

Assignment

by Nathan Evans

Submission date: 29-Apr-2022 10:47PM (UTC+0100)

Submission ID: 177891920

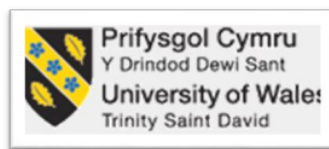
File name: 33805_Nathan_Evans_Assignment_417978_1629262620.docx (3.72M)

Word count: 1140

Character count: 5656

Network Configuration and Administration

Evidence Provided



Nathan Evans

Software Engineering / Introduction to Computer Systems

Submitted to:

UWTSD – Waterfront Campus

29/04/2022

Network Configuration and Administration with Picture Evidence

Abstract/ Contents Page:

The following report is based on the work covered in past lectures completely focusing on applying knowledge of the configuration of networks and the administration, using tools such as  virtual machines.

Note: All annotations are underneath the screenshots!

The work of this report completed under the supervision of (name supervisors). I declare that this report is the product of my own work and is not being submitted for any other degree etc.

N. Evans

During this piece of work, the student demonstrates their personal understanding of Networks and their concepts – performing these skills through a small but professional network. Quoting the assignment brief, 'To install and manage a networked computer and a range of software applications'.

The student has chosen to use Oracle VM Virtual box to configure the virtual machines.

Installing:

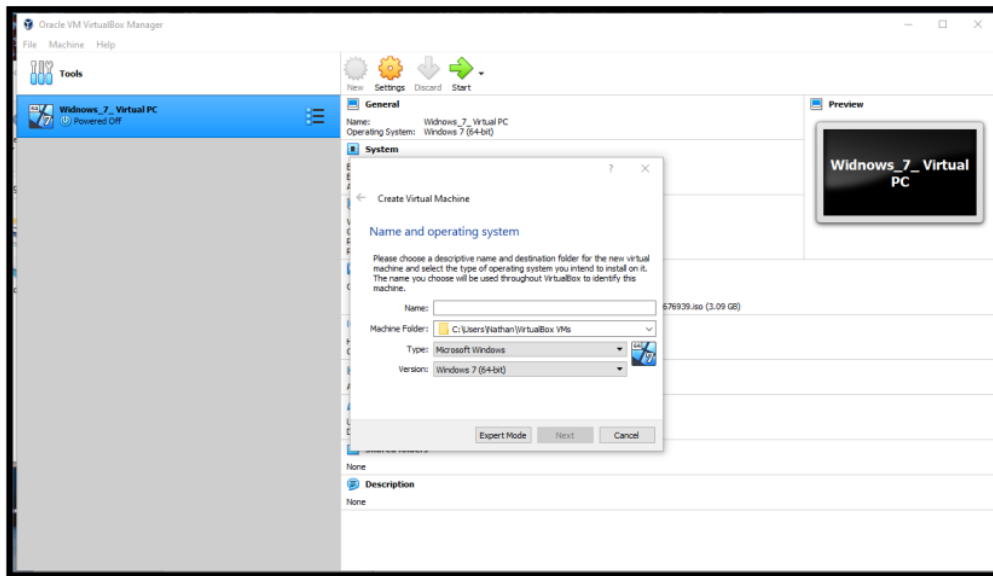
- *Windows 7 OS*
- *Linux – Ubuntu*
- *Windows server 2008*

Once installing the listed operating systems, the student goes on to perform a range of tasks all in the name of setting up a private network. These tasks include:

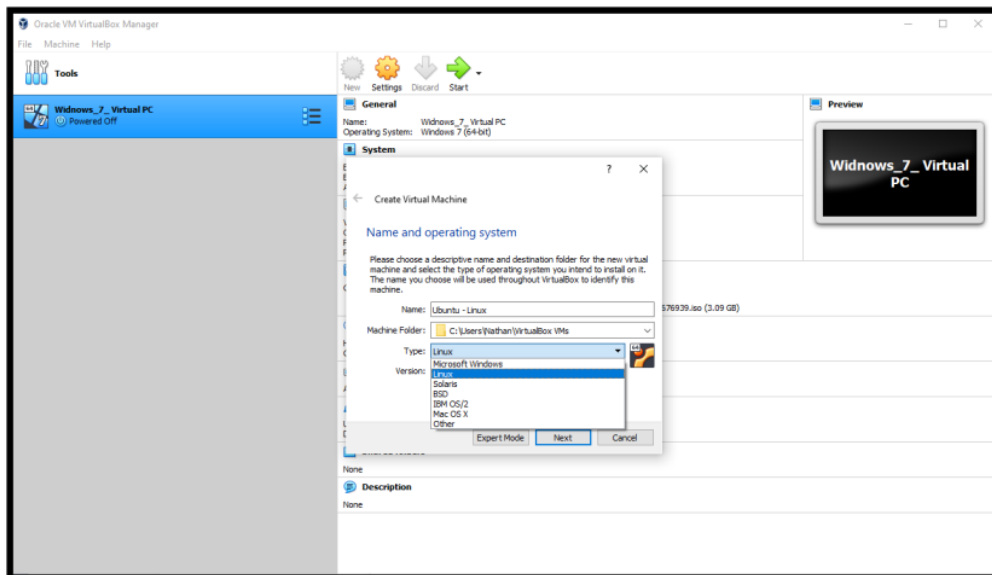
- *Configuring static IP addresses for each VM using commands such as ipconfig and Ping*
- *Demonstrating the use of utility software*
- *Setting up a server as a primary domain controller and DNS – Using a client to join the domain*
- *Creating a DHCP server and reconfiguring a client to have the same IP address as the server*

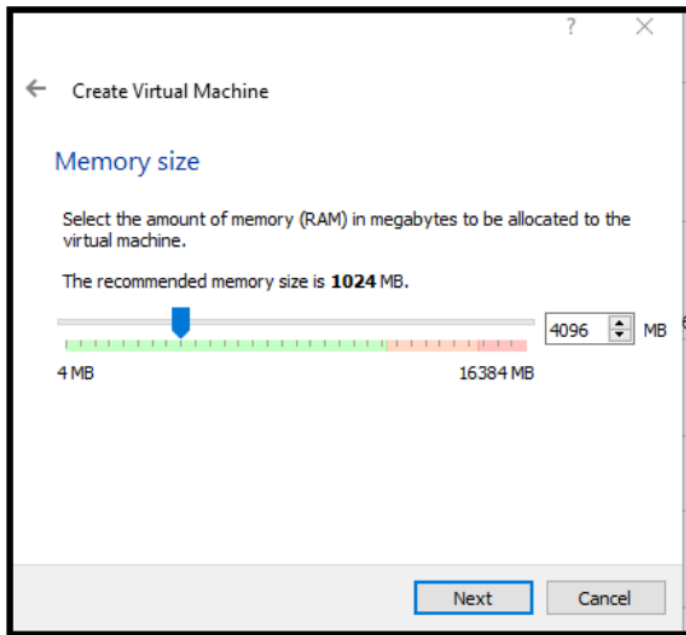


Part1: Config Of virtual PC's Linux & Windows 7

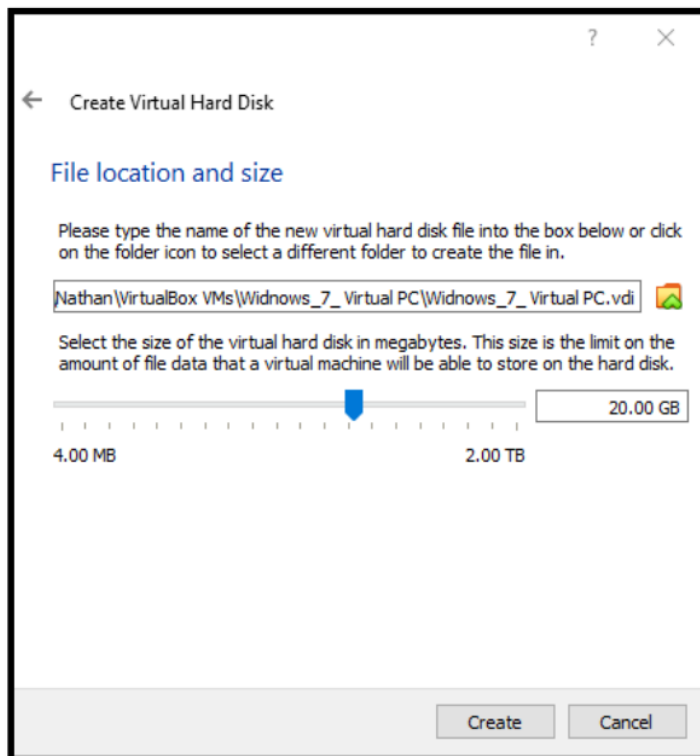


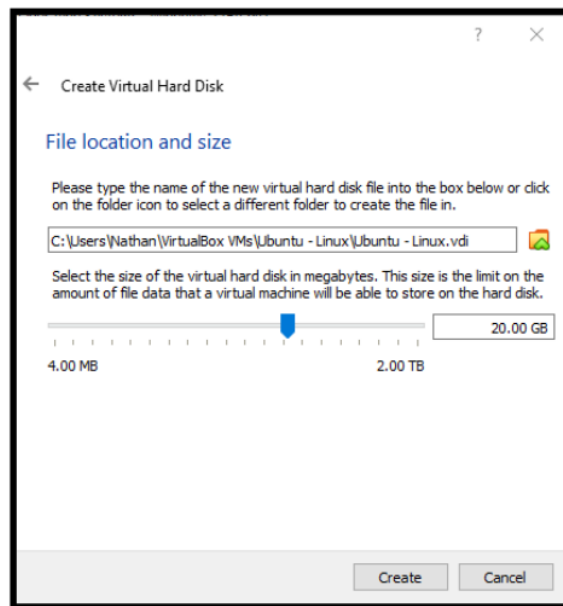
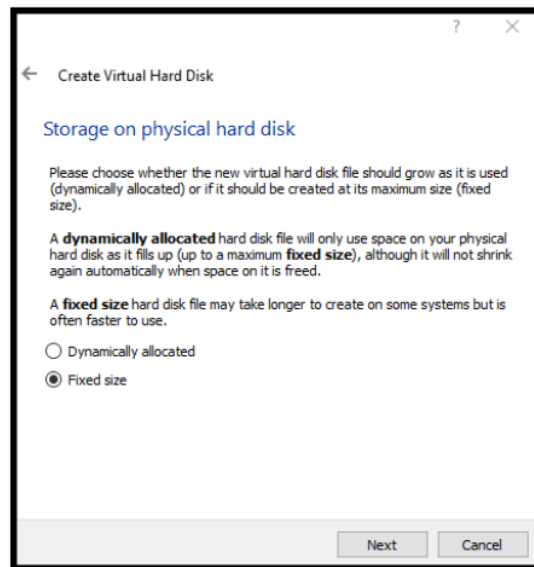
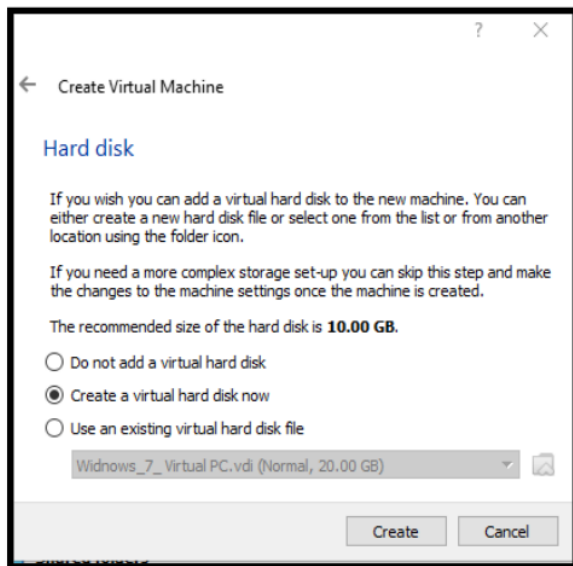
First the student began the configuration by choosing the type and the version of OS they were using. Also providing the virtual machine with a suitable name. The following screenshot show this in detail.



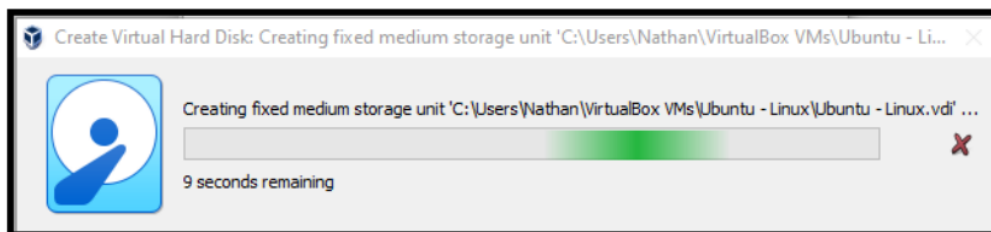


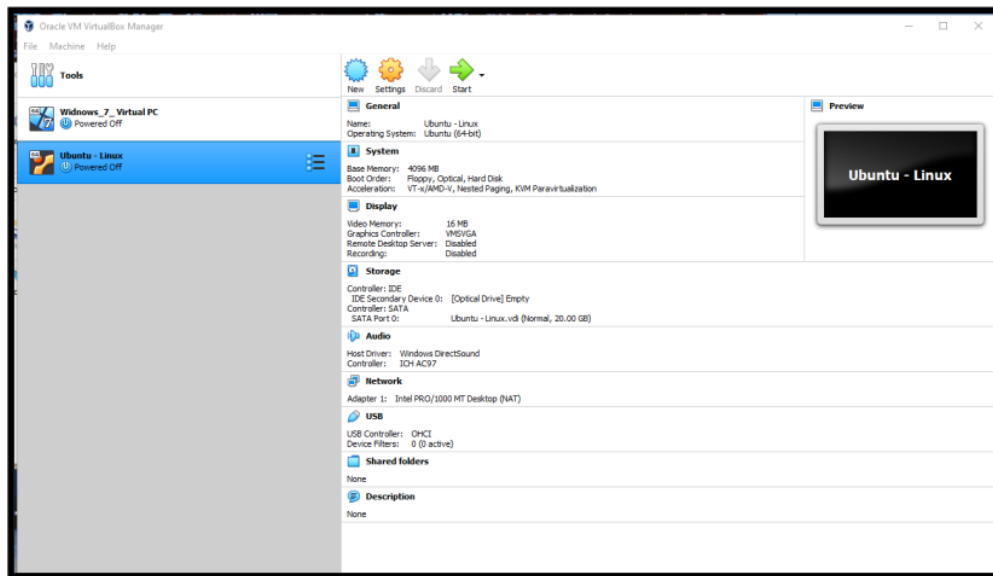
Next was a very important part of setting up any virtual machine, the memory allocation (RAM). It is crucial you get this correct and tailored not only to the virtual machine but also to the student's personal computer.



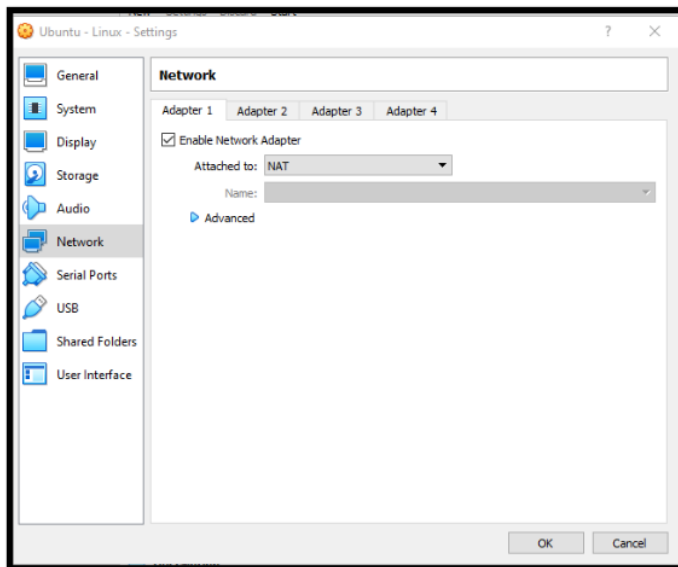


The previous screenshots show the student setting up a hard disk for the virtual machine ensuring to allocate 20G of space. This is what Ubuntu will need to be a fluid OS.

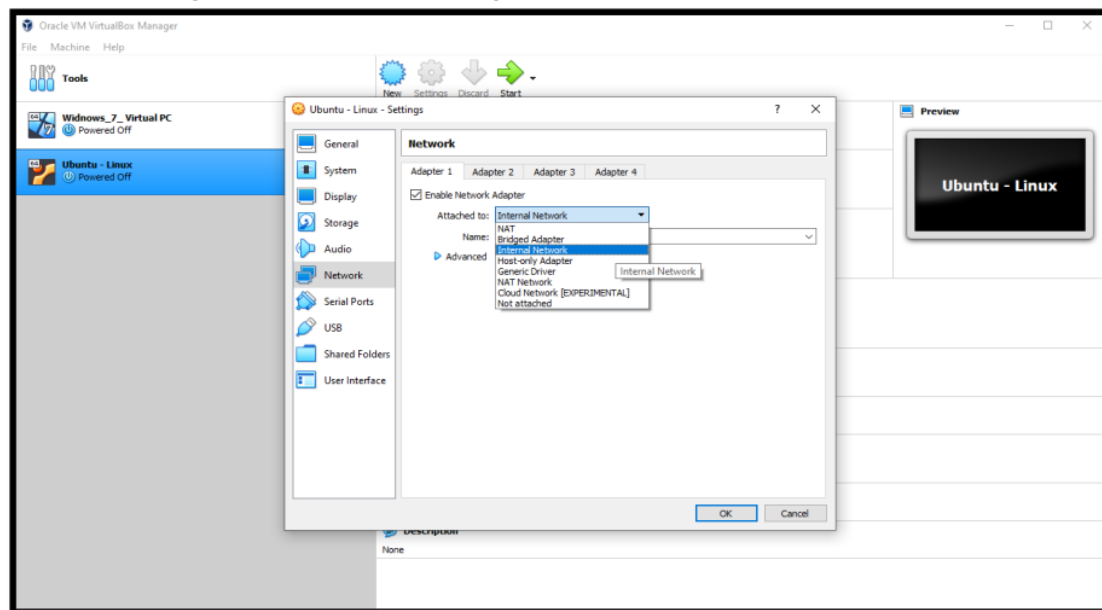




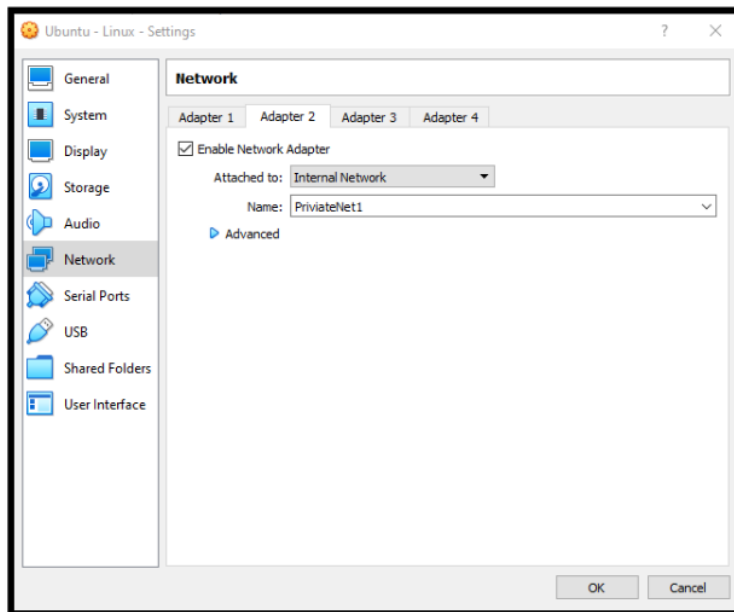
Highlighted in blue shows the 'skeleton' of the virtual machine.



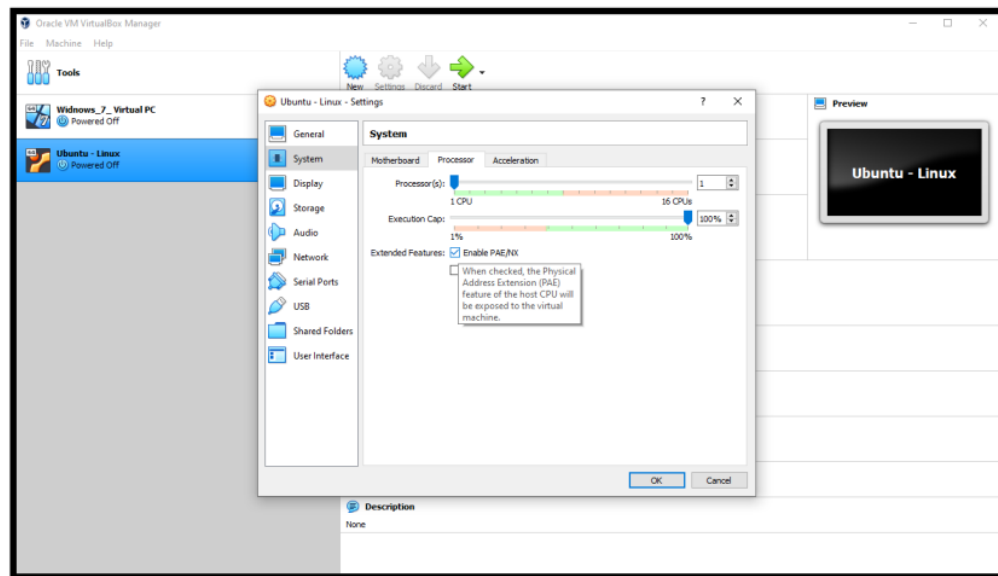
The student then goes on to the network config for the Virtual machine.



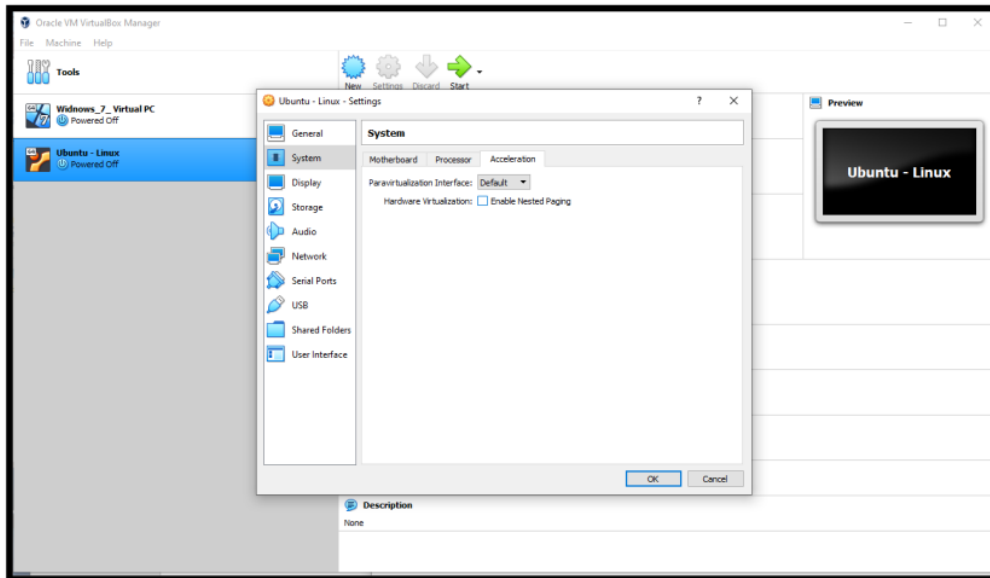
Switching adapter 1 on the VM from a NAT to an internal network.



The student makes sure to follow the same process for adapter 2 and name it 'PrivateNet1'

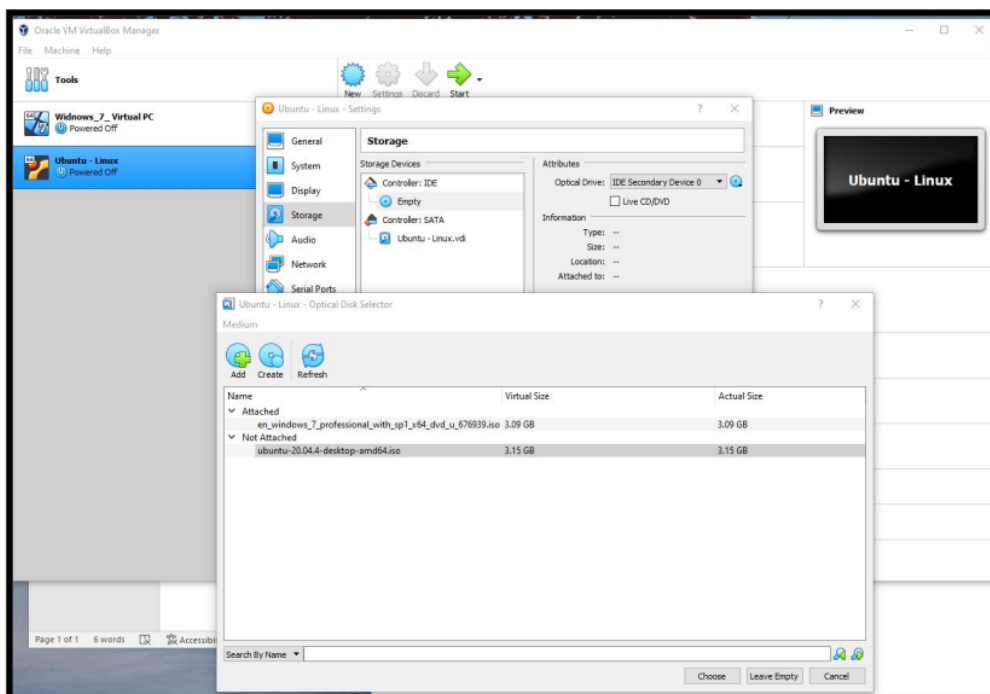


The student can be seen enabling 'PAE/NX'



Here the student can be seen going over to the acceleration tab in under 'system settings' – Unchecking 'Enable nesting paging'.

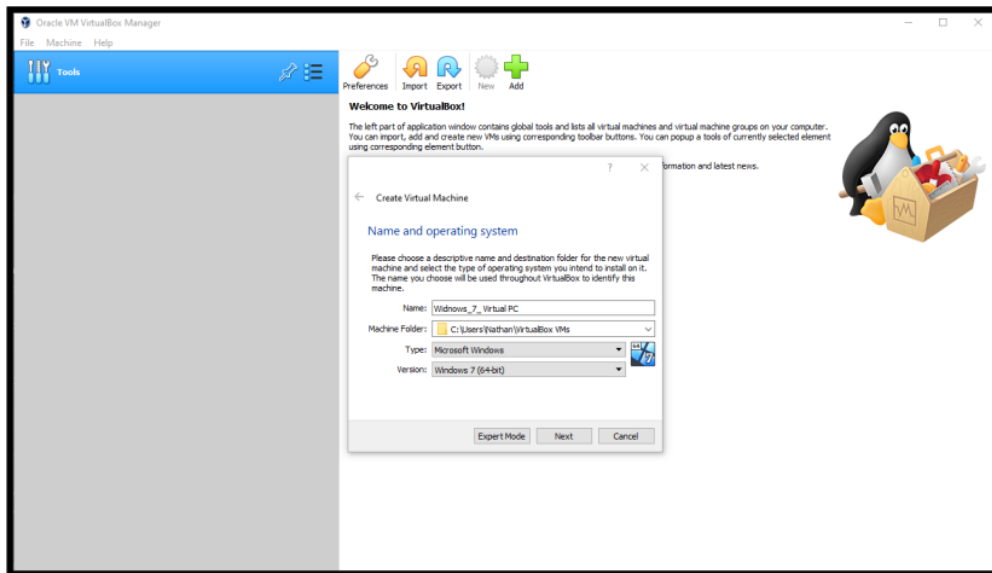
4



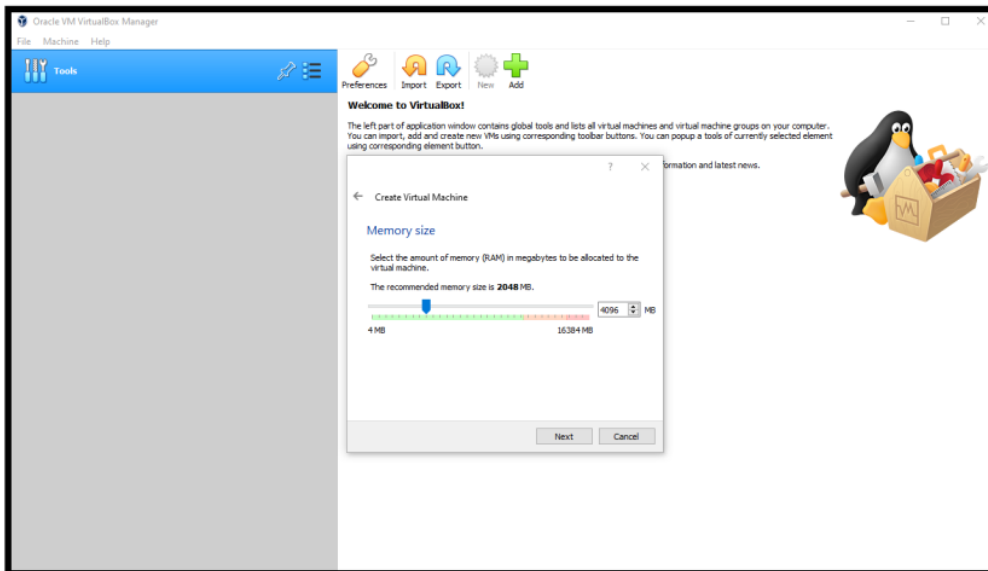
Finally the student adds the 'brains' of the VM – The Ubuntu iso. This was done by entering the storage section and adding an Optical disk the SATA controller.

5

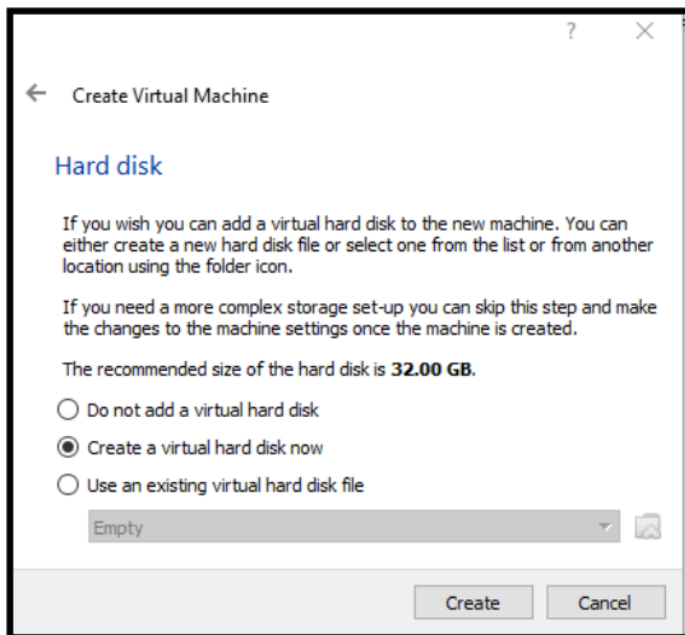
Config Of virtual PC's Linux & Windows 7 – Machine 2 - Windows 7



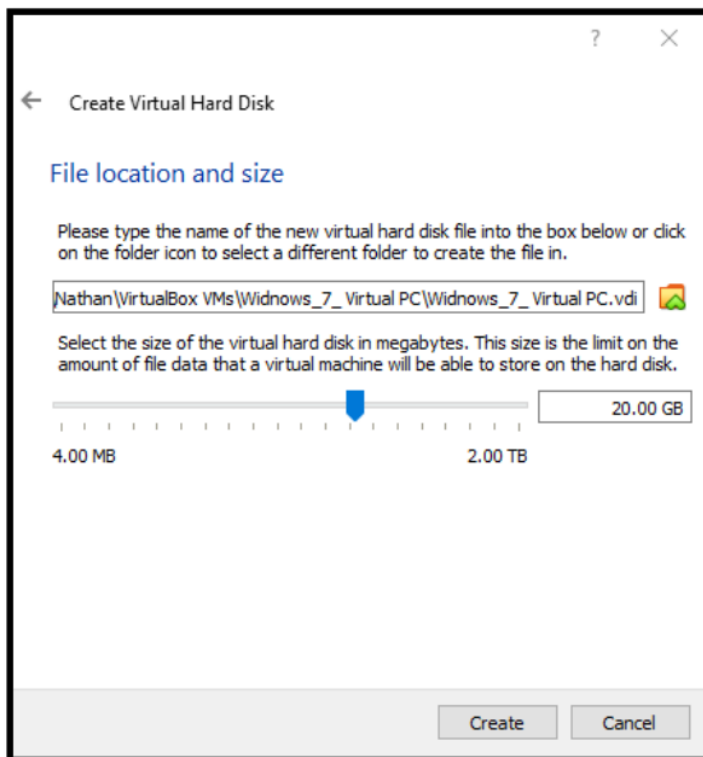
Much like the creation of the UBUNTU VM, the student begins by creating the type and version of windows they will be using and also providing the VM with a suitable name.



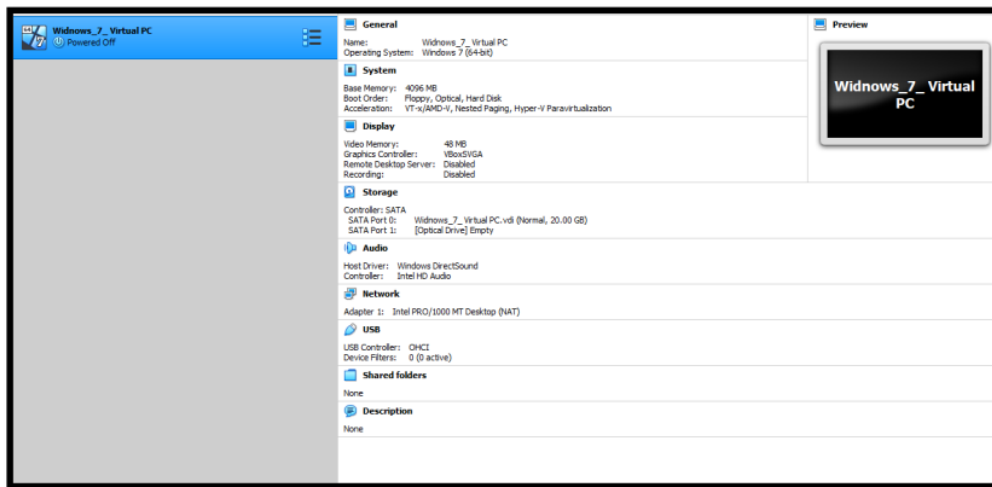
The student the allocates a tailored amount of memory to the VM. Using the same amount as the UBUNTU VM.



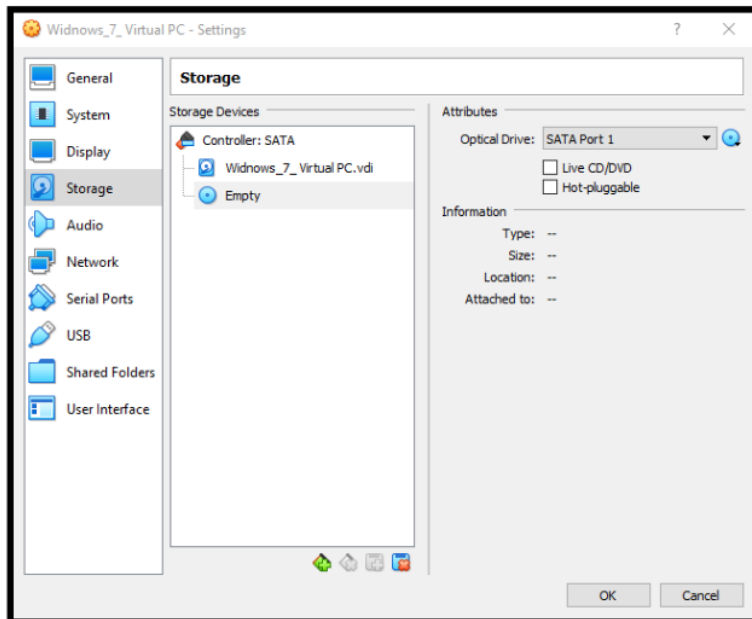
The student then went on to create a virtual hard disk for the windows 7 PC – noting that there was a significant difference in the recommended size compared to the Ubuntu VM.



The student set the hard disk size to 20GB

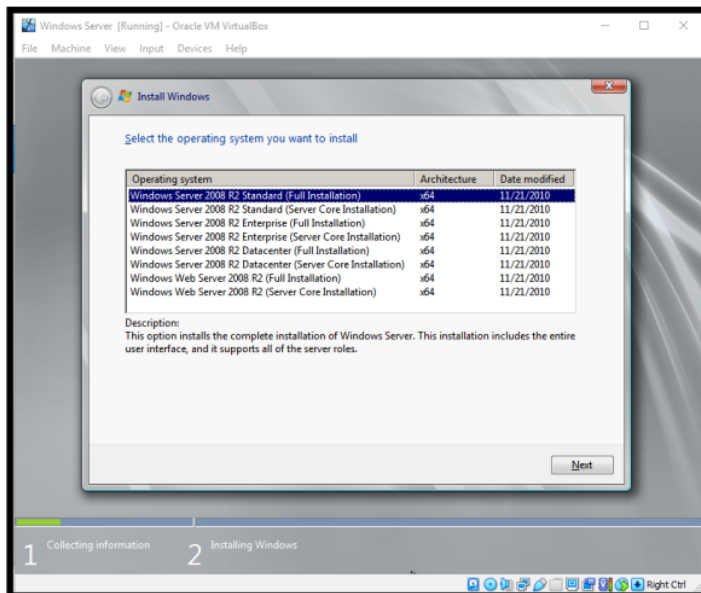


Much like the Linux VM – The Windows VM 'skeleton' has now been created

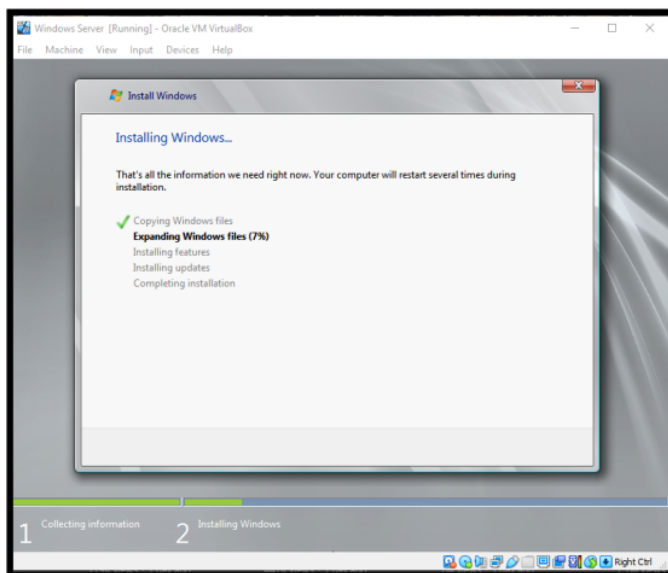


The student then went on to add the brains of the VM by adding the Windows 7.iso file to the SATA controller.

Windows Server 2008 setup

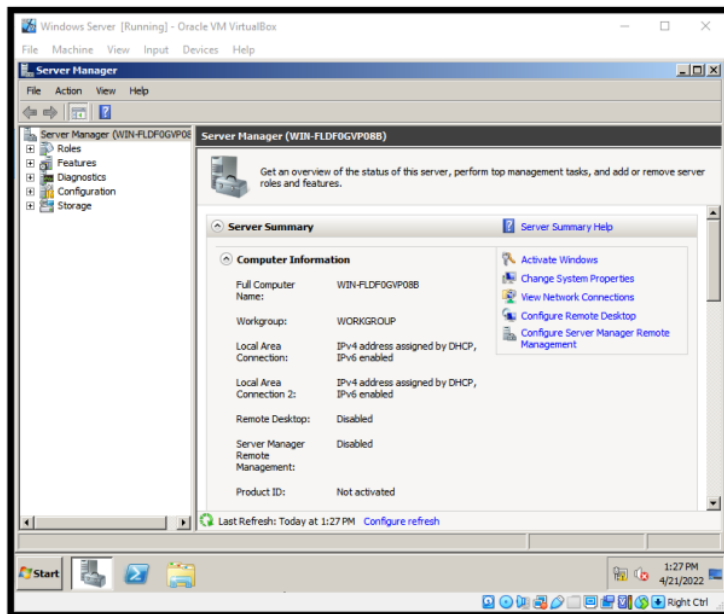


Once the student installed windows server on the VM by following the same steps as previously provided for the OS'. They then follow the system install steps required by firstly clicking on 'Windows server 2008 R2 – Full install'

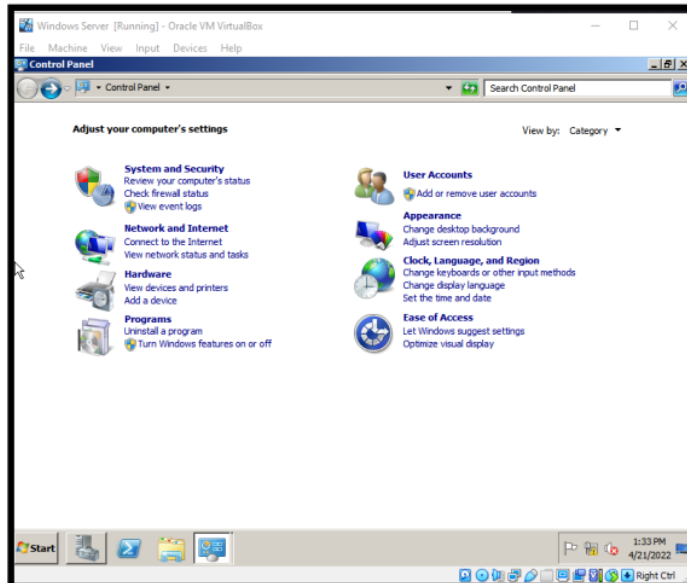


The student then waits for the install to complete.

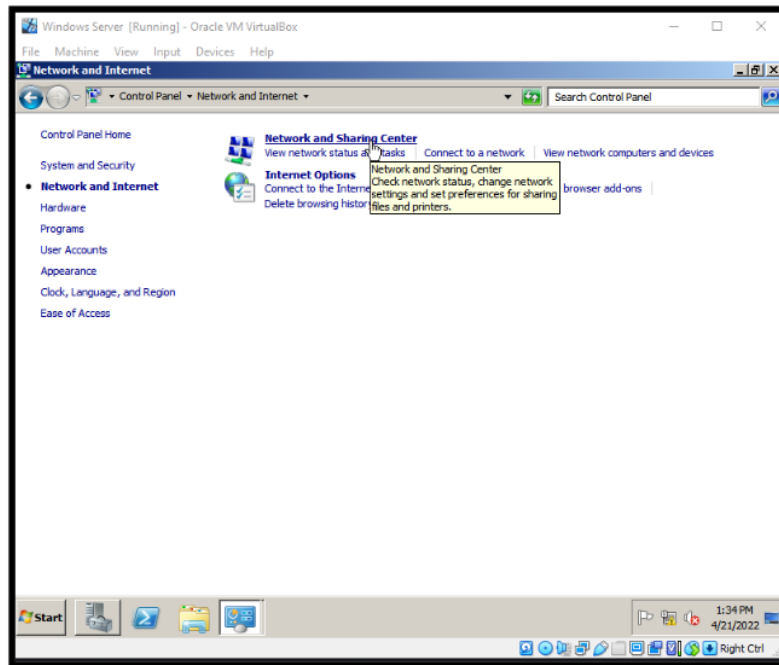
Part 2: Configuring a static IP address



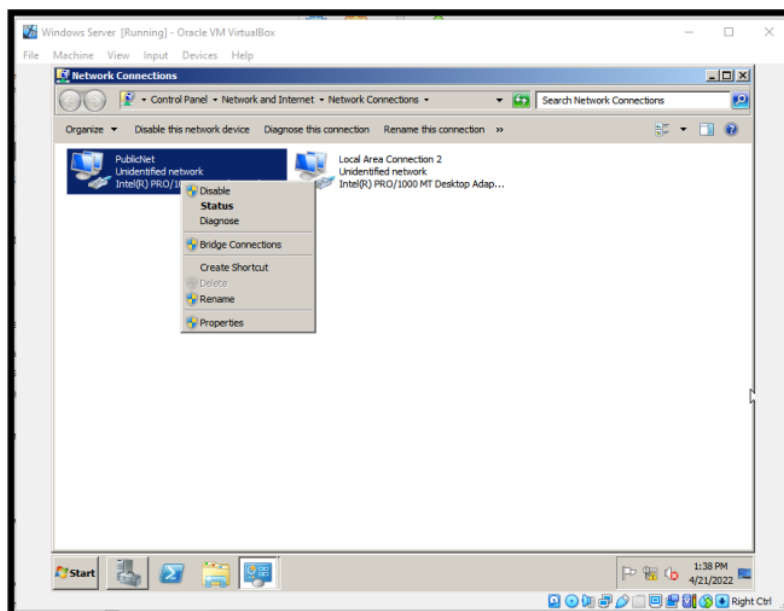
Once installed, windows server will automatically boot up 'server manager' as shown.



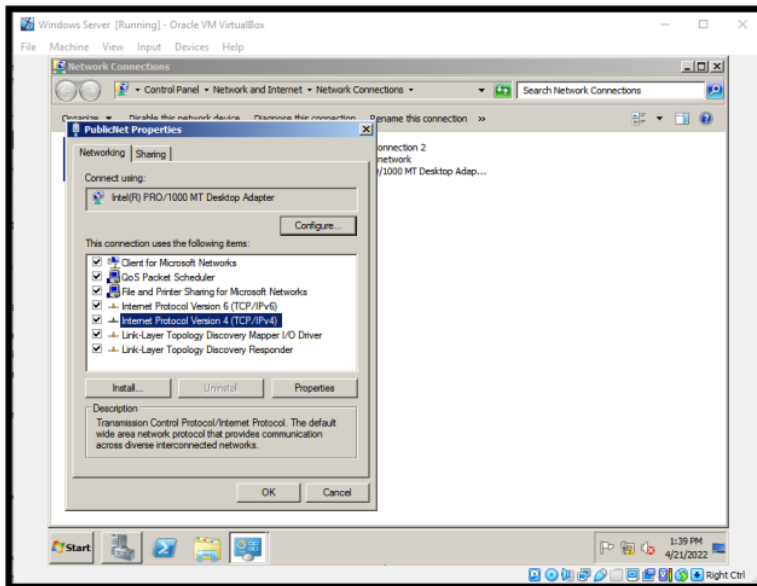
The student has been tasked to configure a static IP address for each computer in the network. They begin this process by navigating their way into the control panel and clicking 'Network and Internet'.



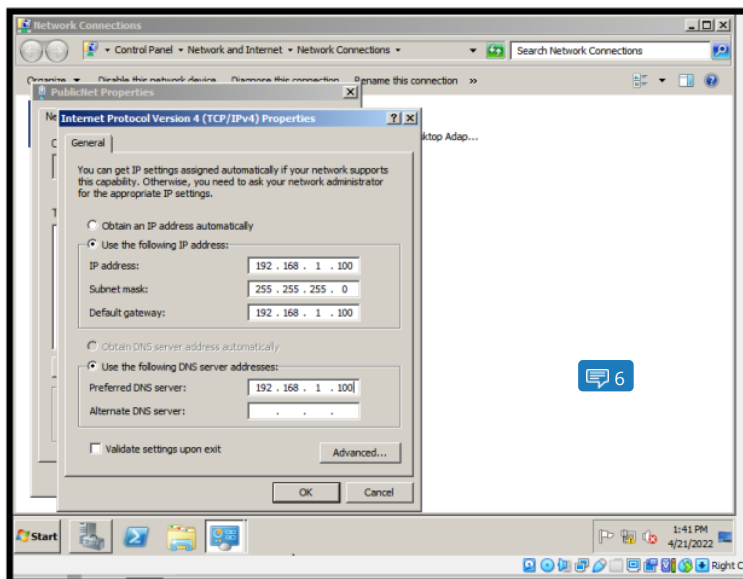
Then clicking into 'network and sharing canter'.



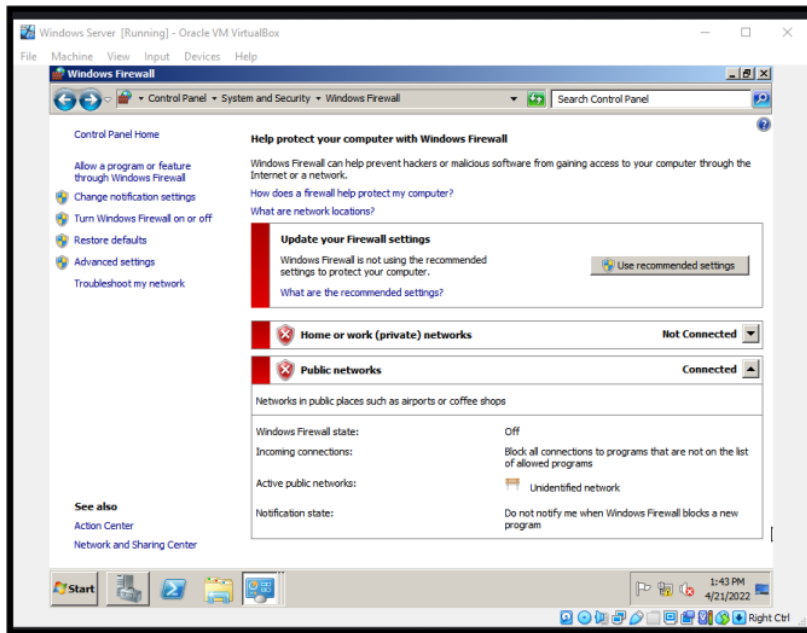
The student then right clicks on 'PublicNet' and clicks into 'Properties'



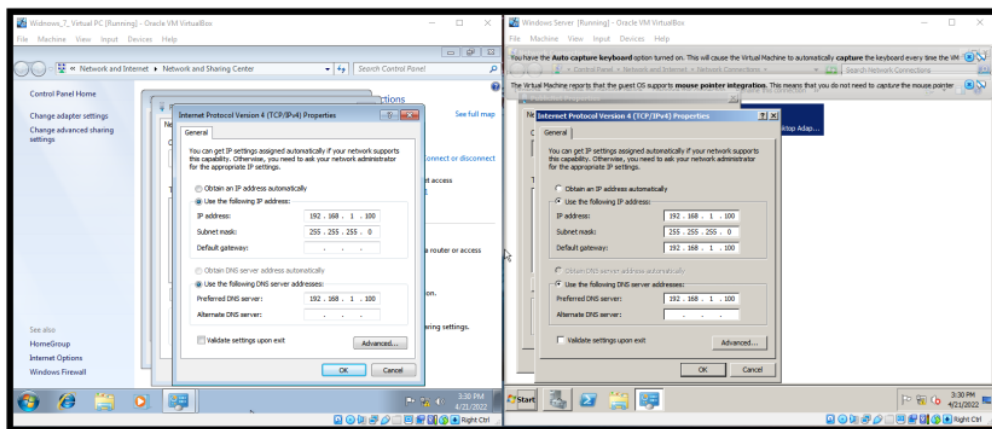
Once navigating into the priorities of the public network, the student then goes into the properties of 'Internet Protocol Version 4' – Where they will configure the static IP address.



Inside the properties of 'Internet Protocol Version 4' is where the student configured the static IP address for the Network.

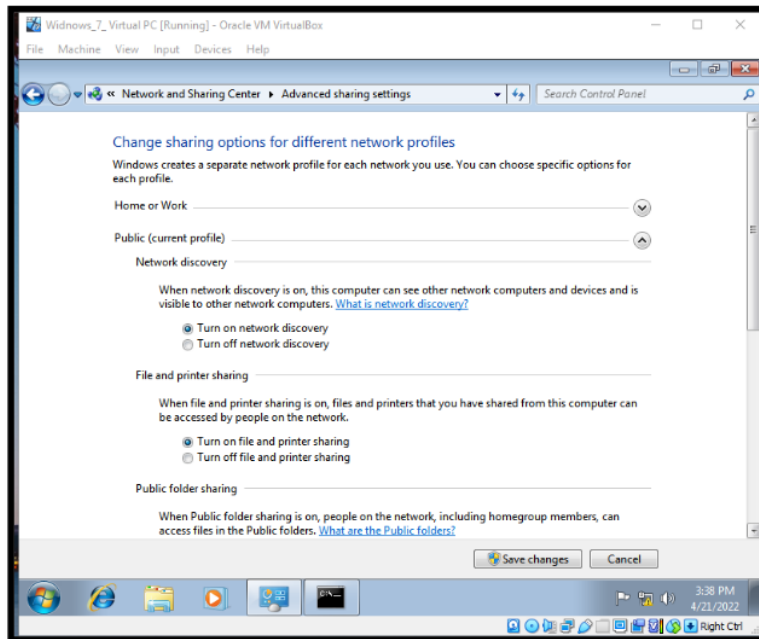


To ensure everything runs fluidly, the student disabled the VM's firewall to prevent windows from being an unwanted security guard.

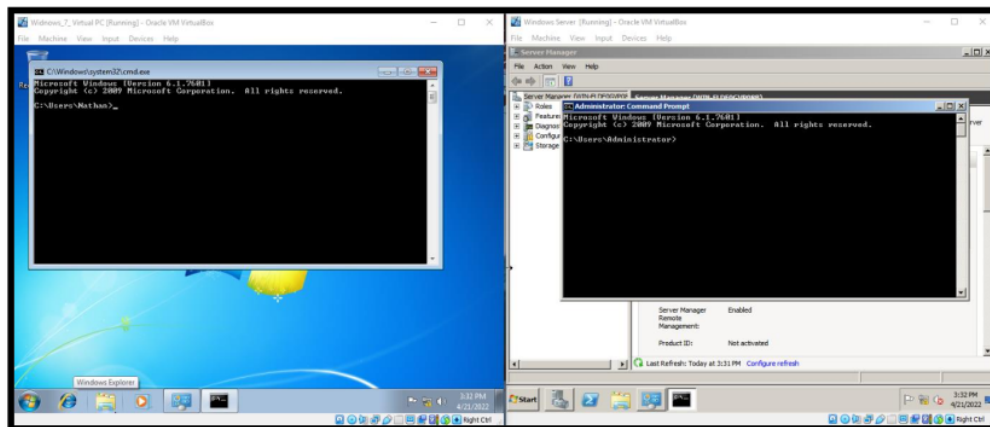


Screenshot evidence of the student configuring a static IP in windows 7.

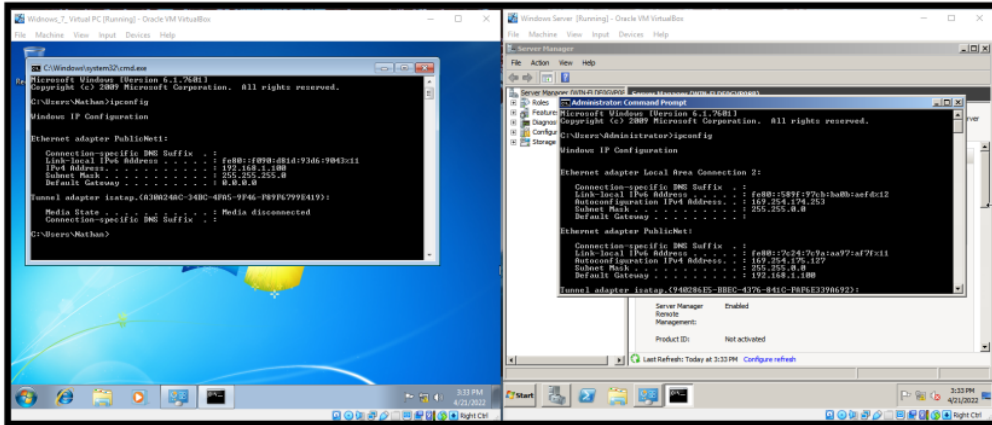
Part 3: Proof of connectivity



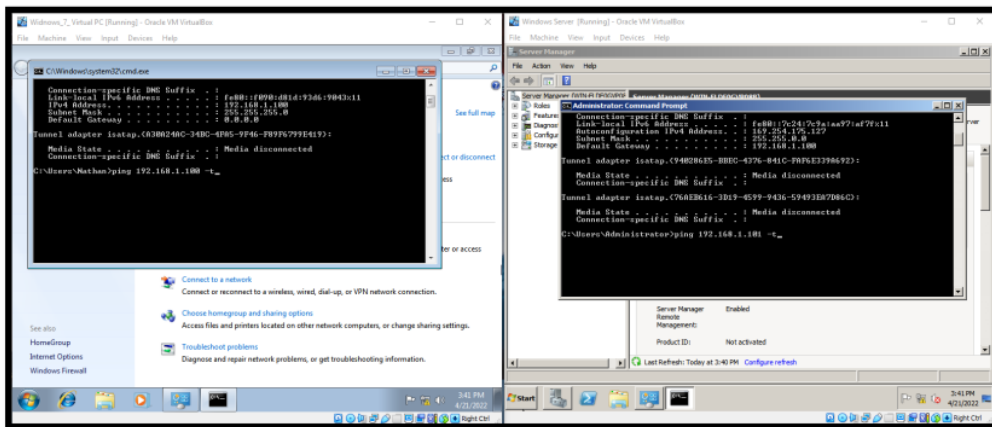
First the student turned on 'Network discovery' to enable the network connectivity.



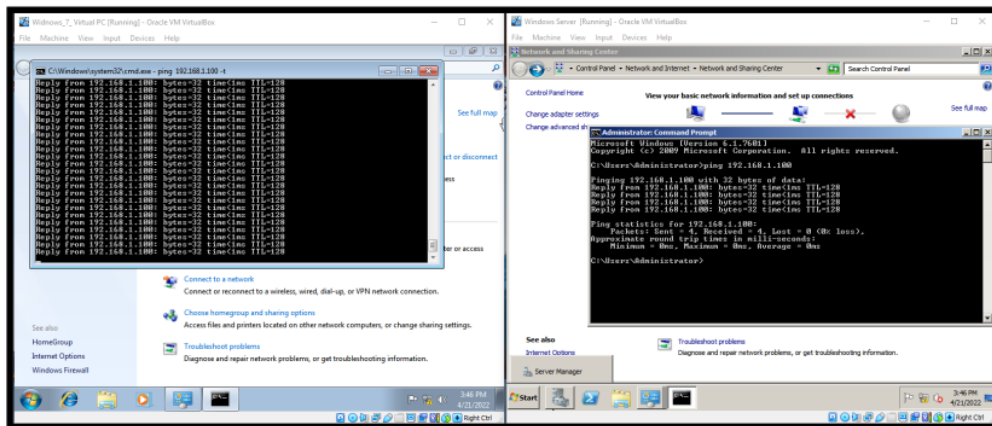
The student then opens up Command prompt in both VM's, preparing for a simple Ping test.



Before the ping test, the student runs an ipconfig test on both of the VM'

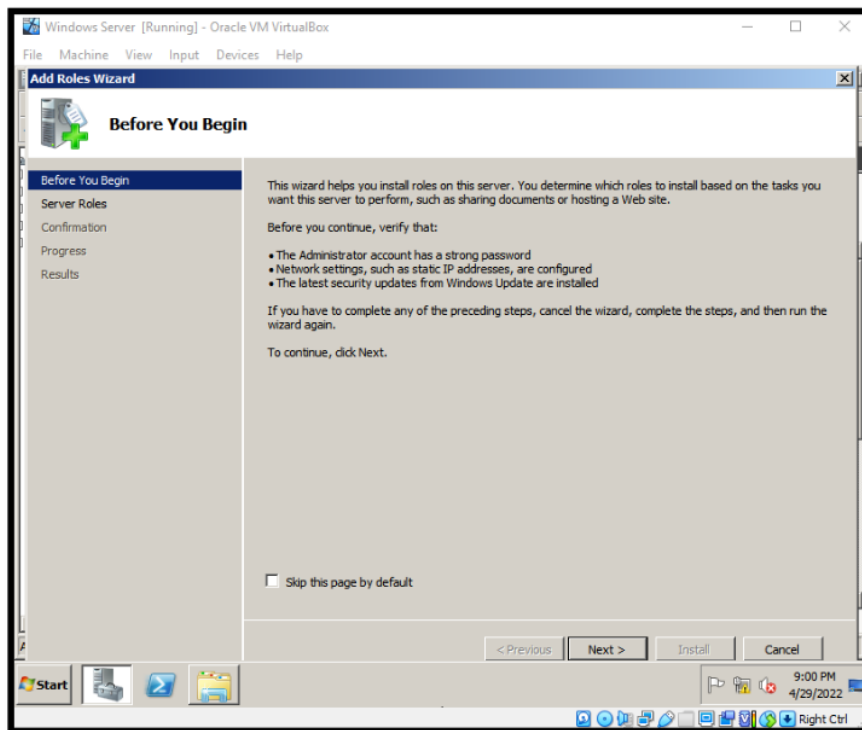


This is the ping command used for each of the command prompts.

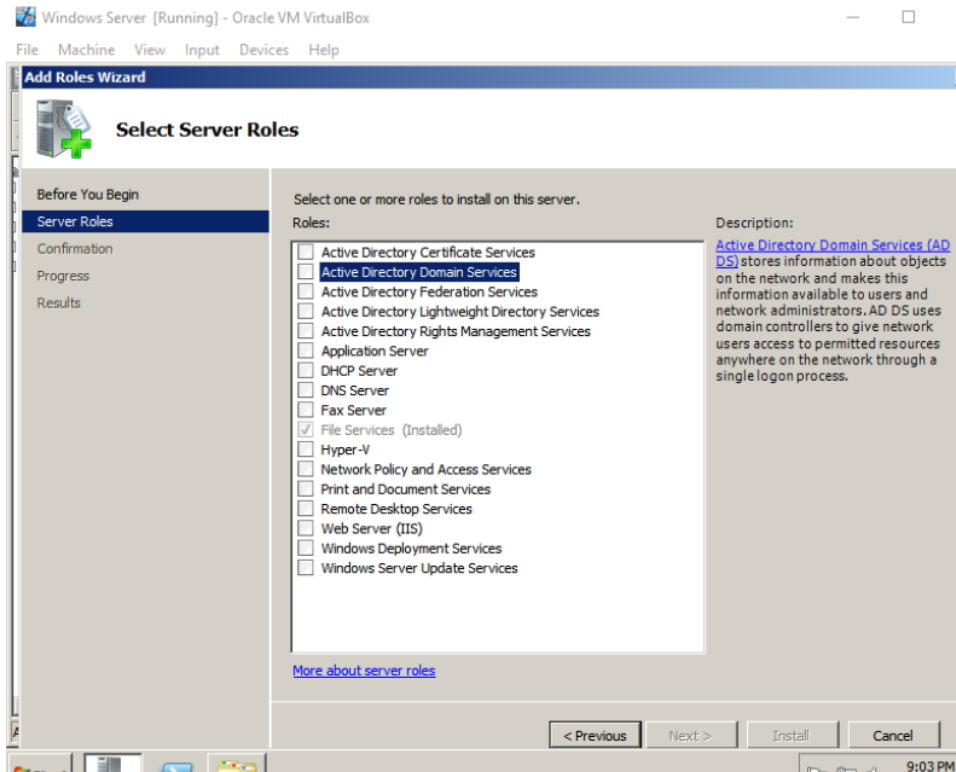


This is evidence of connectivity, showing each of the VM'S pinging each other.

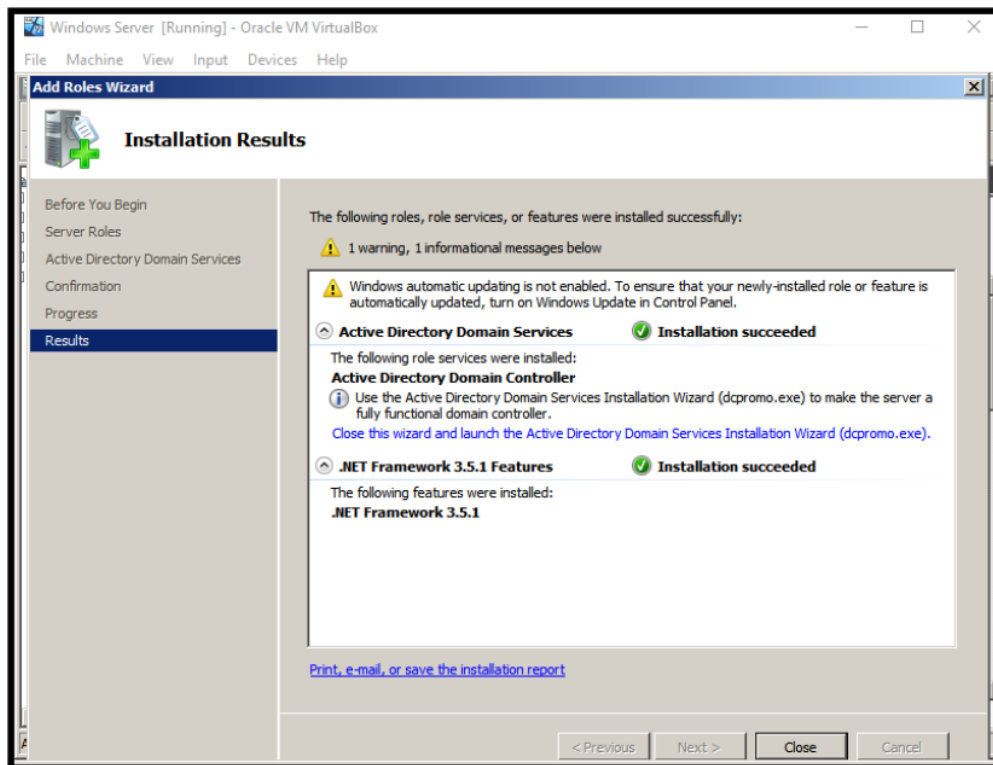
Part 4: Setting up a server as a primary domain controller and DNS



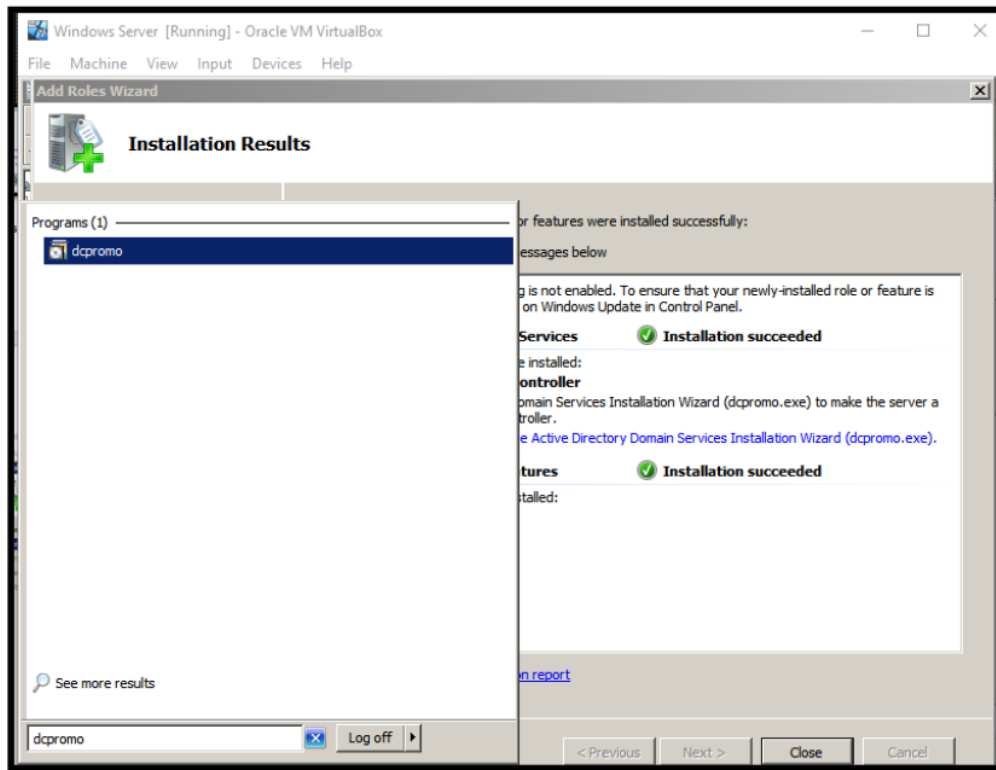
The student begins by going into server manager and right clicking on add roles which brings the user to this screen.



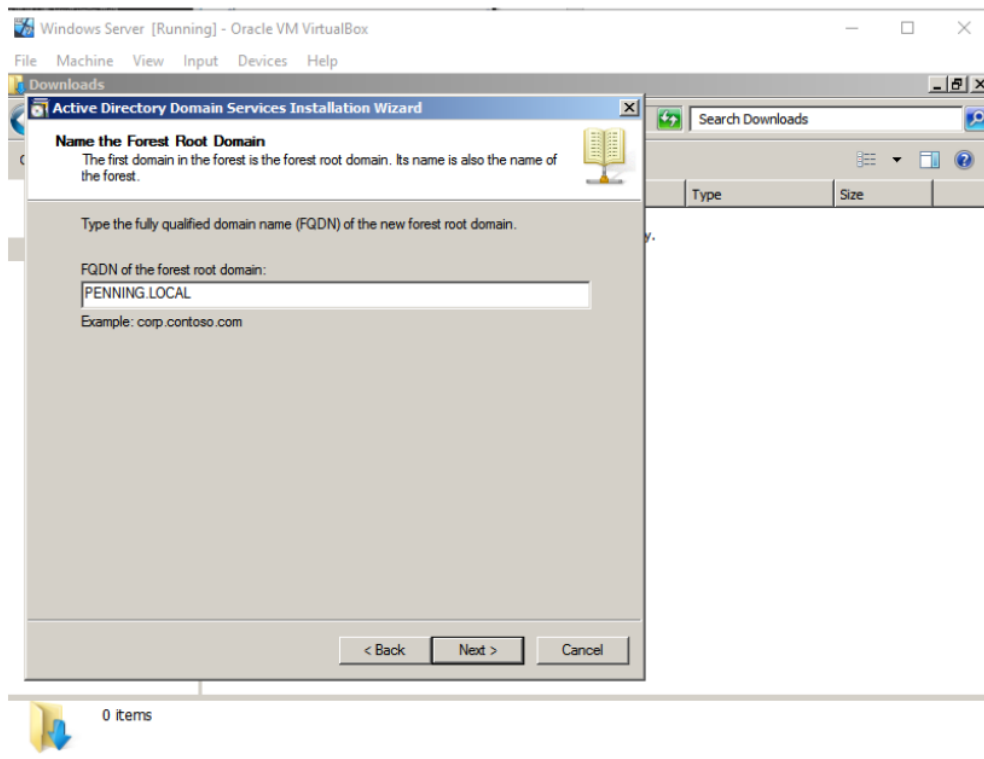
The student clicks the highlighted option in the screenshot



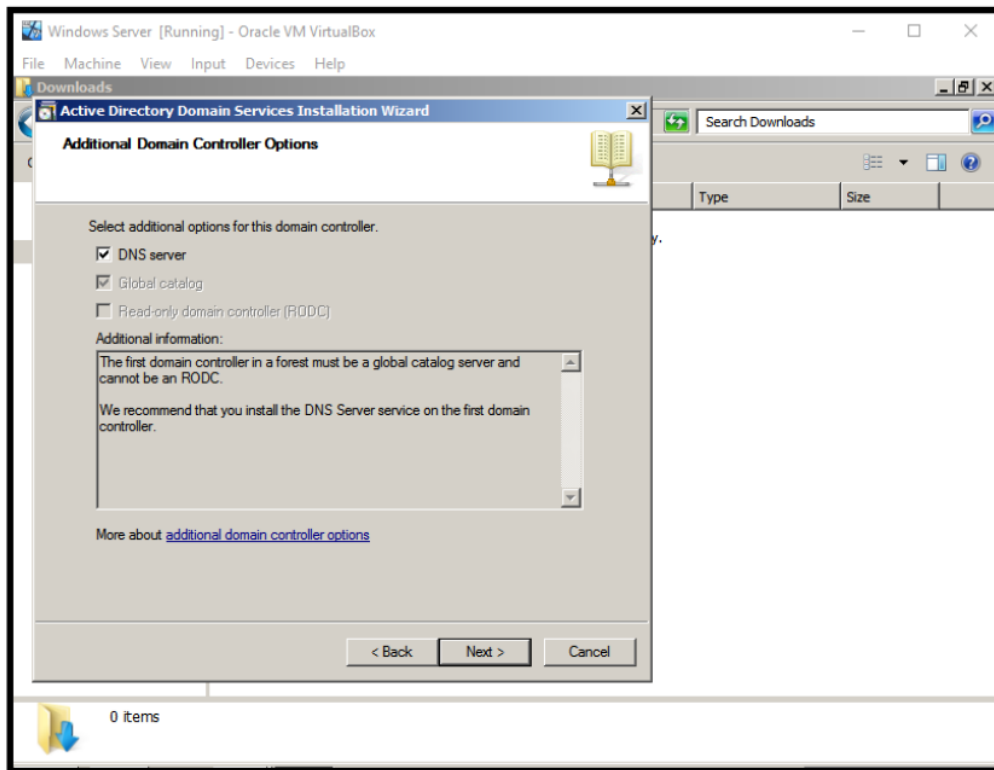
Once installed, windows notifies the student with a completed install message.



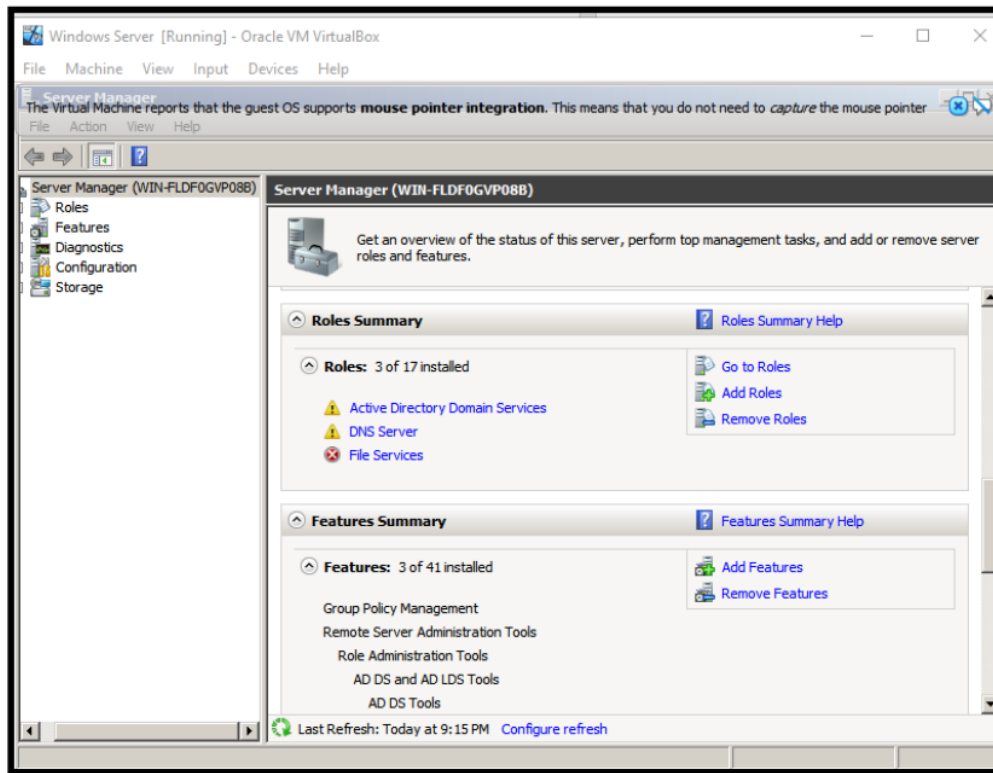
Once installed, the student goes into the windows search bar and types, 'cdpromo'



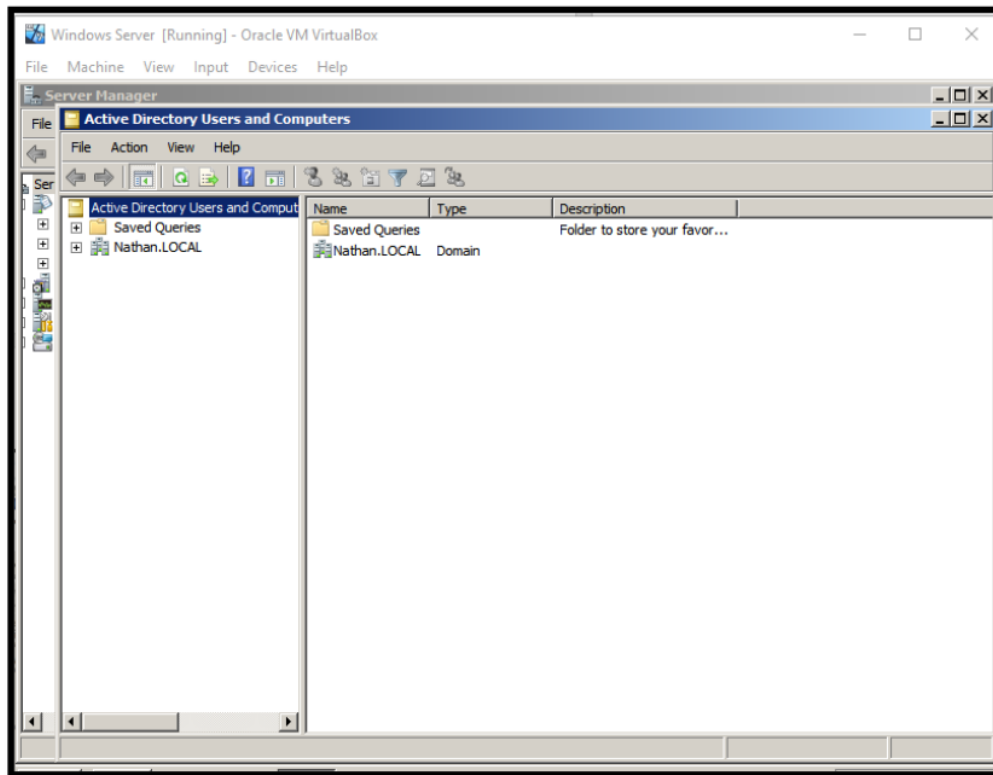
Next, the student names the root domain – “Nathan.LOCAL”. the .LOCAL is important as it states that this is a local network.



The student then installs the DNS server to the domain controller

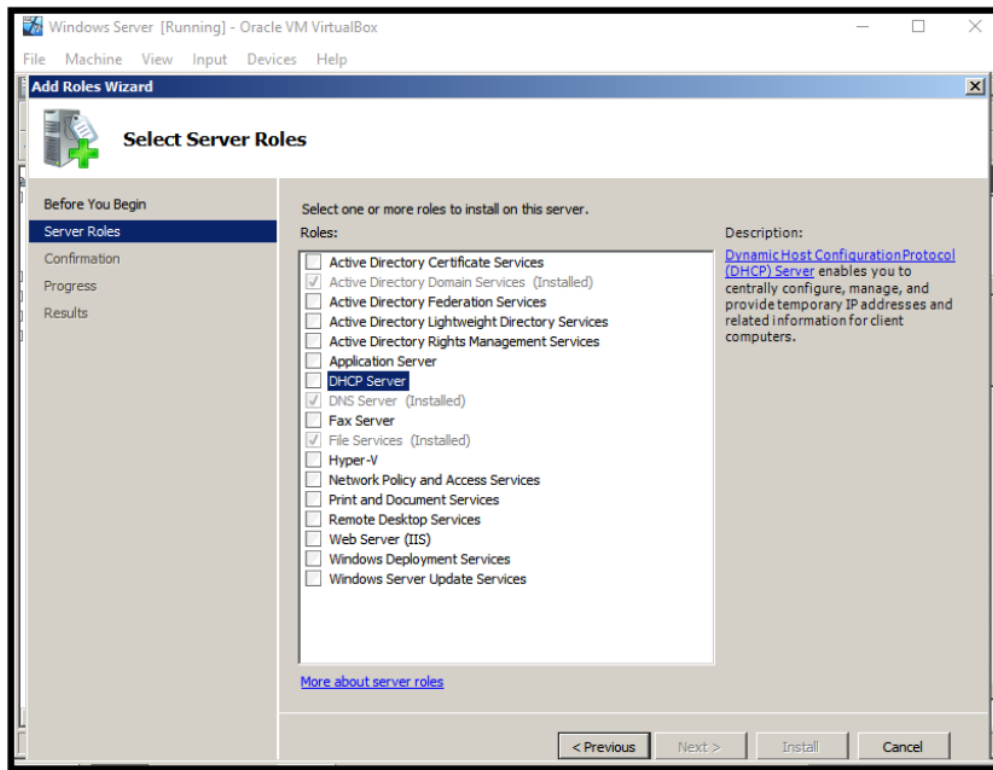


Proof that the DNS and active Directory domain services has been installed.

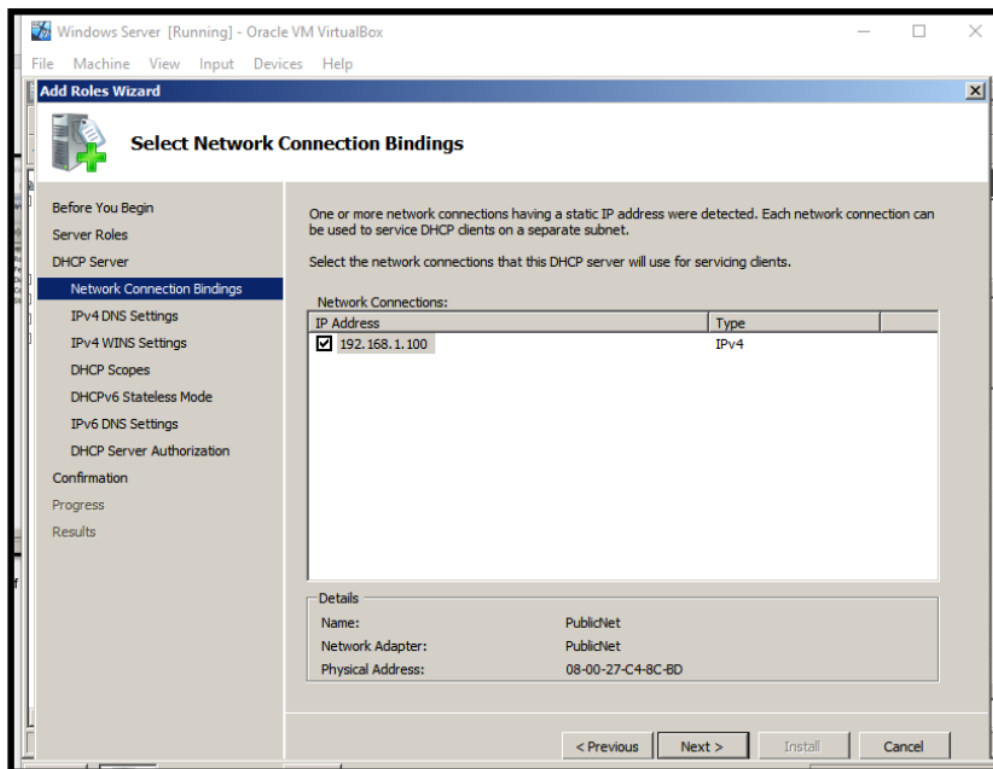


The screenshot also shows that the student is now a part of the active directory domain

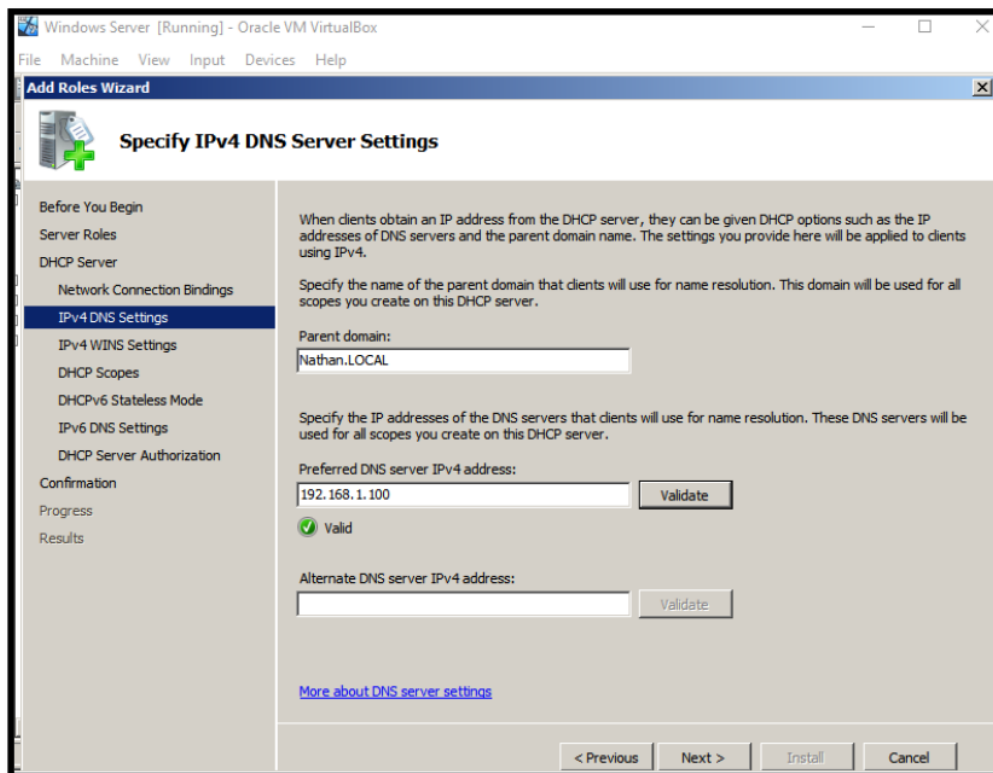
Part:5 Installing and configuring DHCP



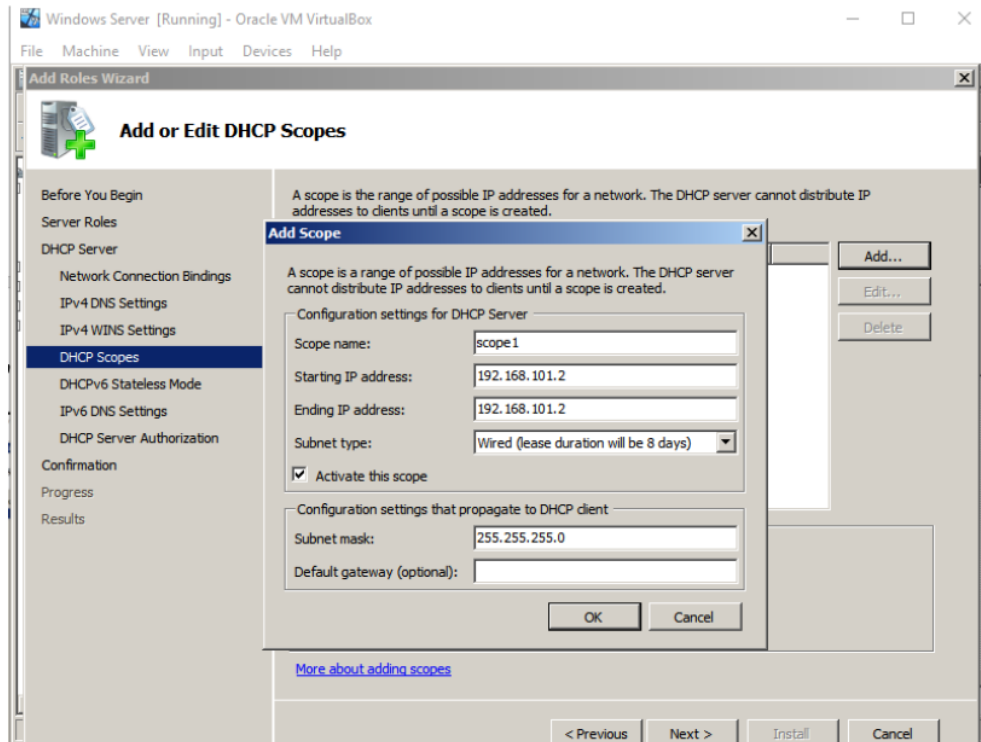
Installing DHCP server follows the same steps as installing the DNS, until you get to this screen, the user selects the highlighted option.



The network connection and bindings tab allows you to connect DHCP to other static IP's – the screenshot shows the static IP that the student configured previously.

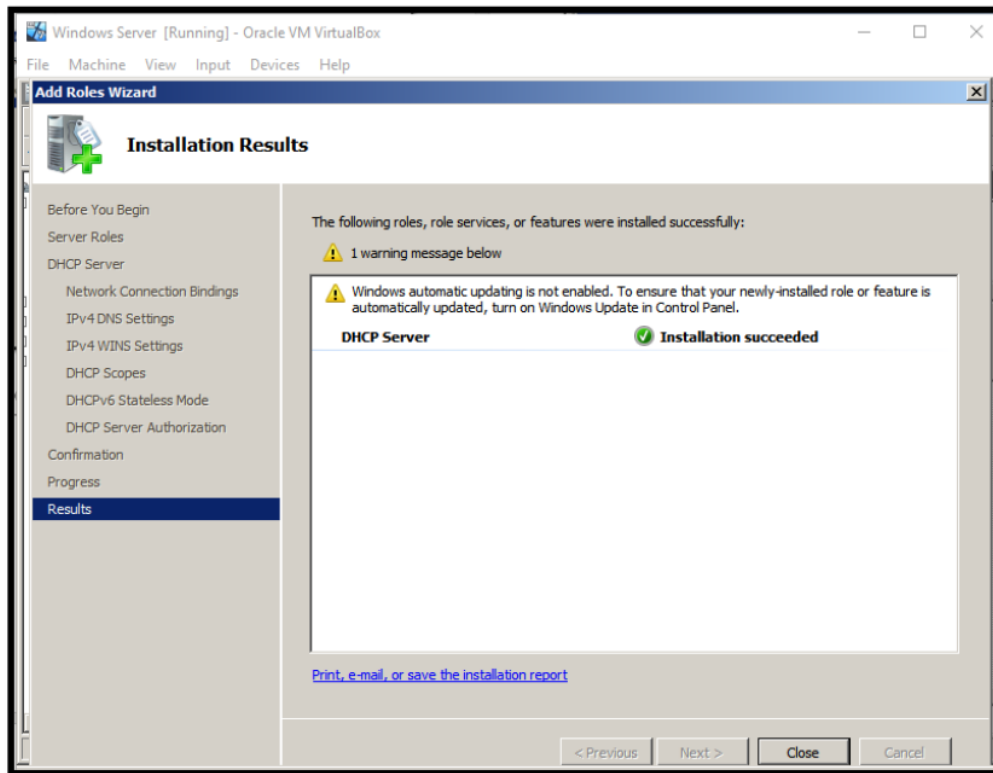


The student then changes the DNS IPv4 address to the same IP as the DNS server.
The student also clicks validate to check this is correct.



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The student then creates a scope, calling it 'scope1' and also assigning it with a static and ending IP address - these are the same as there is only one client to the network.



DHCP is now successfully installed

Assignment

GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

Instructor

72/100

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PAGE 2



Comment 1

this demonstrates good professionalism for your documentation. The abstract however is a summary of the work contained within a report

PAGE 3



Comment 2

provides for a sensible overview and provides context well

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PAGE 5

PAGE 6



Comment 3

appropriate evidence provided here demonstrating skills

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Comment 4

proof-read



Comment 5

appropriate use of varying operating systems

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Comment 6

appropriate evidence of assigning ip addresses

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Comment 7

good use of key diagnostic test

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Comment 8

good evidence provided here



Comment 9

set up well. could have demonstrated utility programs a little further such as resources monitor among others