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Lab 7

**Part A:**[**Netlab3Links to an external site.**](https://netlabve3.flc.losrios.edu/)

* **Use Netlabs 70-741 LAB04\_Remote\_Access as a guide:**
* **Configure routing and NAT according to the lab**A screenshot of a computer program

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Remote access role added  
A screenshot of a computer

AI-generated content may be incorrect.  
nat setup on DCA

A computer screen shot of a black screen

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Ping test to 192.168.0.2 and .3 work

* + **Describe NAT according to Microsoft. Would you use this type of NAT in your network, why?, why not?**
    - Nat according to Microsoft is Network Address Translation. In essence, it is translating one IIIP address to another within a network packet. In essence you allow multiple private IPS to use one public IP for access to the internet (usually through specific mapped ports). No I don’t think I would want to use this kind of NAT as it seems insecure.
  + **Configure and run VPN according to the lab**

A screenshot of a computer

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* + - Configure vpn with nat

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* + - New group

A screenshot of a computer

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* + - New user Ash K

A computer screen shot of a network policy

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* + - New network policy VPN\_ALLOW

A screenshot of a computer

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* + - Add VPN to WIN10-A

A screenshot of a computer

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* + - Allow protocols in the network center under the vpn

A screenshot of a computer

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* + - Connected to vpn

**Describe VPN and VPN configuration according to Microsoft. Compare this VPN to NordVPN (what is the difference) and what can you do with this VPN connection**

“ VPNs are point-to-point connections across a private or public network, like the Internet. A VPN client uses special TCP/IP or UDP-based protocols, called tunneling protocols, to make a virtual call to a virtual port on a VPN server. In a typical VPN deployment, a client initiates a virtual point-to-point connection to a remote access server over the Internet. The remote access server answers the call, authenticates the caller, and transfers data between the VPN client and the organization's private network. ” - [Microsoft](https://learn.microsoft.com/en-us/windows/security/operating-system-security/network-security/vpn/vpn-connection-type)

Microsoft’s server vpn is primarily focused on enterprise network access management (connecting into a business network) where as services like Nord VPN are primarily focused on consumer focused VPN usage. This means that they mostly secure anonymize traffic of users by connecting them to an ip other than their own (other countries and so on). Another difference is services like Nord VPN also offer a wider range of features for users than Windows Server VPN.

**Part B:Netlab3**

* **Configure Remote Management according to MS410-Configure,, Lab06- Remote Management**

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* + Create new A or AAA record for w2k12r2-core

A screenshot of a computer

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* + Add server

A screen shot of a computer

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* + Run powershell command

A screenshot of a computer

AI-generated content may be incorrect.

* + Adding W2K12R2 to managed servers

A screenshot of a computer

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* + Unable to connect

A screenshot of a computer

AI-generated content may be incorrect.

* + Firewall rule enabled

A screenshot of a log management

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* + Enable log management

A screenshot of a computer

AI-generated content may be incorrect.

* + Firewall rules on core set via command line

A screenshot of a computer

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* + Computer management open
  + Second desktop could not be setup to manage the servers as there is no server manager installed
  + **When would you use this role/feature?**
    - This can be used to manage systems that are on the network but not a part of the domain. This can allow for central management of the systems in the network. As for when to use it can be used in a lab, testing, or small network environment.
  + Configure remote management from a domain-joined server
  + Configure remote management from both of the Windows 10 Desktops

A screenshot of a computer

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* + - Server manager installed on win8-1

A screenshot of a computer

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* + - 2 servers added



* + - Force trusted host

A screenshot of a computer

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* + - Both servers added to administration

Search the internet step by step for the following roles/features. Try to install, configure and test one of the below roles/features with a user other than Administrator, is it possible, why/why not? When should you use each of the below roles/features:

* + Setup and configure Radius Server
    - Instructions - <https://www.securew2.com/blog/how-to-set-up-a-microsoft-radius-server>
    - You cannot set up Windows Server roles using an account that is not an administrator; to install or manage server roles, you must be logged in with an account that has administrator privileges on the server.
    - Why to use – radius allows for central management of authentication for various network services such as wifi and vpn.
  + Setup and configure DirectAccess
    - Instructions - <https://newhelptech.wordpress.com/2017/07/05/step-by-step-installing-configuring-directaccess-in-windows-server-2016/>
    - This allows users to seamlessly access corporate network access resources while remote. This process and be both technical and complex to set up so in larger networks it may be better to use a traditional VPN setup for access
  + Setup and configure RDS Services
    - Instructions - <https://learn.microsoft.com/en-us/windows-server/remote/remote-desktop-services/rds-deploy-infrastructure>
    - RDS service provices centralized access to applications and desktops for users across the network. This can be used to create a central piece of infrastructure where secure processes can be run if the application can not be put on users systems.

**Part C:**[**Netlab2Links to an external site.**](https://netlabve2.flc.losrios.edu/)

* **Run all of the commands from lab NISGTC Linux+ Series 2 Lab 08: Basic Network Configuration**

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* + - more /etc/sysconfig/network-scripts/ifcfg-eth0

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* + - more /etc/resolv.conf

A screenshot of a computer screen

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* + - Su – and ifconfig

A screenshot of a computer

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* + - service NetworkManager status and service network status

A screenshot of a computer

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* + - service NetworkManager stop / chkconfig NetworkManager off / chkconfig network on

A screenshot of a computer

AI-generated content may be incorrect.

* + - cat /etc/sysconfig/network-scripts/ifcfg-eth0

A screenshot of a computer

AI-generated content may be incorrect.

* + - service network restart / service network status

A screenshot of a computer

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* + - ifconfig eth0 / route

A screenshot of a computer program

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* + - ping -c3 10.0.10.2

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* + - cat /etc/hosts | ping -c3 linuxhost | ping -c3 linuxhost.example.net
  + Configure the network using the subnet 10.0.10.0/24 (not the IPs listed in the lab manual)  
    A screenshot of a computer

    AI-generated content may be incorrect.
    - CentOS Server ip info

:A screen shot of a computer

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* + - Ubuntu server ip

A screenshot of a computer

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* + - Fedora workstation

A screenshot of a computer

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* + - Ubuntu workstation
  + Ensure all systems can reach each other

A screenshot of a computer screen

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* + All systems can ping

Part D:

* Search the internet on how to configure SSH and make it secure.
  + Configure all systems with secure SSH  
    **https://wiki.centos.org/HowTos(2f)Network(2f)SecuringSSH.html**
  + Add the below users to all systems
    - Superman
    - Batman
    - Robin
    - Wonderwoman

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* + - Fedora Workstation

A screen shot of a computer

AI-generated content may be incorrect.

* + - Ubuntu workstation

A screenshot of a computer

AI-generated content may be incorrect.

* + - Centos Server

A screen shot of a computer screen

AI-generated content may be incorrect.

* + - Ubuntu server
  + Ensure that all systems can reach each other securely

A screenshot of a computer screen

AI-generated content may be incorrect.

* + - Centos to Ubuntu

A screenshot of a computer

AI-generated content may be incorrect.

* + - Centos to Fedora
    - Ubuntu couldn’t get ssh to start
  + Utilize Certificate-based authentication. The systems should not prompt for a password when connecting