

## CNT4603 Assignment 4 - Fun With Active Directory

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1. Before getting into the meat of the assignment, I made sure to check that my windows systems were up to date. On the 2012 server, I clicked local server -> last checked for updates -> check for updates. 3 were available, so I installed them and restarted the machine. On the 2010 machine, I navigated settings -> Update & Security and I installed the updates available and restarted the machine.

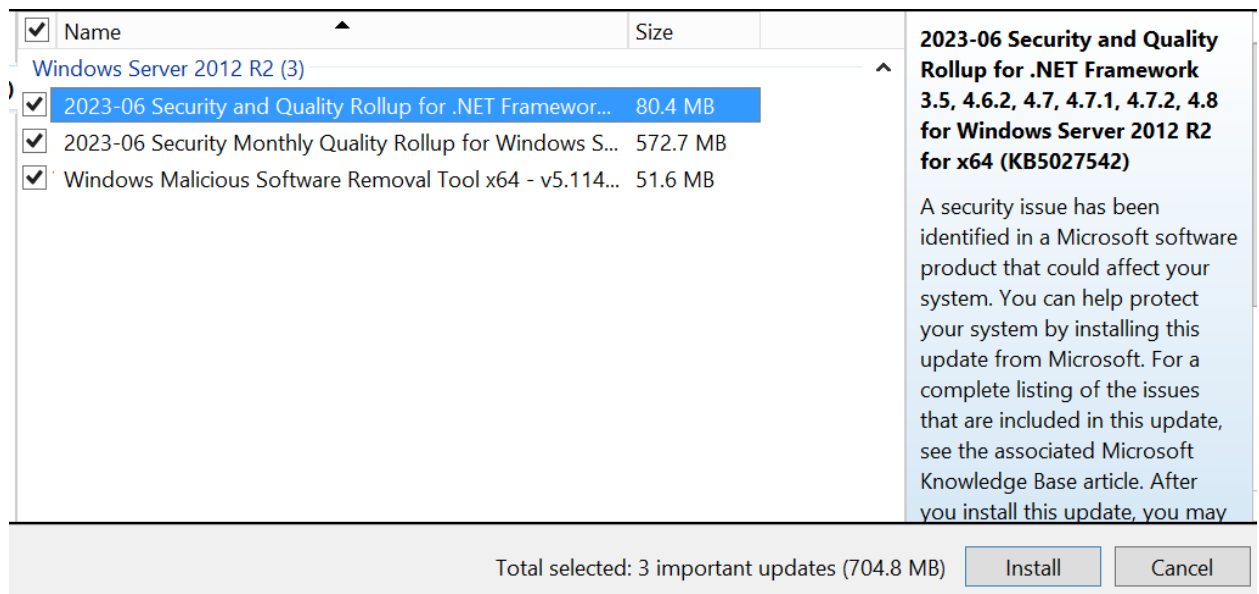
### Windows Update



Most recent check for updates: Today at 4:29 AM

Updates were installed: 6/9/2023 at 1:23 PM.

You receive updates: For Windows only.



# Windows Update

\*Some settings are managed by your organization

[View configured update policies](#)



## Updates available

Last checked: Today, 4:42 AM

Security Intelligence Update for Microsoft Defender Antivirus -  
KB2267602 (Version 1.391.1588.0)

**Status:** Pending install

Update for Microsoft Defender Antivirus antimalware platform -  
KB4052623 (Version 4.18.23050.5)

**Status:** Pending install

Windows Malicious Software Removal Tool x64 - v5.114  
(KB890830)

**Status:** Pending install

2023-06 Cumulative Update for .NET Framework 3.5, 4.8 and 4.8.1  
for Windows 10 Version 21H2 for x64 (KB5027537)

**Status:** Pending install

2023-06 Cumulative Update for Windows 10 Version 21H2 for x64-  
based Systems (KB5027215)

**Status:** Pending install

Install now

2. To take a snapshot of the windows 2012 machine, I went to the Azure portal, selected "Create a resource," selected snapshot, and filled out the rest of the information, a lot of which is default settings. The name of the snapshot is "Windows2012\_snapshot."

# Marketplace ...

## Get Started

Service Providers

## Management

Private Marketplace

Private Offer Management

## My Marketplace

Favorites

Recently created

Private products



## Snapshot

Microsoft

### Azure Service

A snapshot is a disk with read-only backing blob.

Create ▾



Snapshot

# Create snapshot ...

## Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \* ⓘ

Azure for Students ▾

Resource group \* ⓘ

Summer2023 ▾

[Create new](#)

## Instance details

Name \*

Windows12\_snapshot ✓

Region \* ⓘ

(US) South Central US ▾

Snapshot type \* ⓘ



Full - make a complete read-only copy of the selected disk.



Incremental - save on storage costs by making a partial copy of the disk based on the difference between the last snapshot.

# Create snapshot ...

✓ Validation passed

Basics Encryption Networking Advanced Tags Review + create

## Basics

Subscription	Azure for Students
Resource group	Summer2023
Region	South Central US
Name	Windows12_snapshot
Source subscription	Azure for Students
Source type	disk
Source disk	Win2012Server_OsDisk_1_645b2e408406409380acc0e092d32df1
Security type	Standard
Storage type	Standard_ZRS
Snapshot type	Full

Create

< Previous

Next >

[Download a template for automation](#)

3. To make sure both machines were on the same local area network (LAN), I checked the virtual network/subnet of both. They both are on the “Win2012Server-vnet/default” subnet, so I know the machines are on the same LAN. In addition, when I clicked on the subnet and looked at the connected devices, both machines were listed.

**Win2012Server** Virtual machine

Search << Connect Start Restart Stop Capture Delete Refresh ...

**Overview**

- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems

**Settings**

- Networking
- Connect
- Disks

**Essentials**

Resource group ([move](#)) [SUMMER2023](#)

Status: Running

Location: South Central US

Subscription ([move](#)) [Azure for Students](#)

Subscription ID: e29e441b-85a1-41b6-bcc9-a75efaefdf3a

Operating system: Windows (Windows Server 2012 R2 Datacenter)

Size: Standard B2ms (2 vcpus, 8 GiB memory)

Public IP address: [20.225.130.135](#)

Virtual network/subnet: [Win2012Server-vnet/default](#)

DNS name: [Not configured](#)

Health state

**Windows10** Virtual machine

Search << Connect Start Restart Stop Capture Delete Refresh ...

**Overview**

- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems

**Settings**

- Networking
- Connect
- Disks

**Essentials**

Resource group ([move](#)) [Summer2023](#)

Status: Stopped (deallocated)

Location: South Central US

Subscription ([move](#)) [Azure for Students](#)

Subscription ID: e29e441b-85a1-41b6-bcc9-a75efaefdf3a

Operating system: Windows

Size: Standard B2ms (2 vcpus, 8 GiB memory)

Public IP address: [20.225.84.186](#)

Virtual network/subnet: [Win2012Server-vnet/default](#)

DNS name: [Not configured](#)

Health state

**Win2012Server-vnet** | Connected devices Virtual network

Search Refresh

Search connected devices

Device ↑↓	Type ↑↓	IP Address ↑↓	Subnet ↑↓
<a href="#">win2012server402</a>	Network interface	10.0.0.4	default
<a href="#">windows10808</a>	Network interface	10.0.0.5	default

4. Add domain services- In the server manager on the Windows 12 machine, I clicked Manage -> Add Roles and Features, and then I clicked through, leaving defaults, and selected "Active Directory Domain Services" under Server Roles and installed them.

**Roles**

- ☐ Active Directory Certificate Services
- ☒ **Active Directory Domain Services**
- ☐ Active Directory Federation Services
- ☐ Active Directory Lightweight Directory Services
- ☐ Active Directory Rights Management Services
- ☐ Application Server
- ☐ DHCP Server
- ☐ DNS Server
- ☐ Fax Server
- ☒ **File and Storage Services (1 of 12 installed)**
- ☐ Hyper-V
- ☐ Network Policy and Access Services
- ☐ Print and Document Services
- ☐ Remote Access
- ☐ Remote Desktop Services

**View installation progress**

**Feature installation**

Configuration required. Installation succeeded on Win2012Server.

**Active Directory Domain Services**  
Additional steps are required to make this machine a domain controller.  
[Promote this server to a domain controller](#)

**Group Policy Management**

**Remote Server Administration Tools**

**Role Administration Tools**

**AD DS and AD LDS Tools**

**Active Directory module for Windows PowerShell**

**AD DS Tools**

**Active Directory Administrative Center**

**AD DS Snap-Ins and Command-Line Tools**

**1** You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.

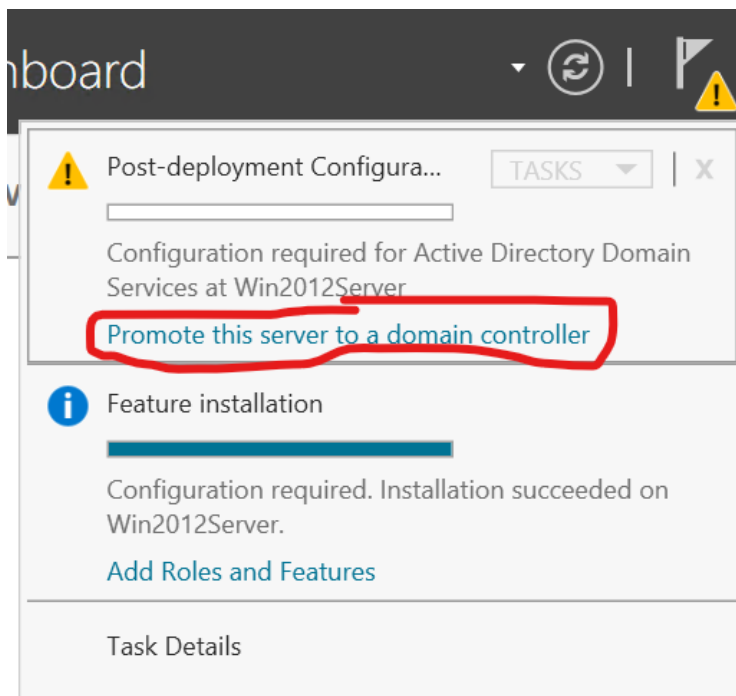
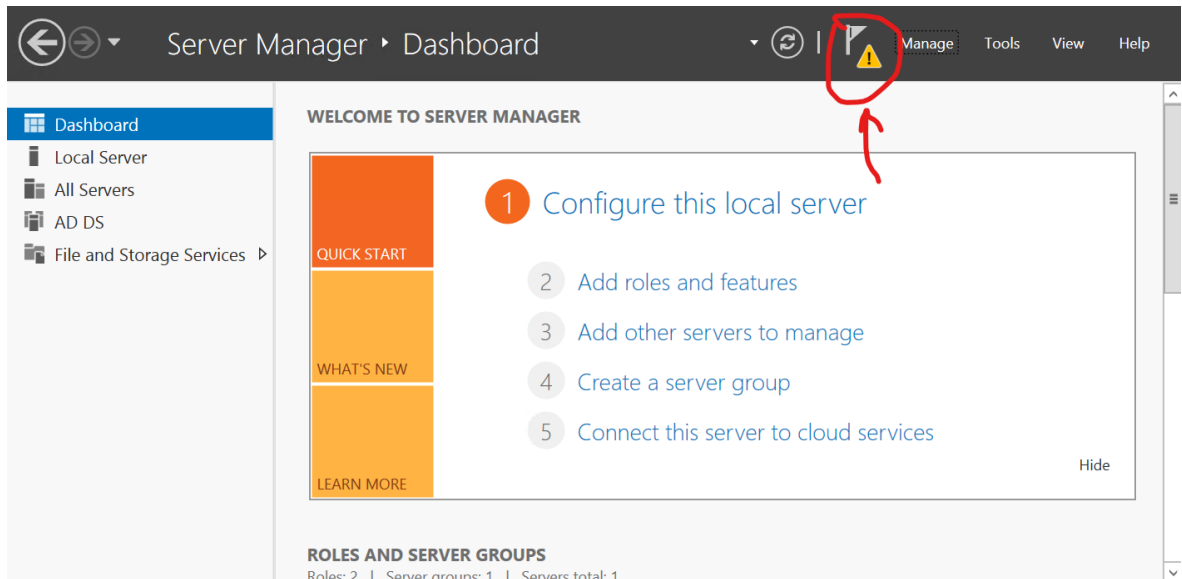
5. Promote your windows server to a domain controller- In server manager, I clicked the flag & warning symbol -> Promote this server to a domain controller -> add a new forest. I made the root domain name BryanBrowe.com and set up Directory Services Restore Mode (DSRM). I then clicked through the rest of the steps, accepting all defaults, and clicked install and the machine restarted.

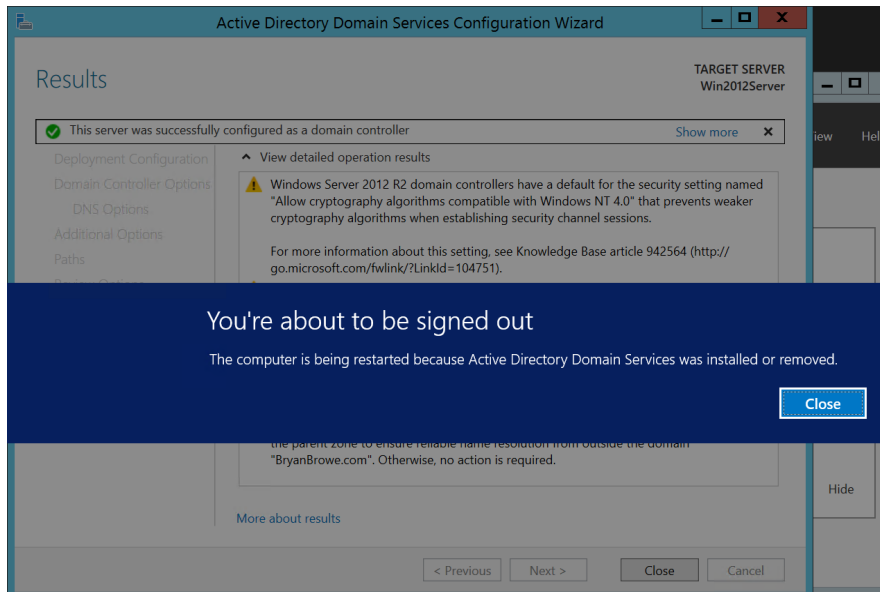
**Select the deployment operation**

☐ Add a domain controller to an existing domain  
☐ Add a new domain to an existing forest  
☒ **Add a new forest**

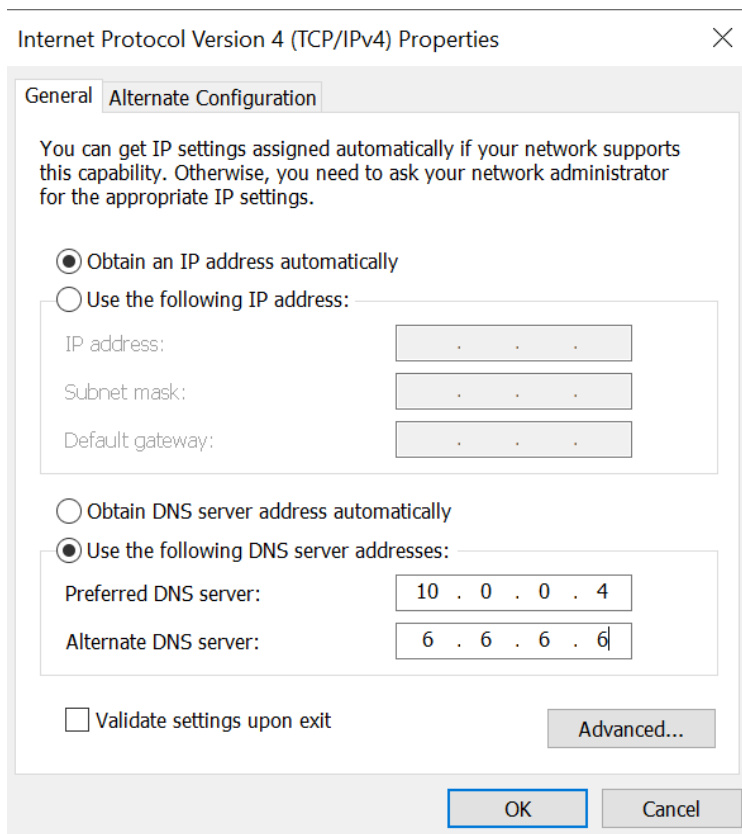
**Specify the domain information for this operation**

Root domain name:






6. Join your Windows 10 computer to your new domain- To start, I changed the DNS server on the Windows 10 machine. To do this, I opened up the control panel, navigated through Network and Internet -> Network and Sharing Center -> Change adapter settings -> right-click Ethernet and select Properties -> IPv4 Properties. I then entered the IP of the windows 2012 machine as the preferred DNS server and made up an alternate.

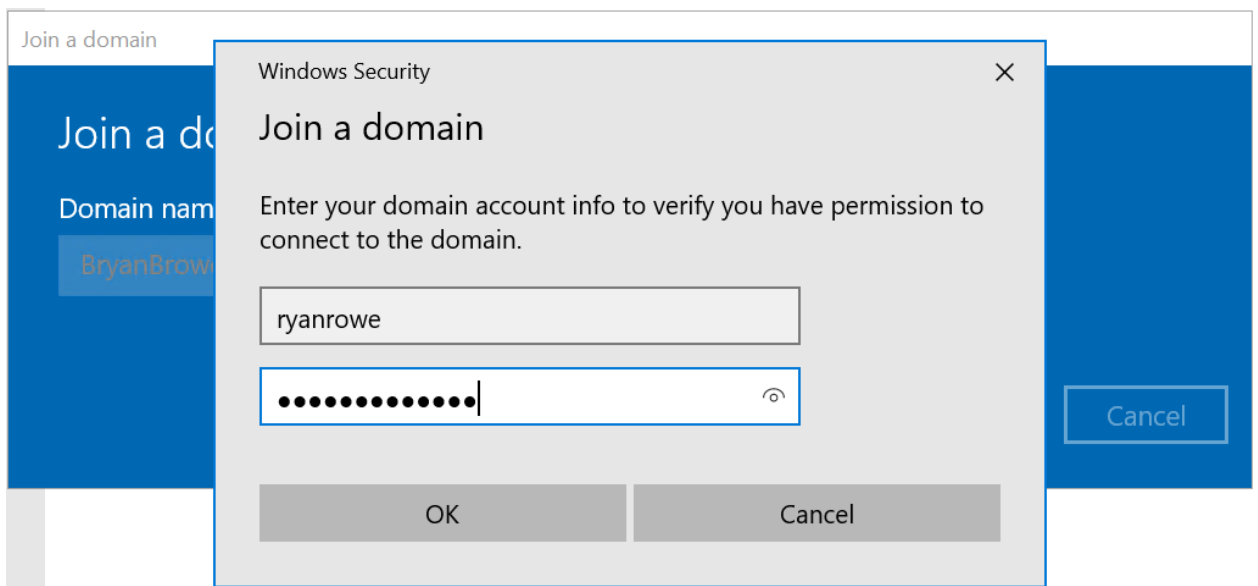




After the machine restarted, I went back into settings -> Access work or school -> connect -> Join this device to a local Active Directory domain. I then typed in my domain name (BryanBrowe.com), logged into my user account, and restarted.



The screenshot shows the 'Join a domain' window in Windows Settings. The window has a blue header with the title 'Join a domain'. Below the header, there is a text input field labeled 'Domain name' containing the text 'BryanBrowe.com'. To the right of the input field is a small 'X' icon. At the bottom right of the window, there are two buttons: 'Next' and 'Cancel'.

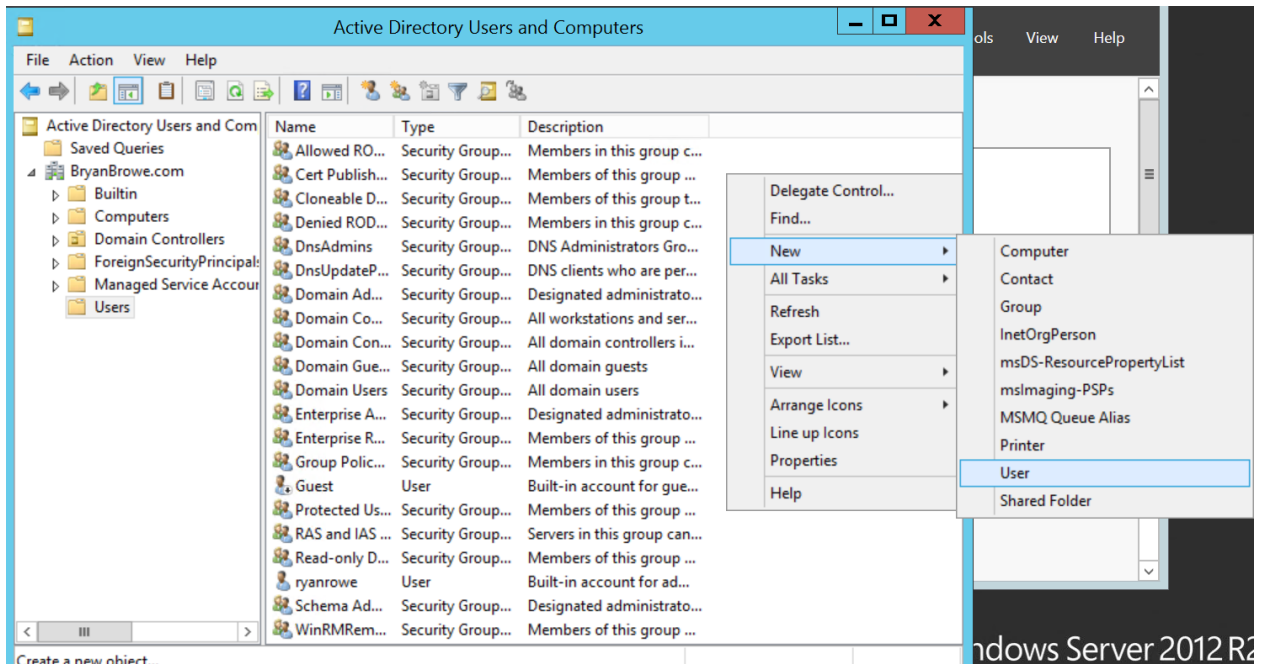


The screenshot shows the 'Join a domain' window with a Windows Security dialog box overlaid on top. The dialog box is titled 'Windows Security' and 'Join a domain'. It contains the text 'Enter your domain account info to verify you have permission to connect to the domain.' Below this text, there are two input fields: the first contains the username 'ryanrowe', and the second is a password field with masked characters (dots) and a small eye icon to the right. At the bottom of the dialog box, there are two buttons: 'OK' and 'Cancel'. The background window is partially visible, showing the 'Join a domain' title and the 'Domain name' input field.

In the DNS section of the server manager on the Windows 2012 machine, I can now find the Windows 10 machine, so it is connected to my new domain.

Name	Type	Data	Timestamp
_msdcs			
_sites			
_tcp			
_udp			
DomainDnsZones			
ForestDnsZones			
(same as parent folder)	Start of Authority (SOA)	[22], win2012server.bryan...	static
(same as parent folder)	Name Server (NS)	win2012server.bryanbrow...	static
(same as parent folder)	Host (A)	10.0.0.4	6/16/2023
win2012server	Host (A)	10.0.0.4	static
Windows10	Host (A)	10.0.0.5	6/17/2023

7. Create a non-administrator Domain user on your Windows Server- In the Windows 2012 machine, click the tools dropdown and select Active Directory Users and Computers -> users -> right click, New -> User. I then filled out the information.



Create a new object...

### New Object - User

Create in: BryanBrowe.com/Users

First name:  Initials:

Last name:

Full name:

User logon name:

User logon name (pre-Windows 2000):

< Back Next > Cancel

New Object - User

Create in: BryanBrowe.com/Users

Password:

Confirm password:

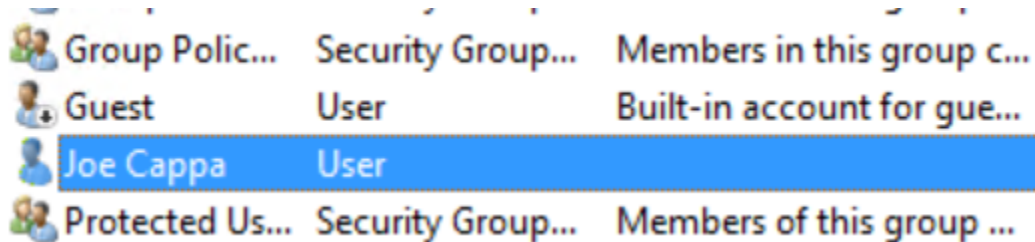
☐ User must change password at next logon

☒ User cannot change password

☒ Password never expires

☐ Account is disabled

< Back Next > Cancel



8. Login with the new account- In the Windows 10 machine, open settings, I looked up remote and selected Allow remote connections with this computer -> click Show settings next to "Change settings to allow remote connections to this computer" -> under Remote, click Select Users... -> Add -> type "Domain Users" -> Check Names -> OK.

Select Users or Groups

Select this object type:

Users or Groups Object Types...

From this location:

BryanBrowe.com Locations...

Enter the object names to select (examples):

domain users Check Names

Advanced... OK Cancel

# For developers

## Remote Desktop

Apply the following settings to enable Remote Desktop and ensure machine availability.

☒ Change settings to allow remote connections to this computer [Show settings](#)

☒ Change settings to allow connections only from computers running Remote Desktop with Network Level Authentication [Show settings](#)

Apply

System Properties ×

Computer Name Hardware Advanced System Protection Remote

Remote Assistance

☒ Allow Remote Assistance connections to this computer

[What happens when I enable Remote Assistance?](#)

Advanced...

Remote Desktop

Choose an option, and then specify who can connect.

☐ Don't allow remote connections to this computer

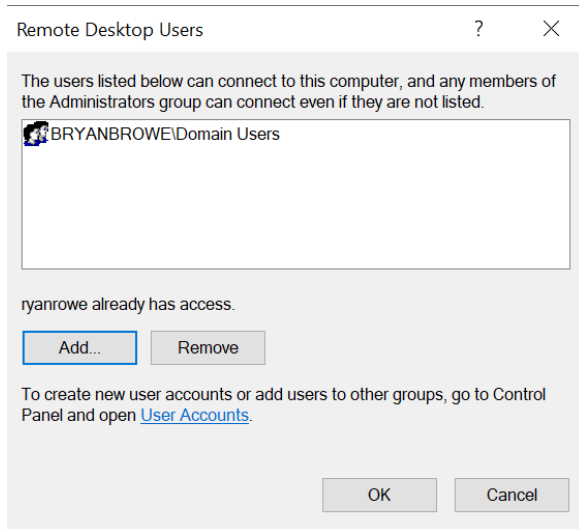
☒ Allow remote connections to this computer

☒ Allow connections only from computers running Remote Desktop with Network Level Authentication (recommended)

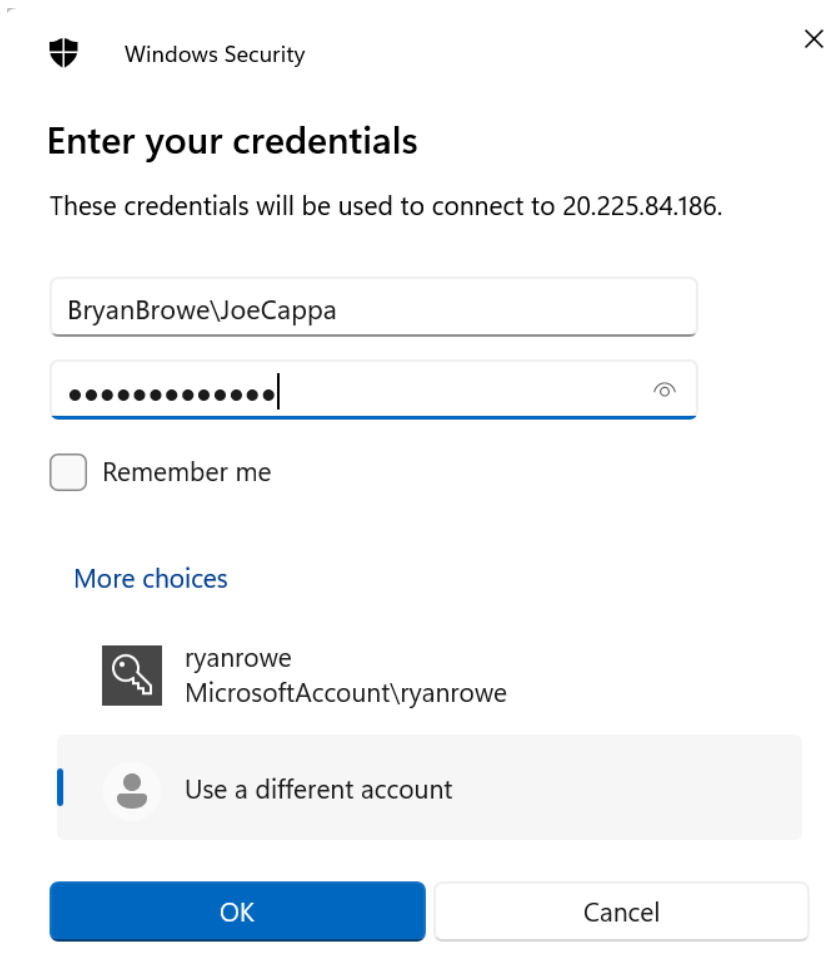
[Help me choose](#)

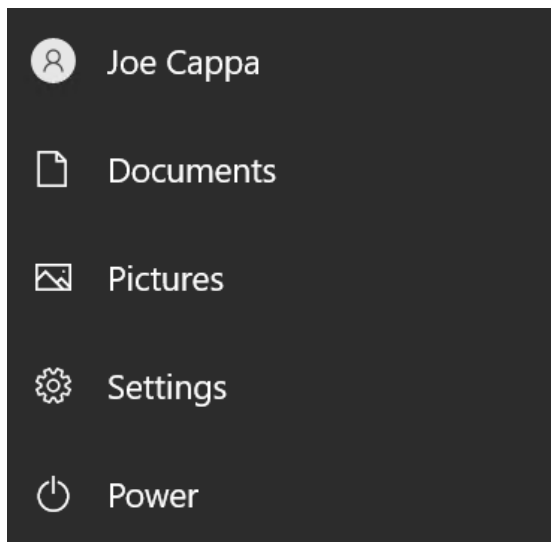
Select Users...

OK Cancel Apply



Finally, I logged out of the admin account and logged in with the new account. Format: domain name\username.





After shutting down the machines, I deleted the snapshot.