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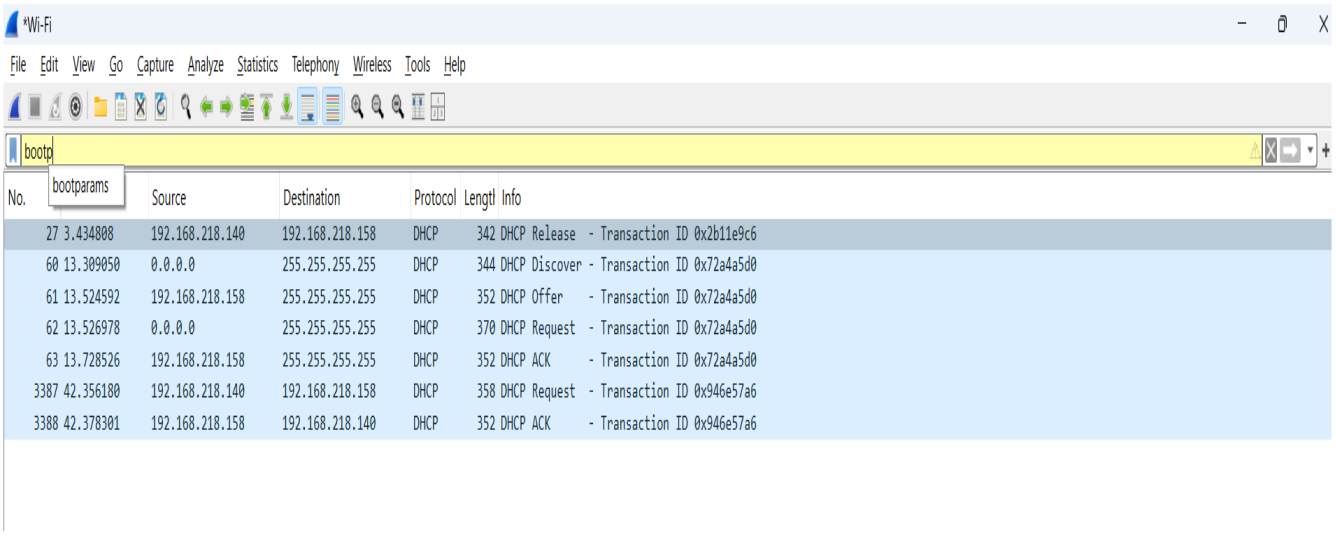
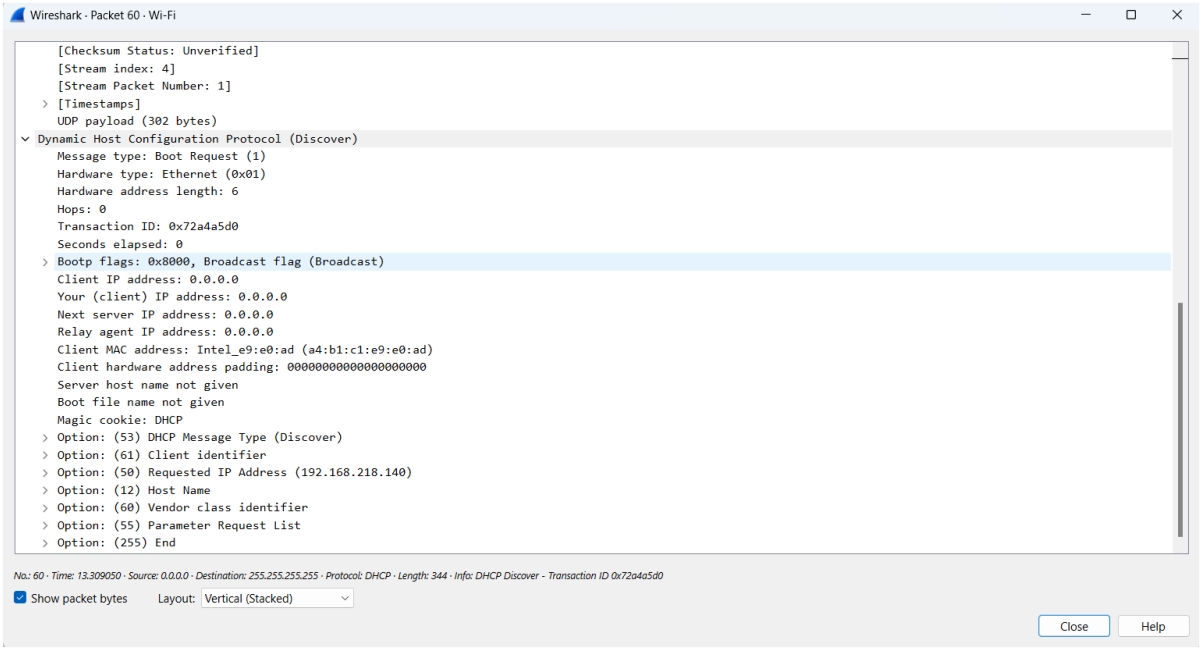
Network Training Programme

Module 5

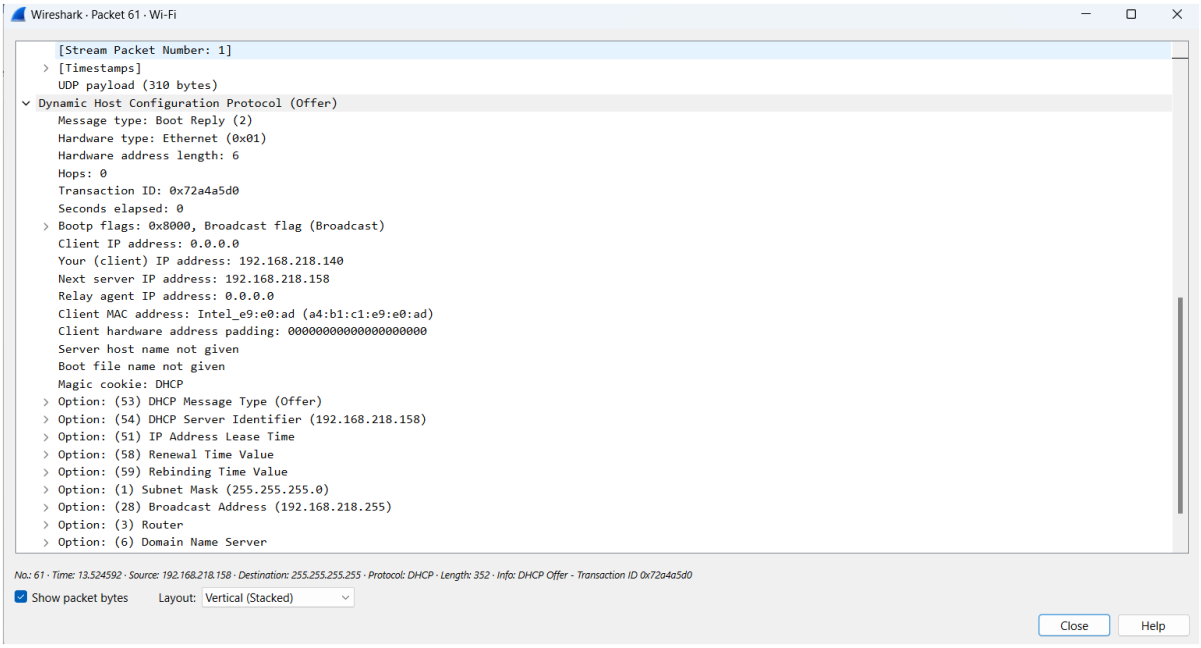
Q4. Use Wireshark to capture DHCP Discover, Offer, Request, and Acknowledge messages and explain the process.



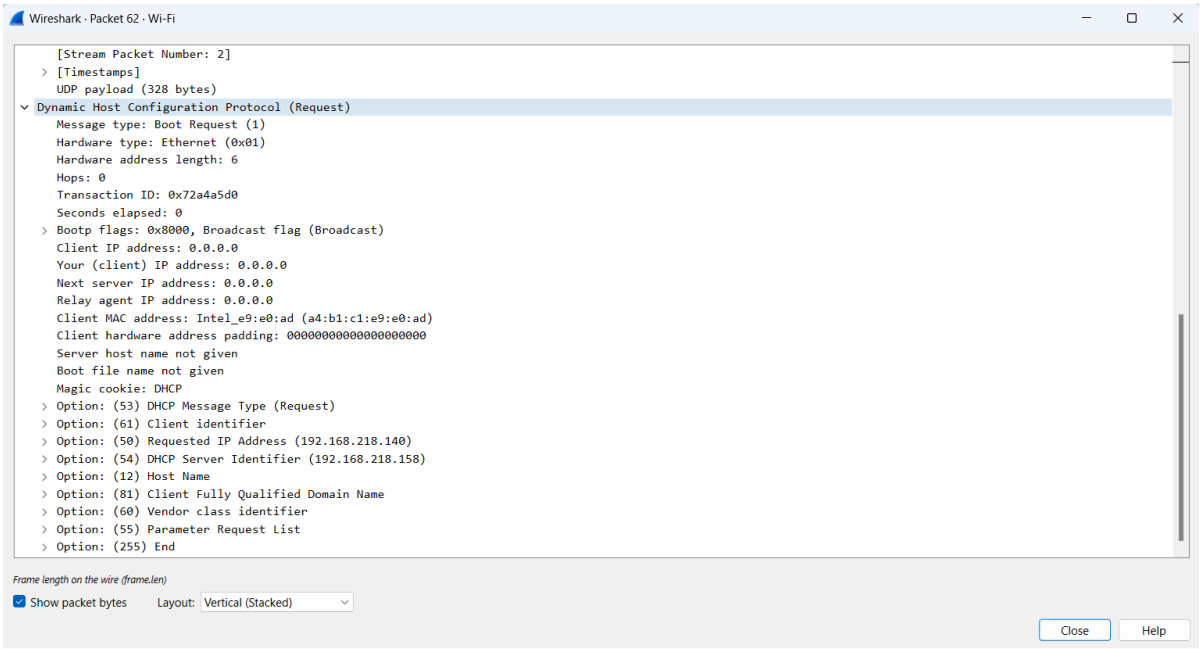
DHPC Discover



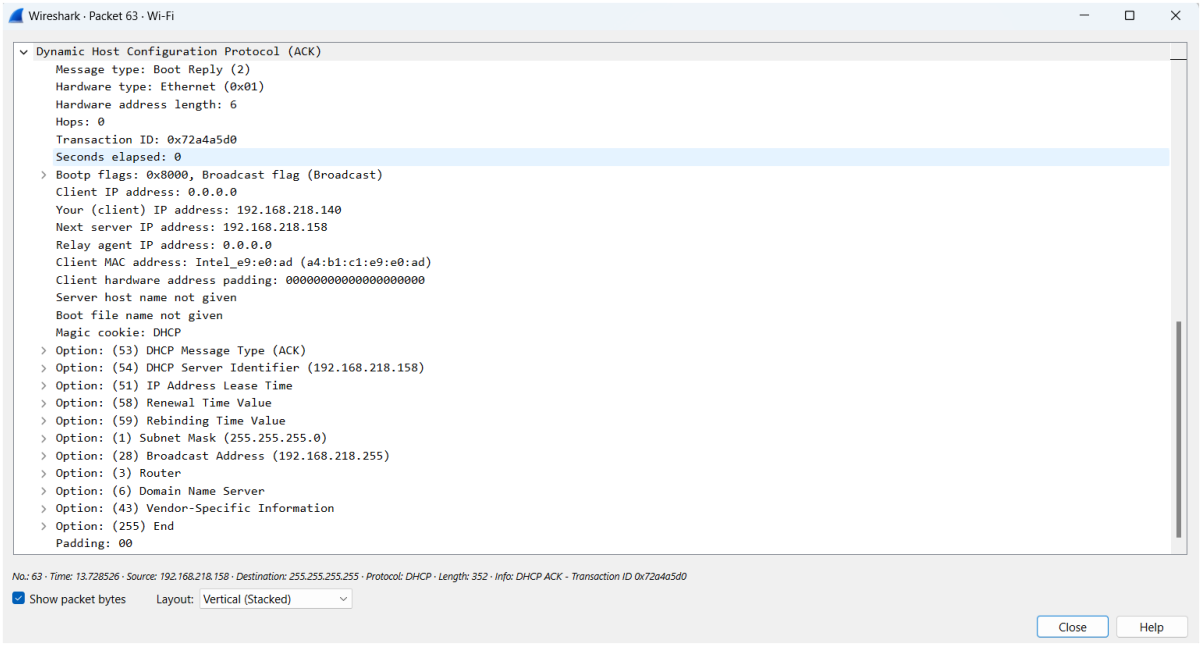
DHPC Offer



DHPC Request



DHPC ACK



Process:

1.DHCP Discover: When a client joins a network, he broadcasts DHCP Discover messages in search of DHCP servers. That message means, “I am looking for an IP address and going at is any DHCP server available”.

2.DHCP Offer: The DHCP servers within the network accept and respond with a proposed IP address together with other configurations in the DHCP Offer message which goes to the client. It means, “I am a DHCP server and I can offer you the service of assigning this particular IP address to you”.

3.DHCP Request: The client broadcasts a default DHCP Request message indicating a willingness to accept a particular offer made by one of the DHCP servers. He permits other DHCP servers to retract their offers. What that statement means is, “I want to use the above stated IP address which one particular DHCP server is willing to provide”.

4.DHCP Acknowledge (ACK): After the processing is complete, the preferred DHCP server issues a DHCP Acknowledge message which contains the period of lease and other relevant data in a configuration option. This signifies the granted request and enables the user to utilize the specified IP for the corresponding period of time.

Key Learnings:

1. DHCP automates IP allocation, avoiding conflicts.
2. The process follows a DORA sequence (Discover, Offer, Request, Acknowledge).
3. Captured packets show transaction between client and DHCP server.