Module Title: Network Service Management & Virtualization

Assignment Type: Practical (submitted as report)

Project Title: Assessment 2 DNS, DHCP & Group Policy

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College of computer training

(CCT)

2018

Specific Requirements

1) Using Type II software, install 2 VM's. Use Windows 2012 (full version, not core) for the server system and use Windows 10 for the client.

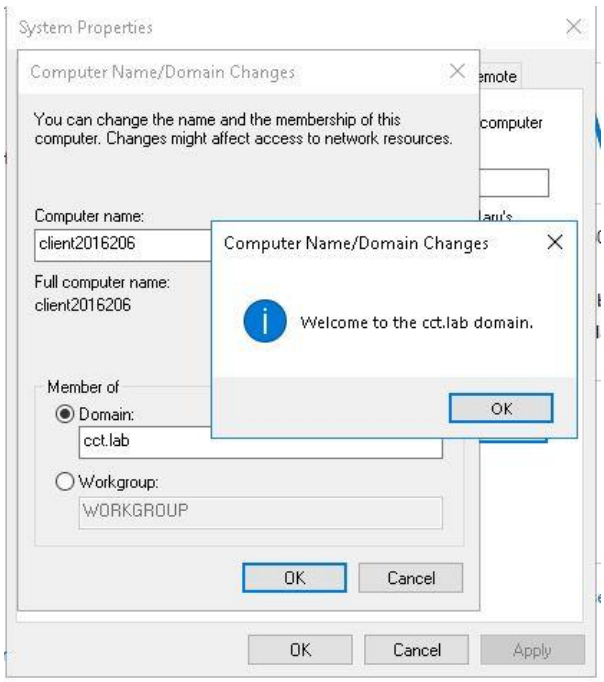
2) Using the snapshots feature ensure to take regular snapshots – take a print screen and include in final report (should include minimum of 3 snapshots with relevant names).

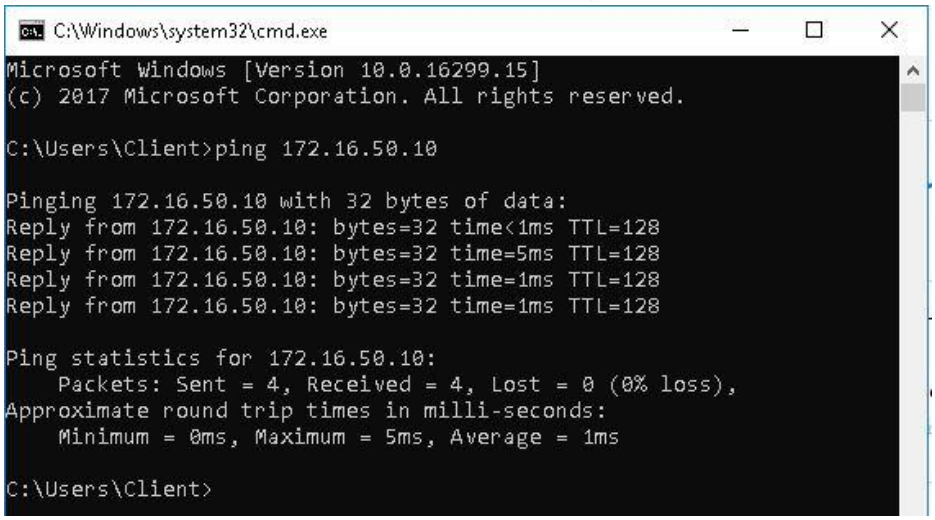
3) Rename the server with 'ser' followed by your student number e.g. ser2016111. Rename the client using the name client followed by your student number e.g. client2016111 (e.g. if my student number was 2016111).

4) Assign the server a static IPv4 address using the following configuration.

5) Assign the client (initially) a static IPv4 address using the following configuration.

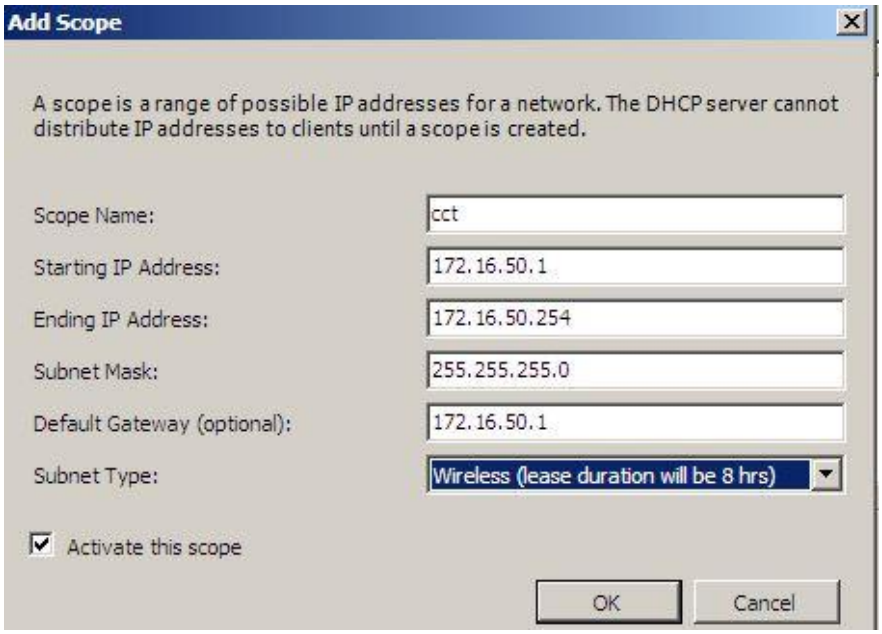
6) Convert the server into a Domain Controller.

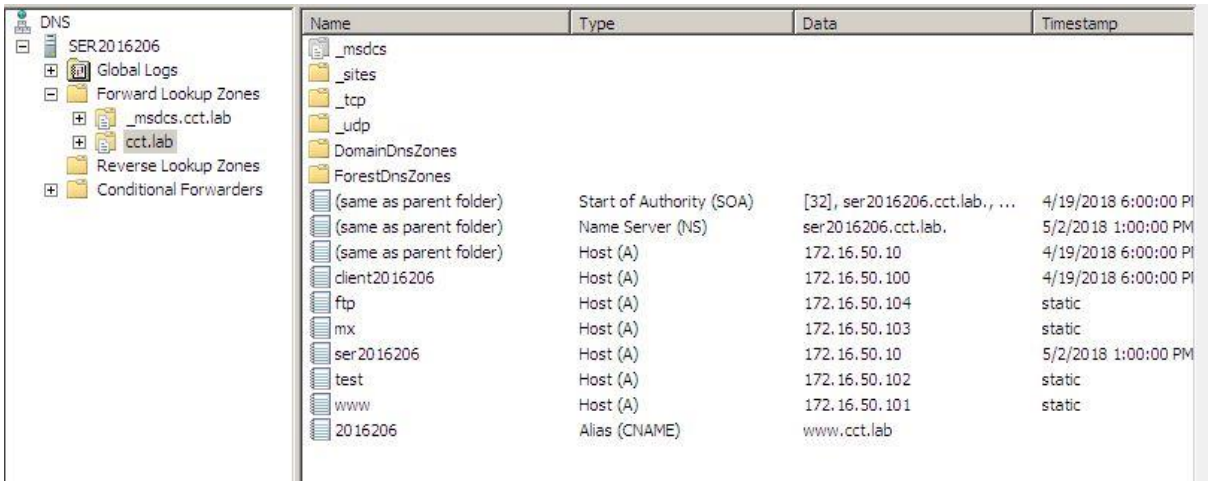


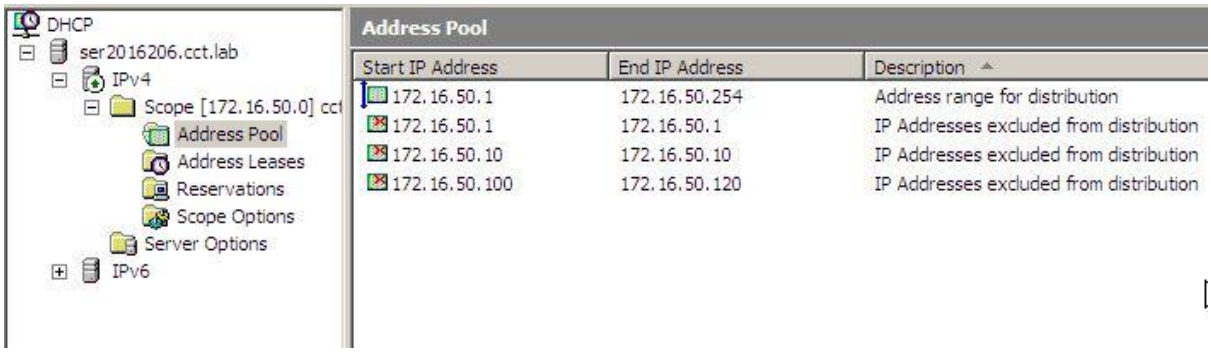


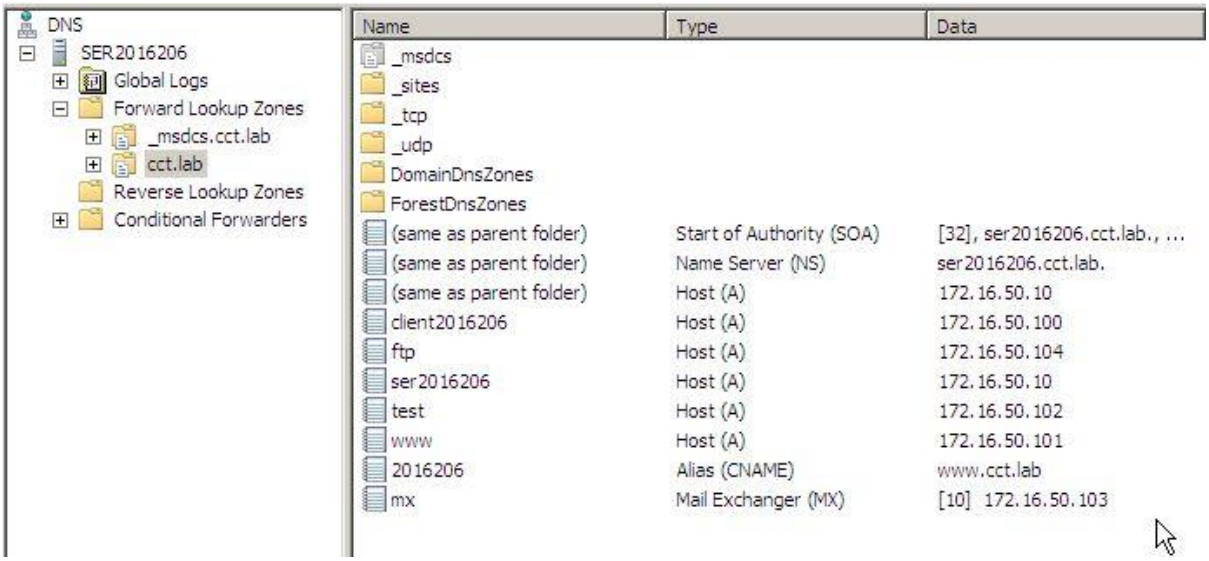
7) Ensure to install the DNS service and DHCP service.

8) DHCP scope name should be the same as your domain. The scope should be set as follows:









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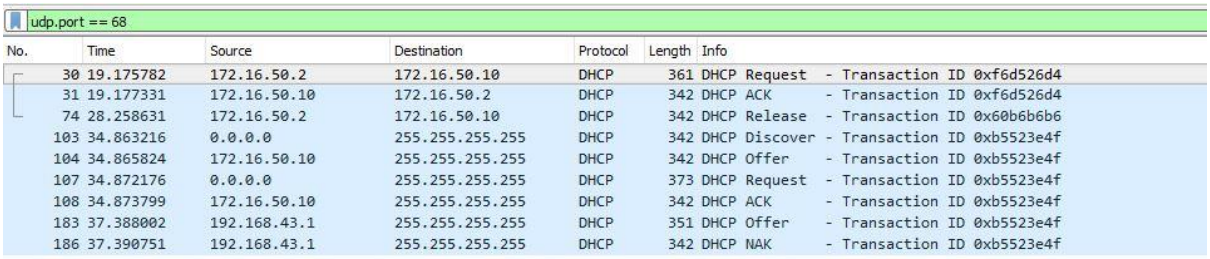
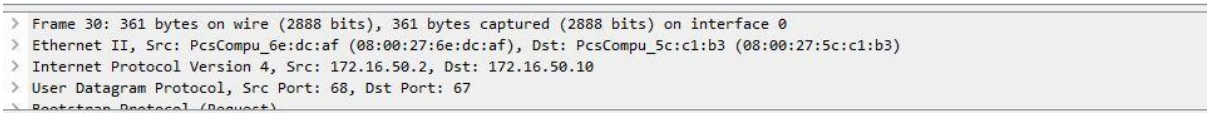
9) Use Wireshark on the client to demonstrate the dynamic IP address comes from server.

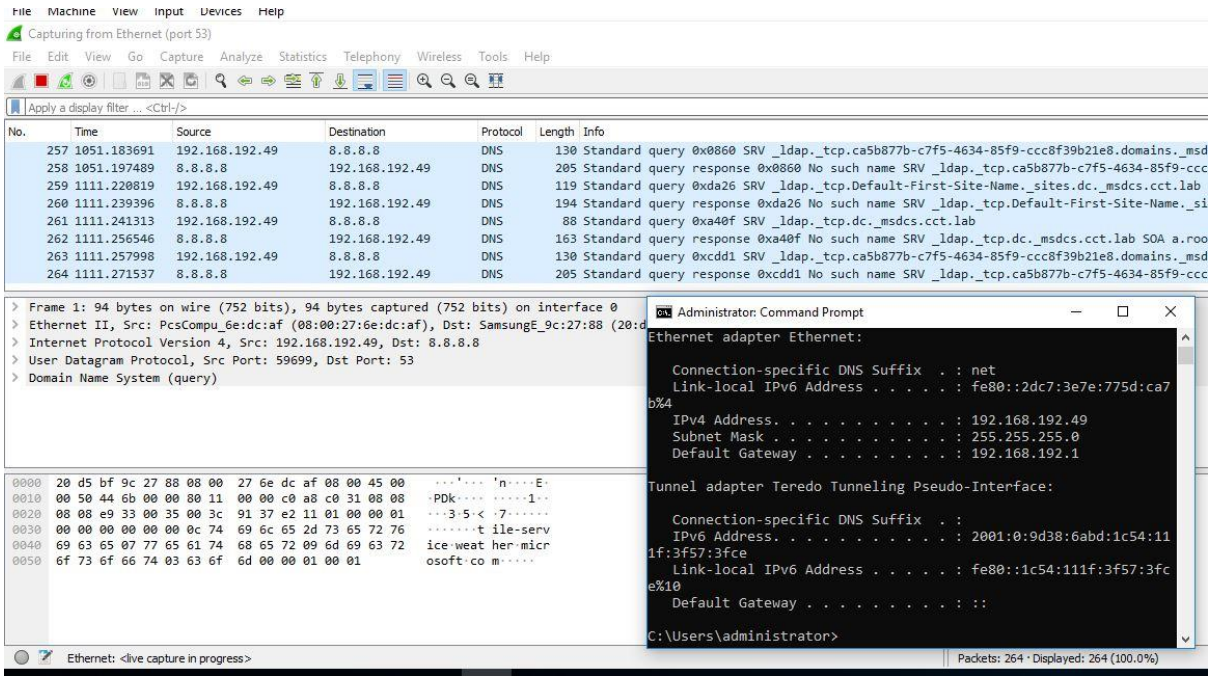
Ensure to print screen. (TIP: use ipconfig /release and ipconfig /renew). Add brief description.

- **DHCP**





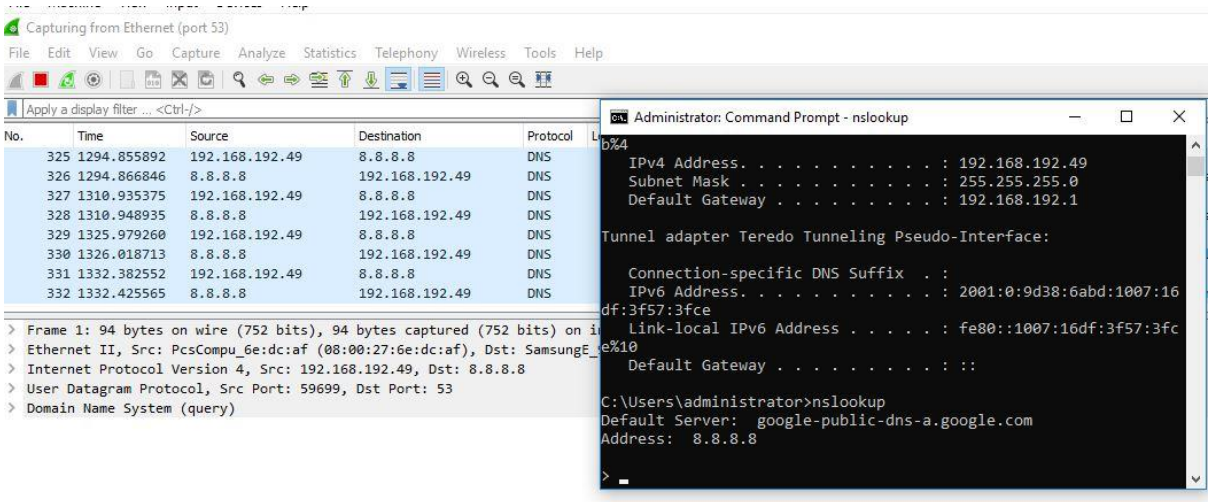
- **DNS**



Brief description:

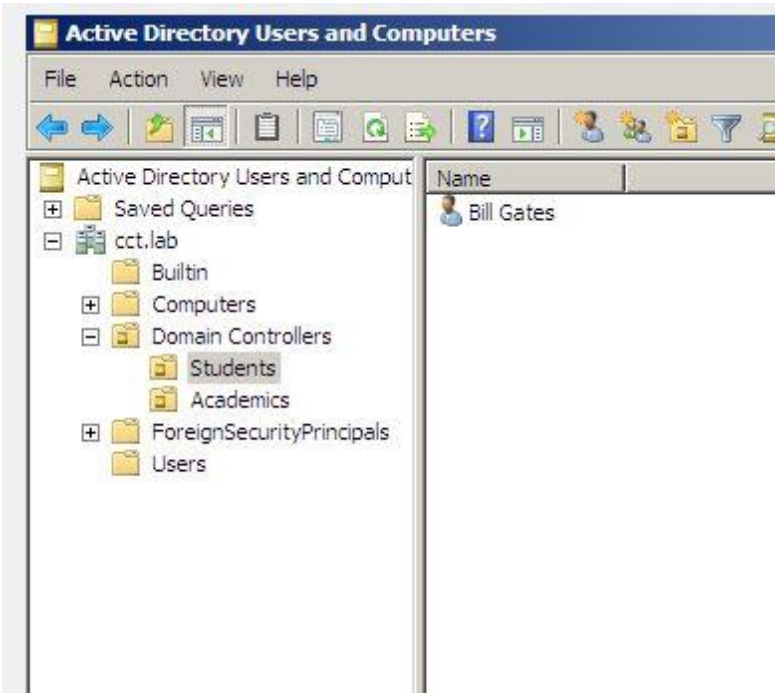
First, IPCONFIG /RELEASE is executed to force the client to immediately give up its lease by sending the server a DHCP RELEASE notification which updates the server's status information and marks the old clients IP ADDRESS as "available". Then, the command IPCONFIG /RENEW is executed to request a new IP ADDRESS.

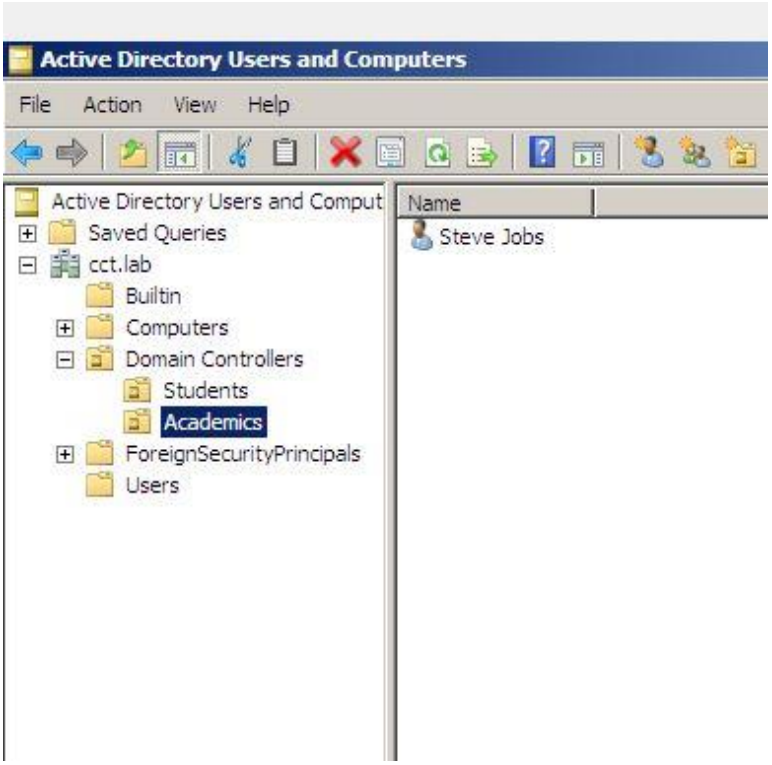
10) Use Wireshark on client to demonstrate the lookup of a web server. Ensure to print screen.



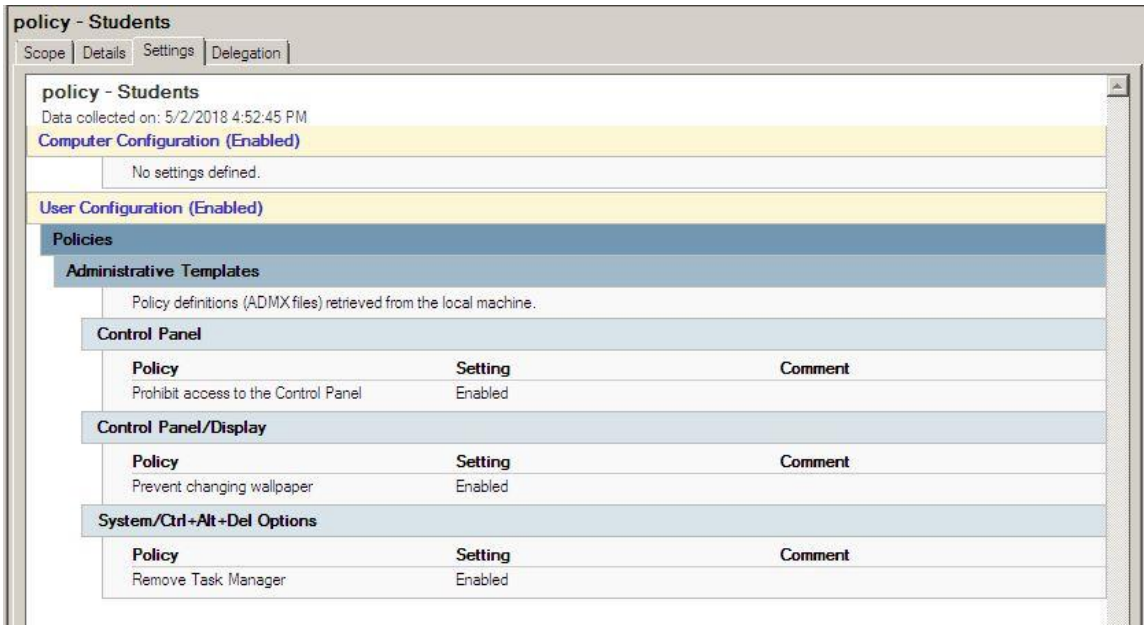
NSLOOKUP is the name of a program that lets an Internet server administrator or any computer user enter a host name (for example, "whatis.com") and find out the corresponding IP address. It will also do reverse name lookup and find the host name for an IP address you specify.

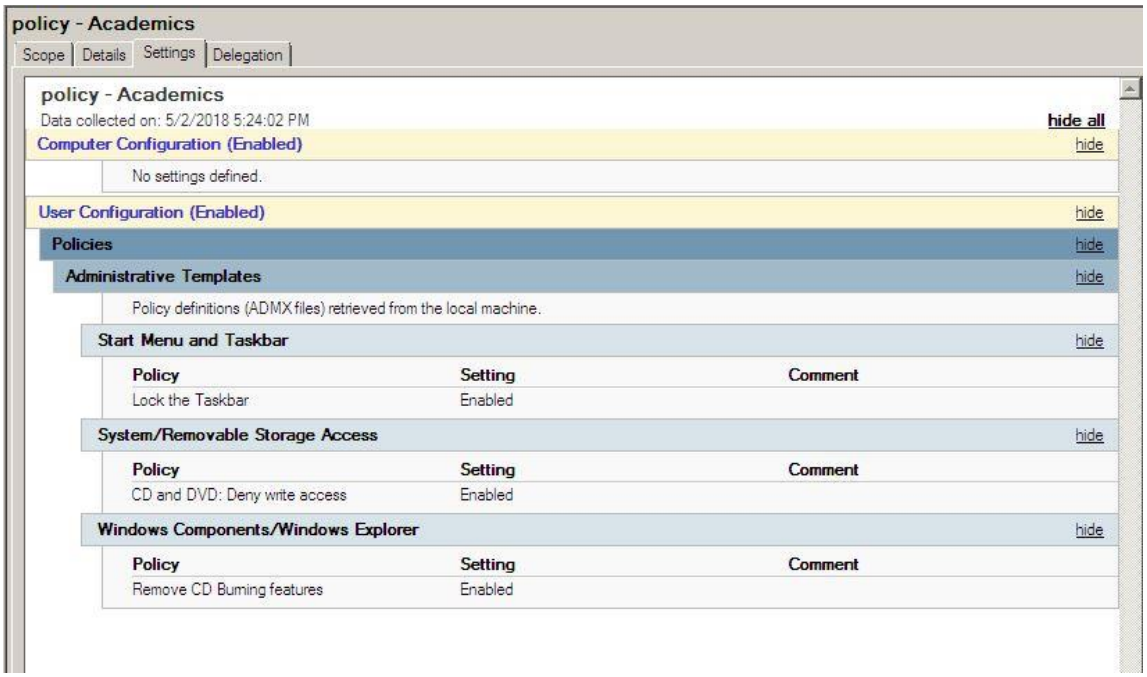
11) Create Organization Units - Students and Create OU Academics (and create one user account to test each – you may create your own usernames for each).





12) Use the group policy editor to create 6 separate policies (3 x Students and 3 x Academics) Ensure to print screen these policies and briefly describe why you choose each one. (Use research and referencing here.)





I went to approach the policies for student and academics I did small research on it and I tried to be reasonable about it because the windows provide a huge amount of policies for any type o security. Before to approach the policies it will depends of the field that you are like college field. In this case was a bit simple we could just give more freedom for academics and less for students. But both has limits in terms or security.

Prohibit access to the panel control

The reason why we might want to disable access to control panel on a Windows computer or server is to minimize the risk of exposing the computer settings to anyone. As we all know, in control panel we can find almost every configuration and settings on our computer; such as User Accounts, System and Security, Programs and Features, etc. These are all settings that we don't want somebody else to mess with. For that purpose, Windows gives a way to restrict control panel access. On a managed domain, administrators usually disable control panel access using Group Policy on Windows.

Prevent changing wallpaper

The Prevent changing wallpaper Group Policy prevents users from changing the desktop wallpaper by using Display Properties. However, there are ways of changing the wallpaper setting, such as through Image Preview, which does not involve Display Properties. By these other methods, users do not experience the limitations that apply to Display Properties. You must specify Active Desktop Wallpaper in Group Policy to prevent users from changing the desktop wallpaper without using Display Properties.

Remove task manager

Windows Task Manager is used to view details about processes running on your computer. Since it can be used to terminate programs that are misbehaving or are viruses disguised in the form of harmless programs, most spyware and viruses disable it to prevent themselves from being closed through it. Some administrators also disable Task Manager to prevent users from closing important security programs like antiviruses and anti-malwares.

Lock the task bar

Windows includes a special application desktop toolbar called the taskbar that shows on the bottom of a display screen by default. The taskbar allows you to find, see, open, and switch between your apps. You can also see the date and time, system icons, and items running in the background on the notification area. You can make the taskbar look how you want, manage your calendar, pin your favourite apps to it, change the size, change location on screen, and specify how taskbar buttons group together when you have more than one window open.

You must be signed in as an administrator to enable or disable "Lock the taskbar".

CD and DVD: Deny write access

This policy setting denies write access to the CD and DVD removable storage class. If you enable this policy setting write access is denied to this removable storage class. If you disable or do not configure this policy setting write access is allowed to this removable storage class.

Remove CD burning features

Let's say you are the IT admin of a school and you don't want the kids to bring in CDs or DVDs to copy the game setups from school's computer systems. You definitely would be pleased if you could just disable the CD/DVD burning feature in Windows.

Report /snapshots

Introduction

The purpose of this assignment was to create a virtual experiment, designed to test two virtual machines. This allowed us in a (realistic) way to learn how to work as a Network Administrator. We had to install features that are in Windows to get our devices and network up and running.

Working and doing tests helped to develop the knowledge that security is very important. For example, one tool, the firewall, is essential to prevent malicious access to any network. Also, when you are going to give access to the user, you shouldn't give too much permission to them in a company or college.

Methods

1. I created two virtual machines.

2. I had to create Organizational Units to connect the Academic department and the user student.

3. I set up security policies for the students and academics and take the snapshots

1. DNS resolves names to numbers and resolves domain names to I.P addresses. DNS also works like a phone book. When you want to find a number, you don't look up at the number first. You look up the name first, then it will give you the number.

2. DHCP provides an easier way to assign a computer. This is called Dynamic I.P. That is where a computer gets an I.P address from a DHCP server.

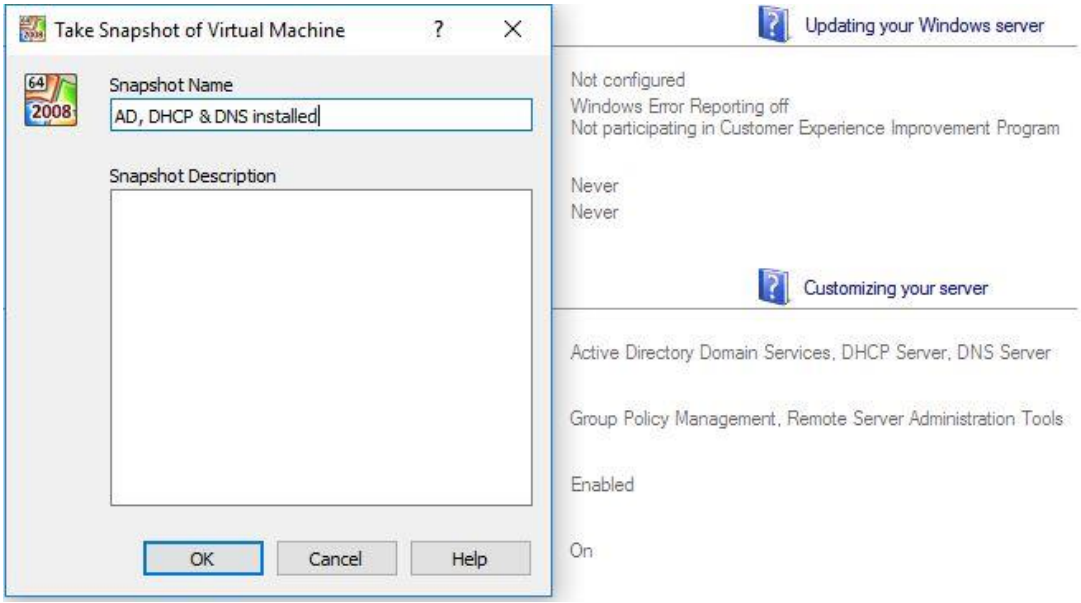
3. DHCP servers automatically assign a computer and I.P address and also assign a subnet mask, default gateway and DNS server.

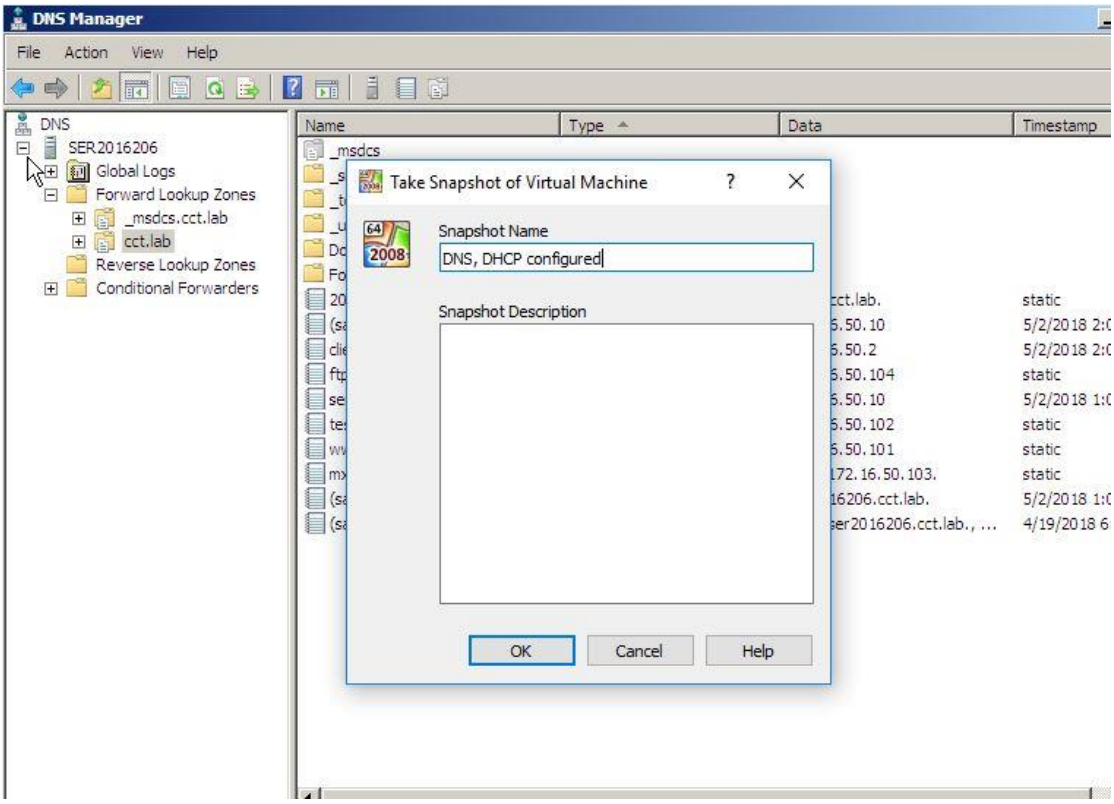
4. Reservation ensures that a specific computer or device identified by using a MAC address always be given the same I.P address when that computer or device requests an I.P address from a DHCP server.

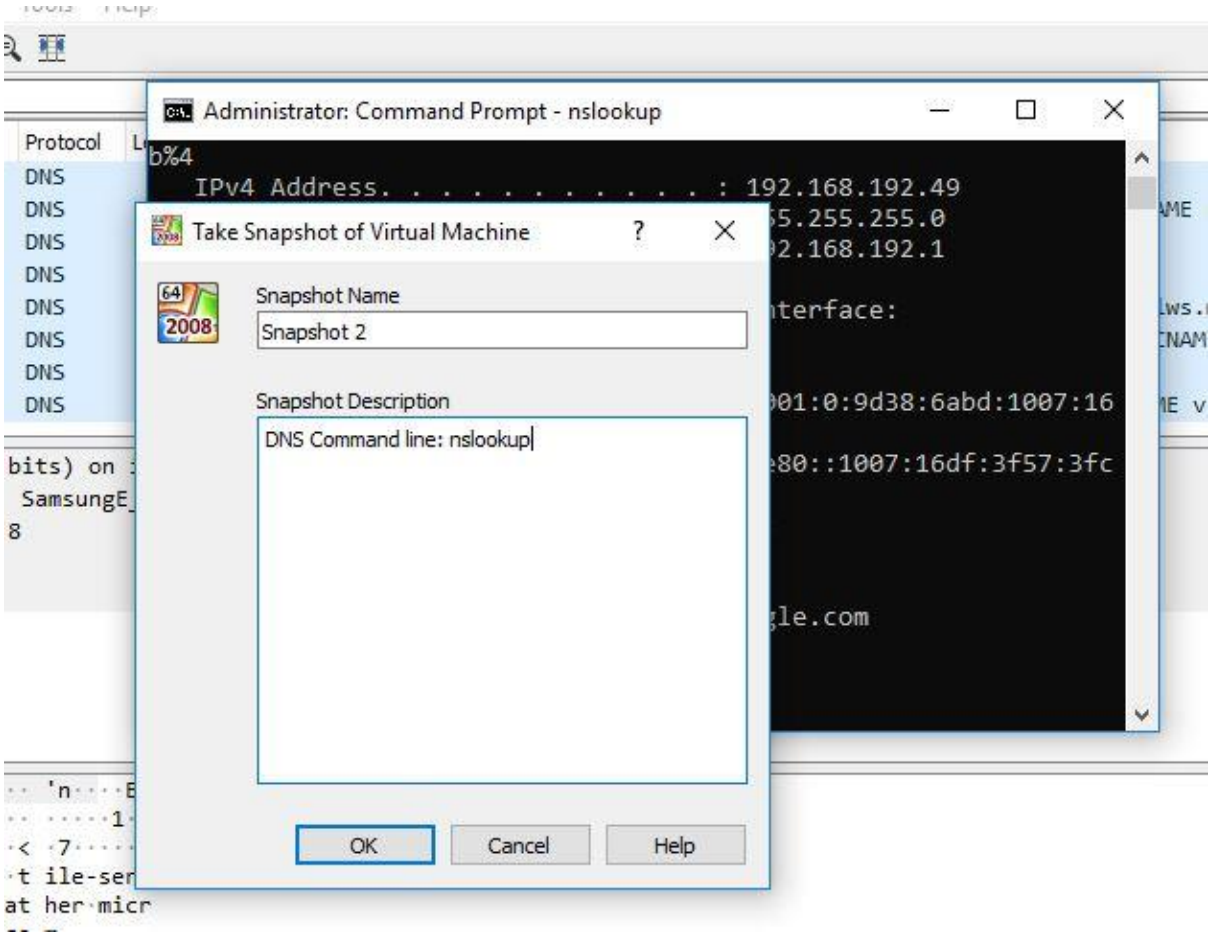
Conclusions

What was learned from doing this experiment was to have a better awareness of DNS, DHCP and the MAC address layer 2, which gives a permanent address. This task was achieved by using the Domain controller for the network to set up the groups as academic department and a user student, also by implementing the policy for the entire domain.

Snapshots


Take Snapshot of Virtual Machine
Snapshot Name
AD, DHCP & DNS installed
Snapshot Description
OK
Cancel
Help
Updating your Windows server
Not configured
Windows Error Reporting off
Not participating in Customer Experience Improvement Program
Never
Never
Customizing your server
Active Directory Domain Services, DHCP Server, DNS Server
Group Policy Management, Remote Server Administration Tools
Enabled
On


DNS Manager
File Action View Help
DNS
SER2016206
Global Logs
Forward Lookup Zones
_msdcs.cct.lab
cct.lab
Reverse Lookup Zones
Conditional Forwarders
Name
Type
Data
Timestamp
_msdcs
Take Snapshot of Virtual Machine
Snapshot Name
DNS, DHCP configured
Snapshot Description
OK
Cancel
Help


Administrator: Command Prompt - nslookup
IPv4 Address. . . . . : 192.168.192.49
Take Snapshot of Virtual Machine
Snapshot Name
Snapshot 2
Snapshot Description
DNS Command line: nslookup
OK
Cancel
Help

Research

http://www.mustbegeek.com/disable-control-panel-access-using-group-policy-on-windows/

https://support.microsoft.com/en-ie/help/327998/you-can-change-the-desktop-wallpaper-setting-after-administrator-selec

https://www.tenforums.com/tutorials/104265-enable-disable-lock-taskbar-windows-10-a.html

https://merabheja.com/enable-disable-cddvd-burning-feature-windows-10/

https://searchnetworking.techtarget.com/definition/nslookup