CIS232 –Homework - DHCP

Requirements of the Assignment
- Use the same server and client you used for the review assignment.
- The virtual network adapters should already be configured to use your private network.
- The objective of this assignment is to configure your server as a DHCP server and configure your client as a DHCP client.
    - The DHCP server must be configured to start the dhcp service when the computer starts.
    - Configure the following range of IP addresses. Replace the # with the student number assigned to you for this course. (The number used on your folder within vmware)
        - 192.168.#.101 thru 192.168.#.254
    - Subnet mask 255.255.255.0
    - DON'T configure router or dns settings; your network is still local-only and these settings aren't required. I don't want you to set them yet.
    - Configure the default lease time of 8 hours and a maximum lease time of 3 days.

After testing your configuration to ensure it works, answer the following questions and provide screenshots where appropriate. If you make changes to your configuration AFTER providing screenshots, please be sure to review your screenshots to make sure they are current.

DHCP Server
1. Explain how you installed the DHCP server services.
2. Provide a screenshot of the hardware tab within the VM Settings screen of your Virtual Server
3. Show me the contents of the /etc/dhcpd.conf.
4. Show me the contents of the /var/lib/dhcp/db/dhcpd.leases file.
5. Execute the *command* that will show the status of the dhcp services. Include the command and its output as your answer to this question.

Client
6. Provide a screenshot of the hardware tab within the VM Settings screen of your Virtual Client
7. What is the name of the network adapter on the client?
8. Use the ifconfig command to show me *only* the settings for the network adapter.
9. Show me the contents of the /etc/sysconfig/network/ifcfg-*name* file.
10. Use the wicked command to display the adapter information for your adapter.
11. Display the contents of the /var/lib/wicked/lease-*name*-dhcp-ipv4.xml file.

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12. At the server, from the ***command prompt***, change the range of IP addresses that the DHCP server is configured to use to: 192.168.#.200 to 192.168.#.254.
    a) Display the contents of the revised /etc/dhcpd.conf file
    b) Execute the commands needed to check and restart dhcpd. Provide the commands and their outputs as your answer to this question

13. At the client, do whatever needs to be done to ensure the client has an IP address from the new range.

a) What command did you use to 'get' the new IP address?
b) Use the ifconfig command to show me _only_ the settings for eth#
c) Use the wicked command to display the adapter information for your adapter.
d) Display the contents of the /var/lib/wicked/lease-*name*-dhcp-ipv4.xml file.
e) At the server, show me the contents of the /var/lib/dhcp/db/dhcpd.leases file.

14. Assume you have a printer (named PrinterA) that has a Mac address of AA:BB:CC:DD:EE:FF and you want the DHCP server to assign the 192.168.#.201 address to this printer. Do whatever needs to be done to configure this as a fixed address. You will only be able to configure this; you won't be able to test that the printer received the IP address.
    a. What did you use to configure this – GUI or command?
    b. Display the contents of the /etc/dhcpd.conf file

15. Revise the range of IP addresses that the DHCP server. Exclude the 192.168.#.206 to 192.168.#.219 from the address pool.
    In addition to changing the range, configure a domain name server with an IP address of 4.3.7.1 (Since this is still a Private network, this setting is not actually needed by the client, but…. Configure it anyway)

    a) Display the contents of the revised /etc/dhcpd.conf file
    b) Execute the commands needed to check and restart dhcpd. Provide the commands and their outputs as your answer to this question.

16. At the client, do whatever needs to be done to ensure the client receives the new DHCP settings.
    a. What command did you use to 'get' the new the IP settings?
    b. Use the wicked command to display the adapter information for your adapter. Include the command and its output in your answer.
    c. Display the contents of the /var/lib/wicked/lease-*name*-dhcp-ipv4.xml file.

17. Explain when a shared network should be created?

18. What does it mean if your client has an IP address from the 169.254 network? Be very specific in your answer.

19. Execute the command that displays the last 15 journal entries associated with the dhcp server service.