[Lab#4] DHCP Analysis

- Due Jan 28 at 11am
- Points 22.5
- Questions 20
- Available until Feb 2 at 11am
- Time Limit None
- Allowed Attempts Unlimited

Instructions

In this activity, we'll take a quick look at the Dynamic Host Configuration Protocol, DHCP. Recall that DHCP is used extensively in corporate, university and home-network wired and wireless LANs to dynamically assign IP addresses to hosts, as well as to configure other network configuration information.

Take the Quiz Again

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	95 minutes	17 out of 22.5

ⓘ Correct answers are hidden.

Score for this attempt: 17 out of 22.5
Submitted Jan 28 at 10:46am
This attempt took 95 minutes.

Question 1
1 / 1 pts

DHCP-1 Lab: Q01. Introduction and getting started.

The answers to the questions in this activity are based on packets in the **dhcp-wireshark-trace1-1.pcapng (https://dlsu.instructure.com/courses/196573/files/24029215?wrap=1)** **(https://dlsu.instructure.com/courses/196573/files/24029215/download?download_frd=1)** trace file.

DHCP-1 Lab: Q01. Introduction and Getting Started. Is this DHCP DISCOVER message sent out using UDP or TCP as the underlying transport protocol?

- Neither TCP nor UDP. DHCP operates directly over IP.
- UDP
- TCP

Nice! This answer is correct.

Question 2
1 / 1 pts

DHCP-1 Lab: Q02. Source IP address for the DHCP Discover message. What is the *source* IP address used in the IP datagram containing the DISCOVER message? Is there anything special about this address? Explain.

- 192.168.86.65. This is the previous IP address of the client.
- 192.168.86.1. This is the IP address of the DHCP server, where the server is running.
- 0.0.0.0. This isn't really a valid IP address.
- 255.255.255.255. This is the broadcast IP address.

Nice! This answer is correct.

Question 3
1 / 1 pts

DHCP-1 Lab: Q03. Destination IP address for the DHCP Discover message. What is the *destination* IP address used in the IP datagram containing the DISCOVER message? Is there anything special about this address? Explain.

- 255.255.255.255. This is the broadcast IP address.

- 192.168.86.65. This is the previous IP address of the client.
- 0.0.0.0. This isn't really a valid IP address.
- 192.168.86.1. This is the IP address of the DHCP server, where the server is running.

Nice! This answer is correct.

Question 4
1 / 1 pts

DCHP-1 Lab: Q04. DHCP Discover message transaction ID. What is the value in the transaction ID field of the DHCP DISCOVER message?

Enter the transaction IDfield value in the format that it's displayed in Wireshark, with a leading "`0x`" followed by eight hexadecimal digits with the letters in lower case, e.g., `0x1234abcd`:

0x56f415ed

Nice! This answer is correct.

PartialQuestion 5
1.5 / 2 pts

DHCP-1 Lab: Q05. Discover message options. Now inspect the options field in the DHCP DISCOVER message. Which five pieces of information (of the eight listed below), beyond an IP address, is the client suggesting or requesting to receive from the DHCP server as part of this DHCP transaction?

- [x] The subnet mask for this network.
- [x] The IP address of the first hop router for the default route out of this subnetwork.
- [ ] A password to authenticate itself to the network.
- [x] The IP address of the DNS server to use.

- [ ] The client is suggesting the IP address that it would like to be assigned.
- [x] The client is suggesting an address lease time of 90 days for the IP address that te DCHP server will provide.
- [x] A MAC (layer 2) address for its link-layer interface.
- [ ] The version of the DHCP protocol it is using

Question 6

1 / 1 pts

DHCP-1 Lab: Q06. Matching an OFFER message to a DISCOVER message. How do you know that this OFFER message is being sent in response to the DHCP DISCOVER message you studied in questions 1-5 above?

- (•) The transaction ID in this DHCP OFFER is the same as the transaction ID that was used for the earlier DHCP DISCOVER message.
- ( ) Because this OFFER message is addressed to this client, and this client has just sent a DHCP DISCOVER message.
- ( ) The transaction ID in this DHCP OFFER is one larger than (i.e., the next sequence number) the transaction ID that was used for the earlier DHCP DISCOVER message.
- ( ) Because this is the first OFFER message received after sending the DISCOVER message.

Nice! This answer is correct.

PartialQuestion 7

0.5 / 1 pts

DHCP-1 Lab: Q07. Source IP address for the DHCP Offer message. What is the *source* IP address used in the IP datagram containing the OFFER message? Is there anything special about this address? Explain.

- [ ] 192.168.86.65. This is the previous IP address of the client.
- [ ] 0.0.0.0. This isn't really a valid IP address.
- [x] 192.168.86.1. This is the IP address of the DHCP server, where the server is running.
- [ ] 255.255.255.255. This is the broadcast IP address.

Question 8

1 / 1 pts

DHCP-1 Lab: Q08. Destination IP address for the DHCP Offer message. What is the *destination* IP address used in the IP datagram containing the OFFER message? Is there anything special about this address? Explain. [Hint: Look at your trace carefully. The answer to this question may differ from what you see in Figure 4.24 in the textbook. If you really want to dig into this, consult the DHCP RFC: **https://www.ietf.org/rfc/rfc2131.txt (https://www.ietf.org/rfc/rfc2131.txt)** , page 24.]

192.168.86.65. This is the previous IP address of the client. The client provided the MAC (layer 2) interface address in its original DISCOVER message, and from this the DHCP server can figure out the previously-used IP address used by the client.

- 192.168.86.1. This is the IP address of the DHCP server, where the server is running.
- 255.255.255.255. This is the broadcast IP address.
- 0.0.0.0. This isn't really a valid IP address.

Nice! This answer is correct.

PartialQuestion 9
1 / 2.5 pts

DHCP-1 Lab: Q09. Additional information provided in the DHCP Offer message. Now inspect the options field in the DHCP Offer message. Which five pieces of information (of the eight listed below) are being provided by the DHCP server tot he DHCP client?

- [x] A lease time of 1 day
- [ ] The IP address of the first hop router for the default route out of this subnetwork.
- [x] An authentication acknowledgment that indicates that the client has correctly authenticated itself to the network.
- [x] The IP address for a DNS server for this network.
- [ ] An IP address for the client to use.
- [ ] The version of the DHCP protocol it is using
- [ ] A lease time of 90 days, as requested in the DHCP DISCOVER message
- [x] The subnet mask for this network.

Question 10 AnimoSpace Support

1 / 1 pts

DHCP-1 Lab: Q10.1 Request message: source port number. What is the UDP source port number in the IP datagram containing the first DHCP Request message in your trace?

- 0
- 53
- 68
- 67

Nice! This answer is correct.

Question 11

1 / 1 pts

DHCP-1 Lab: Q10.2 Request message: destination port number. What is the UDP destination port number in the IP datagram containing the first DHCP Request message in your trace?

- 68
- 67
- 0
- 53

Nice! This answer is correct.

Question 12

1 / 1 pts

DHCP-1 Lab: Q11. Source IP address for the DHCP Request message. What is the *source* IP address used in the IP datagram containing the Request message? Is there anything special about this address? Explain.

- 192.168.86.65. This is the previous IP address of the client.
- 0.0.0.0. This isn't really a valid IP address.
- 192.168.86.1. This is the IP address of the DHCP server, where the server is running.

255.255.255.255. This is the broadcast IP address.

Nice! This answer is correct.

Question 13

1 / 1 pts

DHCP-1 Lab: Q12. Destination IP address for the DHCP Request message. What is the *destination* IP address used in the IP datagram containing the Request message? Is there anything special about this address? Explain.

- 192.168.86.65. This is the previous IP address of the client.
- 255.255.255.255. This is the broadcast IP address.
- 0.0.0.0. This isn't really a valid IP address.
- 192.168.86.1. This is the IP address of the DHCP server, where the server is running.

Nice! This answer is correct.

Question 14

1 / 1 pts

DHCP-1 Lab: Q13. Transaction ID of the DHCP Request message. What is the value in the transaction ID field of this DHCP Request message? Does it match the transaction IDs of the earlier Discover and Offer messages?

- `0x00000000`. This value is the same value as the transaction ID of the previous DHCP Discover and Offer messages
- `0x56f415ed`. This value is different from both the transaction IDs of the previous DHCP Discover and Offer messages.
- `0x56f415ed`. This is the same transaction ID as the previous DHCP Discover and Offer messages.
- `0x56f415ed`. This value is one larger than the transaction ID of the previous DHCP Offer message.

Nice! This answer is correct.

IncorrectQuestion 15

0 / 1 pts

DHCP-1 Lab: Q14. Now inspect the options field in the DHCP Discover message and take a close look at the “Parameter Request List”. The **DHCP RFC (https://www.ietf.org/rfc/rfc2131.txt)** notes that

> “The client can inform the server which configuration parameters the client is interested in by including the 'parameter request list' option. The data portion of this option explicitly lists the options requested by tag number.”

What differences do you see between the entries in the ‘parameter request list’ option in this Request message and the same list option in the earlier Discover message?

- The set of entries in the ‘parameter request list’ of the Discover message is a proper subset of the set of entries in the ‘parameter request list’ of the Request message.
- None. There are no differences between the entries in the ‘parameter request list’ option in this Request message and the same list option in the earlier Discover message
- The set of entries in the ‘parameter request list’ of the Request message is a proper subset of the set of entries in the ‘parameter request list’ of the Discover message.

Not quite. This answer is incorrect.

Question 16
1 / 1 pts

DHCP-1 Lab: Q15. Source IP address for the DHCP ACK message. What is the *source* IP address used in the IP datagram containing the ACK message? Is there anything special about this address? Explain.

- 255.255.255.255. This is the broadcast IP address.
- 192.168.86.1. This is the IP address of the DHCP server, where the server is running.
- 0.0.0.0. This isn't really a valid IP address.
- 192.168.86.65. This is the previous IP address of the client.

Nice! This answer is correct.

Question 17 AnimoSpace Support

1 / 1 pts

DHCP-1 Lab: Q16. Destination IP address for the DHCP ACK message. What is the *destination* IP address used in the IP datagram containing the ACK message? Is there anything special about this address? Explain.

- 0.0.0.0. This isn't really a valid IP address.
- 255.255.255.255. This is the broadcast IP address.
- 192.168.86.65. This is the IP address of the client.
- 192.168.86.1. This is the IP address of the DHCP server, where the server is running.

Nice! This answer is correct.

Question 18

1 / 1 pts

DHCP-1 Lab: Q17. Where *is* the assigned client address? What is name of the field in the DHCP ACK message (as indicated in the Wireshark window)that contains the assigned client IP address?

- Your (client) IP address
- Broadcast address
- Client MAC address
- Relay agent IP addressss

Nice! This answer is correct.

IncorrectQuestion 19

0 / 1 pts

DHCP-1 Lab: Q18. How long a client own the IP address? For how long a time (the so-called “lease time”) has the DHPC server assigned this IP address to the client?

- 12 hours

- 1 hour
- 90 days
- 1 day

Not quite. This answer is incorrect.

IncorrectQuestion 20
0 / 1 pts

DCHP-1 Lab: Q19. Additional information returned by the DHCP server. What is the IP address (returned by the DHCP server to the DHCP client in this DHCP ACK message) of the first-hop router on the default path from the client to the rest of the Internet?

Enter the IP address in four-byte dotted decimal notion, with no leading zeros, e.g., 128.119.45.1

192.168.68.1

Not quite. This answer is incorrect.

Quiz Score: 17 out of 22.5