Lab 4.1.1 Install Servers for Share Cluster Lab

Introduction

- An assessment of a student's knowledge of the Units material.

Objectives

In this lab the student will:

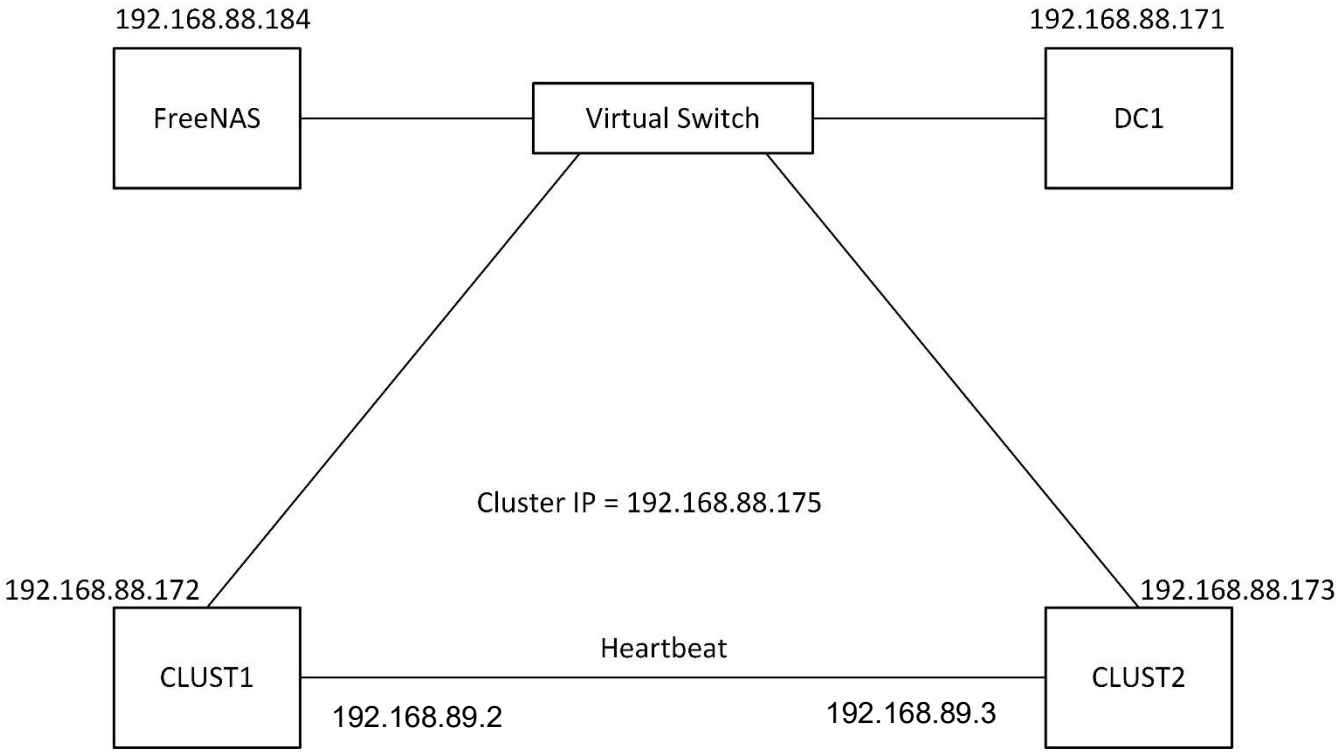
- Install, configure and manage virtual networking and storage [WECM]

Equipment/Supplies Needed

- Host Computer with VMware Workstation Pro
- Windows Server 2019 ISO

Assignment

Key activities include installing and configuring the following:
Two high availability servers
One Windows Server Domain Controller
Scenario: Our two-node HA cluster needs three Windows 2019 Servers, a Domain Controller and two Cluster Node servers. We will do a single server install and then clone it twice.



As a member of the Server Administration Team, you have been asked to install a two-node share server cluster. To accomplish this, you will begin by installing three Windows Server 2019 servers and making sure they can ping each other.

Make sure the system time and time zone are set correctly on your server VM. Verify the VM NIC settings are OK and that VMware Tools are installed.

1. Install Windows Server 2019 Standard Edition (Desktop Experience) as a VM, naming it DC1.
3. Use **Itnw2355Pswd** for all passwords in this lab.
4. Set the time zone to Central Time.
5. Set the Firewall to allow pings.
6. Turn off IE Enhanced Security Configuration in Server Manager.
7. Install Google Chrome and make it the default browser.
9. Install VMWare tools. (Requires a reboot.)
10. Log in as Administrator.
11. Open file explorer and navigate to c:\windows\system32\sysprep.
12. Double-click the sysprep application to start it.
13. Select the "System Out Of Box experience", select "generalize" and "Shutdown".
14. In VMWare Workstation, highlight VM DC1 and select VM, then Manage, then Clone.
15. This starts the clone wizard. Click <Next>.
16. Select "Current State of the Virtual Machine" and click <Next>.
17. Select "Create a Full Clone" and click <Next>.
18. Name the VM "CLUST1" and click <Finish>.

19. (It takes a few minutes to create the clone.) Click <Close>.
20. Clone VM DC1 again to create VM CLUST2.
21. Power on DC1.
22. Make the following changes to the configuration:
    A. Server name = DC1 (This change requires a reboot. Do a shutdown instead).
    B. Change NIC to VMnet8. NOTE: if VMnet8 is already being used from another lab then use whatever unique VMnet you have available. (Requires creating VMnet8 in Host only network first).
    C. IP Address = 192.168.88.171
    D. Mask = 255.255.255.0
    E. Gateway = none
    F. DNS = 192.168.88.171
    G. Install Active Directory Domain Servers and promote to a Domain Controller
    H. Make the domain name **TestXX.net**, where XX are you initials
    I. After the server reboots, login as administrator
    J. Open Active Directory Users and Computers
    K. Create a new OU named **Clusters**.
23. Take a screenshot of Server Manager\Local Server on DC1 showing server name and domain
24. Leave DC1 powered on.

Take a screenshot of Server Manager on DC1 showing server name and domain. Also take a screenshot of ipconfig/all command showing all IP configs.

25. With CLUST1 powered off, edit settings and add a second Network Adapter (on VMNet7). NOTE: if VMnet7 is being used from another lab then use whatever unique VMnet you have available.
26. Power on server CLUST1.
27. Make the following changes to the configuration:
    A. Server Name = CLUST1 (This change requires a reboot. Do a shutdown instead).
    B. Change Enet0 to VMnet8, or whatever VMnet you configured for this lab.
    C. Enet0 IP Address = 192.168.88.172
    D. Enet0 Mask = 255.255.255.0
    E. Enet0 Gateway = none
    F. Enet0 DNS = 192.168.88.171
    G. Enet1 IP Address = 192.168.89.2
    H. Enet1 Mask = 255.255.255.0
    I. Enet1 Gateway = none
    J. DNS = none
    K. Make sure CLUST1 and DC1 can ping each other
    L. Join the domain, reboot, and login with a domain account
    M. Add the File Server role, File and Storage Services role, and ISCI Services role
28. **Take a screenshot of Server Manager\Local Server on CLUST1 showing server name and domain. Also take a screenshot of ipconfig/all command showing all IP configs.**
29. Leave CLUST1 powered on.
30. With CLUST2 powered off, edit settings and add a second Network Adapter (on VMNet7 or whatever VMnet you configured for this lab).
31. Power on server CLUST2.
32. Make the following changes to the configuration:
    A. Sever Name = CLUST2 (This change requires a reboot. Do a shutdown instead.)
    B. Change Enet0 to VMnet8 (or whatever VMnet you configured for this lab) if not already done.
    C. Server Name = CLUST2
    D. Enet0 IP Address = 192.168.88.173

E. Enet0 Mask = 255.255.255.0
F. Enet0 Gateway = none
G. Enet0 DNS = 192.168.88.171
H. Enet1 IP Address = 192.168.89.3
I. Enet1 Mask = 255.255.255.0
J. Enet1 Gateway = none
K. DNS = none
L. Make sure CLUST2 and DC1 can ping each other
M. Make sure CLUST2 and CLUST1 can ping each other on both networks
N. Join the domain, reboot, and login with a domain account
O. Add the File Server role, File and Storage Services role, and ISCI Services role

33. **Take a screenshot of Server Manager\Local Server on CLUST2 showing server name and domain. Also take a screenshot of ipconfig/all command showing all IP configs.**

34. **Take screenshot of Virtual Network Editor showing VMnet7 and VMnet8 created and configured correctly, or whatever VMnets you created for this lab.**

35. Unless you are proceeding directly to the next lab, gracefully shut down all 3 servers.

Place all screenshots in a Word or PDF document and upload that document for grading. Submit the following items for grading as evidence of successful lab completion.

Concerns Working Towards Proficiency	Criteria Standards for This Competency	Accomplished Evidence of Mastering Competency
	2 Screenshots of DC1 Domain Controller. Both screenshots required or no points awarded.	25 points
	2 Screenshots of CLUST1. Both screenshots required or no points awarded.	25 points
	2 Screenshots of CLUST2. Both screenshots required or no points awarded.	25 points
	Screenshot of Virtual Network Editor showing proper configuration	25 points