**Linux final project**

**1. The Windows clients should receive IP address, default gateway**

**address and DNS server IP address automatically from the DHCP server.**

Change the hostname for both servers to server 15 and server 16

For server15

Text

Description automatically generated with medium confidence

For server 16:

Chart

Description automatically generated

download the DHCP package (do the following steps for server 15)

Make sure the connection is set to automatic.

Graphical user interface, text, application

Description automatically generated

Text, letter

Description automatically generated

configure the dhcp config file through **/etc/dhcp/dhcpd.conf**



A picture containing text, screenshot, font, document

Description automatically generated

Make sure to restart the dhcpd service



Start the dhcp service:

A picture containing text, font, white, typography

Description automatically generated

Verify the status of the dhcp service:

A screenshot of a computer

Description automatically generated

**Getting the info from the dhcp server to windows client**

1. Open the windows 10 virtual machine

A picture containing screenshot, computer, operating system, software

Description automatically generated

1. Open the start menu and enter control panel:

A screenshot of a computer

Description automatically generated with medium confidence

1. After clicking on control panel select “network and sharing center”

A close-up of a network

Description automatically generated with low confidence

A picture containing text, font, screenshot, electric blue

Description automatically generated

1. Click on change adapter setting on the left



1. Right click on the network adapter you want to configure and select properties

A computer screen shot of a computer

Description automatically generated with low confidence

1. In the ethernet properties dialog box select internet protocol version 4(TCP/IPv4) and click properties button

A screenshot of a computer

Description automatically generated

1. In the Internet protocol version 4 (TCP/IPv4 ) properties box select obtain an ip address automatically and obtain address automatically radio buttons

A screenshot of a computer

Description automatically generated

1. Now in windows client insert ipconfig

A screenshot of a computer

Description automatically generated

If the ipconfig worked next step is look at the leases located at **/var/lib/dhcpd/dhcpd.leases**

A screenshot of a computer program

Description automatically generated with medium confidence

Once the windows dhcp part is configured its time for the other server to receive it as well (server16)

Setup dhcp for server 16

1. Edit the config file /etc/sysconfig/network-scripts/ifcfg-interfacename
2. Add the line BOOTPROTO=dhcp

A screenshot of a computer code

Description automatically generated with medium confidence

1. Restart the network service

A close-up of a computer screen

Description automatically generated with low confidence

1. Check if it got an ip address from the dhcp server: A screenshot of a computer

   Description automatically generated with low confidence

5. check the leases if it got updated with server16

A screenshot of a computer program

Description automatically generated with medium confidence

PINGING each server

Server 16 to server 15

A screenshot of a computer code

Description automatically generated with low confidence

Server 15 to 16

A screenshot of a computer code

Description automatically generated with low confidence

Windows to server 15

A picture containing text, screenshot, font

Description automatically generated

Windows to server 16A picture containing text, screenshot, font

Description automatically generated

If you close application and restart and have trouble, use this for Linux server:

Will remove and give a new Ip address

A picture containing text, font, white, typography

Description automatically generated

**Question 2: The windows client should be able to resolve the name and Ip address of both servers.**

1. **Install the dns server package (bind)**

A picture containing text, font, white, typography

Description automatically generated

A screenshot of a computer

Description automatically generated

**2. Mount the DNS iso file to virtual box:**

A screenshot of a computer

Description automatically generated

**3. Make sure to unmount anything that was previously mounted**

A picture containing text, font, white

Description automatically generated

**4. Create directories for the mounting process**

A picture containing text, font, white

Description automatically generated

**5. Mount the file to the directory:**



**6. show the contents of the directory using ls**

A screenshot of a computer code

Description automatically generated with low confidence

A picture containing text, font, white, typography

Description automatically generated

**7. Make sure to save a copy of the original file just in case**



**8. Copy the files from the template and set in the right directories + use ls to show:**

A screen shot of a computer

Description automatically generated with medium confidence

A screenshot of a computer

Description automatically generated with medium confidence

**9. Setting Permissions for all three files:**

A picture containing text, font, white, screenshot

Description automatically generated

A screenshot of a computer

Description automatically generated

**10. Editing the config files for named.conf**



A picture containing text, screenshot, font, document

Description automatically generated

A screenshot of a computer

Description automatically generated

**11. Editing abc.loc.forward file**

A picture containing text, screenshot, receipt, font

Description automatically generated

**12. Editing the abc.loc.reverse**



A picture containing text, screenshot, font, receipt

Description automatically generated

**13. Testing dns configuration and zone files**

A screen shot of a computer code

Description automatically generated with low confidence

**14. Making sure the dns configuration file has the right data:**

A screenshot of a computer

Description automatically generated

**15. Verifying the dns config file in resolv.conf**

A screenshot of a computer code

Description automatically generated with low confidence

**16. Verifying Dns config file in hosts**

A screenshot of a computer

Description automatically generated with medium confidence

**17. Make sure to restart the network**



**18. Checking the status of the server:**

A screen shot of a computer

Description automatically generated with low confidence

**19. Starting dns service**

A screenshot of a computer

Description automatically generated with medium confidence

**20. Configure the firewall to trust other host/networks**

A picture containing text, font, receipt, screenshot

Description automatically generated

**21. Use nslookup to see the servers:**

A screenshot of a computer

Description automatically generated

**Question 3: Any user logged to a Windows client should be able to access the web**

**server:** [**http://www.abc.com**](http://www.abc.com)

1. **Open the /var/named/abc.loc.forward file.**



1. **Find the ip address of the site:**



1. **Enter the found ip address in the config file**

A picture containing text, screenshot, receipt, font

Description automatically generated

**4. Restart the dns server:**



**5. Go on windows side and use ipconfig /flushdns to remove the dns cache**



**Question 8: Only the members of the group admins should be able to log with ssh to the two linux server from any host on the local network**

1. **Make sure ssh is installed on both linux servers (server15 – server16)**

A screenshot of a computer code

Description automatically generated with low confidence

A screenshot of a computer code

Description automatically generated with medium confidence

**2. Start ssh service on both machines:**

A screenshot of a computer

Description automatically generated

A screenshot of a computer program

Description automatically generated with low confidence

**3. Ping the two computers**

From server 15 to server 16

A screen shot of a computer

Description automatically generated with low confidence

From server 16 to server 15

A screenshot of a computer code

Description automatically generated with low confidence

**4. Creating a group called admin**





**5. Creating specific user**

A screenshot of a computer

Description automatically generated with medium confidence

**6. Adding the user to the group:**

A picture containing text, font, white, receipt

Description automatically generated

**7. Edit the config file to restrict**

Make sure to remove the comment and put yes to no for permit root logins

A picture containing text, font, tool

Description automatically generated

Make sure to also allow groups for Admin



**8. Make sure you restart the service:**

A picture containing text, font, white, typography

Description automatically generated

**9. Connect via the managers user:**

A screenshot of a computer

Description automatically generated with low confidence

**10. If you are not part of the admin group you cannot access:**

A picture containing text, font, receipt, algebra

Description automatically generated

1. **Write a script that:**

**A). Save the DHCP information (the clients that got IP from the server) locally on server 15**

**1. Create the script.**



**2. Write config in the file**

A screenshot of a computer program

Description automatically generated with medium confidence

**3. Create a directory for storing and run the command “./ dhcp\_script.sh”**

3.1Create directory to store the leaseLocation

3.2 Find the location to use in the script.

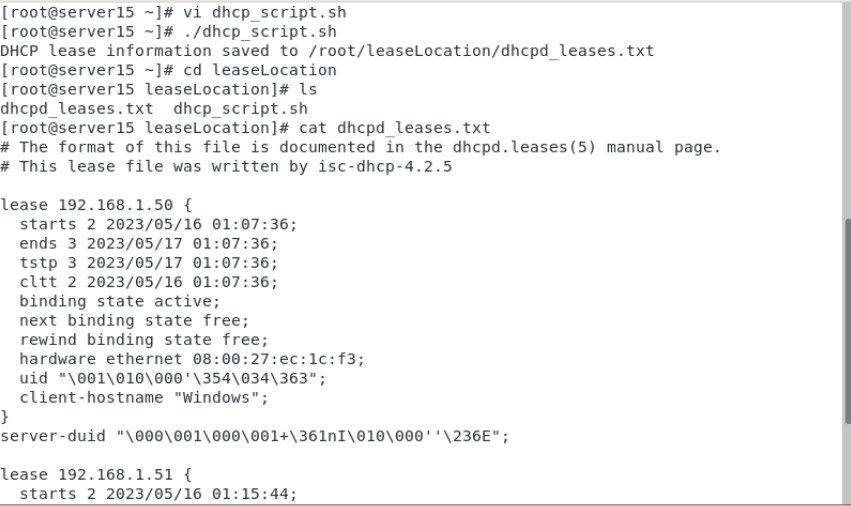
A picture containing text, font, receipt, algebra

Description automatically generated

3.3 After configuring the script run the script

3.4 Go into the directory and list the contents.

3.5Cat the contents



**B) And send this information each hour to you by email.**

**1. you need to download mailx**



**2. Enter the configuration for the email in the file:**

A screenshot of a computer program

Description automatically generated with low confidence

**3. Add a cron job to specifiy when to send the files**



To make it every hour include this line

A close-up of a computer code

Description automatically generated with low confidence