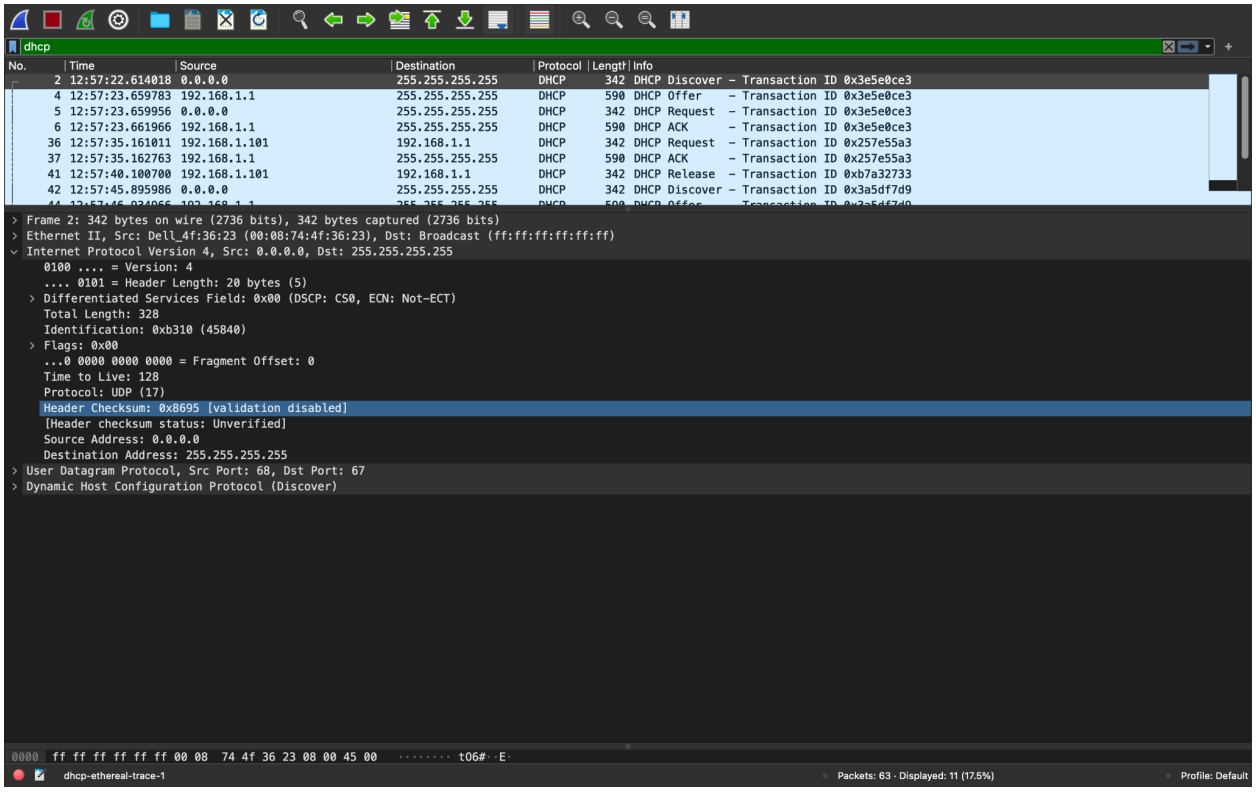
Foundation of Computer Networks - Wireshark Project
Bhavin Oza (bo2115)

```
Bhavin@Ozas-MacBook-Pro ~ % sudo ipconfig set en0 none
Password:
Bhavin@Ozas-MacBook-Pro ~ % ipconfig set en0 dhcp
ipconfig_set en0 dhcp failed: permission denied
Bhavin@Ozas-MacBook-Pro ~ % sudo ipconfig set en0 dhcp
Bhavin@Ozas-MacBook-Pro ~ %
```



1). UDP

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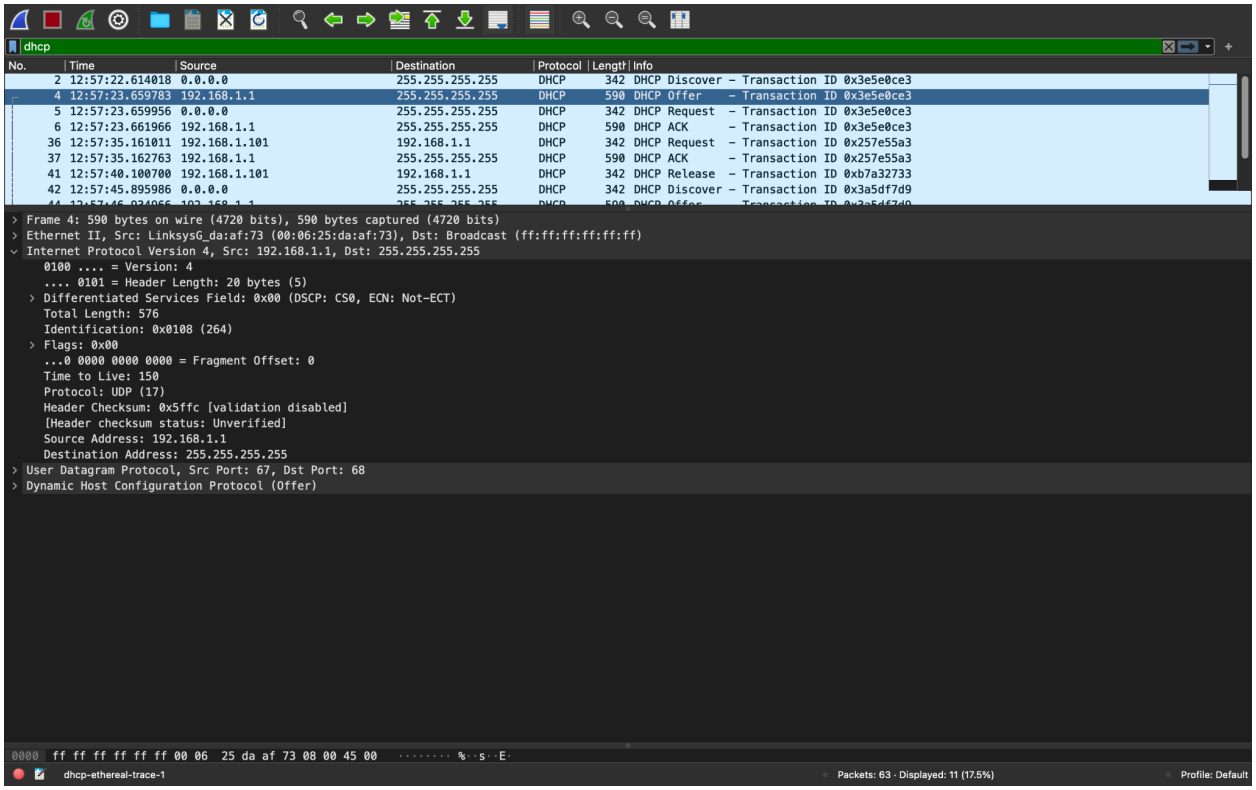

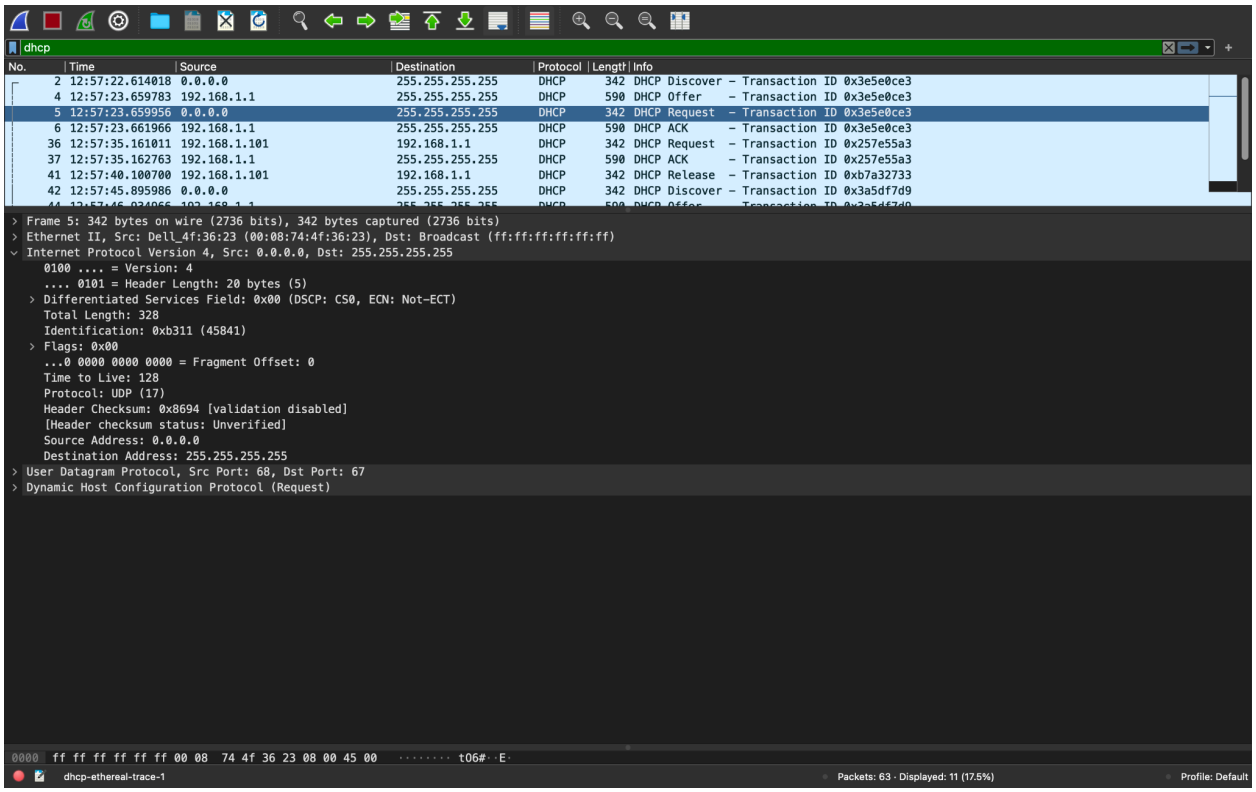

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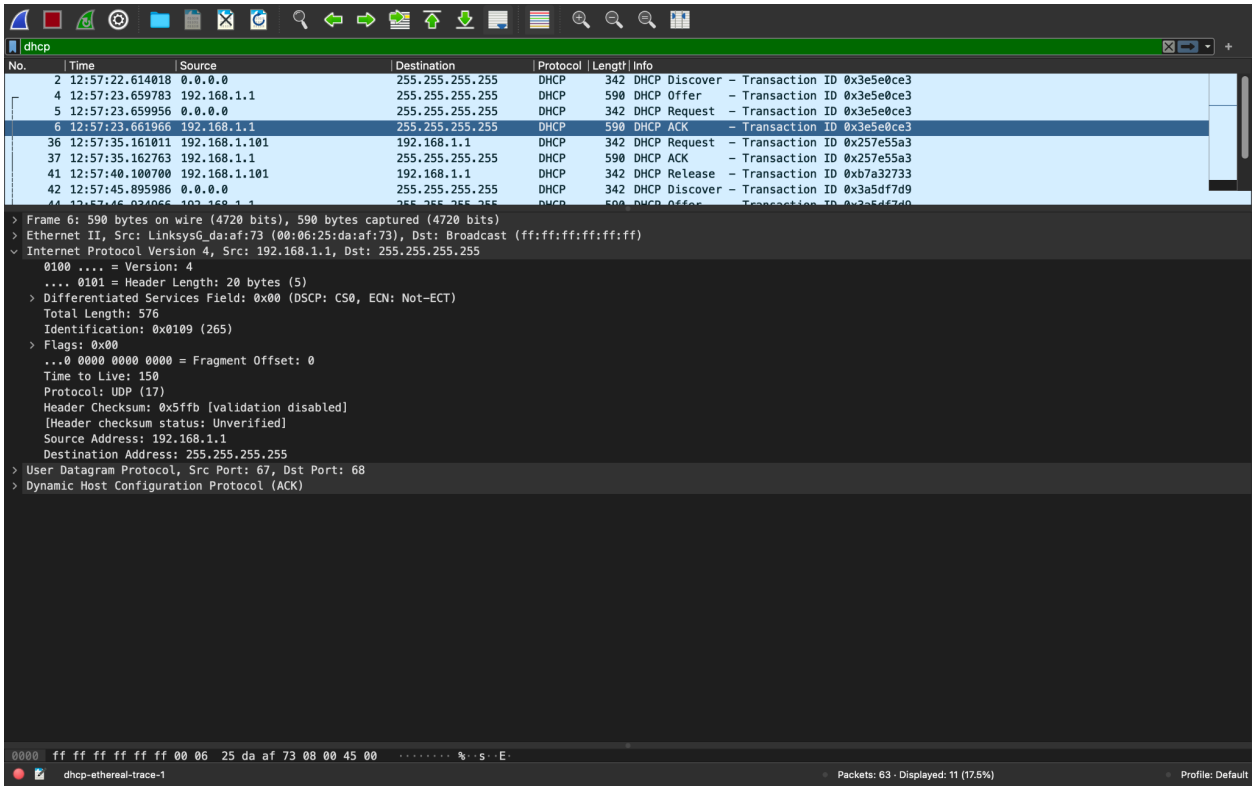

2).
Discover Packet: Source port → 68, Destination Port → 67
Offer Packet: Source port → 67, Destination Port → 68
Request Packet: Source port → 68, Destination Port – 67
ACK Packet: Source port – 67, Destination Port – 68
Yes, port numbers are the same as in example in lab assignments.

3). 00:06:05:da:af:73

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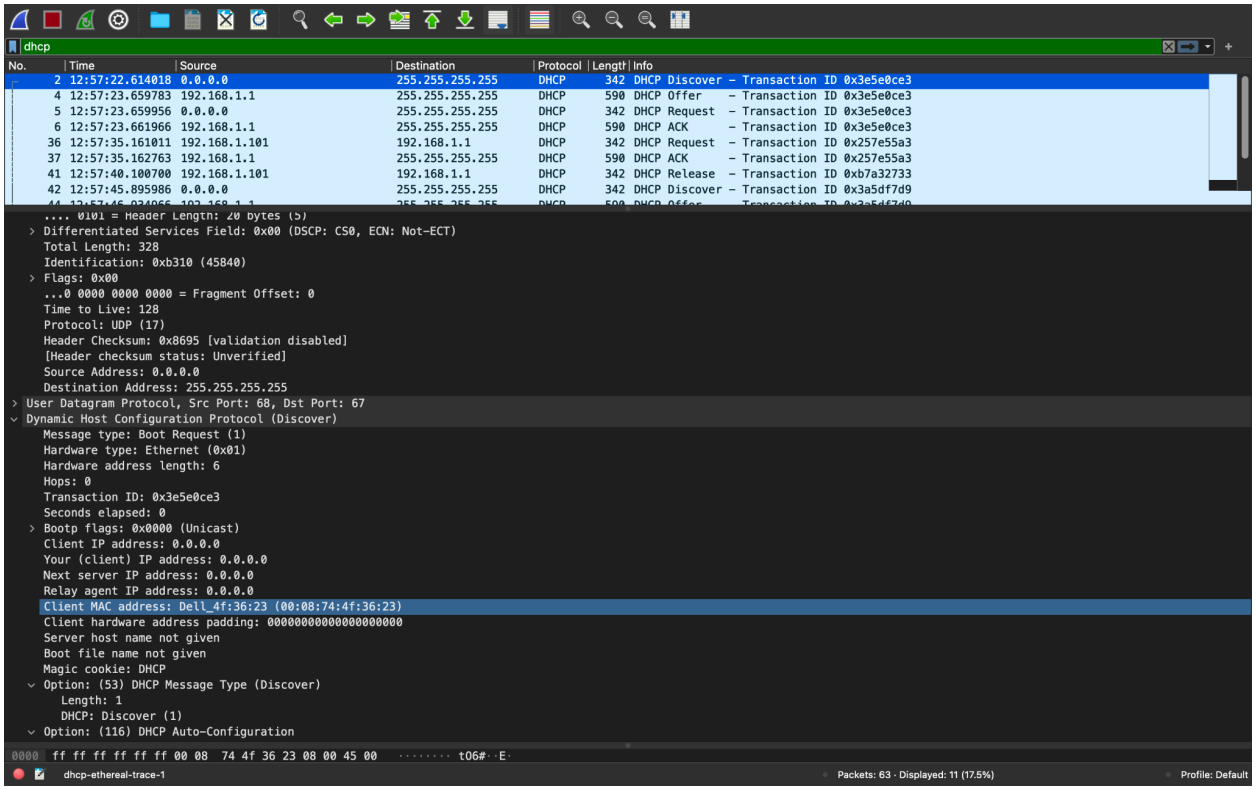

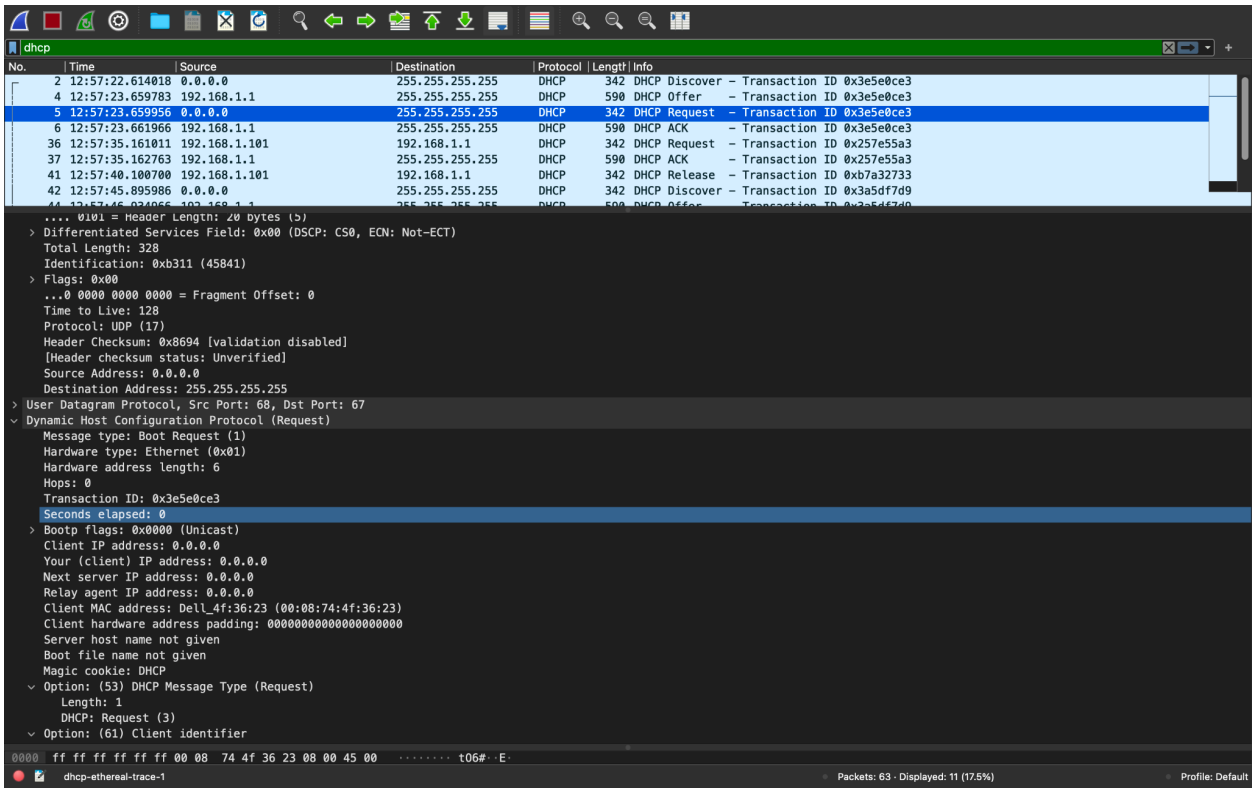

4). The value of Option 53 - DHCP message type differentiate DHCP Discover from DHCP Request.

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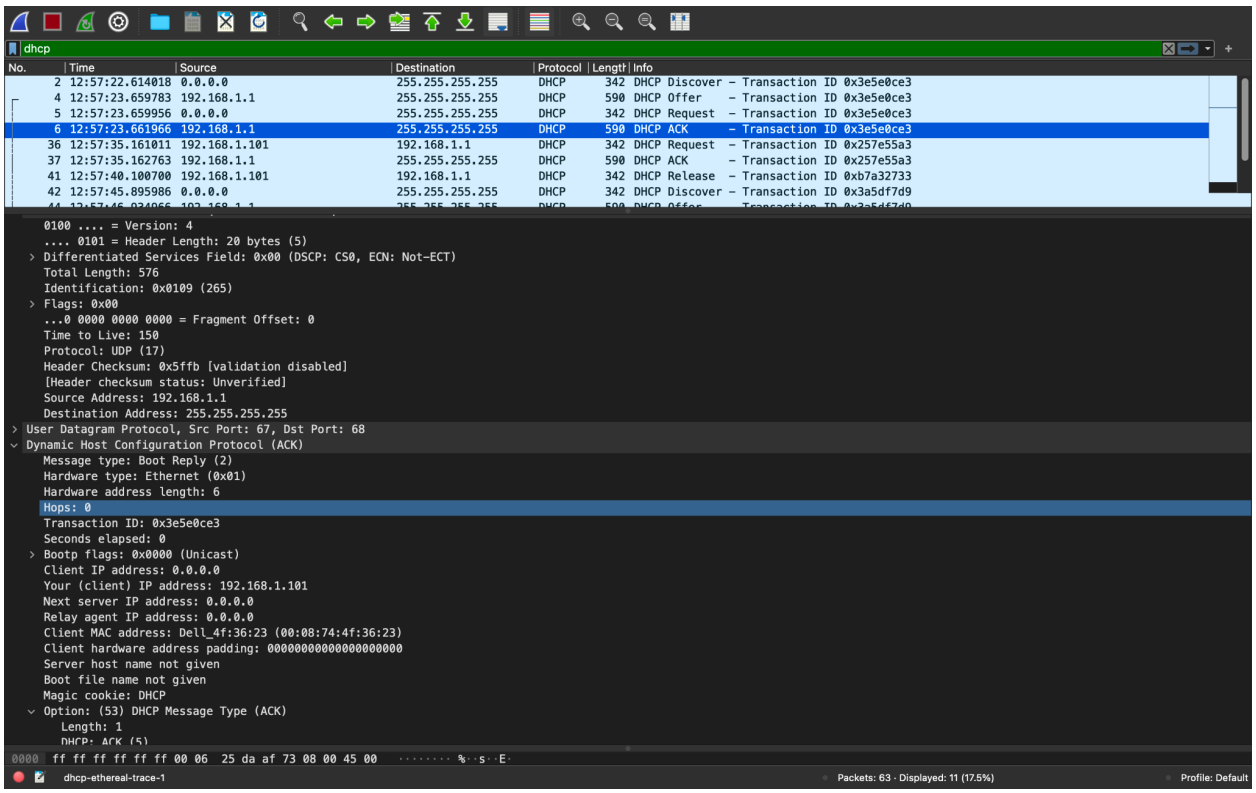
5). Transaction ID for first set of DHCP messages: 0x3e5e0ce3
Transaction ID for second set of DHCP messages: 0x257e55a3
The Transaction-ID field is used for differentiating between different DHCP requests.

6). The client uses 0.0.0.0 as its source address, and 255.255.255.255 as its destination address. The server uses its actual address as source address and 255.255.255.255 as its destination address.

7). The IP address for the DHCP server is 192.168.1.1

8). The IP address offered by the DHCP Offer message is 192.168.1.101
The DHCP Message of Offer Type had the above IP address.



9). The value of the Relay agent IP address is 0.0.0.0 in the DHCP ACK packet. This indicates that there are no relay agents used.

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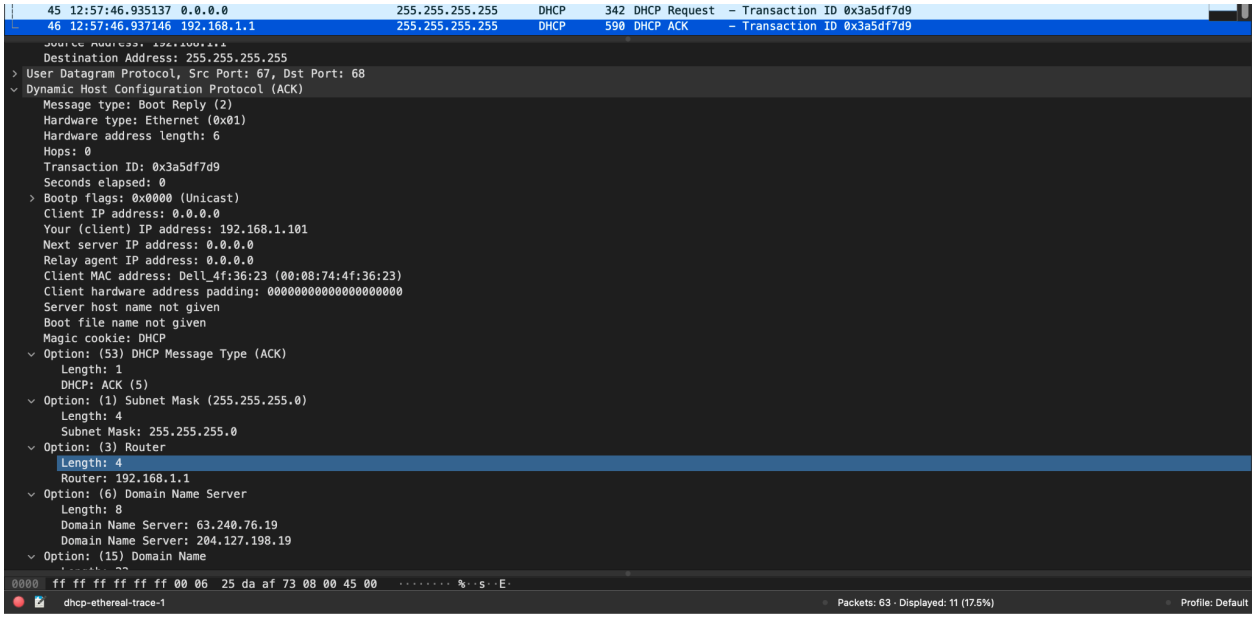
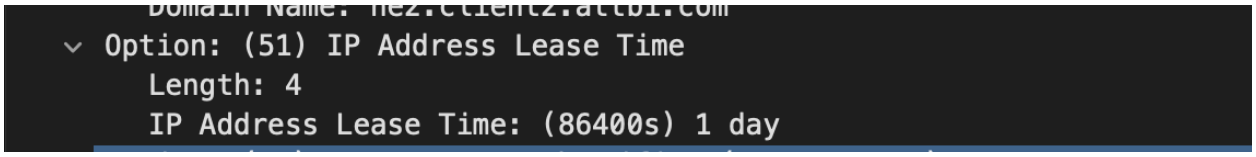


10). The router field in the DHCP Offer indicates the default gateway to the client.
The subnet field in the DHCP Offer indicates the subnet mask to be used by the client.

11). The host is requesting the offered IP address in the DHCP Request message.

12). The amount of time an DHCP server takes to assign an IP to a host.



13). The DHCP Release message is sent by the client to DHCP Server to cancel its lease on the given IP address.
The server does not send back any acknowledgement for the same message.
In case the DHCP Release message is lost, the server will wait till the lease period, and then assign that address to the different client.

14). Yes.
A DHCP server makes an ARP request with the IP address, to check if it is already assigned to another client. If not, it assigns the IP address to the client.