

Kelly Casey

by Kelly Casey

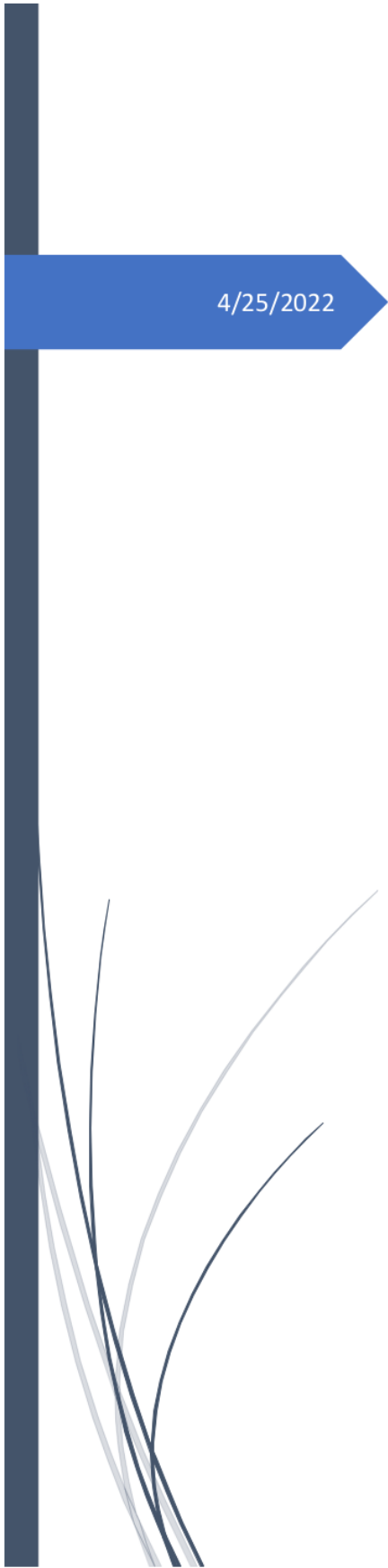
Submission date: 29-Apr-2022 11:27PM (UTC+0100)

Submission ID: 177895995

File name: 31343_Kelly_Casey_Kelly_Casey_417978_1506342524.docx (3.12M)

Word count: 976

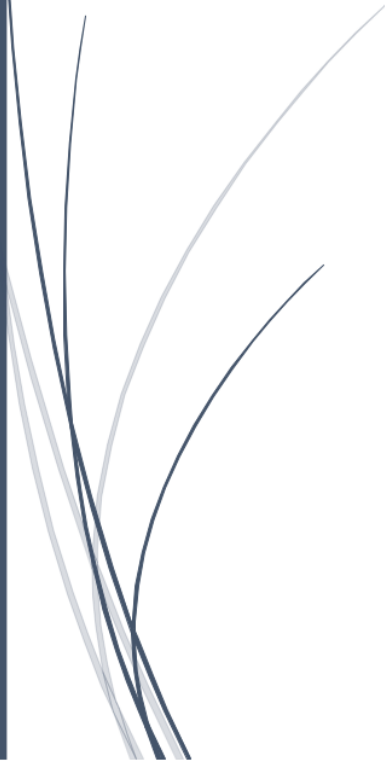
Character count: 5214

A thick dark blue vertical bar runs down the left side of the page. A blue arrow points to the right from the bar, containing the date 4/25/2022.

4/25/2022

Network Configuration and Administration

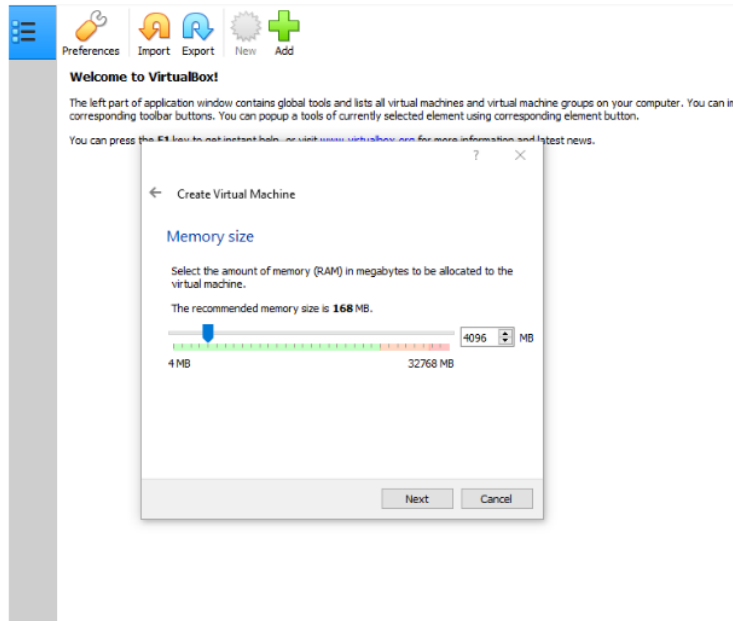
Introduction to Computer Systems –
ACCA4021

Several thin, curved lines in shades of blue and grey originate from the bottom of the vertical bar and sweep upwards and to the right.

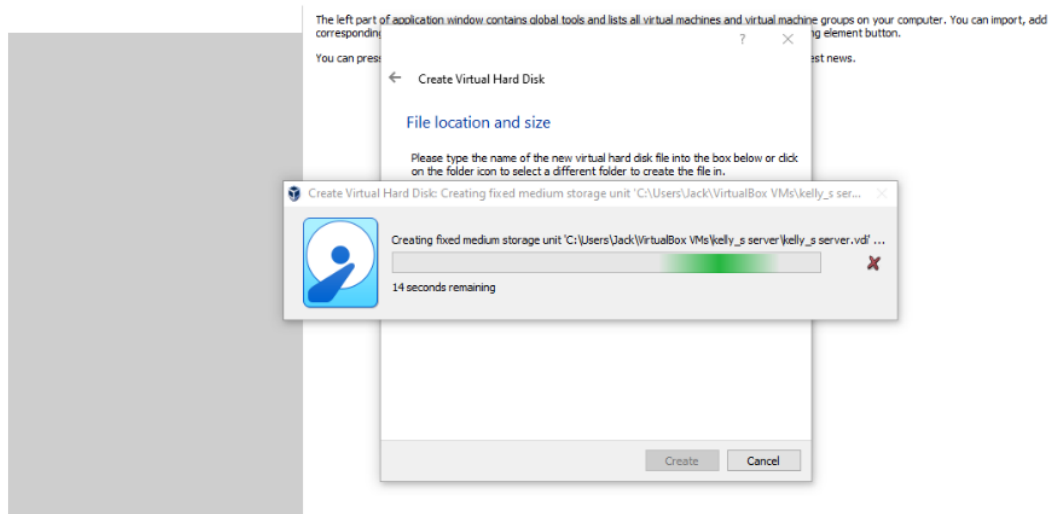
Kelly Casey
(2106451)

Building virtual machines and servers

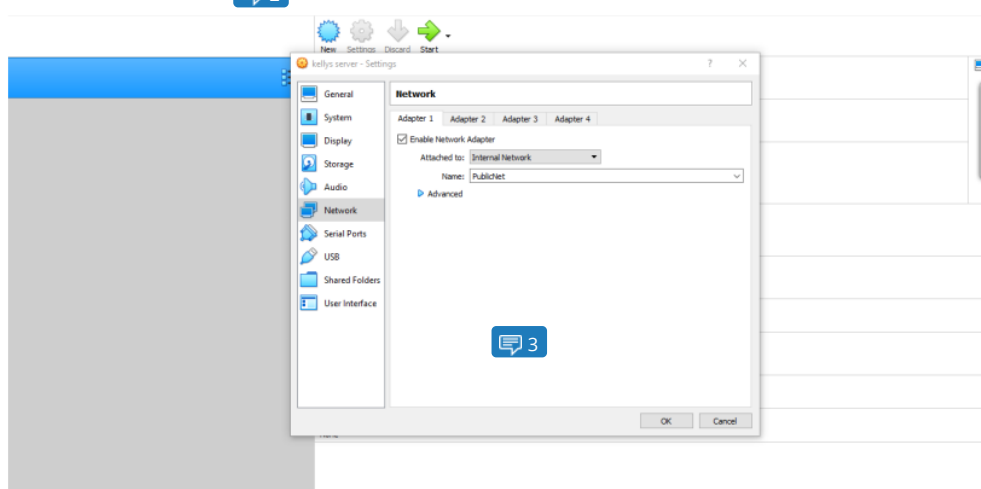
Using Oracle VM VirtualBox I am setting up a new server under the name server1. am changing the settings to be how I need them to be, such as changing memory size to 4096MG. 



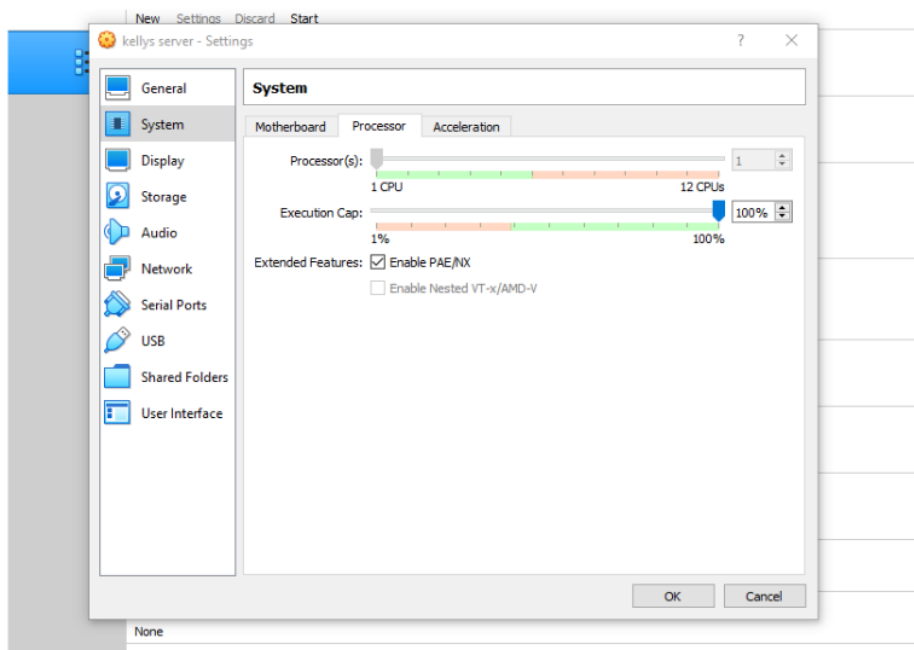
After this I create and install a virtual hard disk, making it 25.00 GB and using VDI(virtualBox Disk Image). Next I create the storage for the physical hard disk, making it a fixed size of 20.00GB



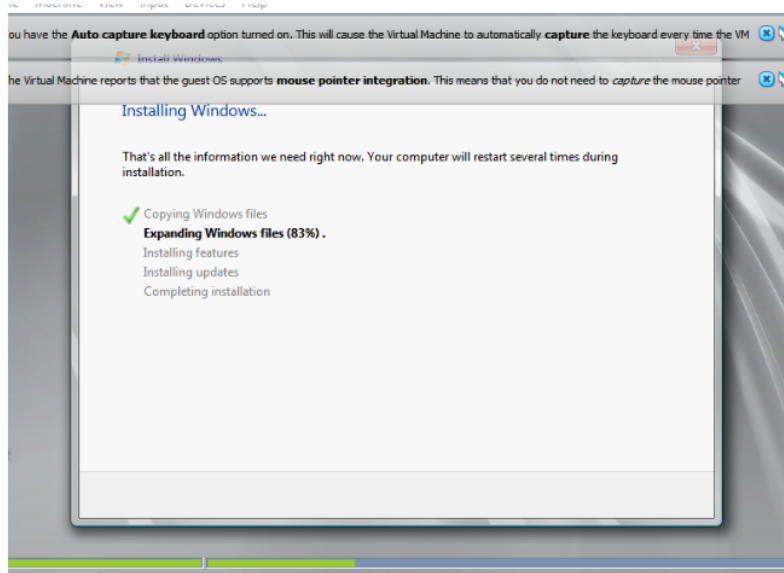
Here I am creating an internal network called PublicNet on adapter1, followed by PrivateNet on adapter2



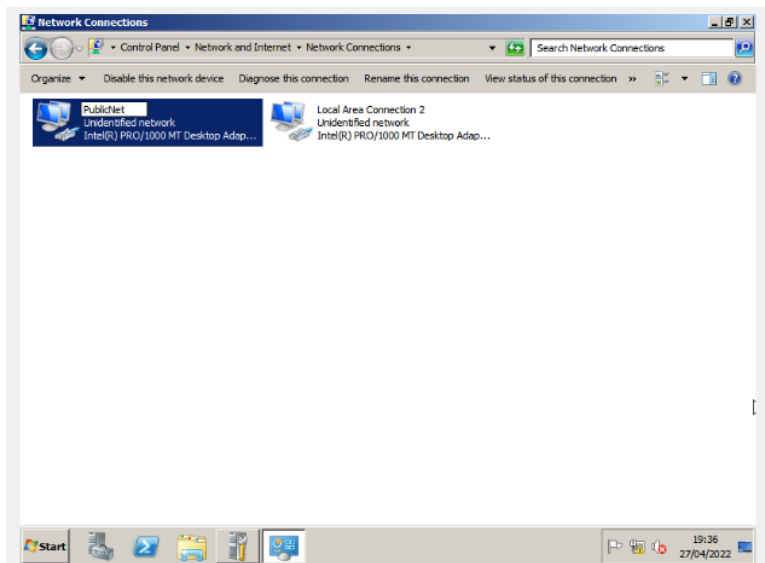
Next I will be setting up the system to my desired specifications



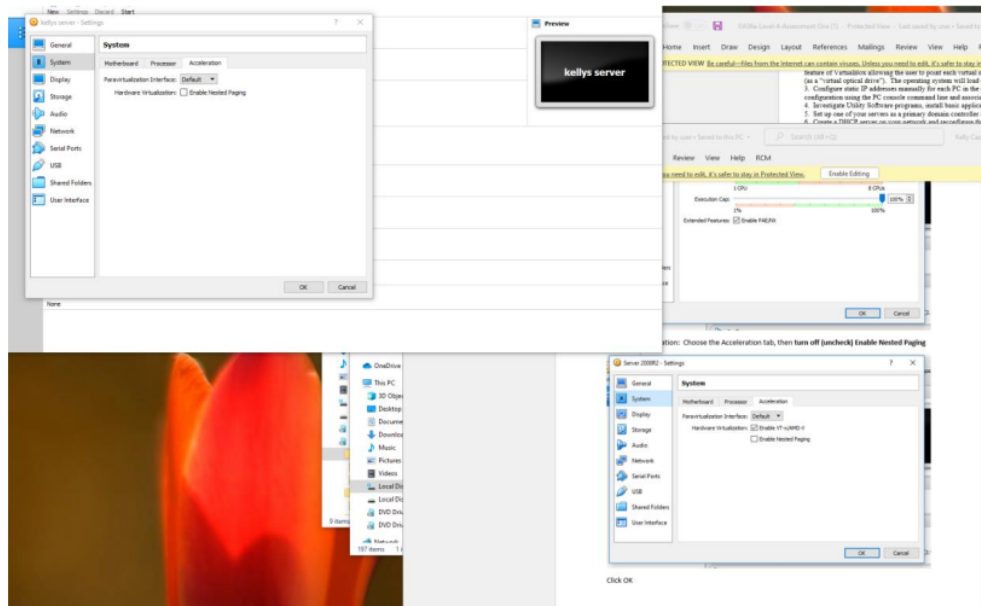
Here windows 8 is now installing on the virtual machine.



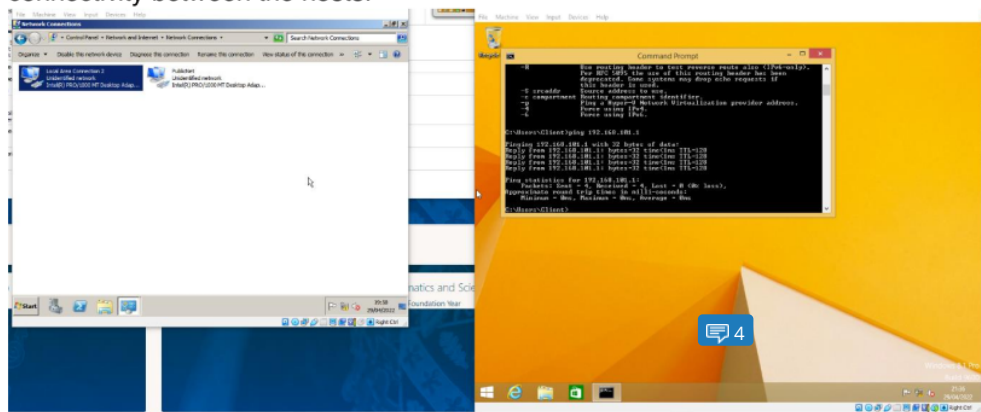
After installation I am renaming the local area connection to Publicnet and assigning an IP address 192.168.1.100, then the same for the second adaptor, changing the name this time to Privatenet1 and giving it an IP address of 192.168.100.1



To complete the network I will then do exactly the same for a second server named server2. Once my servers are created I will turn off all firewalls(which is not recommended in a real network due to security risks but necessary here).



After creating client1 and client 2 I am using the “ping” command to verify the connectivity between the hosts.



Advantages and disadvantages of using a type 2 hypervisor program

Advantages

The advantages of using a type 2 hypervisor program are that the OS takes care of all the hardware which can support high range of hardware it is also much easier to install

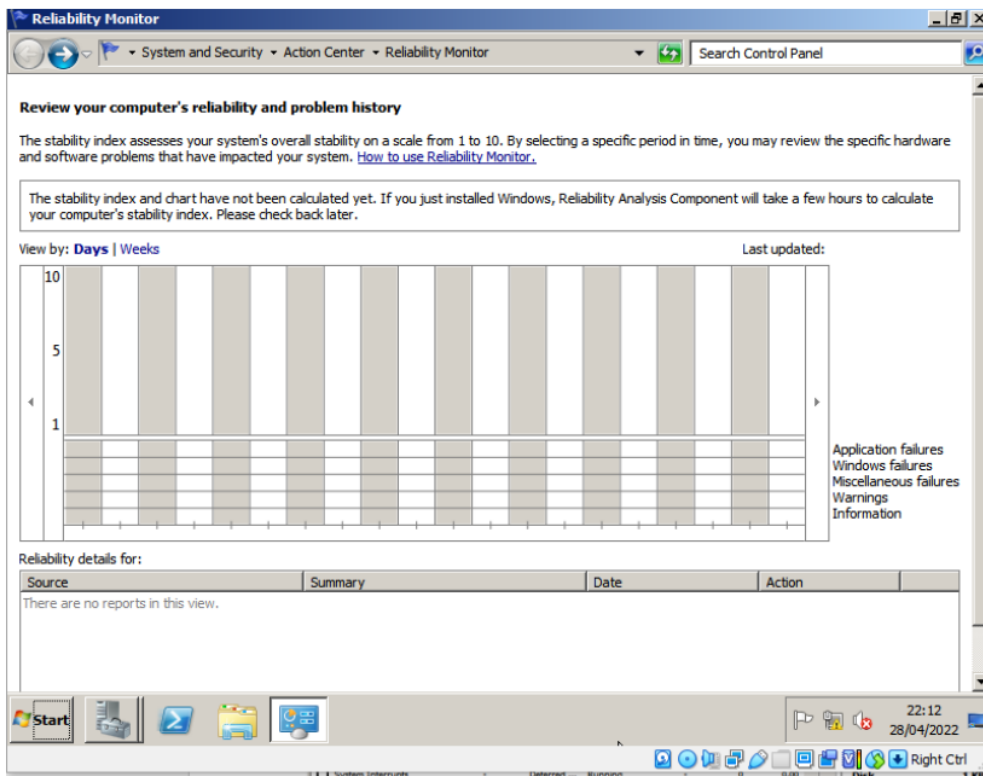
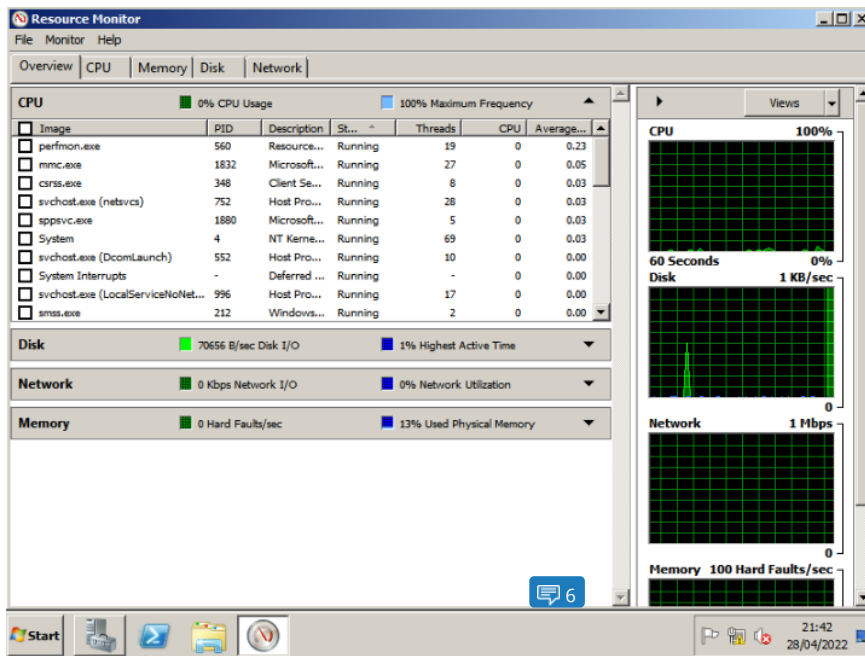
Disadvantage

The disadvantage of a type 2 hypervisor programme are that one the machine needs restarting all the virtual machines will also have to be, as well as that there are many points of failure as could affect  stability of operating system also will affect guest OS and the virtual machine

Investigating Utility and Application Program software.

Utility programs

To allow us to check the performance of the machine we can use a resource monitor and reliability monitor, as the machine is new in my screenshots there is not much information but these are super helpful tools helping us track all events occurring during the lifespan of the computer



Computer management

Here in computer, we are going to look at the three main sections of interest, system tools, storage and services and applications.

Firstly, within system tools its possible to create tasks such as service restart, file monitoring, system back up. We are now going to use to create a new local user, which I have named "user2", next I am going to give the user administrator permissions.

Choose a new account type for user2



user2
Administrator

☐ Standard user

Standard account users can use most software and change system settings that do not affect other users or the security of the computer.

☒ Administrator

Administrators have complete access to the computer and can make any desired changes. Based on notification settings, administrators may be asked to provide their password or confirmation before making changes that affect other users.

We recommend that you protect every account with a strong password.

[Why is a standard account recommended?](#)

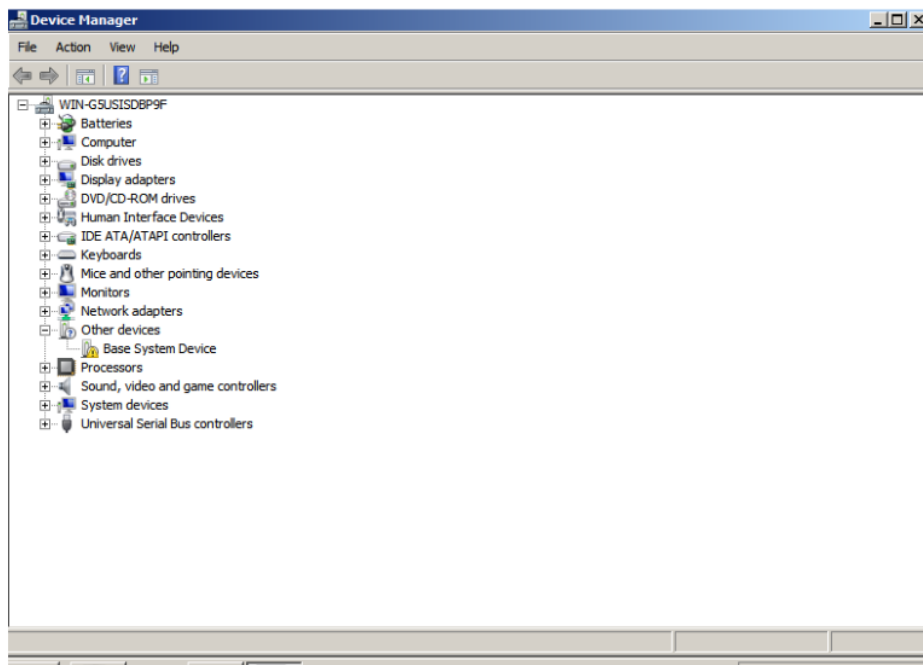
Change Account Type

Cancel

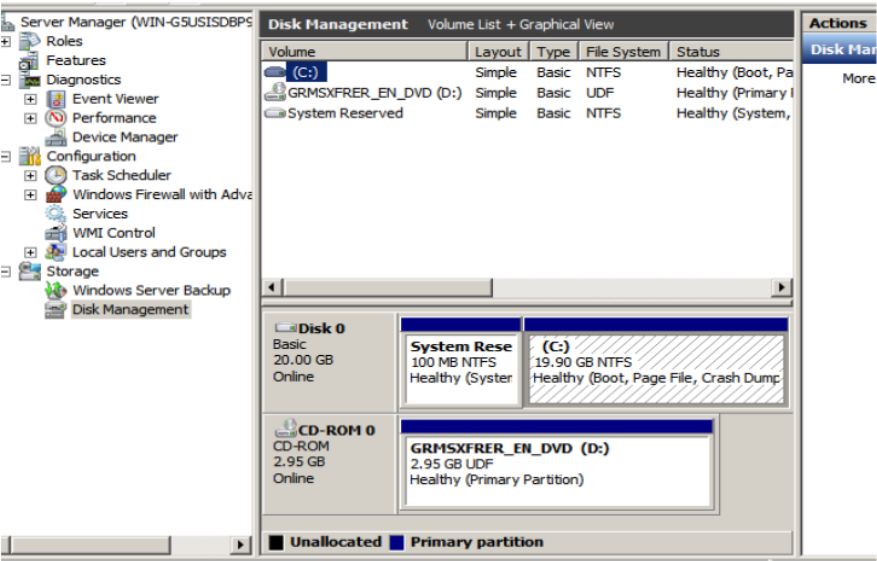
Here we can see user2 on log in screen making it possible to log in with the new user.



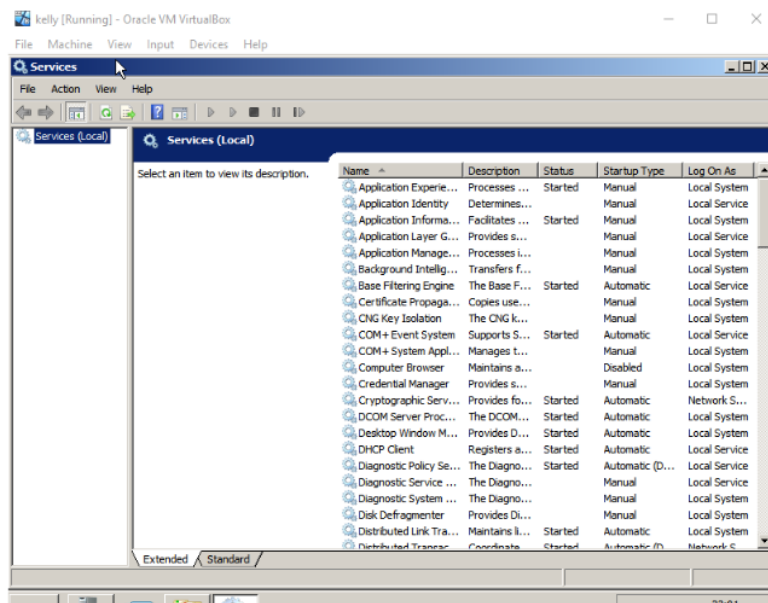
We are also able to view Device Manager in system tools which we can then use to troubleshoot and driver issues and download updates.



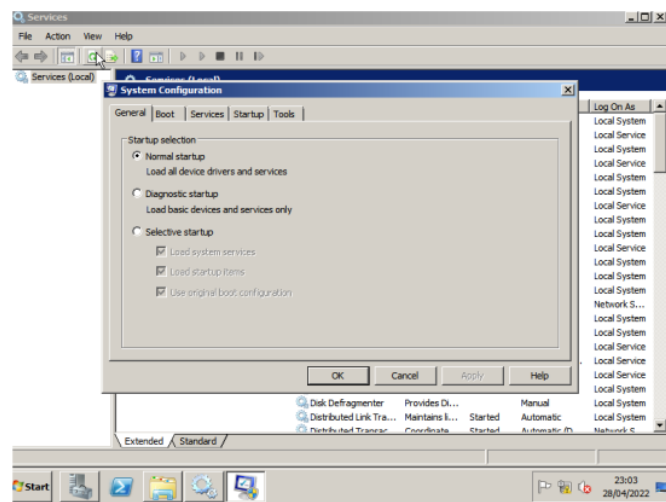
The storage here deals with Local disks that are in the system, also referred as Logical Disks, here we can view disks, activate new disks into volumes to be accessed by the operating system



In services we can view all services that are currently running, it also allows us to restart services as well and disable or enable them.



System configuration utility is a service that can help the user manage programs that start up when windows loads. In addition to this it also gives you the ability to boot into a different version of windows to help troubleshoot problems.

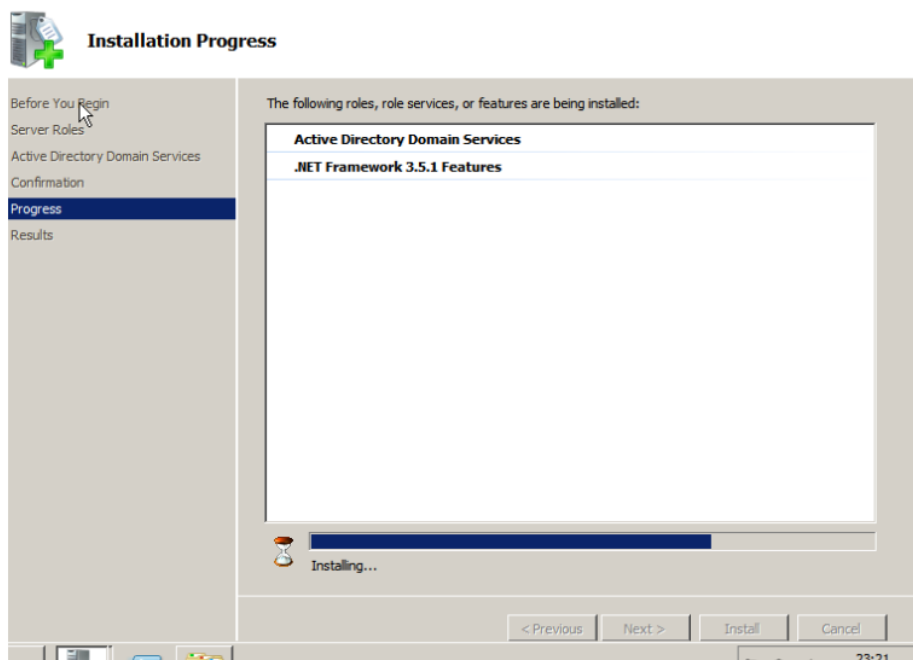


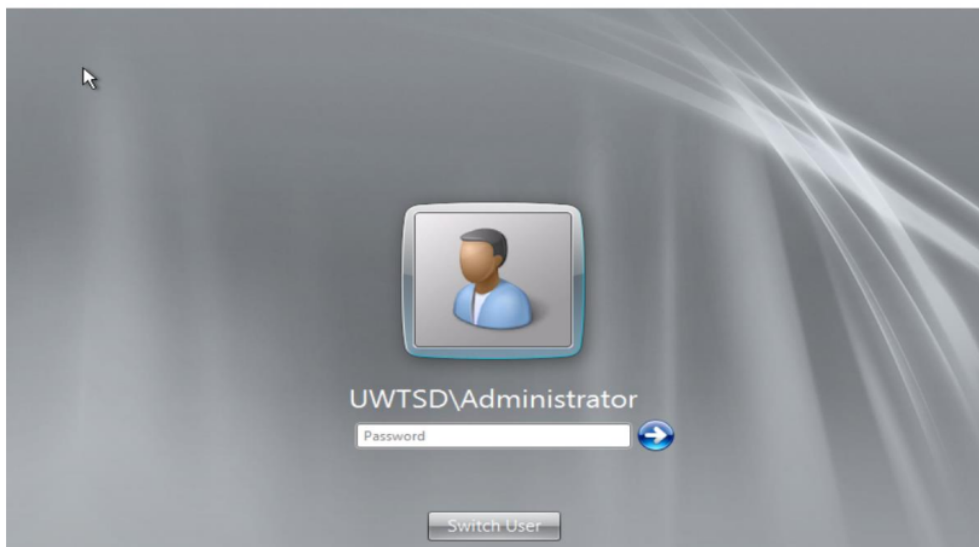
It is important to use monitoring programs in your network because it can keep an eye on all network traffic as well as bandwidth use. It also checks whether important parts of the computer such as routers and servers are on or have done down. A few examples of monitoring tools are cloud telemetry, network telemetry and SNMP [1]

Configuring virtual networking and upgrading a member server to a Domain Controller

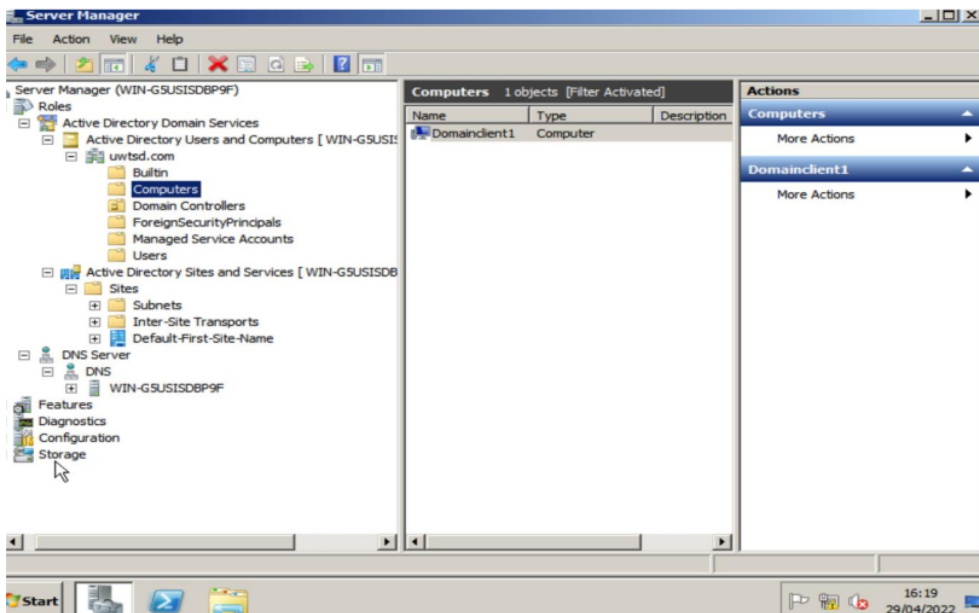
Here we are going to create an active directory domain, which is important to help organize the network users and computer. Within it you can organize which computers belong on the network, which users have access to the storage room amongst other things.

The name of the domain is going to be UWSTD





Here we are adding the new client computer to the domain and giving the apt name Domainclient1



The Active Direction Service role is to store information about members of the domain as well as devices and users.

It verifies the users' credentials and defines who has access to the network. [2]



Terms

Domain – is a network of computers and devices controlled by one person.

Tree – a set of domains, allowing them to communicate with each other

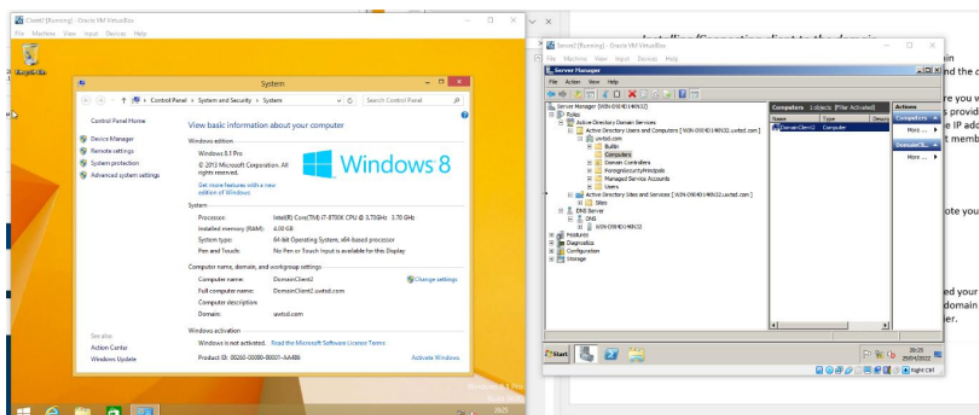
Forest – a collection of trees that share  common directory and schema

Scheme – component which defines all objects and attributes the the directory services use to store data [3]

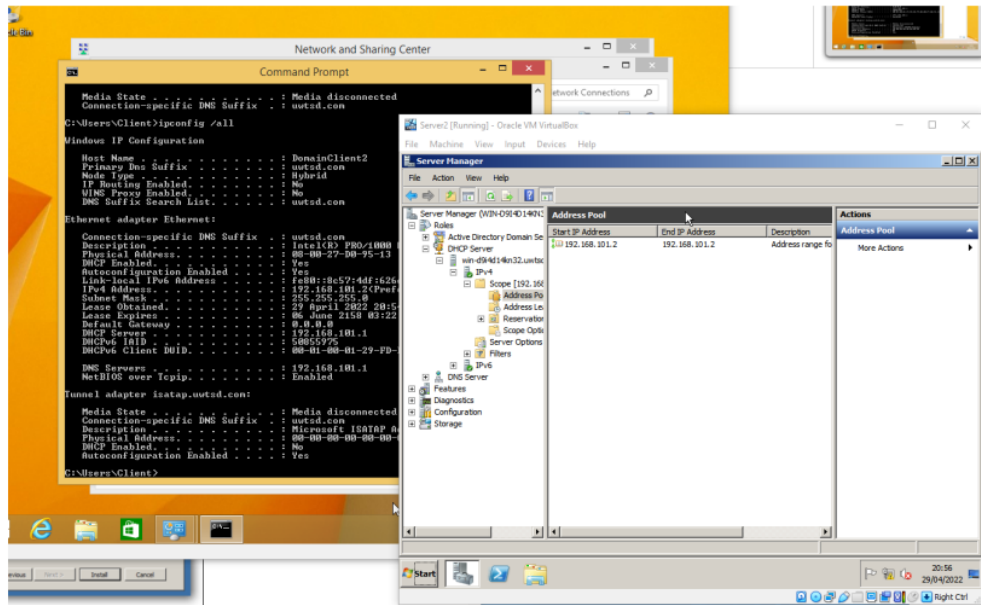
Domain controller – a server that responds to authentication requests and verifies on computer networks [4]

Installing/connecting client to the domain

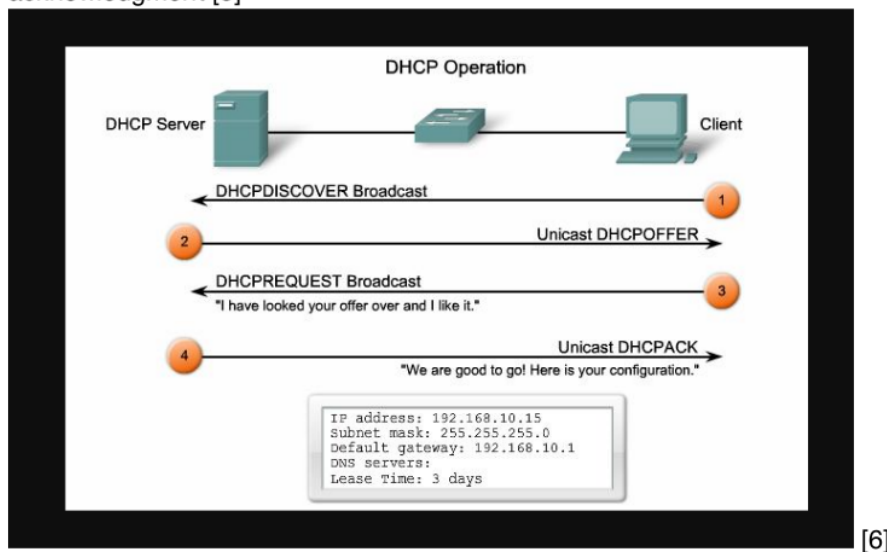
to connect the client to the domain I first downloaded windows 8 onto the client virtual machine in my domain, giving them the appropriate IP version from earlier



Installing and configuring the DHCP service



The 4 steps of DHCP are server discovery, IP lease offer, IP lease request and IP lease acknowledgement. Also known DORA for discovery, offer, request and acknowledgment [5]



Bibliography 10

- [p. pecha, "flowmon," progress, 3 9 2021. [Online]. Available:
1 <https://www.flowmon.com/en/blog/what-are-network-monitoring-tools>. [Accessed 28 4 2022].
]
- [wiki, "wikipeda," wikipeda , [Online]. Available:
2 [https://en.wikipedia.org/wiki/Active_Directory#:~:text=Active%20Directory%20Domain%20Service%20\(AD,is%20called%20a%20domain%20controller..](https://en.wikipedia.org/wiki/Active_Directory#:~:text=Active%20Directory%20Domain%20Service%20(AD,is%20called%20a%20domain%20controller..) [Accessed 29 04 2022].
]
- [v. kumar, "windows tehcn," 8 9 2018. [Online]. Available:
3 <https://www.windowstechno.com/how-active-directory-schema-works/>. [Accessed 29 4 2022].
]
- [j. petters, "varonis," inside out security , 23 6 2020. [Online]. Available:
4 <https://www.varonis.com/blog/domain-controller>. [Accessed 29 04 2022].
]
- [wazee, "wazeesupperclub," [Online]. Available: <https://www.wazeesupperclub.com/what-are-the-4-steps-of-dhcp/>. [Accessed 29 04 2022].
]
- [routerswitchtech, "router-switch," 03 2012. [Online]. Available: <https://blog.router-switch.com/2012/03/dhcp-dhcp-operation/>. [Accessed 29 4 2022].
]

FINAL GRADE

GENERAL COMMENTS

Instructor

70 /100

PAGE 1

PAGE 2



Comment 1

areful pronoun third person when writing reports

PAGE 3



Comment 2

proof-read



Comment 3

apropriate evidence of setting up the private net

PAGE 4

PAGE 5



Comment 4

appropriate use of ping

PAGE 6



Comment 5

some good evaluation here



Comment 6

good demonstration of utility program use



Comment 7

wide range of utility and management programs demonstrated



Comment 8

referencing convention



Comment 9

demonstrates some good background research



Comment 10

reference list ./ careful bibliography is not the same