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NETWORK INSTALLATION AND ADMINISTRATION II

## LAB ASSIGNMENT 1 (PART 1)- MANAGING AD DOMAINS, FORESTS, AND TRUSTS

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Teacher: Antoine Tohme

Student: Houman Sharifian alborzi



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COLLEGE JOHNABBOTTE

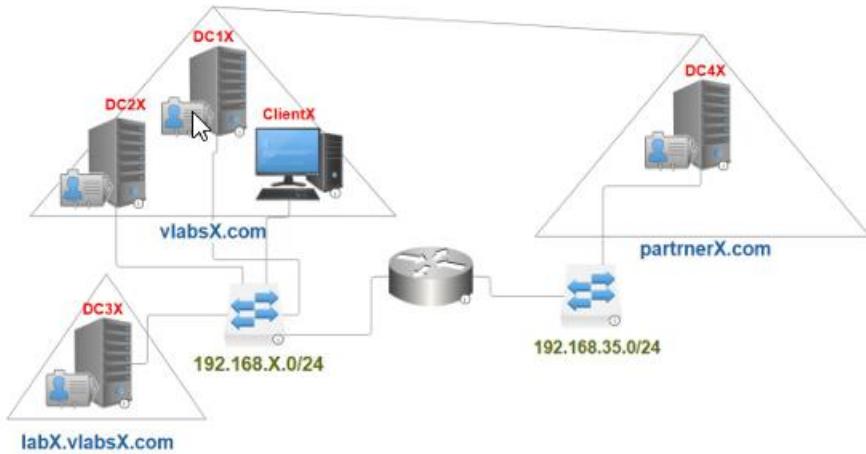
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## Lab Overview

This lab provides guidance on best practices for configuring and managing Active Directory (AD) domains, forests, and trusts. In this lab, a multi-forest environment will be set up, DNS will be configured for communication, and trust relationships will be established.

# Topology



My Lab Number in college is 9, So all X in the picture should be 9 .

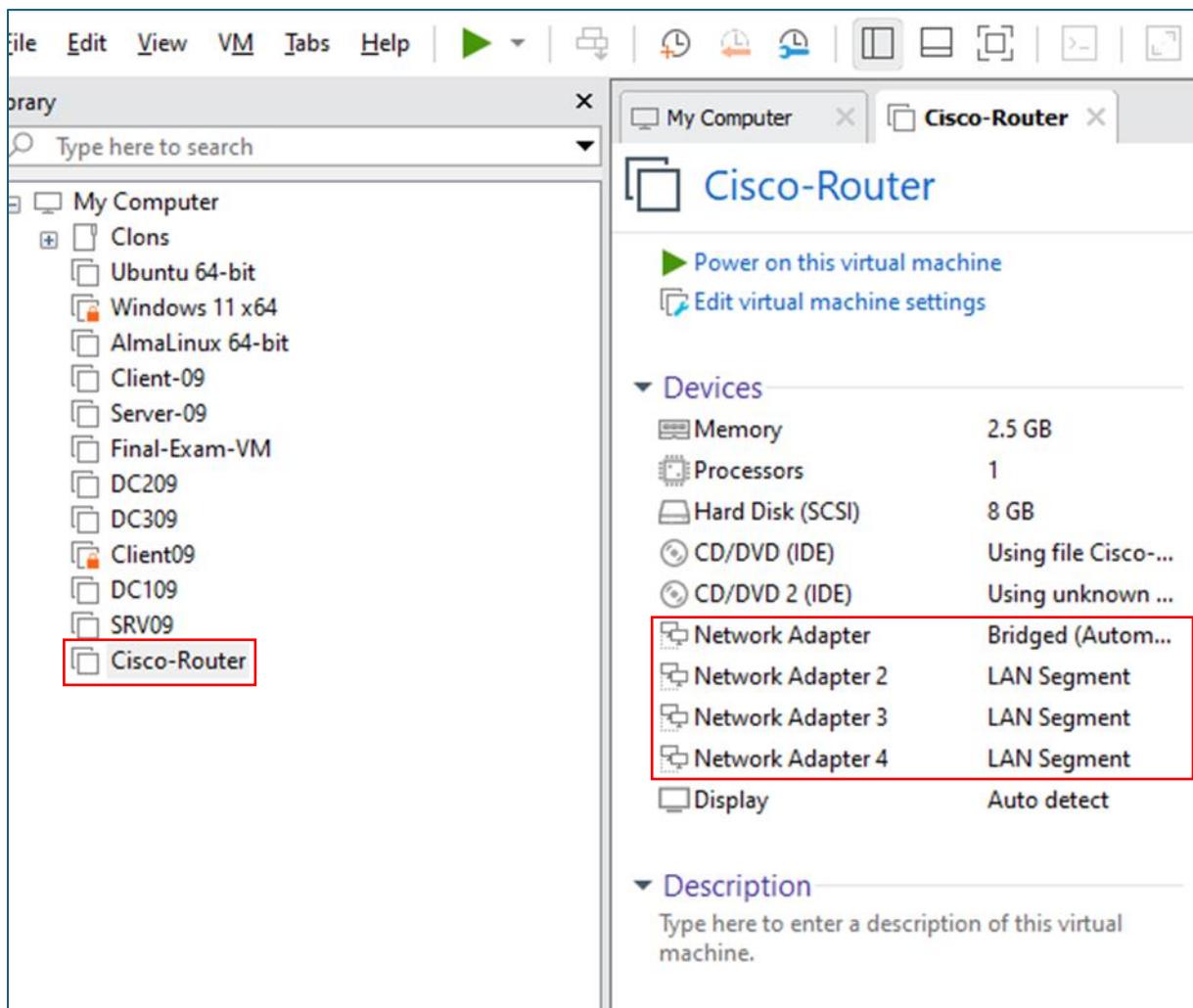
## Lab Requirements

- DC109 (Windows Server 2022): PDC for vlabs09.com
- DC209 (Windows Server 2025): RODC Core for vlabs09.com.
- DC309 (Windows Server 2022): Child DC for lab.vlabs09.com.
- DC409 (Windows Server 2025): New DC for partner09.com.
- Client09 (Windows 11): Domain-joined to vlabs09.com.
- Cisco-Router (CSR1000V): For routing between forests

# Lab Assignment Preparation

## Task 1: Import Cisco Router VM

1. Download the Cisco-Router.ova file using the following link: [Cisco Router VM](#)
2. Import the Cisco-Router using the Cisco-Router.ova file.
3. Before starting the router, open the VM settings and make sure that:
  - Network Adapter → Bridged
  - Network Adapter 2 → LAN1
  - Network Adapter 3 → LAN2
  - Network Adapter 4 → LAN3



4. Start the Cisco-Router VM. Click inside the VM and press any key to continue. It will take a couple of minutes to boot. Just wait.

```
GRUB Loading stage2..  
Press any key to continue.
```

5. Wait until it starts, type show ip int br to verify the IP address of the 4 NICs.

```
Press RETURN to get started!  
  
Cisco-Router>sh ip int br  
Interface          IP-Address      OK? Method Status      Protocol  
GigabitEthernet1   192.168.25.50  YES NVRAM  up        up  
GigabitEthernet2   192.168.35.50  YES NVRAM  up        up  
GigabitEthernet3   192.168.45.50  YES NVRAM  up        up  
GigabitEthernet0   10.164.0.36   YES DHCP   up        up  
Cisco-Router>_
```

6. Verify the following:

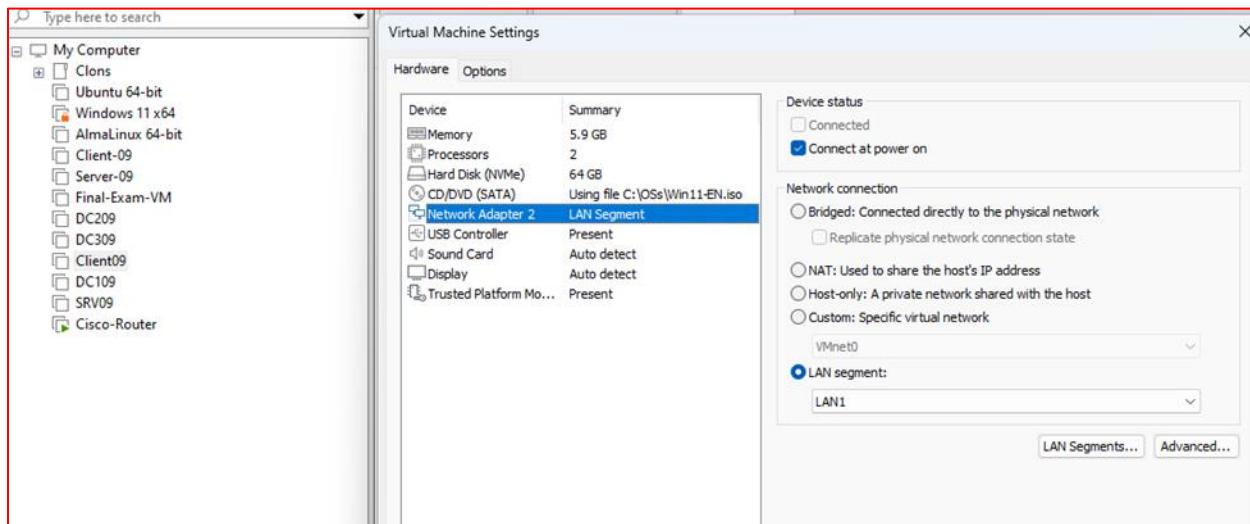
- GigabitEthernet1 has an address 192.168.25.50 → To Modify
- GigabitEthernet2 has an address 192.168.35.50 → Keep it as it is.
- GigabitEthernet3 has an address 192.168.45.50 → Keep it as it is.
- GigabitEthernet 0 has a Bridged address → Keep it as it is.

7. You need to modify this IP address of GigabitEthernet1 and use 192.168.X.50/24 (where X is your remote PC number).

```
Cisco-Router>en  
Cisco-Router#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
Cisco-Router(config)#int g1  
Cisco-Router(config-if)#ip address 192.168.9.50 255.255.255.0  
Cisco-Router(config-if)#end  
Cisco-Router#wr  
Building configuration...  
[OK]  
Cisco-Router#_
```

## Task 2: Servers Configuration

1. Remove the card NAT from ClientXX (if it exists), just keep the Lan Segment LAN1.



2. Add the following Gateway IP on DC1XX, DC2XX, DC3XX and ClientXX:

- Gateway: 192.168.X.50

Note: Use this command to add the Gateway on DC2XX:

```
netsh interface ipv4 set address name="Ethernet0" static 192.168.25.2 255.255.255.0 192.168.25.50
```

```
Ethernet adapter Ethernet1:
Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::ed:1314:306:a468%15
IPv4 Address. . . . . : 192.168.9.1
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
PS C:\Users\Administrator> netsh interface ipv4 set address name="Ethernet1" static 192.168.9.1 255.255.255.0 192.168.9.50

PS C:\Users\Administrator> ipconfig

Windows IP Configuration

Ethernet adapter Ethernet1:
Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::ed:1314:306:a468%15
IPv4 Address. . . . . : 192.168.9.1
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.9.50
PS C:\Users\Administrator> -
```

```
Ethernet adapter Ethernet0:

Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::45b3:9cb:83b:83a8%14
IPv4 Address. . . . . : 192.168.9.3
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.9.1
PS C:\Users\Administrator> netsh interface ipv4 set address name="Ethernet0" static 192.168.9.3 255.255.255.0 192.168.9.50

PS C:\Users\Administrator> ipconfig

Windows IP Configuration

Ethernet adapter Ethernet0:

Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::45b3:9cb:83b:83a8%14
IPv4 Address. . . . . : 192.168.9.3
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.9.50
PS C:\Users\Administrator>
```

```
Administrator: Windows PowerShell - PS C:\Users\Administrator.CLIENT09> hostname
Client09
PS C:\Users\Administrator.CLIENT09> ipconfig

Windows IP Configuration

Ethernet adapter Ethernet1:

Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::d9a5:8769:bb28:ac01%6
IPv4 Address. . . . . : 192.168.9.100
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.9.1
PS C:\Users\Administrator.CLIENT09> netsh interface ipv4 set address name="Ethernet1" static 192.168.9.100 255.255.255.0 192.168.9.50

PS C:\Users\Administrator.CLIENT09> ipconfig

Windows IP Configuration

Ethernet adapter Ethernet1:

Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::d9a5:8769:bb28:ac01%6
IPv4 Address. . . . . : 192.168.9.100
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.9.50
PS C:\Users\Administrator.CLIENT09>
```

```

PS C:\Users\Administrator.VLABS09> hostname
DC209
PS C:\Users\Administrator.VLABS09> ipconfig

Windows IP Configuration

Ethernet adapter Ethernet1:

Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::1863:1319:48cc:b44f%3
IPv4 Address. . . . . : 192.168.9.2
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.9.1
PS C:\Users\Administrator.VLABS09> netsh interface ipv4 set address name="Ethernet1" static 192.168.9.2 255.255.255.0 192.168.9.50
PS C:\Users\Administrator.VLABS09> ipconfig

Windows IP Configuration

Ethernet adapter Ethernet1:

Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::1863:1319:48cc:b44f%3
Default Gateway . . . . . : 192.168.9.50
PS C:\Users\Administrator.VLABS09> ipconfig

Windows IP Configuration

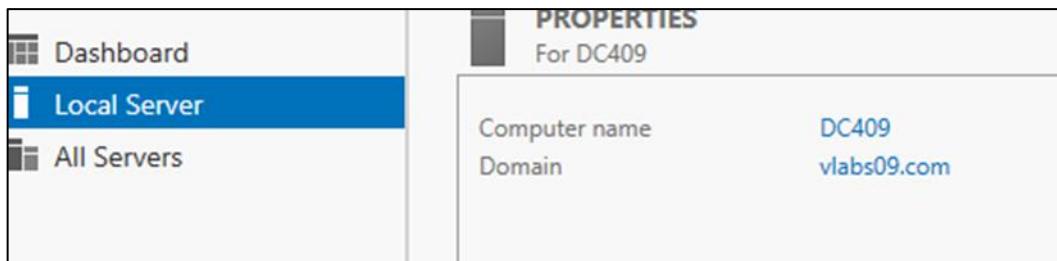
Ethernet adapter Ethernet1:

Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::1863:1319:48cc:b44f%3
IPv4 Address. . . . . : 192.168.9.2
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.9.50
PS C:\Users\Administrator.VLABS09>

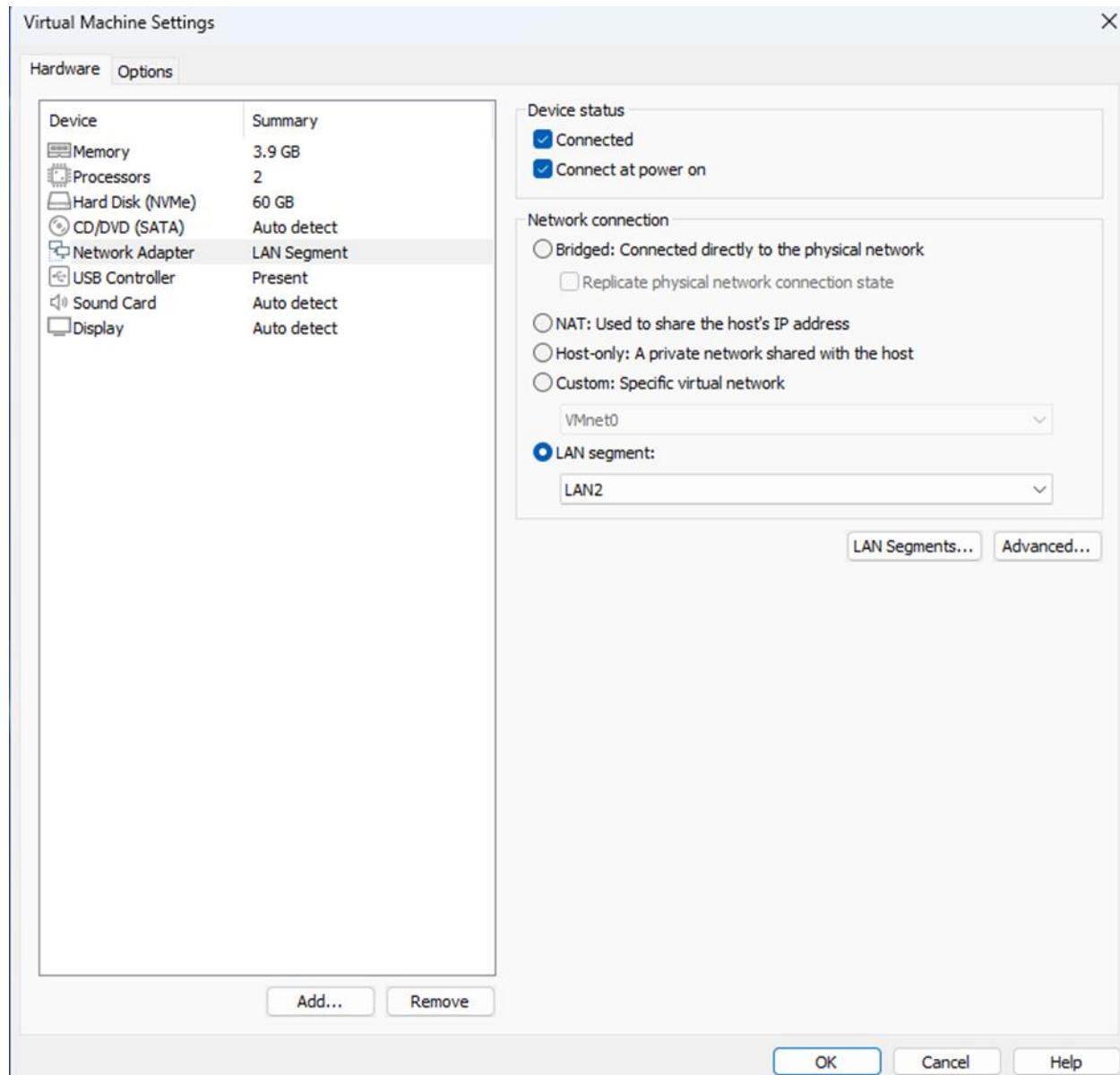
```

### 3. SRVXX: Windows Server 2025 Core Desktop

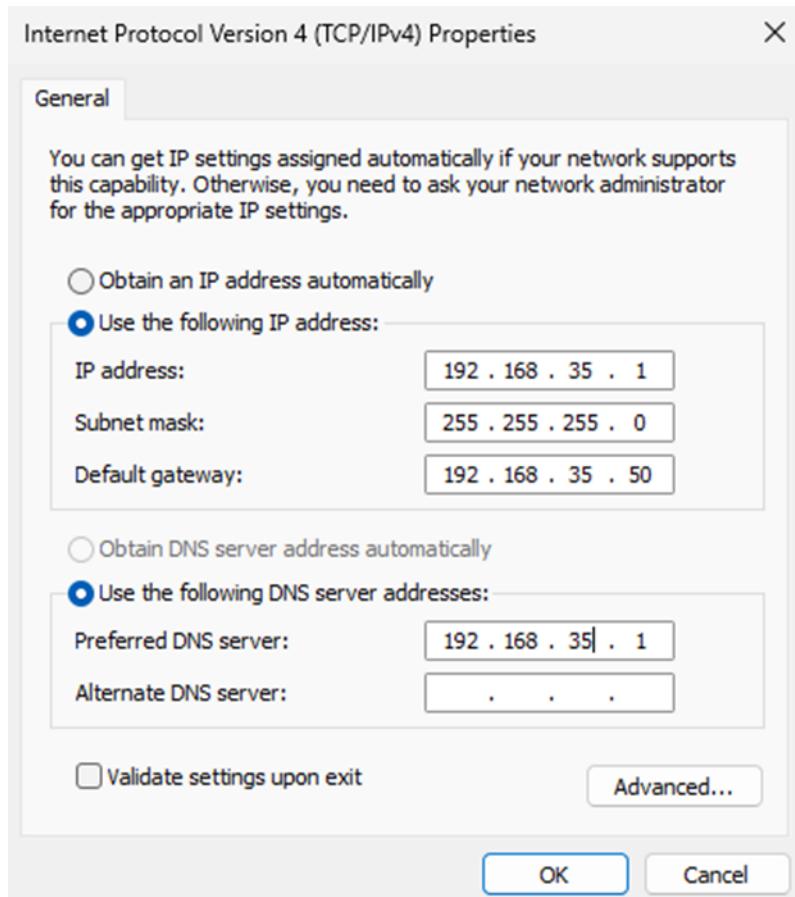
- First, rename SRVXX to DC4XX and restart the VM.



- Modify the Network Adapter → LAN2



- Set IP 192.168.35.1/24
- Set Primary DNS: 192.168.35.1
- Set Gateway: 192.168.35.50



- Enable ping using the following command:

```
netsh advfirewall firewall add rule name="Allow ICMPv4-In" protocol=icmpv4:8,any dir=in action=allow
```

```
Administrator: Windows PowerShell + 
PS C:\Users\Administrator> netsh advfirewall firewall add rule name="Allow ICMPv4-In" protocol=icmpv4:8,any dir=in action=allow
Ok.

PS C:\Users\Administrator> |
```

4. Test network connectivity

- Verify the ping between DC1XX, DC2XX, DC3XX, DC4XX, and ClientXX

```
PS C:\Users\Administrator.CLIENT09> ping 192.168.9.1

Pinging 192.168.9.1 with 32 bytes of data:
Reply from 192.168.9.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.9.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator.CLIENT09> ping 192.168.9.2

Pinging 192.168.9.2 with 32 bytes of data:
Reply from 192.168.9.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.9.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator.CLIENT09> ping 192.168.9.3

Pinging 192.168.9.3 with 32 bytes of data:
Reply from 192.168.9.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.9.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator.CLIENT09>
```

```
Administrator: Windows Pow X + ▾
PS C:\Users\Administrator.CLIENT09> ping 192.168.35.1

Pinging 192.168.35.1 with 32 bytes of data:
Reply from 192.168.35.1: bytes=32 time<1ms TTL=127
Reply from 192.168.35.1: bytes=32 time<1ms TTL=127
Reply from 192.168.35.1: bytes=32 time=1ms TTL=127
Reply from 192.168.35.1: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.35.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
PS C:\Users\Administrator.CLIENT09> |
```

```
My Computer Cisco-Router Client09 DC209 DC109 DC309 DC4
Administrator: Windows PowerShell
PS C:\Users\Administrator> ping 192.168.9.2

Pinging 192.168.9.2 with 32 bytes of data:
Reply from 192.168.9.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.9.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator> ping 192.168.9.3

Pinging 192.168.9.3 with 32 bytes of data:
Reply from 192.168.9.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.9.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator> ping 192.168.9.100

Pinging 192.168.9.100 with 32 bytes of data:
Reply from 192.168.9.100: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.9.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
```

The screenshot shows a Windows PowerShell window titled "Administrator: Windows PowerShell". The title bar also lists several other open windows: "My Computer", "Cisco-Router", "Client09", "DC209", "DC109", "DC309", and "DC409". The main content of the window is a command-line session:

```
PS C:\Users\Administrator> ping 192.168.35.1

Pinging 192.168.35.1 with 32 bytes of data:
Reply from 192.168.35.1: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.35.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator>
```

```
My Computer Cisco-Router Client09 DC209
Administrator: C:\WINDOWS\system32\cmd.exe
PS C:\Users\Administrator.VLABS09> ping 192.168.9.1

Pinging 192.168.9.1 with 32 bytes of data:
Reply from 192.168.9.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.9.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator.VLABS09> ping 192.168.9.3

Pinging 192.168.9.3 with 32 bytes of data:
Reply from 192.168.9.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.9.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator.VLABS09> ping 192.168.9.100

Pinging 192.168.9.100 with 32 bytes of data:
Reply from 192.168.9.100: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.9.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator.VLABS09> ping 192.168.35.1

Pinging 192.168.35.1 with 32 bytes of data:
Reply from 192.168.35.1: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.35.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator.VLABS09>
```

```
My Computer Cisco-Router Client09 DC209 DC109 DC309 DC
Administrator: Windows PowerShell
PS C:\Users\Administrator> ping 192.168.9.1

Pinging 192.168.9.1 with 32 bytes of data:
Reply from 192.168.9.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.9.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator> ping 192.168.9.2

Pinging 192.168.9.2 with 32 bytes of data:
Reply from 192.168.9.2: bytes=32 time<1ms TTL=128
Reply from 192.168.9.2: bytes=32 time<1ms TTL=128
Reply from 192.168.9.2: bytes=32 time=13ms TTL=128
Reply from 192.168.9.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.9.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 13ms, Average = 3ms
PS C:\Users\Administrator> ping 192.168.9.100

Pinging 192.168.9.100 with 32 bytes of data:
Reply from 192.168.9.100: bytes=32 time=8ms TTL=128
Reply from 192.168.9.100: bytes=32 time=31ms TTL=128
Reply from 192.168.9.100: bytes=32 time<1ms TTL=128
Reply from 192.168.9.100: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.9.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 31ms, Average = 9ms
PS C:\Users\Administrator> ping 192.168.35.1

Pinging 192.168.35.1 with 32 bytes of data:
Reply from 192.168.35.1: bytes=32 time<1ms TTL=127
Reply from 192.168.35.1: bytes=32 time<1ms TTL=127
Reply from 192.168.35.1: bytes=32 time<1ms TTL=127
Reply from 192.168.35.1: bytes=32 time=2ms TTL=127

Ping statistics for 192.168.35.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 2ms, Average = 0ms
PS C:\Users\Administrator>
```

```
PS C:\Users\Administrator> ping 192.168.9.1

Pinging 192.168.9.1 with 32 bytes of data:
Reply from 192.168.9.1: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.9.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator> ping 192.168.9.2

Pinging 192.168.9.2 with 32 bytes of data:
Reply from 192.168.9.2: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.9.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator> ping 192.168.9.3

Pinging 192.168.9.3 with 32 bytes of data:
Reply from 192.168.9.3: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.9.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator> ping 192.168.9.100

Pinging 192.168.9.100 with 32 bytes of data:
Reply from 192.168.9.100: bytes=32 time<1ms TTL=127
```

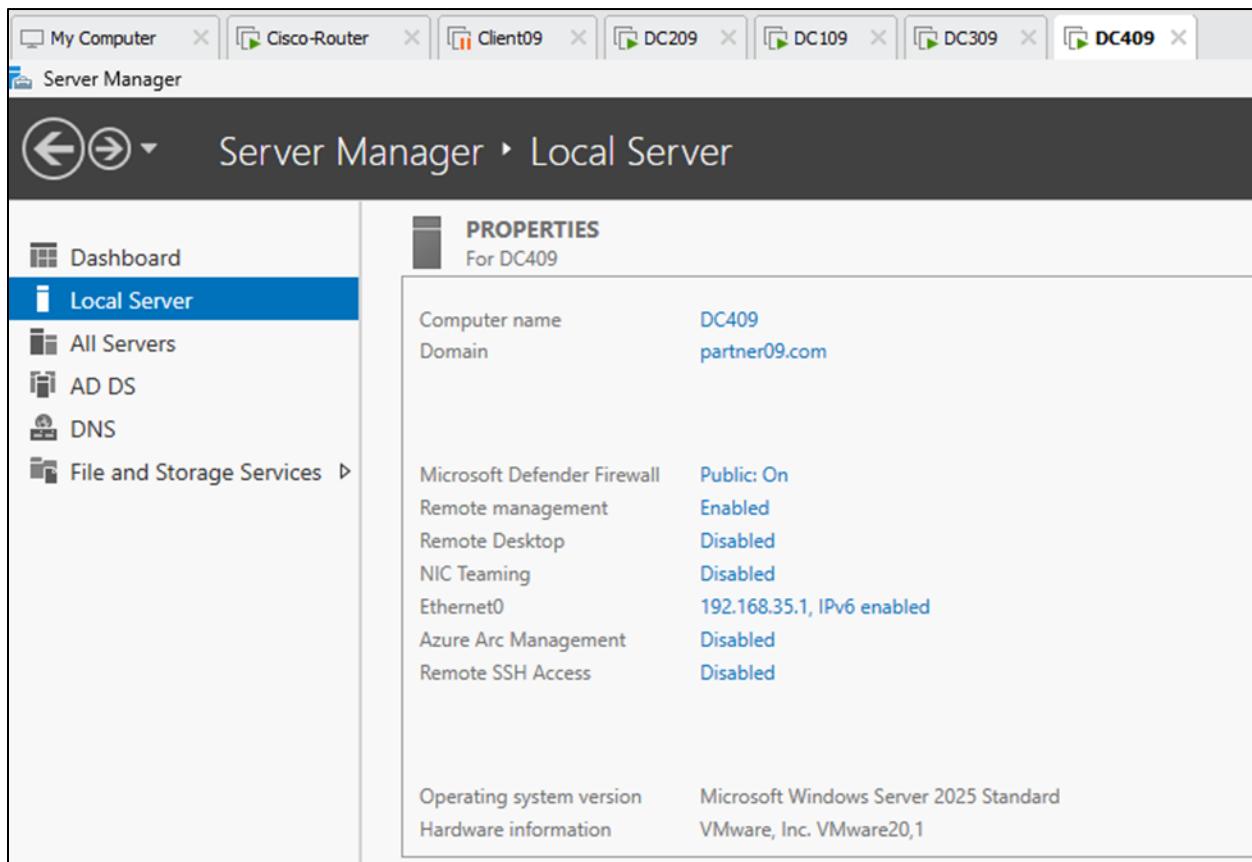


## LAB Tasks

### Task 1: Promote DC409 as a New Domain Controller in a New Forest

#### 1. Promote DC409 as a new DC in a New Forest named partner09.com using GUI

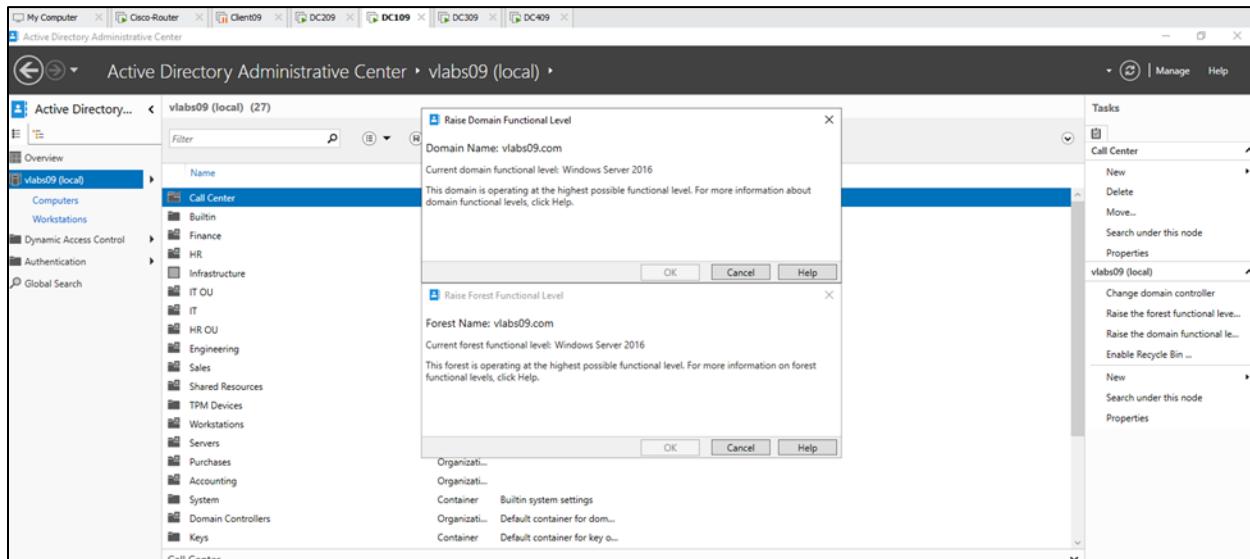
- Install AD DS role on DC409.
- Create a new forest partner09.com.



## Task 2: Verify Domain and Forest Functional Levels

### 1. Check the Domain and Forest Functional Levels on vlabs09.com

- Using Active Directory Administrative Center



- Using PowerShell

```
PS C:\Users\Administrator> Get-ADDomain | Select-Object DomainMode

DomainMode
-----
Windows2016Domain

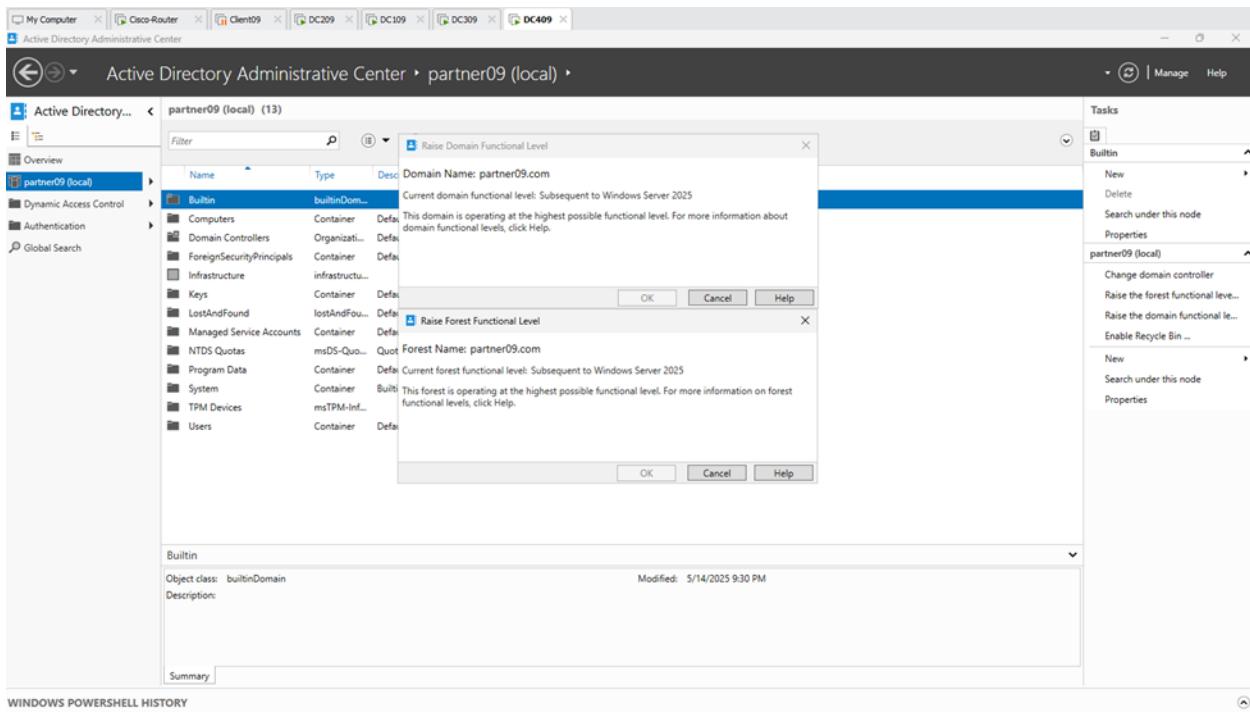

PS C:\Users\Administrator> Get-ADForest | Select-Object ForestMode

ForestMode
-----
Windows2016Forest


PS C:\Users\Administrator>
```

## 2. Check the Domain and Forest Functional Levels on partner09.com

- Using Active Directory Administrative Center



- Using PowerShell

```
Administrator: Windows PowerShell + 

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

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Administrator> Get-ADDomain | Select-Object DomainMode

DomainMode
-----
Windows2025Domain

PS C:\Users\Administrator> Get-ADForest | Select-Object ForestMode

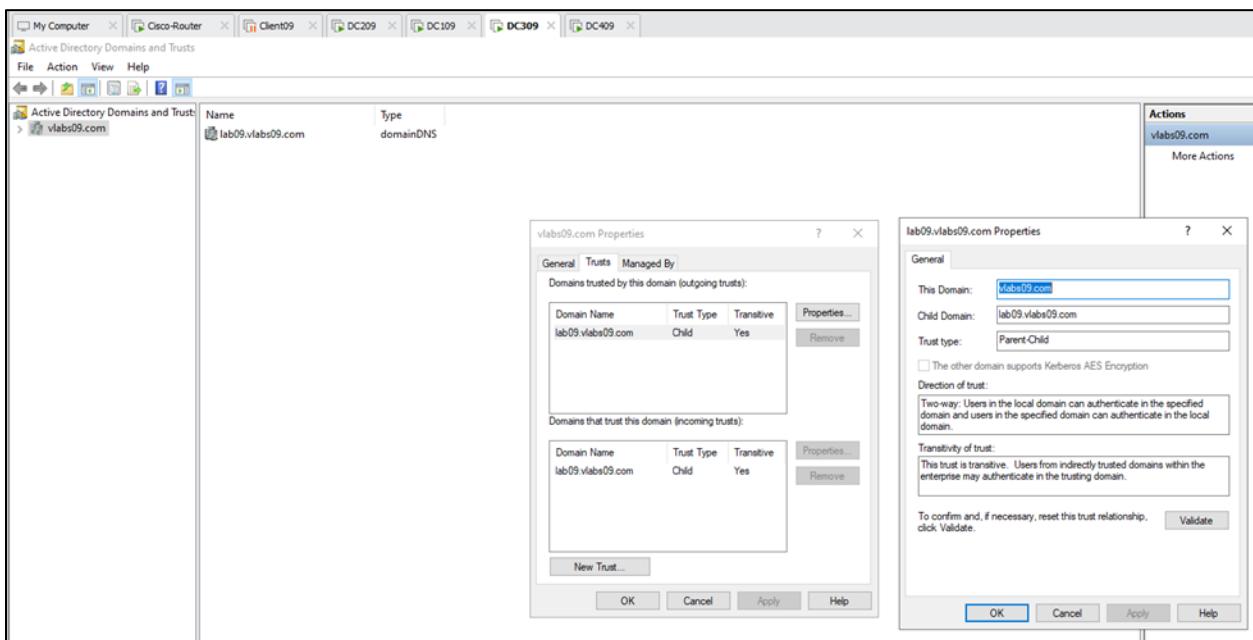
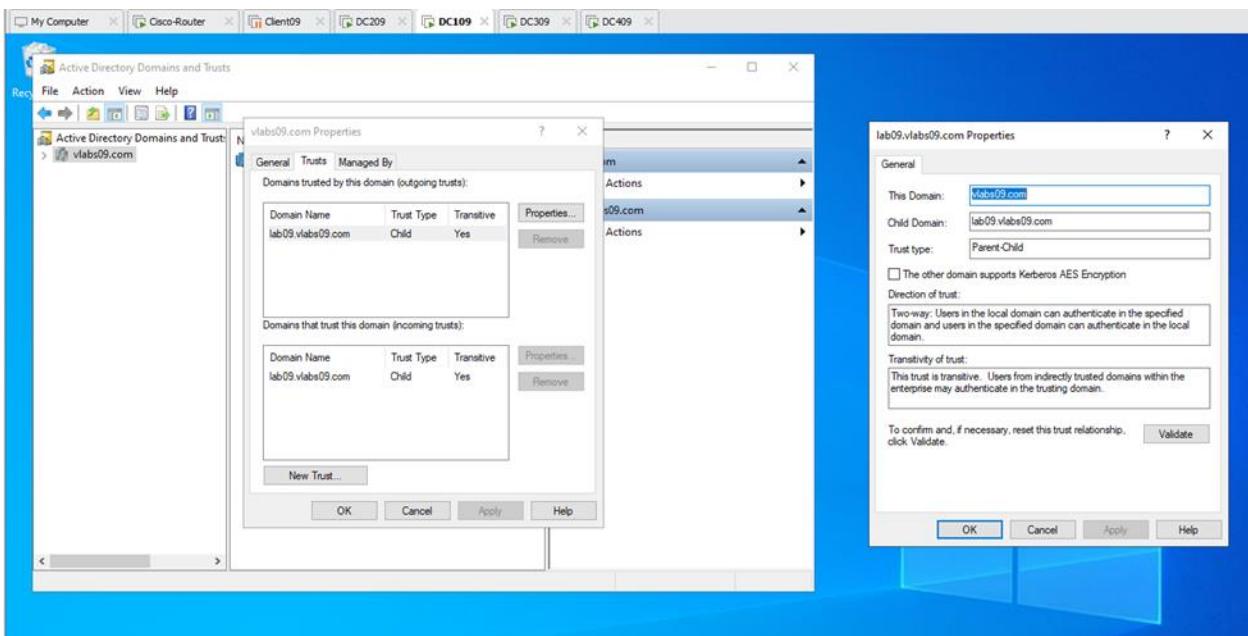
ForestMode
-----
Windows2025Forest

PS C:\Users\Administrator> |
```

## Task 3: Listing Trusts

### 1. List all Trusts on vlabs09.com and labs09.vlabs09.com

- Using Active Directory Domains and Trusts.



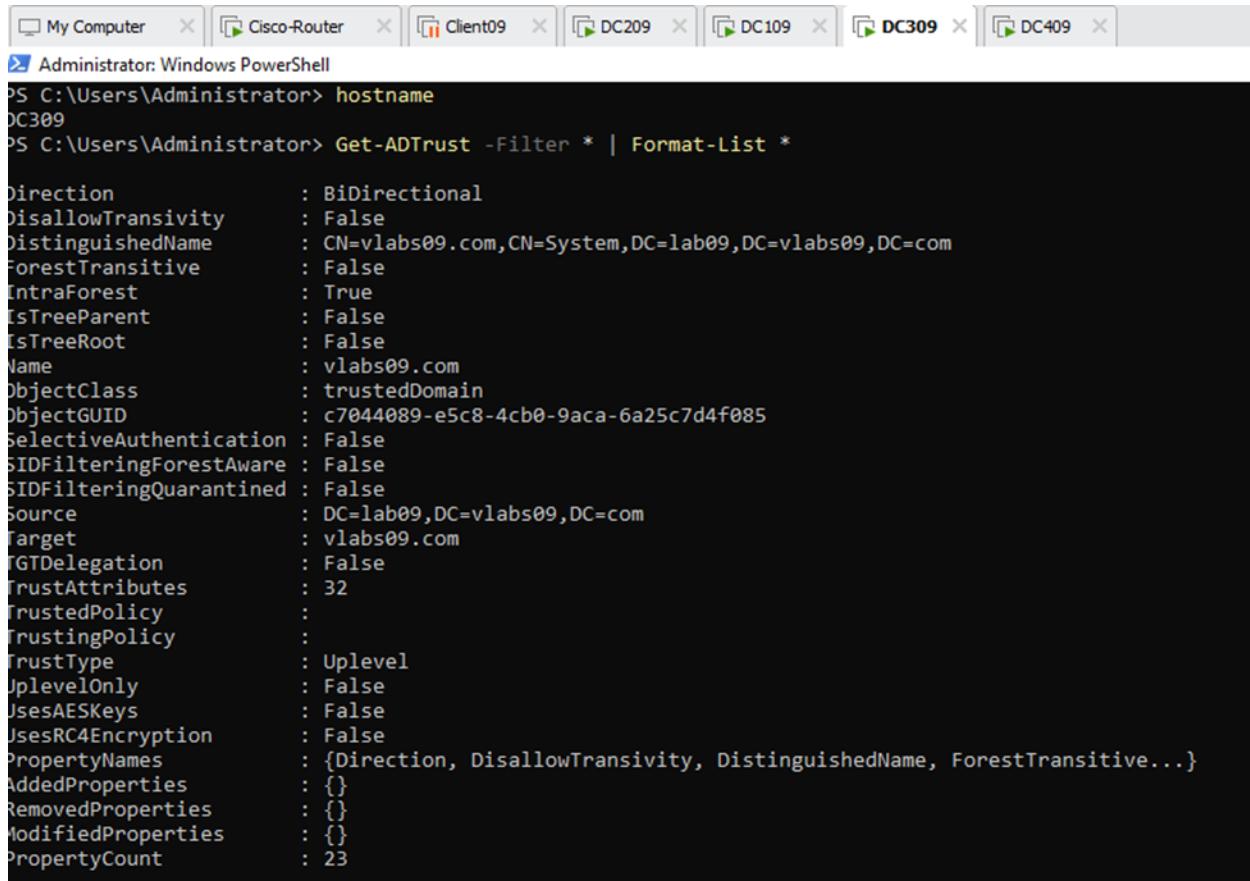
- Using PowerShell.

```

Administrator: Windows PowerShell
PS C:\Users\Administrator> hostname
DC109
PS C:\Users\Administrator> Get-ADTrust -Filter * | Format-List *

Direction : BiDirectional
DisallowTransitivity : False
DistinguishedName : CN=lab09.vlabs09.com,CN=System,DC=vlabs09,DC=com
ForestTransitive : False
IntraForest : True
IsTreeParent : False
IsTreeRoot : False
Name : lab09.vlabs09.com
ObjectClass : trustedDomain
ObjectGUID : 98279ea2-fab5-40bb-9397-1b3c33054b67
SelectiveAuthentication : False
SIDFilteringForestAware : False
SIDFilteringQuarantined : False
Source : DC=vlabs09,DC=com
Target : lab09.vlabs09.com
TGTDelegation : False
TrustAttributes : 32
TrustedPolicy :
TrustingPolicy :
TrustType : Uplevel
UplevelOnly : False
UsesAESKeys : False
UsesRC4Encryption : False
PropertyNames : {Direction, DisallowTransitivity, DistinguishedName, ForestTransitive...}
AddedProperties : {}
RemovedProperties : {}
ModifiedProperties : {}
PropertyCount : 23

```



```

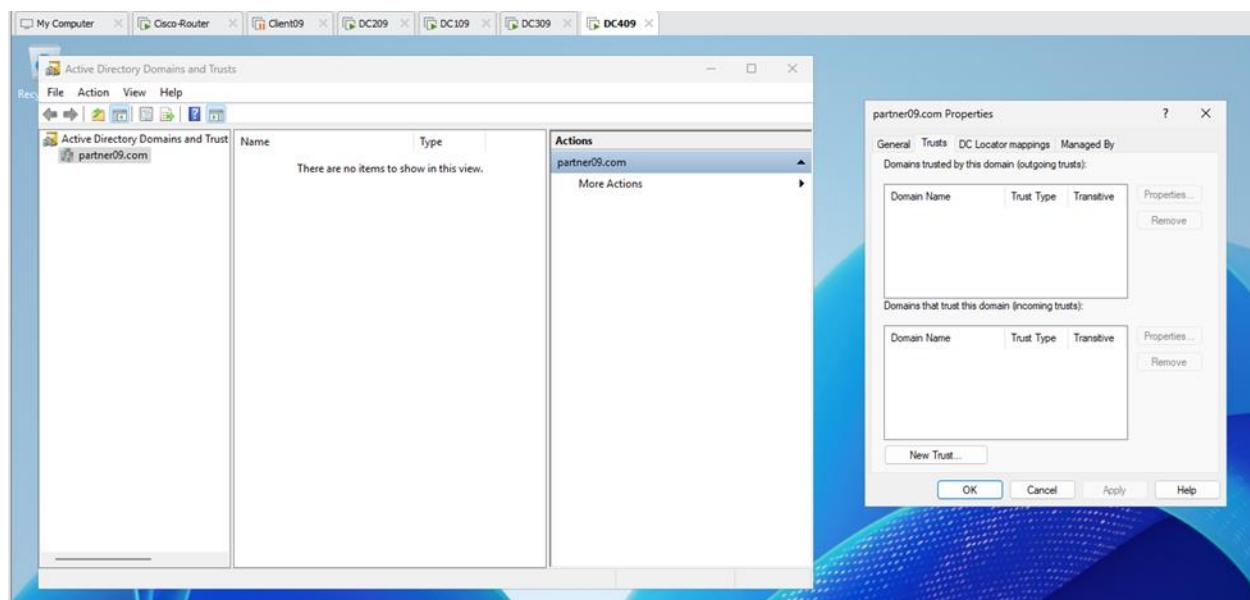
PS C:\Users\Administrator> hostname
DC309
PS C:\Users\Administrator> Get-ADTrust -Filter * | Format-List *

Direction : BiDirectional
DisallowTransitivity : False
DistinguishedName : CN=vlabs09.com,CN=System,DC=lab09,DC=vlabs09,DC=com
ForestTransitive : False
IntraForest : True
IsTreeParent : False
IsTreeRoot : False
Name : vlabs09.com
ObjectClass : trustedDomain
ObjectGUID : c7044089-e5c8-4cb0-9aca-6a25c7d4f085
SelectiveAuthentication : False
SIDFilteringForestAware : False
SIDFilteringQuarantined : False
Source : DC=lab09,DC=vlabs09,DC=com
Target : vlabs09.com
TGTDelegation : False
TrustAttributes : 32
TrustedPolicy :
TrustingPolicy :
TrustType : Uplevel
JplevelOnly : False
UsesAESKeys : False
UsesRC4Encryption : False
PropertyNames : {Direction, DisallowTransitivity, DistinguishedName, ForestTransitive...}
AddedProperties : {}
RemovedProperties : {}
ModifiedProperties : {}
PropertyCount : 23

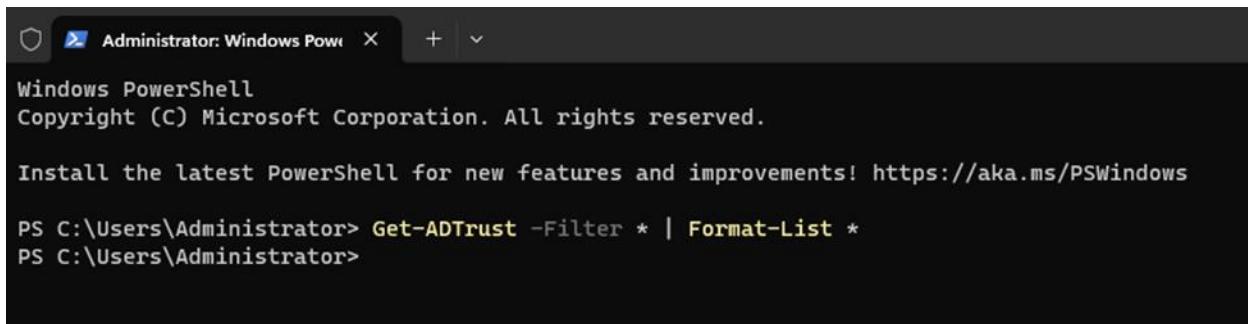
```

## 2. List all Trusts on partner09.com

- Using Active Directory Domains and Trusts.



- Using PowerShell.



```
Administrator: Windows Pow X + ▾
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Administrator> Get-ADTrust -Filter * | Format-List *
PS C:\Users\Administrator>
```

## Task 4: Creating Trusts

### 1. Create DNS Conditional Forwarders to ensure both forests can resolve each other's domains.

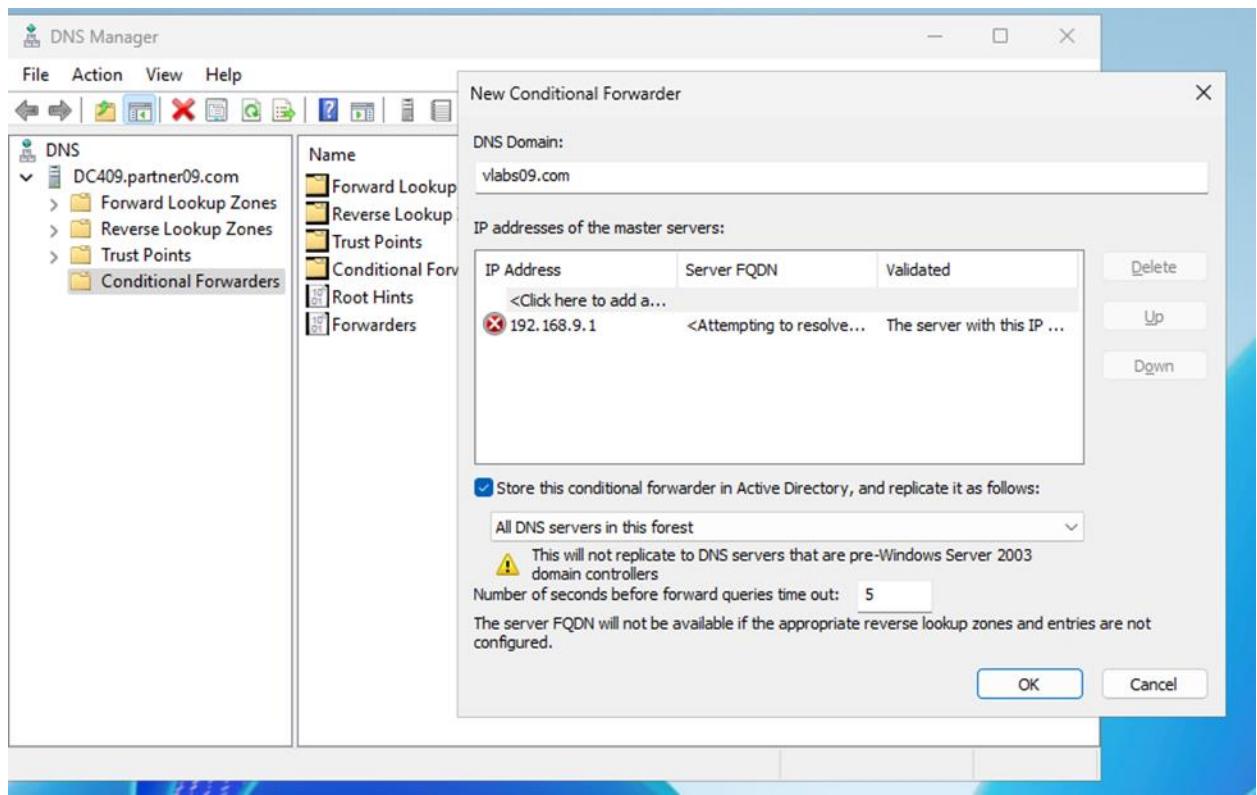
- On the DNS server of DC109 create a Conditional Forwarder for partner09.com using PowerShell

```
PS C:\Users\Administrator> Add-DnsServerConditionalForwarderZone -Name "partner09.com" -MasterServers 192.168.35.1 -ReplicationScope Forest  
PS C:\Users\Administrator>
```

- Verify using nslookup.

```
PS C:\Users\Administrator> nslookup partner09.com  
DNS request timed out.  
      timeout was 2 seconds.  
Server:  UnKnown  
Address:  ::1  
  
Non-authoritative answer:  
Name:      partner09.com  
Address:   192.168.35.1
```

- On the DNS server of DC409 create a Conditional Forwarder for vlabs09.com using GUI



- Verify using nslookup.

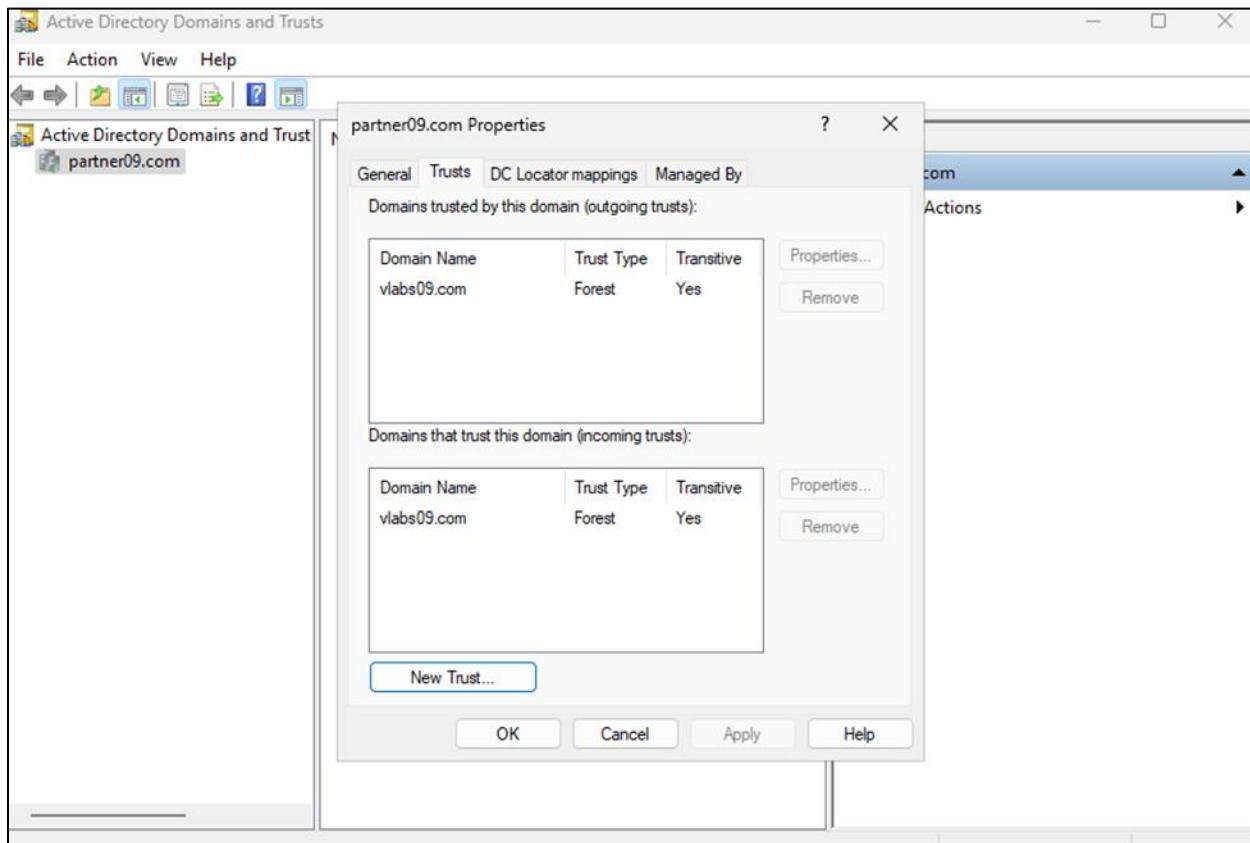
```
PS C:\Users\Administrator> nslookup vlabs09.com
DNS request timed out.
    timeout was 2 seconds.
Server:  Unknown
Address:  ::1

Non-authoritative answer:
Name:      vlabs09.com
Address:   192.168.9.1

PS C:\Users\Administrator> |
```

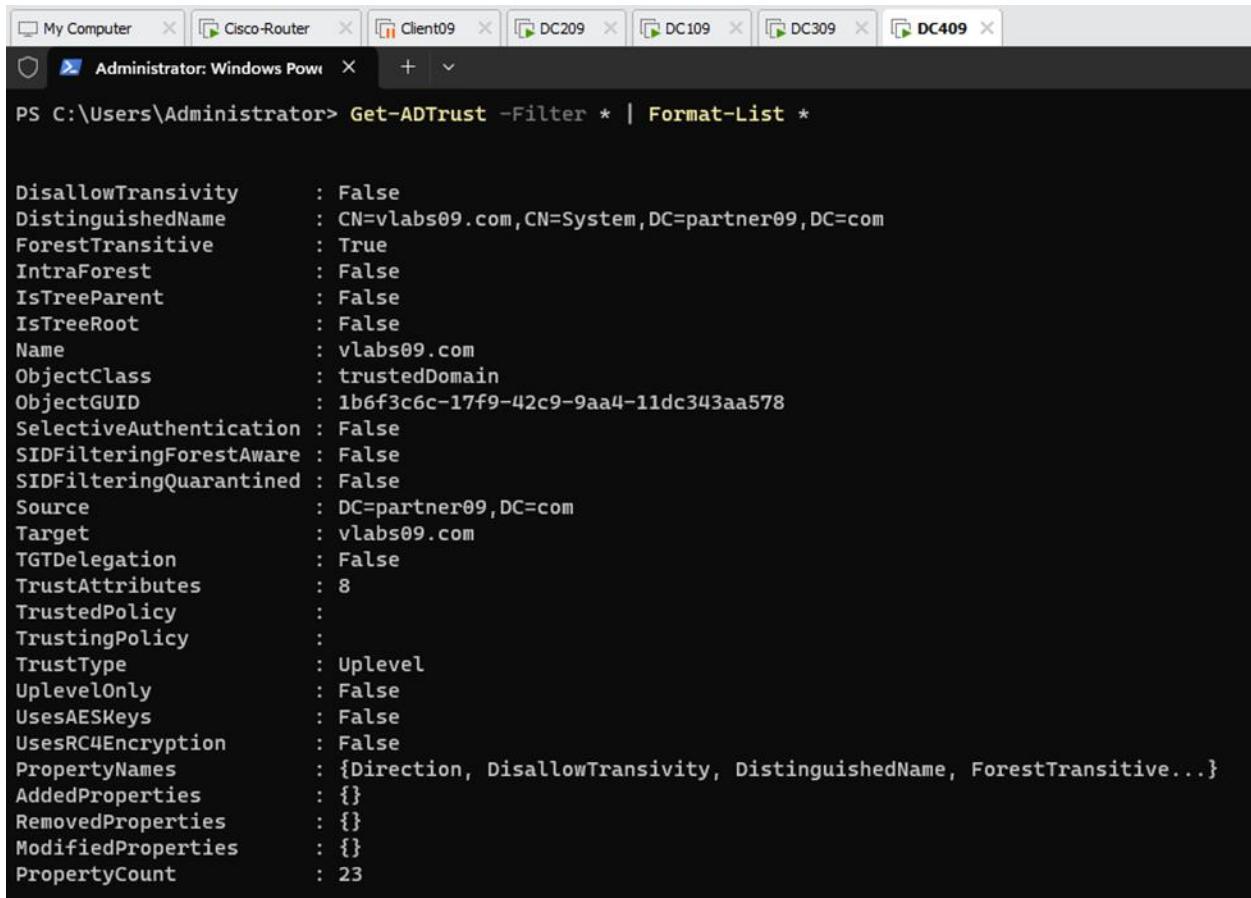
## 2. Using GUI:

- Create a Two-Way Transitive Forest Trust between vlabs09.com and partner09.com



### 3. Using PowerShell:

- Verify the Trust Status on both Servers.



The screenshot shows a Windows PowerShell window titled "Administrator: Windows Powe". The command entered is "Get-ADTrust -Filter \* | Format-List \*". The output displays various properties of the trust, including DistinguishedName (CN=vlabs09.com,CN=System,DC=partner09,DC=com), Name (vlabs09.com), ObjectClass (trustedDomain), ObjectGUID (1b6f3c6c-17f9-42c9-9aa4-11dc343aa578), and TrustType (Uplevel). Other properties listed include DisallowTransitivity, ForestTransitive, IntraForest, IsTreeParent, IsTreeRoot, SelectiveAuthentication, SIDFilteringForestAware, SIDFilteringQuarantined, Source, Target, TGTDelegation, TrustAttributes, TrustedPolicy, TrustingPolicy, UpLevelOnly, UsesAESKeys, and UsesRC4Encryption.

```
PS C:\Users\Administrator> Get-ADTrust -Filter * | Format-List *

DisallowTransivity      : False
DistinguishedName       : CN=vlabs09.com,CN=System,DC=partner09,DC=com
ForestTransitive         : True
IntraForest              : False
IsTreeParent             : False
IsTreeRoot               : False
Name                     : vlabs09.com
ObjectClass               : trustedDomain
ObjectGUID                : 1b6f3c6c-17f9-42c9-9aa4-11dc343aa578
SelectiveAuthentication   : False
SIDFilteringForestAware  : False
SIDFilteringQuarantined  : False
Source                   : DC=partner09,DC=com
Target                   : vlabs09.com
TGTDelegation            : False
TrustAttributes           : 8
TrustedPolicy             :
TrustingPolicy            :
TrustType                 : Uplevel
UpLevelOnly               : False
UsesAESKeys               : False
UsesRC4Encryption          : False
PropertyNames              : {Direction, DisallowTransivity, DistinguishedName, ForestTransitive...}
AddedProperties            : {}
RemovedProperties          : {}
ModifiedProperties          : {}
PropertyCount              : 23
```

## Task 5: Testing Trust Between Two Forests

### 1. On DC409.partner09.com:

- Create a new user in partner09.com → Pierre Lima / Passw0rd\$

New Object - User X

Create in: partner09.com/Users

First name:  Initials:

Last name:

Full name:

User logon name:

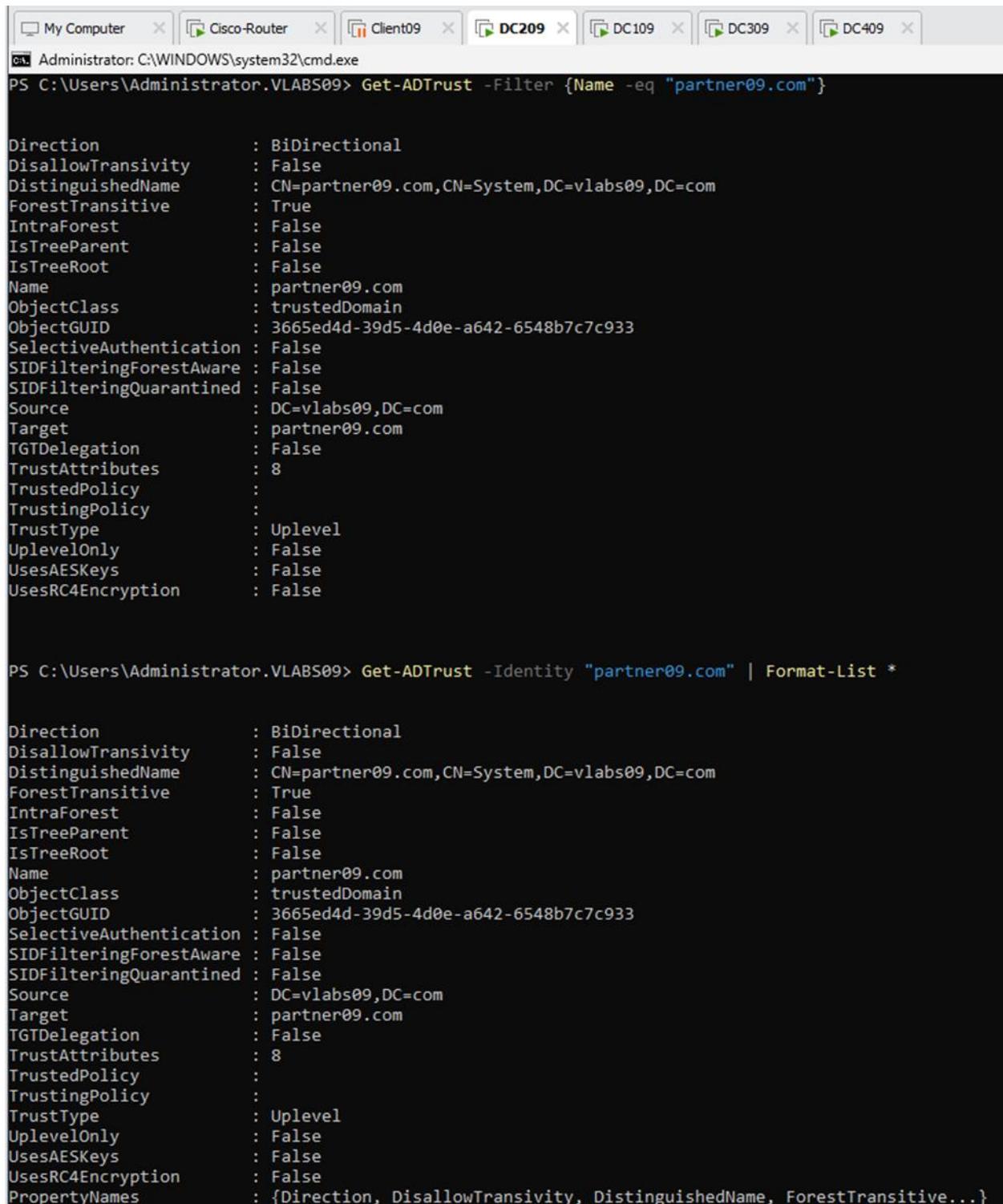
User logon name (pre-Windows 2000):

[< Back](#) Next > [Cancel](#)

Active Directory Users and Com	Name	Type	Description
> Saved Queries	Administrator	User	Built-in account for ad...
partner09.com	Allowed RODC Password Re...	Security Group...	Members in this group c...
> Builtin	Cert Publishers	Security Group...	Members of this group ...
> Computers	Cloneable Domain Controllers	Security Group...	Members of this group t...
> Domain Controllers	Denied RODC Password Rep...	Security Group...	Members in this group c...
> ForeignSecurityPrincipal:	DnsAdmins	Security Group...	DNS Administrators Gro...
> Managed Service Account	DnsUpdateProxy	Security Group...	DNS clients who are per...
Users	Domain Admins	Security Group...	Designated administrato...
	Domain Computers	Security Group...	All workstations and ser...
	Domain Controllers	Security Group...	All domain controllers i...
	Domain Guests	Security Group...	All domain guests
	Domain Users	Security Group...	All domain users
	Enterprise Admins	Security Group...	Designated administrato...
	Enterprise Key Admins	Security Group...	Members of this group ...
	Enterprise Read-only Domai...	Security Group...	Members of this group ...
	External Trust Accounts	Security Group...	All external trust account...
	Forest Trust Accounts	Security Group...	All forest trust accounts ...
	Group Policy Creator Owners	Security Group...	Members in this group c...
	Guest	User	Built-in account for gue...
	Key Admins	Security Group...	Members of this group ...
	LG_HR_Files	Security Group...	
	Pierre Lima	User	
	Protected Users	Security Group...	Members of this group ...
	RAS and IAS Servers	Security Group...	Servers in this group can...
	Read-only Domain Controll...	Security Group...	Members of this group ...
	Schema Admins	Security Group...	Designated administrato...

## 2. On DC209.vlabs09.com (Windows Server Core, RODC):

- Verify the trust relationship with partner09.com using PowerShell.



The screenshot shows a PowerShell window titled 'Administrator: C:\WINDOWS\system32\cmd.exe' with several tabs open at the top: My Computer, Cisco-Router, Client09, DC209, DC109, DC309, and DC409. The main pane displays two command-line sessions. The first session runs `Get-ADTrust -Filter {Name -eq "partner09.com"}` and lists properties for a trust object. The second session runs `Get-ADTrust -Identity "partner09.com" | Format-List *` and lists all properties for the same trust object. Both sessions show the following properties:

Property	Value
Direction	BiDirectional
DisallowTransitivity	False
DistinguishedName	CN=partner09.com,CN=System,DC=vlabs09,DC=com
ForestTransitive	True
IntraForest	False
IsTreeParent	False
IsTreeRoot	False
Name	partner09.com
ObjectClass	trustedDomain
ObjectGUID	3665ed4d-39d5-4d0e-a642-6548b7c7c933
SelectiveAuthentication	False
SIDFilteringForestAware	False
SIDFilteringQuarantined	False
Source	DC=vlabs09,DC=com
Target	partner09.com
TGTDelegation	False
TrustAttributes	8
TrustedPolicy	
TrustingPolicy	
TrustType	Uplevel
UplevelOnly	False
UsesAESKeys	False
UsesRC4Encryption	False
PropertyNames	{Direction, DisallowTransitivity, DistinguishedName, ForestTransitive...}

```
PS C:\Users\Administrator.VLABS09> hostname  
DC209  
PS C:\Users\Administrator.VLABS09> Get-ADTrust -Filter * | Select-Object Name, Target, TrustType, Direction  


| Name              | Target            | TrustType | Direction     |
|-------------------|-------------------|-----------|---------------|
| lab09.vlabs09.com | lab09.vlabs09.com | Uplevel   | BiDirectional |
| partner09.com     | partner09.com     | Uplevel   | BiDirectional |

  
PS C:\Users\Administrator.VLABS09>
```

- Create a folder C:\Secret

```
PS C:\Users\Administrator.VLABS09> New-Item -Path "C:\Secret" -ItemType Directory -Force
Directory: C:\

Mode                LastWriteTime         Length Name
----                <-----              ----- 
d-----        5/15/2025   8:16 AM           Secret

PS C:\Users\Administrator.VLABS09>
```

- Share C:\Secret and assign permissions Read/Write to [p.laurin@partnerX.com](mailto:p.laurin@partnerX.com).

```
PS C:\Users\Administrator.VLABS09> New-SmbShare -Name "Secret" -Path "C:\Secret" -FullAccess "p.laurin@partner09.com"
New-SmbShare : No mapping between account names and security IDs was done.
At line:1 char:1
+ New-SmbShare -Name "Secret" -Path "C:\Secret" -FullAccess "p.laurin@p ...
+ ~~~~~
    + CategoryInfo          : NotSpecified: (MSFT_SMBShare:ROOT/Microsoft/Windows/SMB/MSFT_SMBShare) [New-SmbShare], CimException
    + FullyQualifiedErrorId : Windows System Error 1332,New-SmbShare

PS C:\Users\Administrator.VLABS09> New-SmbShare -Name "Secret" -Path "C:\Secret" -FullAccess "p.lima@partner09.com"

Name      ScopeName Path      Description
----      <-----   ----- 
Secret *       C:\Secret

PS C:\Users\Administrator.VLABS09>
```

```
PS C:\Users\Administrator.VLABS09> # Get current ACL
PS C:\Users\Administrator.VLABS09> $acl = Get-Acl "C:\Secret"
PS C:\Users\Administrator.VLABS09>
PS C:\Users\Administrator.VLABS09> # Create the permission rule (NTFS-level)
PS C:\Users\Administrator.VLABS09> $rule = New-Object System.Security.AccessControl.FileSystemAccessRule(
>>     "p.lima@partner09.com", "Modify", "ContainerInherit, ObjectInherit", "None", "Allow"
>> )
PS C:\Users\Administrator.VLABS09>
PS C:\Users\Administrator.VLABS09> # Add the rule and apply it
PS C:\Users\Administrator.VLABS09> $acl.AddAccessRule($rule)
PS C:\Users\Administrator.VLABS09> Set-Acl "C:\Secret" $acl
PS C:\Users\Administrator.VLABS09>
```

- Verify the shared folder and NTFS permissions.



```

Administrator: C:\WINDOWS\system32\cmd.exe
C:\Users\Administrator.VLABS09> # View SMB share details
C:\Users\Administrator.VLABS09> Get-SmbShare -Name "Secret" | Format-List *


ResetPathAcl          : System.Security.AccessControl.DirectorySecurity
ShareState             : Online
AvailabilityType       : NonClustered
ShareType              : FileSystemDirectory
OlderEnumerationMode  : Unrestricted
CachingMode            : Manual
EasingMode             : Full
SFlowScope              : File
NbInstance              : Default
Timeout                : 0
CompressData           : False
IncurrentUserLimit     : 0
ContinuouslyAvailable  : False
CurrentUsers            : 0
Description             :
DirectoryHandleLeasing : True
EncryptData             : False
EntityRemoting          : False
Infrastructure          : False
IsolatedTransport       : False
Name                   : Secret
Path                   : C:\Secret
SPolicyId              : {00000000-0000-0000-000000000000}
Opened                 : False
OpenName                :
SecurityDescriptor      : O:SYG:SYD:(A;;FA;;;S-1-5-21-2150615757-345139159-1522580717-1105)
ShadowCopy              : False
Special                : False
Temporary               : False
Volume                 : \\?\Volume{5345057f-191c-4d7e-a21f-3ffafe702093}\Secret
ComputerName            :
mClass                 : ROOT/Microsoft/Windows/SMB:MSFT_SmbShare
mInstanceProperties     : {AvailabilityType, CachingMode, CATimeout, CompressData...}
mSystemProperties       : Microsoft.Management.Infrastructure.CimSystemProperties


```

```
'S C:\Users\Administrator.VLABS09>
'S C:\Users\Administrator.VLABS09> # View NTFS permissions
'S C:\Users\Administrator.VLABS09> (Get-Acl "C:\Secret").Access

FileSystemRights  : Modify, Synchronize
AccessControlType : Allow
IdentityReference : PARTNER09\p.lima
IsInherited       : False
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : None

FileSystemRights  : FullControl
AccessControlType : Allow
IdentityReference : NT AUTHORITY\SYSTEM
IsInherited       : True
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : None

FileSystemRights  : FullControl
AccessControlType : Allow
IdentityReference : BUILTIN\Administrators
IsInherited       : True
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : None

FileSystemRights  : ReadAndExecute, Synchronize
AccessControlType : Allow
IdentityReference : BUILTIN\Users
IsInherited       : True
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : None

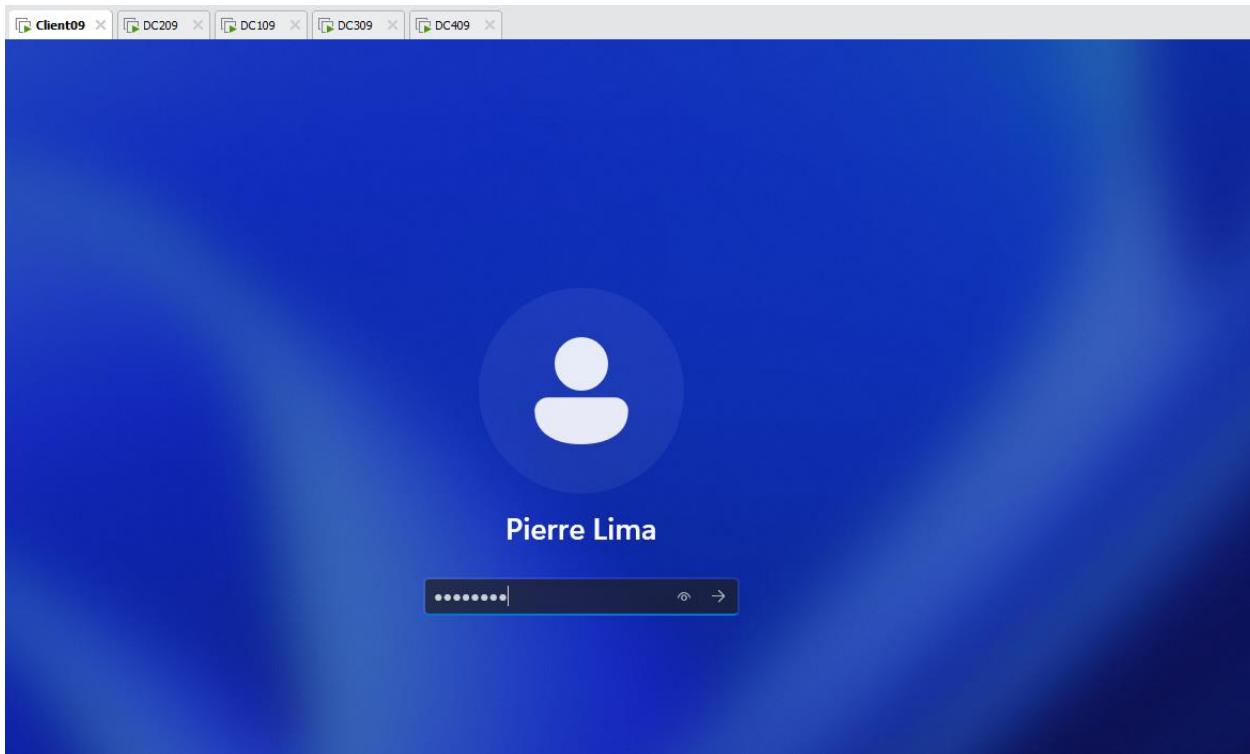
FileSystemRights  : AppendData
AccessControlType : Allow
IdentityReference : BUILTIN\Users
IsInherited       : True
InheritanceFlags  : ContainerInherit
PropagationFlags  : None

FileSystemRights  : CreateFiles
AccessControlType : Allow
IdentityReference : BUILTIN\Users
IsInherited       : True
InheritanceFlags  : ContainerInherit
PropagationFlags  : None

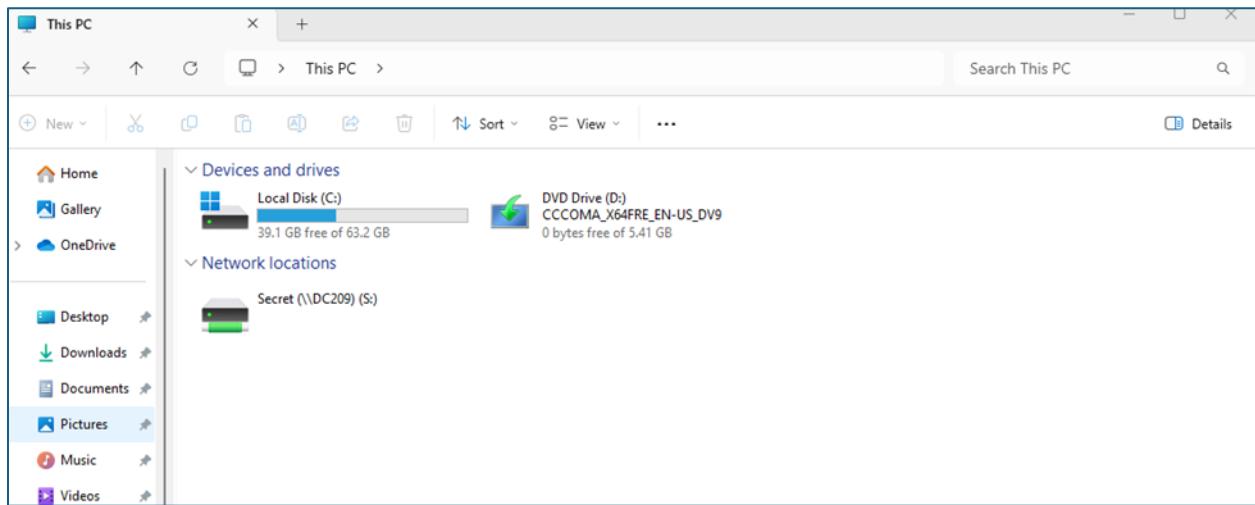
FileSystemRights  : 268435456
AccessControlType : Allow
IdentityReference : CREATOR OWNER
IsInherited       : True
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : InheritOnly
```

### 3. From Client09:

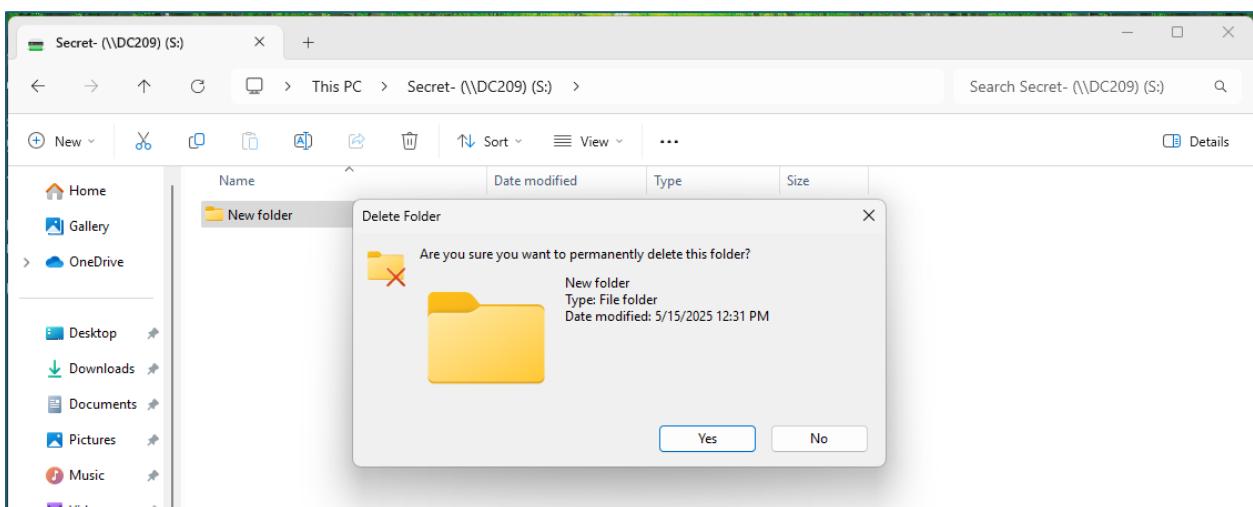
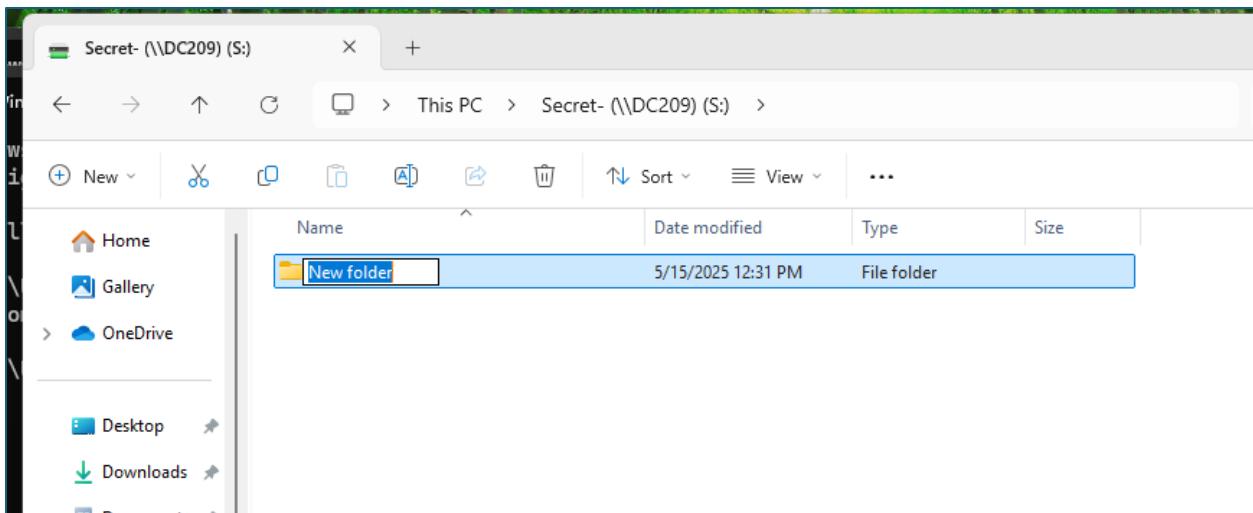
- Log in with Pierre Lima from partner09.com



- Map the shared folder \\DC209\Secret as drive S:



- Test file creation and access.



# Appendices

```
#Verify the trust relationship with partnerXX.com:  
Get-ADTrust -Filter {Name -eq "partnerXX.com"}  
  
Get-ADTrust -Identity "partnerXX.com" | Format-List *  
  
#Create a folder C:\Secret:  
  
New-Item -Path "C:\Secret" -ItemType Directory -Force  
  
#Share C:\Secret and assign permissions Read/Write to user@partnerXX.com:  
New-SmbShare -Name "Secret" -Path "C:\Secret" -FullAccess "user@partnerXX.com"  
$acl = Get-Acl "C:\Secret"  
  
$rule = New-Object System.Security.AccessControl.FileSystemAccessRule("user@partnerXX.com", "Modify",  
"ContainerInherit, ObjectInherit", "None", "Allow")  
  
$acl.AddAccessRule($rule)  
  
Set-Acl "C:\Secret" $acl  
  
# Verify the shared folder and NTFS permissions  
Get-SmbShare -Name "Secret" | Format-List *  
(Get-Acl "C:\Secret").Access
```