

ĐẠI HỌC QUỐC GIA THÀNH PHỐ HỒ CHÍ MINH
TRƯỜNG ĐẠI HỌC BÁCH KHOA
KHOA KHOA HỌC VÀ KỸ THUẬT MÁY TÍNH



MẠNG MÁY TÍNH THỰC HÀNH - CO3094

Báo cáo:

Lab4b

Giảng viên hướng dẫn: Vũ Thành Tài

Sinh viên: Lê Đức Cường

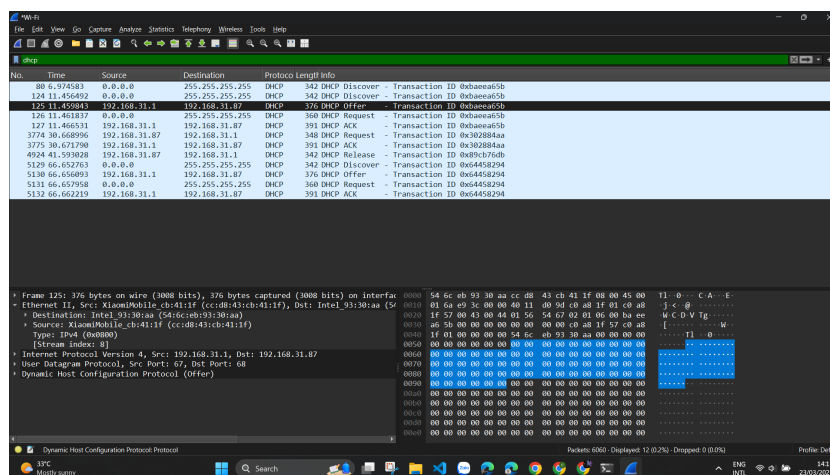
Thành phố Hồ Chí Minh, tháng 3 năm 2025



1 Question 1

Are DHCP messages sent over UDP or TCP?

ANS: Since DHCP is a connectionless protocol that must operate before an IP address is assigned, it uses UDP instead of TCP. The client communicates with the DHCP server via UDP port 67 (server side) and UDP port 68 (client side).



2 Question 2

Draw a timing diagram illustrating the sequence of the first four-packet Discover/Offer/Request/ACK DHCP exchange between the client and server. For each packet, indicated the source and destination port numbers. Are the port numbers the same as in the example given in this lab assignment?

ANS: DHCPDiscover:

Client → Broadcast (255.255.255.255) → Server

Source Port: 68 (UDP)

Destination Port: 67 (UDP)

DHCPOffer:

Server → Broadcast hoặc Unicast → Client

Source Port: 67 (UDP)

Destination Port: 68 (UDP)



DHCPRequest:

Client → Broadcast → Server

Source Port: 68 (UDP)

Destination Port: 67 (UDP)

DHCPACK:

Server → Broadcast hoặc Unicast → Client

Source Port: 67 (UDP)

Destination Port: 68 (UDP)

Client DHCP Server

||

| ← DHCP Discover → | (Src Port: 68, Dest Port: 67)

| ← DHCP Offer → | (Src Port: 67, Dest Port: 68)

| ← DHCP Request → | (Src Port: 68, Dest Port: 67)

| ← DHCP ACK → | (Src Port: 67, Dest Port: 68)

3 Question 3

What is the link-layer (e.g., Ethernet) address of your host?

ANS: My device's link-layer address (also known as the MAC address) is 54:6c:eb:93:30:aa.

No.	Time	Source	Destination	Protocol	Length	Info
80	6.974583	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0xbaee65b
124	11.456492	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0xbaee65b
125	11.459843	192.168.31.1	192.168.31.87	DHCP	376	DHCP Offer - Transaction ID 0xbaee65b
126	11.461837	0.0.0.0	255.255.255.255	DHCP	360	DHCP Request - Transaction ID 0xbaee65b
127	11.466531	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK - Transaction ID 0xbaee65b
3774	30.668996	192.168.31.87	192.168.31.1	DHCP	348	DHCP Request - Transaction ID 0x302884aa
3775	30.671790	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK - Transaction ID 0x302884aa
4924	41.593028	192.168.31.87	192.168.31.1	DHCP	342	DHCP Release - Transaction ID 0x89cb76db
5129	66.652763	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x64458294
5130	66.656093	192.168.31.1	192.168.31.87	DHCP	376	DHCP Offer - Transaction ID 0x64458294
5131	66.657958	0.0.0.0	255.255.255.255	DHCP	360	DHCP Request - Transaction ID 0x64458294
5132	66.662219	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK - Transaction ID 0x64458294

Frame 126: 360 bytes on wire (2880 bits), 360 bytes captured (2880 bits) on interface \Device\NPF_{68272D8F-0FB6-459B-...}
Ethernet II, Src: Intel 93:30:aa (54:6c:eb:93:30:aa), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
Destination: Broadcast (ff:ff:ff:ff:ff:ff)
Source: Intel_93:30:aa (54:6c:eb:93:30:aa)
Type: IPv4 (0x0800)
[Stream index: 0]
Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255
User Datagram Protocol, Src Port: 68, Dst Port: 67
Dynamic Host Configuration Protocol (Request)



4 Question 4

What values in the DHCP discover message differentiate this message from the DHCP request message?

ANS: The key difference between a DHCP Discover message and a DHCP Request message lies in the DHCP Message Type field. Additionally, the DHCP Request message includes a Server Identifier field, which specifies the DHCP server from which the client is requesting an IP address.

5 Question 5

What is the value of the Transaction-ID in each of the first four (Discover/Offer/Request/ACK) DHCP messages? What are the values of the Transaction-ID in the second set (Request/ACK) set of DHCP messages? What is the purpose of the Transaction-ID field?

1st set of messages: 0xbaeea65b

No.	Time	Source	Destination	Protocol	Length	Info
80	6.974583	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0xbaeea65b
124	11.456492	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0xbaeea65b
125	11.459843	192.168.31.1	192.168.31.87	DHCP	376	DHCP Offer - Transaction ID 0xbaeea65b
126	11.461837	0.0.0.0	255.255.255.255	DHCP	360	DHCP Request - Transaction ID 0xbaeea65b
127	11.466531	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK - Transaction ID 0xbaeea65b
3774	30.668996	192.168.31.87	192.168.31.1	DHCP	348	DHCP Request - Transaction ID 0x302884aa
3775	30.671790	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK - Transaction ID 0x302884aa
4924	41.593028	192.168.31.87	192.168.31.1	DHCP	342	DHCP Release - Transaction ID 0x89cb76db
5129	66.652763	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x64458294
5130	66.656093	192.168.31.1	192.168.31.87	DHCP	376	DHCP Offer - Transaction ID 0x64458294
5131	66.657958	0.0.0.0	255.255.255.255	DHCP	360	DHCP Request - Transaction ID 0x64458294
5132	66.662219	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK - Transaction ID 0x64458294

Frame 80: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits) on interface \Device\NPF_{6827208F-0FB6-459B-...}
Ethernet II, Src: Intel_93:30:aa (54:6c:eb:93:30:aa), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255
User Datagram Protocol, Src Port: 68, Dst Port: 67
Dynamic Host Configuration Protocol (Discover)
Message type: Boot Request (1)
Hardware type: Ethernet (0x01)
Hardware address length: 6
Hops: 0
Transaction ID: 0xbaeea65b
Seconds elapsed: 0
Bootp flags: 0x0000 (Unicast)
Client IP address: 0.0.0.0
Your (client) IP address: 0.0.0.0
Next server IP address: 0.0.0.0
Relay agent IP address: 0.0.0.0
Client MAC address: Intel_93:30:aa (54:6c:eb:93:30:aa)
Client hardware address padding: 00000000000000000000
Server host name not given
Boot file name not given
Magic cookie: DHCP
Options: (53) DHCP Message Type (Discover)



2nd Set of messages: 0x64458294

No.	Time	Source	Destination	Protocol	Length	Info
80	6.974583	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0xbaea65b
124	11.456492	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0xbaea65b
125	11.459843	192.168.31.1	192.168.31.87	DHCP	376	DHCP Offer - Transaction ID 0xbaea65b
126	11.461837	0.0.0.0	255.255.255.255	DHCP	360	DHCP Request - Transaction ID 0xbaea65b
127	11.466531	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK - Transaction ID 0xbaea65b
3774	30.668996	192.168.31.87	192.168.31.1	DHCP	348	DHCP Request - Transaction ID 0x302884aa
3775	30.671790	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK - Transaction ID 0x302884aa
4924	41.593028	192.168.31.87	192.168.31.1	DHCP	342	DHCP Release - Transaction ID 0x89cb76db
5129	66.652763	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x64458294
5130	66.656093	192.168.31.1	192.168.31.87	DHCP	376	DHCP Offer - Transaction ID 0x64458294
5131	66.657958	0.0.0.0	255.255.255.255	DHCP	360	DHCP Request - Transaction ID 0x64458294
5132	66.662219	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK - Transaction ID 0x64458294


```
> Frame 5129: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits) on interface \Device\NPF_{68272D8F-0FB6-459-...}
> Ethernet II, Src: Intel 93:30:aa (54:6c:eb:93:30:aa), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
> Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255
> User Datagram Protocol, Src Port: 68, Dst Port: 67
> Dynamic Host Configuration Protocol (Discover)
  Message type: Boot Request (1)
  Hardware type: Ethernet (0x01)
  Hardware address length: 6
  Hops: 0
  Transaction ID: 0x64458294
  Seconds elapsed: 0
  > Bootp flags: 0x0000 (Unicast)
  Client IP address: 0.0.0.0
  Your (client) IP address: 0.0.0.0
  Next server IP address: 0.0.0.0
  Relay agent IP address: 0.0.0.0
  Client MAC address: Intel 93:30:aa (54:6c:eb:93:30:aa)
  Client hardware address padding: 00000000000000000000
  Server host name not given
  Boot file name not given
  Magic cookie: DHCP
  Option: (53) DHCP Message Type (Discover)
```

Each request has a different transaction ID, enabling the host to track and differentiate multiple DHCP requests from the user.

6 Question 6

A host uses DHCP to obtain an IP address, among other things. But a host's IP address is not confirmed until the end of the four-message exchange! If the IP address is not set until the end of the four-message exchange, then what values are used in the IP datagrams in the four-message exchange? For each of the four DHCP messages (Discover/Offer/Request/ACK DHCP), indicate the source and destination IP addresses that are carried in the encapsulating IP datagram.

ANS:

- Discover: 0.0.0.0/255.255.255.255
- Offer: 192.168.31.1/192.168.31.87
- Request: 0.0.0.0/255.255.255.255
- ACK: 192.168.31.1/192.168.31.87



7 Question 7

What is the IP address of your DHCP server?

ANS: The IP address of my DHCP server is 192.168.31.87

80	6.974583	0.0.0.0	255.255.255.255	DHCP	342 DHCP Discover	- Transaction ID 0xbaeea65b
124	11.456492	0.0.0.0	255.255.255.255	DHCP	342 DHCP Discover	- Transaction ID 0xbaeea65b
125	11.459843	192.168.31.1	192.168.31.87	DHCP	376 DHCP Offer	- Transaction ID 0xbaeea65b
126	11.461837	0.0.0.0	255.255.255.255	DHCP	360 DHCP Request	- Transaction ID 0xbaeea65b
127	11.466531	192.168.31.1	192.168.31.87	DHCP	391 DHCP ACK	- Transaction ID 0xbaeea65b
3774	30.668996	192.168.31.87	192.168.31.1	DHCP	348 DHCP Request	- Transaction ID 0x302884aa
3775	30.671790	192.168.31.1	192.168.31.87	DHCP	391 DHCP ACK	- Transaction ID 0x302884aa
4924	41.593028	192.168.31.87	192.168.31.1	DHCP	342 DHCP Release	- Transaction ID 0x89cb76db
5129	66.652763	0.0.0.0	255.255.255.255	DHCP	342 DHCP Discover	- Transaction ID 0x64458294
5130	66.656093	192.168.31.1	192.168.31.87	DHCP	376 DHCP Offer	- Transaction ID 0x64458294
5131	66.657958	0.0.0.0	255.255.255.255	DHCP	360 DHCP Request	- Transaction ID 0x64458294
5132	66.662219	192.168.31.1	192.168.31.87	DHCP	391 DHCP ACK	- Transaction ID 0x64458294

8 Question 8

What IP address is the DHCP server offering to your host in the DHCP Offer message? Indicate which DHCP message contains the offered DHCP address.

ANS: As part of the DHCP process, my client is assigned the IP address 192.168.31.87 in the offer message, which contains the proposed address from the DHCP server.

```
[Checksum Status: Unverified]
[Stream index: 11]
[Stream Packet Number: 6]
  [Timestamps]
    UDP payload (334 bytes)
  * Dynamic Host Configuration Protocol (Offer)
    Message type: Boot Reply (2)
    Hardware type: Ethernet (0x01)
    Hardware address length: 6
    Hops: 0
    Transaction ID: 0x64458294
    Seconds elapsed: 0
  * Bootp flags: 0x0000 (Unicast)
    0... .. = Broadcast flag: Unicast
    .000 0000 0000 0000 = Reserved flags: 0x0000
    Client IP address: 0.0.0.0
    Your (client) IP address: 192.168.31.87
    Next server IP address: 192.168.31.1
    Relay agent IP address: 0.0.0.0
    Client MAC address: Intel_93:30:aa (54:6c:eb:93:30:aa)
    Client hardware address padding: 00000000000000000000
    Server host name not given
```

9 Question 9

In the example screenshot in this assignment, there is no relay agent between the host and the DHCP server. What values in the trace indicate the absence of a relay agent? Is there a relay agent in your experiment? If so what is the IP address of the agent?

ANS: The IP address of the relay agent is 10.33.128.254

80	6.974583	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover	-	Transaction ID 0xbaeaa65b
124	11.456492	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover	-	Transaction ID 0xbaeaa65b
125	11.459843	192.168.31.1	192.168.31.87	DHCP	376	DHCP Offer	-	Transaction ID 0xbaeaa65b
126	11.461837	0.0.0.0	255.255.255.255	DHCP	360	DHCP Request	-	Transaction ID 0xbaeaa65b
127	11.466531	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK	-	Transaction ID 0xbaeaa65b
3774	30.668996	192.168.31.87	192.168.31.1	DHCP	348	DHCP Request	-	Transaction ID 0x302884aa
3775	30.671790	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK	-	Transaction ID 0x302884aa
4924	41.593028	192.168.31.87	192.168.31.1	DHCP	342	DHCP Release	-	Transaction ID 0x89cb76db
5129	66.652763	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover	-	Transaction ID 0x64458294
5130	66.656093	192.168.31.1	192.168.31.87	DHCP	376	DHCP Offer	-	Transaction ID 0x64458294
5131	66.657958	0.0.0.0	255.255.255.255	DHCP	360	DHCP Request	-	Transaction ID 0x64458294
5132	66.662219	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK	-	Transaction ID 0x64458294


```

[Checksum Status: Unverified]
[Stream index: 11]
[Stream Packet Number: 4]
[Timestamps]
UDP payload (349 bytes)
Dynamic Host Configuration Protocol (ACK)
  Message type: Boot Reply (2)
  Hardware type: Ethernet (0x01)
  Hardware address length: 6
  Hops: 0
  Transaction ID: 0x302884aa
  Seconds elapsed: 0
  Bootp flags: 0x0000 (Unicast)
    0... .... = Broadcast flag: Unicast
    .000 0000 0000 0000 = Reserved flags: 0x0000
  Client IP address: 192.168.31.87
  Your (client) IP address: 192.168.31.87
  Next server IP address: 192.168.31.1
  Relay agent IP address: 0.0.0.0
  Client MAC address: Intel 93:30:aa (54:6c:eb:93:30:aa)
  Client hardware address padding: 00000000000000000000
  Server host name not given

```

10 Question 10

Explain the purpose of the router and subnet mask lines in the DHCP offer message.

ANS:

- The subnet mask line provides the client with the appropriate subnet mask, allowing it to determine the network and host portions of an IP address.
- The router line specifies the default gateway, which is the address the client should use to send messages to devices outside its local network.



11 Question 11

In the DHCP trace file noted in footnote 2, the DHCP server offers a specific IP address to the client (see also question 8. above). In the client's response to the first server OFFER message, does the client accept this IP address? Where in the client's RESPONSE is the client's requested address?

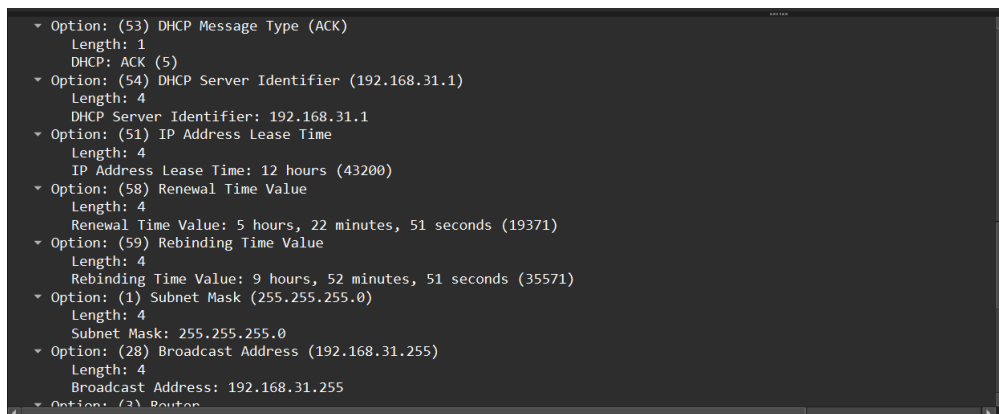
No.	Time	Source	Destination	Protocol	Length	Info
80	6.974583	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0xbaeaa65b
124	11.456492	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0xbaeaa65b
125	11.459843	192.168.31.1	192.168.31.87	DHCP	376	DHCP Offer - Transaction ID 0xbaeaa65b
126	11.461837	0.0.0.0	255.255.255.255	DHCP	360	DHCP Request - Transaction ID 0xbaeaa65b
127	11.466531	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK - Transaction ID 0xbaeaa65b
3774	30.668996	192.168.31.87	192.168.31.1	DHCP	348	DHCP Request - Transaction ID 0x302884aa
3775	30.671790	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK - Transaction ID 0x302884aa
4924	41.593028	192.168.31.87	192.168.31.1	DHCP	342	DHCP Release - Transaction ID 0x89cb76db
5129	66.652763	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x64458294
5130	66.656093	192.168.31.1	192.168.31.87	DHCP	376	DHCP Offer - Transaction ID 0x64458294
5131	66.657958	0.0.0.0	255.255.255.255	DHCP	360	DHCP Request - Transaction ID 0x64458294
5132	66.662219	192.168.31.1	192.168.31.87	DHCP	391	DHCP ACK - Transaction ID 0x64458294


```
Bootp flags: 0x0000 (Unicast)
 0... .. = Broadcast flag: Unicast
.000 0000 0000 0000 = Reserved flags: 0x0000
Client IP address: 0.0.0.0
Your (client) IP address: 0.0.0.0
Next server IP address: 0.0.0.0
Relay agent IP address: 0.0.0.0
Client MAC address: Intel_93:30:aa (54:6c:eb:93:30:aa)
Client hardware address padding: 00000000000000000000
Server host name not given
Boot file name not given
Magic cookie: DHCP
Option: (53) DHCP Message Type (Request)
Option: (61) Client identifier
Option: (50) Requested IP Address (192.168.31.87)
  length: 4
  Requested IP Address: 192.168.31.87
Option: (54) DHCP Server Identifier (192.168.31.1)
Option: (12) Host Name
Option: (81) Client Fully Qualified Domain Name
Option: (60) Vendor class identifier
Option: (55) Parameter Request List
```

ANS: The client acknowledges and accepts the IP address proposed in the DHCP Offer message by including it in the DHCP Request message. In this process, after the DHCP server offers the IP address 192.168.31.87, the client does not immediately start using it. Instead, it responds with a DHCP Request message, explicitly requesting that specific IP address. This step ensures that the client confirms its intent to use the assigned address and allows the DHCP server to finalize the lease process before officially allocating the IP address to the client.

12 Question 12

Explain the purpose of the lease time. How long is the lease time in your experiment?



```
▼ Option: (53) DHCP Message Type (ACK)
  Length: 1
  DHCP: ACK (5)
▼ Option: (54) DHCP Server Identifier (192.168.31.1)
  Length: 4
  DHCP Server Identifier: 192.168.31.1
▼ Option: (51) IP Address Lease Time
  Length: 4
  IP Address Lease Time: 12 hours (43200)
▼ Option: (58) Renewal Time Value
  Length: 4
  Renewal Time Value: 5 hours, 22 minutes, 51 seconds (19371)
▼ Option: (59) Rebinding Time Value
  Length: 4
  Rebinding Time Value: 9 hours, 52 minutes, 51 seconds (35571)
▼ Option: (1) Subnet Mask (255.255.255.0)
  Length: 4
  Subnet Mask: 255.255.255.0
▼ Option: (28) Broadcast Address (192.168.31.255)
  Length: 4
  Broadcast Address: 192.168.31.255
▼ Option: (3) Router
```

ANS: The lease time specifies the duration for which a client is permitted to use the assigned IP address before it must request a renewal or obtain a new address from the DHCP server. In my experiment, the lease time is set to 43200 seconds, which is equivalent to 12 hours.

13 Question 13

What is the purpose of the DHCP release message? Does the DHCP server issue an acknowledgment of receipt of the client's DHCP request? What would happen if the client's DHCP release message is lost?

ANS:

- The purpose of the DHCP Release message is for the client to inform the DHCP server that it is relinquishing its assigned IP address, allowing the server to mark the address as available for reassignment to other clients.
- However, there is no acknowledgment mechanism in place to confirm whether the server has successfully received the release message. Since DHCP operates over UDP, which is a connectionless protocol, the release message is sent without guaranteeing its delivery.



- If the release message is lost during transmission, the client will still consider the IP address relinquished and will no longer use it. However, the DHCP server, unaware of this release, will retain the IP address in its lease database and will not assign it to another client until the original lease period expires.

14 Question 14

Clear the bootp filter from your Wireshark window. Were any ARP packets sent or received during the DHCP packet-exchange period? If so, explain the purpose of those ARP packets.

ANS: Yes, they appear to be broadcasts sent out by the network to build up the known IP addresses by the clients network.

No.	Time	Source	Destination	Protocol	Length	Info
408	13.920516	Intel_93:30:aa	Broadcast	ARP	42	Who has 192.168.31.87? (ARP Probe)
783	14.919355	Intel_93:30:aa	Broadcast	ARP	42	ARP Announcement for 192.168.31.87
917	16.921077	Intel_93:30:aa	Broadcast	ARP	42	ARP Announcement for 192.168.31.87
3078	21.963576	XiaomiMobile_cb:...	Intel_93:30:aa	ARP	42	Who has 192.168.31.87? Tell 192.168.31.1
3079	21.963611	Intel_93:30:aa	XiaomiMobile_cb:...	ARP	42	192.168.31.87 is at 54:6c:eb:93:30:aa
3220	25.289596	Intel_93:30:aa	Broadcast	ARP	42	Who has 192.168.31.1? Tell 192.168.31.87
3221	25.290895	XiaomiMobile_cb:...	Intel_93:30:aa	ARP	42	192.168.31.1 is at cc:d8:43:cb:41:1f
3805	33.090213	XiaomiMobile_cb:...	Broadcast	ARP	42	Who has 192.168.31.2? Tell 192.168.31.1
3806	33.090213	XiaomiMobile_cb:...	Broadcast	ARP	42	Who has 192.168.31.3? Tell 192.168.31.1
3807	33.090213	XiaomiMobile_cb:...	Broadcast	ARP	42	Who has 192.168.31.4? Tell 192.168.31.1
3808	33.090213	XiaomiMobile_cb:...	Broadcast	ARP	42	Who has 192.168.31.5? Tell 192.168.31.1
3809	33.090213	XiaomiMobile_cb:...	Broadcast	ARP	42	Who has 192.168.31.6? Tell 192.168.31.1
3810	33.090213	XiaomiMobile_cb:...	Broadcast	ARP	42	Who has 192.168.31.7? Tell 192.168.31.1
3811	33.090213	XiaomiMobile_cb:...	Broadcast	ARP	42	Who has 192.168.31.8? Tell 192.168.31.1

Frame 3078: 42 bytes on wire (336 bits), 42 bytes captured (336 bits) on interface \Device\NPF {68272D8F-0FB6-459B-A8C1-...}

Ethernet II, Src: XiaomiMobile_cb:41:1f (cc:d8:43:cb:41:1f), Dst: Intel_93:30:aa (54:6c:eb:93:30:aa)

Destination: Intel_93:30:aa (54:6c:eb:93:30:aa)

Source: XiaomiMobile_cb:41:1f (cc:d8:43:cb:41:1f)

Type: ARP (0x0806)

[Stream index: 8]

Address Resolution Protocol (request)

Hardware type: Ethernet (1)

Protocol type: IPv4 (0x0800)

Hardware size: 6

Protocol size: 4

Opcode: request (1)

Sender MAC address: XiaomiMobile_cb:41:1f (cc:d8:43:cb:41:1f)

Sender IP address: 192.168.31.1

Target MAC address: 00:00:00 00:00:00 (00:00:00:00:00:00)

Target IP address: 192.168.31.87