# INZ004407L Computer Networks

**Laboratory tasks Data link layer – Ethernet**

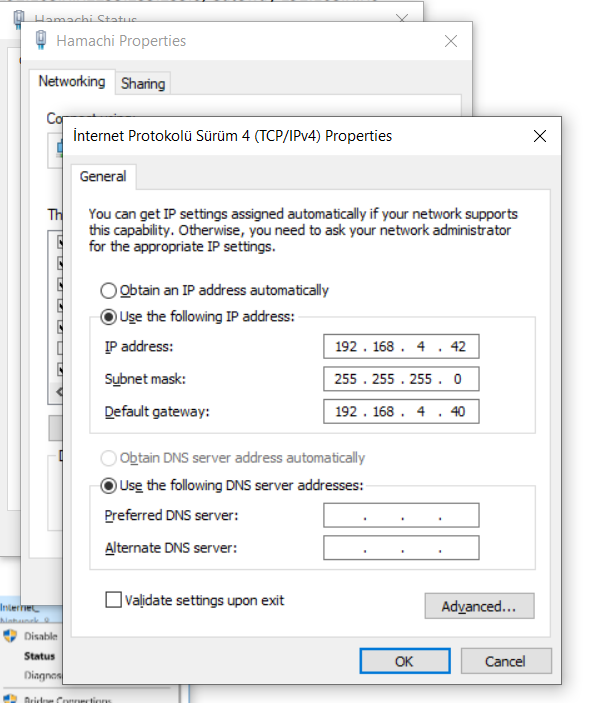
*Group Number = 4*

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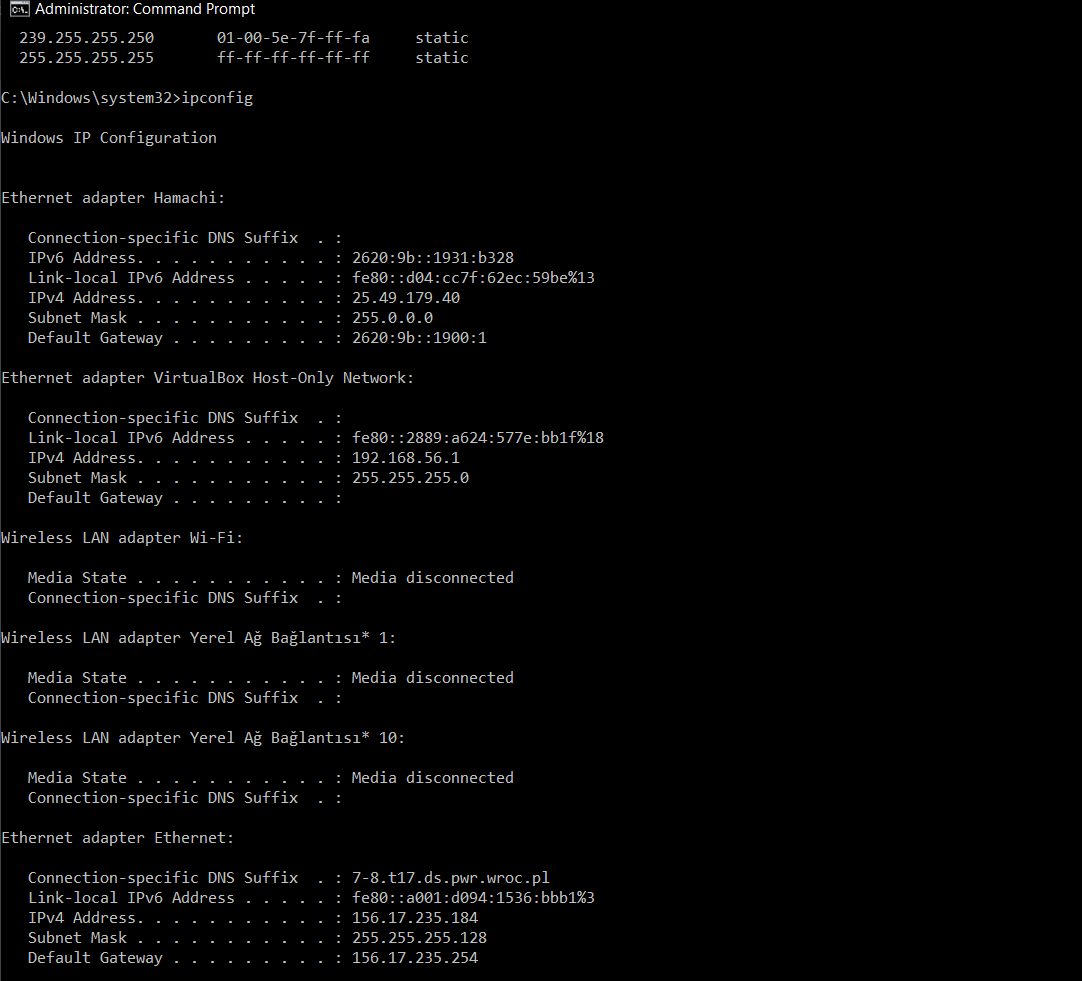
**TASK 1**

**Configure the IP address to static.**

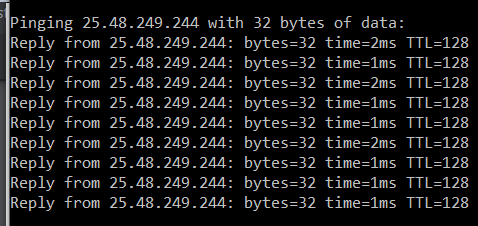


**After the configuration we should make IP address to dynamic for connection to teammate using Hamachi.**

**Hamachi ethernet adapter configurations.**

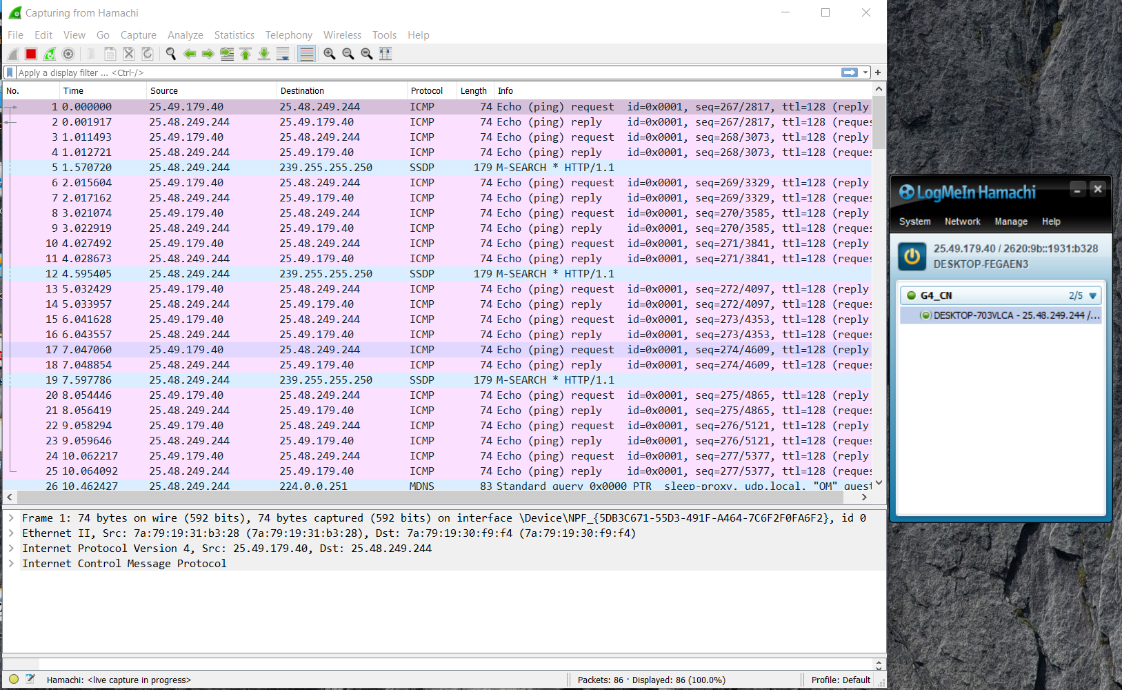
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**Pinging to teammate.**

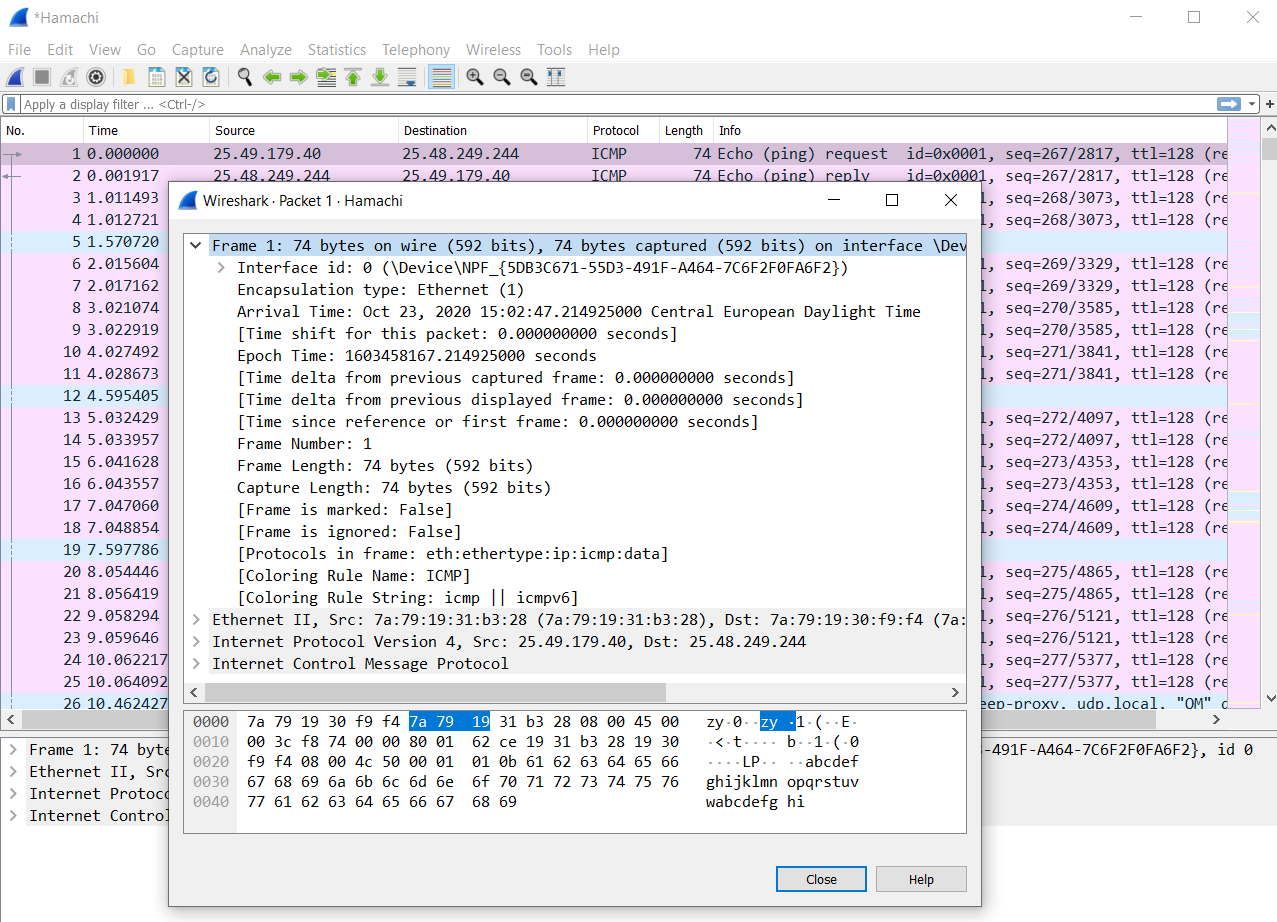
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Task 2

**Tracking ICMP protocols ( sending ping to teammate) in Wireshark program**

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**Analyze the Ethernet frame**



**Frame ID 1**

**Analyze the Ethernet frame. Find and write the following data:**

Frame 1: 74 bytes on wire (592 bits), 74 bytes captured (592 bits) on interface \Device\NPF\_{5DB3C671-55D3-491F-A464-7C6F2F0FA6F2}, id 0

Ethernet II, Src: 7a:79:19:31:b3:28 (7a:79:19:31:b3:28), Dst: 7a:79:19:30:f9:f4 (7a:79:19:30:f9:f4)

0000 7a 79 19 30 f9 f4 7a 79 19 31 b3 28 08 00

Recipient MAC Address : 7a:79:19:30:f9:f4

Sender MAC Address : 7a:79:19:31:b3:28

Internet Protocol Version 4, Src: 25.49.179.40, Dst: 25.48.249.244

Internet Control Message Protocol

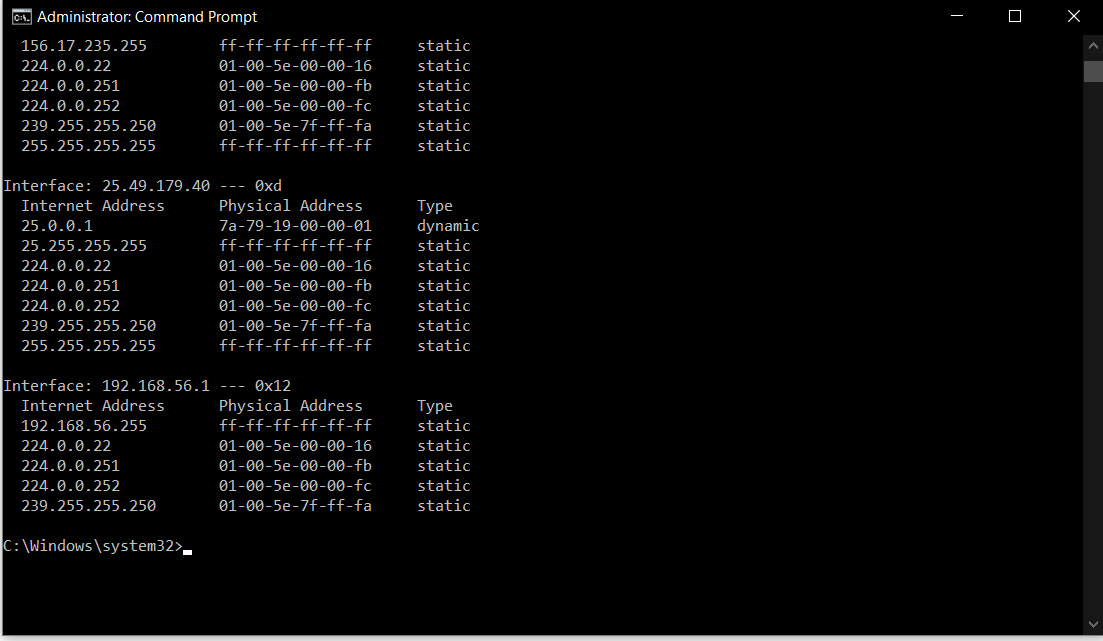
Destination MAC Address -> 7a:79:19:30:f9:f4 -> 7a79.1930.f9f4

Source MAC Address -> 7a:79:19:31:b3:28 -> 7a79.1931.b328

When we compare these, destination physical address (MAC addresses) is lower than source physical address. Because in the second part of addresses, 1 is bigger than 0. That means destination is lower and source is higher.

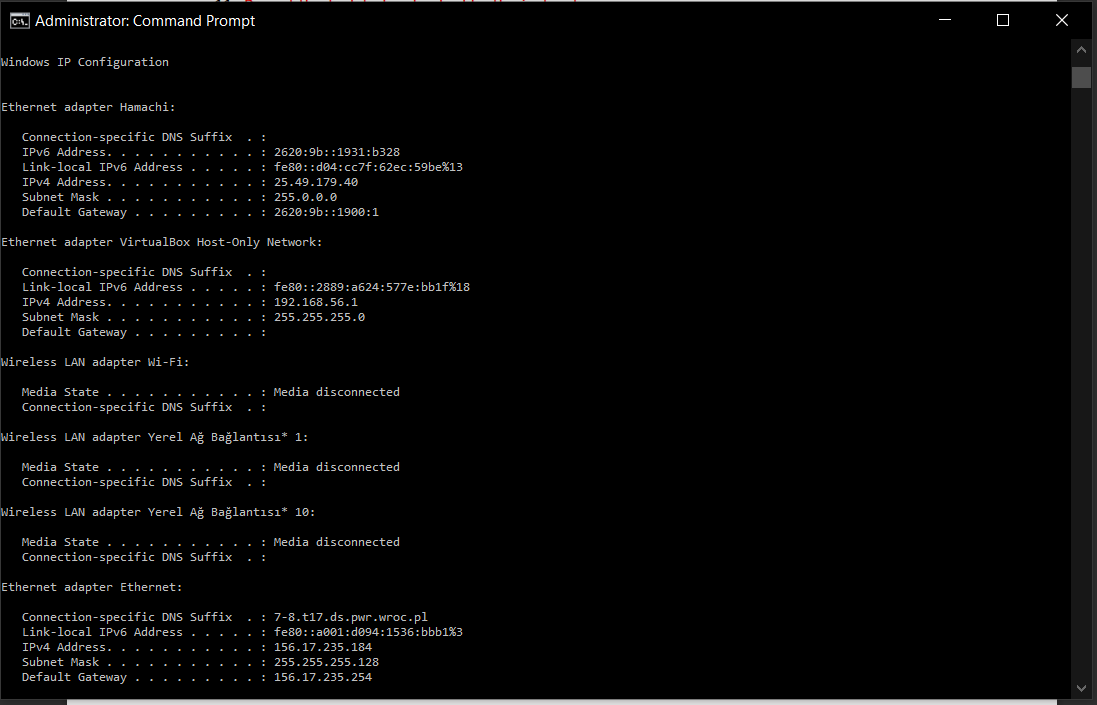
**TASK 3**

Check the IP addresses on the PC interfaces connected to the external network

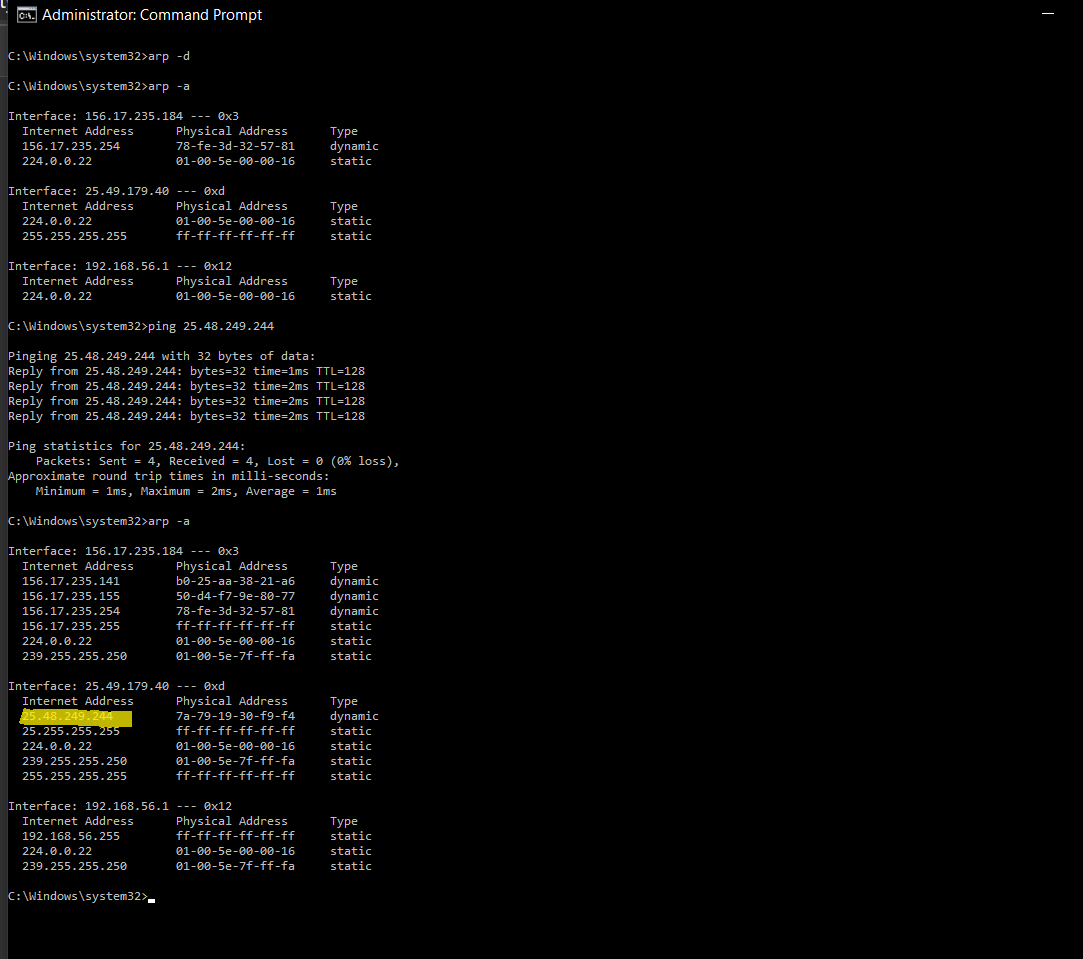
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Analysis of the ARP3 protocol.

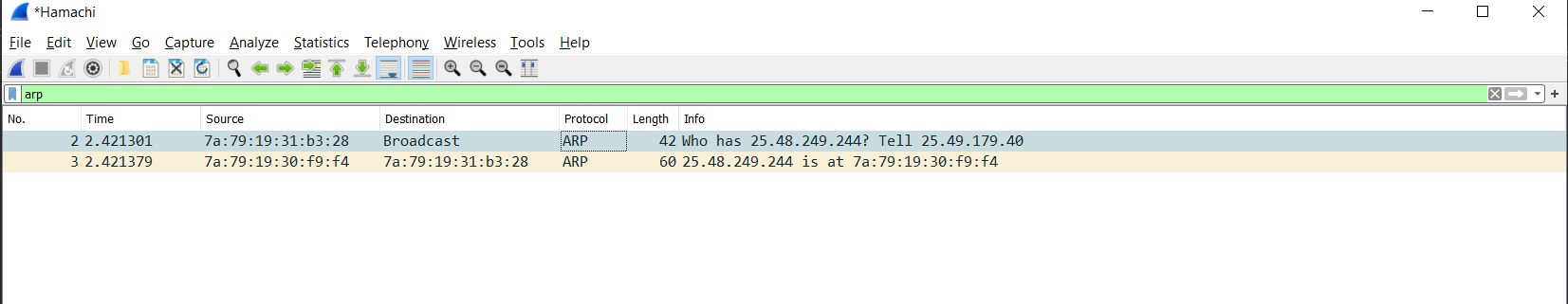
3. Checking physical addresses of external PC network interfaces



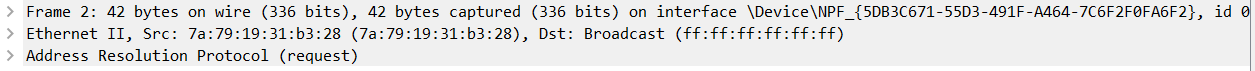
4. Analyze the contents of the ARP table of PCs in Windows.

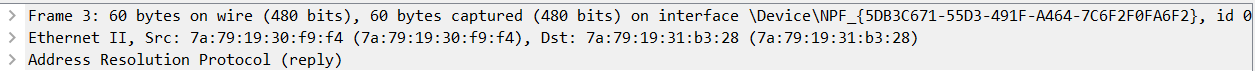
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9. Arp Frames



ID – Source and Destination MAC addresses – ARP content





ARP protocol analysis for external hosts communication. Analysis of MAC addresses of external hosts

239.255.255.250 IP is added to ARP table. This address is used UPnP / SSDP discover devices on a VLAN. That’s the answer of *“why these addresses are not different from each other”. So all data are sent via SSDP.*

