Computer Networks Lab 8

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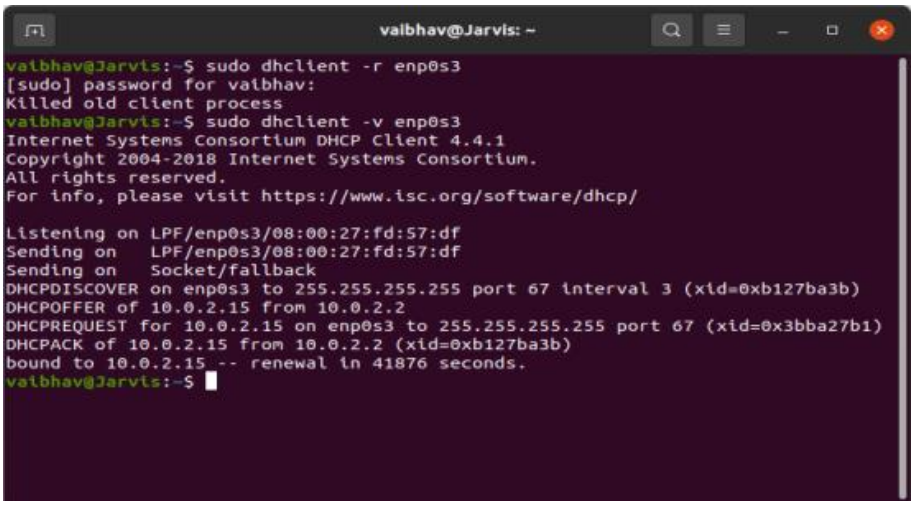
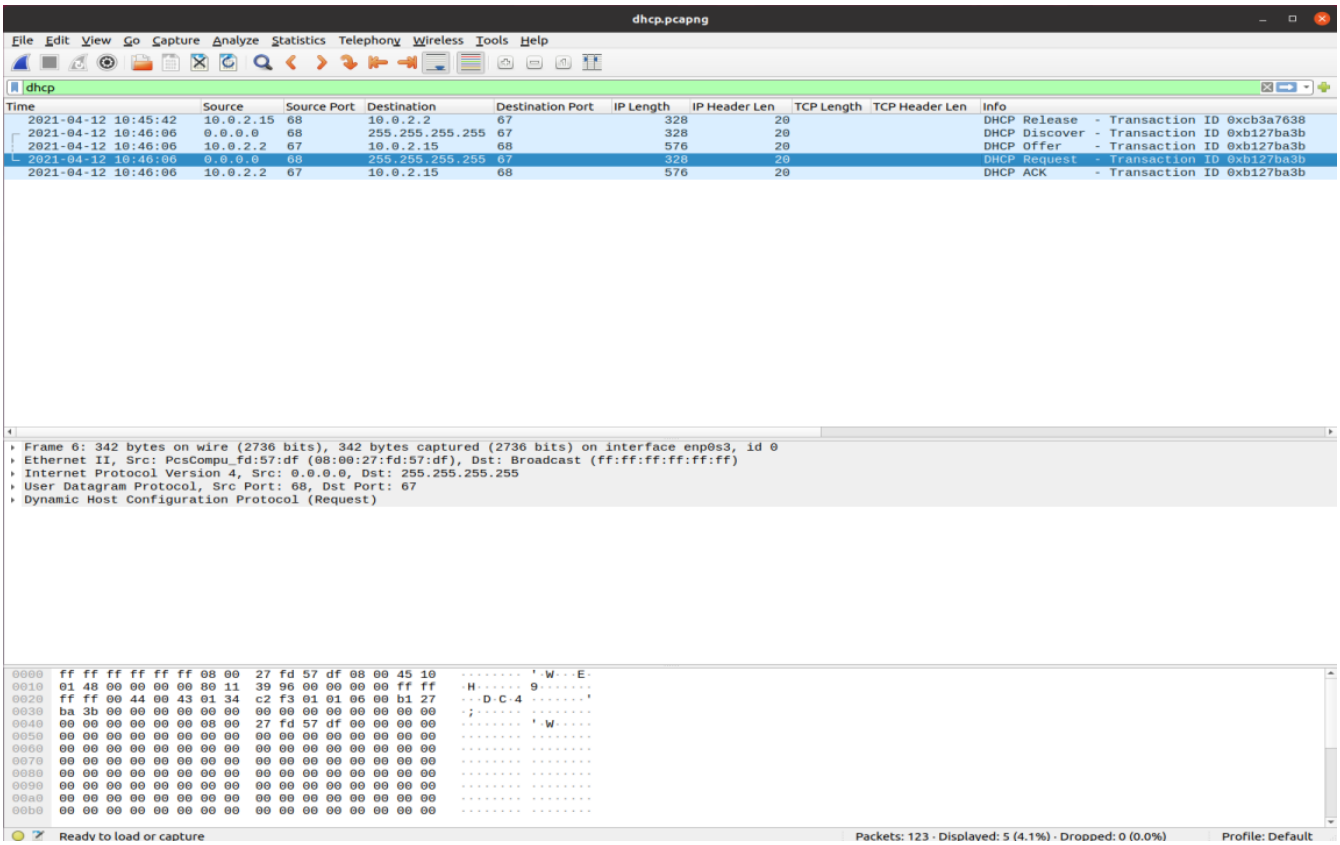
Use Wireshark to capture packets in your LAN.

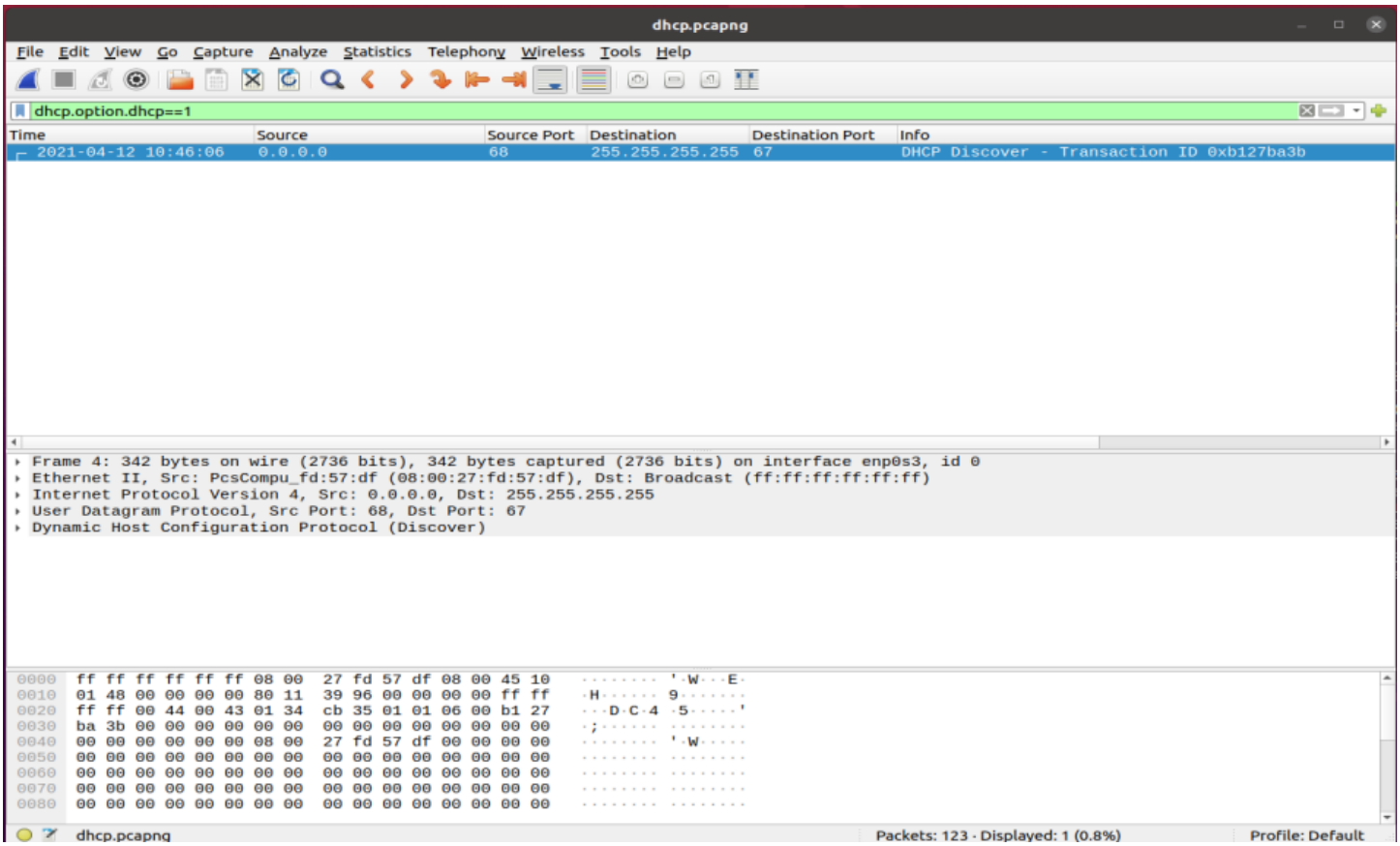
1. Show a round of execution of the DHCP protocol.





The filter used here is **dhcp** or **udp.port==67**. So we can use any one of them.

Show DHCP Request (2 marks),

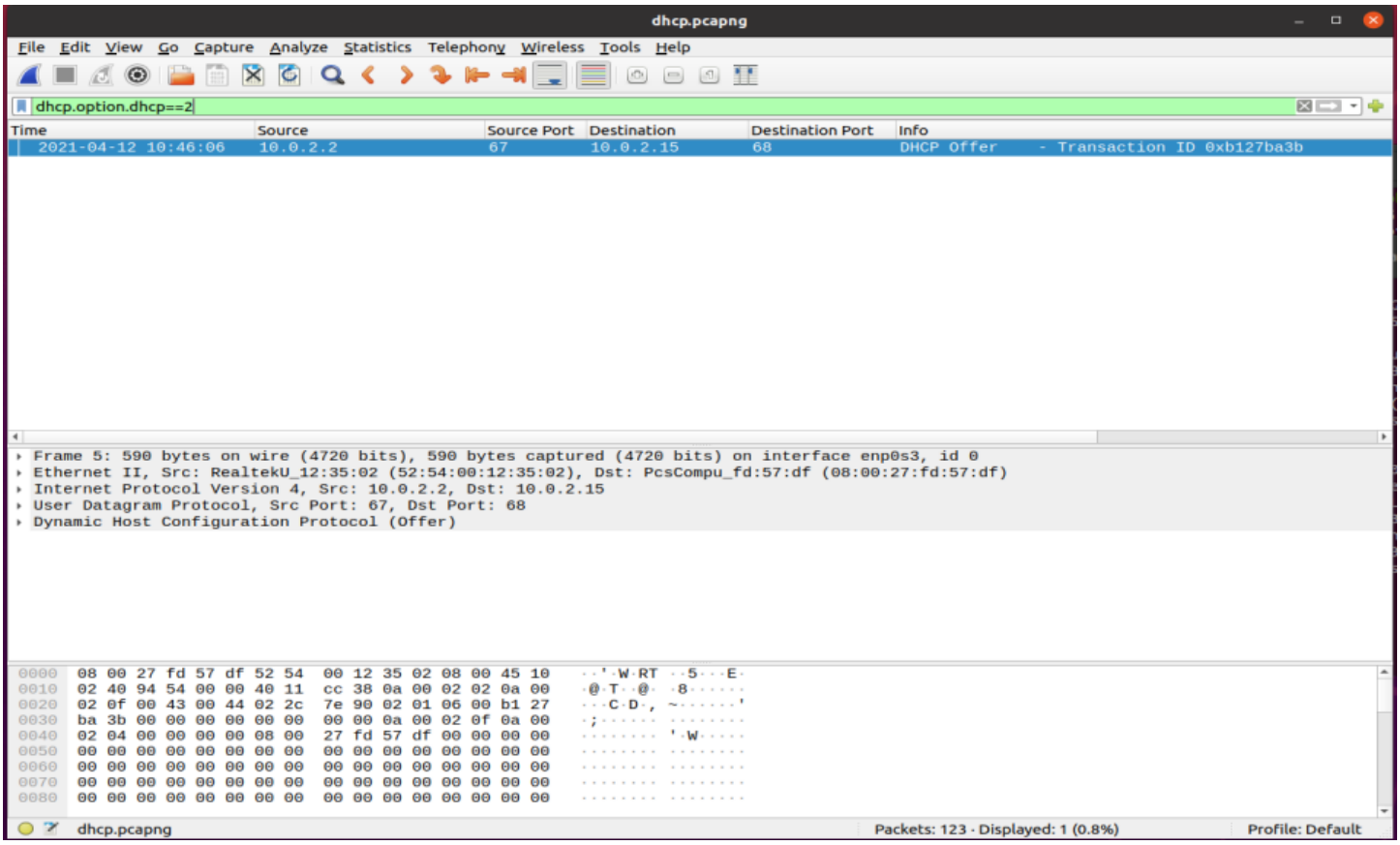


The filter is **dhcp.option.dhcp==1**

Here 1 is for Discover.

Here Discover=Request

Reply (2 marks),

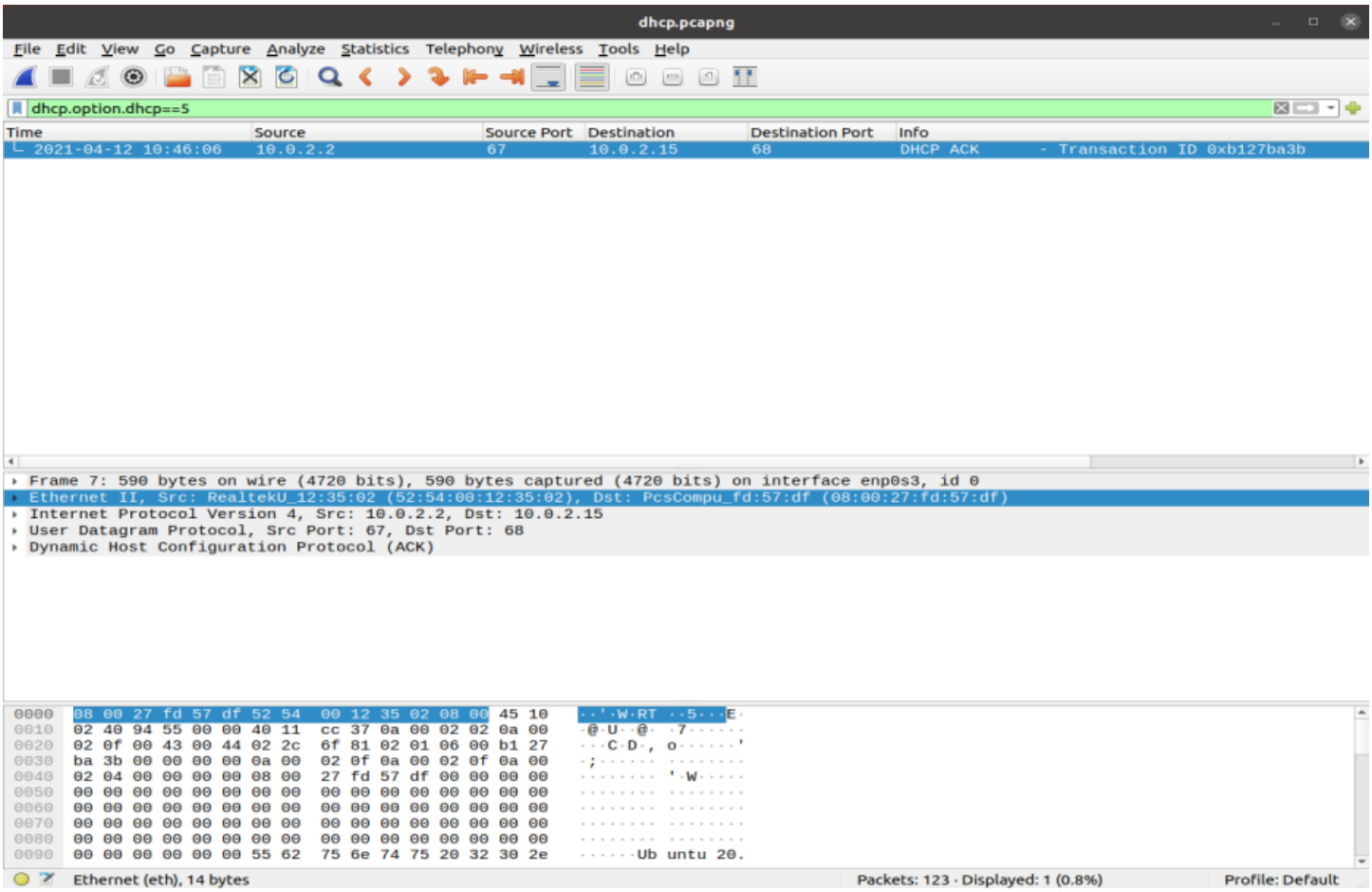


The filter is **dhcp.option.dhcp==2**

Here 2 for offer.

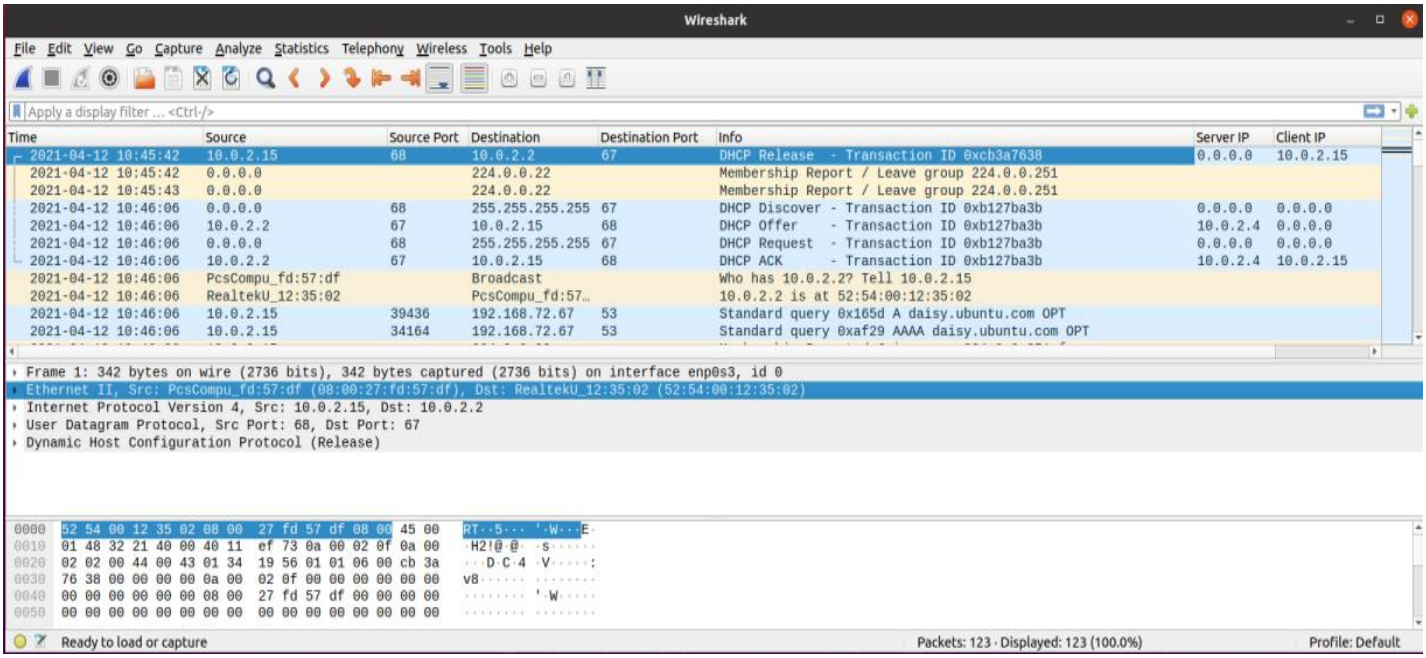
Here Offer =Reply

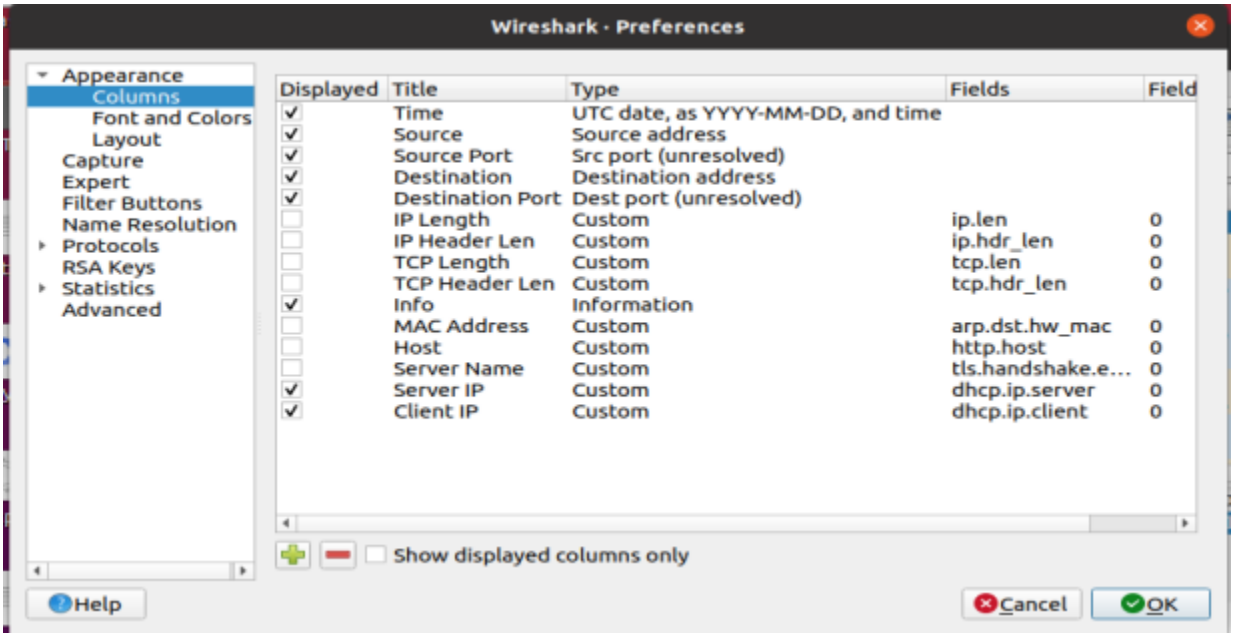
ACK messages (2 marks) in that round.



The filter is **dhcp.option.dhcp==5** where 5 is for acknowledgement.

Find out IP addresses of the DHCP server (2 marks) and client (2 marks). Write the filter and show the output in a screenshot.

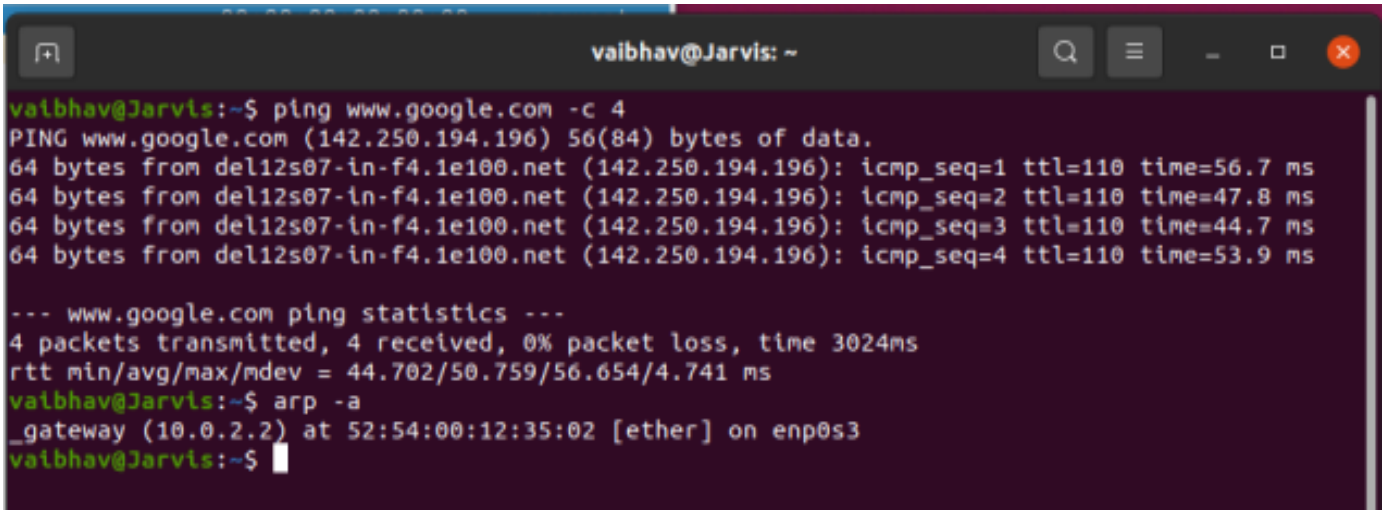


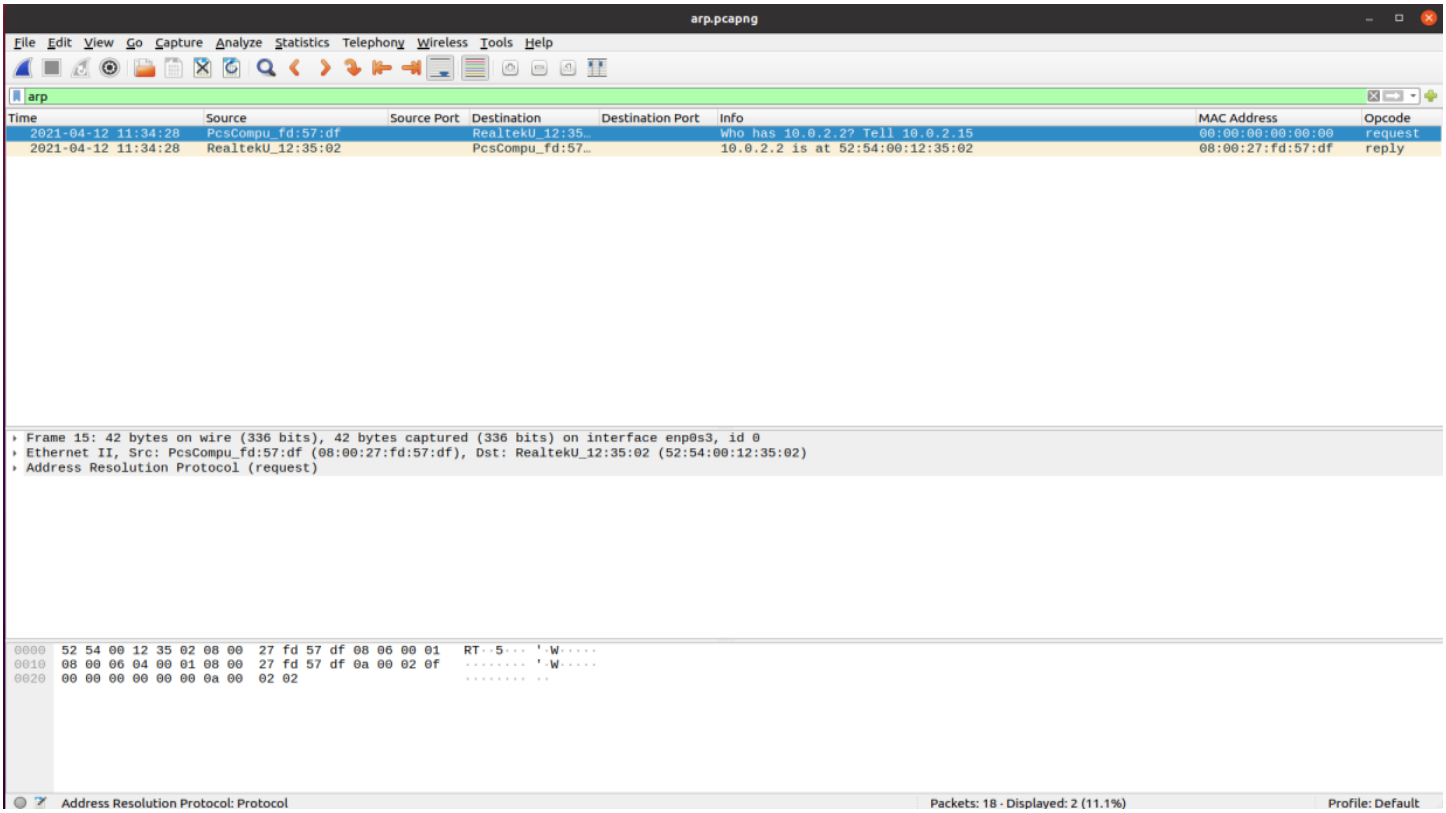


Filter for IP address of server: **dhcp.ip.server**

Filter for IP address of client: **dhcp.ip.client**

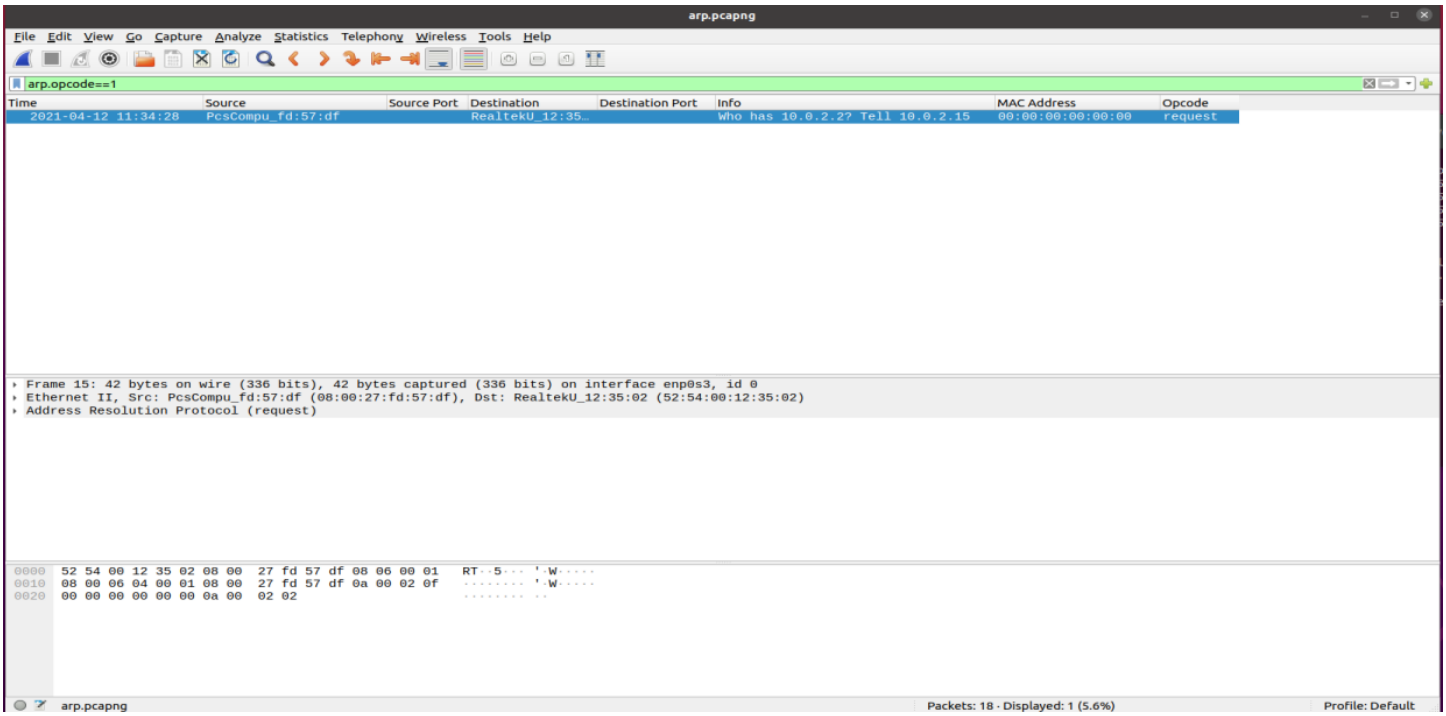
2. Show a round of execution of the ARP protocol.





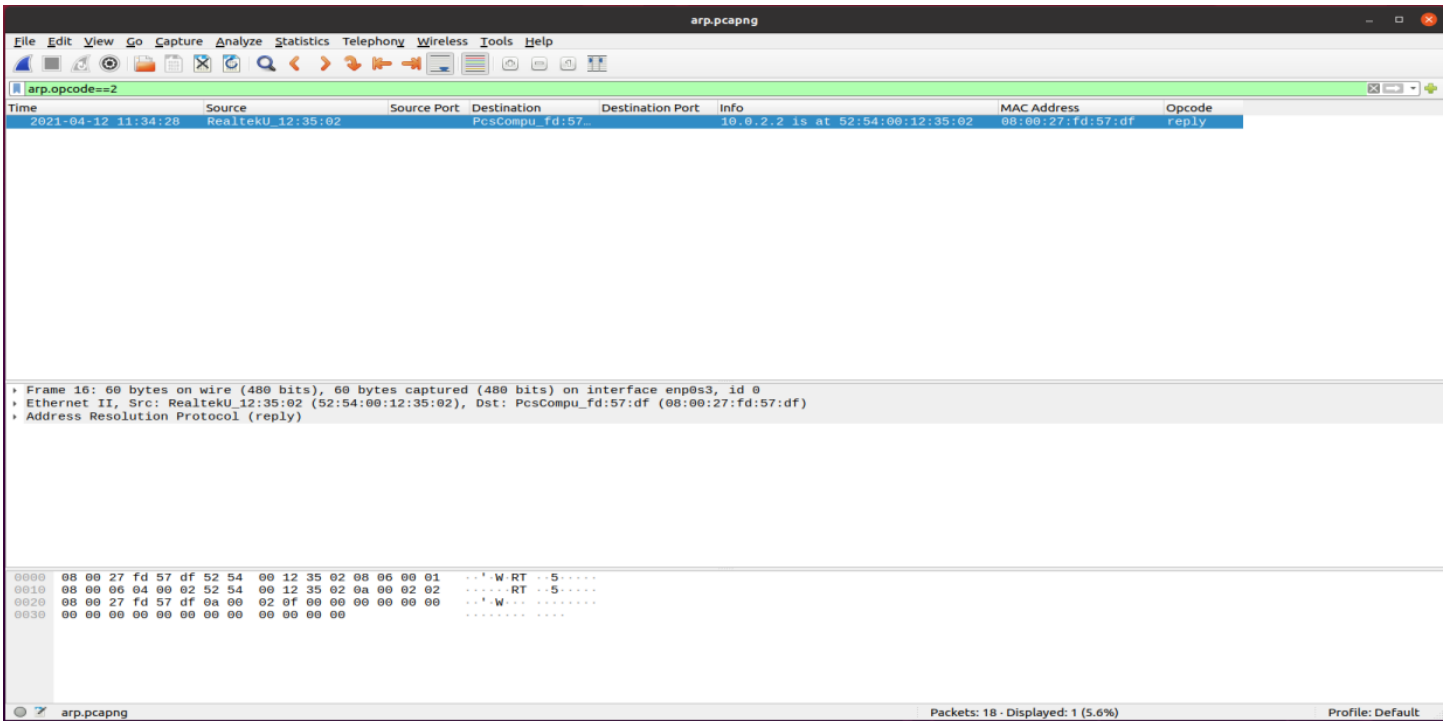
The filter used here is **arp** to filter It out.

Show ARP Request (2 marks)



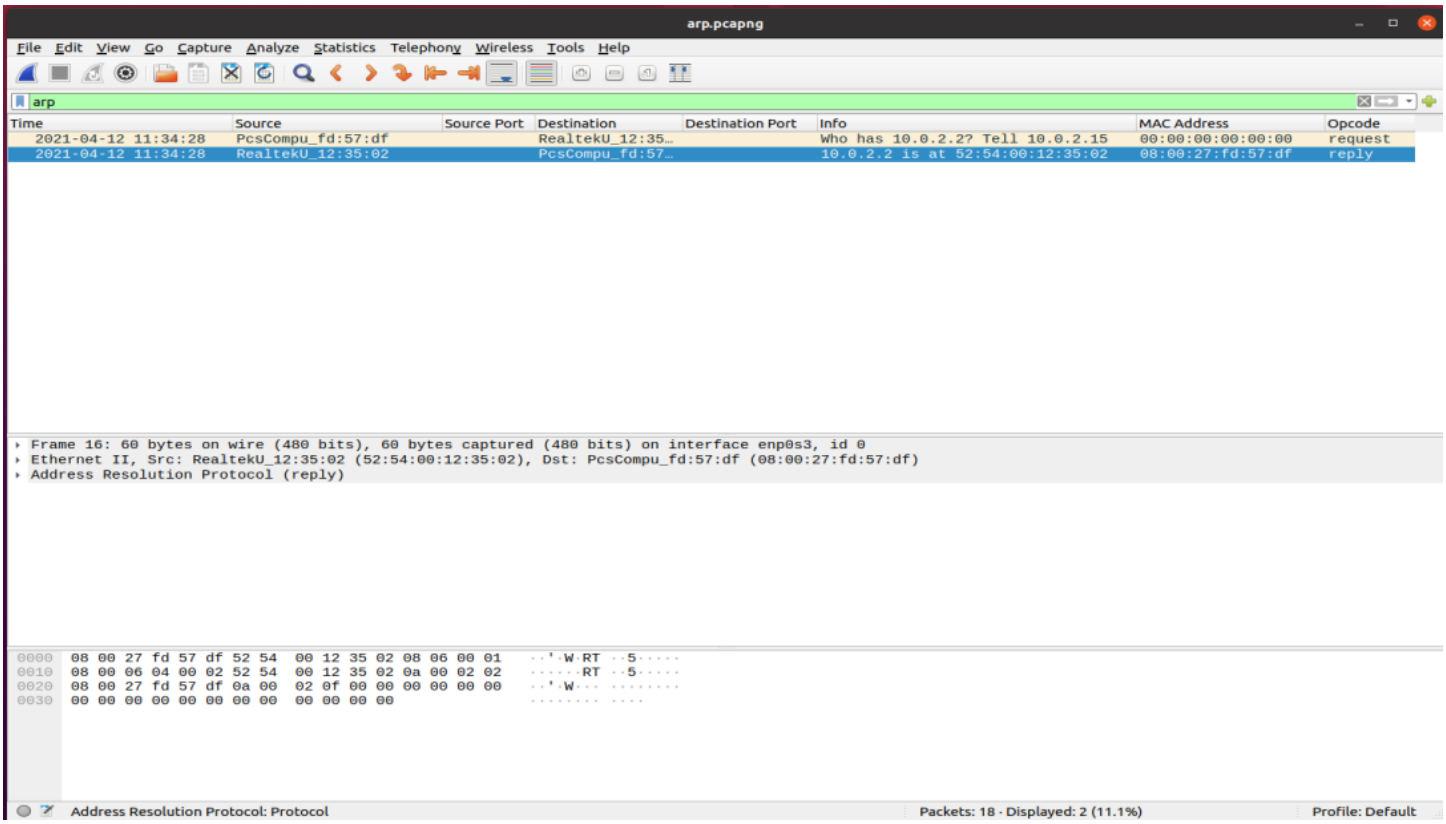
The filter is **arp.opcode==1** for request

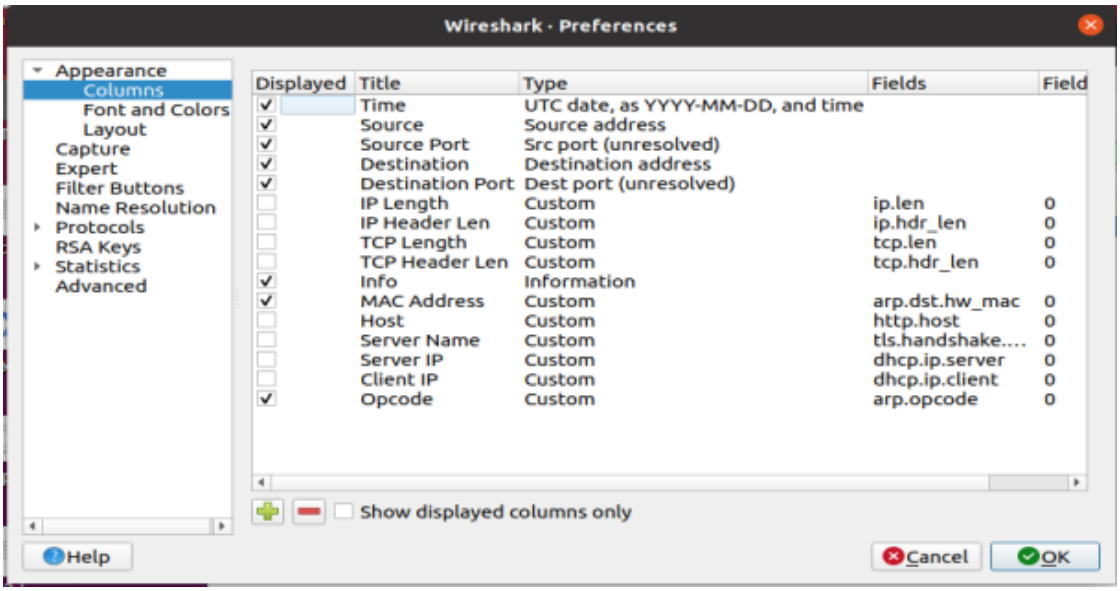
Reply (2 marks) messages in that round.



The filter is **arp.opcode==2** for reply

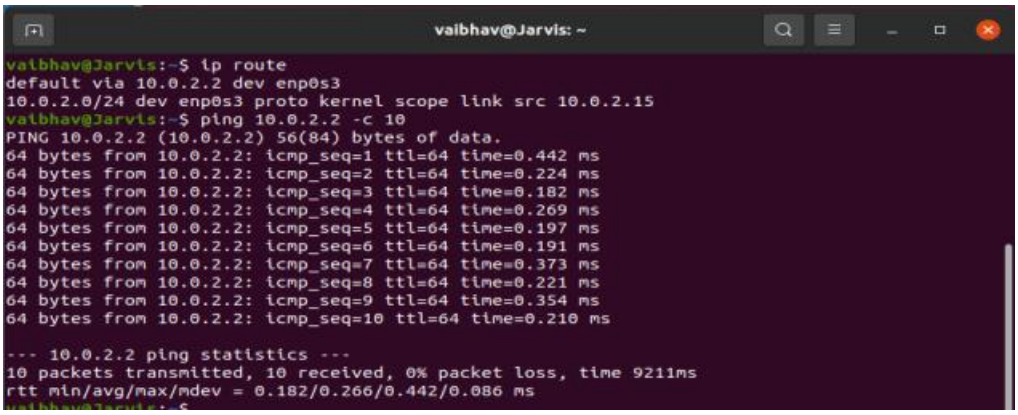
Find the MAC address of the replier (2 marks). Write the filter and show the output in a screenshot.

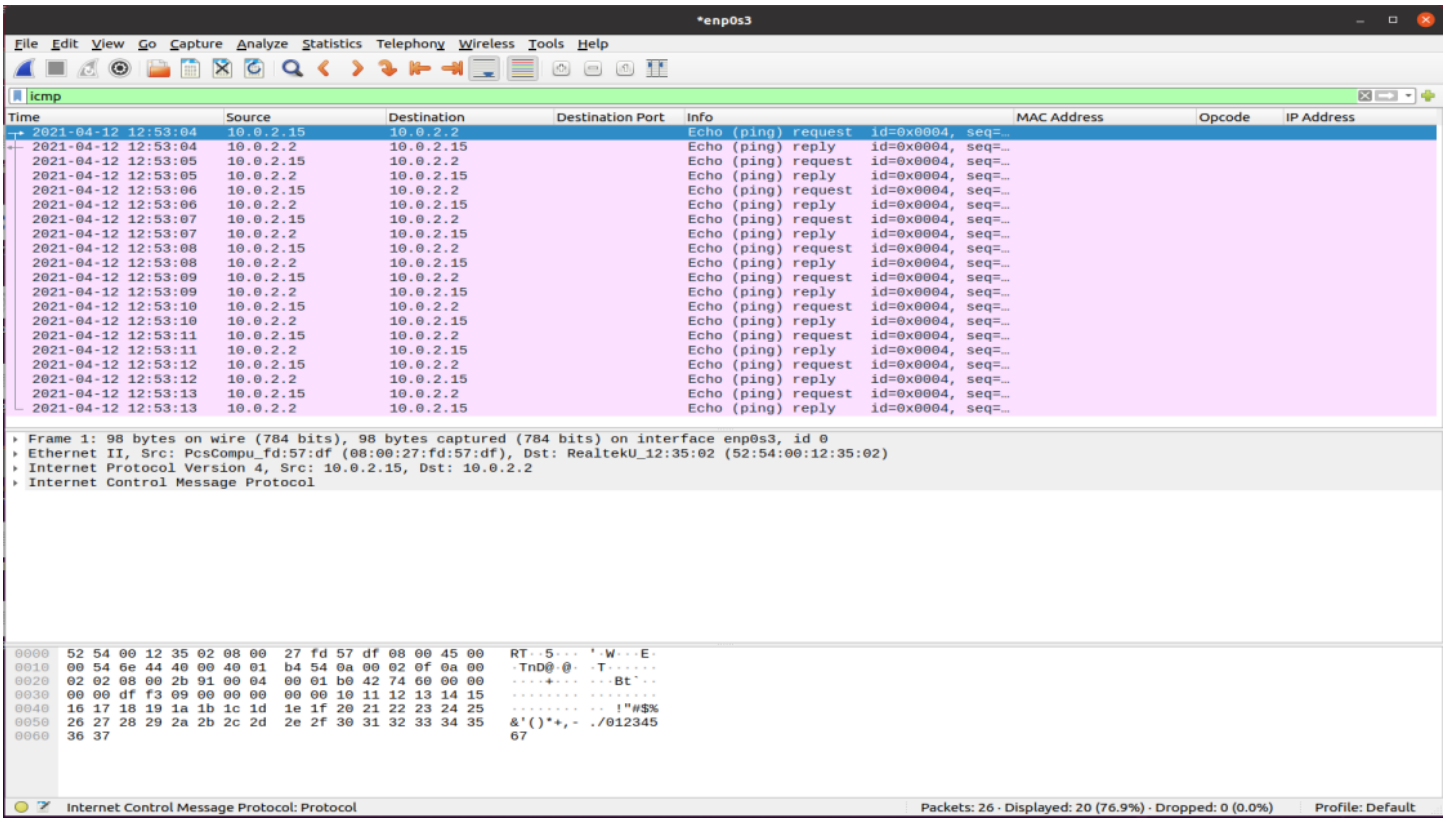




The filter for the MAC address is **arp.dst.hw_mac.** I have added a column to get the MAC Addresses.

3. Find the MAC address and the IP address of the Gateway router (2 marks). Write the filter and show the output in a screenshot.





The filter is **icmp.**

The IP Address of the Gateway Router is 10.0.2.2 as seen from the image above.

The MAC Address of the Gateway Router is 52:54:00:12:35:02