

CIS272 Fall 2021 Course Project

Background

You are a system administrator setting up a domain-server network for **acmeZ.local**. You need to begin to setup and configure the servers that will support the network's infrastructure.

VM Requirements

- Windows Server 2016 VM
- Windows 10 VM

Notes:

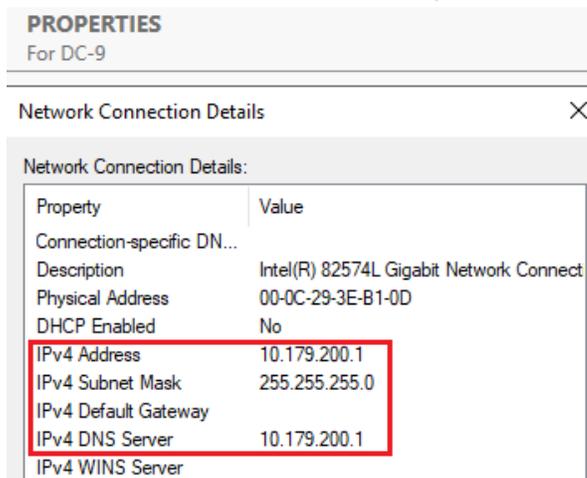
- **Download new fresh VMs from the One Drive link:** https://stujic-my.sharepoint.com/personal/spieklo_jjc_edu/layouts/15/onedrive.aspx?id=%2Fpersonal%2Fspieklo%5Fjjc%5Fedu%2FDocuments%2FCourses%20Software%20and%20VMs%2FCIS271&originalPath=aHR0cHM6Ly9zdHVqamMtbXkuc2hhcmVwb2ludC5jb2vOmY6L2cvcGVyc29uYWwvc3BpZWtsb19gamNfZWRR1L0VxOTdhazR6c3ZOQmhCbjVxRjRiMkhzQnRkYVJhSTVqTzBJSUZBcGc2cDdUdlE%5FcnRpbWU9OVFZdnQyaWEyVWc
- **Do not use VMs from your skills assessments.**
- **Assign each VM to VMnet 5**

Install and configure the following systems:

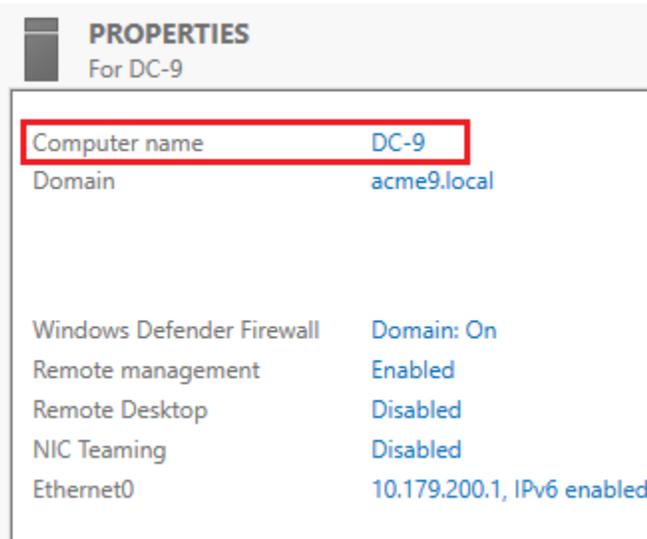
System 1:

Create and configure a Server 2016 system using the following parameters:

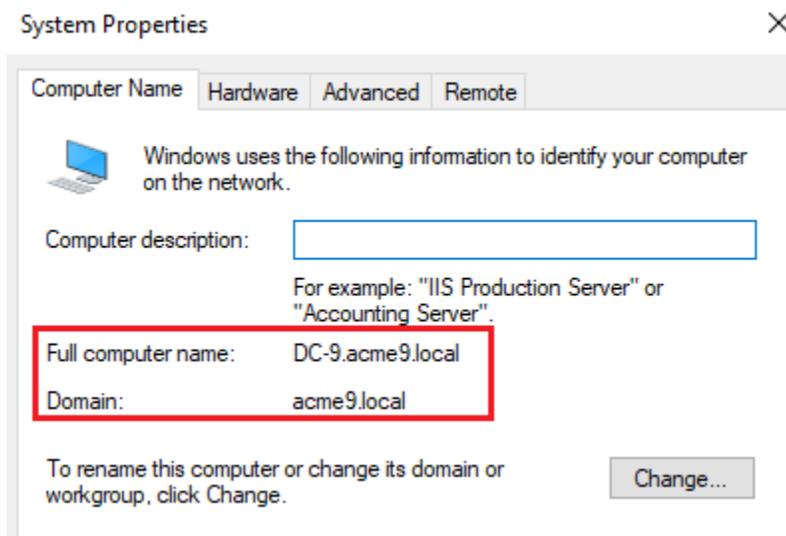
1. Configure the following IP address information: IP Address: **10.179.X.1** and Subnet Mask **255.255.255.0**, and Primary DNS **10.179.X.1**. Look below for your name and network address and do not use your student number.



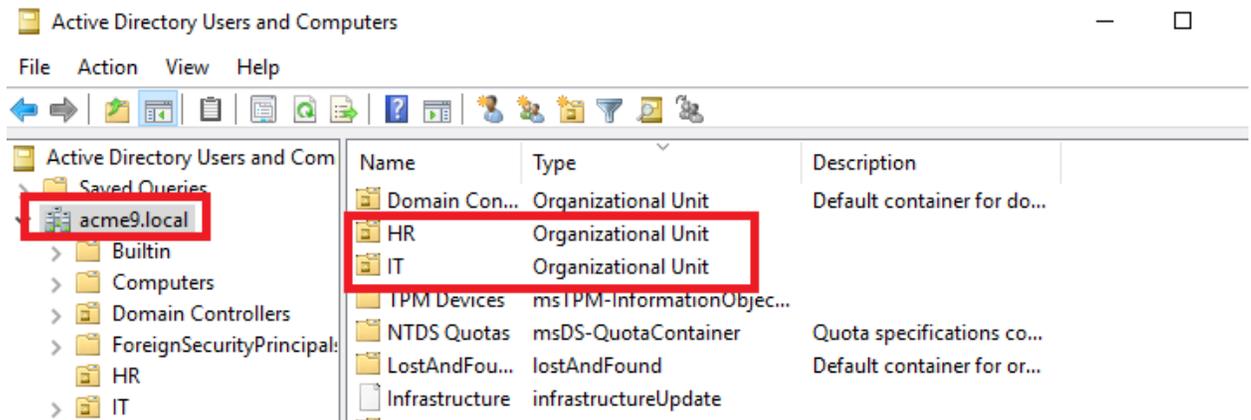
2. Name the server **DC-Z** where 'Z' is your student number in the table below.



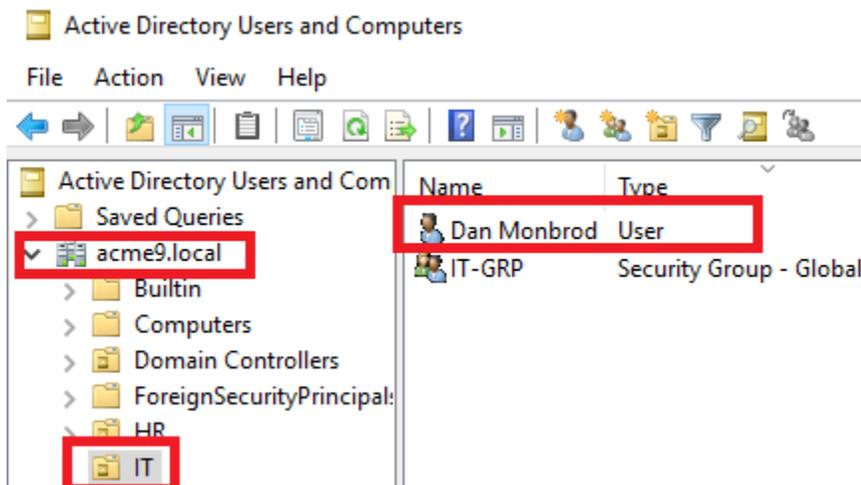
3. Install Active Directory. Create a Domain controller for the domain **acmeZ.local** where 'Z' is your student number in the table below. DNS should be automatically installed as you are creating your domain controller.



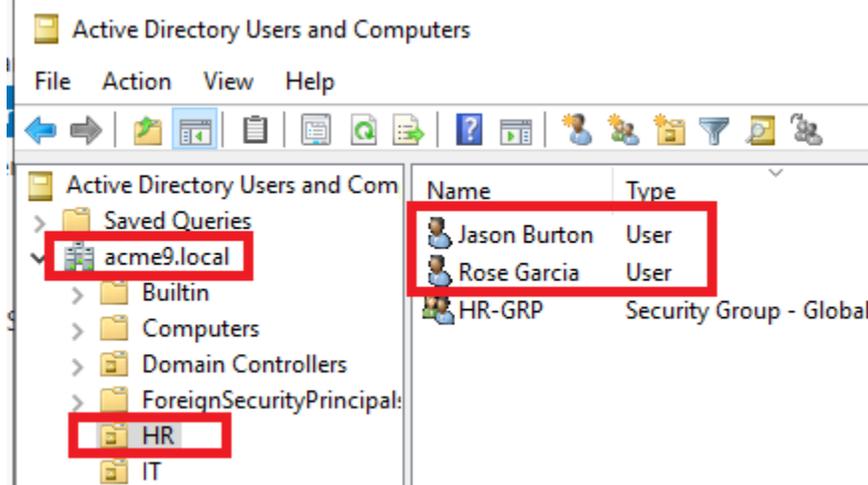
4. Create two OUs named **IT** and **HR**.



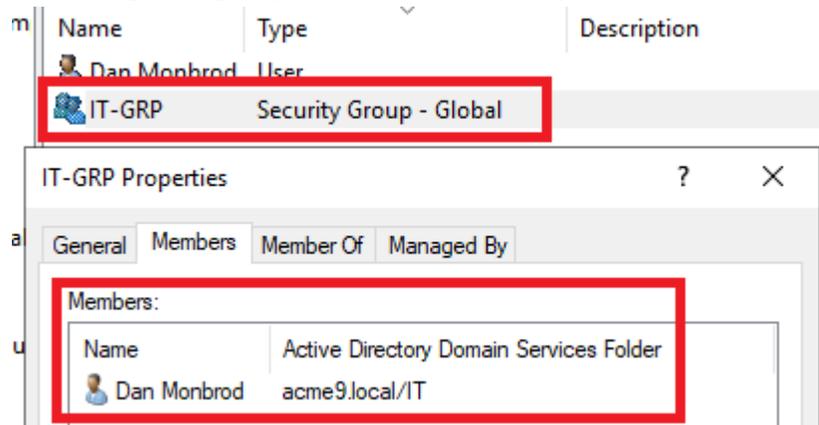
5. In the IT OU, create a user account using your name.



6. In the HR OU, create new user accounts for **Jason Burton** and **Rose Garcia**.

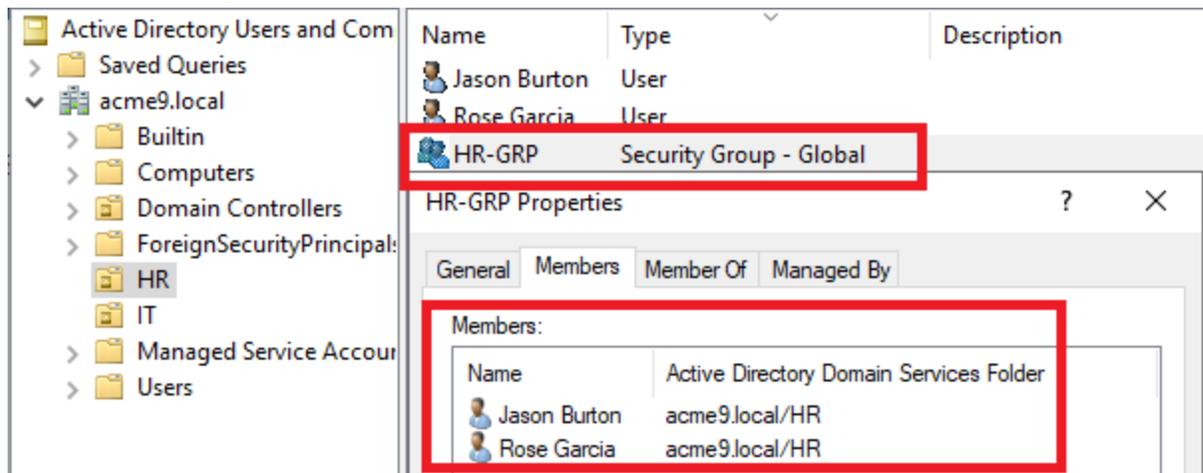


7. In the IT OU, create global group called **IT-GRP**. Add you user account as a member to

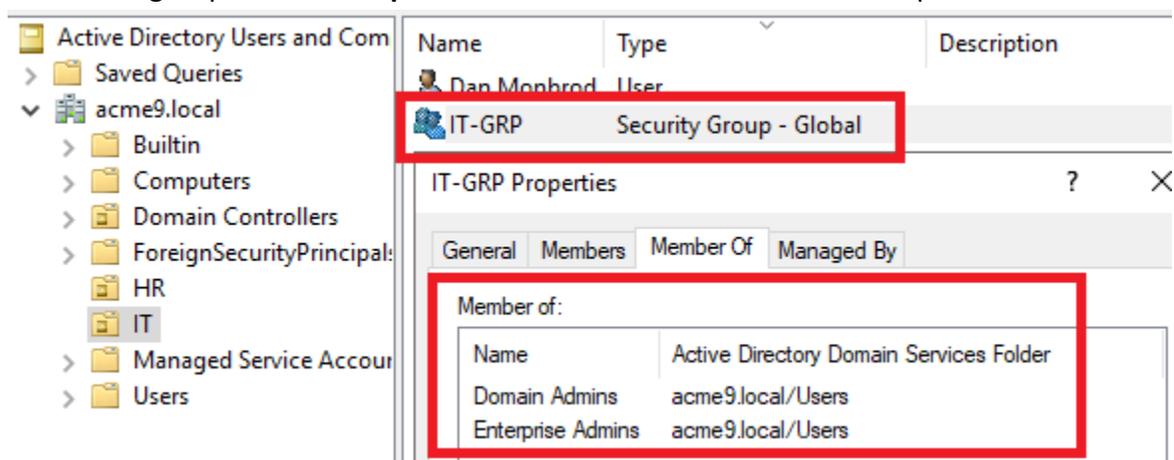


the group.

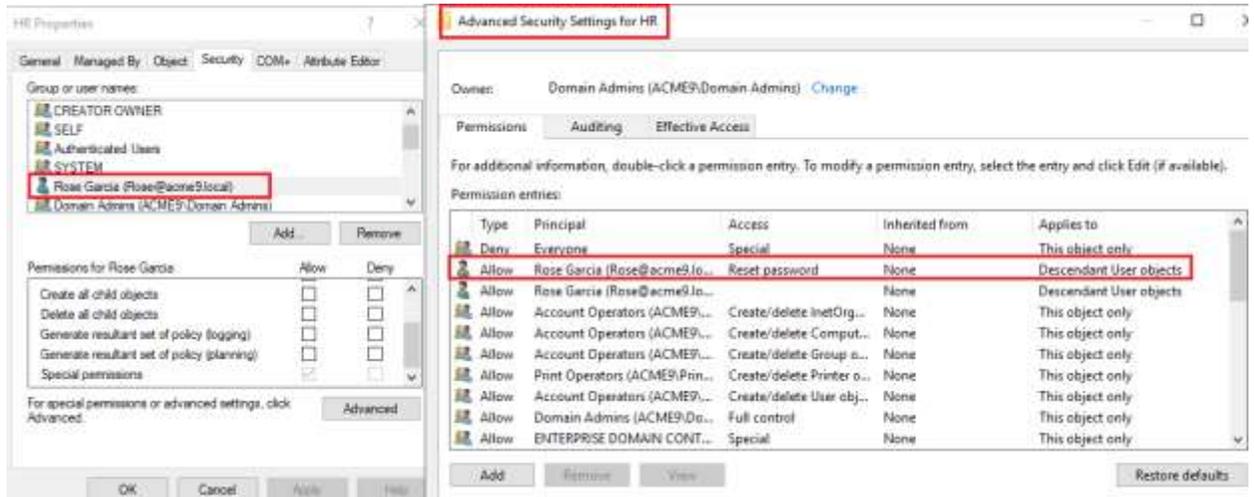
8. In the HR OU, create global group called **HR-GRP**. Add Jason Burton and Rose Garcia as members to the group.



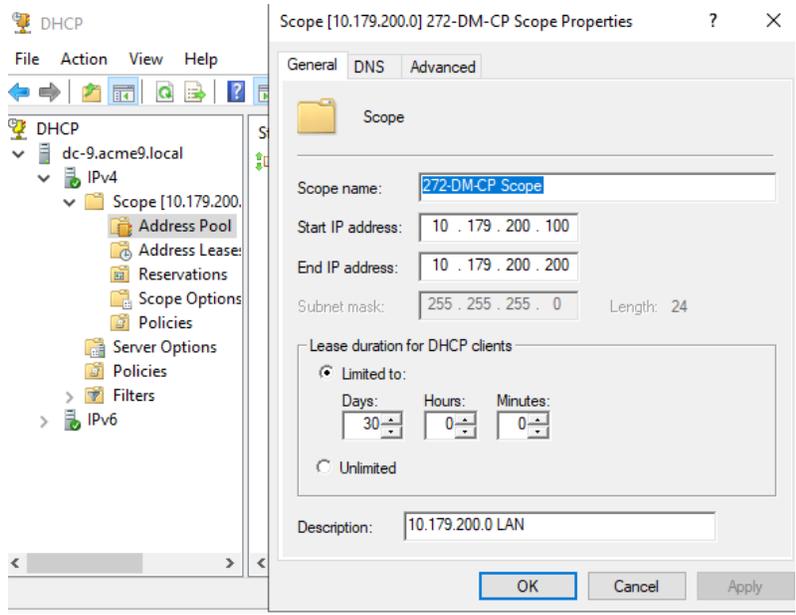
9. Add the IT group to the **Enterprise Admins** and **Domain Admins** Groups.



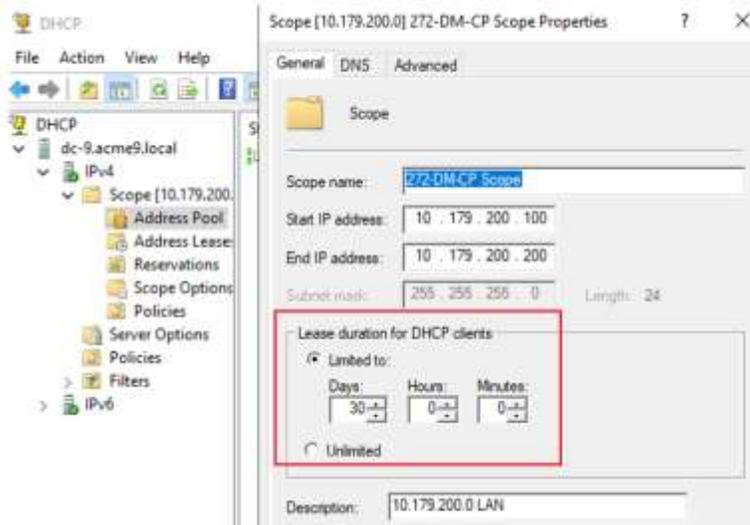
10. Delegate Rose Garcia the ability to reset passwords in the HR OU.



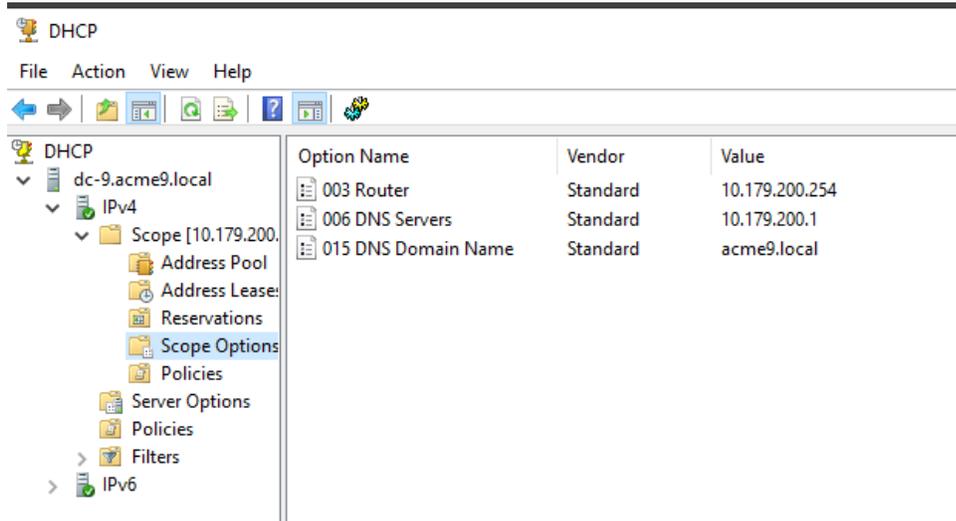
11. Install DHCP server role and configure an IPv4 scope with the following:
 a. Address scope of 10.179.X.100 – 10.179.X.200 with subnet mask of 255.255.255.0



b. Change the lease duration to 30 days.



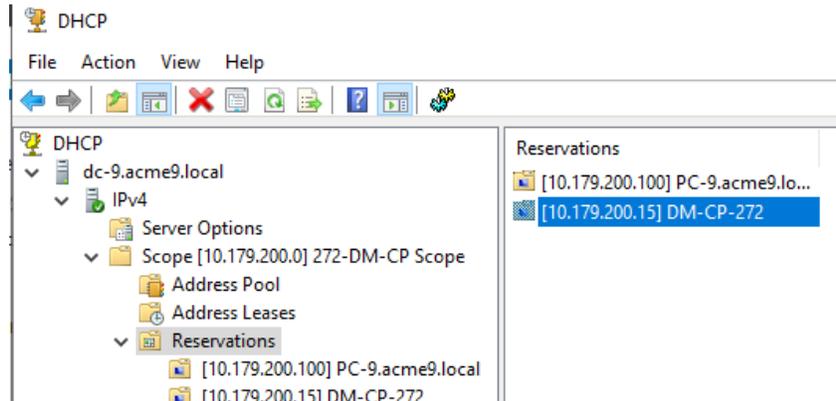
c. Configure router's default gateway address as **10.179.X.254**



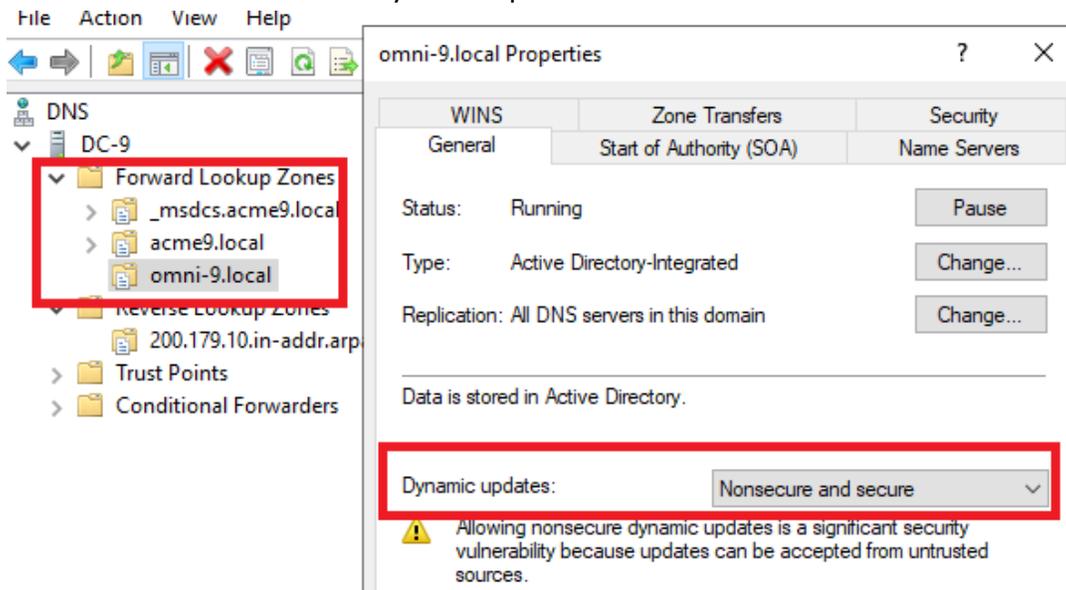
d. Set a server option to give the correct DNS address and Domain Names to clients



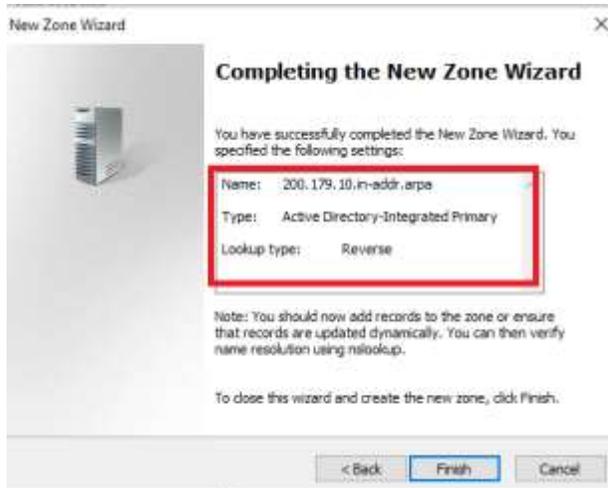
- e. Create an address reservation which reserves the address **10.179.X.15** for the Windows 10 client system you created



12. Install a DNS Forward Zone with the name **omni-Z.local** (Z is your student number) and allow nonsecure and secure dynamic updates.



13. Create a DNS reverse lookup zone for **10.179.X.0/24**.



14. -a,b,c,d. In the Forward Lookup Zone, create a static DNS Record.

The screenshot shows the DNS console with the following structure:

- DC-9
 - Forward Lookup Zones
 - _msdcs.acme9.local
 - acme9.local
 - omni-9.local
 - Reverse Lookup Zones
 - 200.179.10.in-addr.arpa
 - Trust Points
 - Conditional Forwarders

The DNS records table is as follows:

Name	Type	Data	Timestamp
(same as parent folder)	Start of Authority (SOA)	[1], dc-9.acme9.local, hos...	static
(same as parent folder)	Name Server (NS)	dc-9.acme9.local.	static
webserver-9	Host (A)	10.179.200.60	
www	Alias (CNAME)	webserver-9.omni-9.local	

The command prompt window shows the following output:

```
Administrator: C:\Windows\system32\cmd.exe
Name:      webserver-9.omni-9.local
Address:   10.179.200.60

C:\Users\Administrator>nslookup www.omni-9.local
DNS request timed out.
    timeout was 2 seconds.
Server:    UnKnown
Address:   ::1

Name:      webserver-9.omni-9.local
Address:   10.179.200.60
Aliases:   www.omni-9.local
```

- Should be **A record**
- Name should be **webserver-Z** (Z will be your student number)
- IP address should be **10.179.X.60**
- Create a cname (alias) of **www**

15. Create a GPO named **Password Enforce-Z** (Z will be your student number) with the following:

Password Enforce-9
Data collected on: 12/16/2021 8:57:58 AM

General

Links

Location	Enforced	Link Status
HR	Yes	Enabled

This list only includes links in the domain of the GPO.

Computer Configuration (Enabled)

Policies

Windows Settings

Security Settings

Account Policies/Password Policy

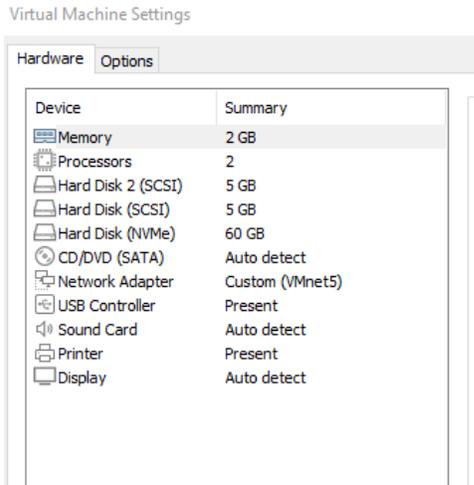
Policy	Setting
Enforce password history	20 passwords remembered
Maximum password age	60 days
Minimum password age	2 days
Minimum password length	10 characters
Password must meet complexity requirements	Enabled

Account Policies/Account Lockout Policy

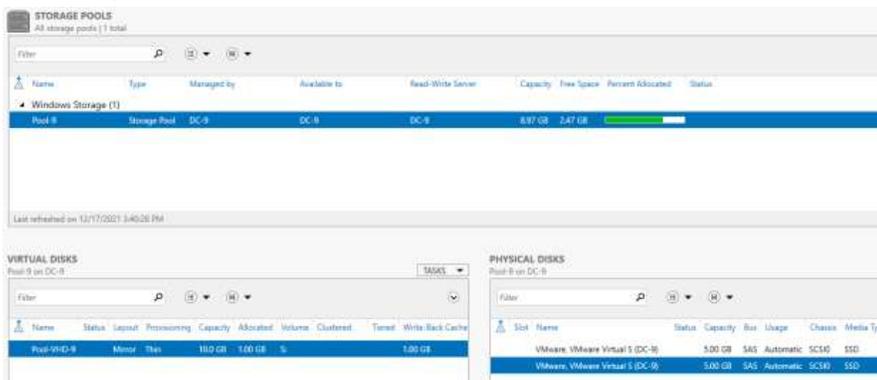
Policy	Setting
Account lockout duration	45 minutes
Account lockout threshold	3 invalid logon attempts
Reset account lockout counter after	30 minutes

- a. Enforce password history for **20 passwords remembered**.
- b. Maximum password age – **60 days**
- c. Minimum password age – **2 days**
- d. Minimum password length – **10 characters**
- e. Enable **password complexity**
- f. Lock Account after **3 attempts**
- g. Account lockout duration for **45 minutes**
- h. Link and enforce the GPO for **HR OU**

16. Add **two 5GB hard disks** (in VM settings) to the VM and configure the disks with the



following:



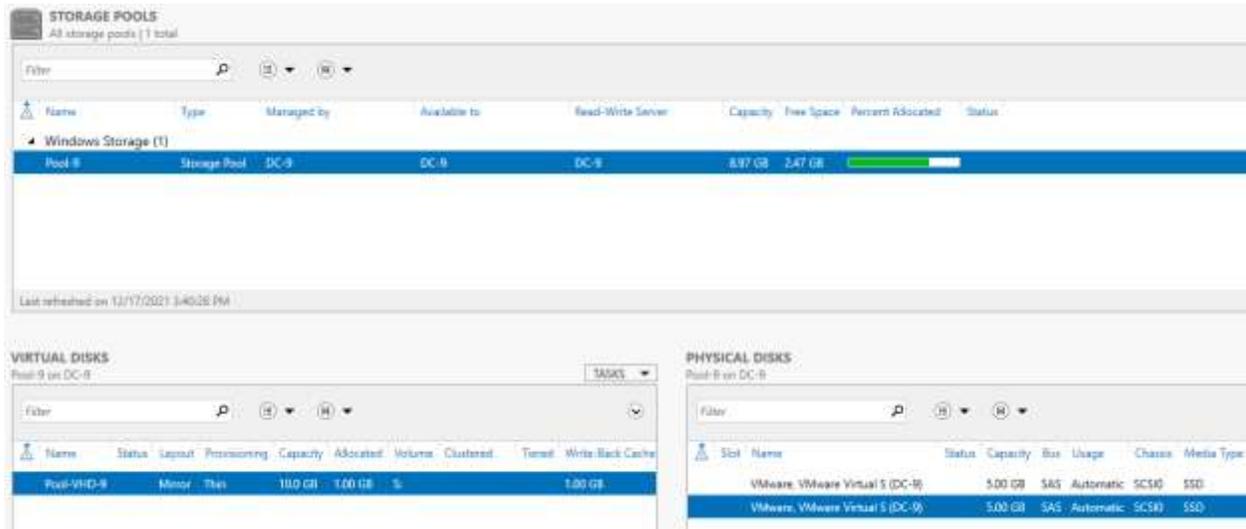
- Create a new storage pool named **Pool-Z** (Z will be your student number) across the two disks with the following:



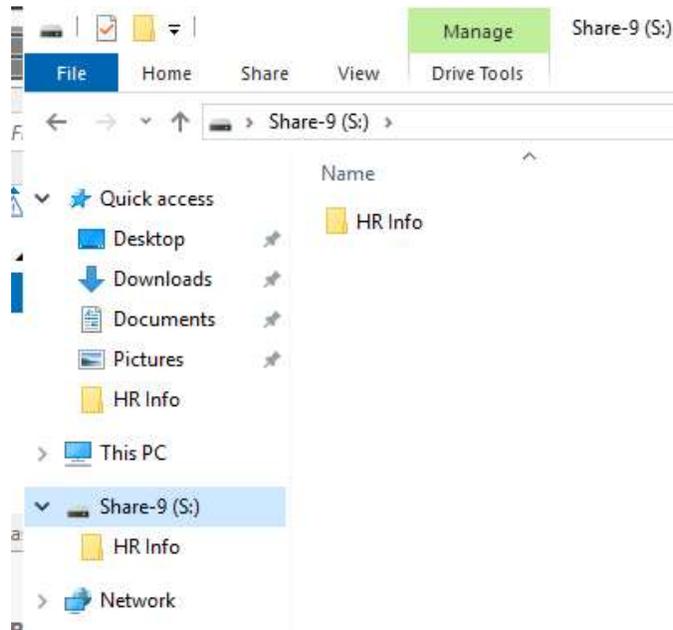
- From the new storage pool, create a **mirrored** virtual disk using the full size and name it as **Pool-VHD-Z**. Z will be your student number



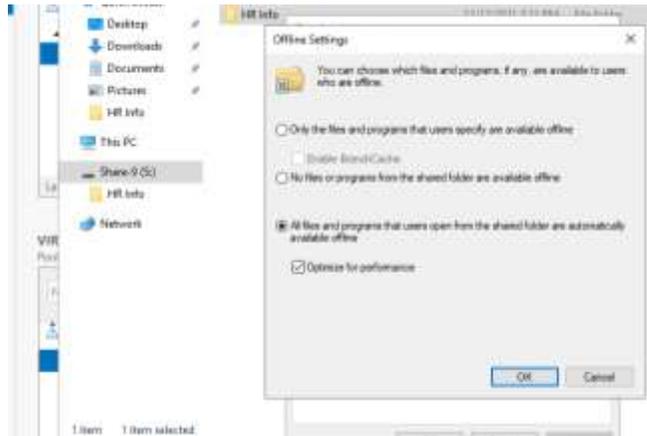
- c. Using the new VHD, create a simple volume using **NTFS** and **thin provisioning**.



- d. Assign the drive letter **S** and name it as **Share-Z**. **Z** will be your student number.

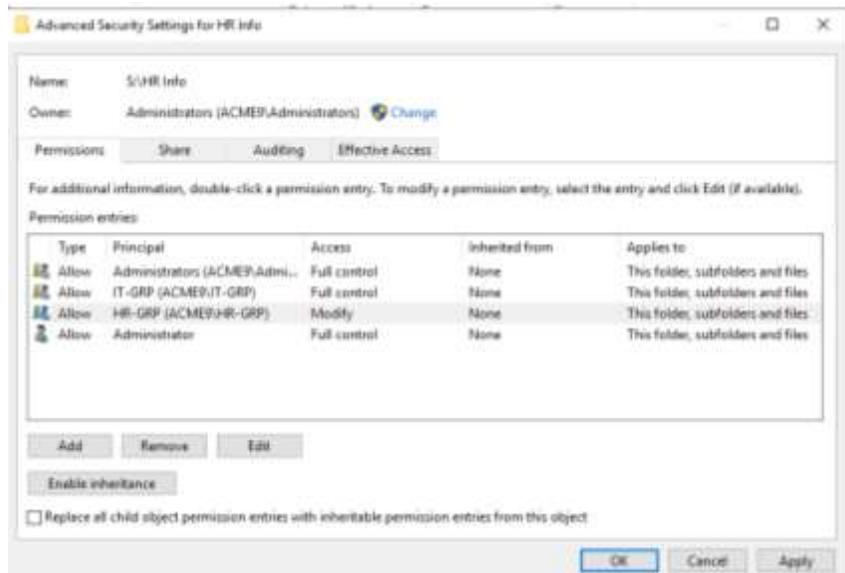


17. In the **S:** drive, create a shared folder named **HR Info** that is hidden from general viewing. Hint: think of money and it is not the hidden using check mark option in

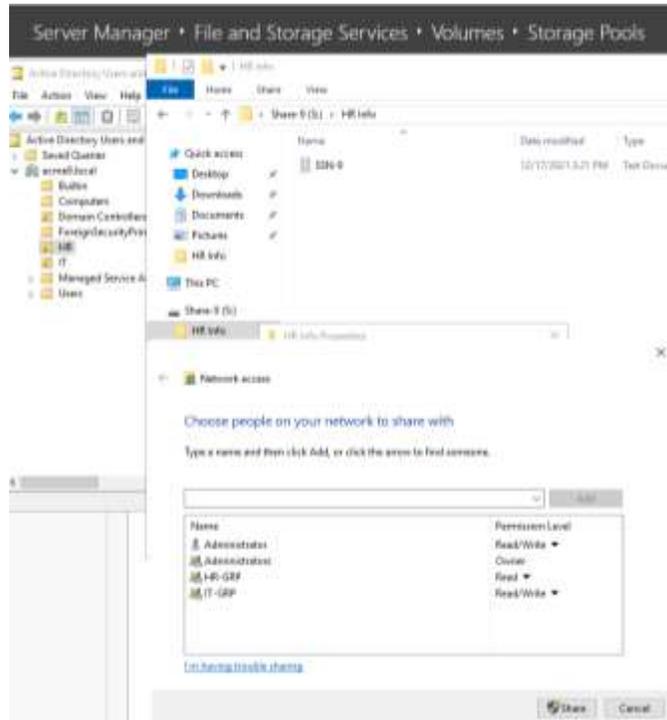


Properties.

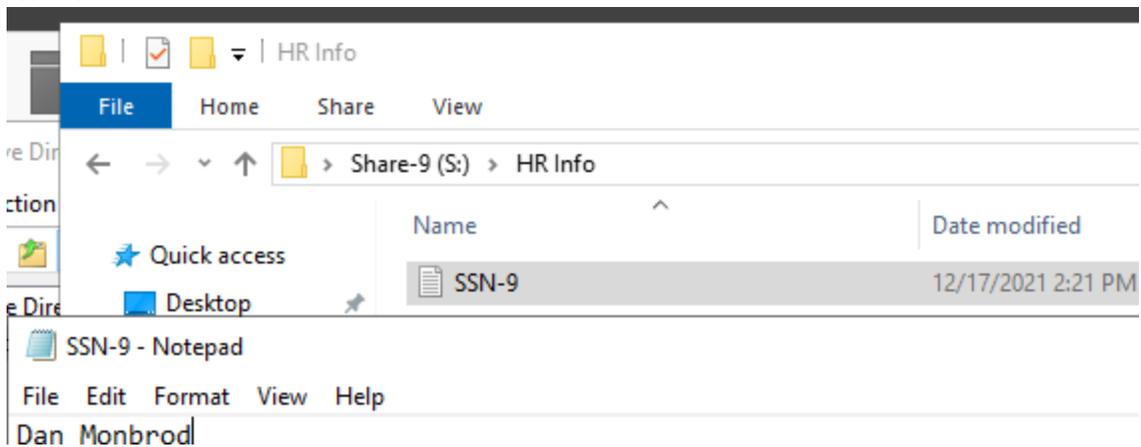
- a. HR will have **Modify** NTFS permissions and IT will have **Full control** NTFS permissions in the hidden folder. Inheritance should be removed and no other users or groups should have access.



- b. IT has **Full Control** share permissions and HR has **Read** share permissions.



- 18. In the **HR Info** folder, create a txt file called **SSN-Z** (Z will be your student number) and type **your name** in the file.



System 2:

Create and configure a Windows 10 system with the following:

1. Obtain a DHCP IPv4 address from DC-Z. **Submit a screenshot of ipconfig /all to show DHCP is active and received the reserved leased IP address.**

```
Administrator: Windows PowerShell

PS C:\Users\Administrator> ipconfig /all

Windows IP Configuration

Host Name . . . . . : PC-9
Primary Dns Suffix . . . . . : acme9.local
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : acme9.local

Ethernet adapter Ethernet0:

Connection-specific DNS Suffix . : acme9.local
Description . . . . . : Intel(R) 82574L Gigabit Network Connection
Physical Address. . . . . : 00-0C-29-2C-69-73
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::491b:f7e1:d51d:66bd%7(Preferred)
IPv4 Address. . . . . : 10.179.200.15(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : Thursday, December 16, 2021 6:35:56 AM
Lease Expires . . . . . : Saturday, January 15, 2022 6:35:55 AM
Default Gateway . . . . . : 0.0.0.0
                             10.179.200.254
DHCP Server . . . . . : 10.179.200.1
DHCPv6 IAID . . . . . : 100666409
DHCPv6 Client DUID. . . . . : 00-01-00-01-29-4C-A2-EA-00-0C-29-2C-69-73
DNS Servers . . . . . : 10.179.200.1
NetBIOS over Tcpi. . . . . : Enabled

Ethernet adapter Bluetooth Network Connection:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
Description . . . . . : Bluetooth Device (Personal Area Network)
Physical Address. . . . . : 28-CD-C4-49-D2-DA
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
PS C:\Users\Administrator>
```

2. Give the system the name **PC-Z** where 'Z' is your student number in the table below.

```
Administrator: Windows PowerShell
PS C:\Users\Administrator> ipconfig /all

Windows IP Configuration

Host Name . . . . . : PC-9
Primary Dns Suffix . . . . . : acme9.local
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : acme9.local

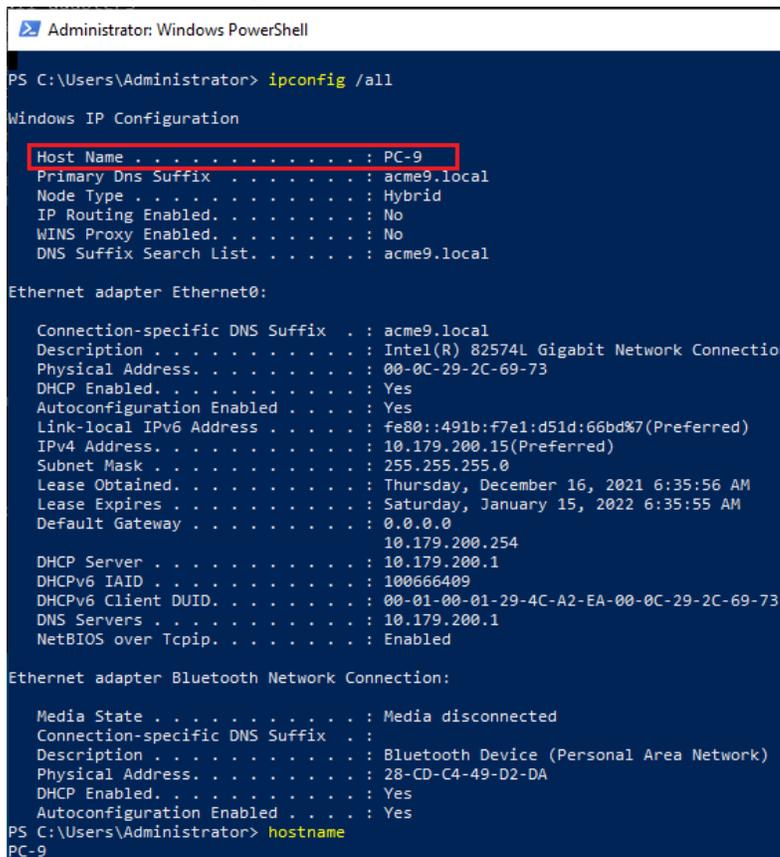
Ethernet adapter Ethernet0:

Connection-specific DNS Suffix . : acme9.local
Description . . . . . : Intel(R) 82574L Gigabit Network Connection
Physical Address. . . . . : 00-0C-29-2C-69-73
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::491b:f7e1:d51d:66bd%7(Preferred)
IPv4 Address. . . . . : 10.179.200.15(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : Thursday, December 16, 2021 6:35:56 AM
Lease Expires . . . . . : Saturday, January 15, 2022 6:35:55 AM
Default Gateway . . . . . : 0.0.0.0
                               10.179.200.254
DHCP Server . . . . . : 10.179.200.1
DHCPv6 IAID . . . . . : 100666409
DHCPv6 Client DUID. . . . . : 00-01-00-01-29-4C-A2-EA-00-0C-29-2C-69-73
DNS Servers . . . . . : 10.179.200.1
NetBIOS over TcPIP. . . . . : Enabled

Ethernet adapter Bluetooth Network Connection:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
Description . . . . . : Bluetooth Device (Personal Area Network)
Physical Address. . . . . : 28-CD-C4-49-D2-DA
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
PS C:\Users\Administrator> hostname
PC-9
```

3. Join the system to your domain.



```
Administrator: Windows PowerShell
PS C:\Users\Administrator> ipconfig /all

Windows IP Configuration

Host Name . . . . . : PC-9
Primary Dns Suffix . . . . . : acme9.local
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : acme9.local

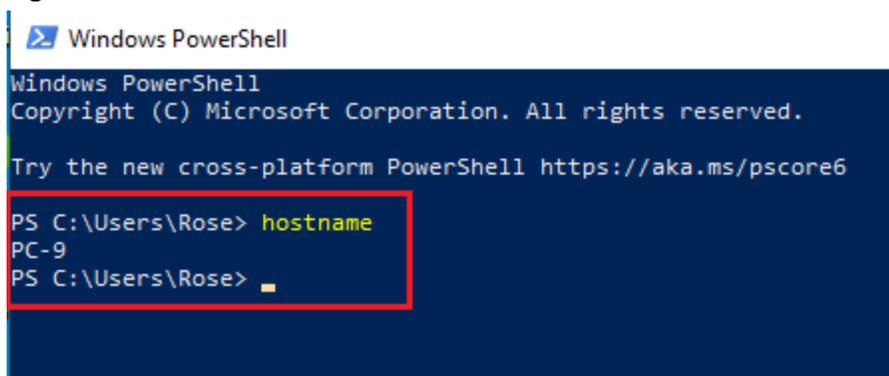
Ethernet adapter Ethernet0:

    Connection-specific DNS Suffix  . : acme9.local
    Description . . . . . : Intel(R) 82574L Gigabit Network Connection
    Physical Address. . . . . : 00-0C-29-2C-69-73
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    Link-local IPv6 Address . . . . . : fe80::491b:f7e1:d51d:66bd%7(Preferred)
    IPv4 Address. . . . . : 10.179.200.15(Preferred)
    Subnet Mask . . . . . : 255.255.255.0
    Lease Obtained. . . . . : Thursday, December 16, 2021 6:35:56 AM
    Lease Expires . . . . . : Saturday, January 15, 2022 6:35:55 AM
    Default Gateway . . . . . : 0.0.0.0
                                   10.179.200.254
    DHCP Server . . . . . : 10.179.200.1
    DHCPv6 IAID . . . . . : 100666409
    DHCPv6 Client DUID. . . . . : 00-01-00-01-29-4C-A2-EA-00-0C-29-2C-69-73
    DNS Servers . . . . . : 10.179.200.1
    NetBIOS over Tcpi. . . . . : Enabled

Ethernet adapter Bluetooth Network Connection:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :
    Description . . . . . : Bluetooth Device (Personal Area Network)
    Physical Address. . . . . : 28-CD-C4-49-D2-DA
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
PS C:\Users\Administrator> hostname
PC-9
```

4. Sign into the domain as Rose Garcia.



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Rose> hostname
PC-9
PS C:\Users\Rose> _
```

- a. Attempt to change password that is less than 10 characters. Submit the screenshot demonstrating changing the password attempt failed.

- b. Access the hidden HR folder. Attempt to modify the SSN-Z file. Demonstrate that Rose does not have permission to modify the file.

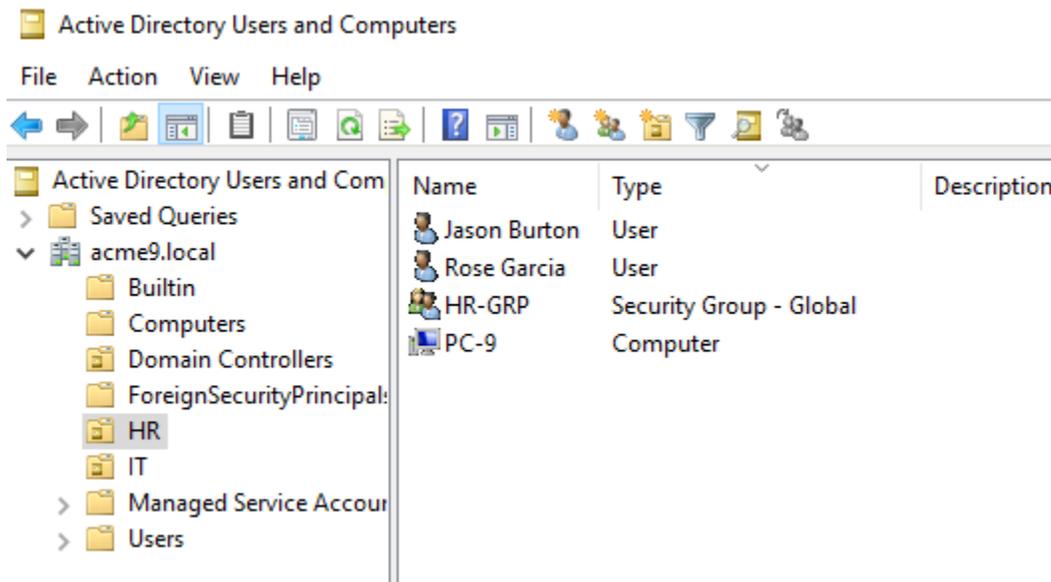
```

C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.19041.508]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\Rose>more S:\HR Info\SSN-9.txt
Cannot access file S:\HR

C:\Users\Rose>_
    
```

5. Return to System1 and move PC-Z to the HR OU.



Submission Info

You can submit a Word/PowerPoint file with all of the screenshots for each task. **Make sure that you label each screenshot for the system and task number in the Word or PowerPoint file. Do not assume that I will know what it is for.**

The scoring rubric will assist in which screenshots are required and point value for each task. Project is due by **December 17th**.

Student Number/Network Address Info

Student Number	Student	Network Address
1	Blake Brazzale	10.179.192.0/24
2	Dan Earl	10.179.193.0/24
3	Niklas Evans	10.179.194.0/24
4	Robert Flores	10.179.195.0/24

5	Jason Goffinet	10.179.196.0/24
6	Charles Kalafut	10.179.197.0/24
7	Mekhi King	10.179.198.0/24
8	Conor Michno	10.179.199.0/24
9	Daniel Monbrod	10.179.200.0/24
10	Jacob Nowland	10.179.201.0/24
11	Emmanuel Nyiahmbell	10.179.202.0/24
12	Michael Podwika	10.179.203.0/24
13	Muhammed Rehman	10.179.204.0/24
14	Matthew Rivera	10.179.205.0/24
15	Paul Shaper	10.179.206.0/24
16	Kyle Sumpay	10.179.207.0/24
17	Johnny Tirado	10.179.208.0/24
18	Ryan Walsh	10.179.209.0/24
19	Oscar Zaragoza	10.179.210.0/24