



CS2000 – Laboratory 01

Installing Linux and Windows Server VMs



Pre-Lab

What is the difference between the different version of Windows Server 2019 Standard, Standard (Desktop Experience), Datacenter, and Datacenter (Desktop Experience)?

Task 1

Get familiar with lab environment

Become familiar with the software you are using for this lab, this will either be VMware Player or another similar tool.

Task 2

Install Network Operating system

Installing Ubuntu Server on Virtual Machine and saving its image.



1. Launch VMware Workstation on Windows
2. Create a Linux Ubuntu 64bit machine
 - File→New Virtual Machine (or click on create New Virtual Machine at Home page).
 - Use typical configuration
 - Select Installer disc image file (iso).
 - Browse to where you have the ubuntu iso file
 - Open and Next
 - Full name: CSLYourStudentID
 - Username: cs
 - Password: netacad
 - Virtual Machine Name: CSLYourStudentID
 - Store virtual disk as a single file
3. Installation of Ubuntu 18 Server will start automatically
 - Accept the default language -English, English(US) for Keyboard
 - Install Ubuntu Server
 - Accept network configuration
 - No proxy required so enter accepting “Done” option
 - Accept the default mirror URL
 - Use an Entire Disk
 - Accept the default file system setup
 - In “Config destructive action” window select continue
 - Your name: CSLYourStudentID
 - Your Server’s name: CSLYourStudentID
 - Username: cs
 - Password: netacad
 - Do not need to install SSH at this point

- Do not need to install Featured Server Snaps
- Ubuntu installer main menu will start
 - When finished *“Reboot Now”*
- Login- username: cs - password: netacad

4. Update and Install Desktop

- `sudo apt-get update`
- `sudo apt-get upgrade`
- `sudo apt-get install ubuntu-desktop`

Note: installing desktop might take too long. You can start Task 3 while waiting for this.

5. Enter the desktop

Use this command to enter to GUI:

- `startx`

Note: if you have trouble viewing the login page, change the hardware version of VM to previous version. VM→Upgrade or Change Version

6. **(Only available in Workstation Professional – not Player. Ignore if using VMWare Player)**

Create a **full** clone of your machine

- Power off your virtual machine
- VM→Manage→Clone
- Create a full clone

7. **(Only available in Workstation Professional – not Player. Ignore if using VMWare Player)**

Snapshot

When you take a snapshot, you preserve the state of a virtual machine at a specific moment in time and the virtual machine continues to run. Taking a snapshot enables you to return to the same state repeatedly. You can take a snapshot while a virtual machine is powered on, powered off, or suspended.

- Take a couple of snapshot VMSnapshot→Take Snapshot
- Revert to snap snapshot VM→Snapshot→Revert to Snapshot:
- You can review all snapshots for a virtual machine and act on them directly in the snapshot manager. VM→Snapshot→Snapshot Manager.

8. Backup your machine

- Power off your virtual machine
- Copy your virtual machine folder (C:\Users\you\My Documents\Virtual Machines\CSYourStudentID)
- Paste the folder in a new place (for example Desktop)
 - Open the machine in VMware Workstation o File→Open→ .vmx
- Keep a copy of your machine folder for backup.

Task 3

Install and configure Windows Server on Virtual Machine



In this section you are required to install Windows Server 2019. This is just a guideline and steps might be different for various version of VMware and OS.

Note: send Ctrl+Alt+Del from VM → send Ctrl+Alt+Del

Use “cs” as username, “Netacad123” as password and name “CSWYourStudentID” during the installation if applicable.

1. Launch VMware Workstation
2. Create a Windows Server 64-bit
 - File → Virtual Machine (or click on create New Virtual Machine at Home page).
 - Select **I will install the operating system later**
 - Select Microsoft Windows and Windows Server 2019
 - Save the Virtual machine to your Desktop or elsewhere
 - Either leave the disk size as 60GB or you can reduce to 20GB
 - Store virtual disk as a single file
 - Edit the virtual machine settings
 - On the CD/DVD (SATA) tab, select **Use ISO image file**
 - Browse to where you saved the Windows server iso file
 - Open and Next
 - Connect and power on the virtual machine
 - Select Windows Server 2019 Standard (Desktop Experience)

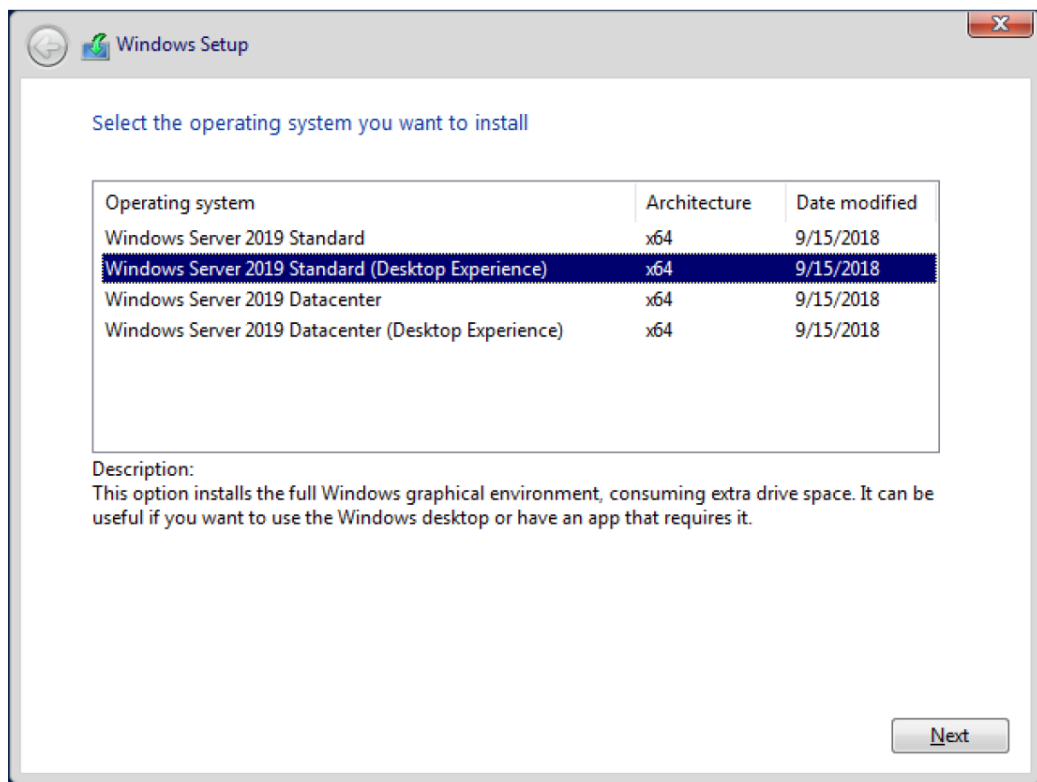


Figure 1 Select the OS

3. During the installation the vmware tools will be installed

Note: if you have trouble viewing the login page, change the hardware version of VM to previous version. VM→Upgrade or Change Version

Completing post installation tasks (using GUI and CMD)

After installation, following tasks should be performed:

- Configure network Connection
- Set the time zone
- Enable remote desktop
- Rename the computer
- Join domain

Using the GUI

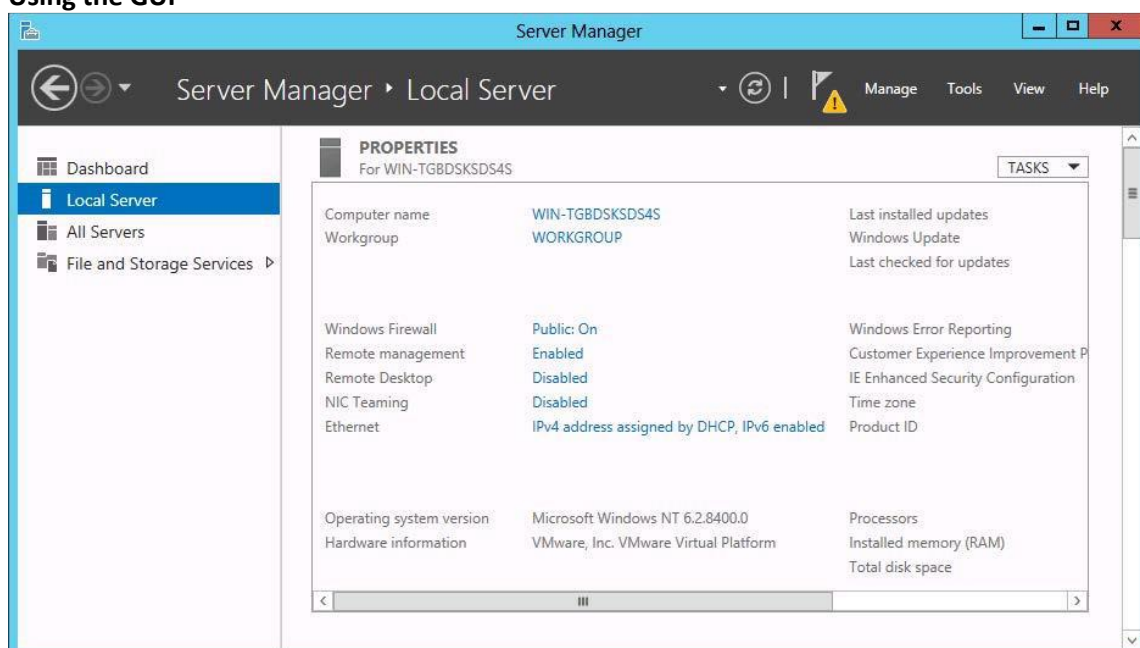


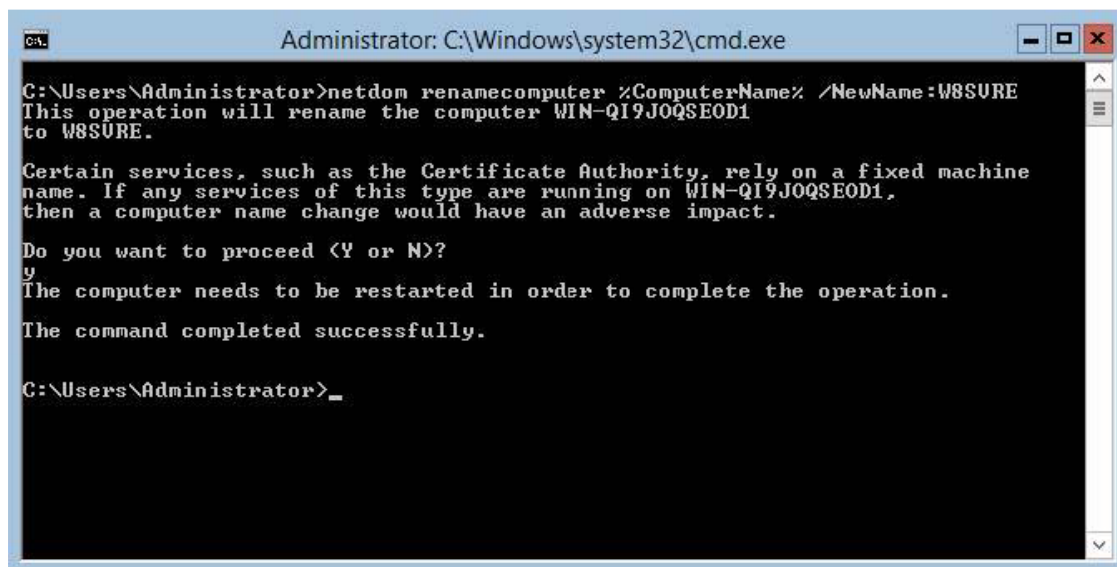
Figure 2 The Properties tile of the local server in Server Manager.

The Ethernet entry in the Properties tile specifies the current status of the computer's network interface.

- In the Lab there is an active Dynamic Host Configuration Protocol (DHCP) server on virtual machine's network, therefore server will have already retrieved an IP address and other settings and used them to configure the interface. You are not required to change anything, just double check the configuration.
- If there is no DHCP server on the network, or if you must configure the computer with static IP address, click the Ethernet hyperlink to display the Network Connections window from the Control Panel. You can use this to open the Ethernet Properties sheet and the Internet Protocol Version 4 (TCP/IPv4) Properties sheet, where you can configure the TCP/IP client.
- Accurate computer clock time is essential for Active Directory Domain Services communication. If the server is located in a time zone other than the default Pacific zone, click the Time Zone hyperlink to open the Date and Time dialog box, where you can correct the setting.
- By default, Windows Server 2012 does not allow Remote Desktop connections. To enable them, click the Remote Desktop hyperlink to open the Remote tab of the System Properties sheet.
- In a manual operating system installation, the Windows Setup program assigns a unique name beginning with WIN- to the computer. To change the name of the computer and join it to a domain, click the Computer Name hyperlink to open the System Properties sheet and click Change to open the Computer Name/Domain Changes dialog box. Change the name but leave the domain as Workgroup.
- If necessary, because of limited physical access to the server, you can confine this procedure to configuring the network connection and enabling Remote Desktop. Then, you can use Remote Desktop to connect to the server and configure everything else.

Using Command-line tools

To rename a computer, run Netdom.exe with the following syntax, as shown in Figure 3
`netdom renamecomputer %ComputerName% /NewName:<NewComputerName>`



```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>netdom renamecomputer %ComputerName% /NewName:W8SURE
This operation will rename the computer WIN-Q19J0QSE0D1
to W8SURE.

Certain services, such as the Certificate Authority, rely on a fixed machine
name. If any services of this type are running on WIN-Q19J0QSE0D1,
then a computer name change would have an adverse impact.

Do you want to proceed (Y or N)?
y
The computer needs to be restarted in order to complete the operation.

The command completed successfully.

C:\Users\Administrator>
```

Figure 3 Renaming a computer from the command line.

To restart the computer as directed, use the following command:

- shutdown /r

End of Remote Lab!

Below are some handy tips.

To join a computer to a domain, use the following syntax:

Netdom join %ComputerName% /domain:<DomainName> /userd:<UserName> /Passwordd:*

In this command, the asterisk (*) in the /passwordd parameter causes the program to prompt you for the password to the user account you specified.

These commands assume that the computer's TCP/IP client has already been configured by a DHCP server. If this is not the case, you must configure it manually before you can join a domain. To assign a static IP address to a computer using Server Core, you can use the Netsh.exe program or the Windows Management Instrumentation (WMI) access provided by Windows PowerShell.

To enable Remote Desktop connections on the server, use the following cmdlet:
Set-RemoteDesktop -Enable

Post-Lab:

Document your lab experience with screenshots and any notes you think of value.