

Chapter 7 – DHCPv4 Reading Organizer Student Version

Instructions: Read/study the numbered curriculum slides and perform any interactive media activities until you thoroughly understand the material. Then respond to the questions below to check your understanding.

After completion of this chapter, you should be able to:

- Describe the operation of DHCPv4 in a small-to-medium sized business network.
- Configure a router as a DHCPv4 server.
- Configure a router as a DHCPv4 client.
- Troubleshoot a DHCP configuration for IPv4 in a switched network.

7.0.2

1. What will we learn in this module?

- a. _____
- b. _____
- c. _____

7.1.1 DHCP

2. When would a Cisco router be used as a DHCP router versus a dedicated DHCP server?

3. What is the typical time an IP address is leased to a host?

7.1.2 DHCPv4 Operation

4. What does a host need to do when the lease expires?

5. What happens to the IP address when the host power offs the computer?

7.1.3 Steps to Obtain a Lease

6. List and define the four-step DHCP process:

- a. _____ -
- b. _____ -
- c. _____ -
- d. _____ -

7.1.4 Steps to Renew a Lease

7. What are the two steps a device will use to renew a lease from a DHCP server? (Memorize!)

- a. _____ -
- b. _____ -

7.1.5 Check Your Understanding – DHCPv4 Concepts

7.2 Configure a Cisco IOS DHCPv4 Server

7.2.1 Cisco IOS DHCPv4 Server

8. Why may a dedicated DHCP server be a better option than using a Cisco router?

7.2.2 Steps to Configure a Cisco IOS DHCPv4 Server

9. What are the three steps to configure a Cisco IOS DHCPv4 server and describe them?

- a. Step 1: _____ -
- b. Step 2: _____ -
- c. Step 3: _____ -

7.2.4 DHCPv4 Verification Commands

10. What command can be used to verify the operation of DHCPv4?

11. What does the `show ip dhcp server statistics` command accomplish?

7.2.5 Verify DHCPv4 is Operational

12. What are the four IOS commands that you can use to verify that DHCP is operational?
 - a.

 - b.

 - c.

 - d.

7.2.6 Syntax Checker - Configure DHCPv4

7.2.7 Disable the Cisco IOS DHCPv4 Server

13. What is the command to disable the router's DHCP service?

14. What is the command to reenabte the router's DHCP service?

7.2.8 DHCPv4 Relay

15. Describe what a DHCPv4 relay is used for?

16. Describe what an **ip helper-address** is, why is it used?

7.2.9 Other Service Broadcasts Relayed

17. What are the other services enabled through the router by use of the ip helper-address command?

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

7.2.10 Packet Tracer - Configure DHCPv4

7.3 Configure a DHCPv4 Client

7.3.1 Cisco Router as a DHCPv4 Client

18. Why would you want to configure a Cisco router to be an DHCPv4 client?

19. What is the command to make the router into a DHCPv4 client?

20. Do you configure the router or the router's interface?

7.3.3 Home Router as a DHCPv4 Client

21. How is configuring a home router different than configuring a business class router?

7.3.4 Syntax Checker - Configure a Cisco Router as DHCP Client

7.4.1 Packet Tracer - Implement DHCPv4

7.4.2 Lab - Implement DHCPv4

7.4.3 What did I learn in this module?

7.4.4 Module Quiz - DHCPv4