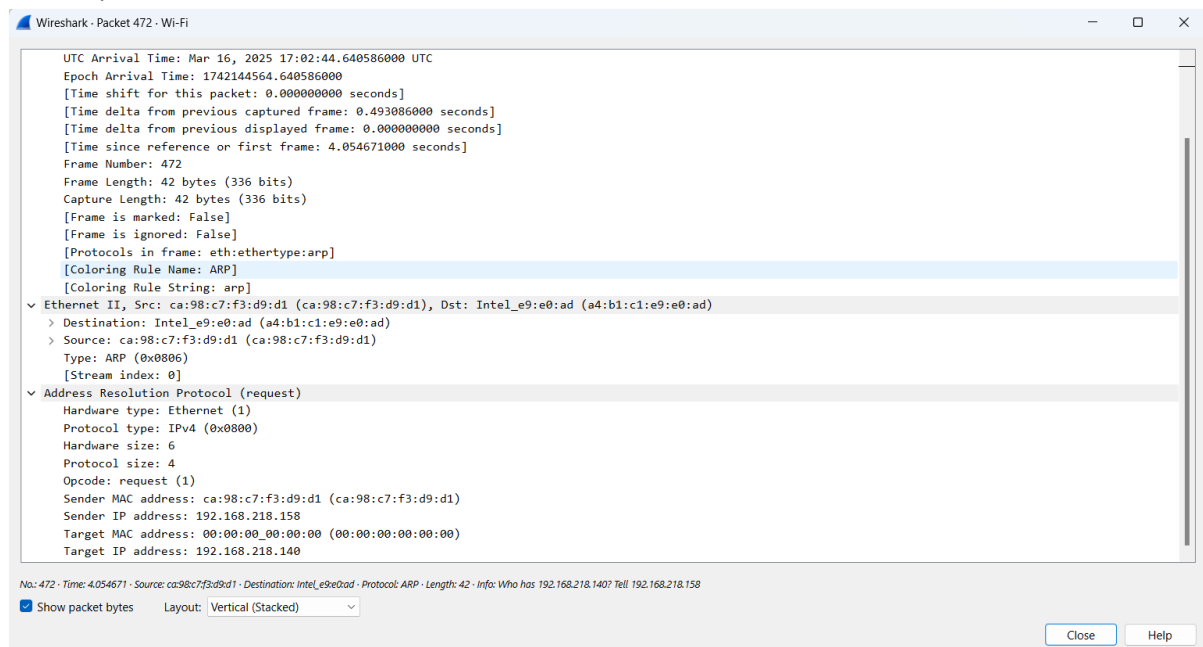
Ping statistics for 192.168.218.140:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\LENOVO>
```

## Capturing ARP packet using Wireshark

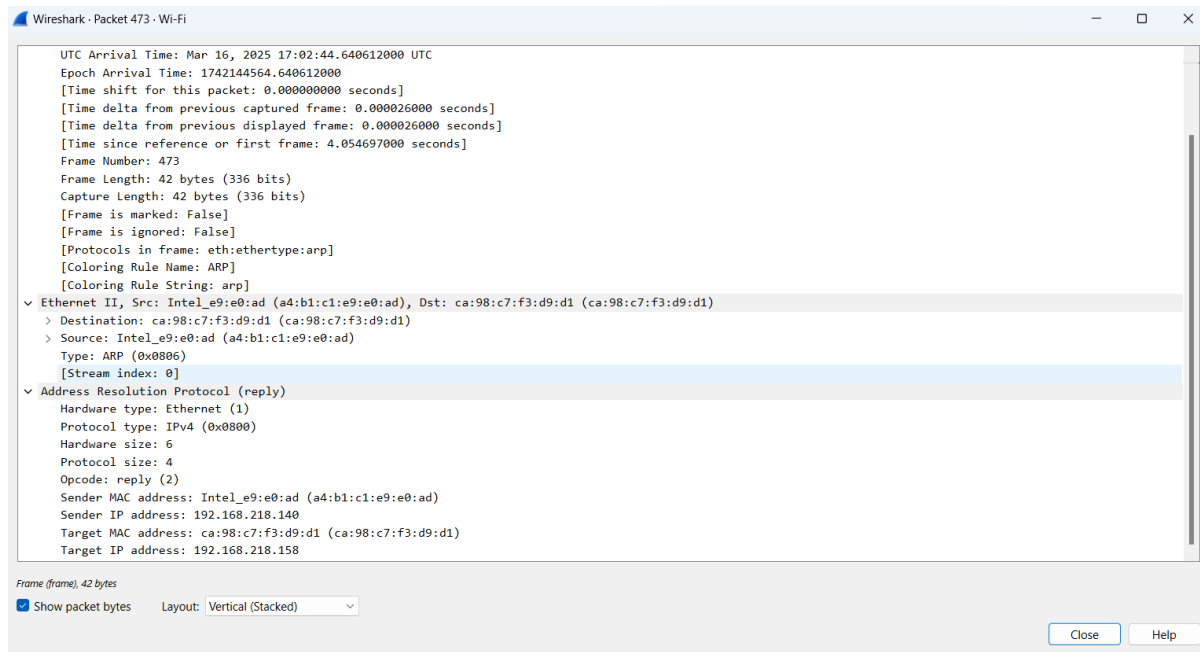


## ARP Request Frame



❖ Here in ARP Request, we don't know the Target MAC Address we only Know IP Address

## ARP Reply Frame



- ❖ Once the Target IP address responds to the ARP request in form of ARP Repl we get to know the MAC Address.

## Key Learning:

- ARP is like asking, "Who lives at this IP?" – It maps IPs to MAC addresses so devices can talk within a network.
- The targeted device tells (ARP Request), and the router answers (ARP Reply) – This is how they find each other.
- Without ARP, no local network communication! – Every data packet needs a MAC to reach the right device.