

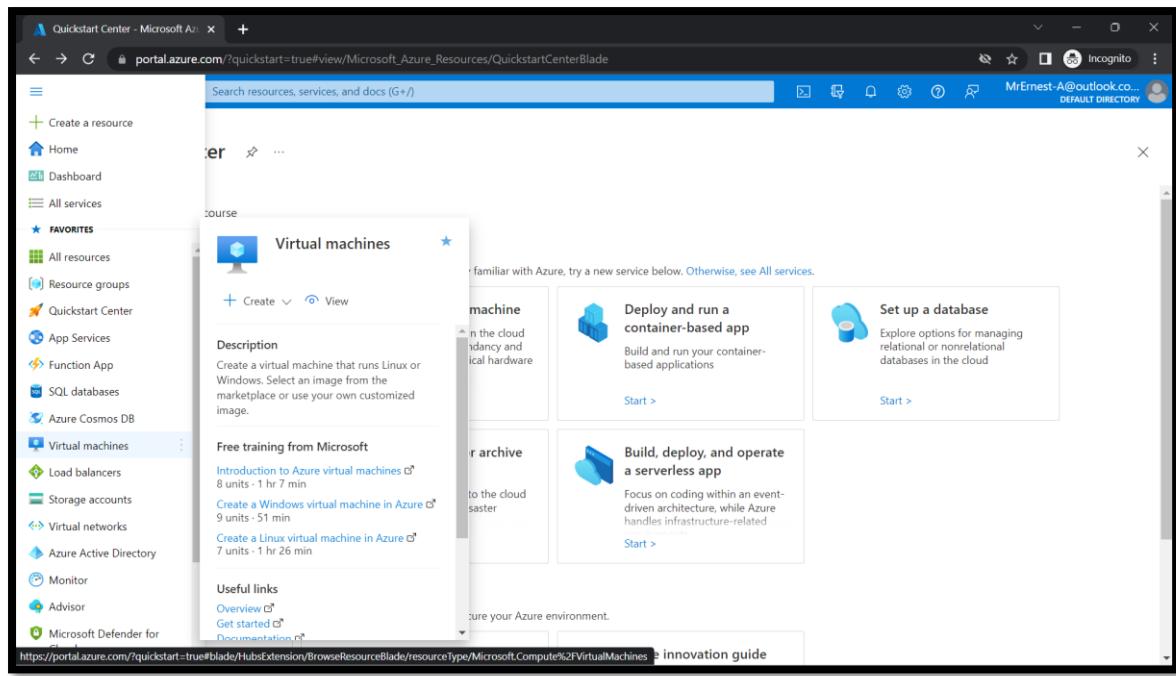
# Lab using Microsoft Azure: Windows Server 2019

The screenshot shows the Microsoft Azure Quickstart Center portal. At the top, there's a search bar and a user profile. Below it, the 'Home' page is displayed with the 'Quickstart Center' logo. A 'Get started' section encourages taking an online course. The 'Start a project' section provides links to popular Azure services: 'Create a web app' (Build and deploy web apps that can scale), 'Deploy a virtual machine' (Run your workloads in the cloud and reduce the redundancy and maintenance of physical hardware), 'Deploy and run a container-based app' (Build and run your container-based applications), 'Set up a database' (Explore options for managing relational or nonrelational databases in the cloud), 'Get started with data analytics, machine learning, and intelligence' (Put machine learning and artificial intelligence to work on your apps), 'Store, back up, or archive data' (Extend data storage to the cloud and leverage it for disaster recovery), and 'Build, deploy, and operate a serverless app' (Focus on coding within an event-driven architecture, while Azure handles infrastructure-related). Below these are 'Setup guides' for Azure setup, migration, and innovation.

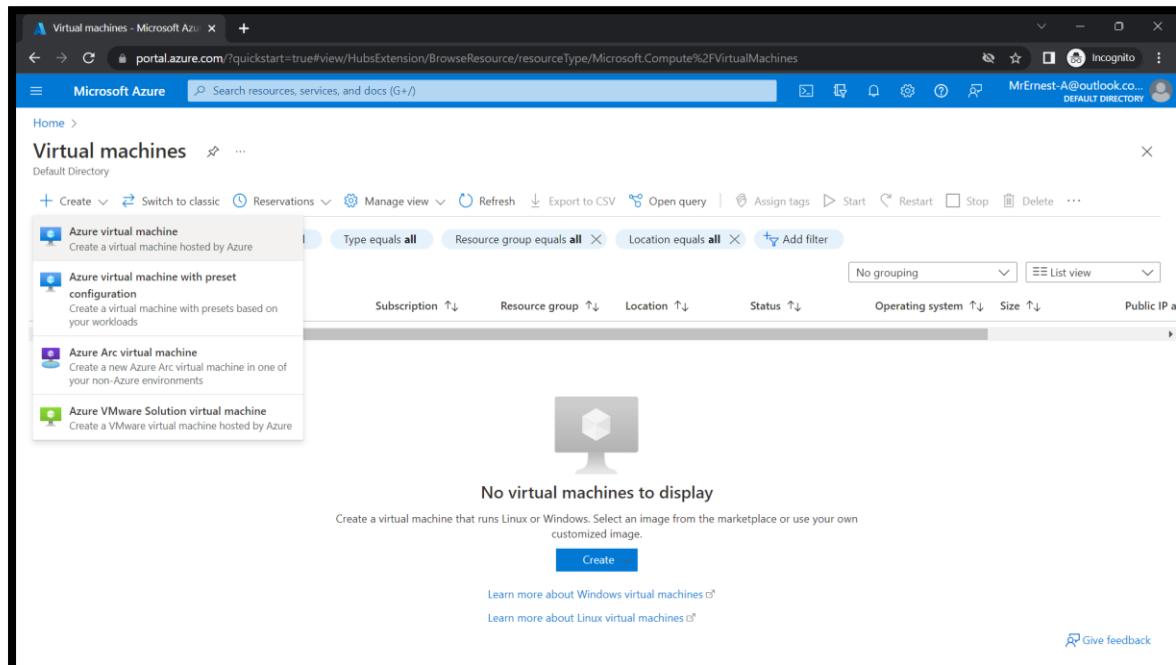
Login to azure and then go to the portal.

The screenshot shows the Microsoft Azure 'Create a resource' portal. It features a search bar and a user profile at the top. The main area is titled 'Create a resource' and includes a 'Get Started' button and a 'Popular Azure services' section with links to 'Virtual machine', 'Web App', 'SQL Database', 'Function App', 'Key Vault', 'Data Factory', and 'Template deployment (deploy using custom templates)'. To the right, there's a 'Popular Marketplace products' section with links to 'Windows Server 2019 Datacenter', 'Windows 10 Pro, version 21H2', 'Windows 11 Pro, version 21H2', 'Ubuntu Server 20.04 LTS', 'Ubuntu Server 22.04 LTS', 'Windows 7 Enterprise', and 'Ubuntu Server 18.04 LTS'.

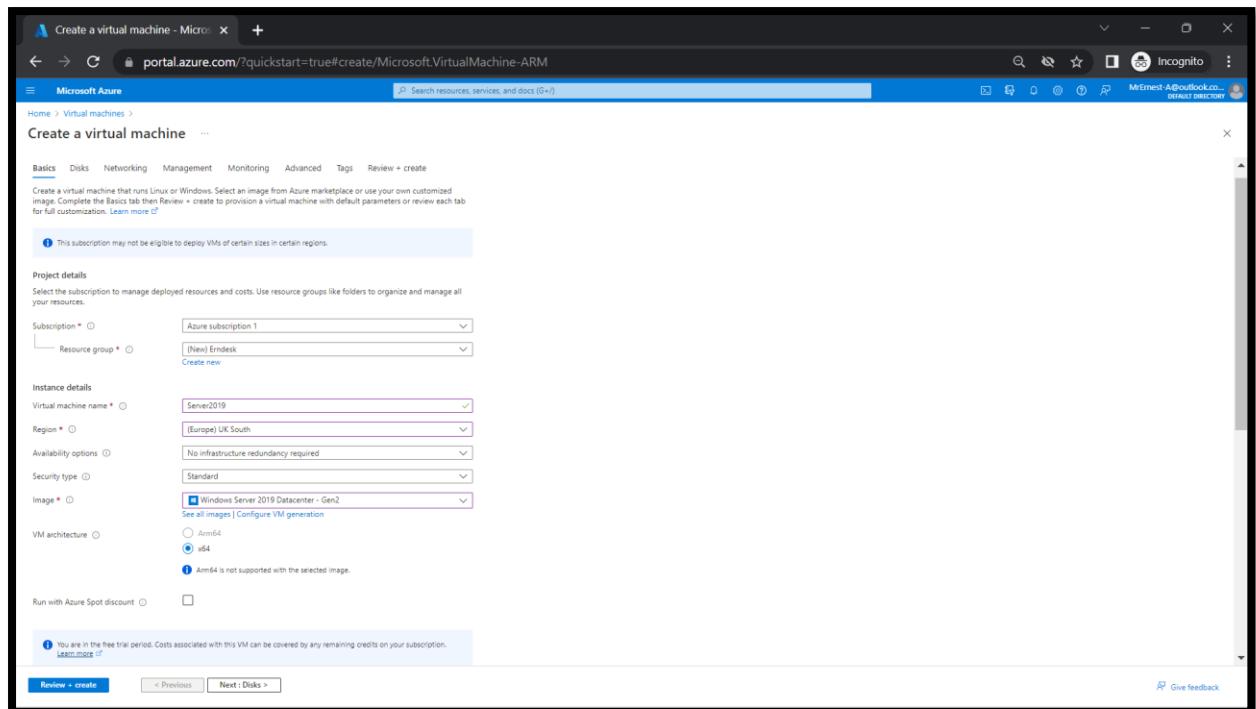
Select create a resource.



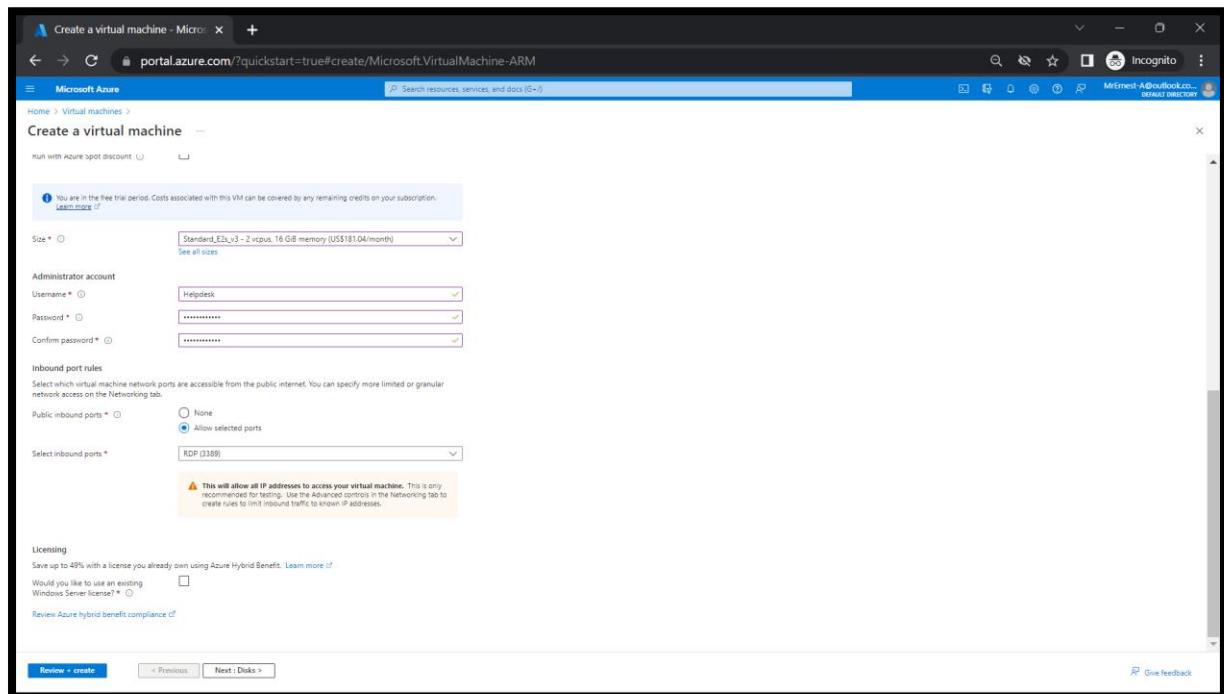
Or go to directly to virtual machine.



Create, Azure virtual machine.



Create a new resource group named it Erndesk.



I selected standard E2s\_v3 16GB memory, Review + create.

Create a virtual machine - Microsoft Azure

portal.azure.com/?quickstart=true#create/Microsoft.VirtualMachine-ARM

Microsoft Azure

Home > Virtual machines >

## Create a virtual machine

Validation passed

Basics Disks Networking Management Monitoring Advanced Tags Review + create

Cost given below is an estimate and not the final price. Please use [Pricing calculator](#) for all your pricing needs.

**PRODUCT DETAILS**

1 X Standard E2s v3 by Microsoft

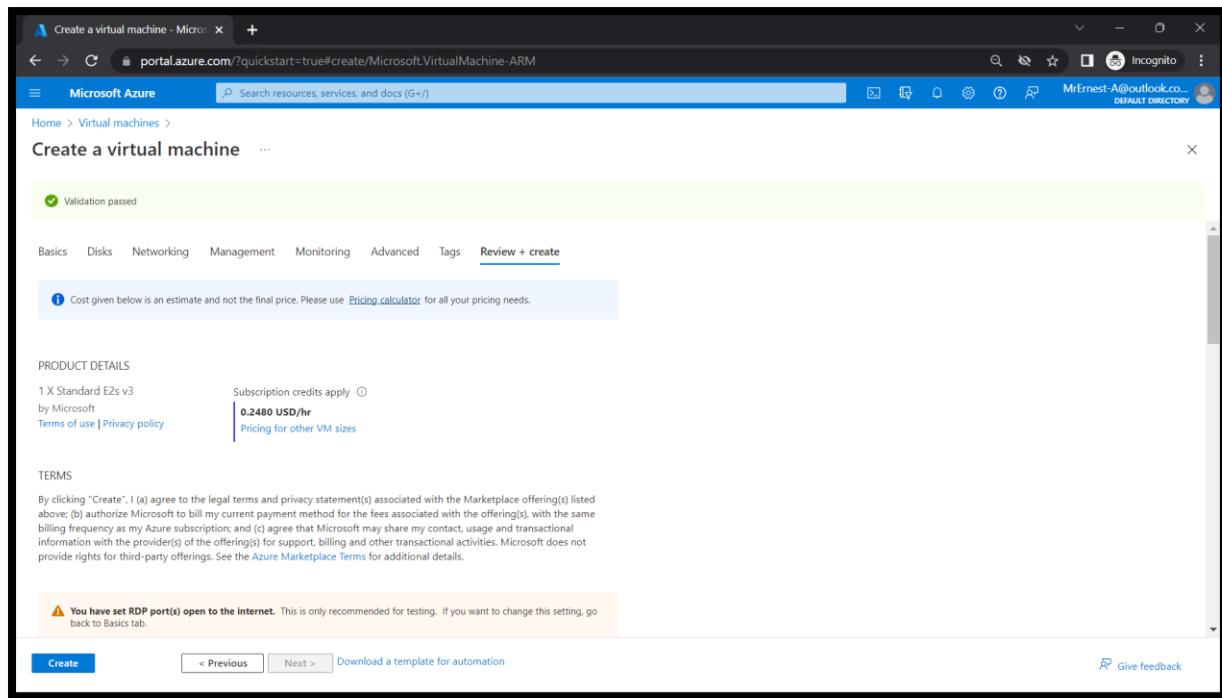
Subscription credits apply ⓘ  
0.2480 USD/hr  
[Pricing for other VM sizes](#)

**TERMS**

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the Azure Marketplace Terms for additional details.

**Warning:** You have set RDP port(s) open to the internet. This is only recommended for testing. If you want to change this setting, go back to Basics tab.

Create < Previous Next > Download a template for automation Give feedback



Create a virtual machine - Microsoft Azure

portal.azure.com/?quickstart=true#create/Microsoft.VirtualMachine-ARM

Microsoft Azure

Home > Virtual machines >

## Create a virtual machine

Validation passed

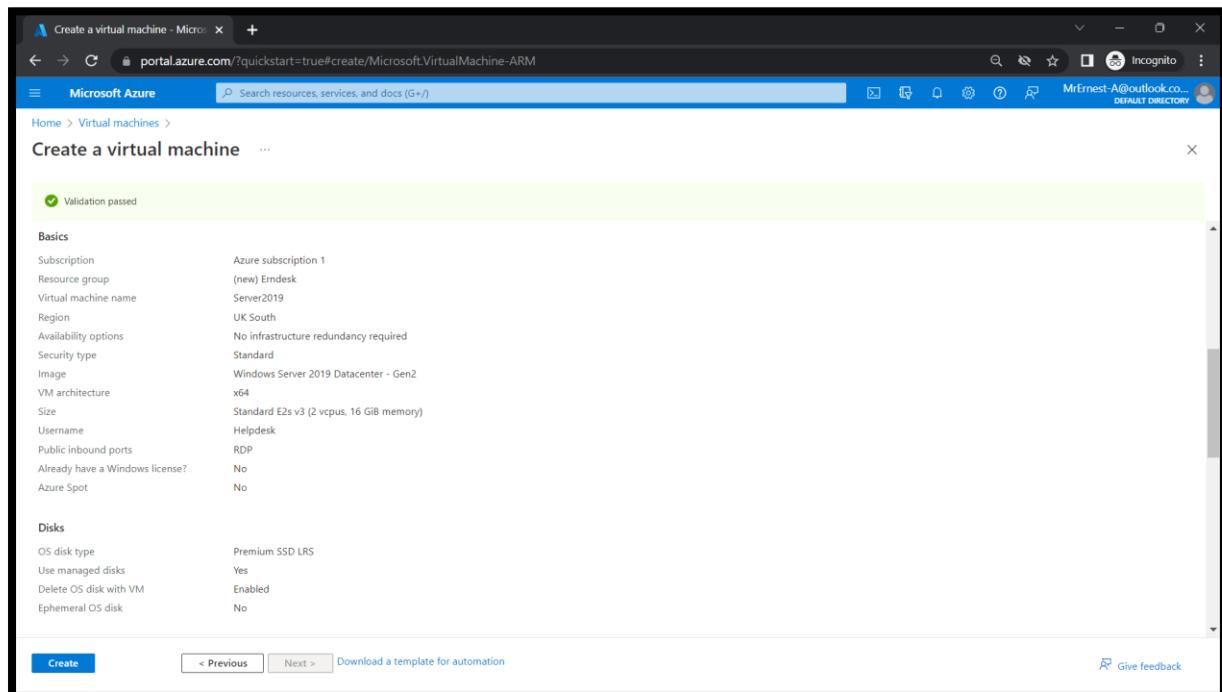
**Basics**

Subscription	Azure subscription 1
Resource group	(new) Endesk
Virtual machine name	Server2019
Region	UK South
Availability options	No infrastructure redundancy required
Security type	Standard
Image	Windows Server 2019 Datacenter - Gen2
VM architecture	x64
Size	Standard E2s v3 (2 vcpus, 16 GiB memory)
Username	Helpdesk
Public inbound ports	RDP
Already have a Windows license?	No
Azure Spot	No

**Disk**

OS disk type	Premium SSD LRS
Use managed disks	Yes
Delete OS disk with VM	Enabled
Ephemeral OS disk	No

Create < Previous Next > Download a template for automation Give feedback



Validation passed

**Networking**

Virtual network	(new) Erndesk-vnet
Subnet	(new) default (10.0.0.0/24)
Public IP	(new) Server2019-ip
Accelerated networking	On
Place this virtual machine behind an existing load balancing solution?	No
Delete public IP and NIC when VM is deleted	Disabled

**Management**

Microsoft Defender for Cloud	None
System assigned managed identity	Off
Login with Azure AD	Off
Auto-shutdown	Off
Enable hotpatch	Off
Patch orchestration options	OS-orchestrated patching: patches will be installed by OS

**Monitoring**

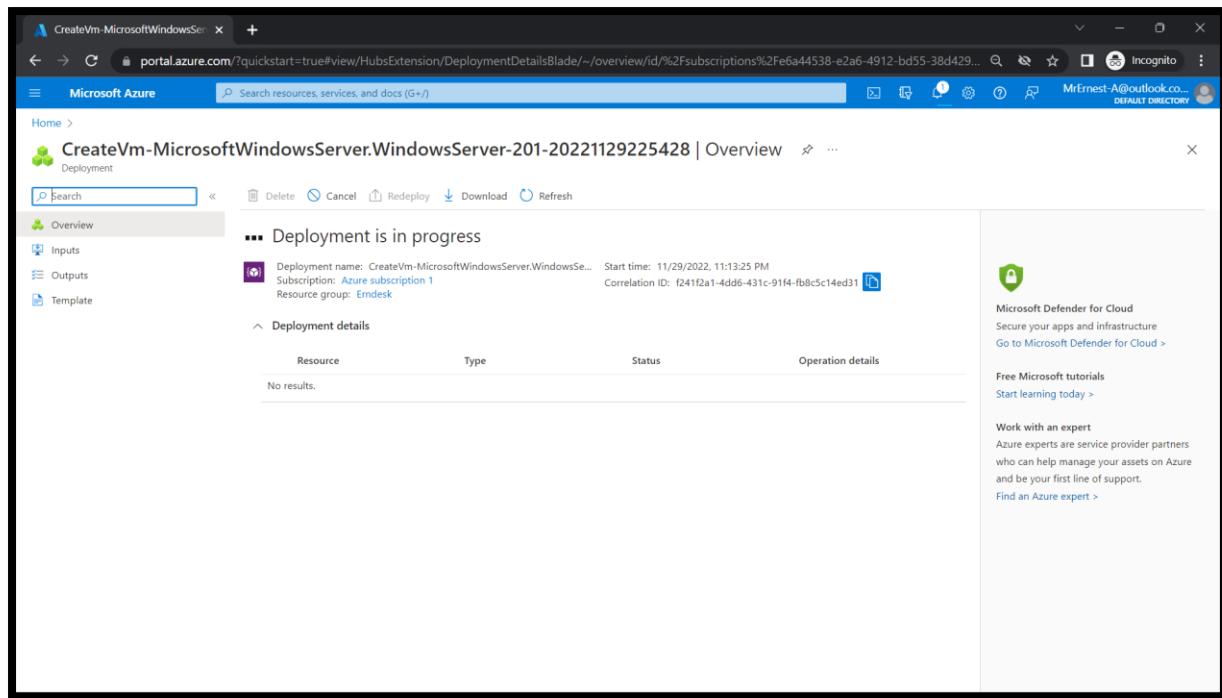
Alerts	Off
Boot diagnostics	On
Enable OS guest diagnostics	Off

**Advanced**

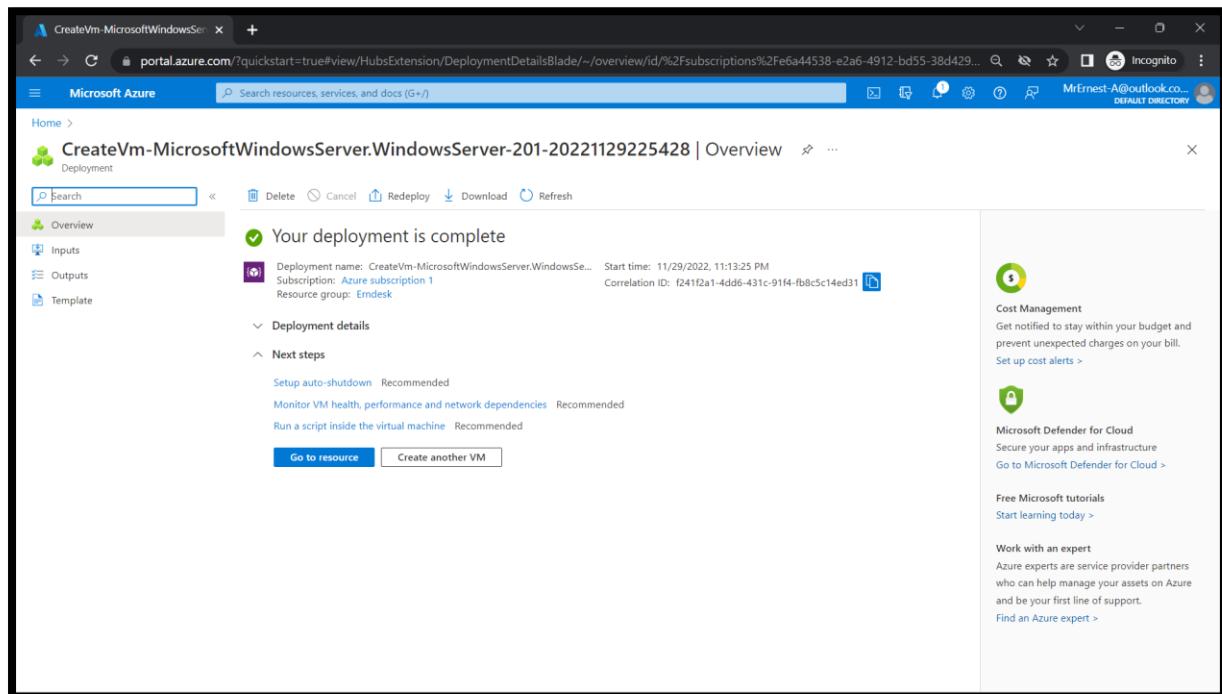
Extensions	None
VM applications	None
Cloud init	No
User data	No
Disk controller type	SCSI
Proximity placement group	None
Capacity reservation group	None

**Create** < Previous Next > Download a template for automation Give feedback

I got a validation pass it accepted the setting I did on this virtual machine. I want to create a VM which is server 2019 that has 16GB of ram some of the setting that I chose click create.



To know it's creating click on the right where it says submitting deployments.



To not get charged after use turn off your services your VM, they're not going to charge you a lot. They will only charge you the basic amount. Make sure to shut down the VM as you're doing this on the cloud.

Type	Resource group	Location	Subscription
Virtual network	Erndesk	UK South	Azure subscription 1
Network Watcher	NetworkWatcherRG	UK South	Azure subscription 1
Virtual machine	Erndesk	UK South	Azure subscription 1
Public IP address	Erndesk	UK South	Azure subscription 1
Network security group	Erndesk	UK South	Azure subscription 1
Network Interface	Erndesk	UK South	Azure subscription 1
Disk	ERNDESK	UK South	Azure subscription 1

Go to all resources select server2019.

Server2019 - Microsoft Azure

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Networking

Connect

Windows Admin Center

Disks

Size

Microsoft Defender for Cloud

Advisor recommendations

Extensions + applications

Continuous delivery

Availability + scaling

Configuration

Identity

Properties

Resource group (move) : Erndesk

Status : Running

Location : UK South

Subscription (move) : Azure subscription 1

Subscription ID : e6a44538-e2a6-4912-bd55-38d4297ec493

Tags (edit) : Click here to add tags

Operating system : Windows (Windows Server 2019 Datacenter)

Size : Standard E2s v3 (2 vcpus, 16 GiB memory)

Public IP address : 51.105.44.112

Virtual network/subnet : Erndesk-vnet/default

DNS name : Not configured

Virtual machine

Computer name : Server2019

Health state : -

Operating system : Windows (Windows Server 2019 Datacenter)

Publisher : MicrosoftWindowsServer

Offer : WindowsServer

Plan : 2019-datacenter-gensecond

VM generation : V2

VM architecture : x64

Agent status : Ready

Agent version : 2.7.41491.1071

Networking

Public IP address : 51.105.44.112

Public IP address (IPv6) : -

Private IP address : 10.0.0.4

Private IP address (IPv6) : -

Virtual network/subnet : Erndesk-vnet/default

DNS name : Configure

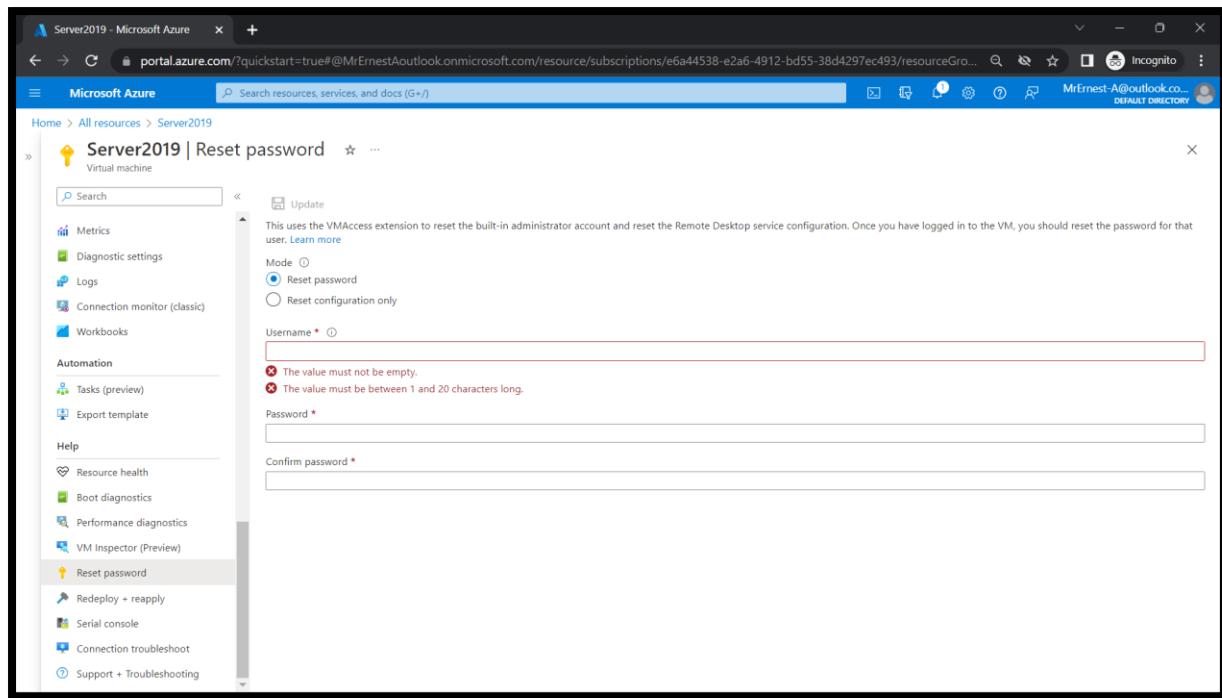
Size

Size : Standard E2s v3

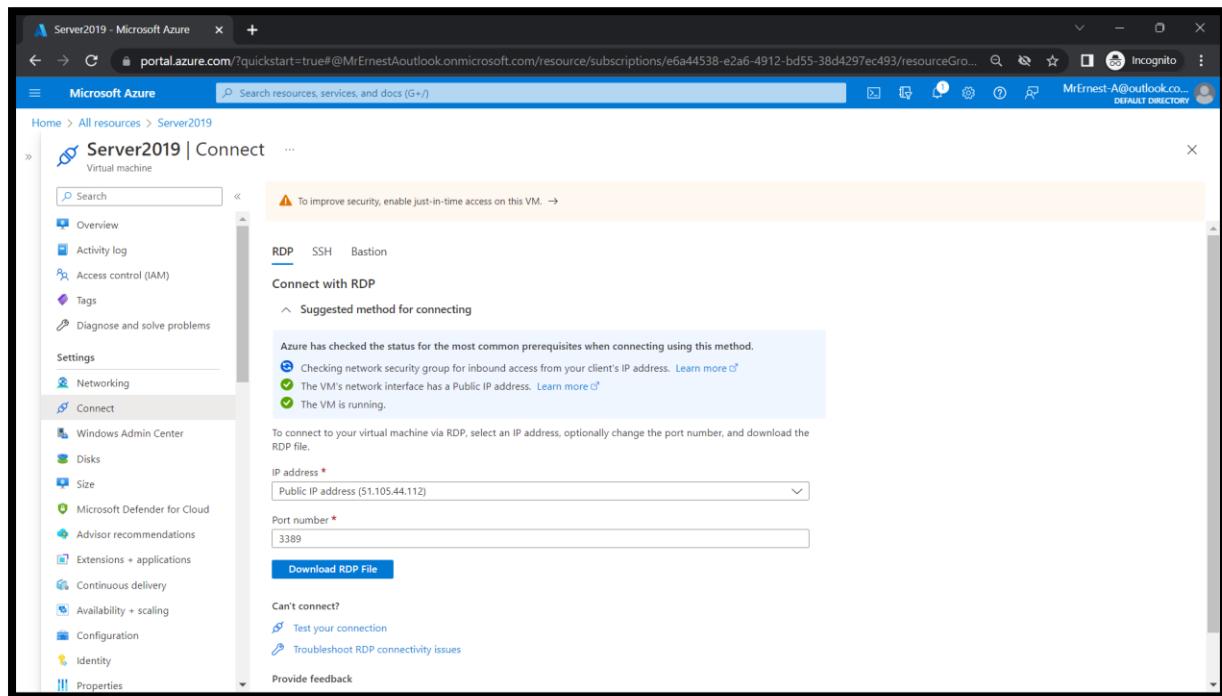
vCPUs : 2

RAM : 16 GiB

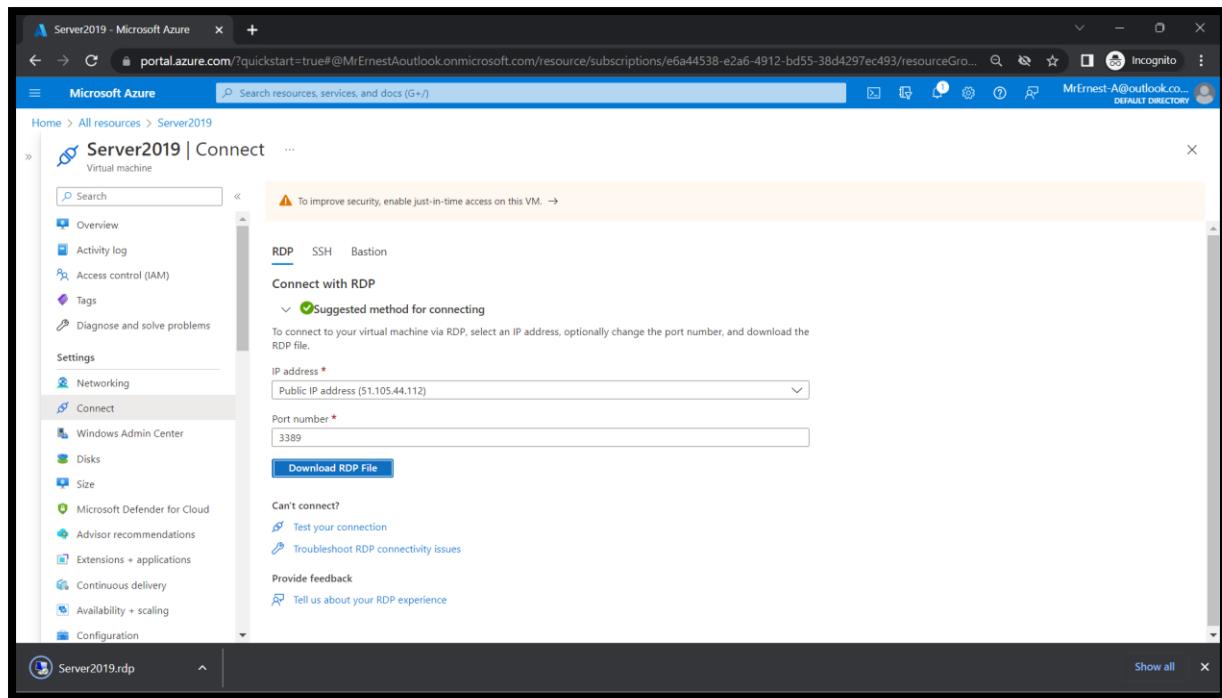
The overview of my server2019 VM.



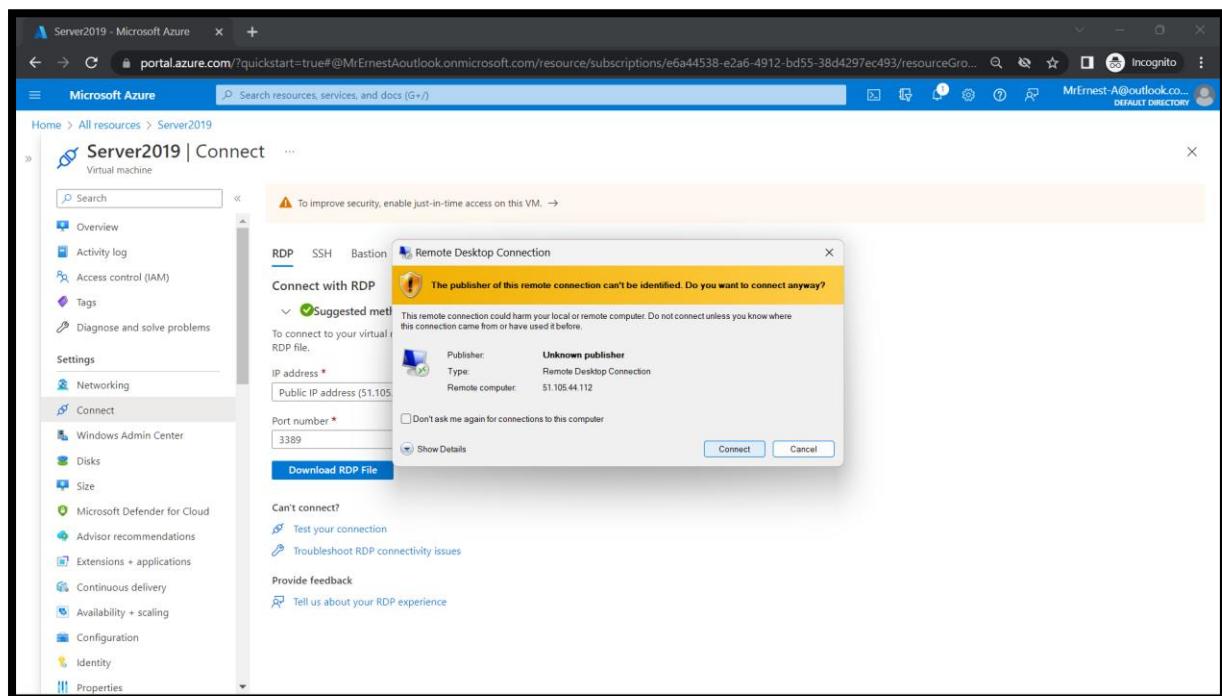
You can browse through the settings with reset password if you forget your password you can reset it. You don't have to delete the whole VM.



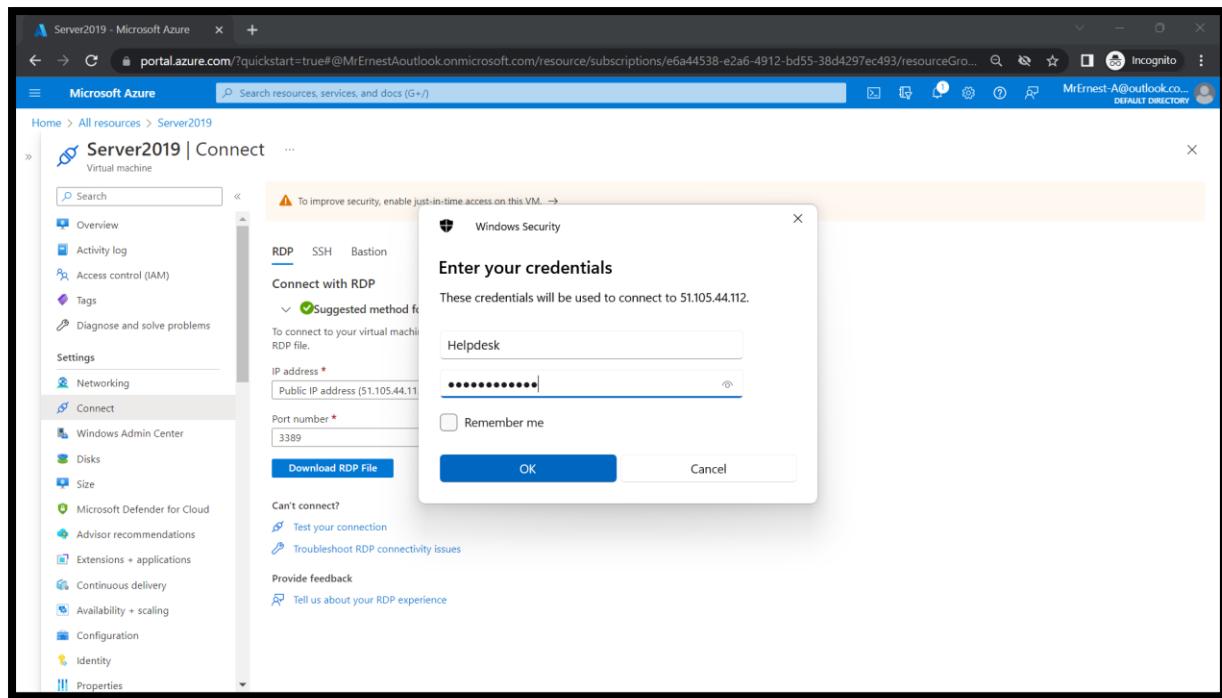
To remote into it click on connect in the overview section and then select RDP.



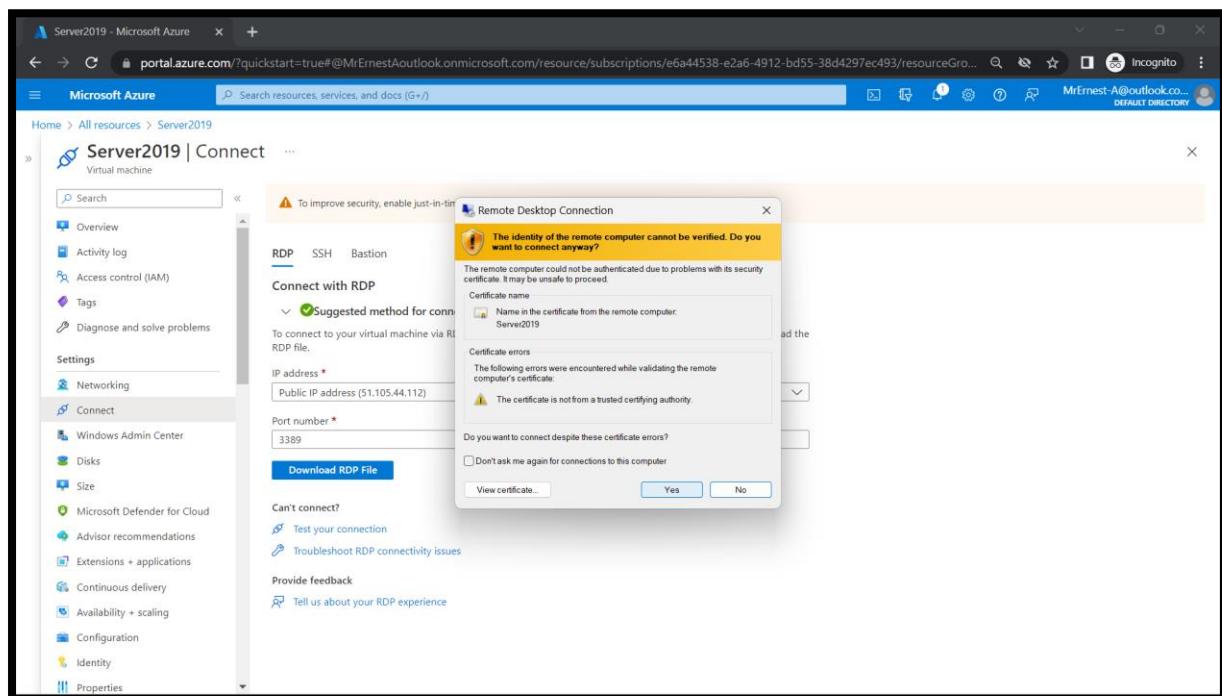
I want to enable the RDP yes, click on Download RDP File.



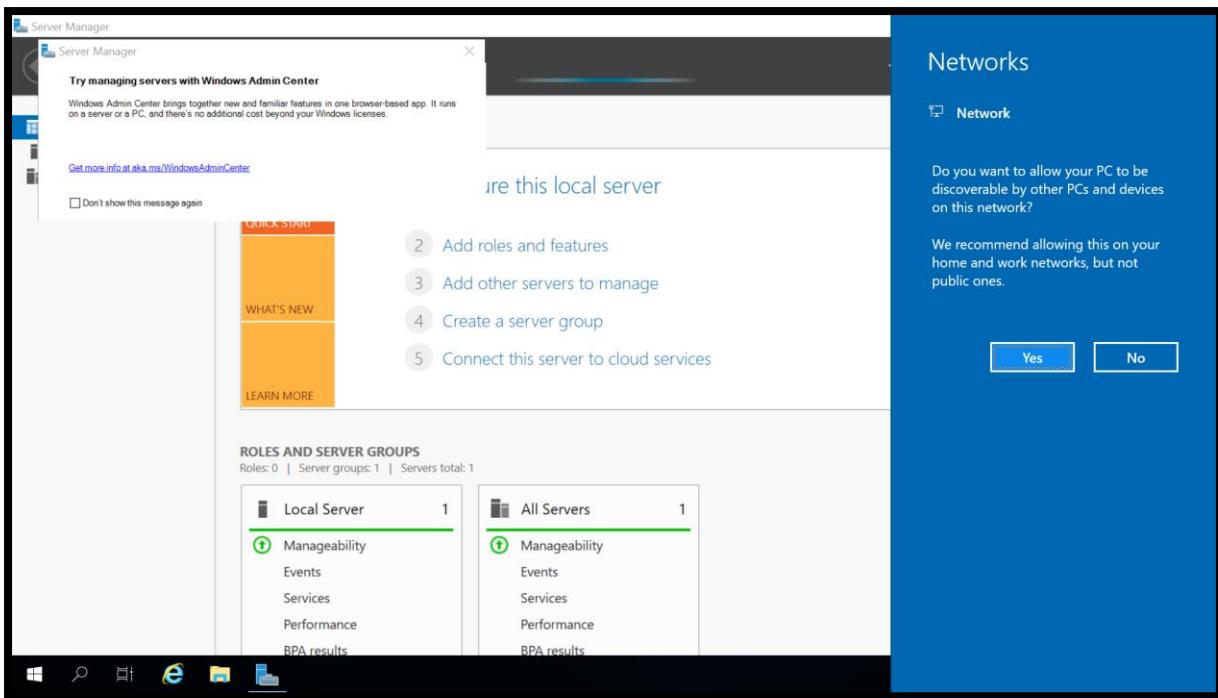
Click on it, tap connect.



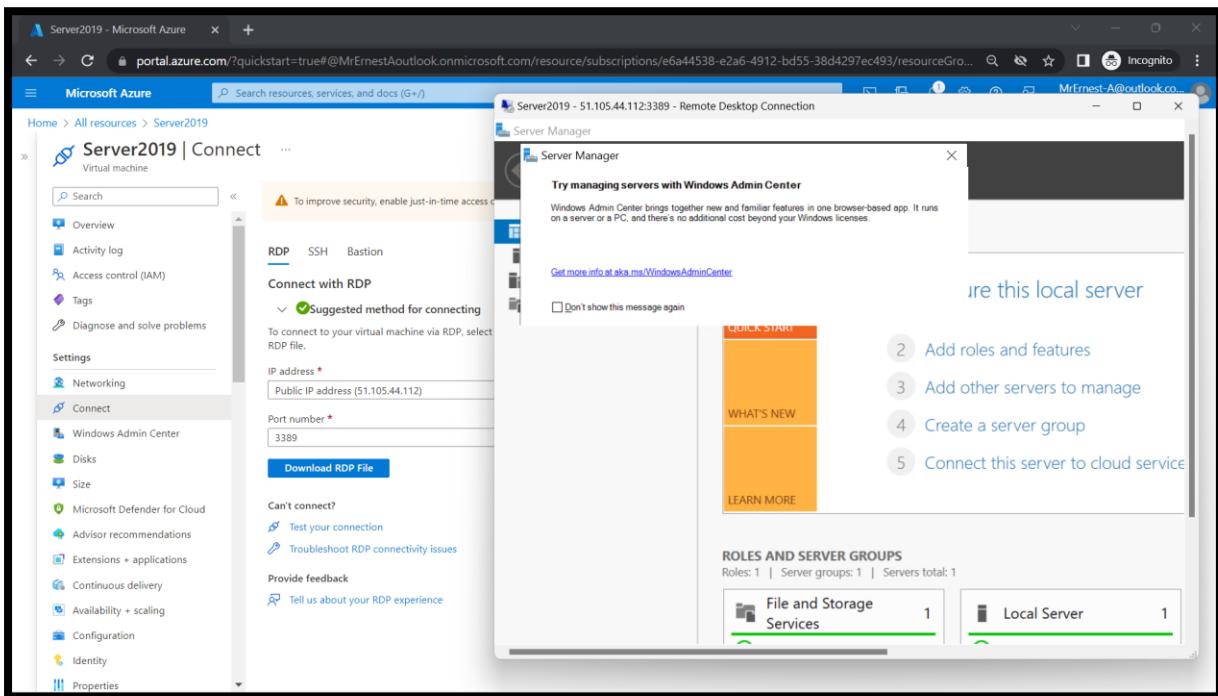
Enter credentials.



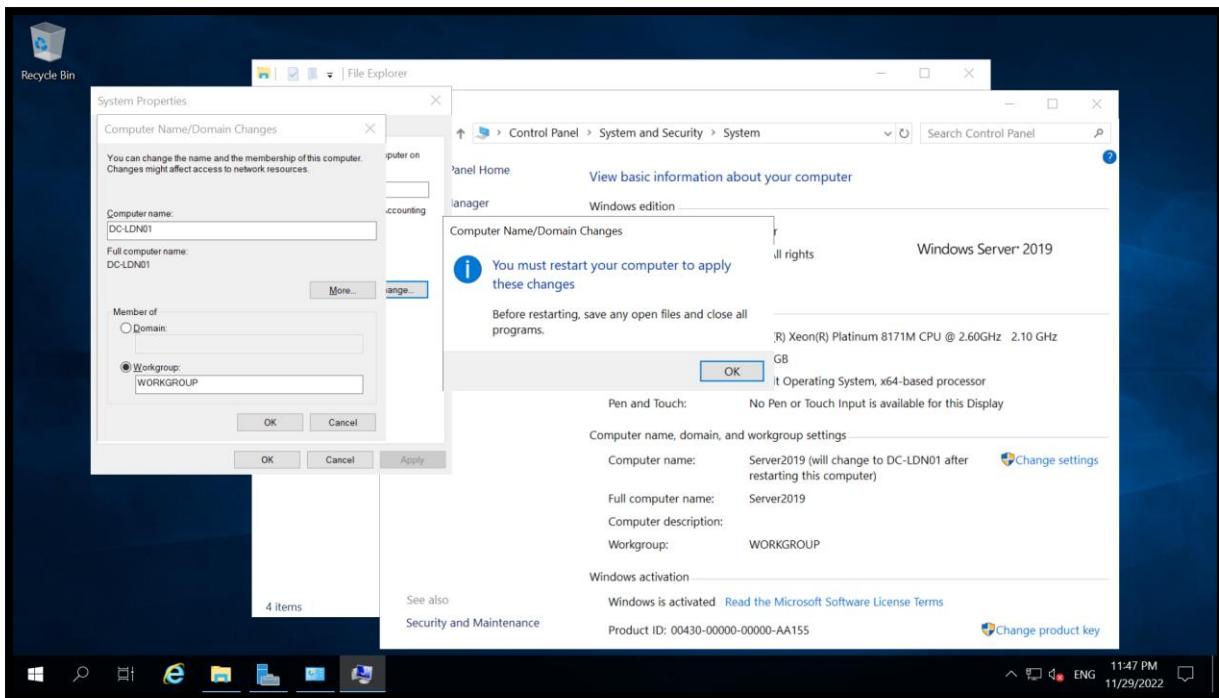
Yes.



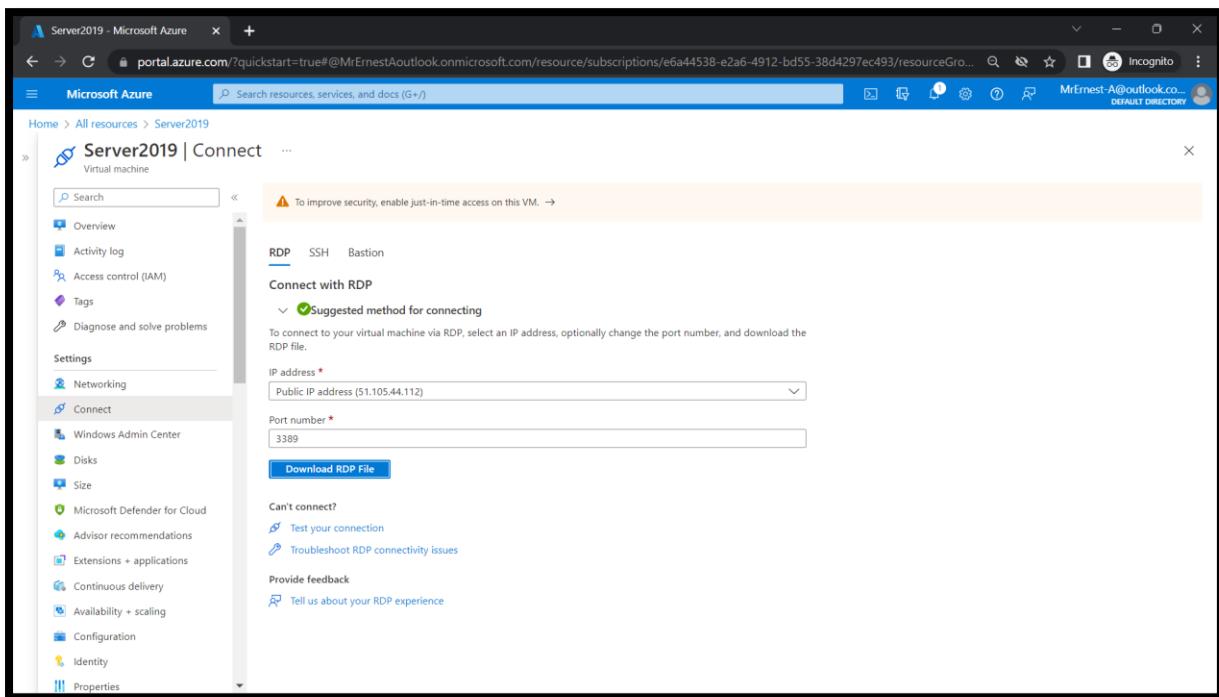
Click yes, you can do the same lab here like on the virtual machines when using VirtualBox or VMware but this one is on the cloud.



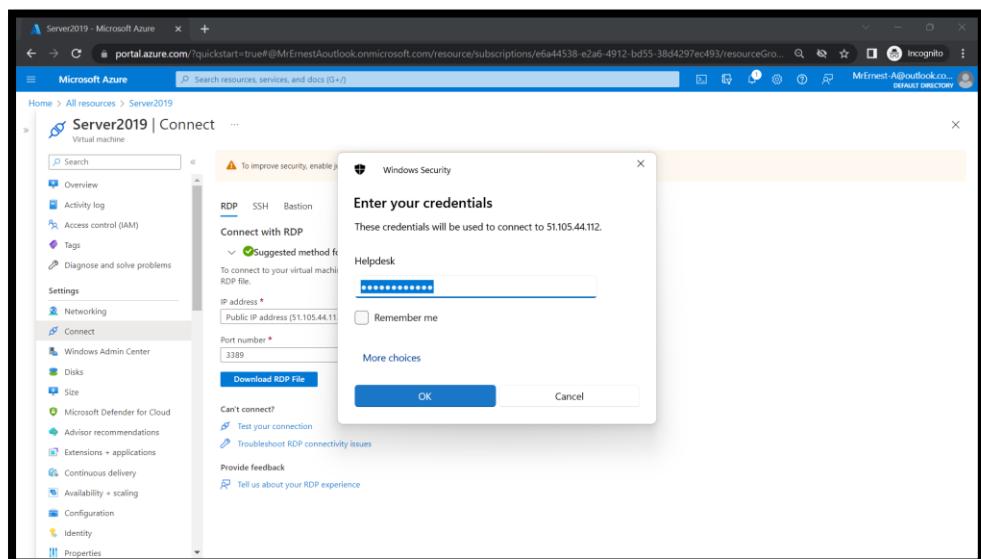
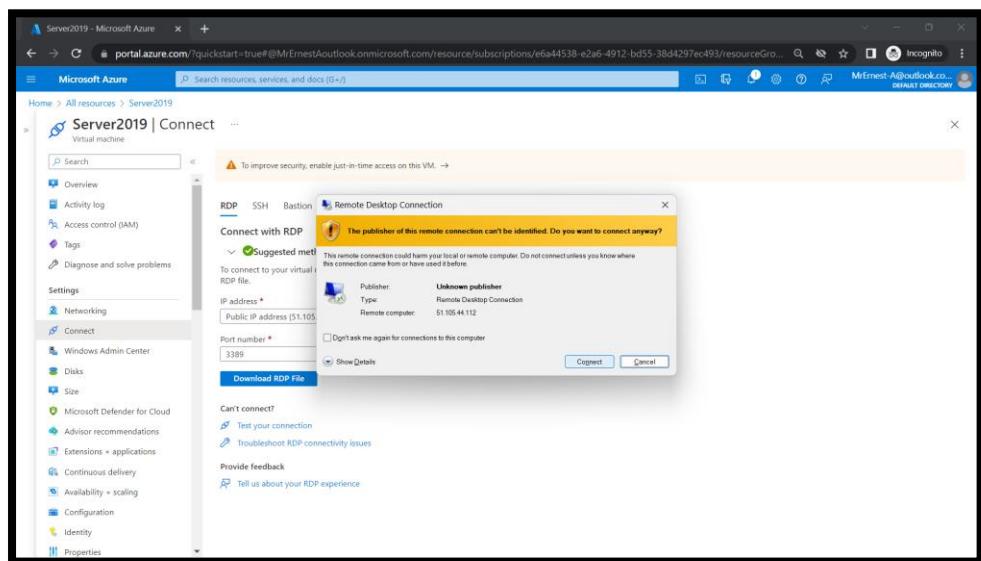
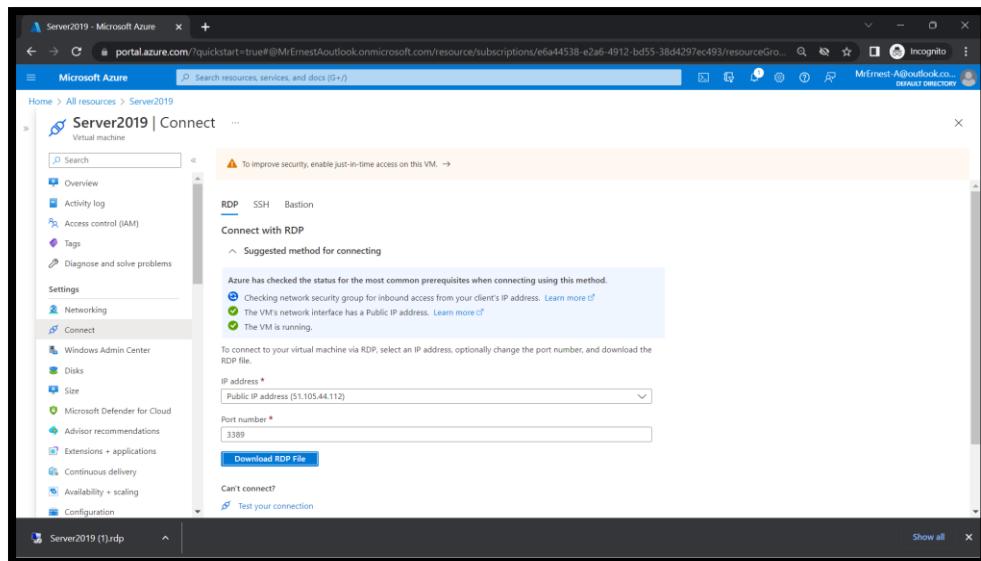
Server 2019 on the cloud.



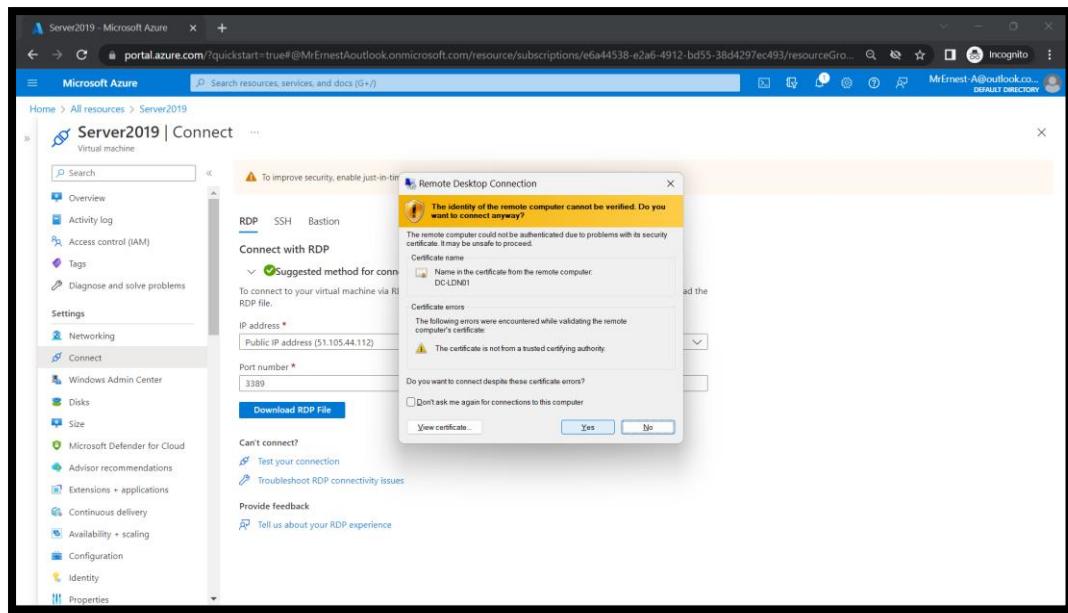
First rename the server. File explorer, this pc, properties, change settings, change, workgroup. Change name to DC(Domain Controller)-LDN (London) 01.



After restarting it sends me back here. Give it a minute to restart.

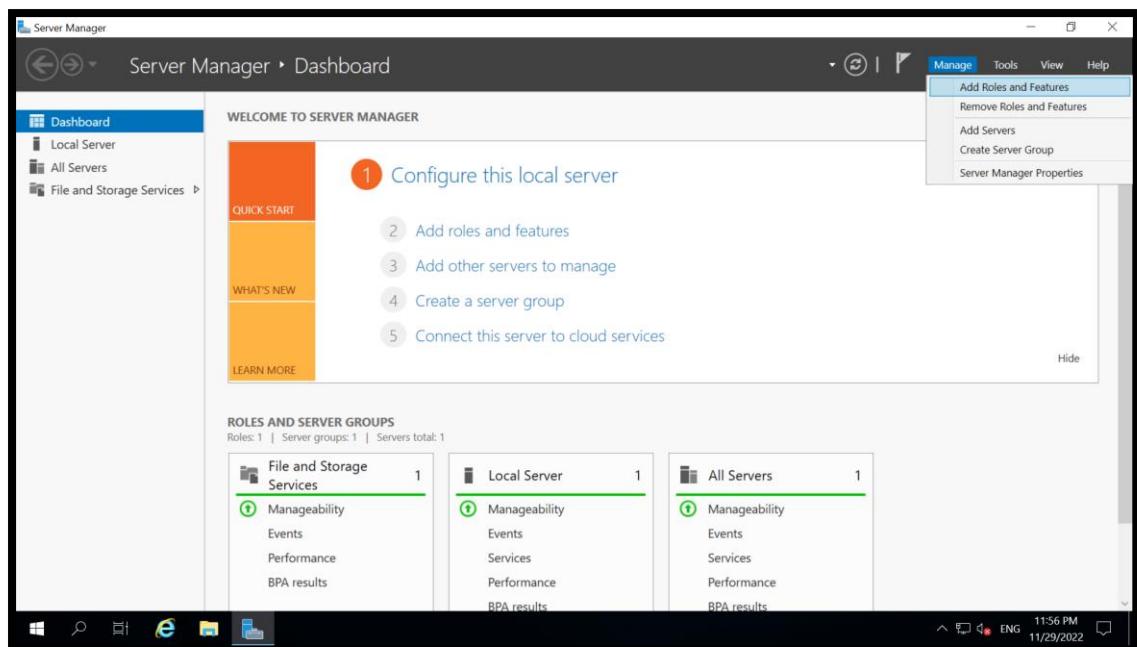


Go back to overview connect, rdp, download rdp file and connect again.

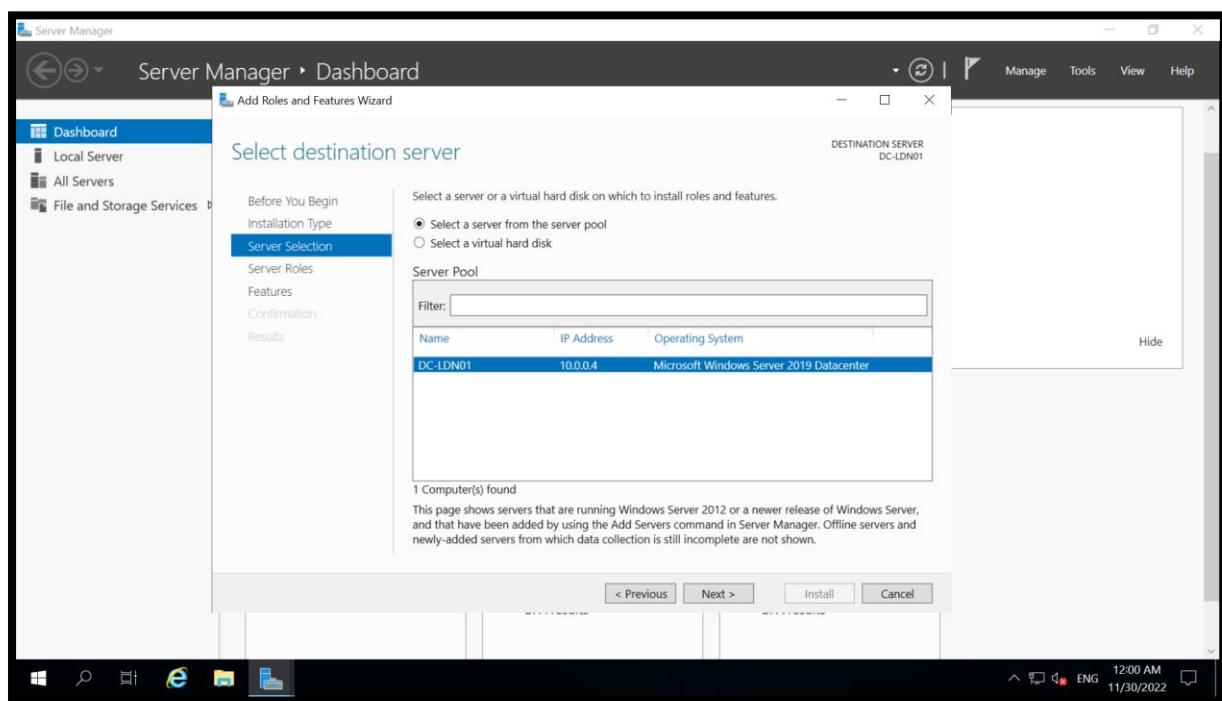
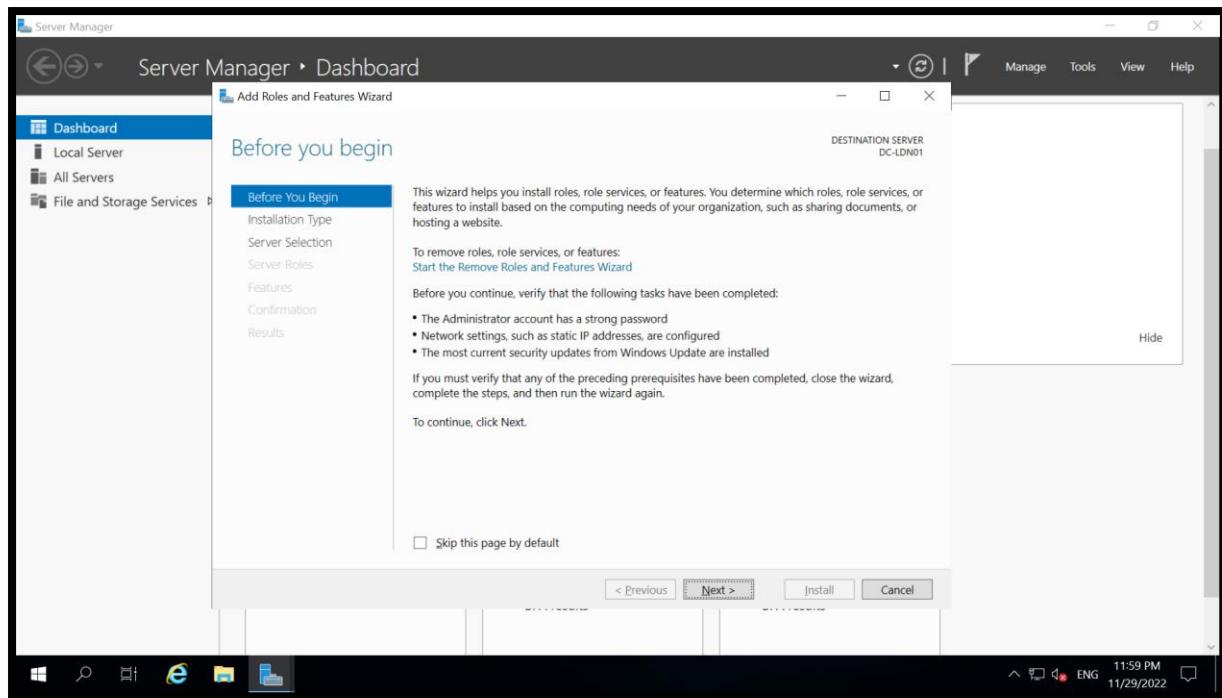


Yes to get back into to server 2019.

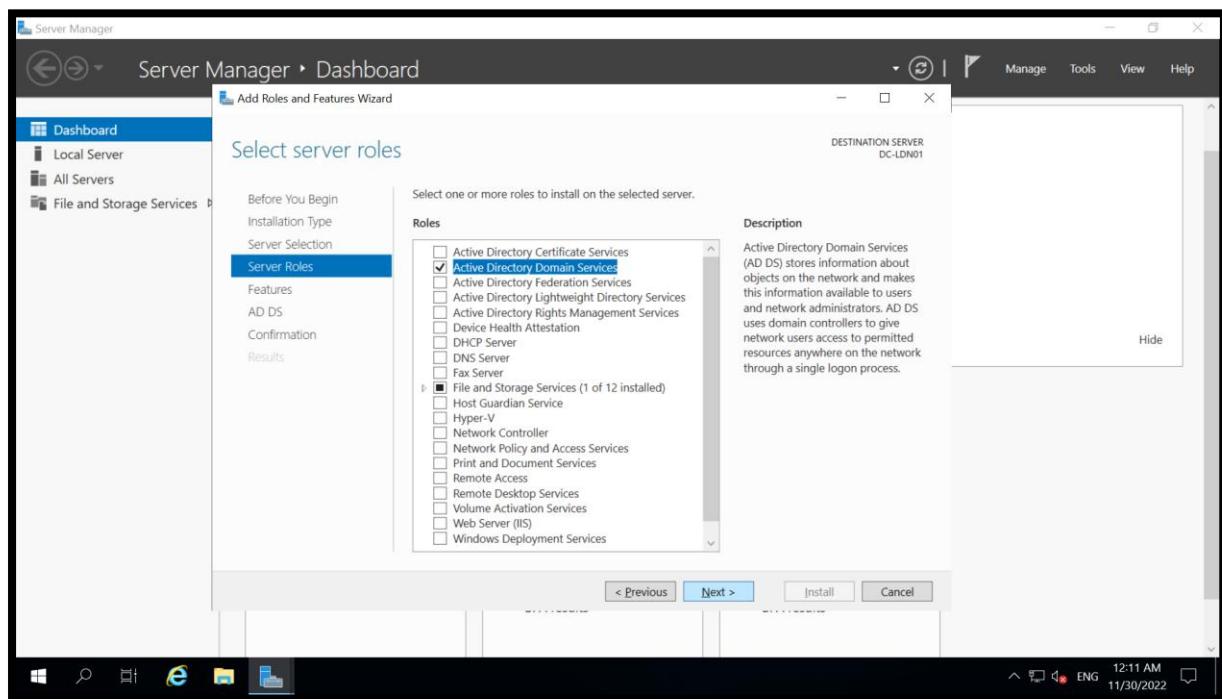
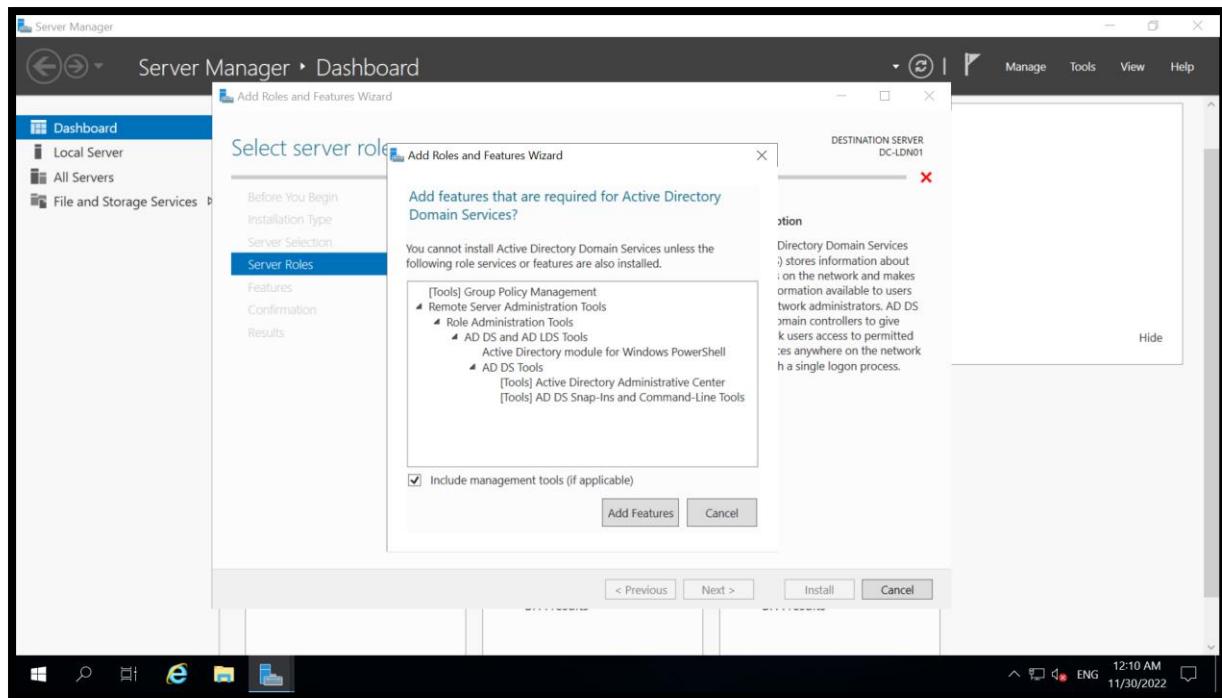
## Now to set up Active Directory



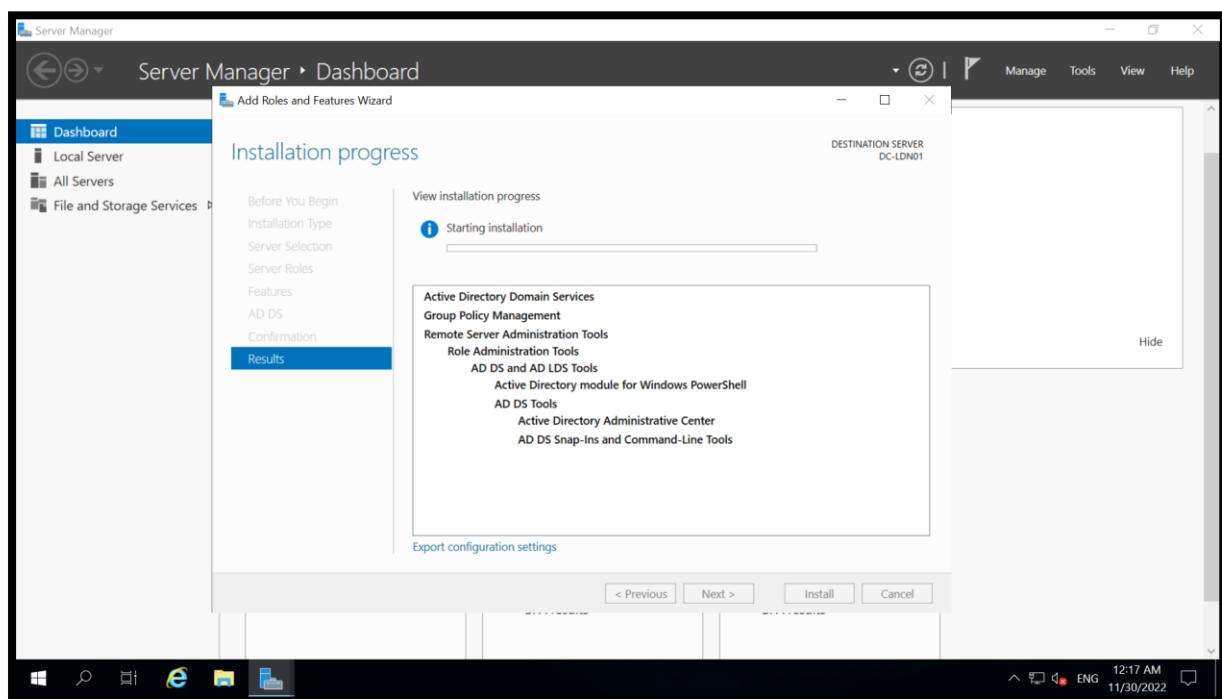
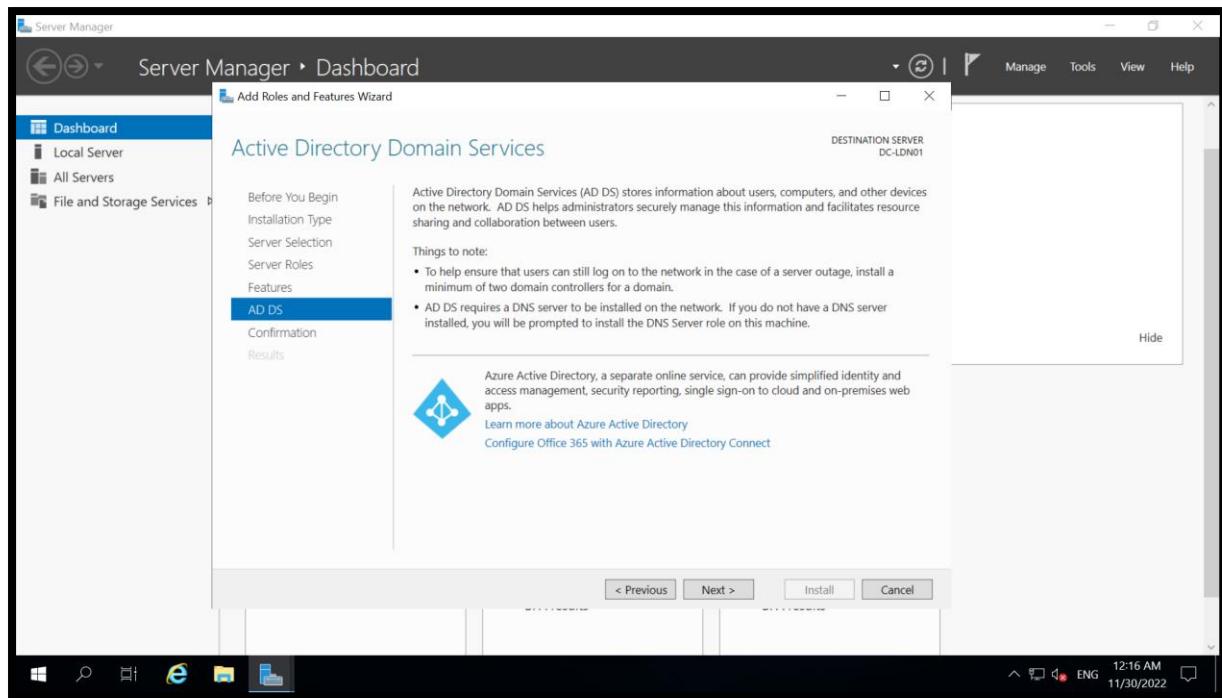
Go to manage, add roles and features.



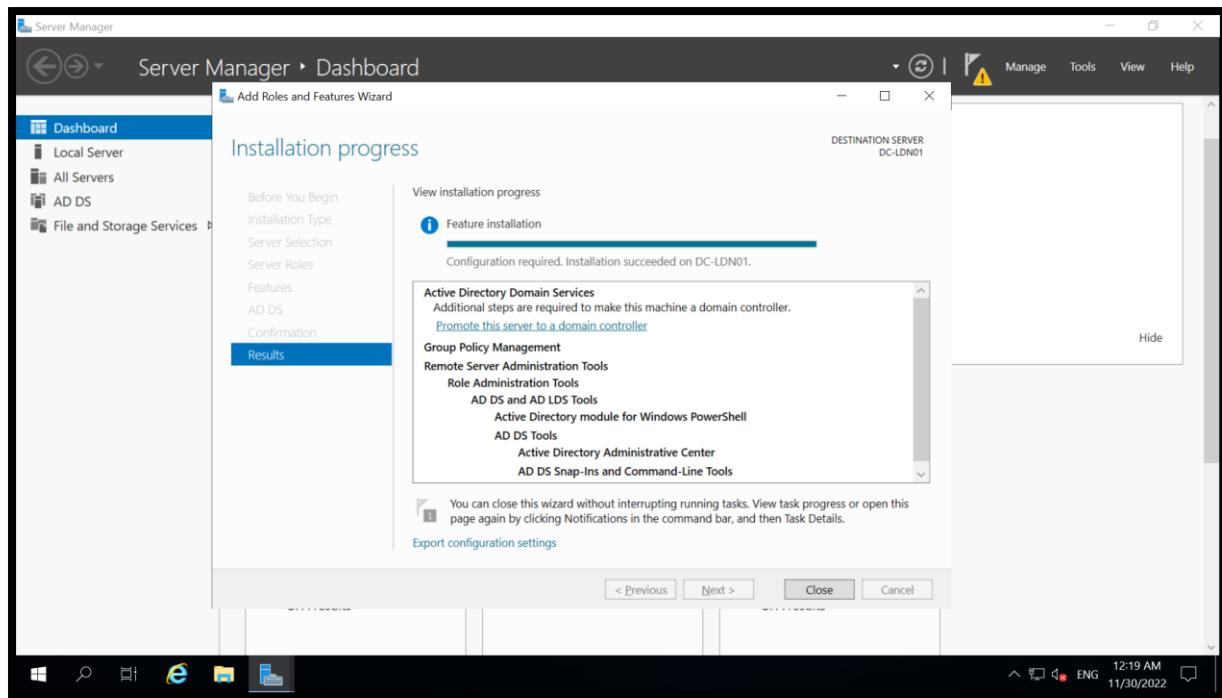
Click next, then next and next again.



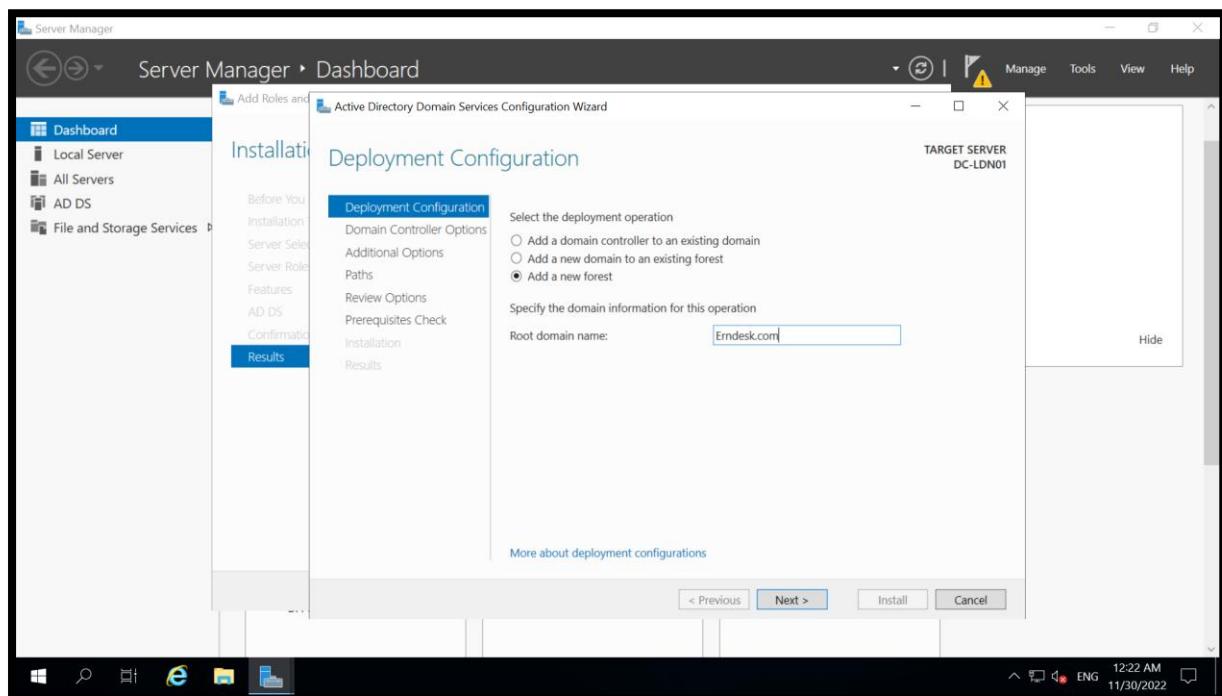
Install Active Directory Domain Services click next.



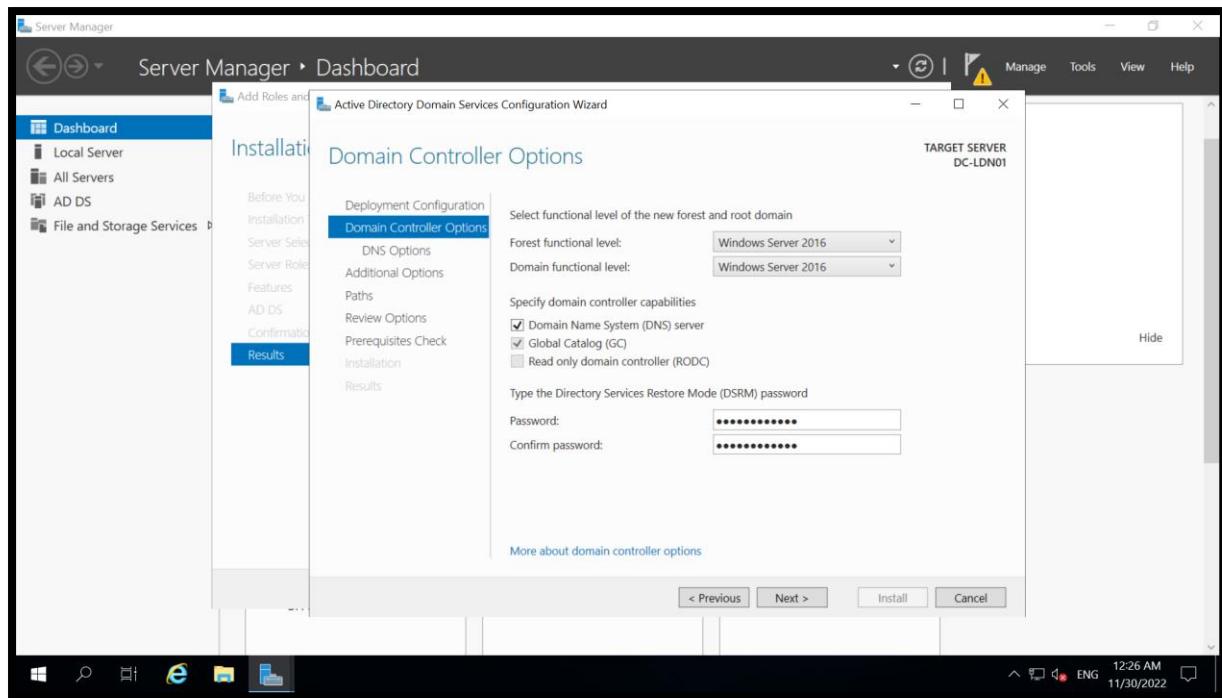
Install



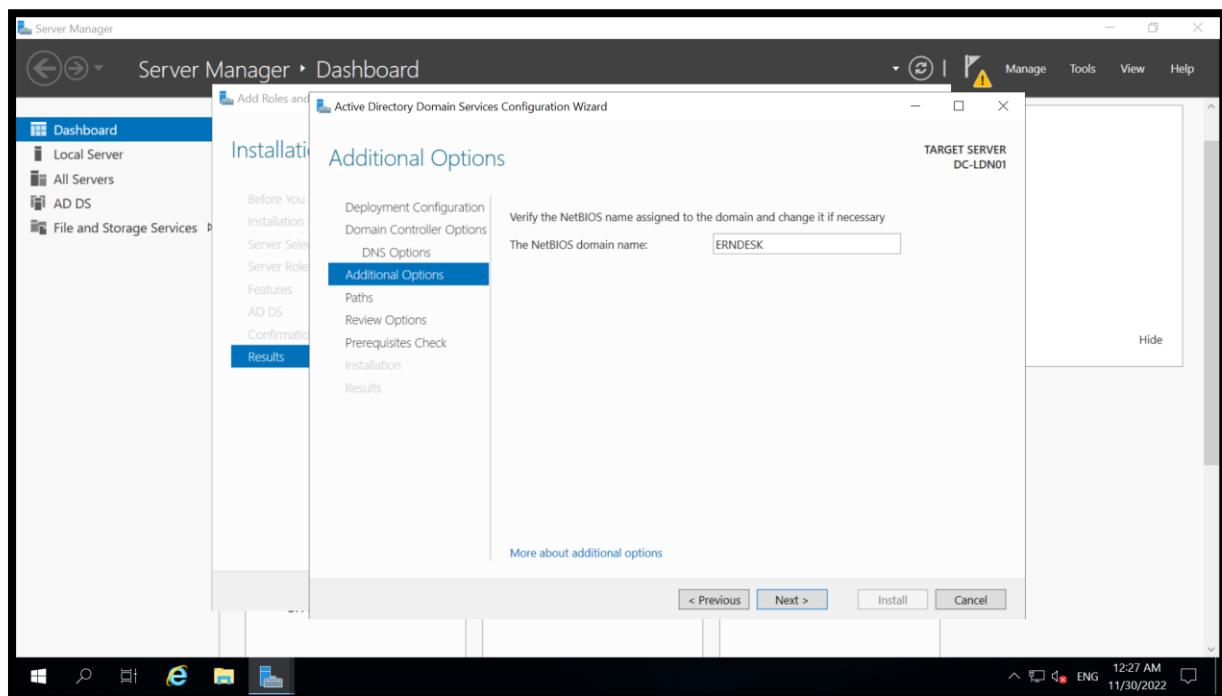
Click on Promote this server to a domain controller.



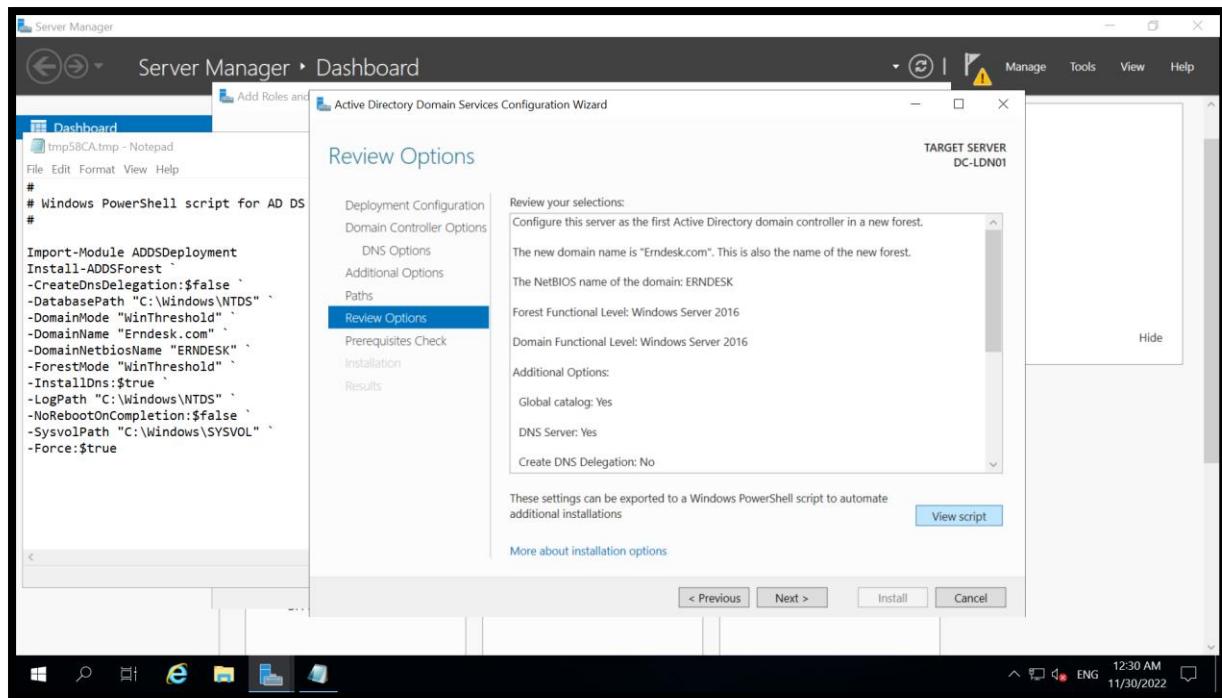
Add a new forest named it Erndesk.com.



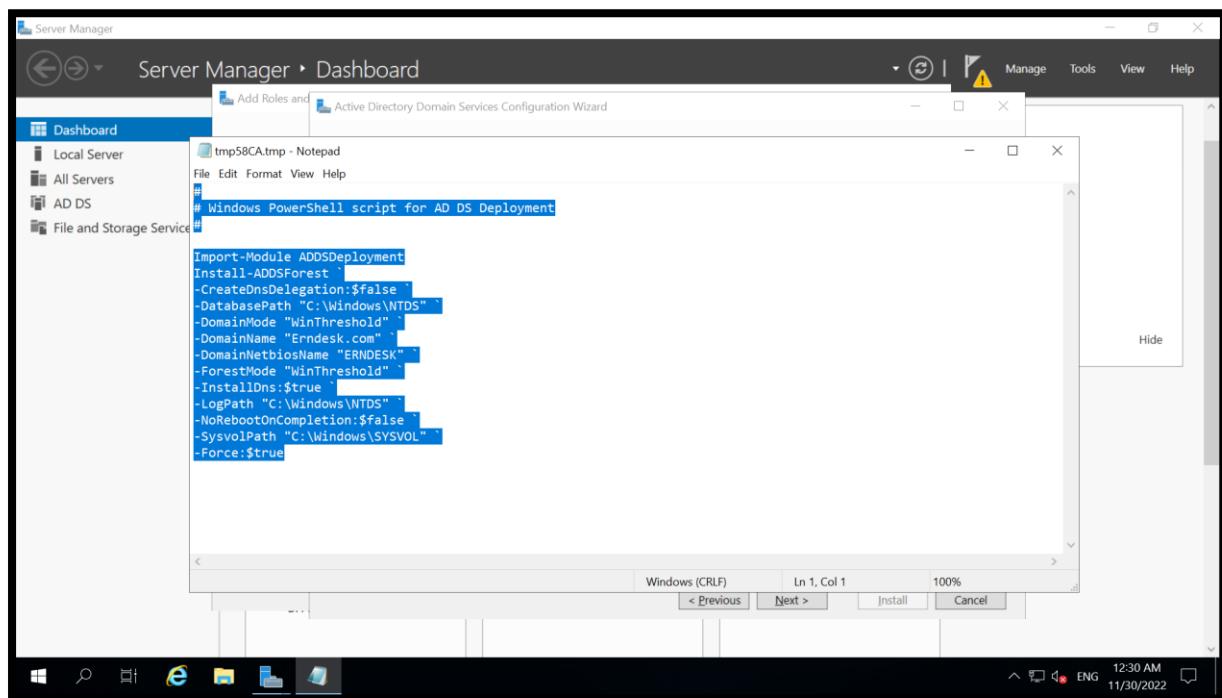
Click next.



Click next and next again.

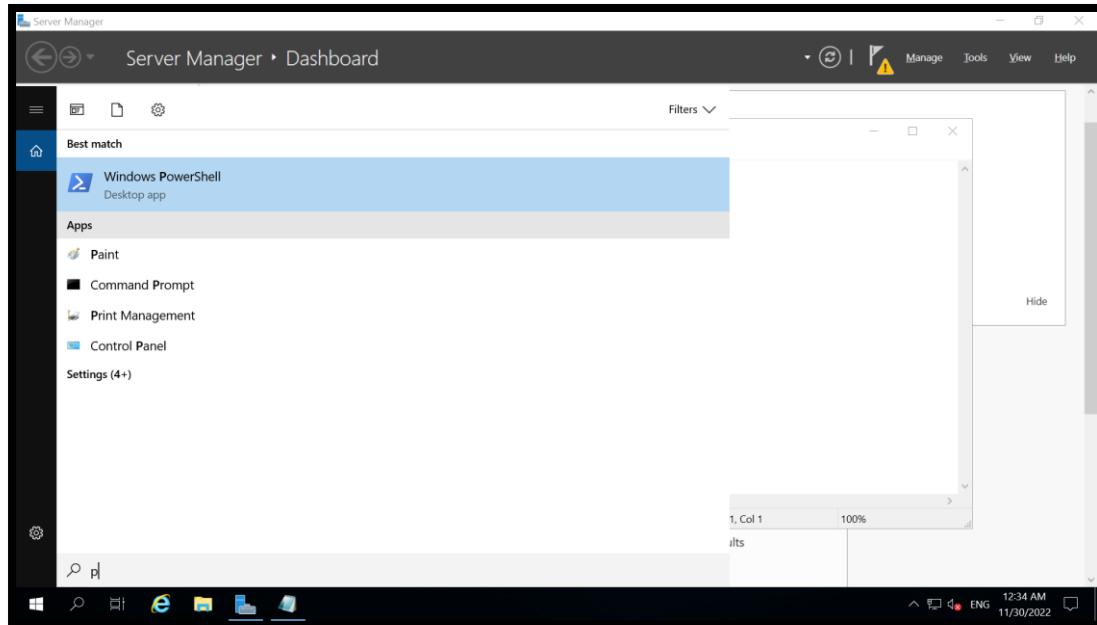


Click on view script.



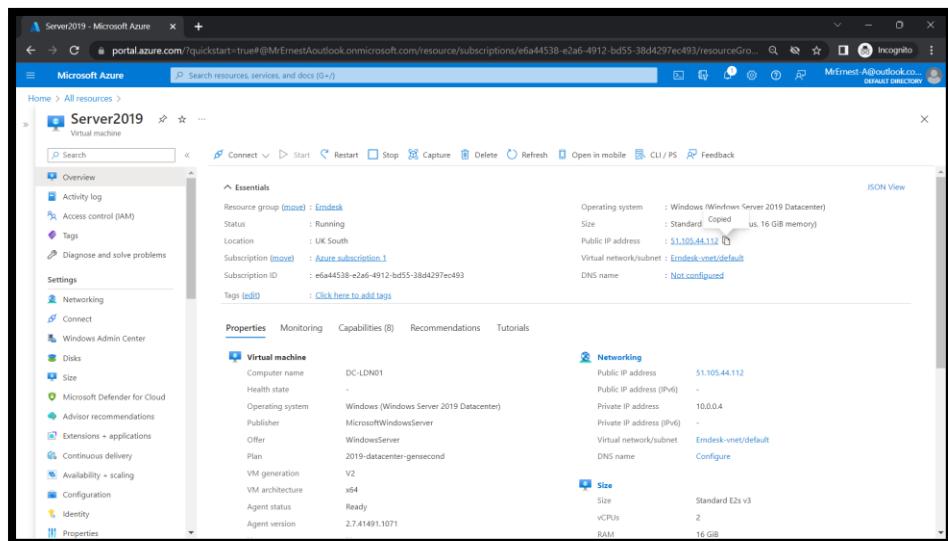
Close the wizard windows.

## Now I will install additional installations this using PowerShell



Run as administrator.

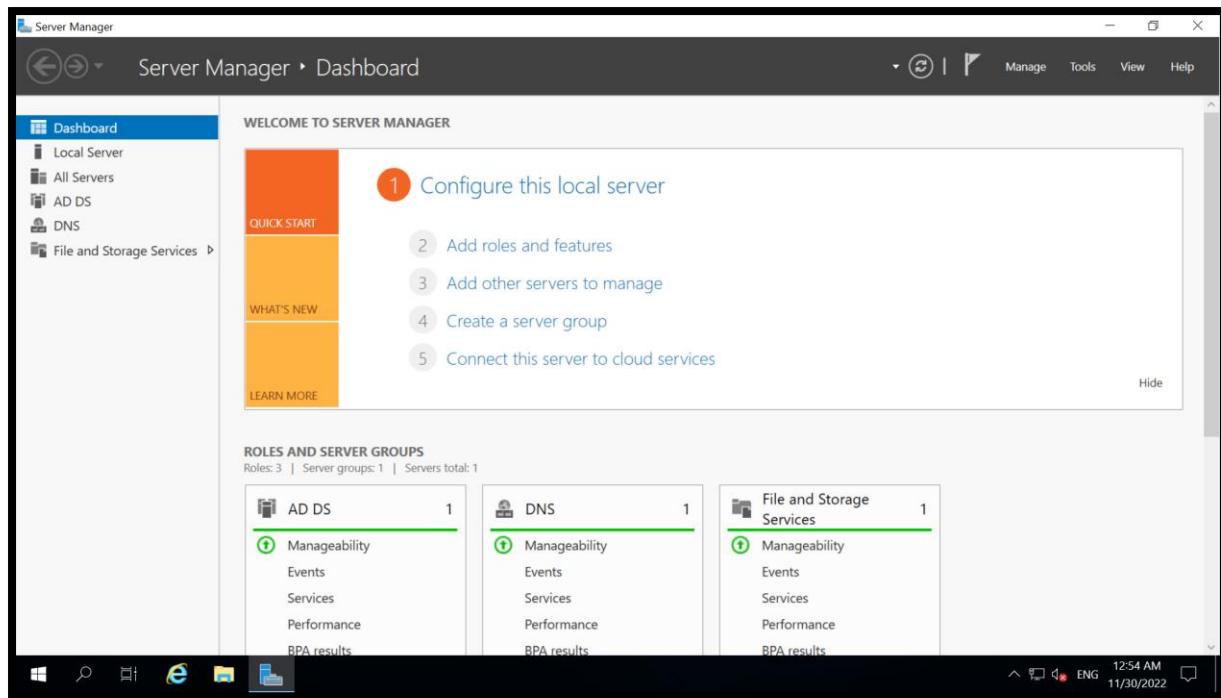
Put the powershell script into powershell set up a  
safeModeAdministratorPassword and run it and it will reboot itself when  
done.



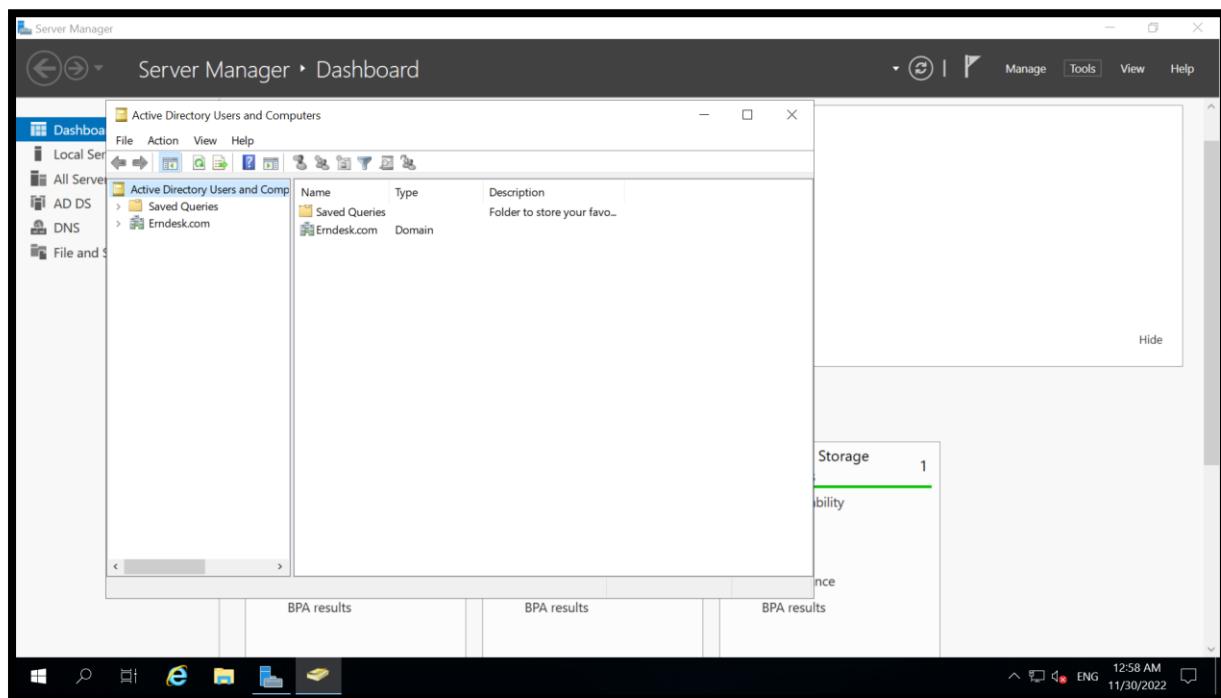
Go to overview copy clipboard near ip address. Wait for it to set in Active  
Directory give it some time.

I'm running a continuous ping in the background for that server. I'm waiting for it to come back up. Once it comes back up I can continue.

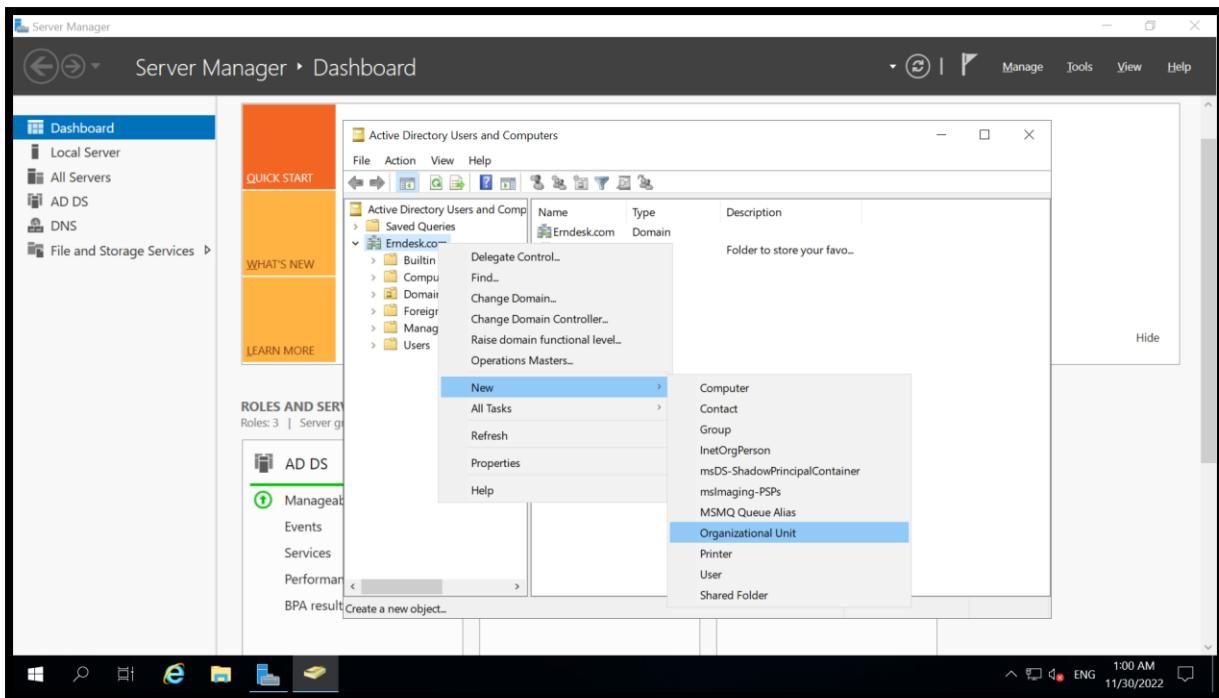
The ping has stopped and I am now connected again.



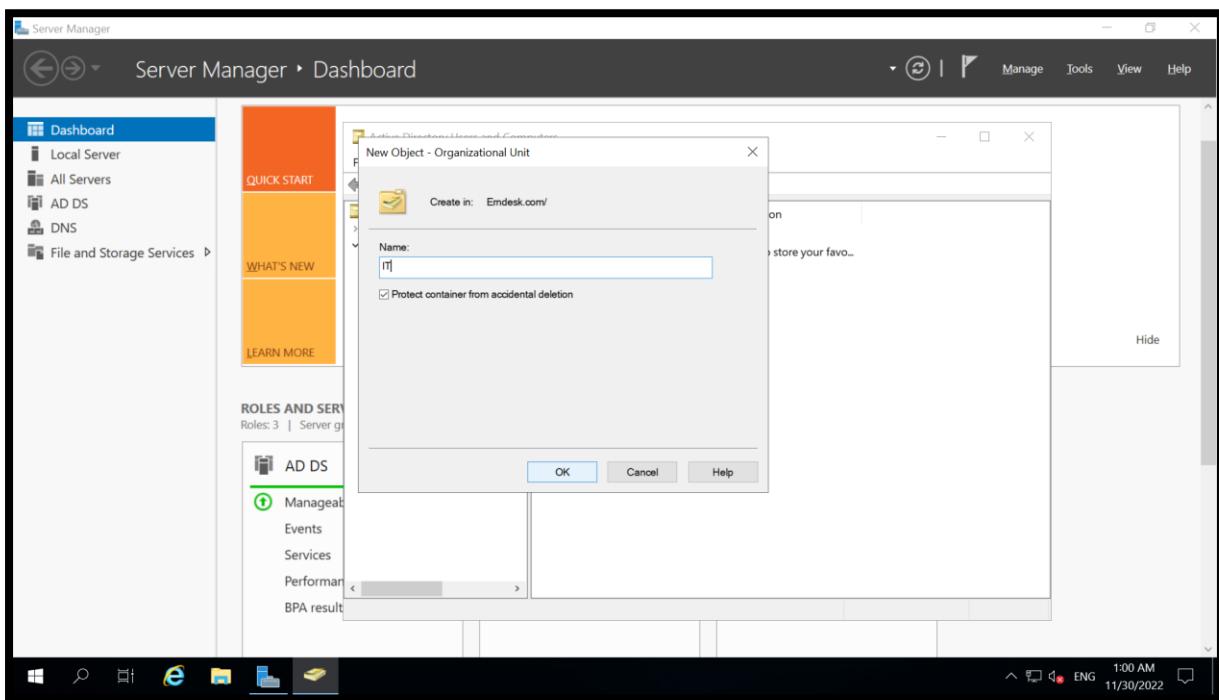
I can now enter server 2019 again.



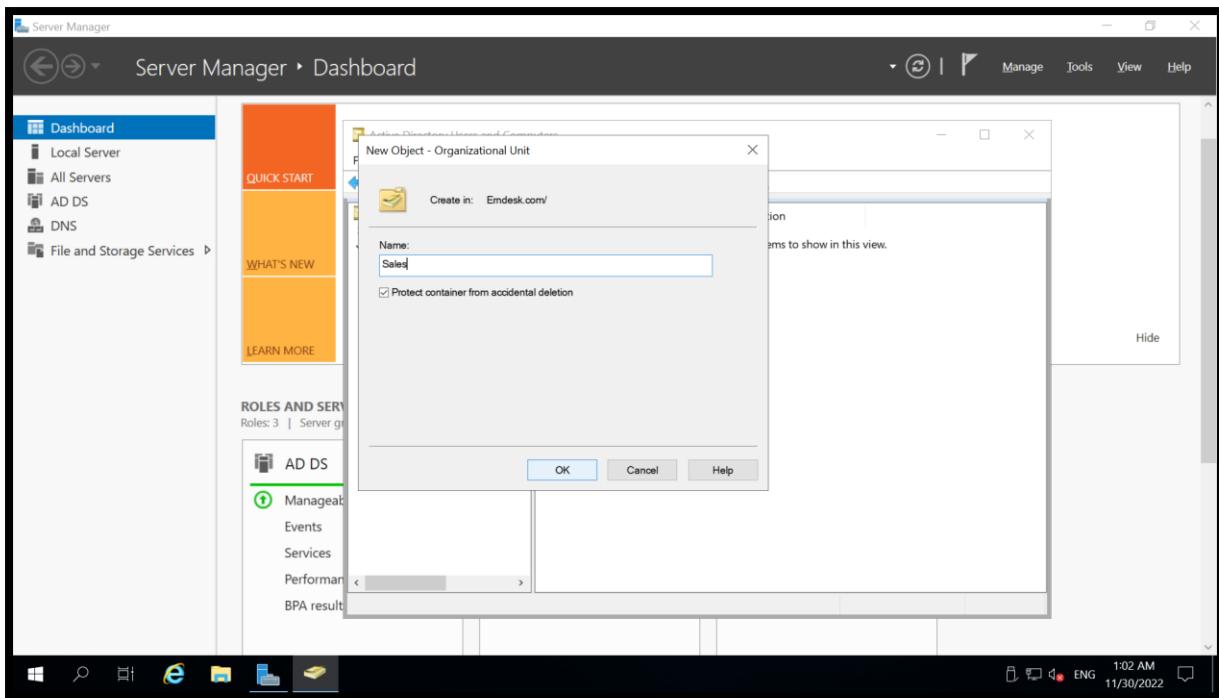
Tools, Active Directory Users and Computers.



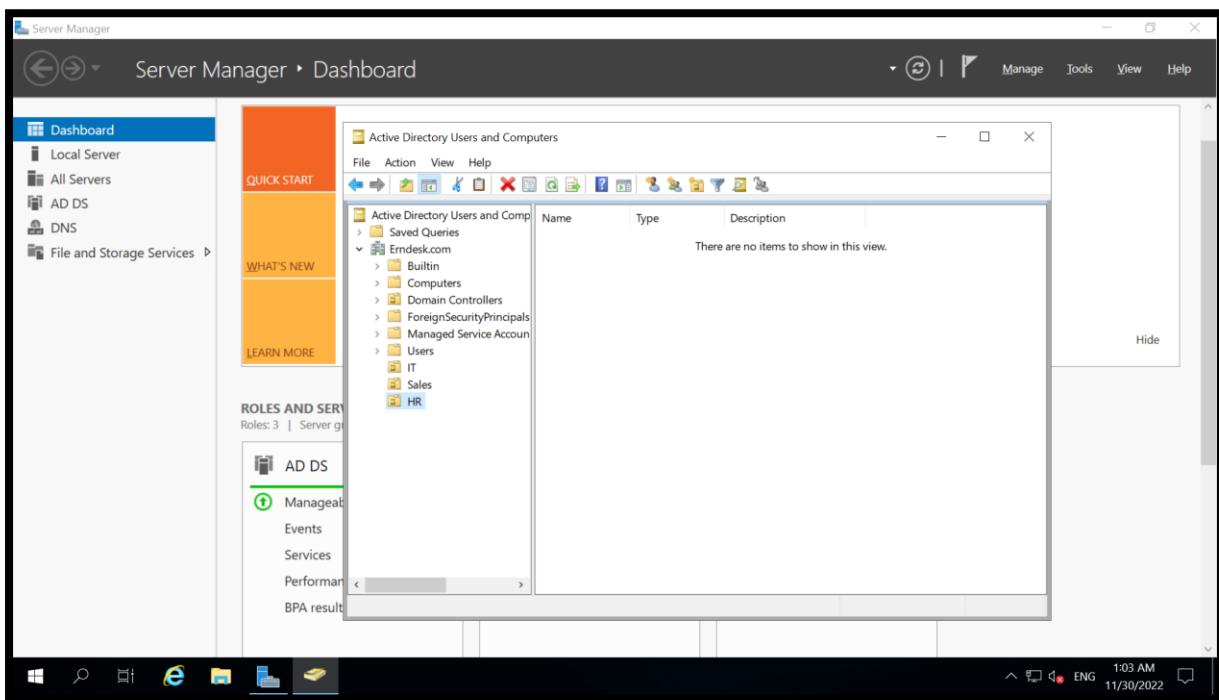
I will create some organizational units.



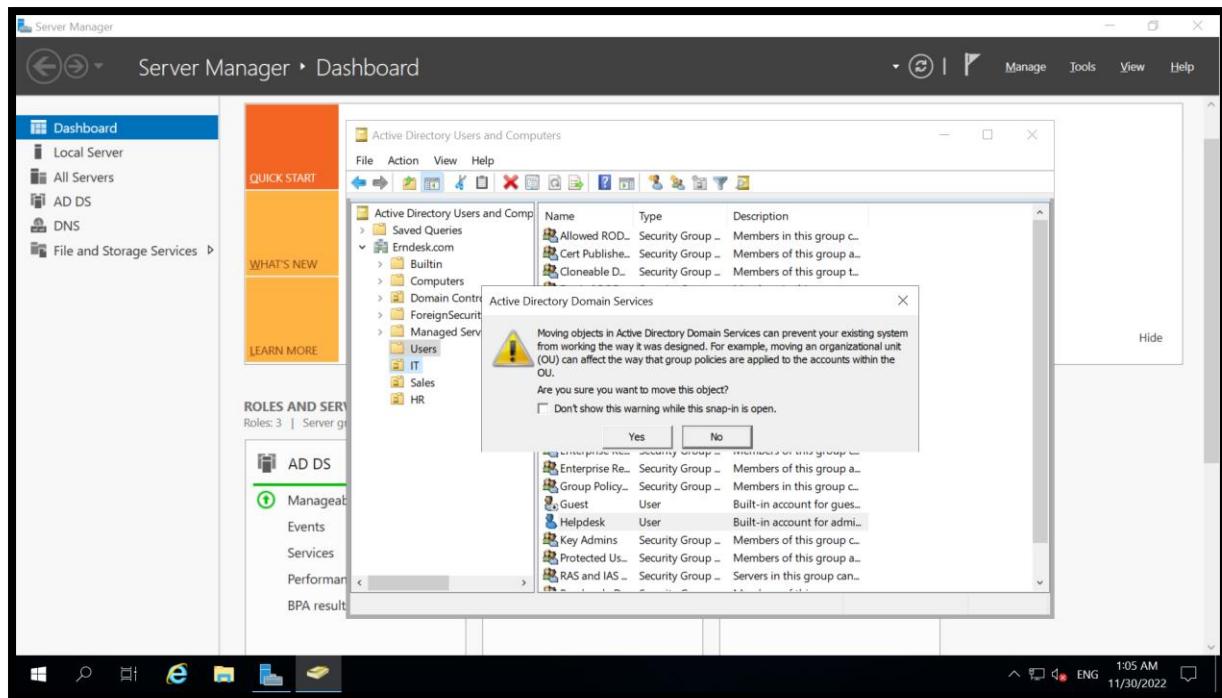
I will name one IT.



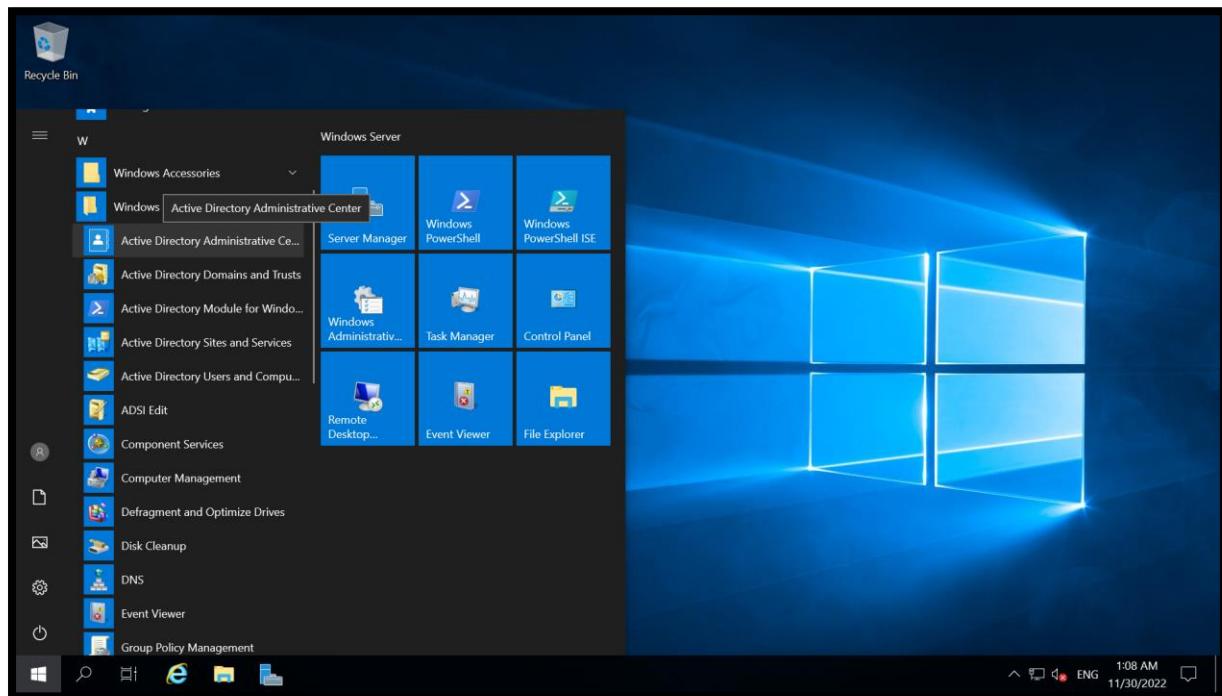
I make another called Sales.



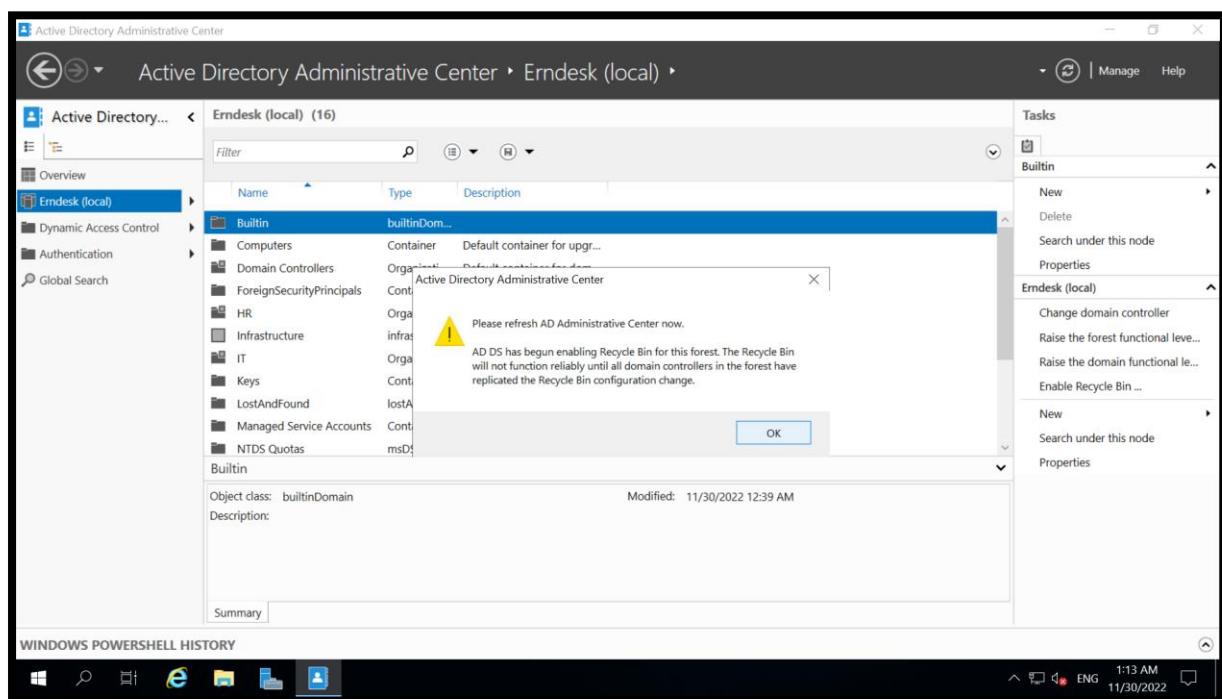
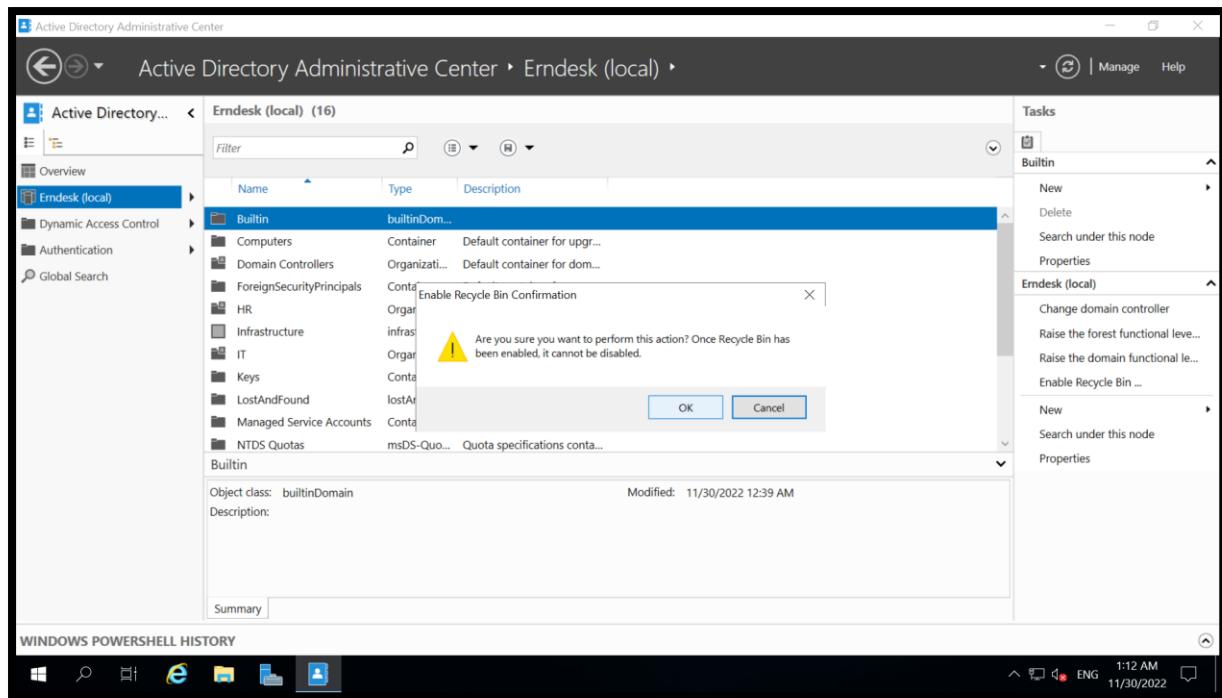
Made one more called HR.



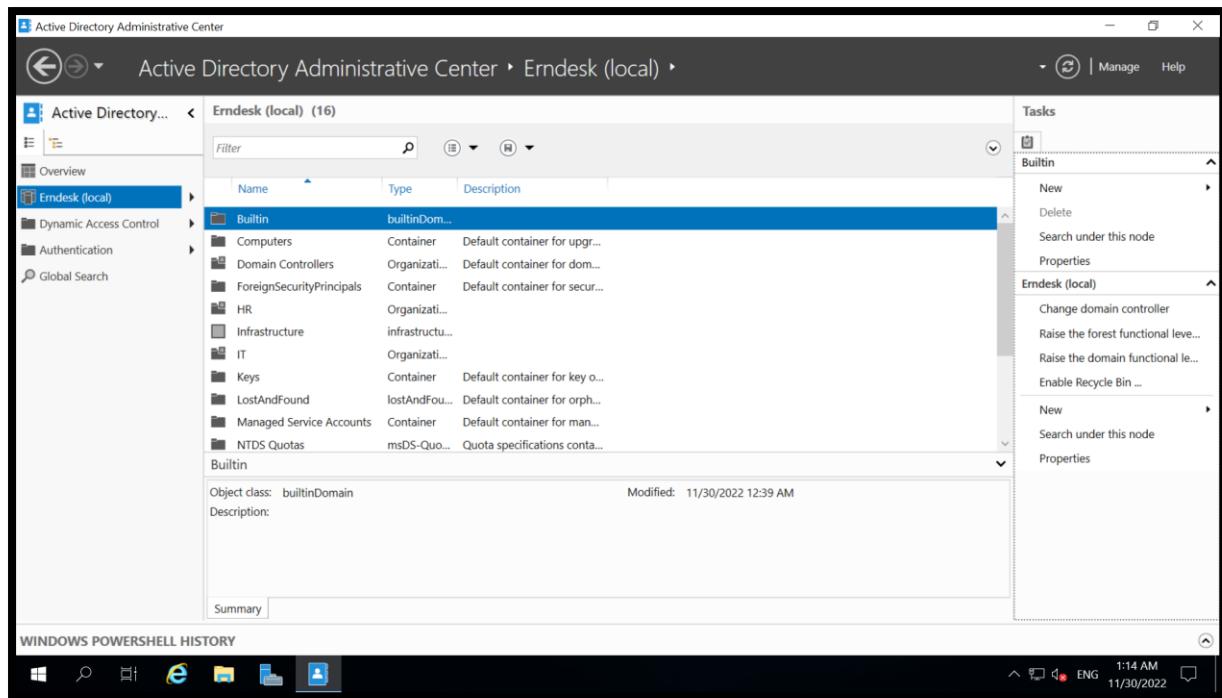
I will move the helpdesk person into IT one of the three organizational units.



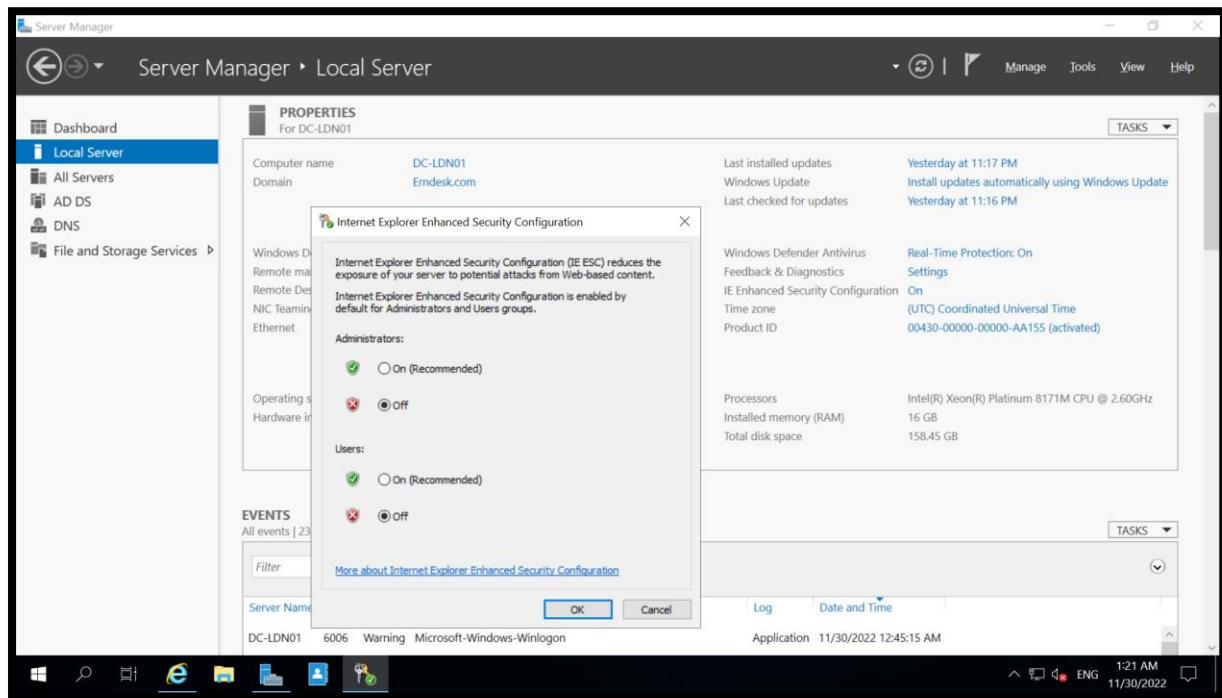
Go to start menu open up Active Directory Administrative Center.



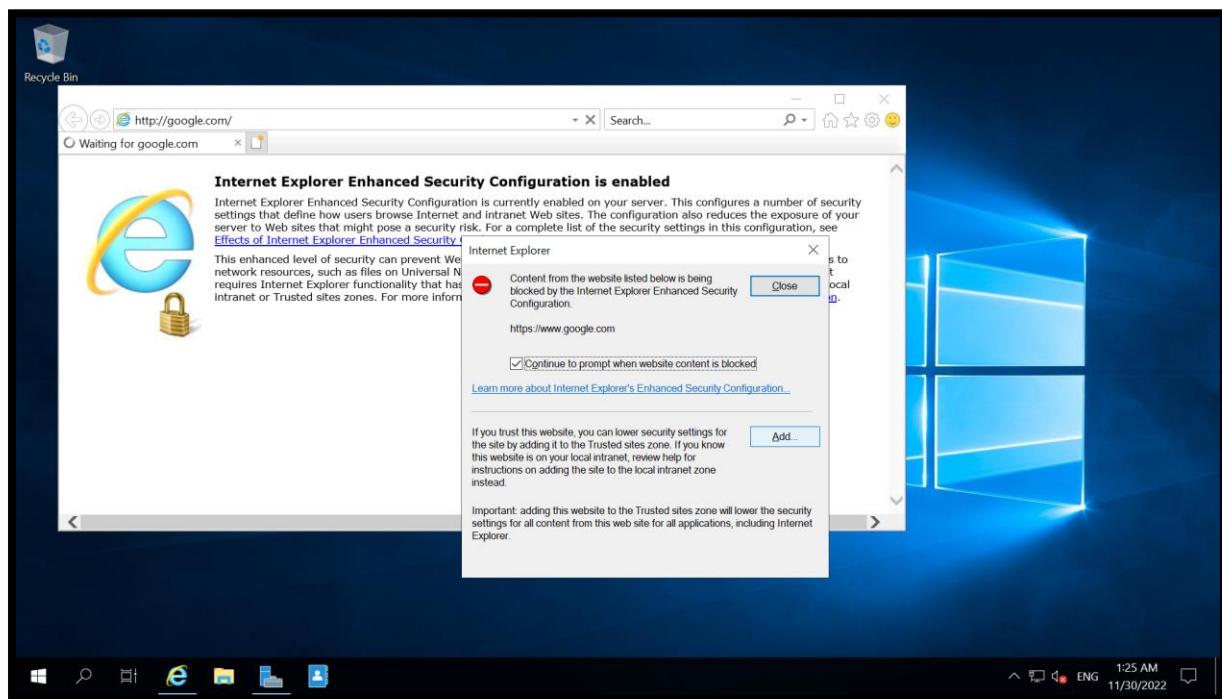
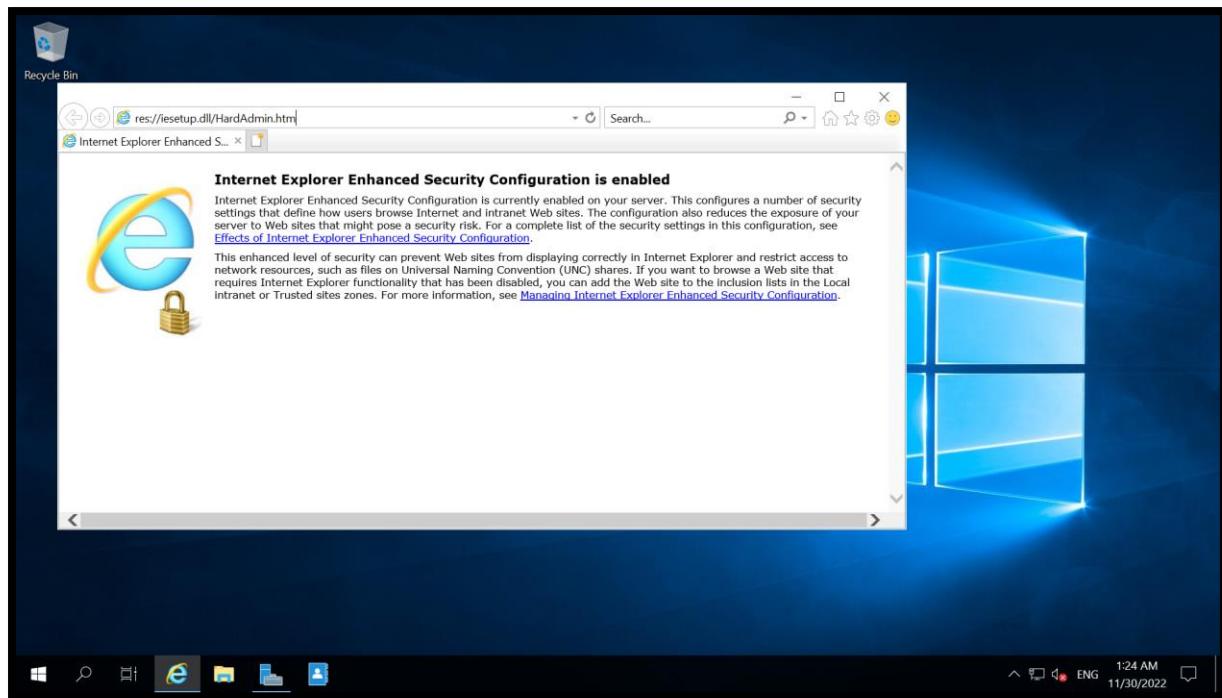
Go to Erndesk(local), Enable Recycle Bin ok and ok again.



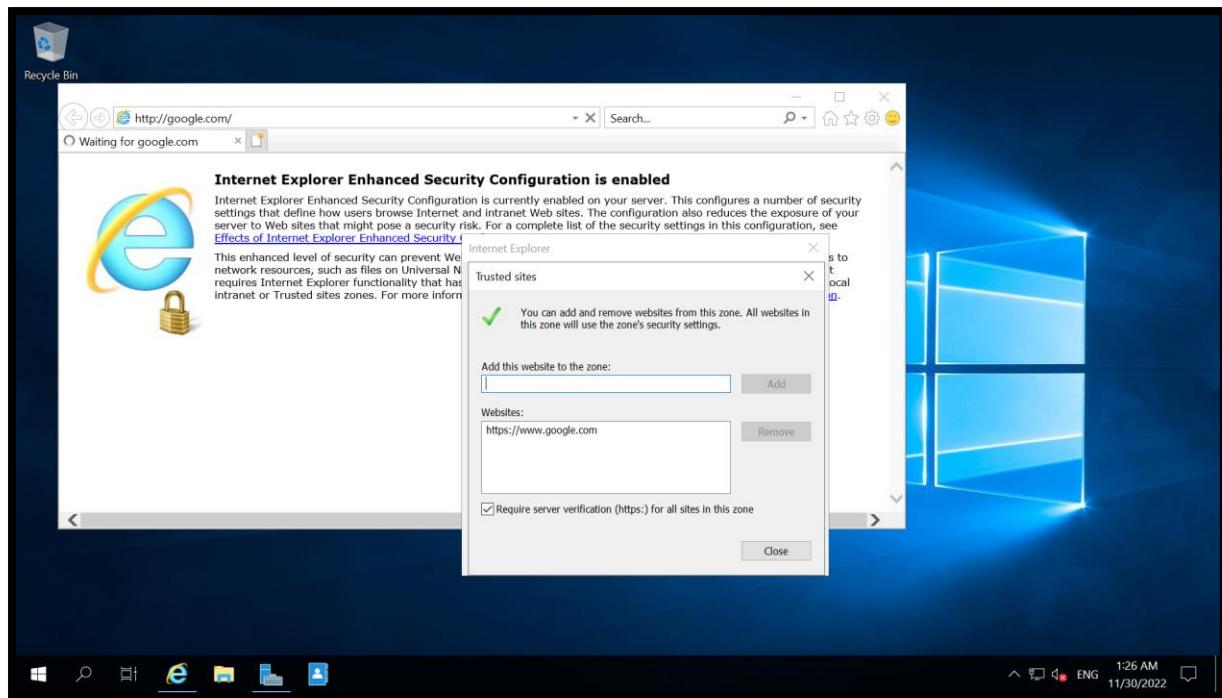
I'm doing this just in case I delete anything e.g. any accounts I can always get them back that is what the recycle bin is used for.



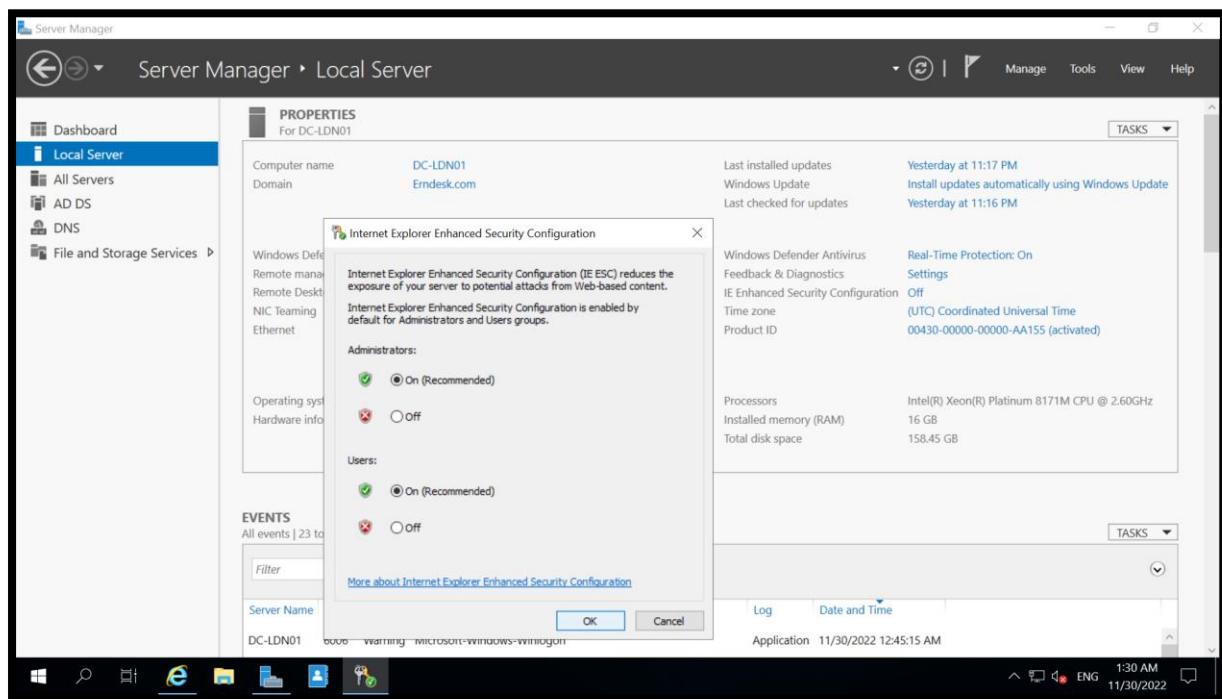
I know I shouldn't turn these off only for now because I'm trying to see if I can download Google Chrome.



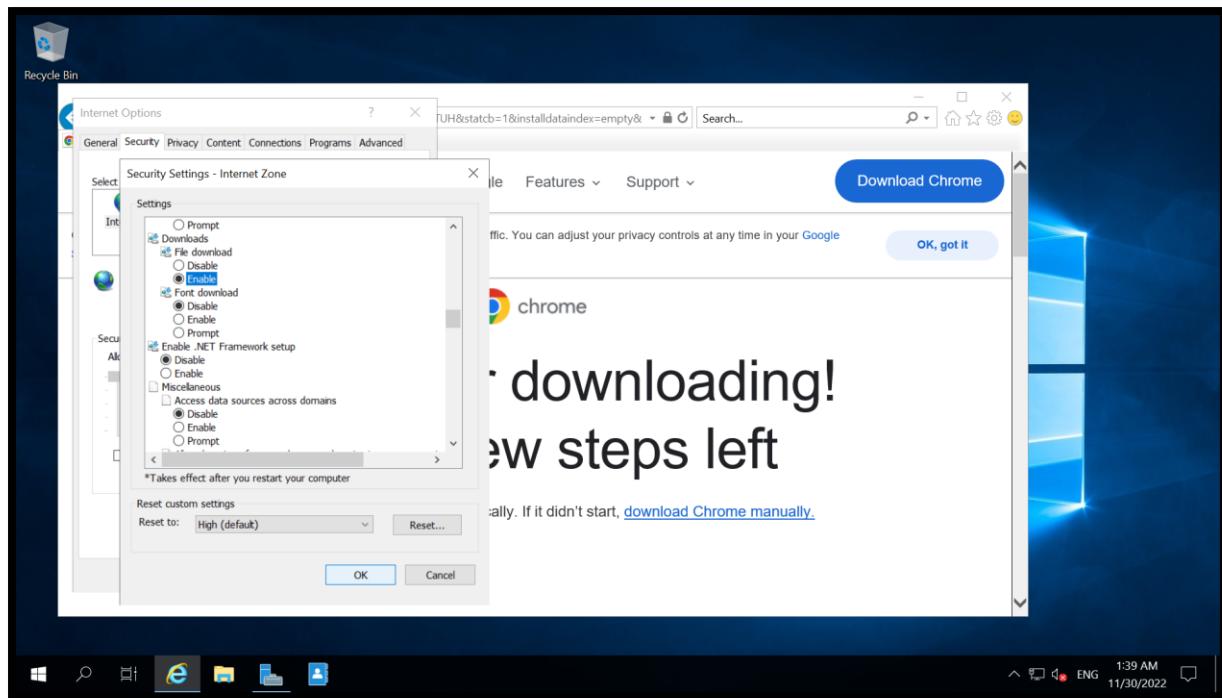
Testing if google works, I have to add it.



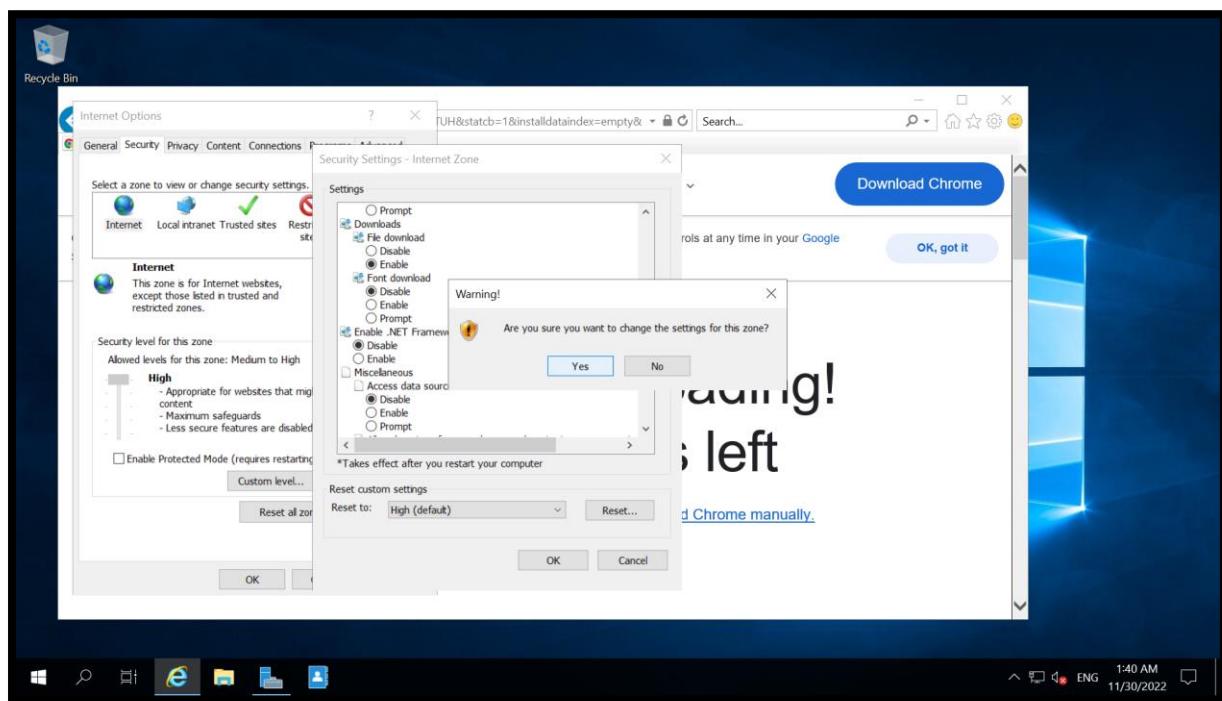
Add it.



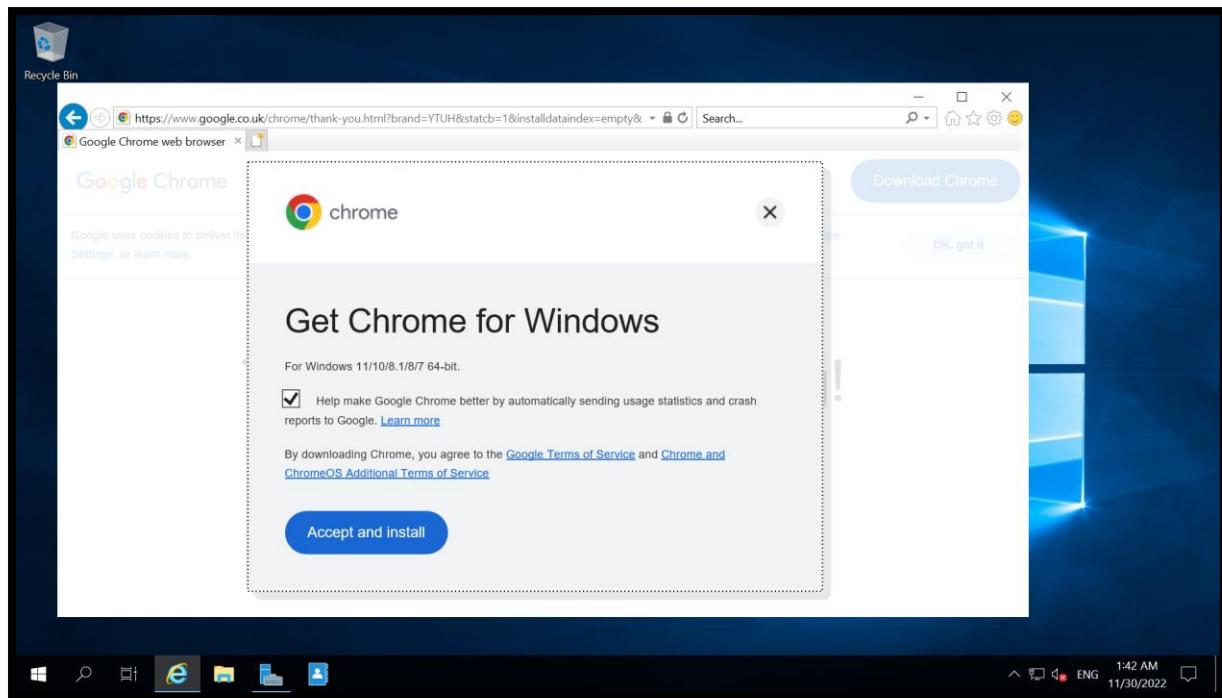
I turned it back on now.



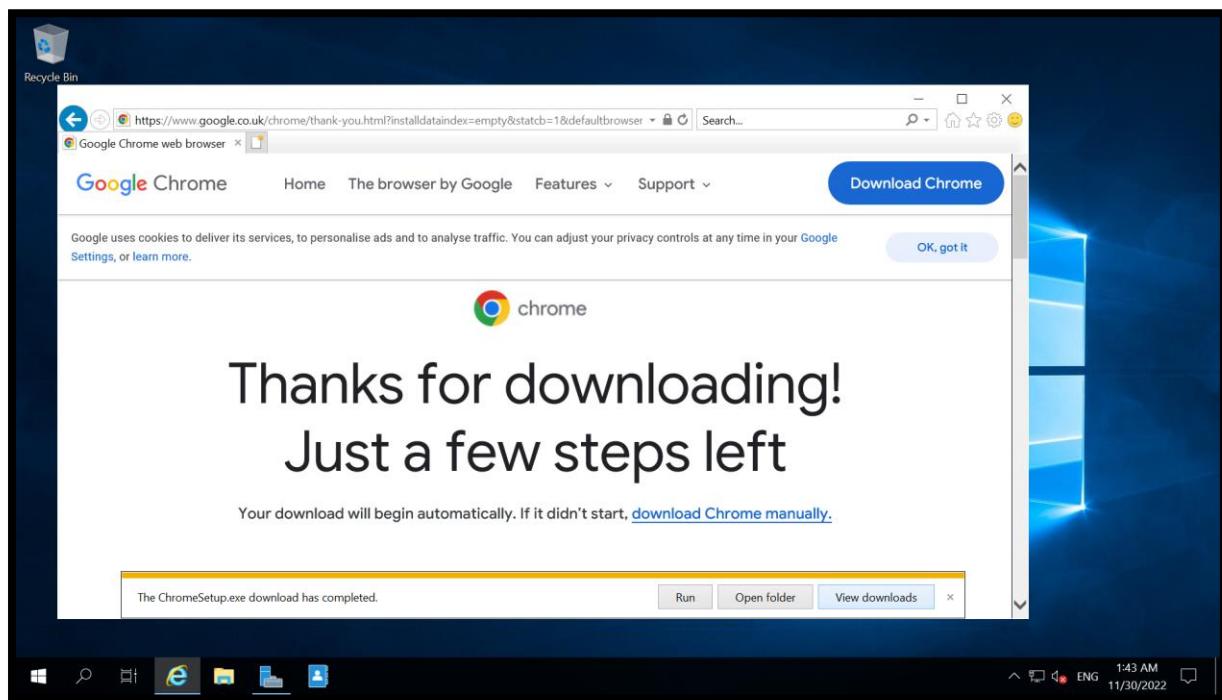
Go to file in Internet Explorer, security internet custom level, downloads and enable it.



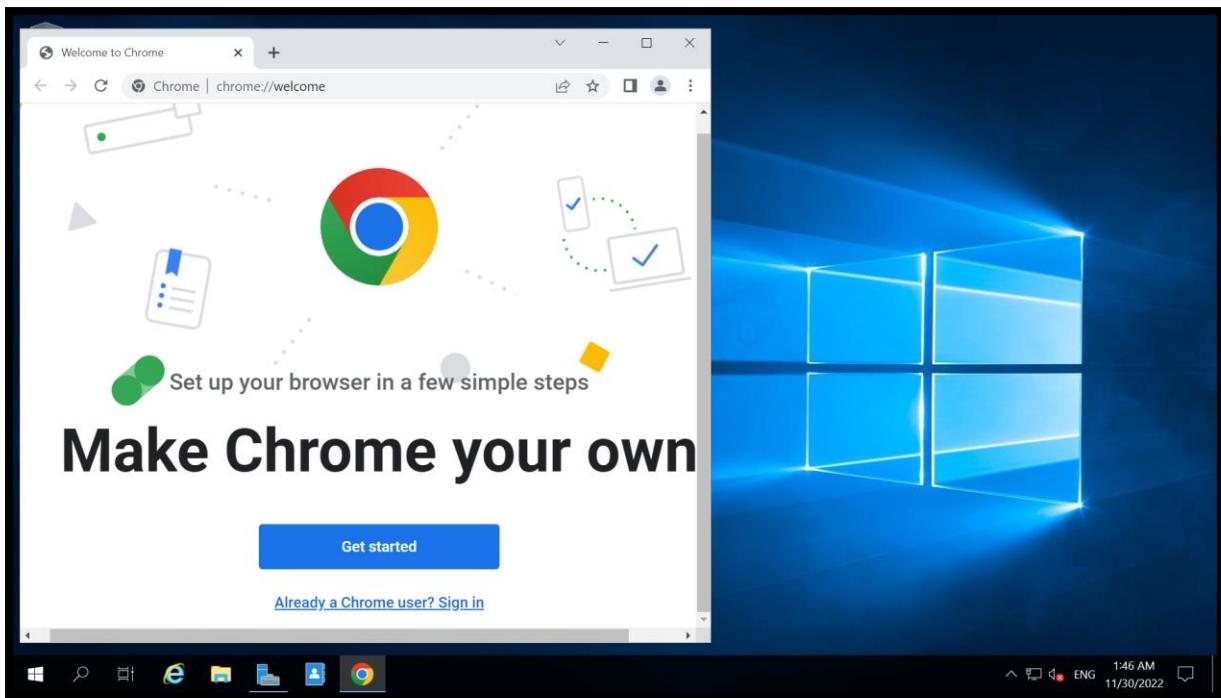
Yes



I can install Chrome now.

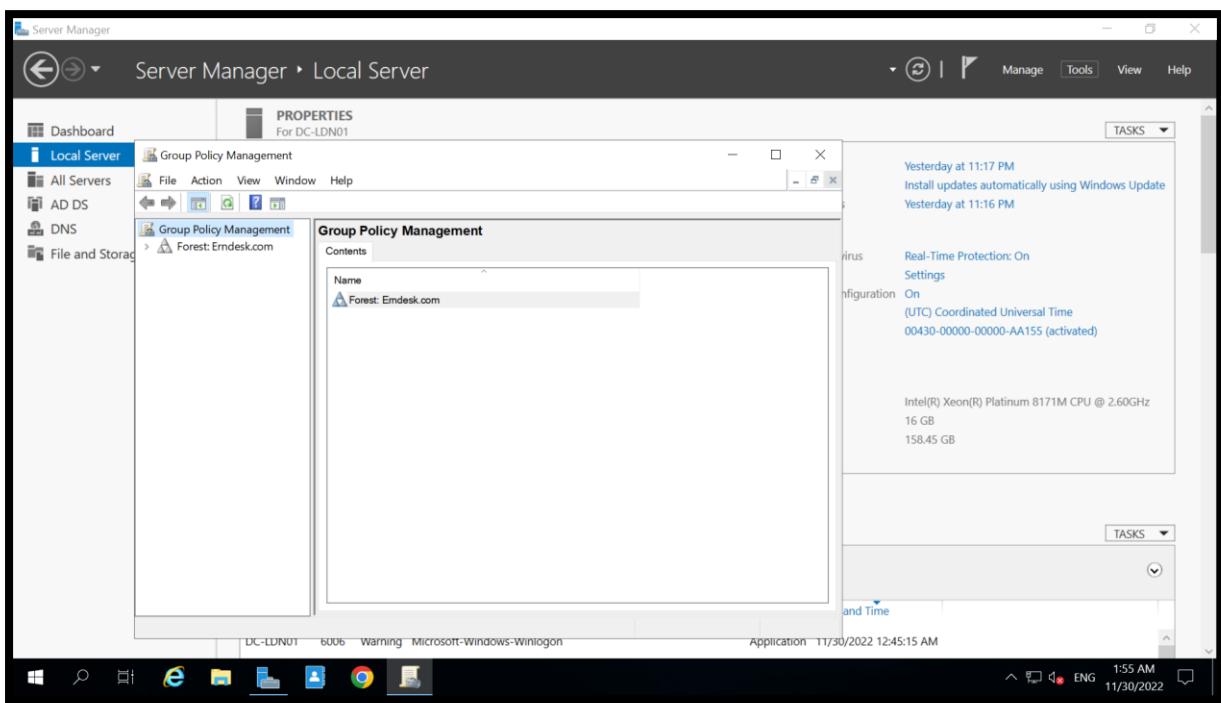


Run

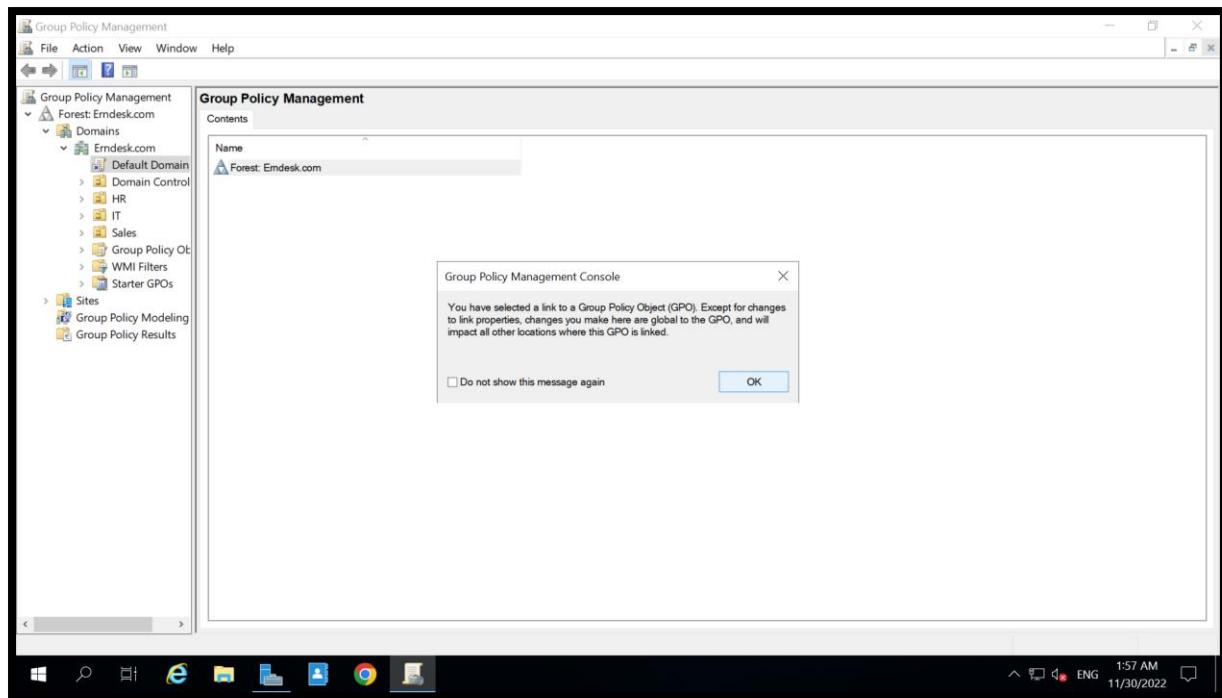


Chrome is installed now.

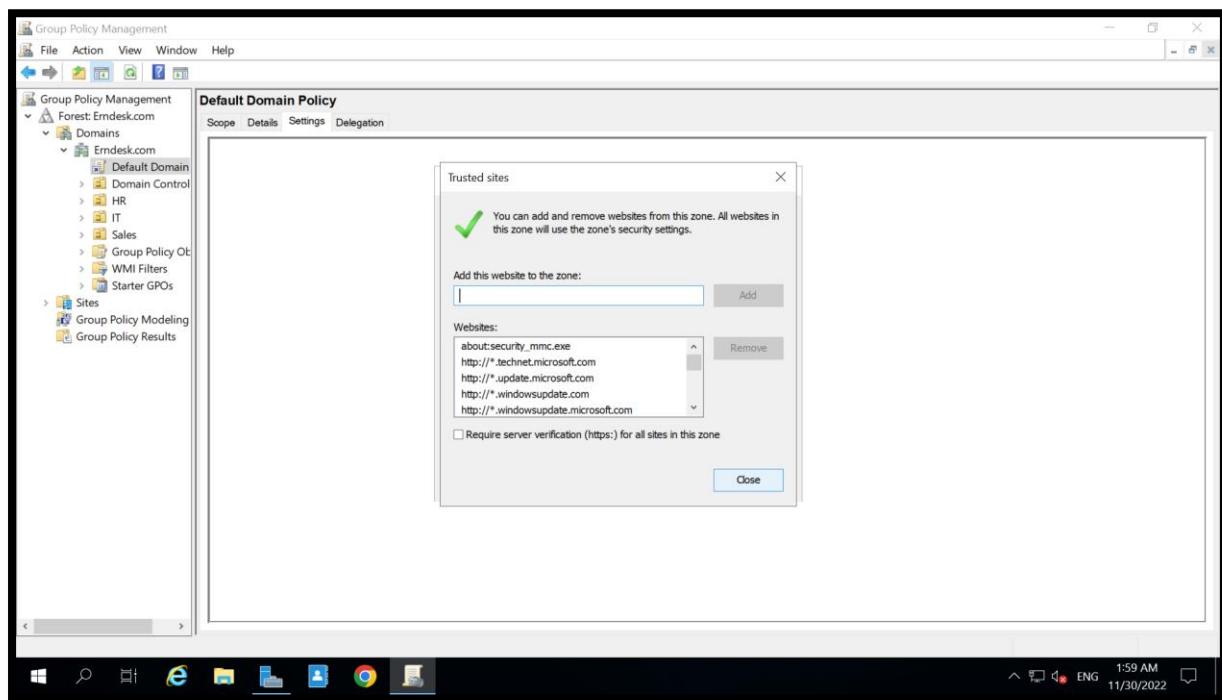
## Server Manager



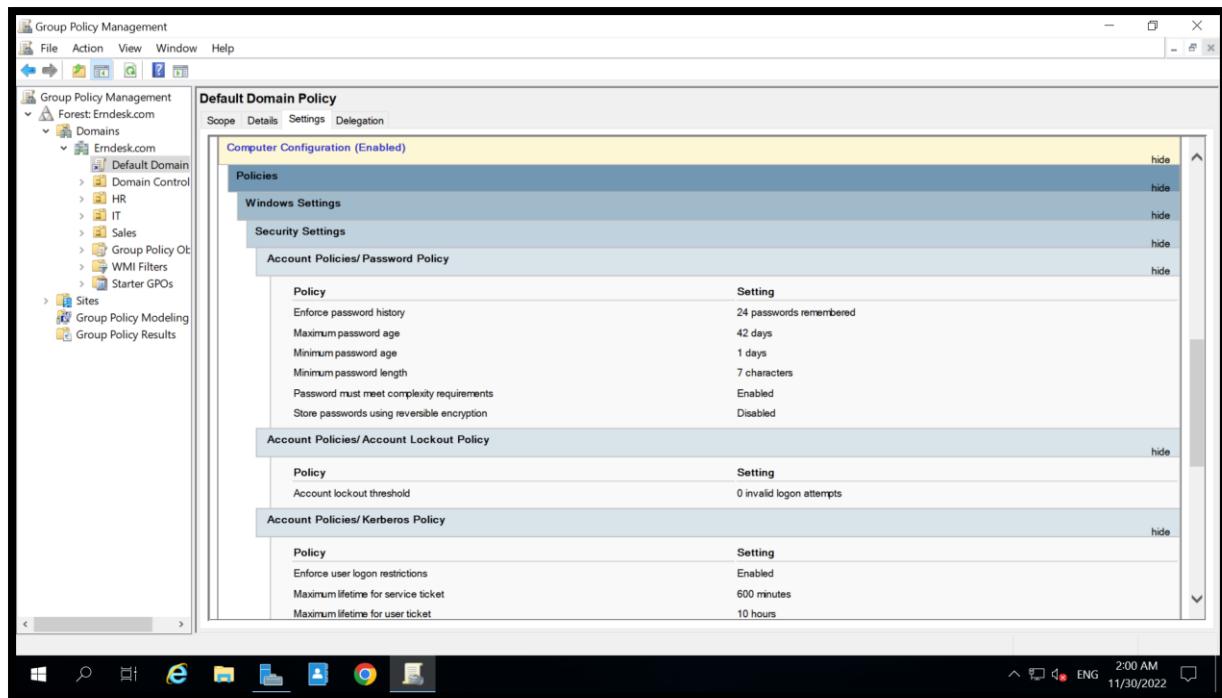
Go to tools check the Group Policy Management.



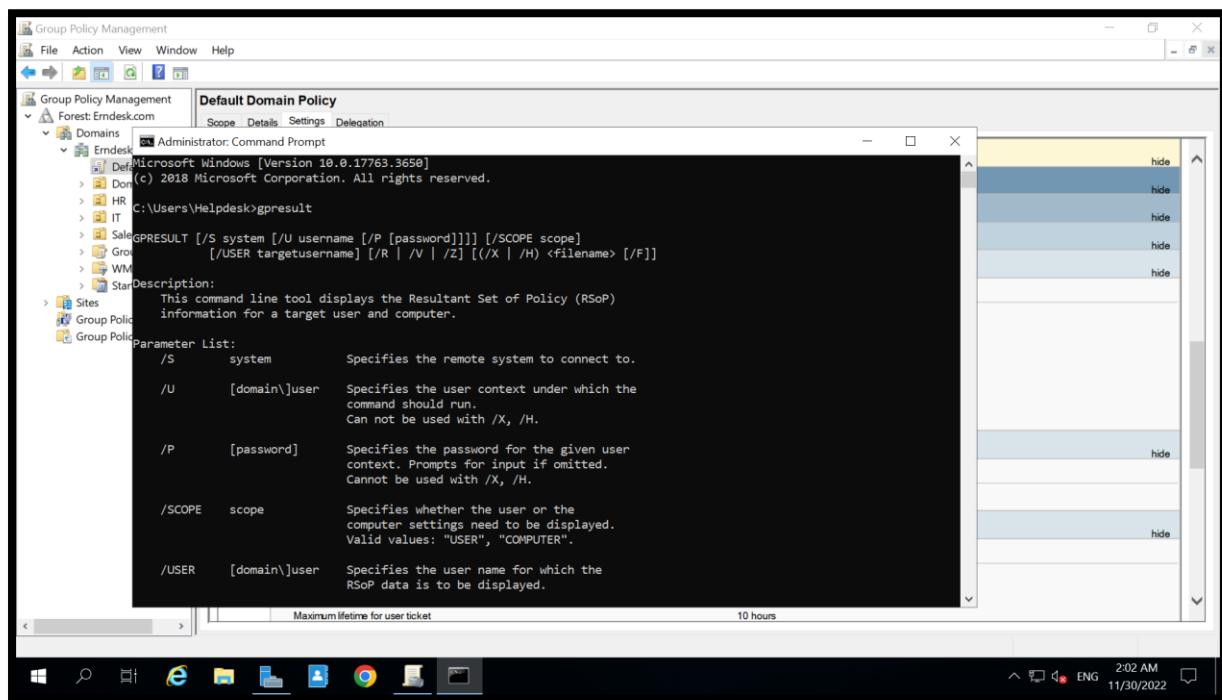
Ok

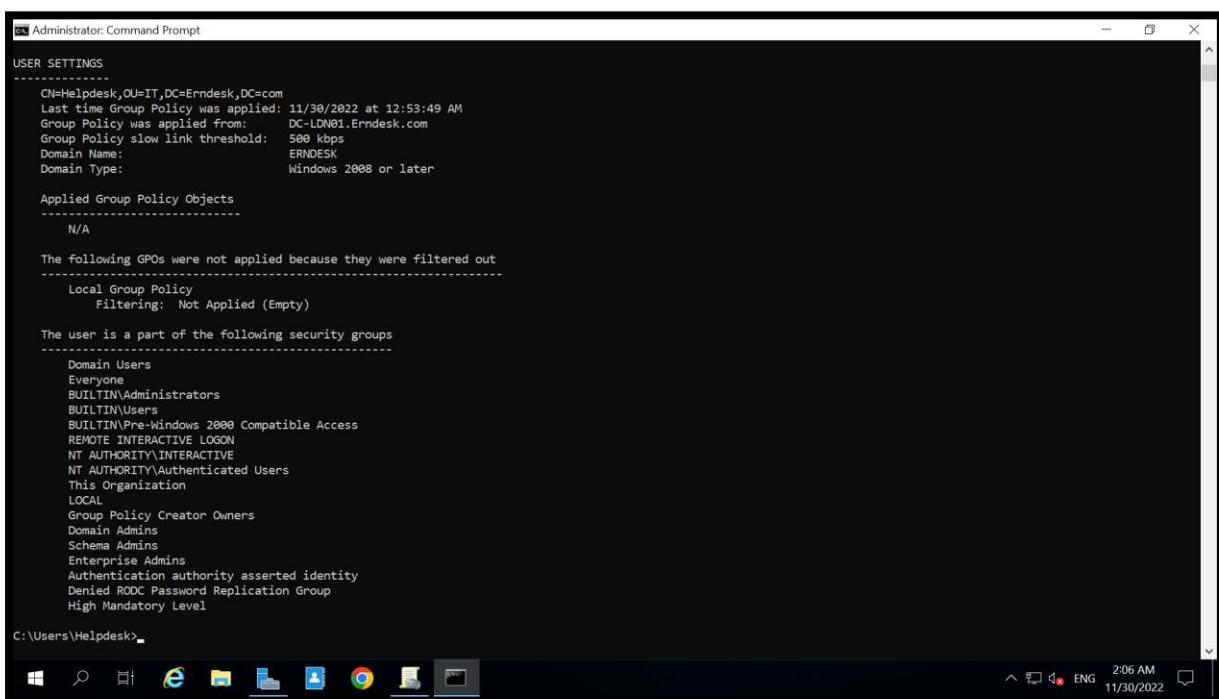
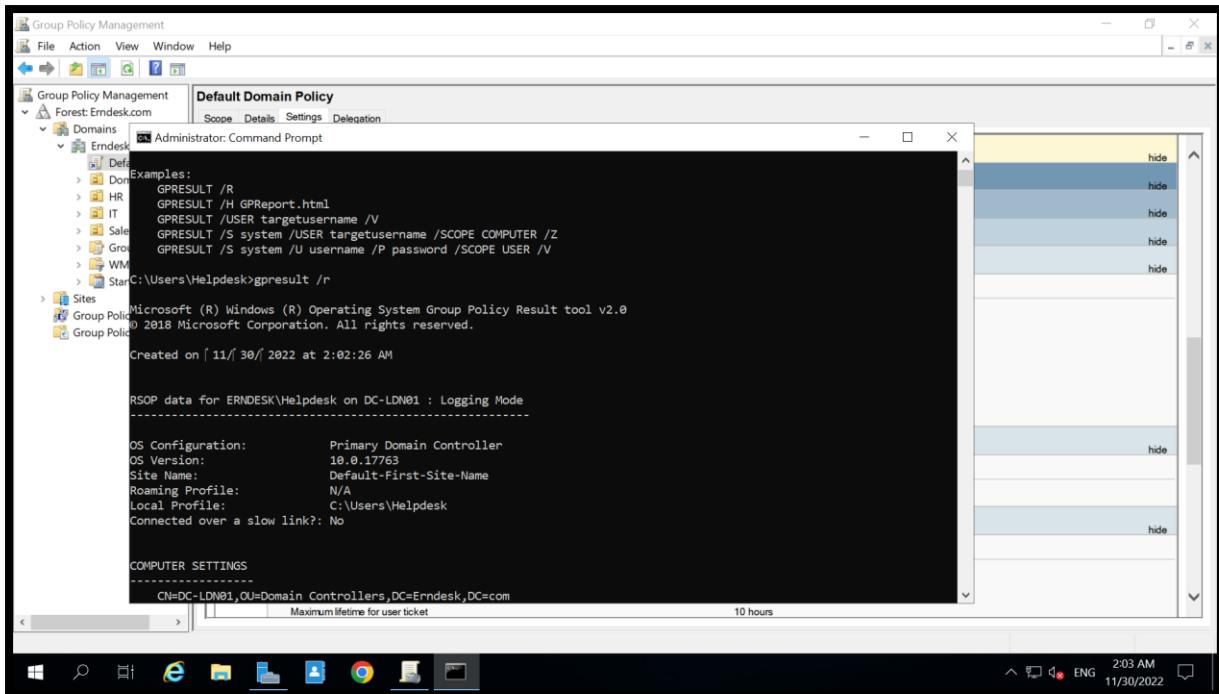


Add the site.

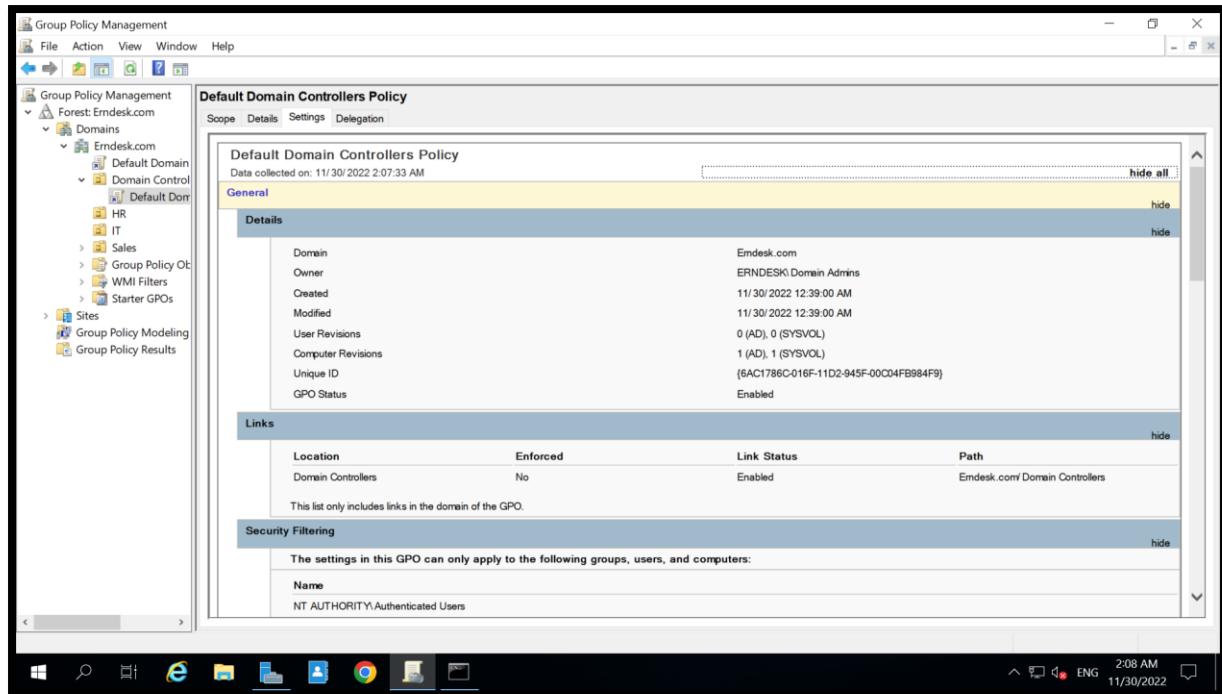


Go to the settings.





Checking the policy.



## Default Domain Controllers Policy.

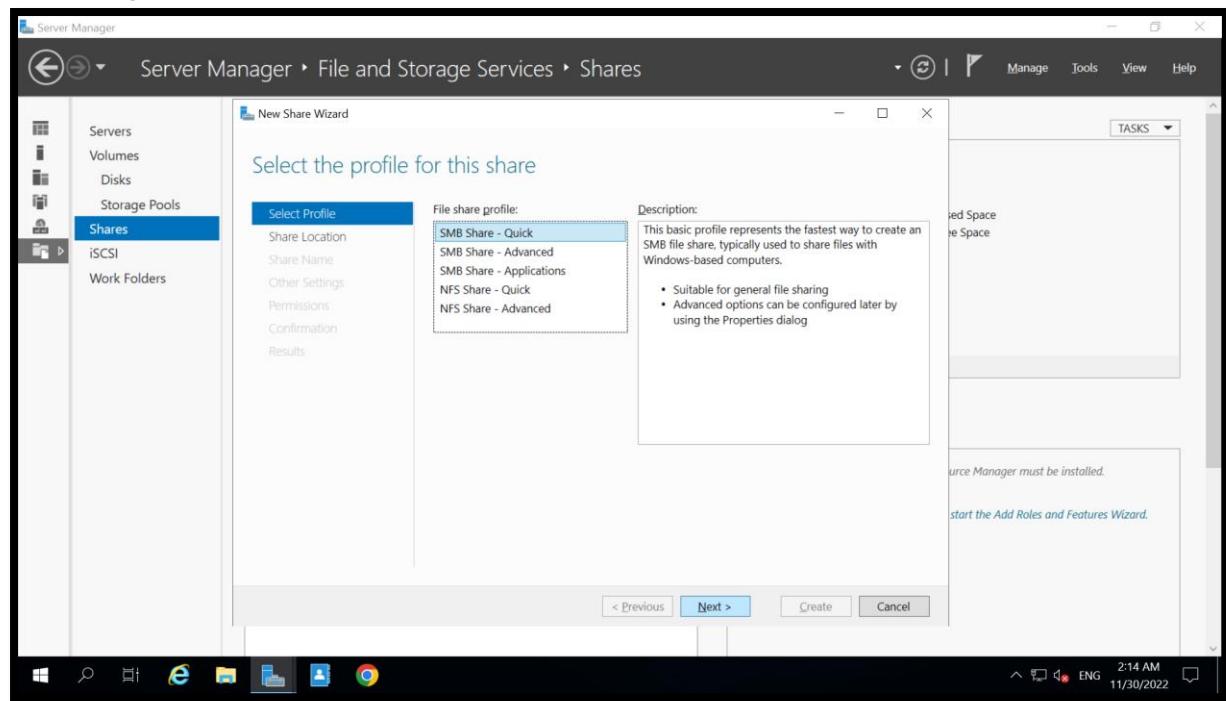
The screenshot shows a Windows Command Prompt window titled 'Administrator: Command Prompt'. The command entered is 'net user helpdesk /domain'. The output shows the following user account properties:

Attribute	Value
User name	Helpdesk
Full Name	
Comment	Built-in account for administering the computer/domain
User's comment	
Country/region code	000 (System Default)
Account active	Yes
Account expires	Never
Password last set	11/29/2022 11:13:52 PM
Password expires	1/10/2023 11:13:52 PM
Password changeable	11/30/2022 11:13:52 PM
Password required	Yes
User may change password	Yes
Workstations allowed	All
Logon script	
User profile	
Home directory	
Last logon	11/30/2022 12:53:48 AM
Logon hours allowed	All
Local Group Memberships	*Administrators
Global Group memberships	*Schema Admins *Group Policy Creator *Domain Users *Domain Admins *Enterprise Admins

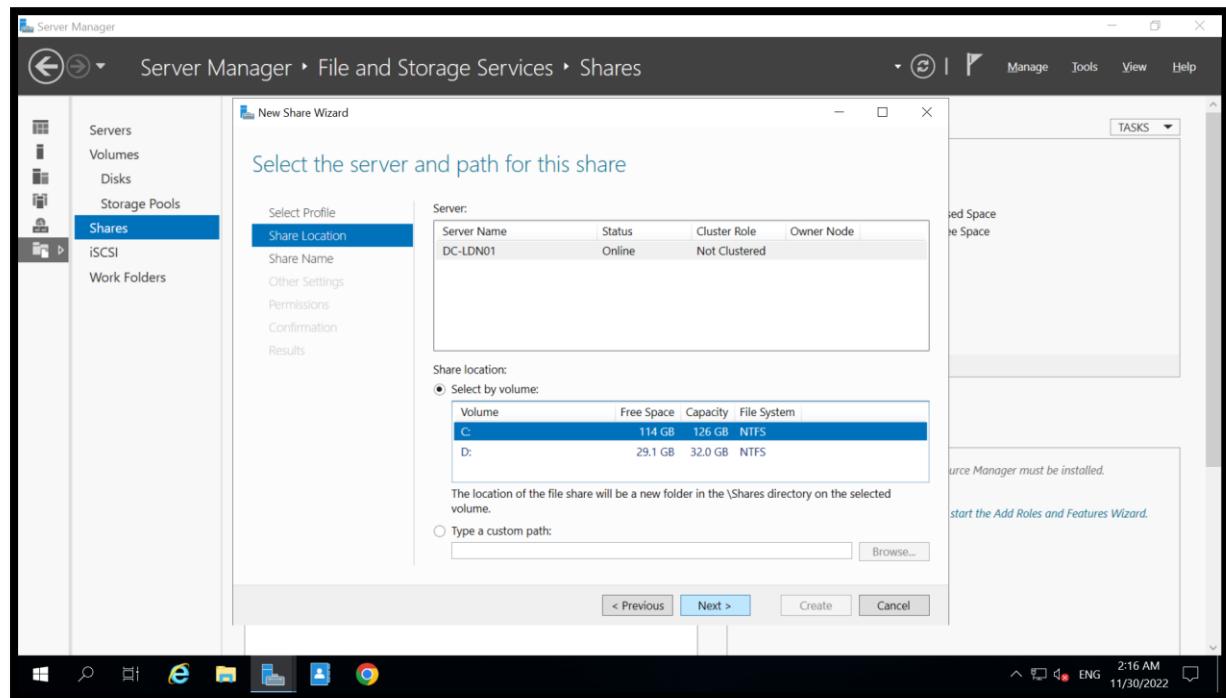
The message 'The command completed successfully.' is displayed at the bottom. The status bar at the bottom right shows '2:10 AM 11/30/2022'.

The password last set is correct with all the other settings as well.

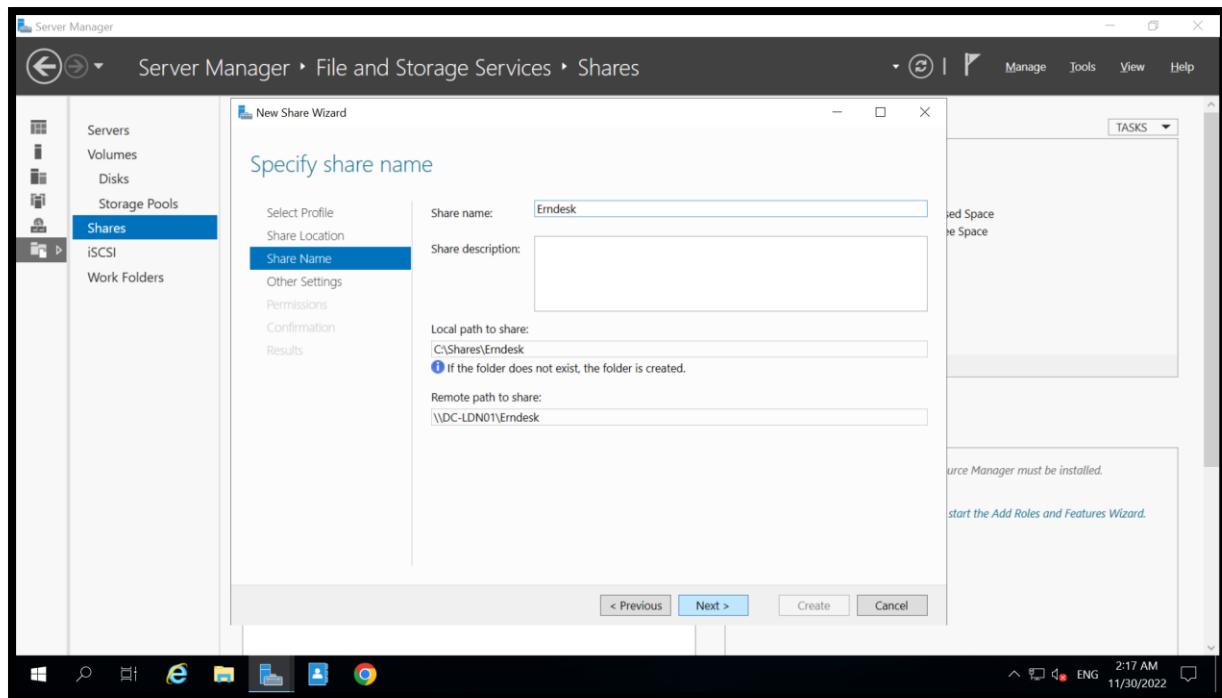
## Creating a share folder



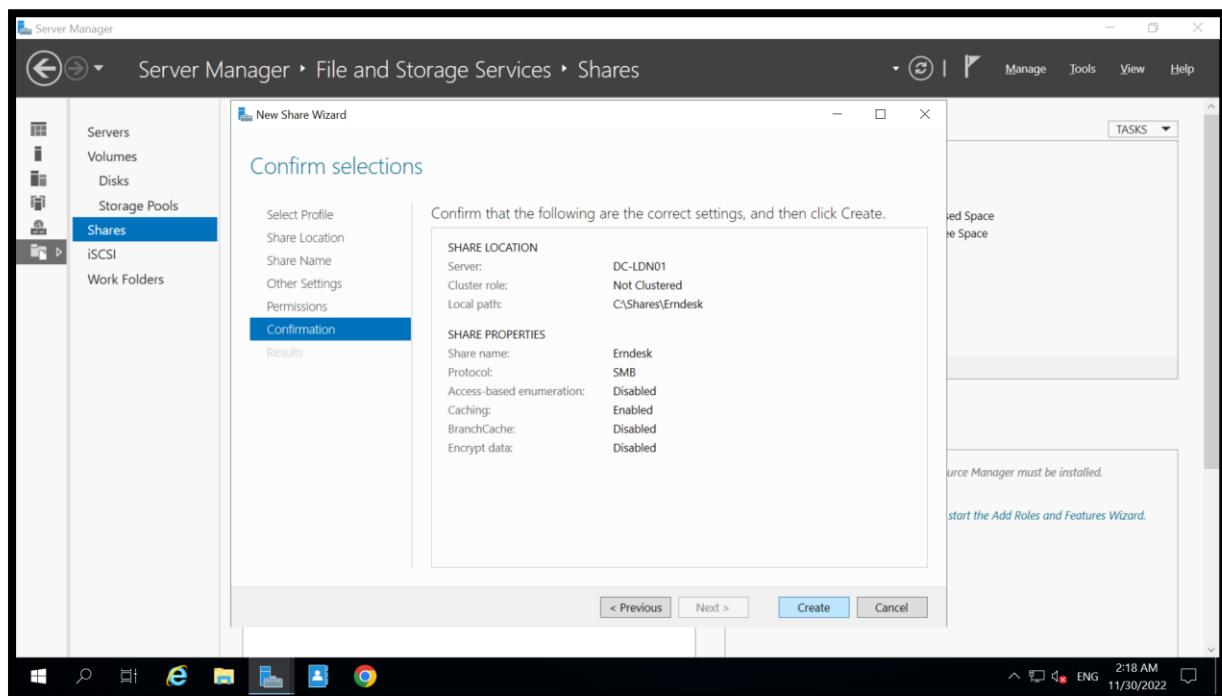
Go to file and storage, shares then next.



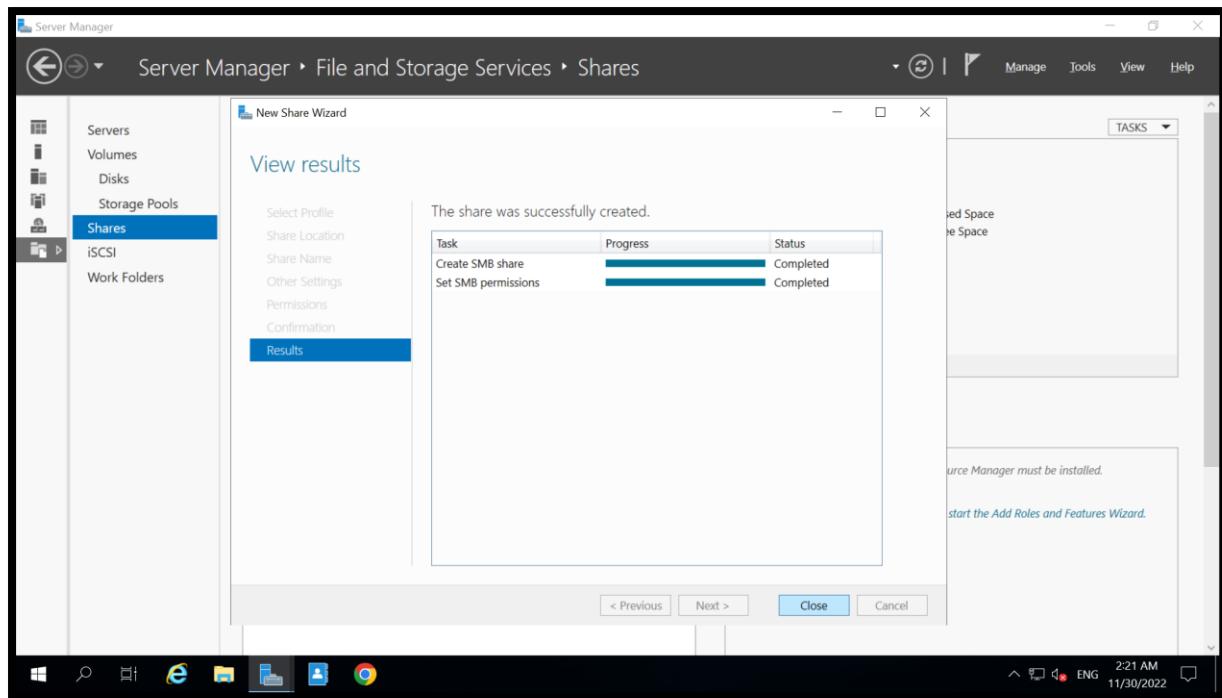
Click the c drive next.



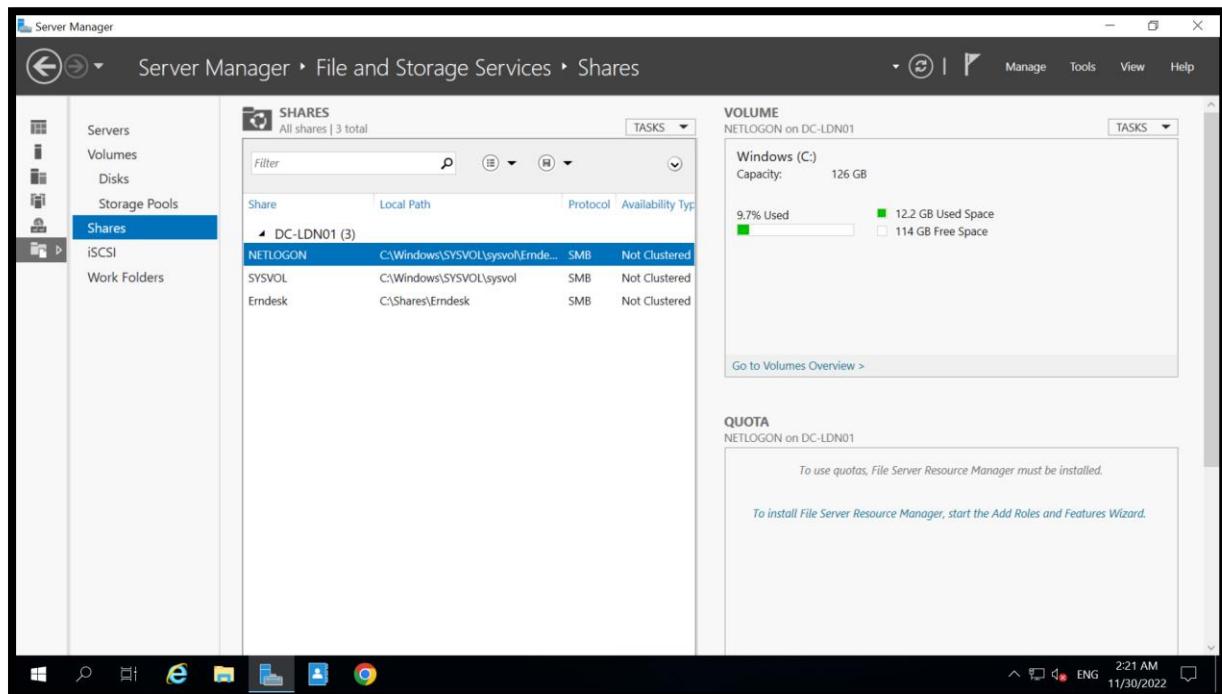
Type name of the share next.

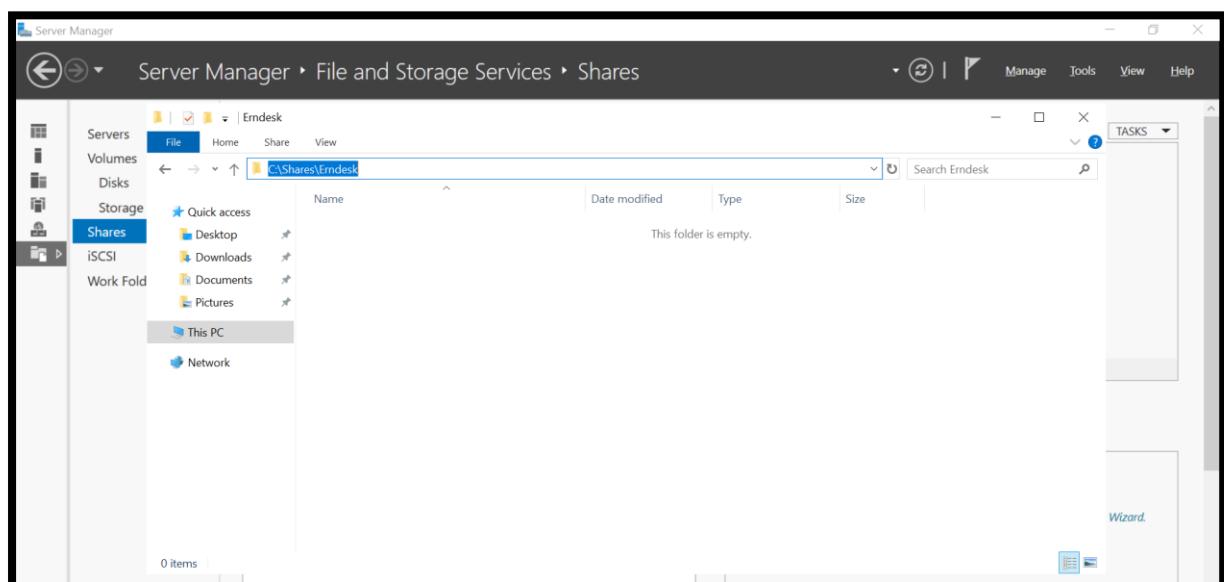
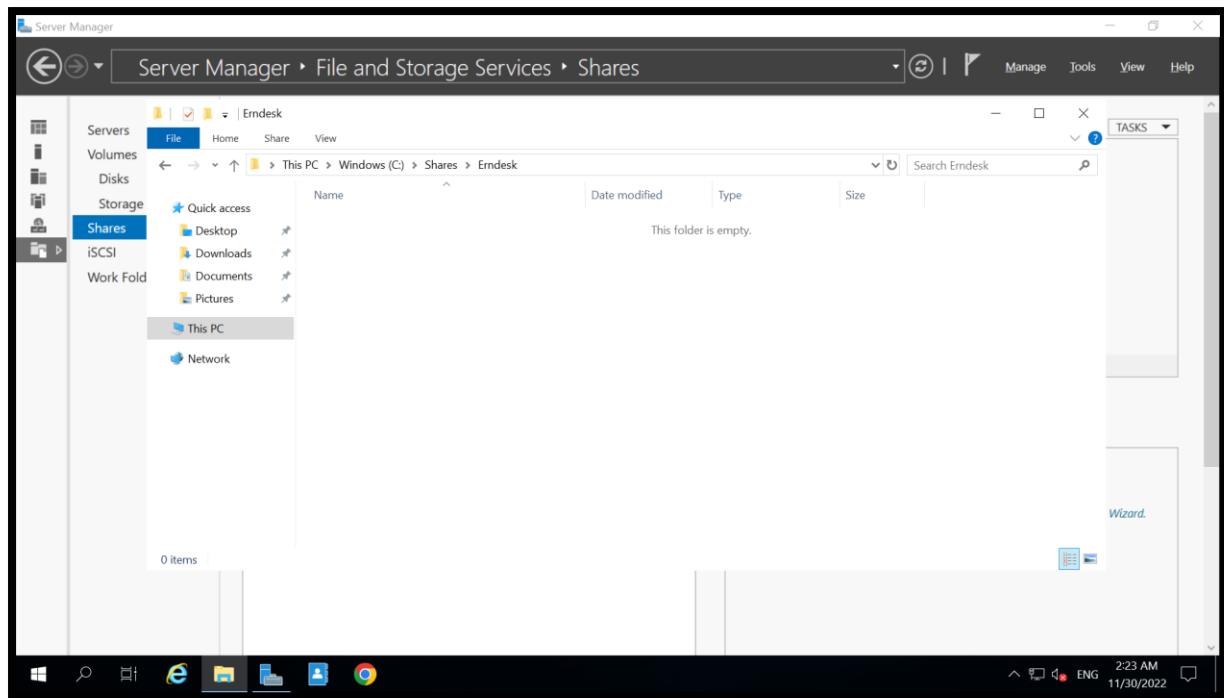


Next till you get to permissions create now.

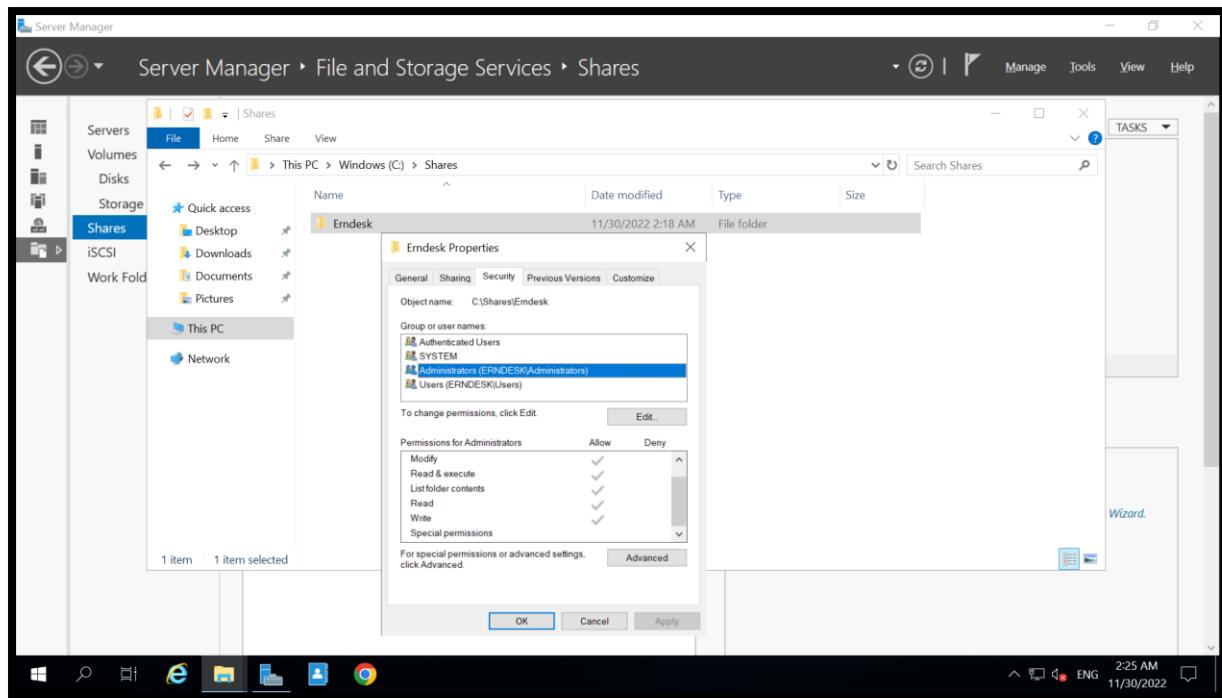


Close

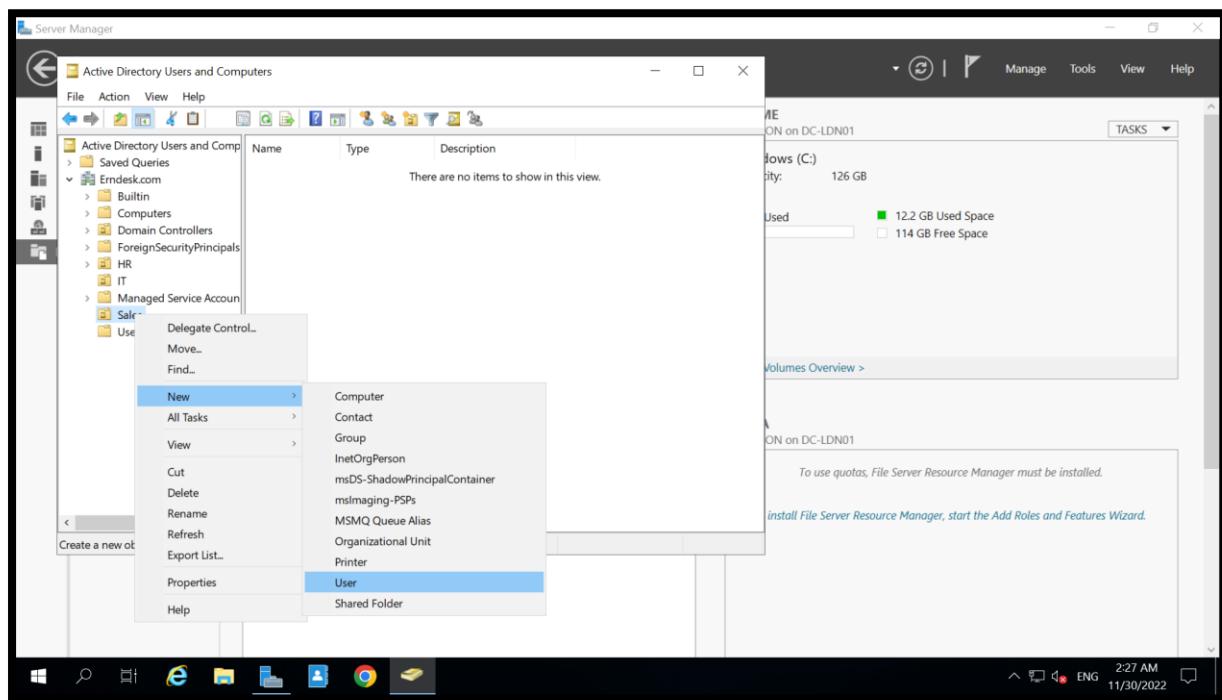




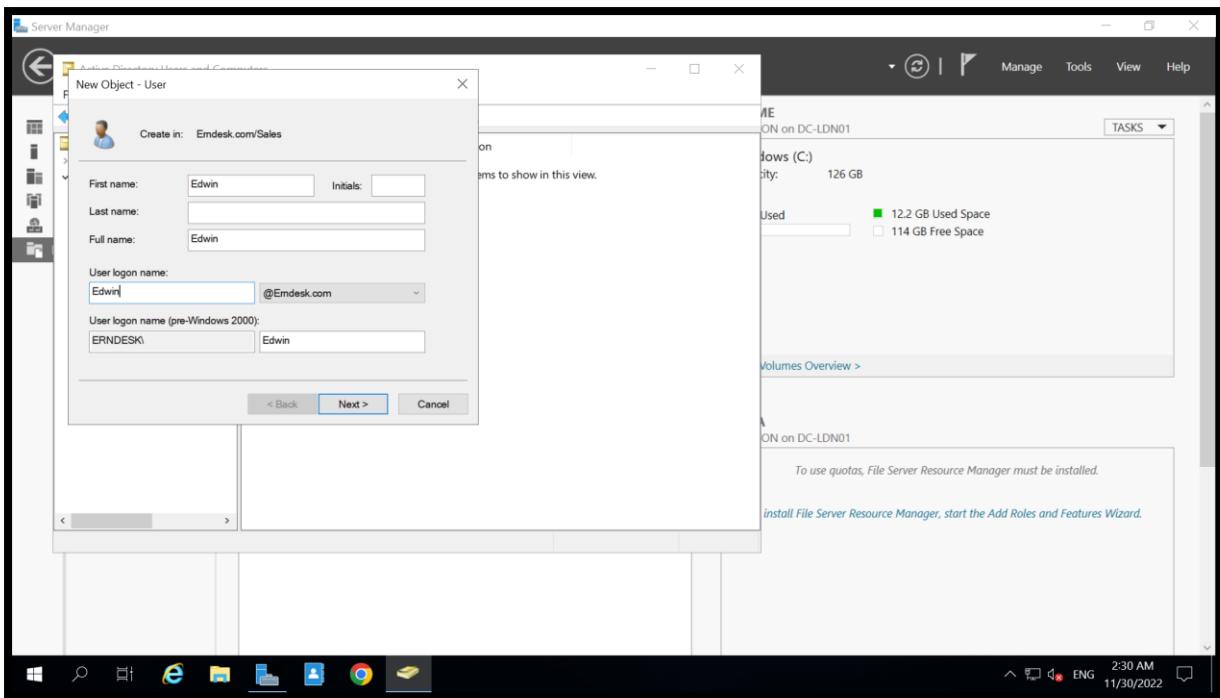
The folder is in there.



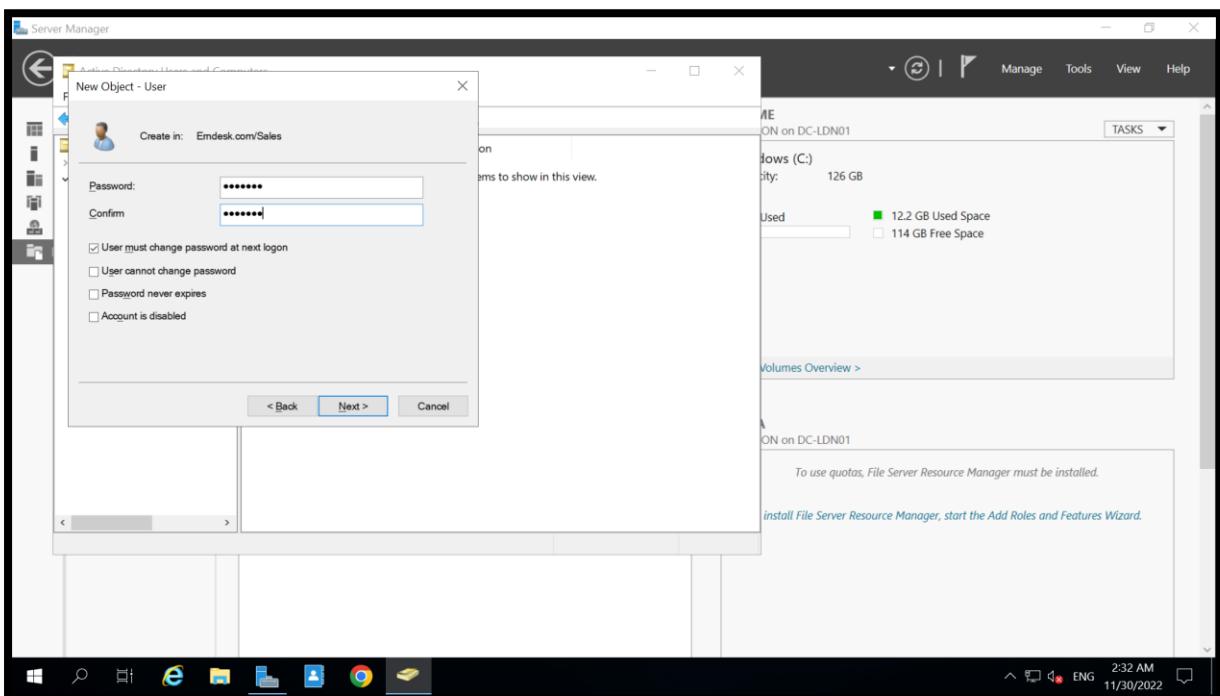
Everyone is apart of this folder you can see User(ERNDESK/Users).



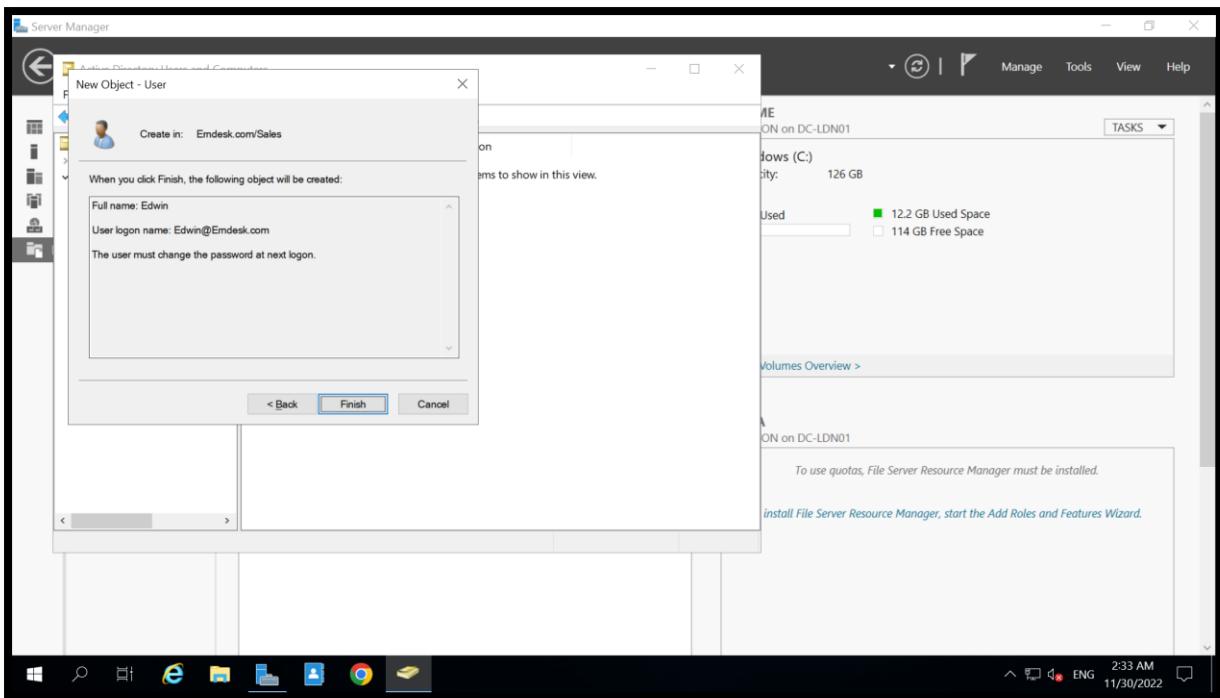
Creating new user in the Sales department.



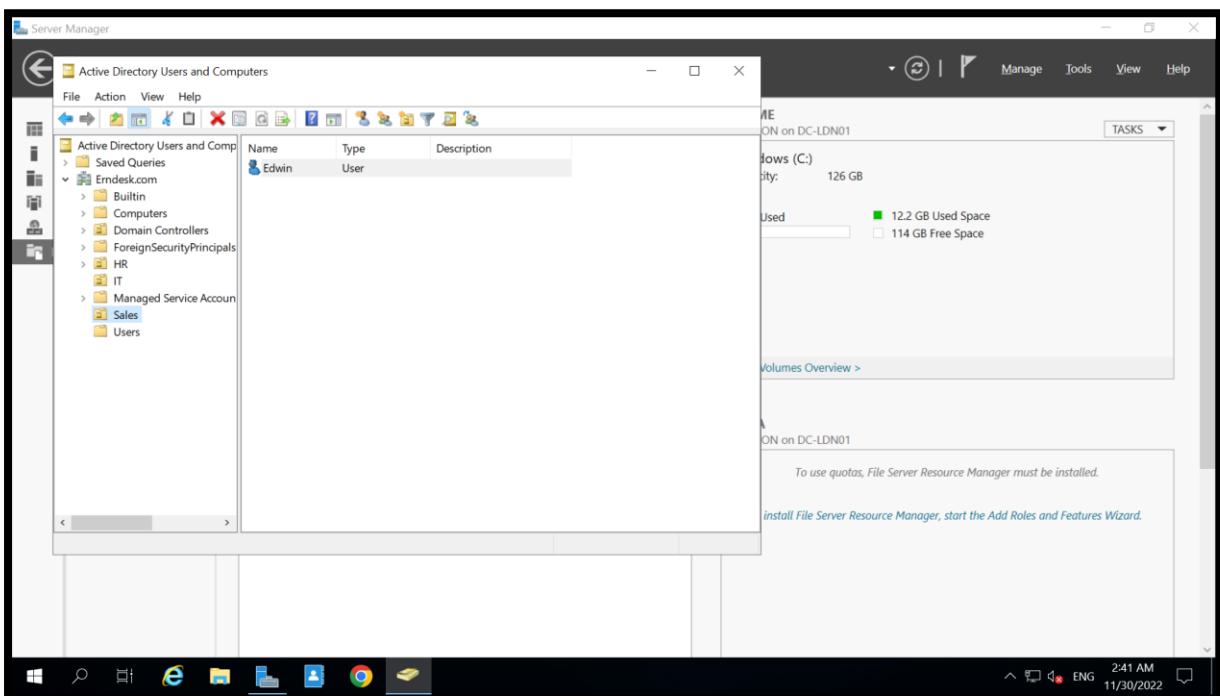
User called Edwin.



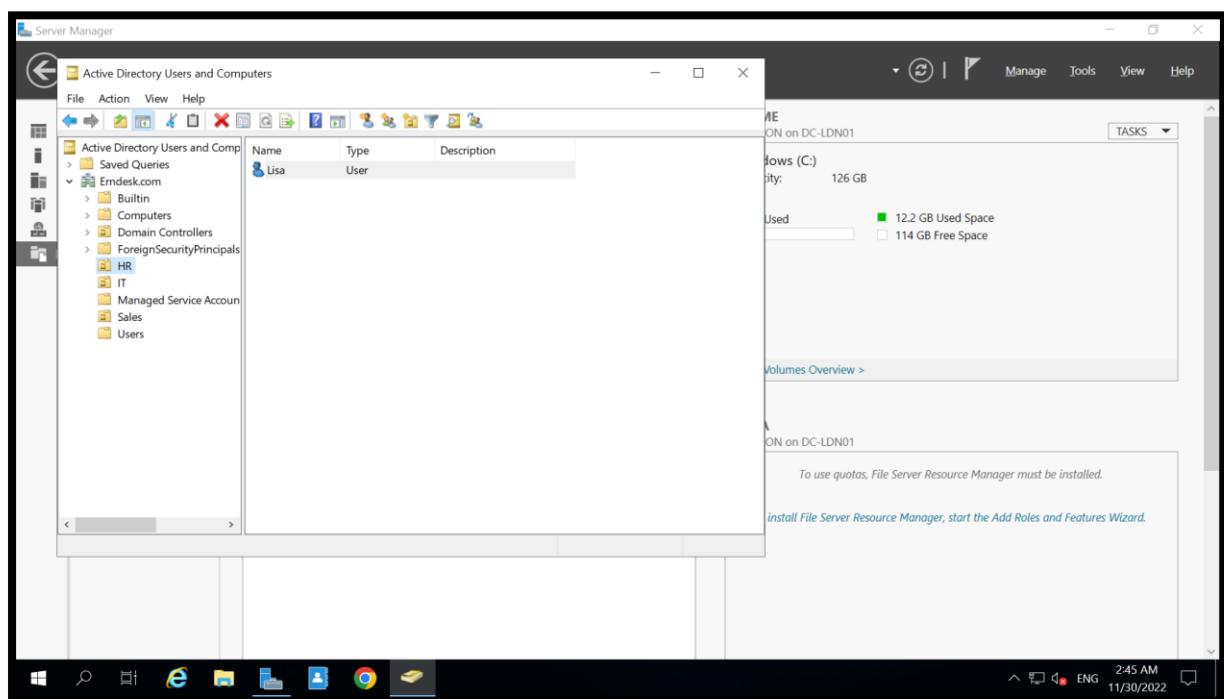
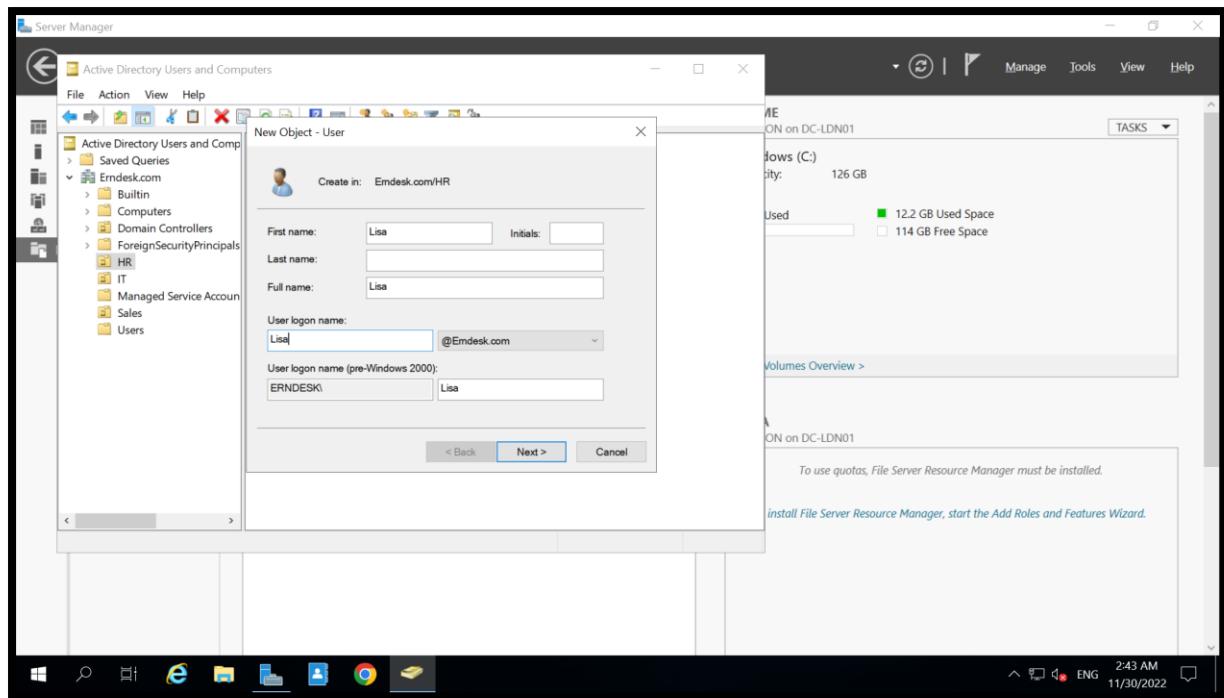
Create password.



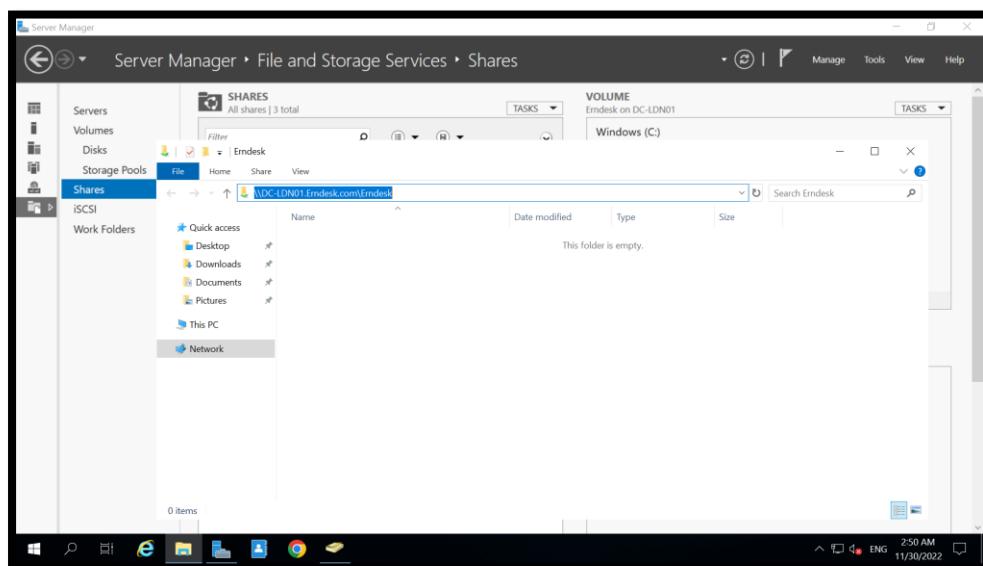
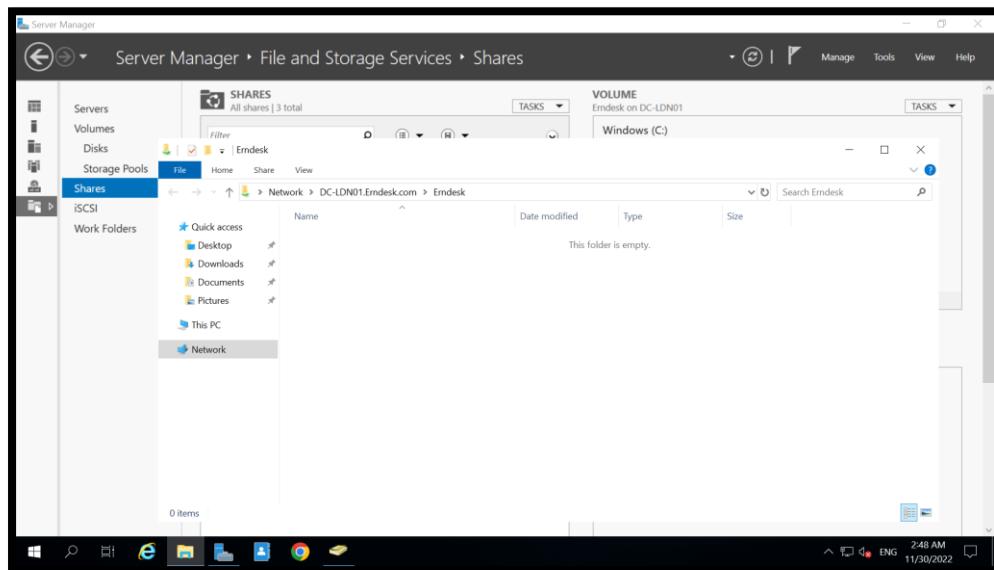
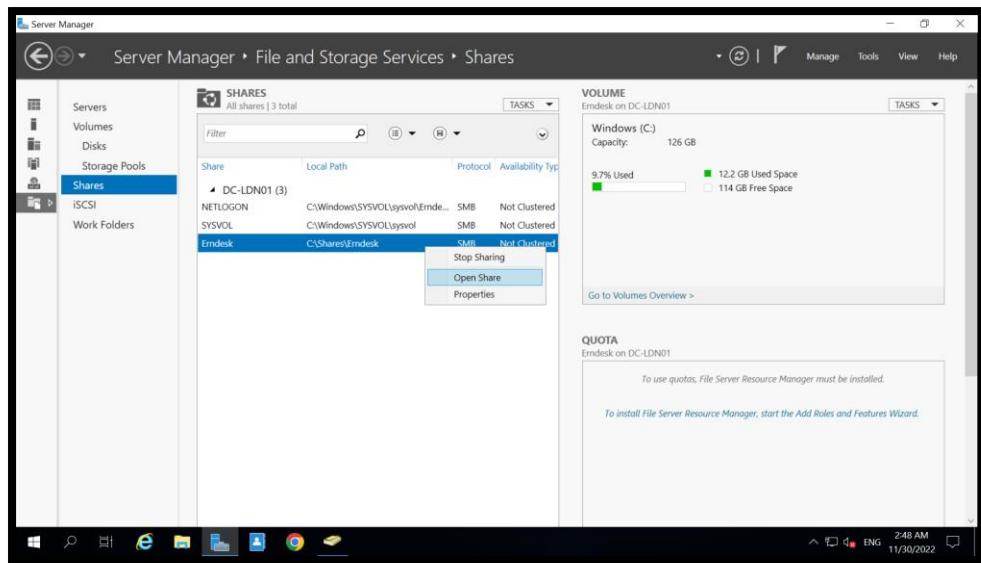
User details.



User is created.



User named Lisa for HR.



Everything working fine.

## Summary

I created a some user accounts, organized units and a share folder. Checked Group Policy settings, enabled downloading on Internet explorer to download Google Chrome and used PowerShell for additional installations on Active Directory. Now I will shut down the windows server2019 machine on Microsoft Azure the cloud service used to do this project.

The screenshot shows the Microsoft Azure portal interface for a virtual machine named 'Server2019'. The left sidebar lists various management options like Overview, Activity log, Tags, Diagnose and solve problems, Settings (Networking, Connect, Windows Admin Center, Disks, Size, Microsoft Defender for Cloud, Advisor recommendations, Extensions + applications, Continuous delivery, Availability + scaling, Configuration, Identity, Properties), Monitoring, Capabilities (8), Recommendations, and Tutorials. The main content area is divided into sections: 'Essentials' (Resource group: Erndesk, Status: Running, Location: UK South, Subscription: Azure subscription 1, Subscription ID: e6a44538-e2a6-4912-bd55-38d4297ec493, Tags: Click here to add tags), 'Virtual machine' (Computer name: DC-LDN01, Health state: -, Operating system: Windows (Windows Server 2019 Datacenter), Publisher: MicrosoftWindowsServer, Offer: WindowsServer, Plan: 2019-datacenter-gensecond, VM generation: V2, VM architecture: x64, Agent status: Ready, Agent version: 2.7.41491.1071), 'Networking' (Public IP address: 51.105.44.112, Public IP address (IPv6): -, Private IP address: 10.0.0.4, Private IP address (IPv6): -, Virtual network/subnet: Erndesk-vnet/default, DNS name: Configure), and 'Size' (Size: Standard E2s v3, vCPUs: 2, RAM: 16 GB). The top navigation bar includes a search bar, a 'Search resources, services, and docs (G+)', and various account and service icons.

The subscription is still running to avoid being charged. Microsoft gives a \$200 free credit which also gets eaten in too if you keep the VM running after use. I have to stop the machine click the stop button.

The screenshot shows the Microsoft Azure portal interface. A modal dialog box titled "Stop this virtual machine" is open, asking "Do you want to stop 'Server2019'?". Below the dialog, the VM details are listed:

Location	: UK South	Public IP address	: 51.105.44.112
Subscription (move)	: Azure subscription_1	Virtual network/subnet	: Endesk-vnet/default
Subscription ID	: e6a44538-e2a6-4912-bd55-38d4297ec493	DNS name	: Not configured
Tags (edit)	: Click here to add tags		

Below the dialog, the VM properties are displayed in tabs: Properties, Monitoring, Capabilities (8), Recommendations, and Tutorials. The "Properties" tab is selected, showing detailed information about the VM, including its computer name (DC-LDN01), operating system (Windows Server 2019 Datacenter), and size (Standard E2s v3).

Stop server yes.

The screenshot shows the Microsoft Azure portal interface. The VM details are now updated to reflect the stopped state:

Resource group (move)	: Endesk	Operating system	: Windows
Status	: Stopped (deallocated)	Size	: Standard E2s v3 (2 vcpus, 16 GiB memory)
Location	: UK South	Public IP address	: 51.105.44.112
Subscription (move)	: Azure subscription_1	Virtual network/subnet	: Endesk-vnet/default
Subscription ID	: e6a44538-e2a6-4912-bd55-38d4297ec493	DNS name	: Not configured
Tags (edit)	: Click here to add tags		

The "Properties" tab is selected, showing the same detailed information as before, but the status is now "Stopped (deallocated)".

It's now stopped.