

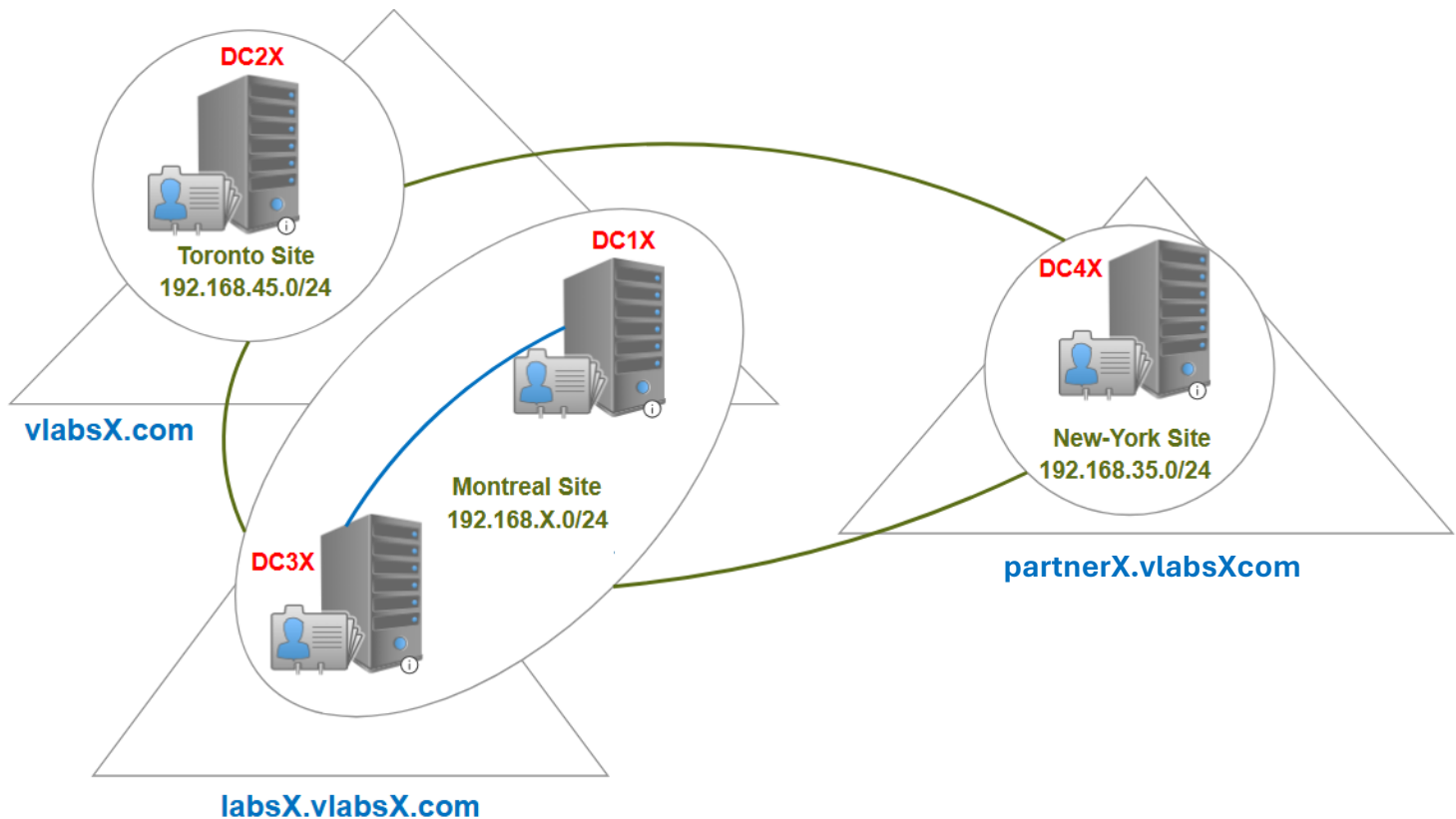
Lab Assignment 1 (Part II) - Managing AD Sites and replication

Lab Overview

This lab provides students with hands-on experience in configuring and managing **Active Directory Sites and Replication**.

The tasks include setting up sites, subnets, site links, and replication monitoring using both **GUI** and **PowerShell**. By completing this lab, students will gain a deep understanding of **AD DS replication and inter-site communication**.

Lab Topology Overview



Lab Tasks

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**
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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`
- **Demote DC4XX:**
`Uninstall-ADDSDomainController`
-LocalAdministratorPassword (ConvertTo-SecureString "Passw0rd$" -AsPlainText -Force) `
-LastDomainControllerInDomain `
-RemoveApplicationPartitions `
-Force`
 - **Wait until the Server restarts automatically**
- After restarting, remove the **AD Domain Service** role:
`Uninstall-WindowsFeature AD-Domain-Services -IncludeManagementTools -Restart`
 - **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`

Disable-NetAdapterBinding -Name "Ethernet0" -ComponentID ms_tcpip6

- Ping the DNS Server **192.168.X.1** and **nslookup vlabsXX.com** before doing next step.
- Join the server **DC4XX** to the domain **vlabsXX.com** using **PowerShell**:

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

- 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

Install-ADDSDomain `

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

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 **DC4XX**.
- Delete this Connection object to **DC3XX**.
- Recreate it again using the **KCC to regenerate it automatically** and verify that it is created.
- 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.
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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.
 - Modify it by adding a description.
 - Move **DC2XX** to **Toronto** site
 - Verify that it was moved.
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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.
 - Verify the creation.
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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.
 - Verify the creation
 - Modify the **TOR_MTL** replication cost to **90** and replication interval to **40**.
 - Verify the modification.
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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.
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Task 9: Selecting a Bridgehead

Using GUI:

- Select **DC4XX** as a bridgehead for the **Toronto** Site.

Using PowerShell:

- Select **DC1XX** as a **bridgehead** for the **Montreal** Site.
 - Verify that **DC1XX** is the bridgehead.
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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.
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Task 11: Monitoring and Troubleshooting Replication

From DC1XX, using PowerShell:

- Check the **replication partner** and the **replication status**.
 - Identify any **replication errors** and **resolve** them.
 - Check the **replication partner** and the **replication status** for DC2XX
 - Summarize the **replication status** and the **overall replication health**.
 - Check the **replication queue**.
 - Force replication between DC1XX and DC3XX by **pulling** from DC3XX
 - List the **Topology information**.
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Task 12: Managing FSMO role and Global Catalog

- **This task will be completed in the next class.**
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Lab Assignment Deliverables

You should submit a **lab report** in **PDF** including **screenshots** covering your work.