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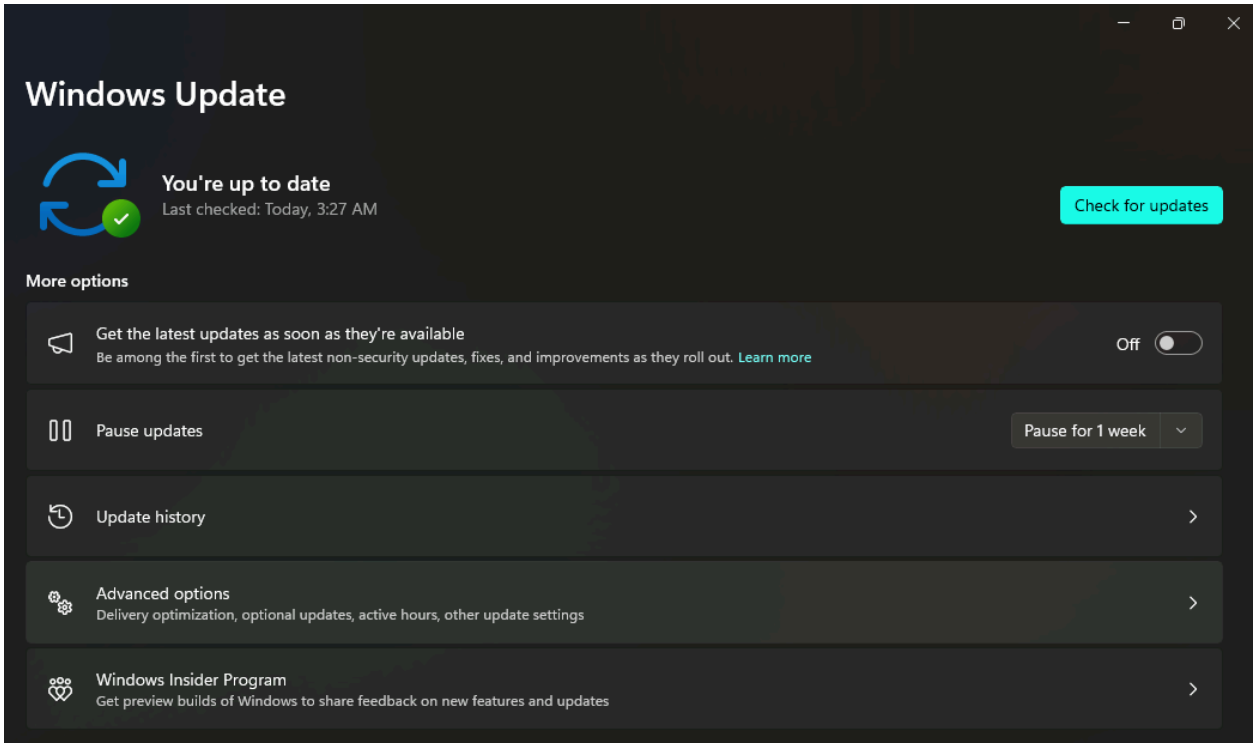
2.20.2025
CTEC 402
Professor Latson

Week 3 and 4 Documentation

Week 3 Included installing all the required Operating Systems
Windows Server 2022
Windows Server 2019
Linux Server
Kali Linux

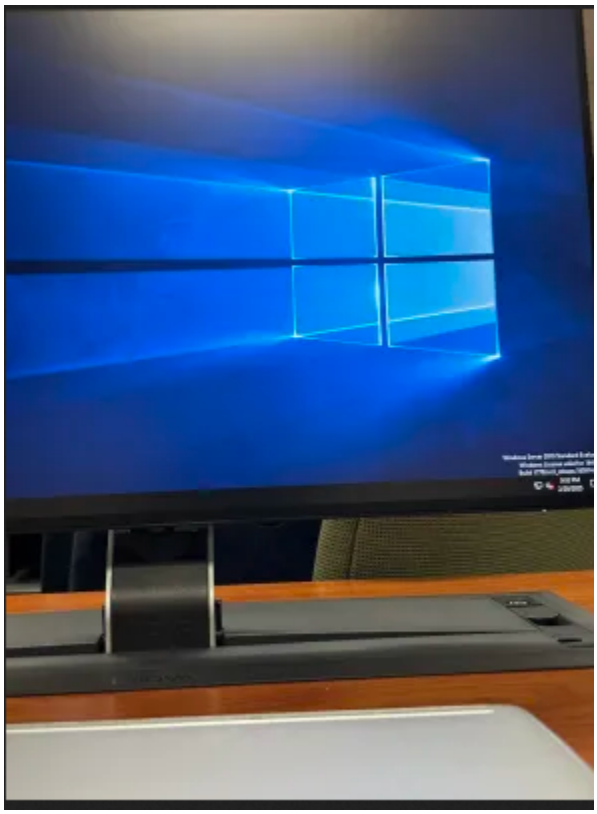
Windows Server 2022

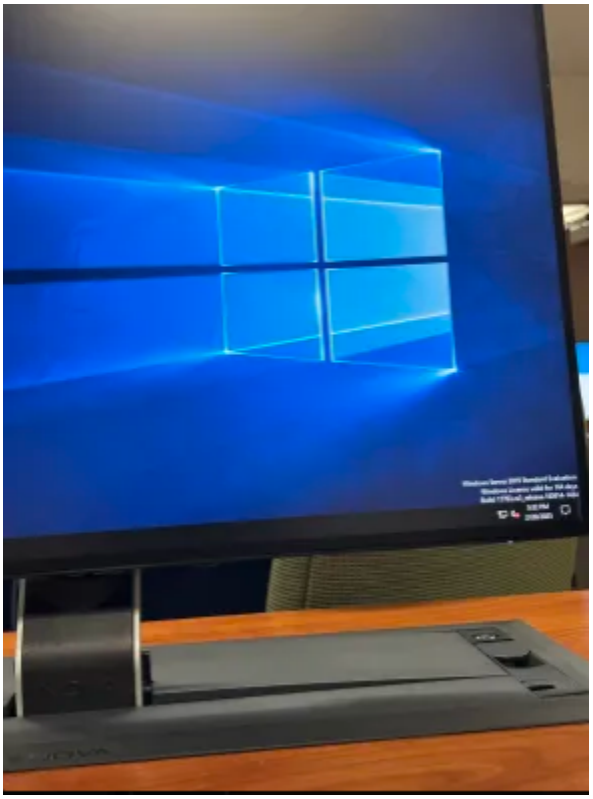
My hard Drive already was configured with Windows Server 2022 installed due to being the same hard drive I used in my other classes so I decided to use this Hard Drive as my host Machine for all of my Virtual Machines.



Even though I had previously installed this Hard Drive it still was important to make sure the host machine was up to date on any updates.

Windows Server 2019

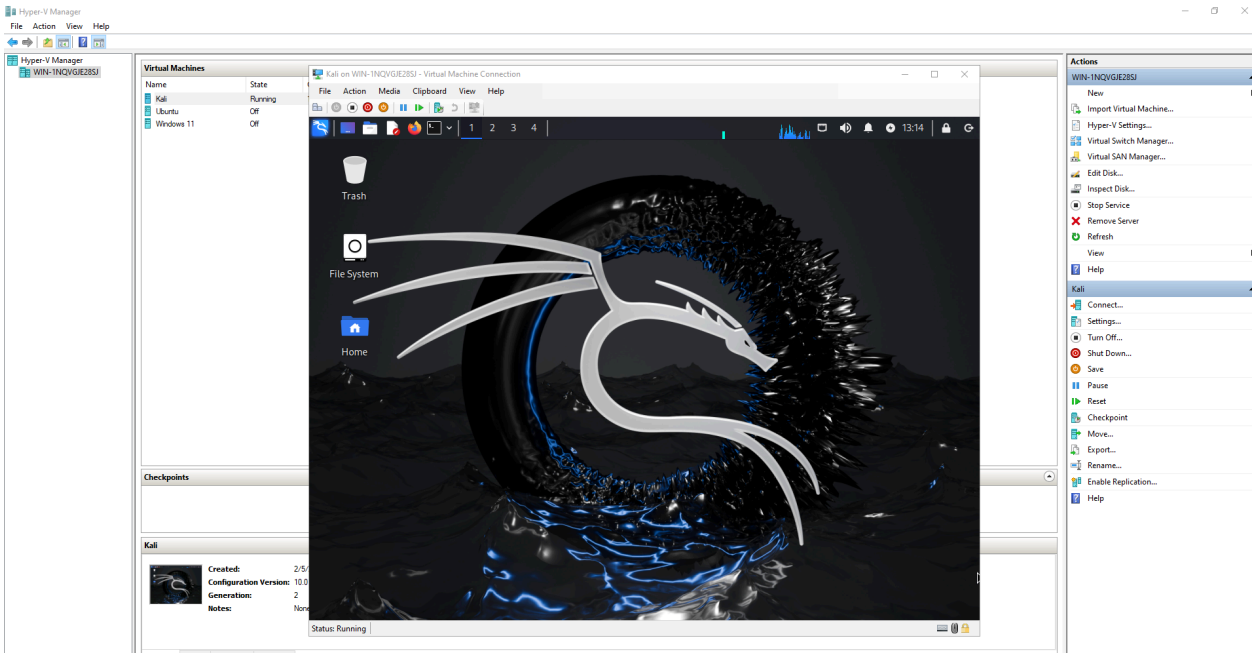




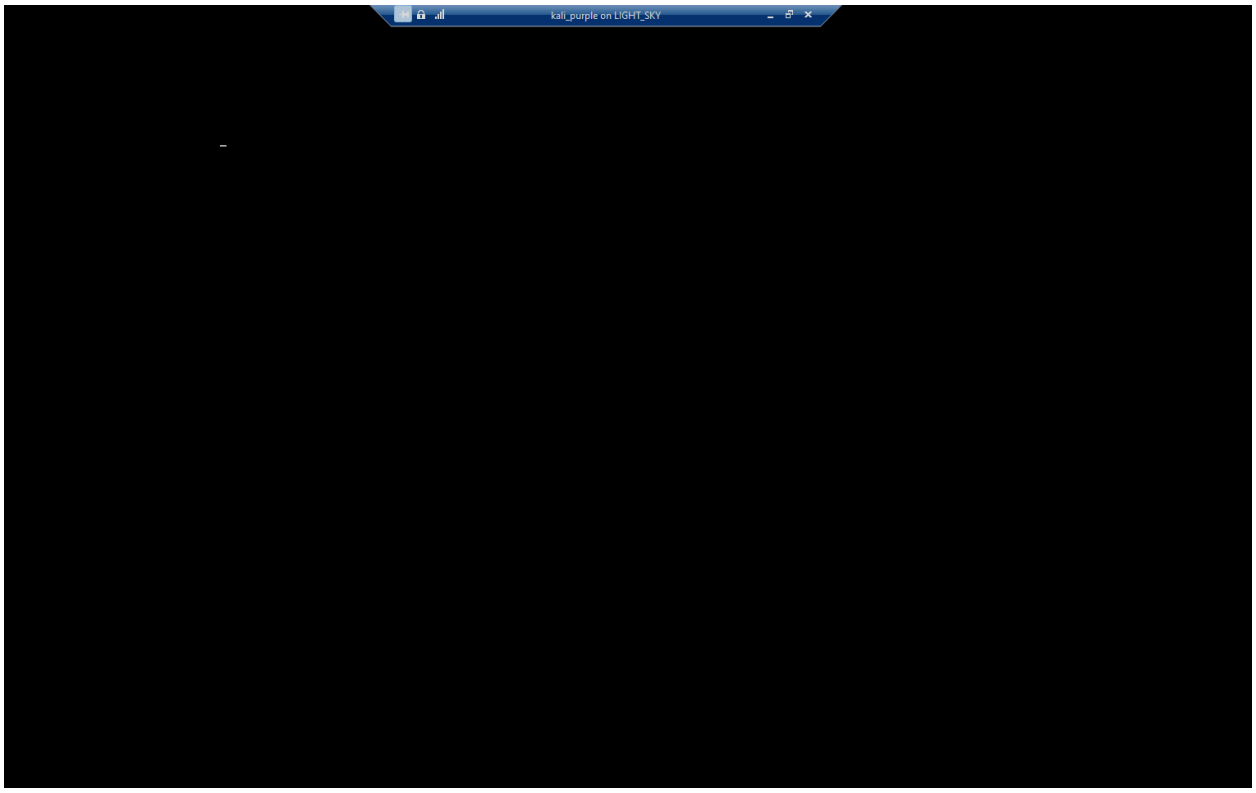
Windows Server 2019
The easiest to Operating to install out of each of the OS I encountered
Creating a Bootable using a USB with the Rufus Software

After Installation I simply made sure all updates were downloaded.

Kali Linux

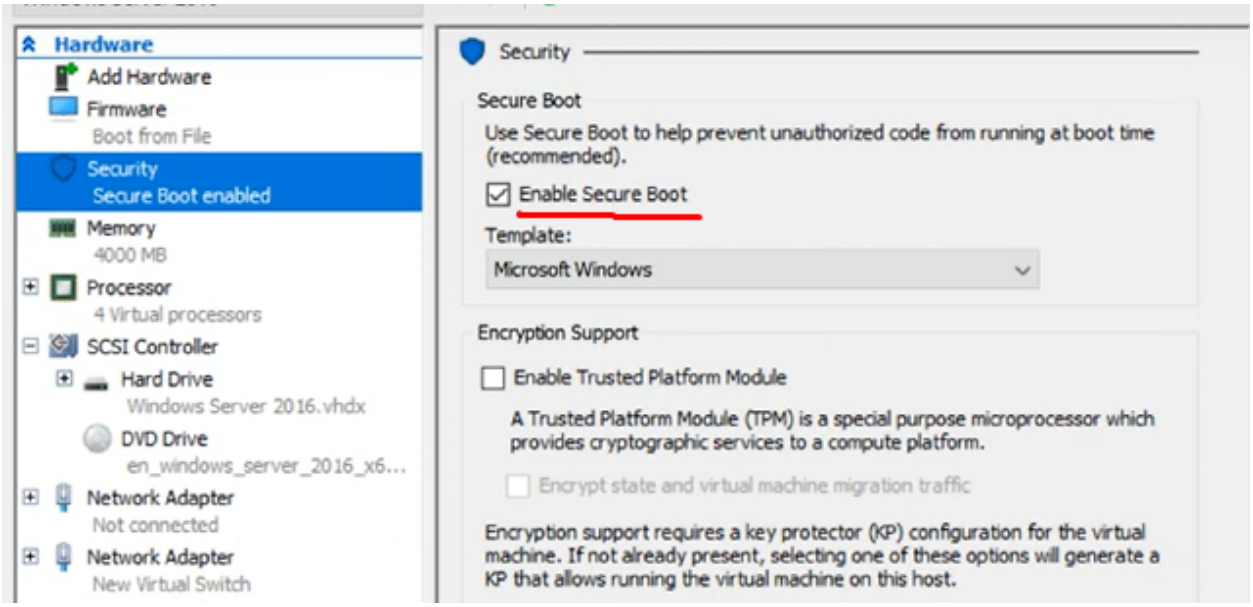


The most difficult Operating System I had to install.
I kept running into an issue that would allow the Operating System to Install but after a reboot the screen would be a solid black screen with a blinking cursor



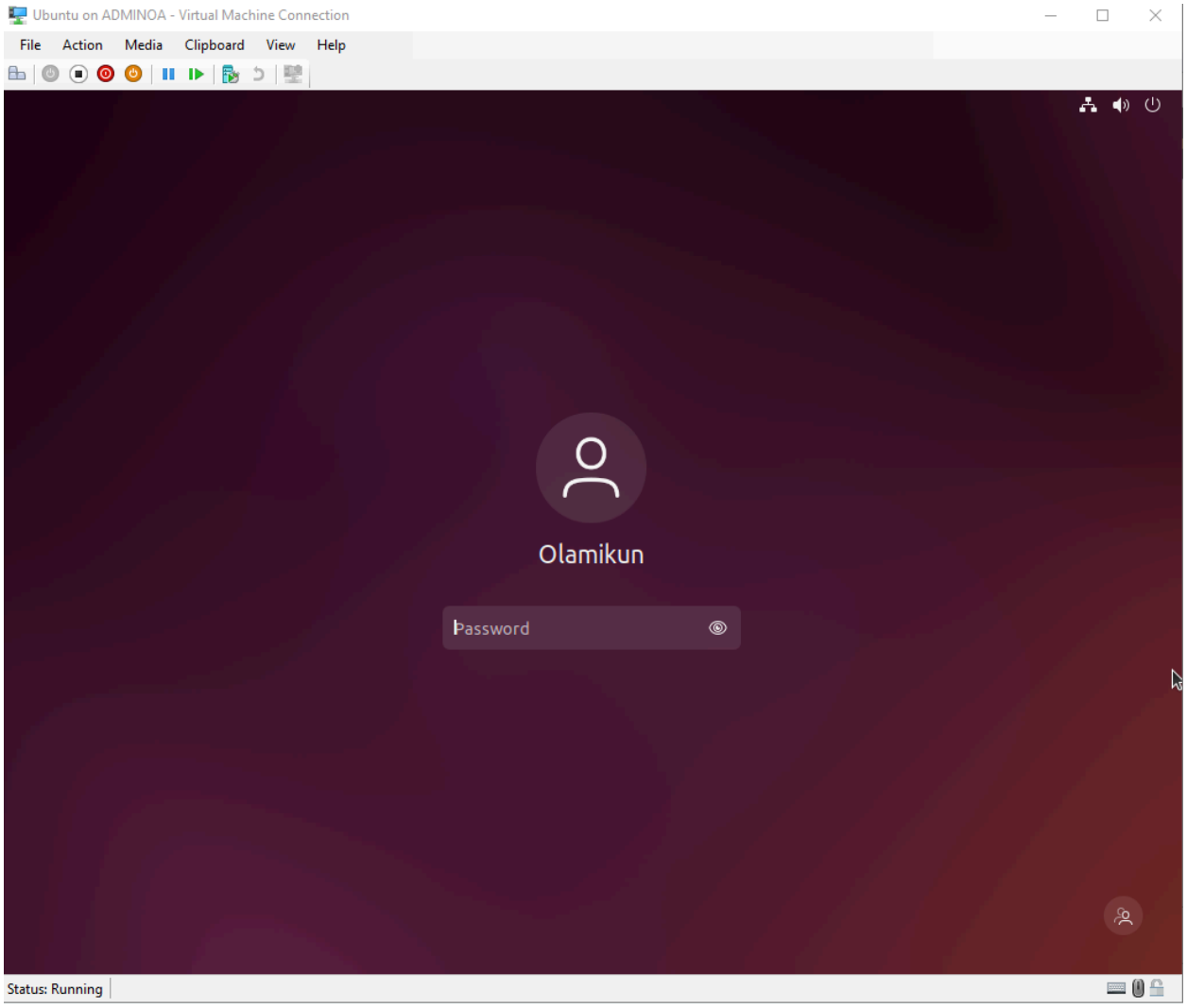
The answer to this problem came to two issues

The first is simply not using a Generation 2 setting for the VM, the other was making sure Secure Boot was disabled during the booting process

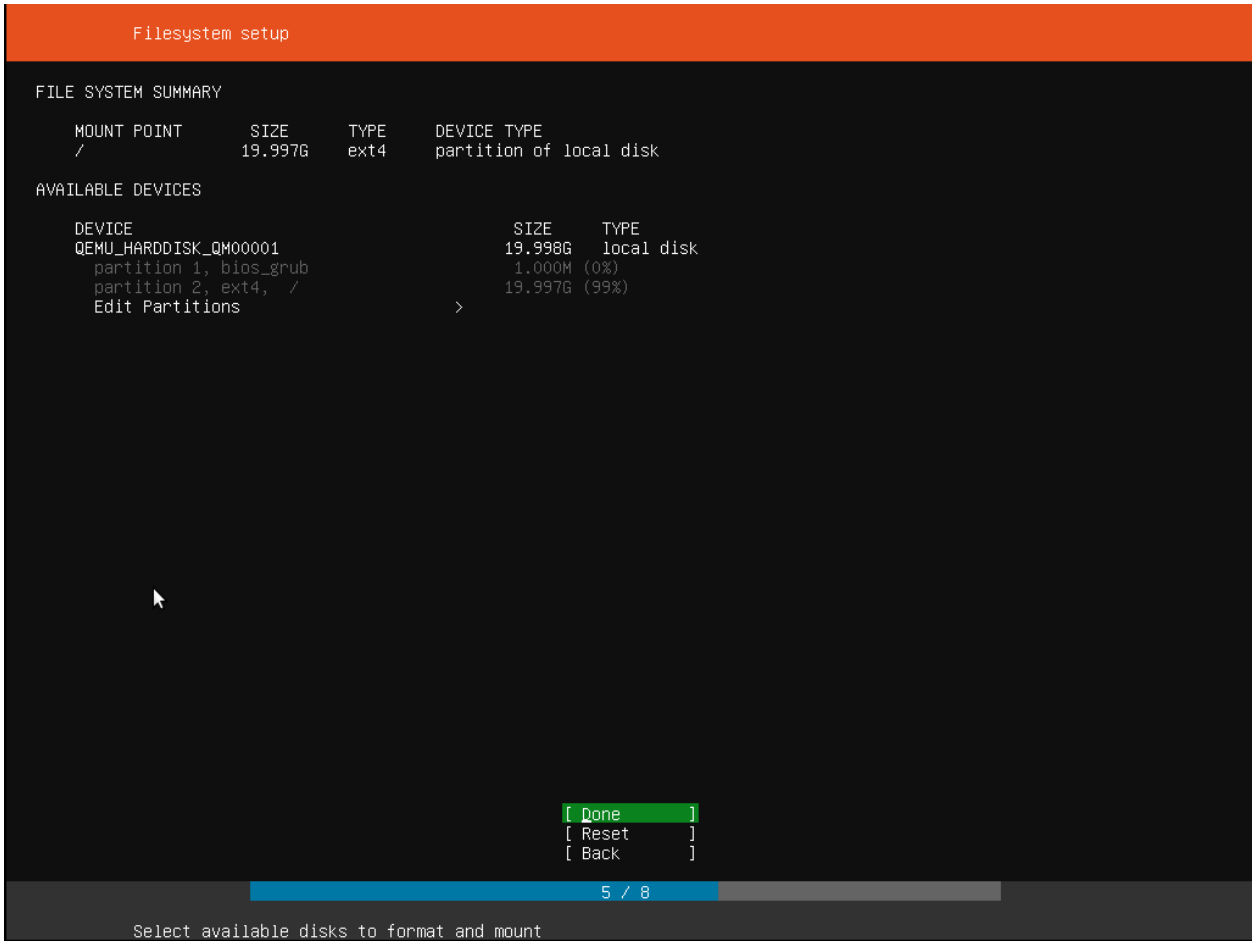


I had done this on my own home personal machine which gave me the issue of not being connected to the internet meaning my Update installation could not begin until I returned back to campus.

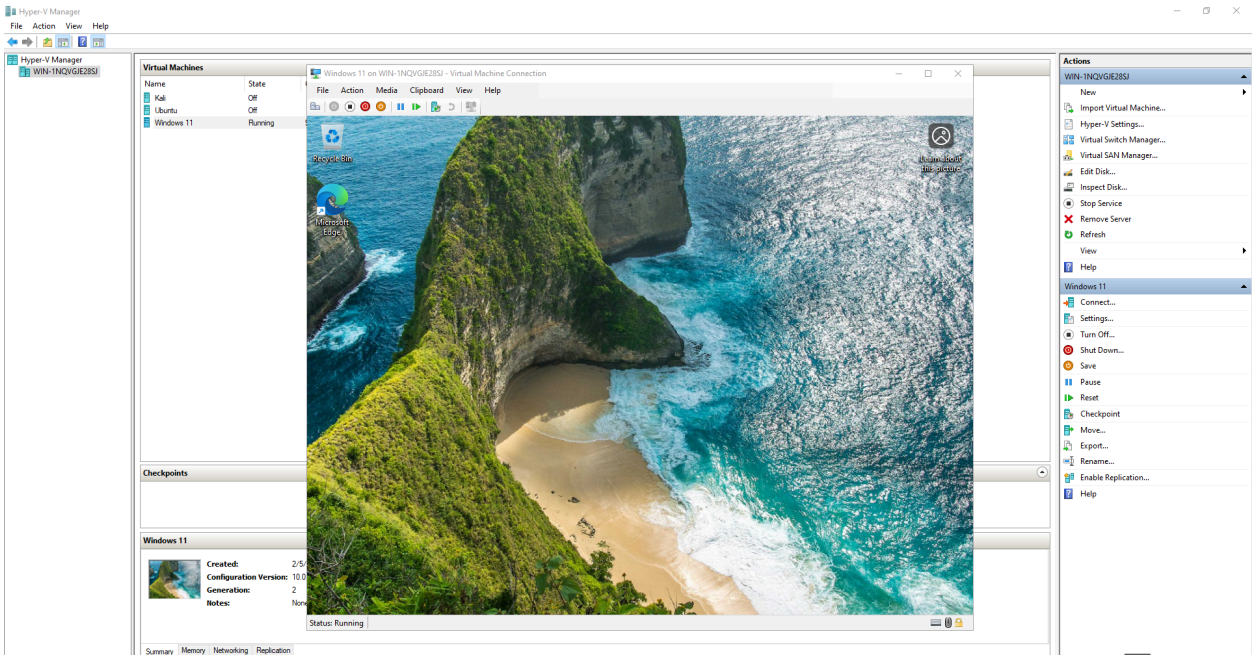
Ubuntu Server



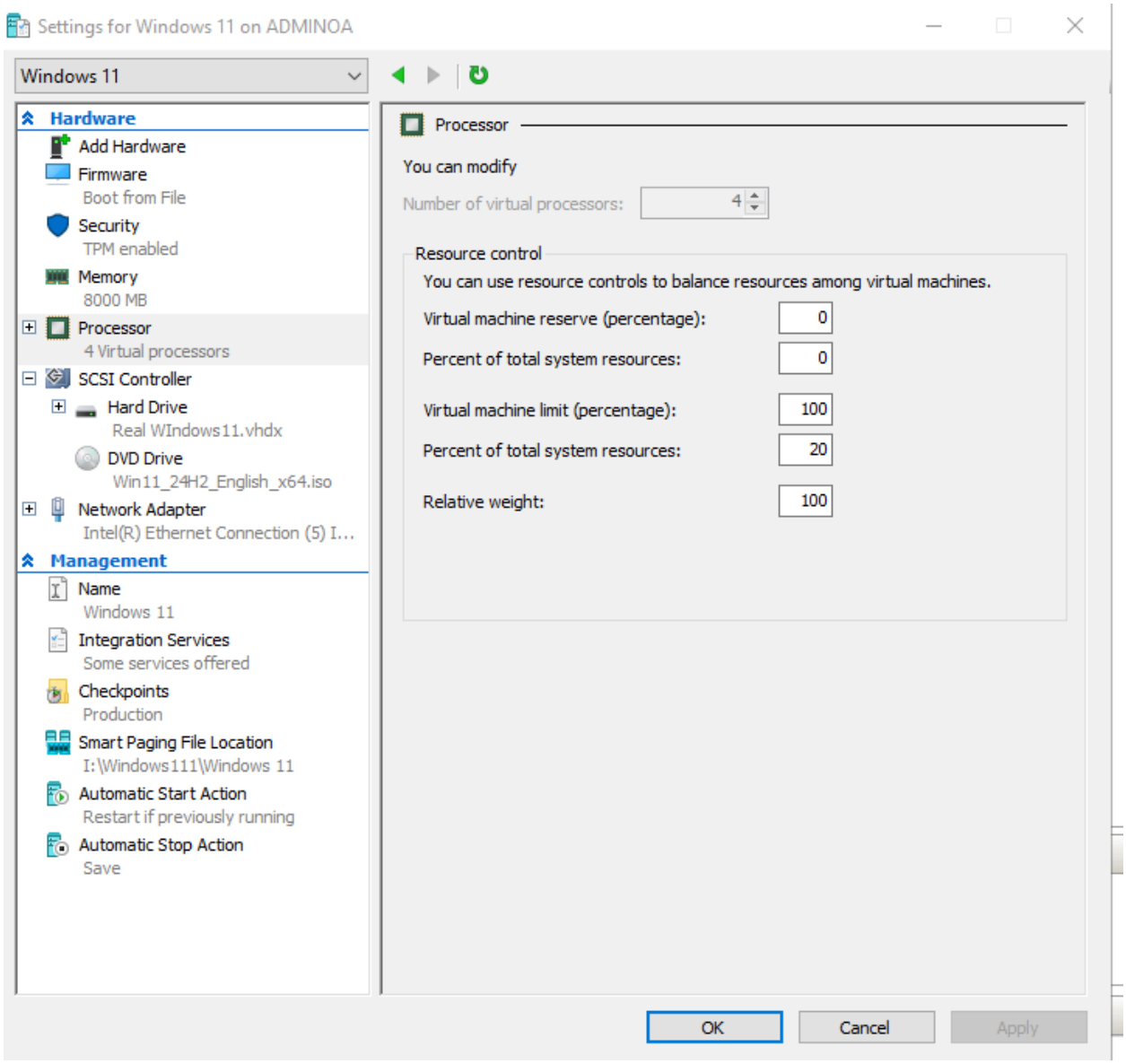
Relatively simple installation.
I didn't run into many issues with the installation


Filesystem setup
FILE SYSTEM SUMMARY
MOUNT POINT SIZE TYPE DEVICE TYPE
/ 19.997G ext4 partition of local disk
AVAILABLE DEVICES
DEVICE SIZE TYPE
QEMU_HARDDISK_QM00001 19.998G local disk
partition 1, bios_grub 1.000M (0%)
partition 2, ext4, / 19.997G (99%)
Edit Partitions >
[Done]
[Reset]
[Back]
5 / 8
Select available disks to format and mount

Windows 11

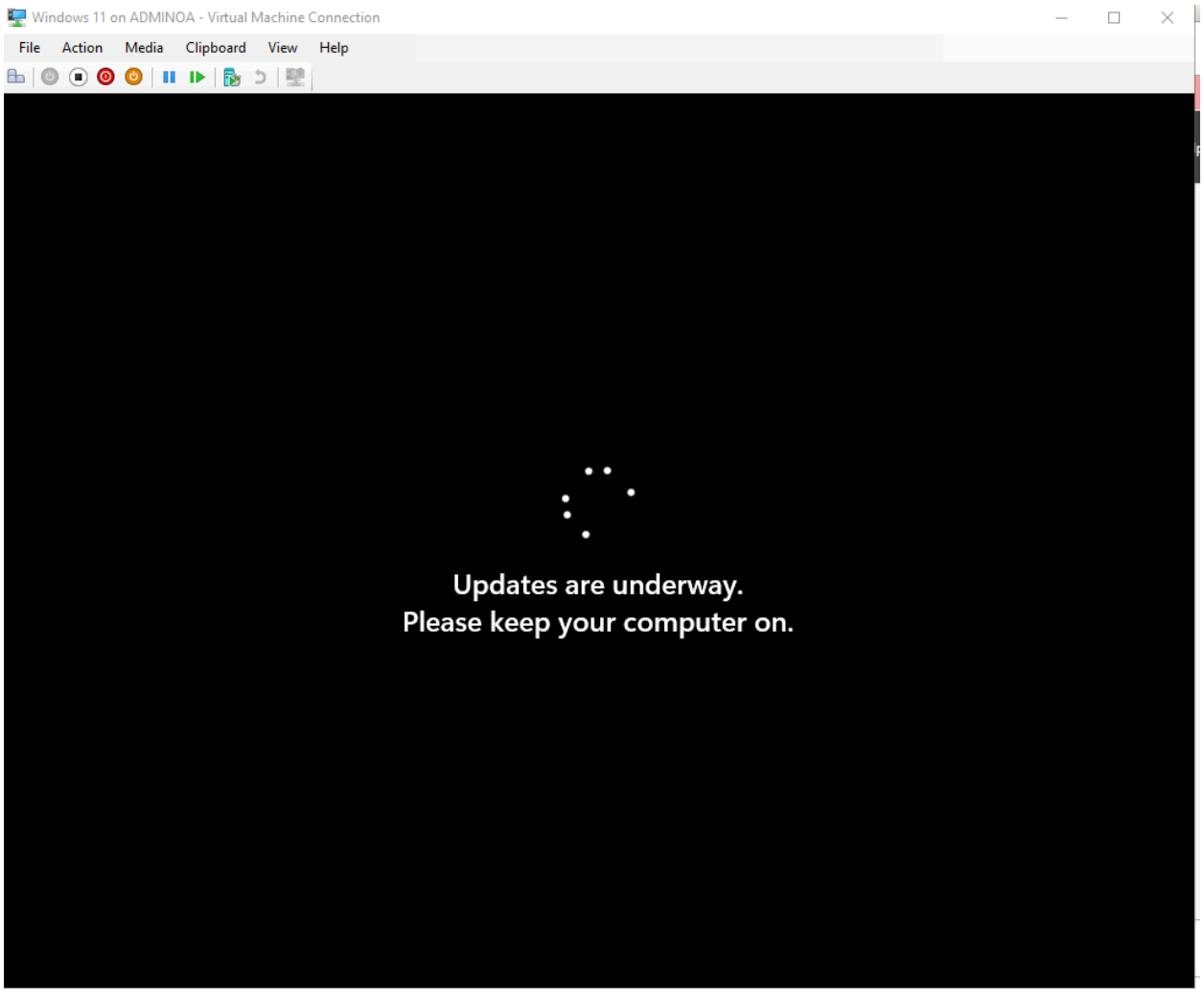


I ran into this issue where installing Windows 11 would say my machine did not have the system requirements to run the Operating System



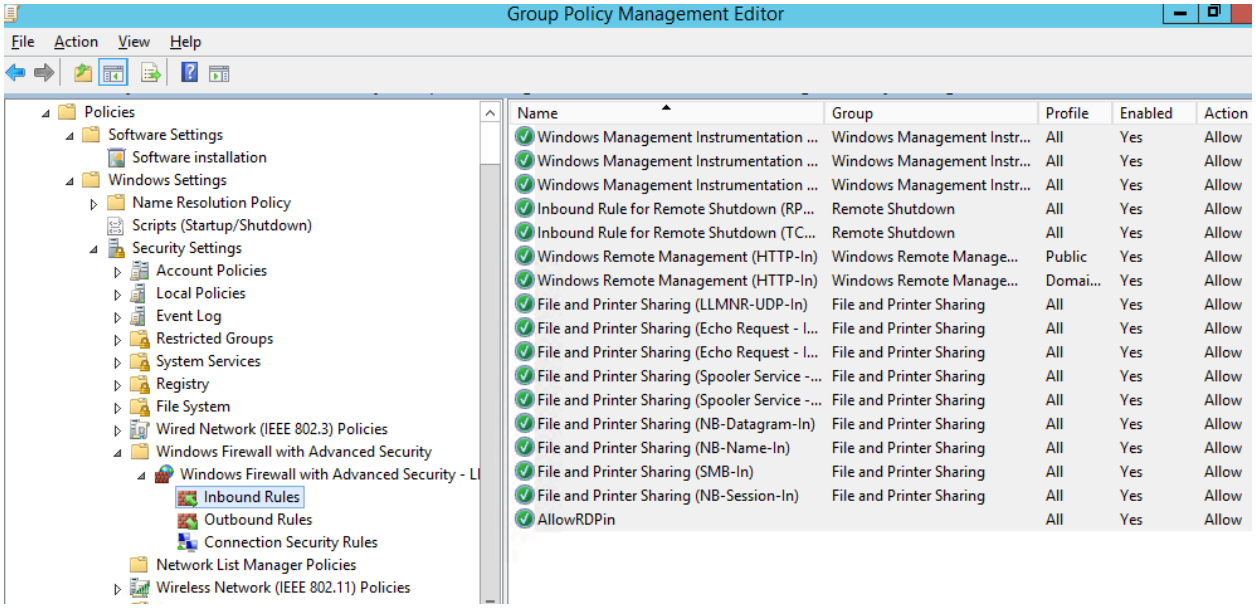
The fix to this issue was to increase the number of virtual processors the Virtual Machine had Access to.

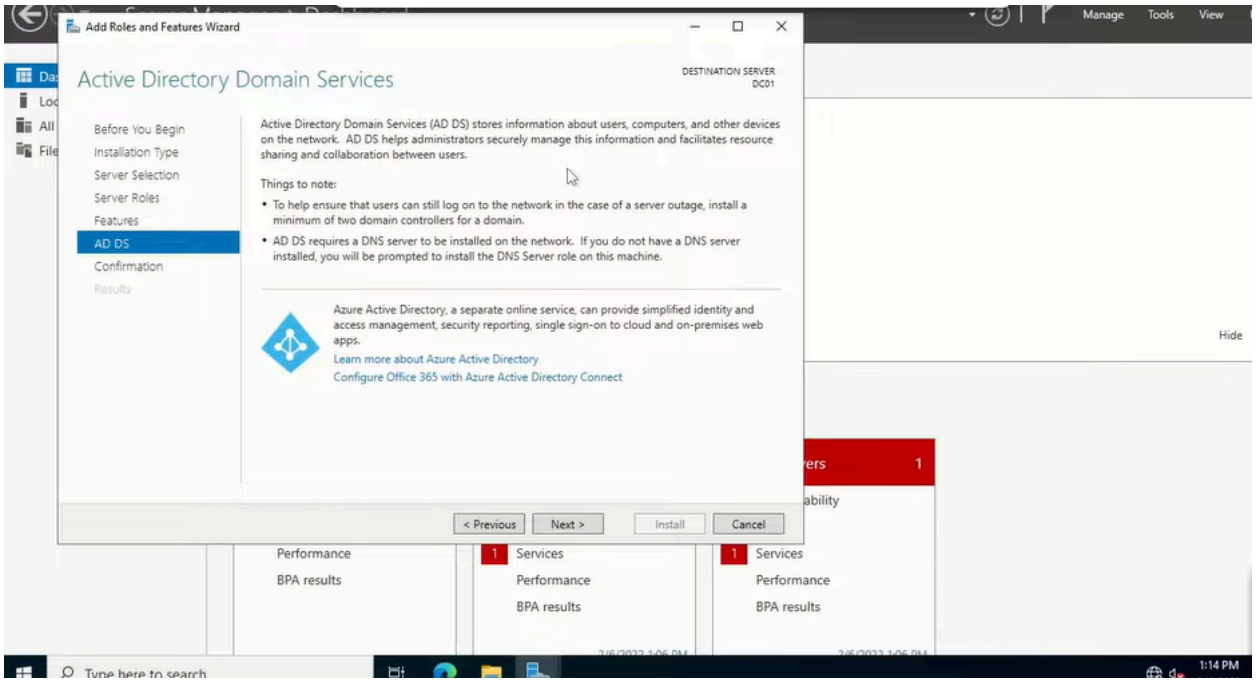
Hardening Practices



One of the major practices I used during this process was making sure every new OS I made was running up to date software.
Doing this minimizes the potential security vulnerabilities older and unsupported versions could be open to.

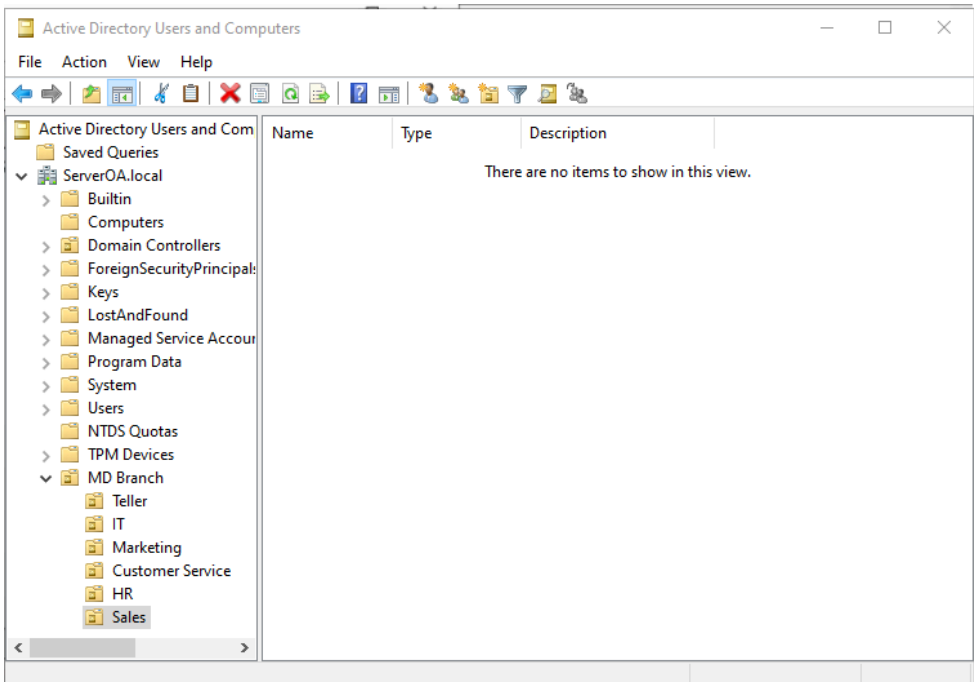
I looked at the Firewall rules and opted to keep the rules enabled on the host machine due to their use in basic windows functions like Files and Printing.

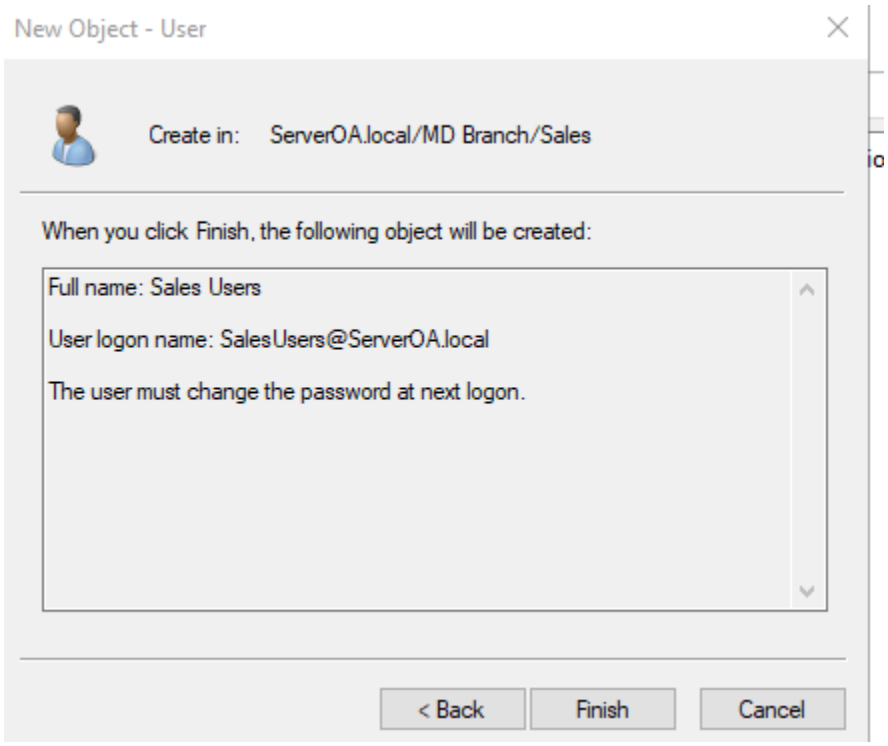




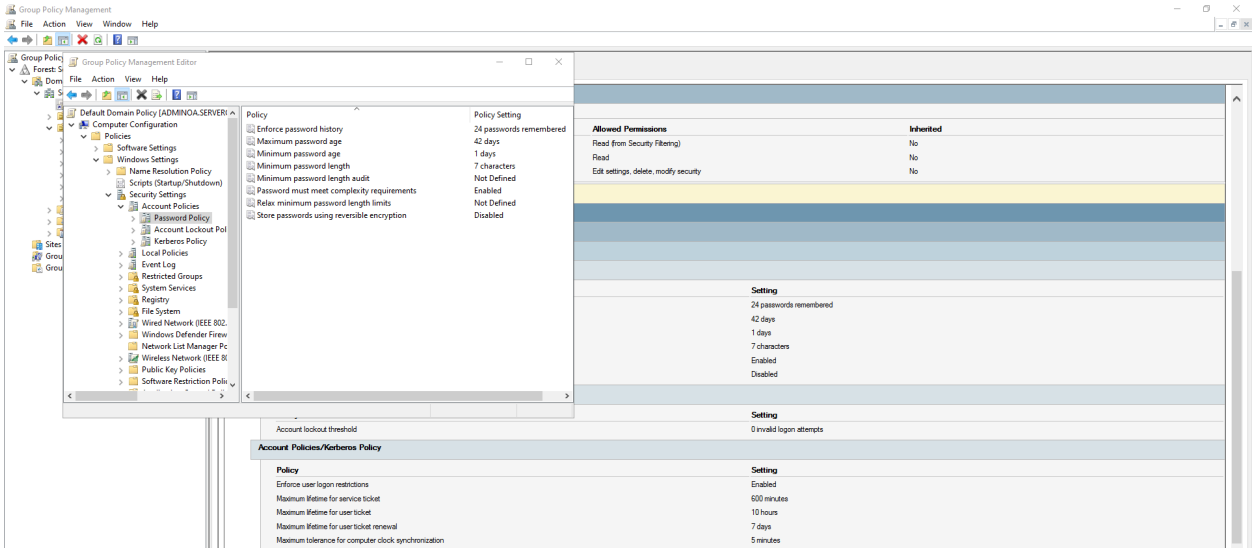
I installed Active Directory on my host windows 2022 server machine and promoted it to the Domain Controller.

That allowed me to assign groups and users of XYZ Banks Organizational Structure and most importantly–assigning user privileges.

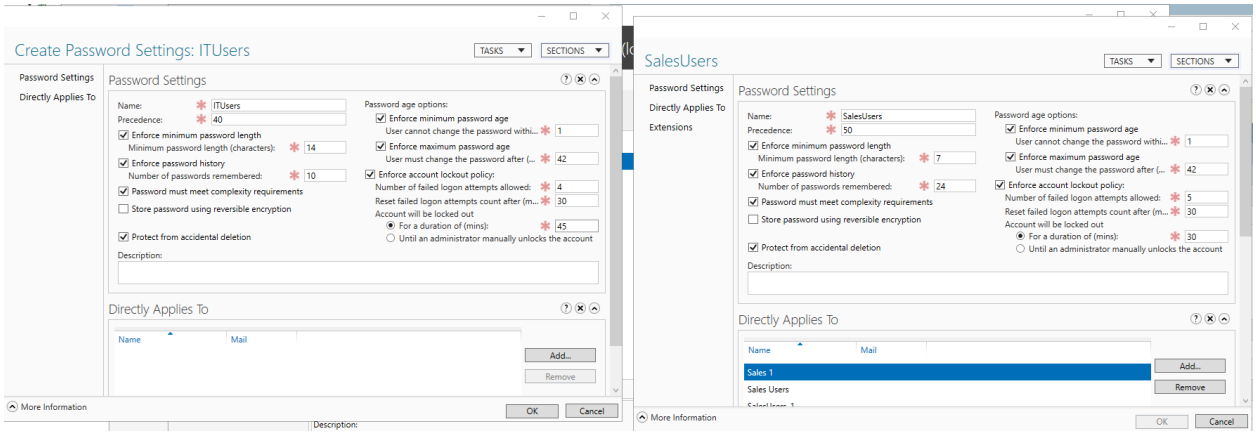




Using Active Directory User and Computers we were able to create groups within MD Branch so that we can apply group policies in order to give them the correct access to parts of the Operating System.



One of the most Important things I wanted to get out of the way first was to have a strict and secure Password Policy.
As you can see in the picture it features the requirements on the network.



The level of volatile information in each department varies therefore the level of protection required to access these areas change.

IT Users are required to have a longer password than say a sales user and the punishment for messing up too many login attempts are more severe.