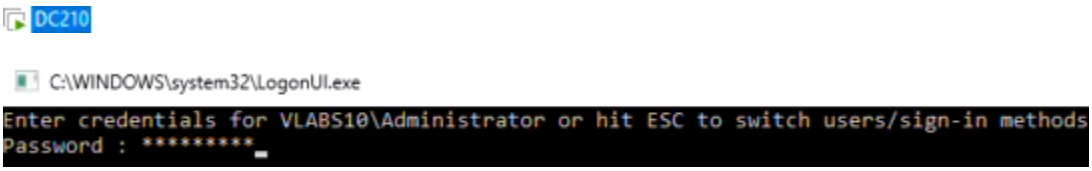
Jacob Chedore

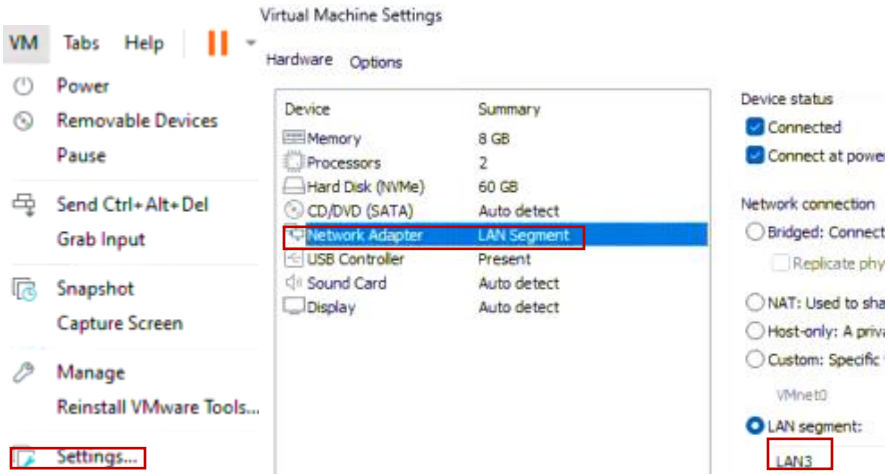
Lab Assignment (Part 2) – Managing AD Domains, Forests, and Trusts

Task 1: Configuring DC2XX

- Start the DC2XX VM.

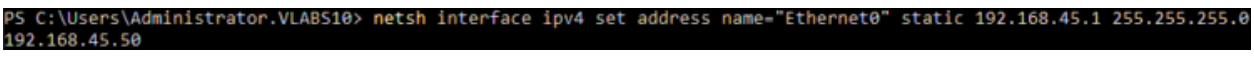


- After starting and login into DC2XX, open its VM Settings, modify the LAN segment to LAN3.

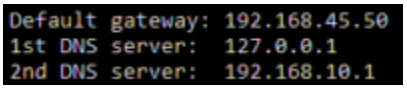


- Change the NIC IP address to 192.168.45.1/24 with default gateway to 192.168.45.50.

netsh interface ipv4 set address name="Ethernet0" static 192.168.45.1 255.255.255.0 192.168.45.50



- Keep the DNS IP address as it is → 192.168.X.1



- Ping the default gateway 192.168.45.50 and 192.168.X.1

```
Pinging 192.168.45.50 with 32 bytes of data:
Reply from 192.168.45.50: bytes=32 time<1ms TTL=255
Reply from 192.168.45.50: bytes=32 time=1ms TTL=255
Reply from 192.168.45.50: bytes=32 time<1ms TTL=255
Reply from 192.168.45.50: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.45.50:
    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.VLABS10> ping 192.168.10.1

Pinging 192.168.10.1 with 32 bytes of data:
Reply from 192.168.10.1: bytes=32 time<1ms TTL=127
Reply from 192.168.10.1: bytes=32 time<1ms TTL=127
Reply from 192.168.10.1: bytes=32 time<1ms TTL=127
Reply from 192.168.10.1: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Task 2: Configuring DC4XX

For legal and operational reasons, the company has decided to integrate the previously independent partnerXX.com into the existing vlabsXX.com forest. A new child domain called partnerXX.vlabsXX.com must be created.

- From DC4XX remove the two-way trust with vlabsXX.com

netdom trust /d:vlabsXX.com partnerXX.com /uo:partnerXX\administrator /ud:vlabsXX\administrator /pd:* /po:* /remove /twoway /verbose

```
PS C:\Users\Administrator.SRV110> netdom trust /d:vlabs10.com partner10.com /uo:partner10\administrator
/ud:vlabs10\administrator /pd:* /po:* /remove /twoway /verbose
Type the password associated with the domain user:

Type the password associated with the object user:
The command completed successfully.
```

- Demote DC4XX:

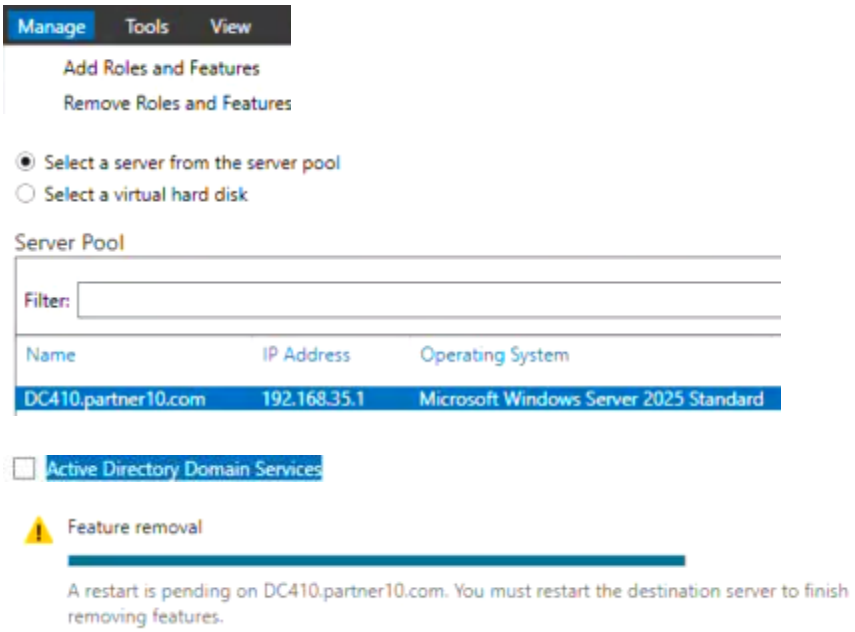
Uninstall-ADDSDomainController ` -LocalAdministratorPassword (ConvertTo-SecureString "Passw0rd$" -AsPlainText -Force) ` -LastDomainControllerInDomain ` -RemoveApplicationPartitions ` -Force

```
PS C:\Users\Administrator.DC410> Uninstall-ADDSDomainController ` -LocalAdministratorPassword (ConvertTo-Se
cureString "Passw0rd$" -AsPlainText -Force) ` -LastDomainControllerInDomain ` -RemoveApplicationPartitions
` -Force
```

- Wait until the Server restarts automatically

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

Uninstall-ADDSDomainController

  Validating environment and user input
     All tests completed successfully
     [oooooooooooooooooooooooooooooooooooooooooooooooooo
  Uninstalling domain controller
     Starting
```

- After restarting, remove the AD Domain Service role:



- Wait until the Server restarts automatically

- After restarting, modify the DNS IP address to 192.168.X.1 and disable IPv6:

netsh interface ip add dns name="Ethernet0" 192.168.X.1 index=1

```
PS C:\Users\Administrator.DC410> netsh interface ip add dns name="Ethernet0" 192.168.10.1 index=1
```

Disable-NetAdapterBinding -Name "Ethernet0" -ComponentID ms_tcpip6

```
PS C:\Users\Administrator.DC410> Disable-NetAdapterBinding -Name "Ethernet0" -ComponentID ms_tcpip6
```

- Ping the DNS Server 192.168.X.1 and nslookup vlabsXX.com before doing next step.

```
PS C:\Users\Administrator.DC410> ping 192.168.10.1

Pinging 192.168.10.1 with 32 bytes of data:
Reply from 192.168.10.1: bytes=32 time<1ms TTL=127
Reply from 192.168.10.1: bytes=32 time<1ms TTL=127
Reply from 192.168.10.1: bytes=32 time<1ms TTL=127
Reply from 192.168.10.1: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.10.1:
    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.DC410> nslookup vlabs10.com
DNS request timed out.
    timeout was 2 seconds.
Server:  UnKnown
Address:  192.168.10.1

DNS request timed out.
    timeout was 2 seconds.
DNS request timed out.
    timeout was 2 seconds.
Name:    vlabs10.com
Address:  192.168.10.1
```

- Join the server DC4XX to the domain vlabsXX.com using PowerShell:

Add-Computer -DomainName vlabs25.com -Credential vlabs25\administrator -Verbose Restart –Force

```
PS C:\Users\Administrator.DC410> Add-Computer -DomainName vlabs10.com -Credential vlabs10\administrator
 -Verbose
```

- After restarting, login with the vlabsXX\administrator user account.

- Create a new child domain partnerXX.vlabsXX.com using PowerShell:

Install-WindowsFeature AD-Domain-Services –IncludeManagementTools

```
PS C:\Users\Administrator> Install-WindowsFeature AD-Domain-Services -IncludeManagementTools
```

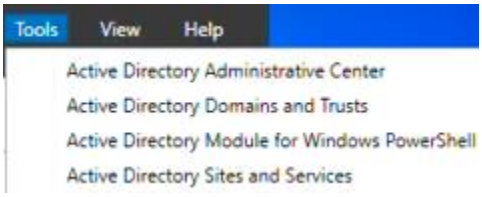
Install-ADDSDomain ` -NewDomainName "partnerXX" ` -ParentDomainName "vlabsXX.com" ` -InstallDNS ` -CreateDNSDelegation:$true ` -DomainMode "WinThreshold" ` -NoGlobalCatalog:$true ` -SafeModeAdministratorPassword (ConvertTo-SecureString "Passw0rd$" -AsPlainText Force) ` -Force

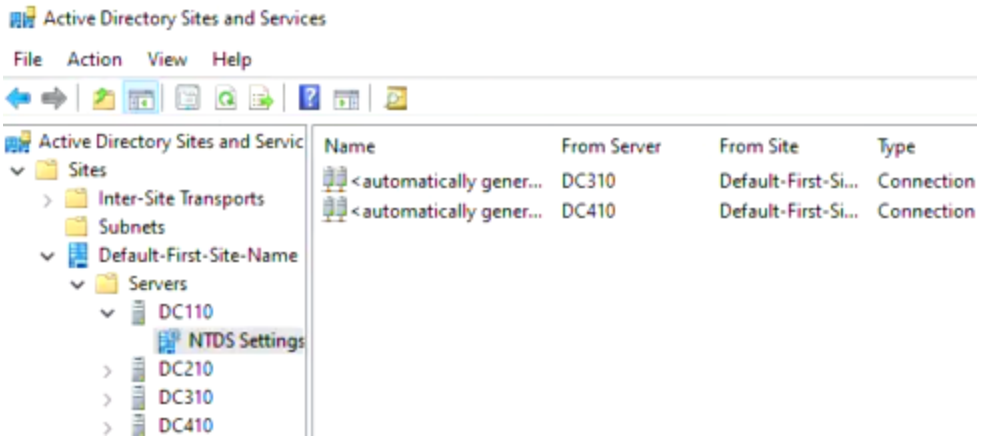
```
PS C:\Users\Administrator> Install-ADDSDomain ` -NewDomainName "partner10" ` -ParentDomainName "vlabs10.
com" ` -InstallDNS ` -CreateDNSDelegation:$true ` -DomainMode "WinThreshold" ` -NoGlobalCatalog:$true `
-SafeModeAdministratorPassword (ConvertTo-SecureString "Passw0rd$" -AsPlainText -Force) ` -Force

Message                              Context           RebootRequired  Status
-------                              -------           --------------  ------
Operation completed successfully DCPromo.General.1          False Success
```

Task 3: Managing the Connections Objects

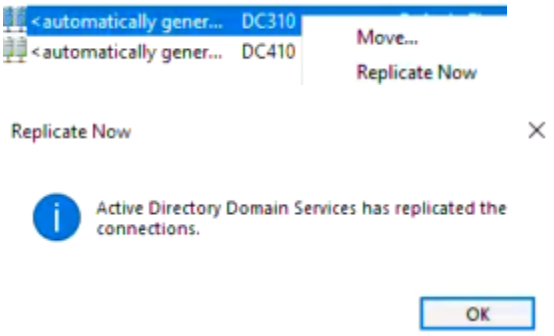
Using GUI:

- List the automatically created Connection Objects on DC1XX.

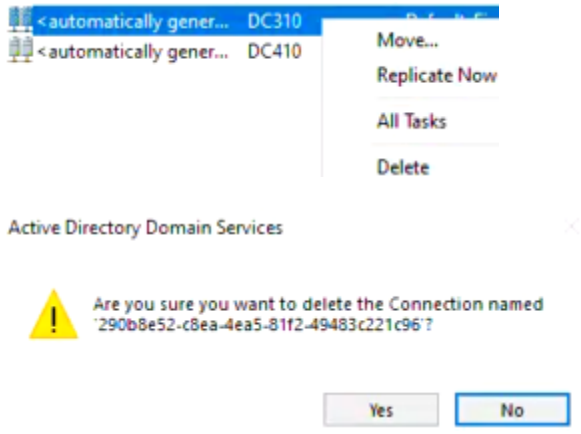




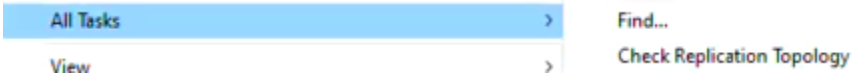
- Replicate manually to DC3XX.

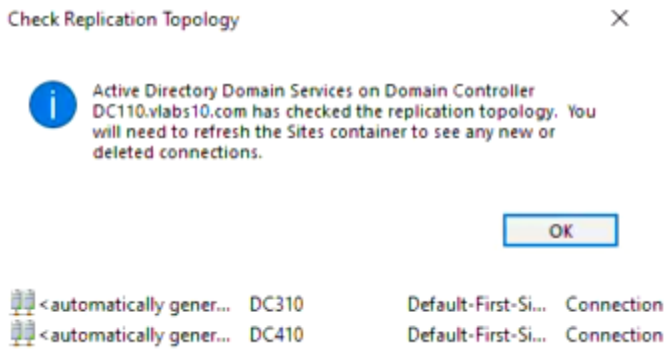


- Delete this Connection object to DC3XX.



- Recreate it again using the KCC to regenerate it automatically.





Using PowerShell:

- Replicate manually to DC3XX.

```
PS C:\Users\Administrator> Sync-ADObject -Object "CN=Users,DC=vlabs10,DC=com" -Source DC110 -Destination DC310
```

- Delete this Connection object to DC3XX.

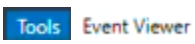
```
PS C:\Users\Administrator> Remove-ADObject -Identity "CN=ac833eb8-249a-4cbb-af4b-11572f359d9c,CN=NTDS Settings,CN=DC110,CN=Servers,CN=Default-First-Site-Name,CN=Sites,CN=Configuration,DC=vlabs10,DC=com" -Confirm:$false
PS C:\Users\Administrator> Get-ADObject -Filter 'ObjectClass -eq "nTDSConnection"' -SearchBase "CN=NTDS Settings,CN=DC110,CN=Servers,CN=Default-First-Site-Name,CN=Sites,CN=Configuration,DC=vlabs10,DC=com"

DistinguishedName
-----------------
CN=f22fa92c-ee47-42cd-a53f-049ab66720ce,CN=NTDS Settings,CN=DC110,CN=Servers,CN=Default-First-Site-Name,CN=Sites,C...
```

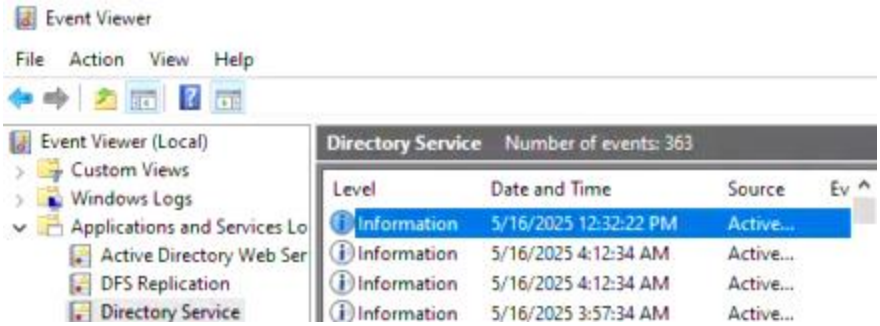
- Recreate it again using the KCC to regenerate it automatically and verify that it is created.

```
PS C:\Users\Administrator> repadmin /kcc

Repadmin: running command /kcc against full DC localhost
Default-First-Site-Name
Current Site Options: (none)
Consistency check on localhost successful.
```

```
PS C:\Users\Administrator> Get-ADObject -Filter 'ObjectClass -eq "nTDSConnection"' -SearchBase "CN=NTDS Settings,CN=DC110,CN=Servers,CN=Default-First-Site-Name,CN=Sites,CN=Configuration,DC=vlabs10,DC=com"

DistinguishedName
-----------------
CN=f22fa92c-ee47-42cd-a53f-049ab66720ce,CN=NTDS Settings,CN=DC110,CN=Servers,CN=Default-First-Site-Name,CN=Sites,C...
CN=d5bac9f0-cdf7-41a5-b64c-b1d22162efe4,CN=NTDS Settings,CN=DC110,CN=Servers,CN=Default-First-Site-Name,CN=Sites,C...
```

- Open Event Viewer to list the KCC events and verify if there are any errors.

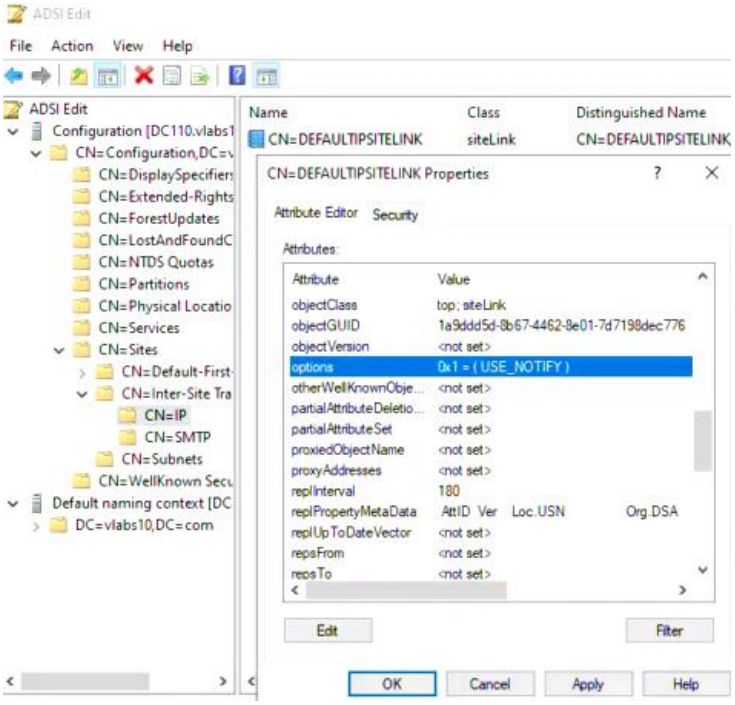


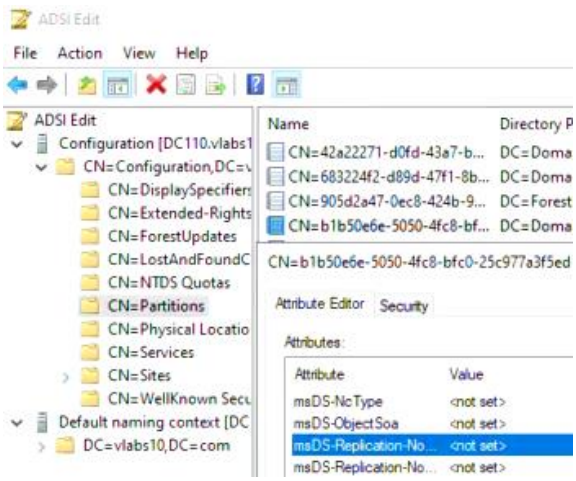


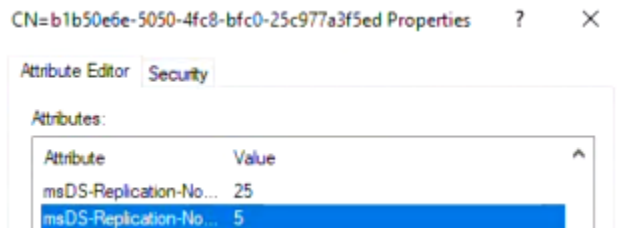
Task 4: Managing the Notification-Based Replication

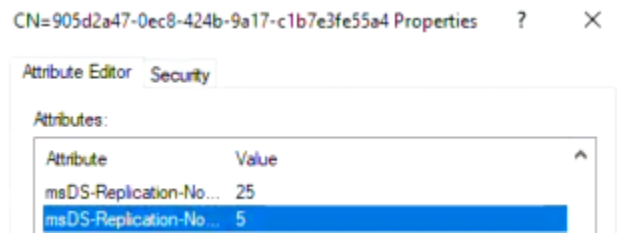
Using GUI:

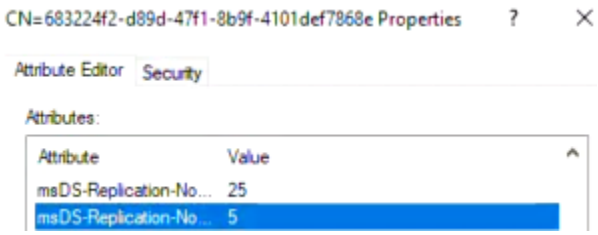
- Modify First Replication Delay to 25 sec and Subsequent Notifications to 5 sec.

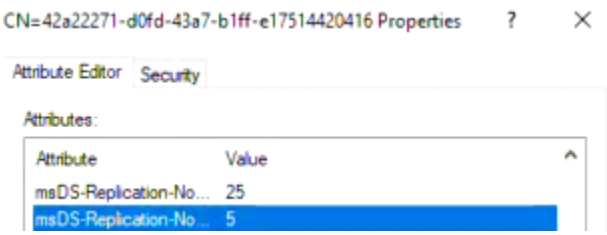












Using PowerShell:

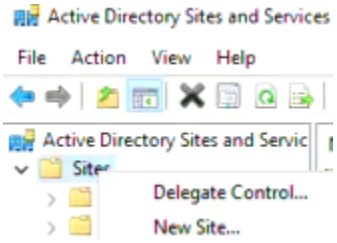
- Verify if Notification-Based Replication is enabled.

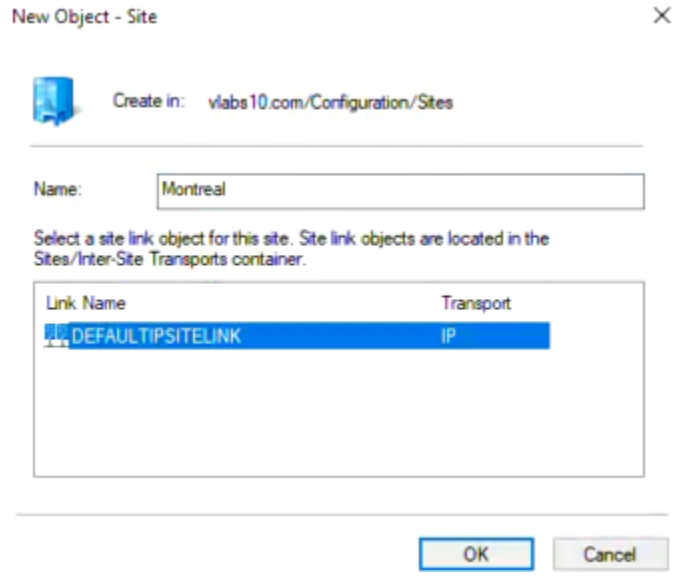
```
PS C:\Users\Administrator> (Get-ADObject -Filter {Name -eq "DEFAULTIPSITELINK"} -SearchBase "CN=IP,CN=Inter-Site Trans
ports,CN=Sites,CN=Configuration,DC=vlabs10,DC=com" -Properties options).options
1
```

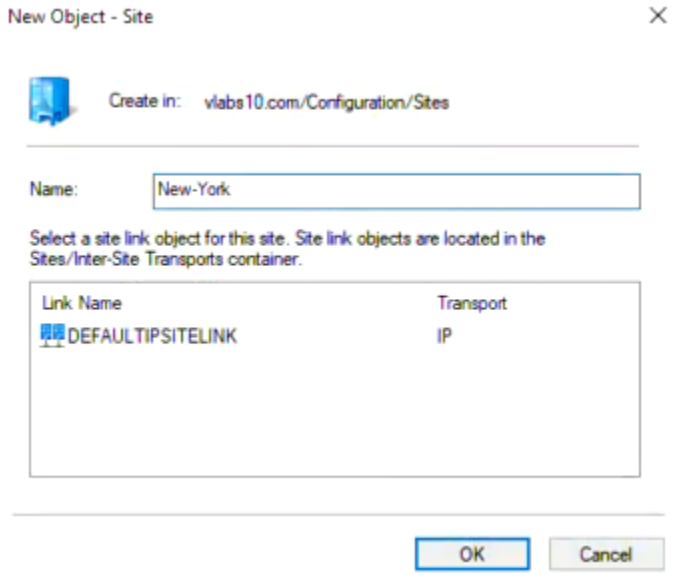
Task 5: Creating Sites

Using GUI:

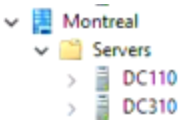
- Create the sites Montreal and New-York.



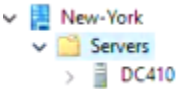




- Move DC1XX and DC3XX under the Montreal site.



- Move DC4XX under the New-York site.



Using PowerShell:

- Create the site Toronto and verify that it has been created.

```
PS C:\Users\Administrator> New-ADReplicationSite -Name "Toronto"
PS C:\Users\Administrator> Get-ADReplicationSite -Filter * | Select-Object Name

Name
----
Default-First-Site-Name
Montreal
New-York
Toronto
```

- Modify it by adding a description.

```
PS C:\Users\Administrator> Set-ADReplicationSite -Identity "Toronto" -Description "Primary Data Center"
```

- Move DC2XX to Toronto site

```
PS C:\Users\Administrator> Move-ADDirectoryServer -Identity "DC210" -Site "Toronto"
```

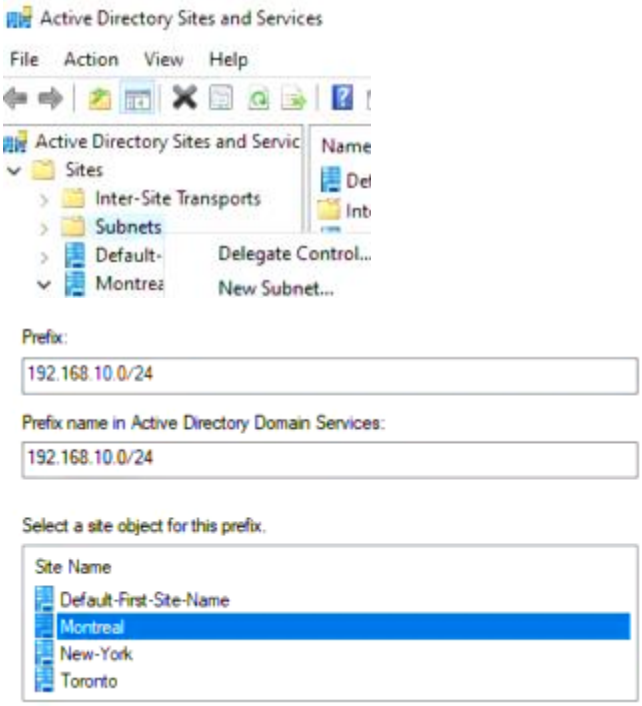
- Verify that it was moved.

```
PS C:\Users\Administrator> Get-ADDomainController -Identity DC210 | Select-Object Name,Site

Name  Site
----  ----
DC210 Toronto
```

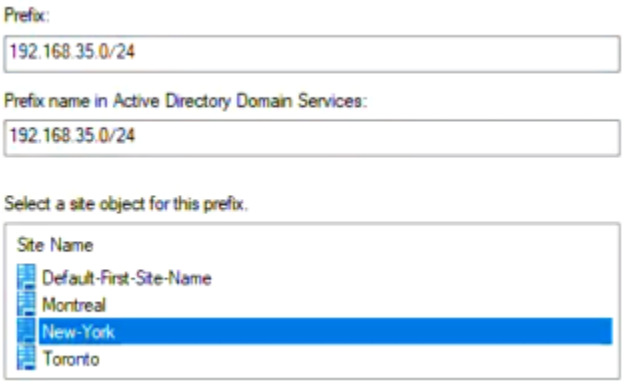
Task 6: Creating Subnets

Using GUI:

- Create subnet 192.168.XX.0/24 and associate it with the Montreal site.



- Create subnet 192.168.35.0/24 and associate it with the New-York site.



Using PowerShell:

- Create subnet 192.168.45.0/24 and associate it with the Toronto site.

```
PS C:\Users\Administrator> New-ADReplicationSubnet -Name "192.168.45.0/24" -Site "Toronto"
```

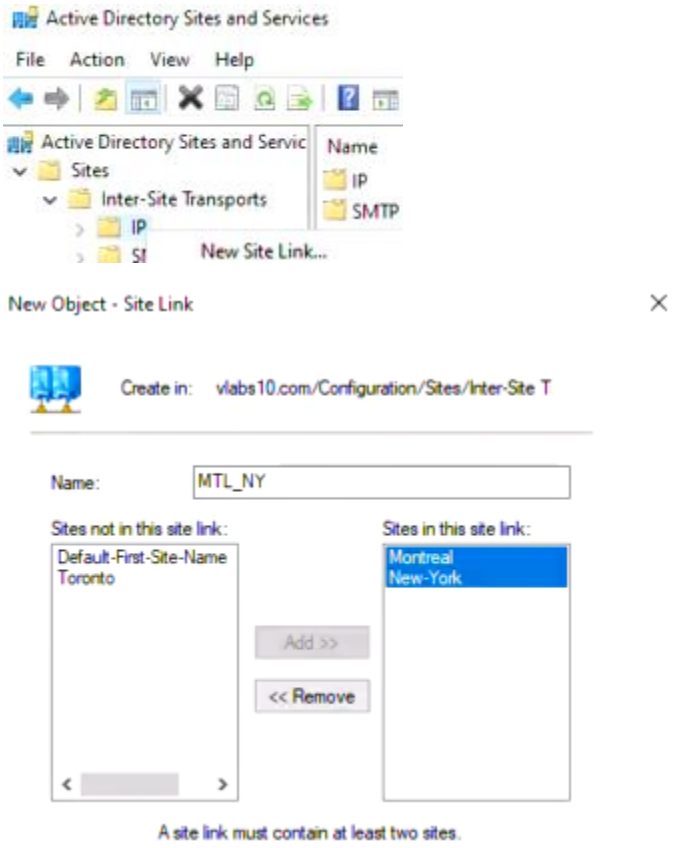
- Verify the creation.

```
PS C:\Users\Administrator> Get-ADReplicationSubnet -Filter * | Select-Object Name,Sit

Name            Sit
----            ---
192.168.10.0/24 {}
192.168.35.0/24 {}
192.168.45.0/24 {}
```

Task 7: Creating Site Links

Using GUI:

- Create Site Link MTL_NY to link Montreal and New-York sites.



Using PowerShell:

- Create Site Link TOR_MTL to link Toronto and Montreal sites.

```
PS C:\Users\Administrator> New-ADReplicationSiteLink -Name "TOR_MTL" -SitesIncluded "Toronto","Montreal"
```

- Verify the creation

```
PS C:\Users\Administrator> Get-ADReplicationSiteLink -Filter *

Cost                          :
DistinguishedName             : CN=TOR_MTL,CN=IP,CN=Inter-Site Transports,CN=Sites,CN=Configuration,DC=vlabs10,DC=com
Name                          : TOR_MTL
ObjectClass                   : siteLink
ObjectGUID                    : 178319e4-4b0d-4a42-8a22-8cb20e7689cd
ReplicationFrequencyInMinutes :
SitesIncluded                 : {CN=Toronto,CN=Sites,CN=Configuration,DC=vlabs10,DC=com,
                                CN=Montreal,CN=Sites,CN=Configuration,DC=vlabs10,DC=com}
```

- Modify the TOR_MTL replication cost to 90 and replication interval to 40.

```
PS C:\Users\Administrator> Set-ADReplicationSiteLink -Identity "TOR_MTL" -Cost 90 -ReplicationFrequencyInMinutes 40
```

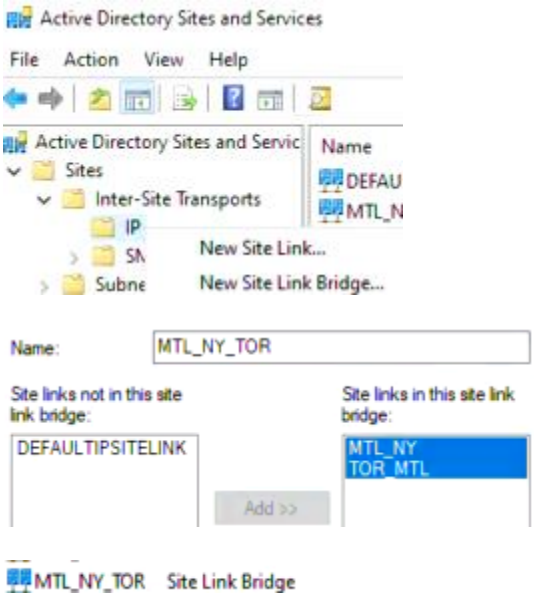
- Verify the modification.

```
Cost                          : 90
DistinguishedName             : CN=TOR_MTL,CN=IP,CN=Inter-Site Transports,CN=Sites,CN=Configuration,DC=vlabs10,DC=com
Name                          : TOR_MTL
ObjectClass                   : siteLink
ObjectGUID                    : 178319e4-4b0d-4a42-8a22-8cb20e7689cd
ReplicationFrequencyInMinutes : 40
SitesIncluded                 : {CN=Toronto,CN=Sites,CN=Configuration,DC=vlabs10,DC=com,
                                CN=Montreal,CN=Sites,CN=Configuration,DC=vlabs10,DC=com}
```

Task 8: Creating Site Link Bridge

Using GUI:

- Create a Site Link Bridge MTL_NY_TOR and add the two links: MTL_NY and TOR_MTL.



Using PowerShell:

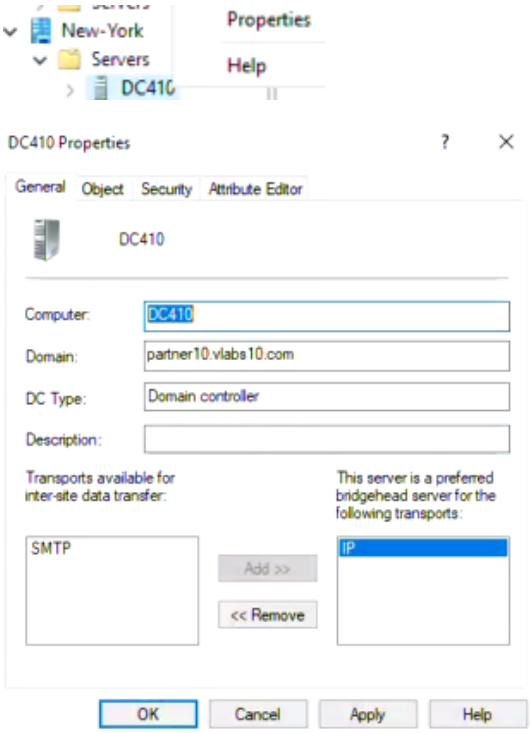
- Verify the new Site Link Bridge.

```
PS C:\Users\Administrator> Get-ADReplicationSiteLinkBridge -Filter *


DistinguishedName : CN=MTL_NY_TOR,CN=IP,CN=Inter-Site Transports,CN=Sites,CN=Configuration,DC=vlabs10,DC=com
Name              : MTL_NY_TOR
ObjectClass       : siteLinkBridge
ObjectGUID        : bba1084c-f05d-42b6-a8ff-9979c42b087b
SiteLinksIncluded : {CN=TOR_MTL,CN=IP,CN=Inter-Site Transports,CN=Sites,CN=Configuration,DC=vlabs10,DC=com,
                    CN=MTL_NY,CN=IP,CN=Inter-Site Transports,CN=Sites,CN=Configuration,DC=vlabs10,DC=com}
```

Task 9: Selecting a Bridgehead

Using GUI:

- Select DC4XX as a bridgehead for the New-York Site.



Using PowerShell:

- Select DC1XX as a bridgehead for the Montreal Site.

```
PS C:\Users\Administrator> Set-ADObject -Identity "CN=DC110,CN=Servers,CN=Montreal,CN=Sites,CN=Configuration,DC=vlabs1
0,DC=com" -Add @{bridgeHeadTransportList="CN=IP,CN=Inter-Site Transports,CN=Sites,CN=Configuration,DC=vlabs10,DC=com"}
```

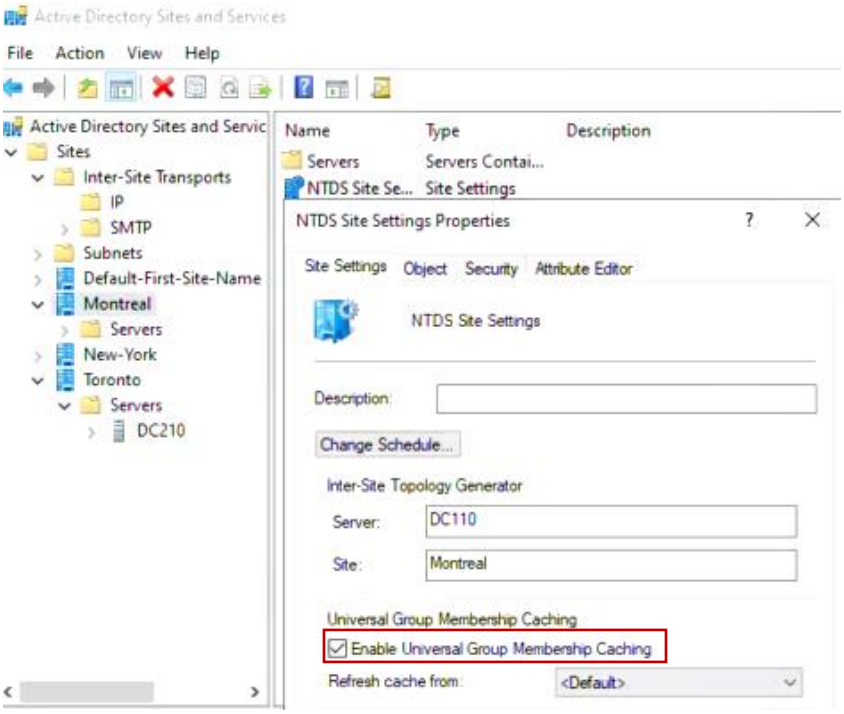
- Verify that DC1XX is the bridgehead.

```
PS C:\Users\Administrator> Get-ADObject -LDAPFilter "(bridgeheadServerListBL=*)" -SearchBase "CN=Sites,CN=Configuratio
n,DC=vlabs10,DC=com" -Properties bridgeheadServerListBL


bridgeheadServerListBL : {CN=DC410,CN=Servers,CN=New-York,CN=Sites,CN=Configuration,DC=vlabs10,DC=com,
                         CN=DC110,CN=Servers,CN=Montreal,CN=Sites,CN=Configuration,DC=vlabs10,DC=com}
DistinguishedName      : CN=IP,CN=Inter-Site Transports,CN=Sites,CN=Configuration,DC=vlabs10,DC=com
Name                   : IP
ObjectClass            : interSiteTransport
ObjectGUID             : b253b7e9-b0fd-491f-b0c7-df69d8167e6e
```

Task 10: Managing Universal Group Membership

Using GUI:

- Enable Universal Group Membership on the Montreal site.



Using PowerShell:

- Enable Universal Group Membership on the New-York site.

```
PS C:\Users\Administrator> Set-ADReplicationSite -Identity New-York -UniversalGroupCachingEnabled $True
```

Task 11: Monitoring and Troubleshooting Replication

From DC1XX, using PowerShell:

- Check the replication partner and the replication status.

```
PS C:\Users\Administrator> repadmin /showrepl

Repadmin: running command /showrepl against full DC localhost
Montreal\DC110
DSA Options: IS_GC
Site Options: IS_GROUP_CACHING_ENABLED
DSA object GUID: 85a29449-9dee-4a2e-bf9c-c9d07619368c
DSA invocationID: 85a29449-9dee-4a2e-bf9c-c9d07619368c

==== INBOUND NEIGHBORS ======================================

CN=Configuration,DC=vlabs10,DC=com
    New-York\DC410 via RPC
        DSA object GUID: 8575a3e5-8d4b-4c4e-b489-77c704537335
        Last attempt @ 2025-05-16 17:12:37 was successful.
    Montreal\DC310 via RPC
        DSA object GUID: 4d5a89f4-a1a9-4923-aa6d-6bb2379d874d
        Last attempt @ 2025-05-16 17:23:57 was successful.

CN=Schema,CN=Configuration,DC=vlabs10,DC=com
    Montreal\DC310 via RPC
        DSA object GUID: 4d5a89f4-a1a9-4923-aa6d-6bb2379d874d
```

```
        Last attempt @ 2025-05-16 16:57:37 was successful.
    New-York\DC410 via RPC
        DSA object GUID: 8575a3e5-8d4b-4c4e-b489-77c704537335
        Last attempt @ 2025-05-16 17:12:37 was successful.

DC=ForestDnsZones,DC=vlabs10,DC=com
    Montreal\DC310 via RPC
        DSA object GUID: 4d5a89f4-a1a9-4923-aa6d-6bb2379d874d
        Last attempt @ 2025-05-16 16:57:37 was successful.
    New-York\DC410 via RPC
        DSA object GUID: 8575a3e5-8d4b-4c4e-b489-77c704537335
        Last attempt @ 2025-05-16 17:12:37 was successful.

DC=lab10,DC=vlabs10,DC=com
    Montreal\DC310 via RPC
        DSA object GUID: 4d5a89f4-a1a9-4923-aa6d-6bb2379d874d
        Last attempt @ 2025-05-16 16:57:37 was successful.

DC=partner10,DC=vlabs10,DC=com
    Montreal\DC310 via RPC
        DSA object GUID: 4d5a89f4-a1a9-4923-aa6d-6bb2379d874d
        Last attempt @ 2025-05-16 16:57:37 was successful.
    New-York\DC410 via RPC
        DSA object GUID: 8575a3e5-8d4b-4c4e-b489-77c704537335
```

```
Last attempt @ 2025-05-16 17:12:37 was successful.
```

- Identify any replication errors and resolve them.

```
PS C:\Users\Administrator> repadmin /showrepl /errorsonly

Repadmin: running command /showrepl against full DC localhost
Montreal\DC110
DSA Options: IS_GC
Site Options: IS_GROUP_CACHING_ENABLED
DSA object GUID: 85a29449-9dee-4a2e-bf9c-c9d07619368c
DSA invocationID: 85a29449-9dee-4a2e-bf9c-c9d07619368c

==== INBOUND NEIGHBORS ======================================

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

- Check the replication partner and the replication status for DC2XX

```
PS C:\Users\Administrator> repadmin /showrepl DC210
Toronto\DC210
DSA Options: IS_GC DISABLE_OUTBOUND_REPL IS_RODC
Site Options: (none)
DSA object GUID: e0ec9512-50a6-4418-b069-65adaed74c66
DSA invocationID: 857c012f-c42a-481a-81f5-eb7e215d66b0

==== INBOUND NEIGHBORS ======================================

DC=lab10,DC=vlabs10,DC=com
    Montreal\DC110 via RPC
        DSA object GUID: 85a29449-9dee-4a2e-bf9c-c9d07619368c
        Last attempt @ 2025-05-16 17:04:37 was successful.

DC=partner10,DC=vlabs10,DC=com
    Montreal\DC110 via RPC
        DSA object GUID: 85a29449-9dee-4a2e-bf9c-c9d07619368c
        Last attempt @ 2025-05-16 17:04:37 was successful.

DC=vlabs10,DC=com
    Montreal\DC110 via RPC
        DSA object GUID: 85a29449-9dee-4a2e-bf9c-c9d07619368c
        Last attempt @ 2025-05-16 17:04:37 was successful.
```

```
CN=Configuration,DC=vlabs10,DC=com
    Montreal\DC110 via RPC
        DSA object GUID: 85a29449-9dee-4a2e-bf9c-c9d07619368c
        Last attempt @ 2025-05-16 17:04:37 was successful.

CN=Schema,CN=Configuration,DC=vlabs10,DC=com
    Montreal\DC110 via RPC
        DSA object GUID: 85a29449-9dee-4a2e-bf9c-c9d07619368c
        Last attempt @ 2025-05-16 17:04:37 was successful.

DC=DomainDnsZones,DC=vlabs10,DC=com
    Montreal\DC110 via RPC
        DSA object GUID: 85a29449-9dee-4a2e-bf9c-c9d07619368c
        Last attempt @ 2025-05-16 17:04:37 was successful.

DC=ForestDnsZones,DC=vlabs10,DC=com
    Montreal\DC110 via RPC
        DSA object GUID: 85a29449-9dee-4a2e-bf9c-c9d07619368c
        Last attempt @ 2025-05-16 17:04:37 was successful.
```

- Summarize the replication status and the overall replication health.

```
PS C:\Users\Administrator> repadmin /replsummary
Replication Summary Start Time: 2025-05-16 17:31:58

Beginning data collection for replication summary, this may take awhile:
  .......


Source DSA          largest delta    fails/total %%   error
 DC110                      45m:41s    0 /  15    0
 DC310                      34m:21s    0 /   5    0
 DC410                      19m:21s    0 /   4    0


Destination DSA     largest delta    fails/total %%   error
 DC110                      34m:21s    0 /   9    0
 DC210                      27m:21s    0 /   7    0
 DC310                      45m:41s    0 /   5    0
 DC410                      23m:16s    0 /   3    0
```

- Check the replication queue.

```
PS C:\Users\Administrator> repadmin /queue

Repadmin: running command /queue against full DC localhost
Queue contains 0 items.
```

- Force replication between DC1XX and DC3XX by pulling from DC3XX

```
PS C:\Users\Administrator> repadmin /syncall DC310
CALLBACK MESSAGE: The following replication is in progress:
    From: 85a29449-9dee-4a2e-bf9c-c9d07619368c._msdcs.vlabs10.com
    To  : 4d5a89f4-a1a9-4923-aa6d-6bb2379d874d._msdcs.vlabs10.com
CALLBACK MESSAGE: The following replication completed successfully:
    From: 85a29449-9dee-4a2e-bf9c-c9d07619368c._msdcs.vlabs10.com
    To  : 4d5a89f4-a1a9-4923-aa6d-6bb2379d874d._msdcs.vlabs10.com
CALLBACK MESSAGE: SyncAll Finished.
SyncAll terminated with no errors.
```

- List the Topology information.

```
PS C:\Users\Administrator> repadmin /bridgeheads * /verbose

Repadmin: running command /bridgeheads against full DC DC110.vlabs10.com
Gathering topology from site Montreal (DC110.vlabs10.com):

Bridgeheads for site Montreal (DC110.vlabs10.com):
            Source Site    Local Bridge  Trns         Fail. Time    #    Status
         ==============  ==============  ====  ================   ===  ========
                New-York           DC110    IP            (never)   0   The operation completed successfully
       Naming Context         Attempt Time         Success Time  #Fail  Last Result
      ===============  ==================  ==================  =====  ==============
```


Task 12: Managing FSMO role and Global Catalog

1. Reconfigure DC2XX

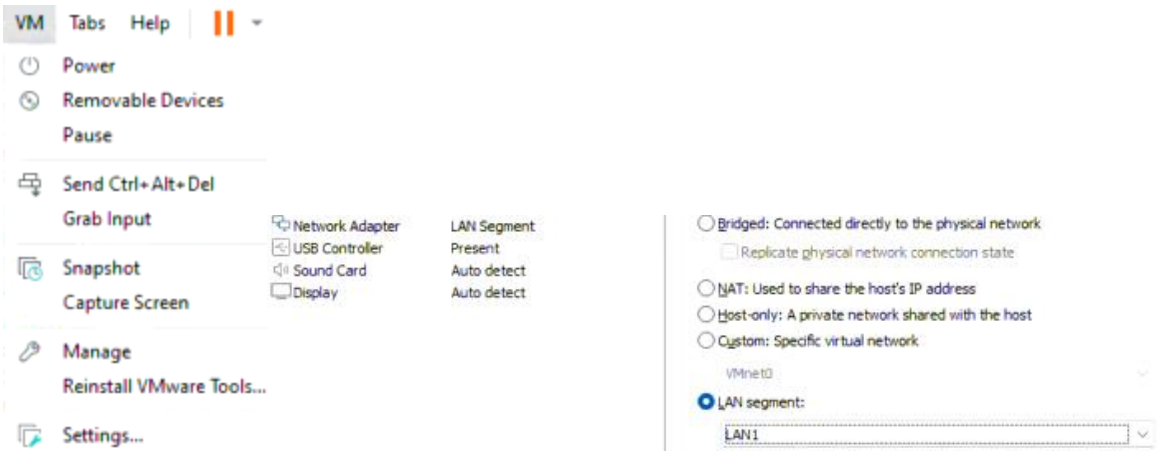
- Login to DC2XX. Use the vlabsXX\administrator account. Keep the session open.

DC210

```
Enter credentials for VLABS10\Administrator or hit ESC to switch users/sign-in methods
Password : *********
```

- Modify VM Network Settings.

Open the VM settings for DC2XX. Change the LAN segment to LAN1.



- Update IP Configuration on DC2XX o Go back to the open session on DC2XX.

netsh interface ip set address name="Ethernet0" static 192.168.X.2 255.255.255.0 192.168.X.50

```
PS C:\Users\Administrator.VLABS10> netsh interface ip set address name="Ethernet0" static 192.168.10.2 255.255.255.0 192
.168.10.50

PS C:\Users\Administrator.VLABS10>
```

- Test Network and DNS

ping 192.168.X.1

```
PS C:\Users\Administrator.VLABS10> ping 192.168.10.1

Pinging 192.168.10.1 with 32 bytes of data:
Reply from 192.168.10.1: bytes=32 time<1ms TTL=128
Reply from 192.168.10.1: bytes=32 time<1ms TTL=128
Reply from 192.168.10.1: bytes=32 time<1ms TTL=128
Reply from 192.168.10.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss)
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

nslookup vlabsXX.com

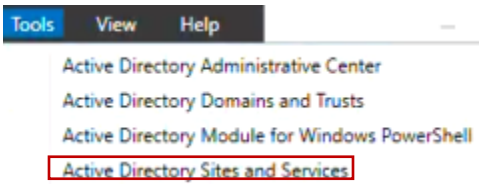
```
PS C:\Users\Administrator.VLABS10> nslookup vlabs10.com
DNS request timed out.
    timeout was 2 seconds.
Server:  UnKnown
Address:  ::1

Name:    vlabs10.com
Address:  192.168.10.1
```

- Reconfigure Active Directory Sites on DC1XX

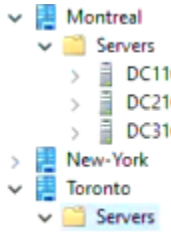
Log in to DC1XX.

DC110

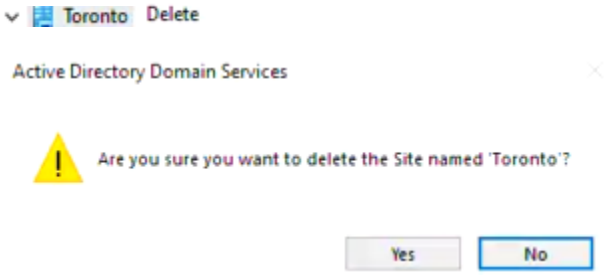
Open Active Directory Sites and Services.



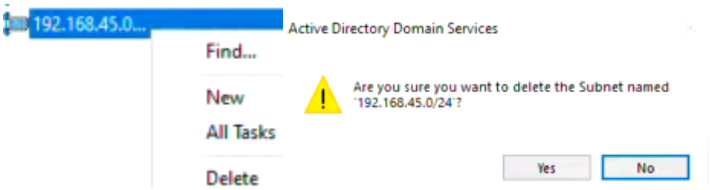
Move DC2XX from the Toronto site to the Montreal site.



Delete the Toronto site.

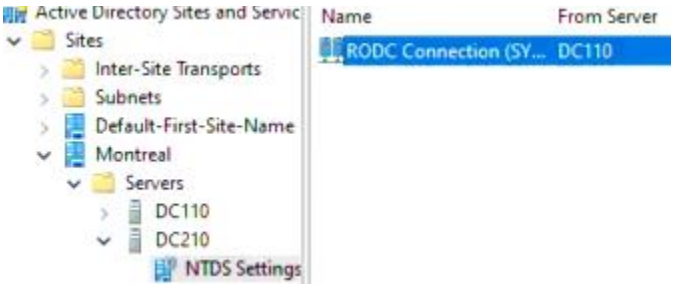


Delete the subnet 192.168.45.0/24.

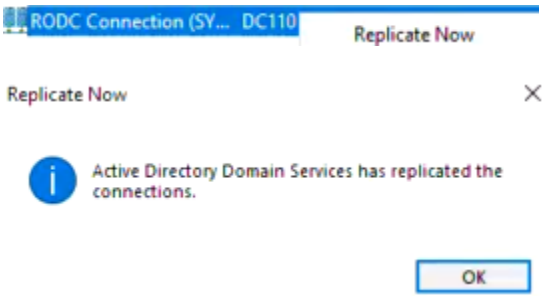


- Force Replication from DC1XX

Locate the NTDS connection between DC1XX and DC2XX.



Right-click the connection object and select Replicate now.



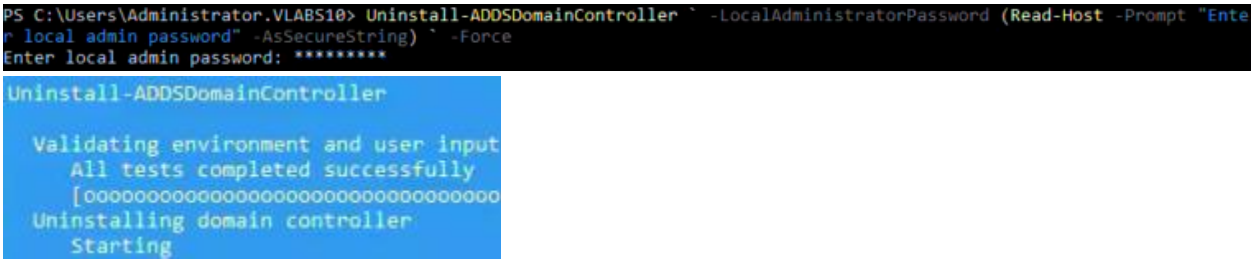
2. Demote the Domain Controller (RODC)

- Return to DC2XX.

DC210

- Safely remove a domain controller (typically an RODC) from the domain and return it to a standalone server.

Uninstall-ADDSDomainController ` -LocalAdministratorPassword (Read-Host -Prompt "Enter local admin password" -AsSecureString) ` -Force

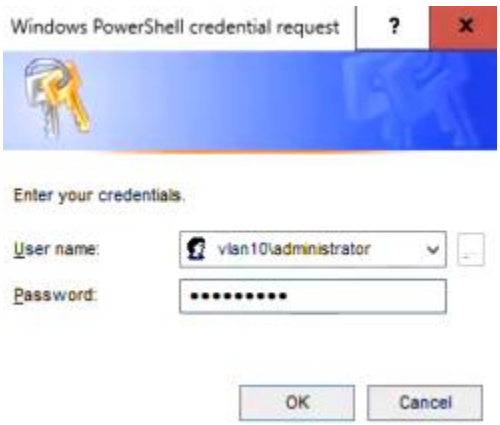


3. Promote a Writable Domain Controller (Replica)

- Promote a member server to become a writable domain controller for an existing domain (vlabsXX.com) in the Montreal site.

Install-ADDSDomainController ` -DomainName "vlabs10.com" ` -Credential (Get-Credential) ` -SiteName "Montreal" ` -InstallDNS ` -NoGlobalCatalog:$true ` -Force

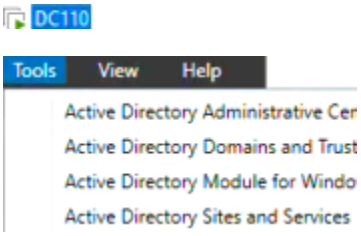
```
PS C:\Users\Administrator.VLABS10> Install-ADDSDomainController `  -DomainName "vlabs10.com" `  -Credential (Get-Crede
ntial) `  -SiteName "Montreal" `  -InstallDNS `  -NoGlobalCatalog:$true `  -Force
```



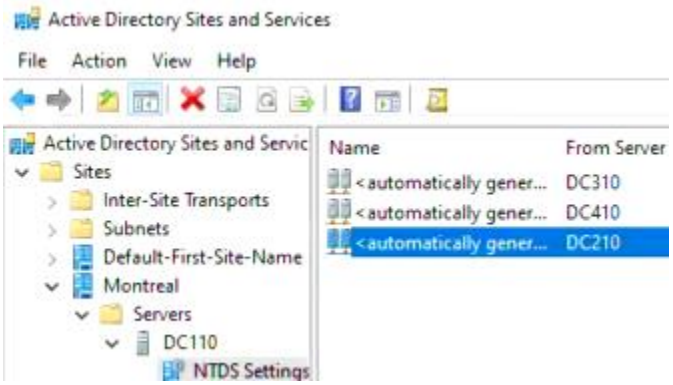

```
Message                      Context           RebootRequired  Status
-------                      -------           --------------  ------
Operation completed successfully DCPromo.General.3          False Success
```

4. Managing FSMO role and Global Catalog

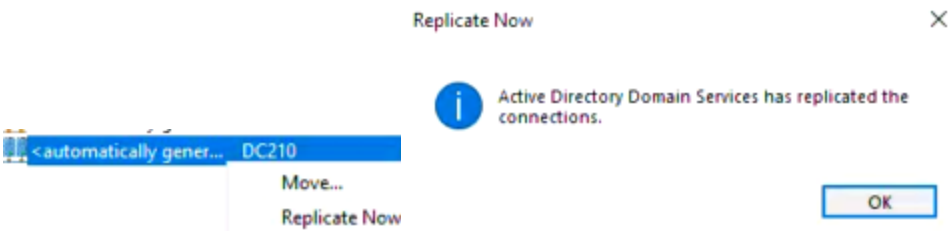
- Before starting these tasks, from DC1XX, open Active Directory Sites and Services.



- Locate the NTDS connection between DC1XX and DC2XX.



- Right-click the connection object and select Replicate now.



- On DC2XX, use the netdom tool to locate the FSMO roles of all the domains.

DC210

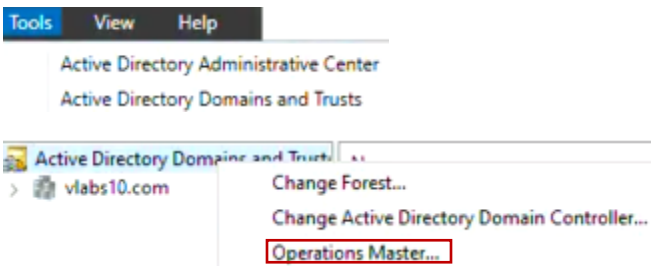
```
PS C:\Users\Administrator.VLABS10> netdom query fsmo
Schema master               DC110.vlabs10.com
Domain naming master        DC110.vlabs10.com
PDC                         DC110.vlabs10.com
RID pool manager            DC110.vlabs10.com
Infrastructure master       DC110.vlabs10.com
The command completed successfully.

PS C:\Users\Administrator.VLABS10> netdom query fsmo /d:lab10.vlabs10.com
Schema master               DC110.vlabs10.com
Domain naming master        DC110.vlabs10.com
PDC                         DC310.lab10.vlabs10.com
RID pool manager            DC310.lab10.vlabs10.com
Infrastructure master       DC310.lab10.vlabs10.com
The command completed successfully.
```

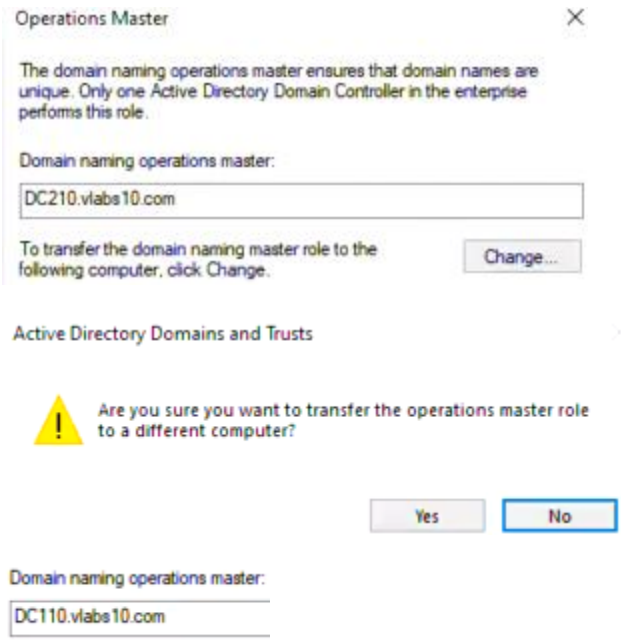
- On DC2XX, use PowerShell to transfer the Domain Naming Master FSMO role from DC1XX to DC2XX, then verify that the role has been successfully moved.

```
PS C:\Users\Administrator.VLABS10> Move-ADDirectoryServerOperationMasterRole -Identity "DC210" -OperationMasterRole Doma
inNamingMaster

Move Operation Master Role
Do you want to move role 'DomainNamingMaster' to server 'DC210.vlabs10.com' ?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is "Y"): Y
PS C:\Users\Administrator.VLABS10> Get-ADForest | Format-List DomainNamingMaster


DomainNamingMaster : DC210.vlabs10.com
```

- Go back to DC1XX, use the GUI to transfer the Domain Naming Master FSMO role back to DC1XX.

DC110

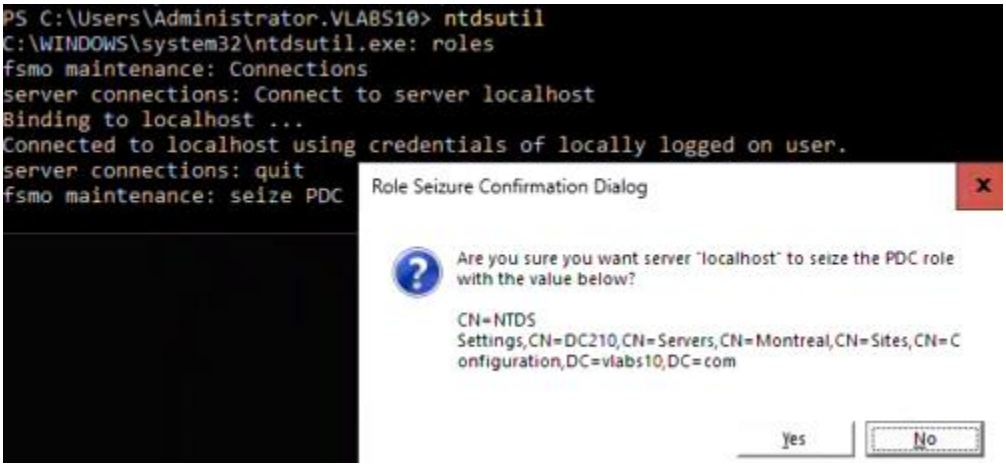




- Simulate a failure scenario:

Stop the DC1XX server.

On DC2XX, use the ntdsutil tool to seize the PDC Emulator FSMO role.



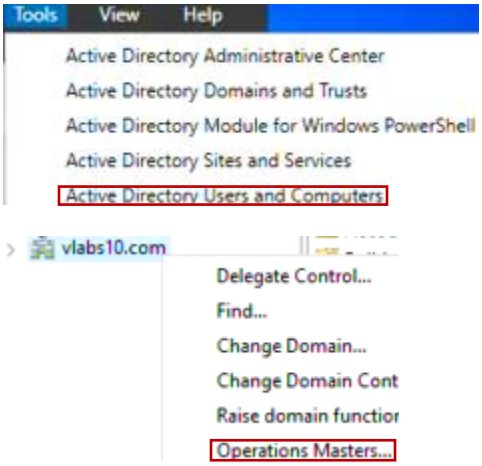

```
Transfer of PDC FSMO failed, proceeding with seizure ...
```

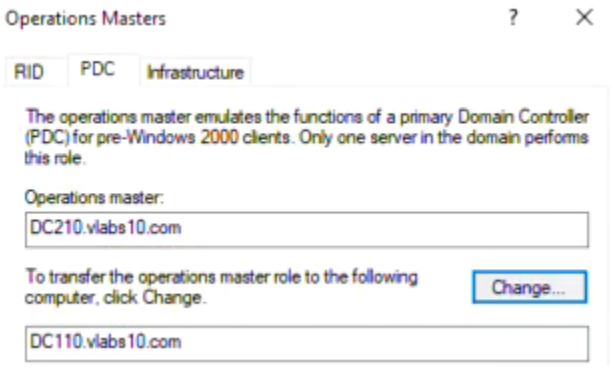
```
fsmo maintenance: quit
```

Start the DC1XX server again.

DC110

From DC1XX, use the GUI to verify that the PDC Emulator FSMO role is now held by DC2XX.





- Go back to DC2XX:

Configure the PDC Emulator DC to synchronize time with a reliable time source.

DC210

```
PS C:\Users\Administrator.VLABS10> w32tm.exe /config /manualpeerlist:"europe.pool.ntp.org time.nist.gov 192.
43.244.18 193.67.79.202" /syncfromflags:manual /reliable:yes /update
The command completed successfully.
```

```
PS C:\Users\Administrator.VLABS10> net stop w32time
The Windows Time service is stopping.
The Windows Time service was stopped successfully.

PS C:\Users\Administrator.VLABS10> net start w32time
The Windows Time service is starting.
The Windows Time service was started successfully.
```

Enable the Global Catalog role.

```
PS C:\Users\Administrator.VLABS10> Set-ADObject -Identity "CN=NTDS Settings,CN=DC210,CN=Servers,CN=Montreal,CN=Si
tes,CN=Configuration,DC=vlabs10,DC=com" -Replace @{options=1}
PS C:\Users\Administrator.VLABS10> Get-ADDomainController -Identity "DC210" | Select-Object Name,IsGlobalCatalog

Name  IsGlobalCatalog
----  ---------------
DC210            True
```

- Return to DC1XX, use the GUI to disable the Global Catalog on DC2XX.