

NETWORKS LAB

Experiment-2

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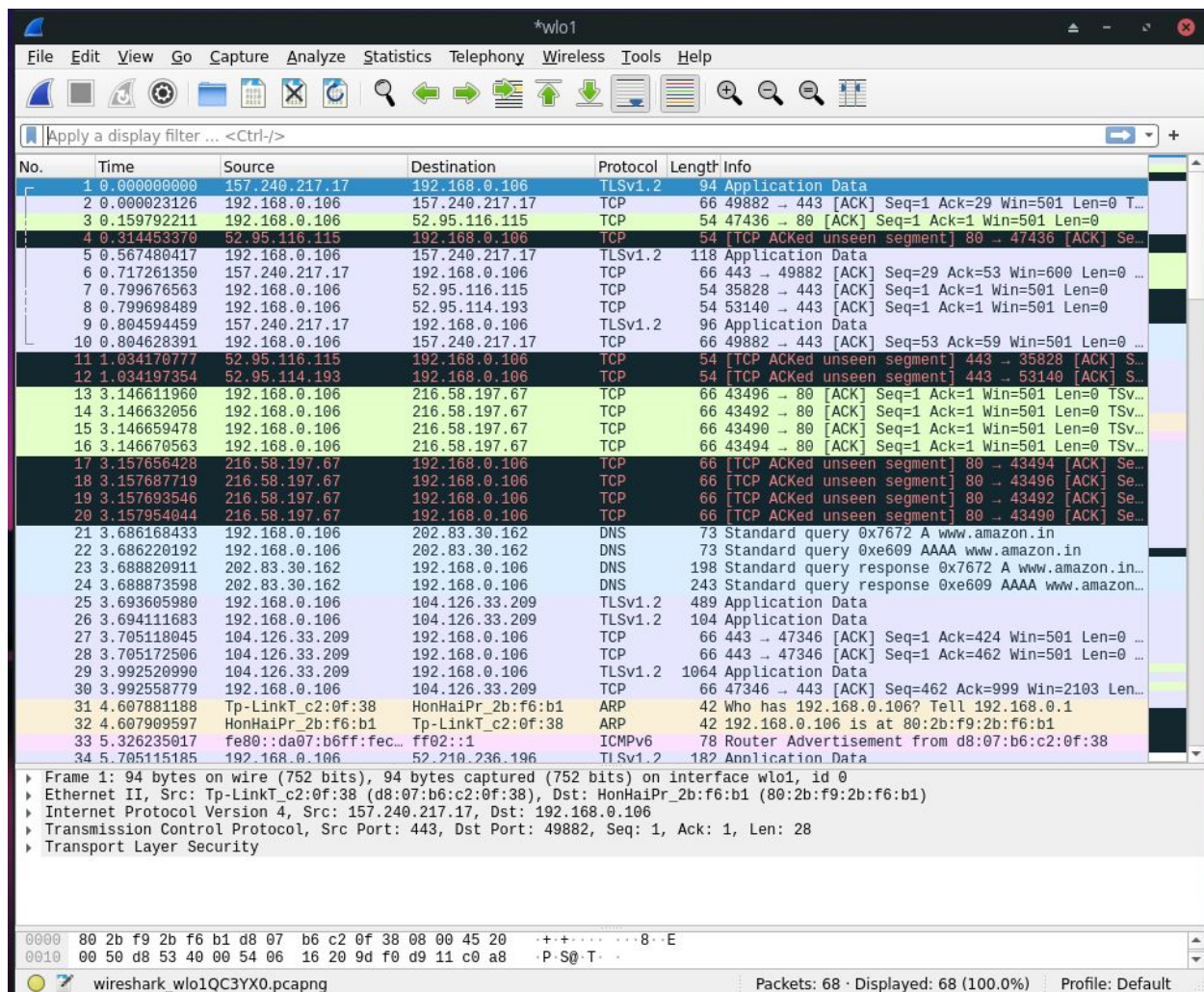


Fig.1 Capturing packets for 5seconds using wireshark

1. For an IP and ARP packet, compare the MAC header of these two packets and find the protocol ID for ARP and IP, if exists.

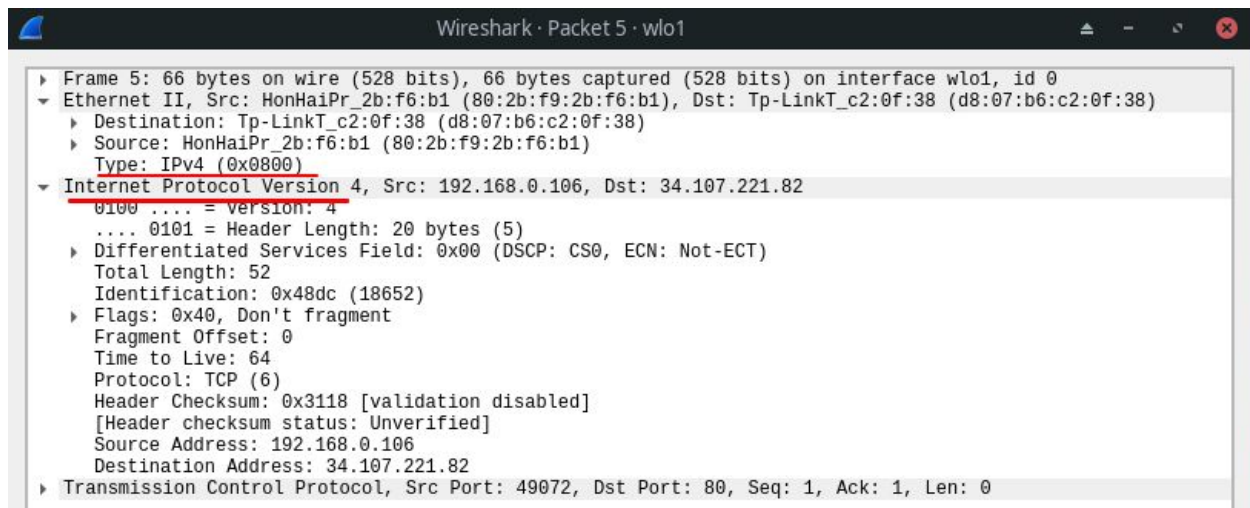
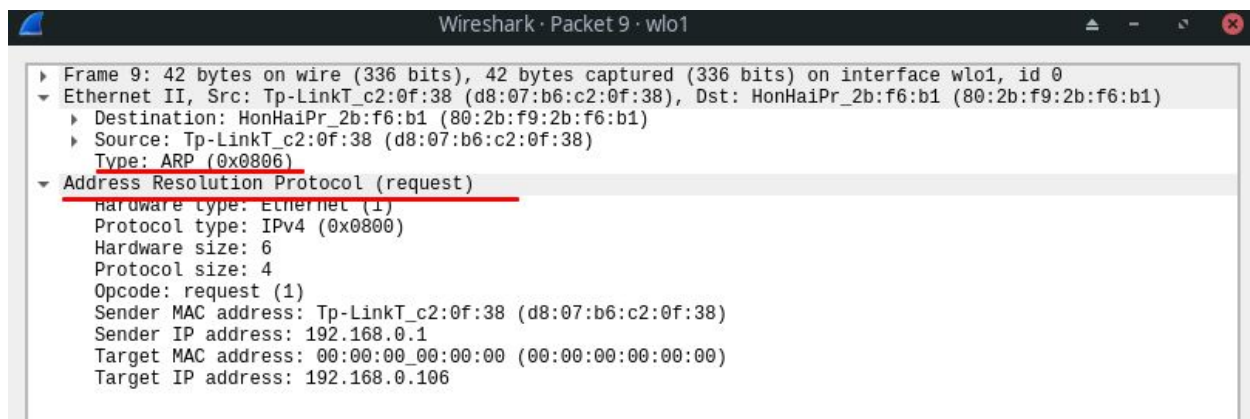
Ans : MAC header contains Destination MAC address ,Source MAC address and Ether type fields. These data fields are added at the beginning of a network packet in order to turn it into a frame to be transmitted.

For **IP** , the Ether type in MAC header is **IPv4 (0x0800)**

For **ARP** , the Ether type in MAC header is **ARP (0x0806)**

Protocol ID of IP is **TCP (6)**

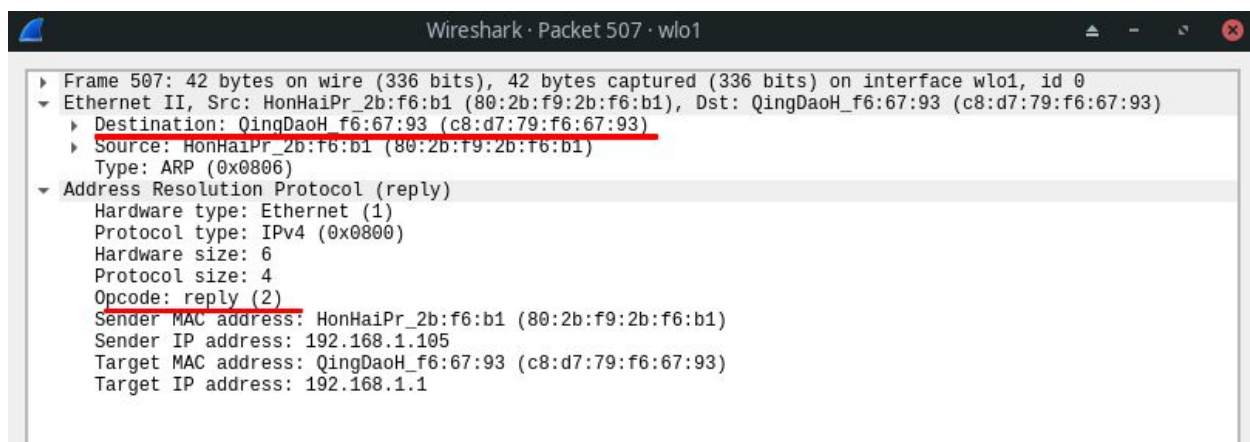
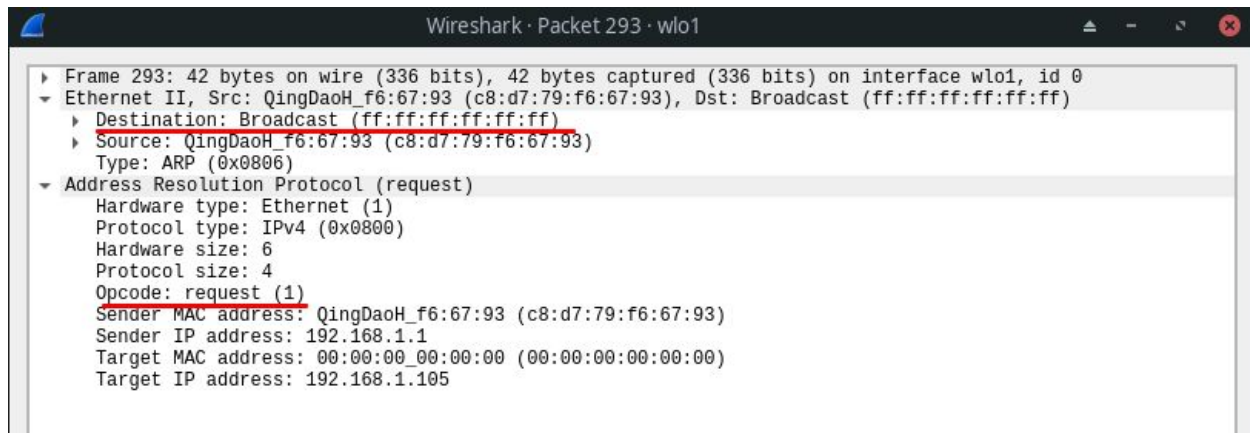
Protocol ID of ARP is **IPv4(0x0800)**



2. Is the destination address of the ARP packet a broadcast address or a unicast address?

Ans :

Destination address for the ARP request packet is **broadcast address** and the destination address for ARP reply packet is **unicast address** .



3. Is the ARP packet a request or reply packet? Justify.

Ans:

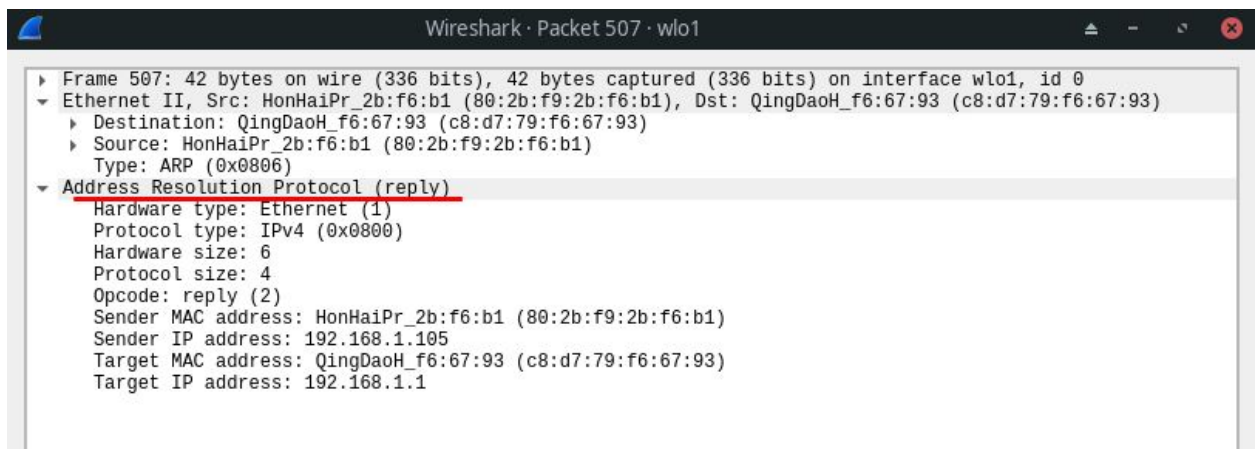
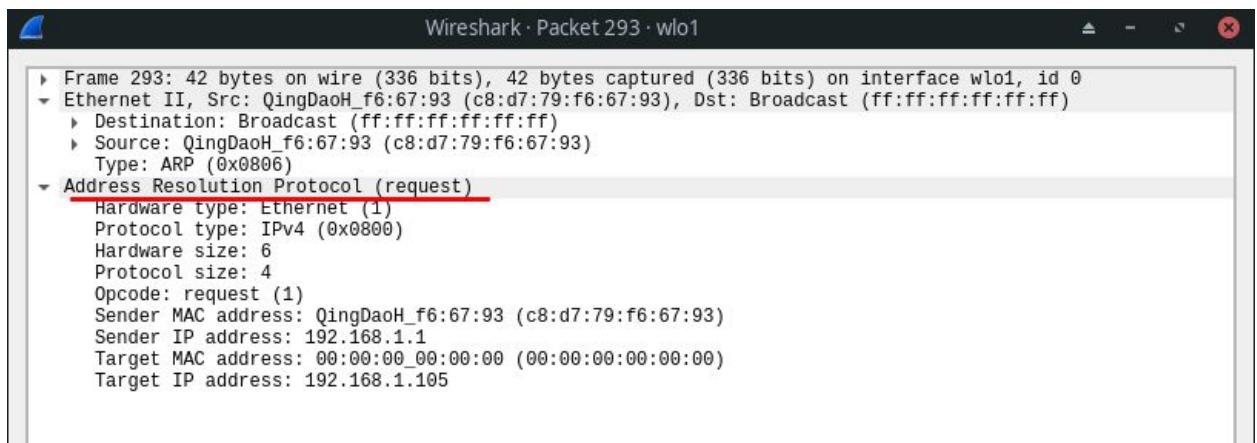
There are 2 types of ARP packets :

a) ARP request

b) ARP reply

If the MAC address of the destination is not in the ARP cache or ARP table, then the Source generates an ARP Request message.

The destination sends an ARP reply packet when the destination address matches the device.

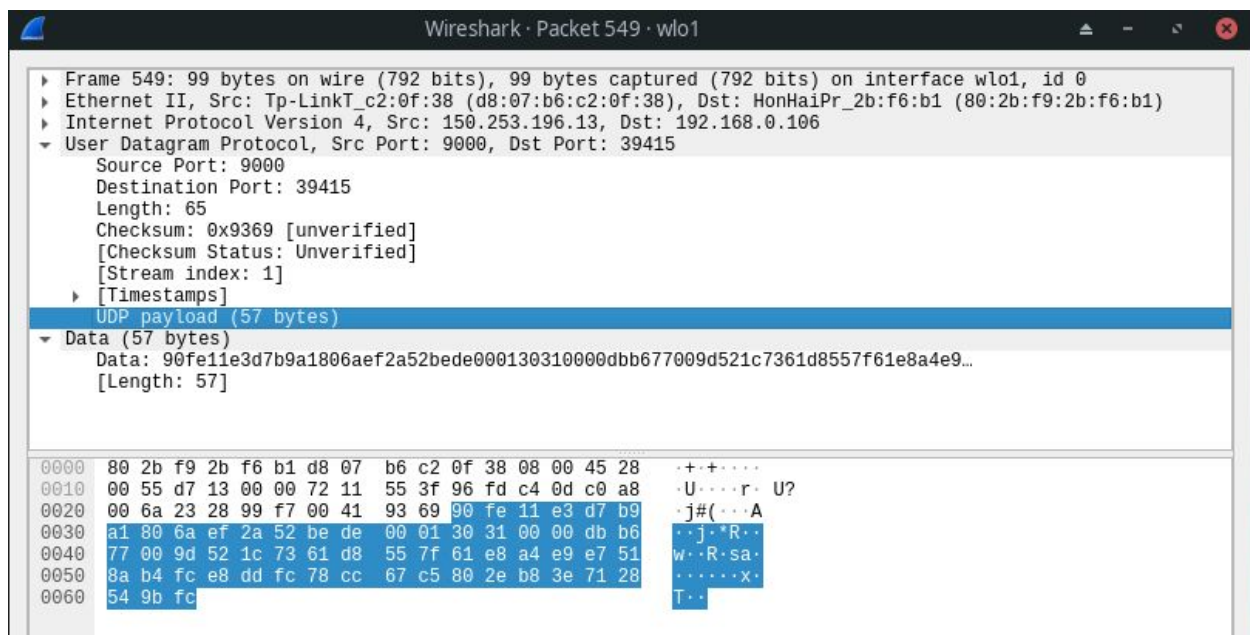


4. Examine the payload of the packet.

Ans :

Payload of the packet :

- When data is sent over the internet, each unit transmitted includes both header information and the actual data which is being sent which is called payload. Header information is just overhead data used in the process of transmission.
- Each layer's protocols has its own set of headers and payload.
- Payload of a particular layer is basically the data coming from the below layer's protocol. Say for internet layer protocol, the application layer data would be the payload and for transport layer protocol, the data of the internet layer (header + data) would be considered as its payload.



Payload of ARP packet consists of four addresses, the hardware and protocol address of the sender and receiver hosts.

5. What transport layer protocols are used in Skype and Zoom ?

Ans:

Skype and zoom use both **TCP** and **UDP** protocols. Since the video transfer should be done in real time it uses **UDP** protocol and the other features such as Chatting components use **TCP** protocols.