

## Lab - Create a Virtual Install of Server 2019 Core Using VirtualBox

Unlike some previous releases of Windows Server, you cannot convert between Server 2019 Core and Server 2019 with Desktop Experience after installation. If you install Server Core and later decide to use Server 2019 with Desktop Experience, you should do a fresh installation (and vice versa).

### Overview

In this lab, students will create an installation of Server 2019 Core using VirtualBox.

The Server Core installation installs the operating system in non-GUI with minimal footprint and helps to secure the server. The benefits of using core server are:

- Reduced attack surface
- Reduced maintenance
- Consume fewer hardware resources
- Increased stability due to fewer running applications

System requirements for creating a virtual install of Server 2019 using VirtualBox.

Windows Server 2019 is a 64-bit operating system. This lab will only work on 64-bit hardware.

You can get a free copy of VirtualBox by using this link [Download VirtualBox](#).

After downloading VirtualBox, browse to where you saved it, and double-click to start the installation. You can just accept the defaults by clicking Next through each screen.

If you already have VirtualBox downloaded and installed, you do not need to download and install it a second time.

This lab is very basic and has just two requirements:

- Installation of VirtualBox onto your local system.
- An ISO image of Server 2019 is readily accessible on your local network.

Download direct from Microsoft: <https://www.microsoft.com/en-us/evalcenter/evaluate-windows-server-2019>

If you have a previous download of Server 2019, you do not need to download it again. You can use the same 2019 ISO image for Server 2019 time again.

## Windows Server 2019

Evaluations | **180 days**

In addition to your trial experience of Windows Server 2019, additional features from the Desktop Experience to improve features on demand can be added to images prior to deployment. Download this [Compatibility FOD](#). To learn more about

 **Start your evaluation**

**Please select your evaluation file type:**

- Azure
- ISO
- VHD

**Continue**

Fill in your information.

 **Start your evaluation**

Please complete the form to continue:

* First name	<input type="text"/>
* Last name	<input type="text"/>
* Company name	<input type="text"/>
* Company size	<input type="text" value="Select one"/>
* Job title	<input type="text" value="Select one"/>
* Work email address	<input type="text"/>
* Work phone number	<input type="text"/>
* Country	<input type="text" value="Select one"/>

\* Indicates a required field

**Back**

**Continue**

Next page.... select your language.

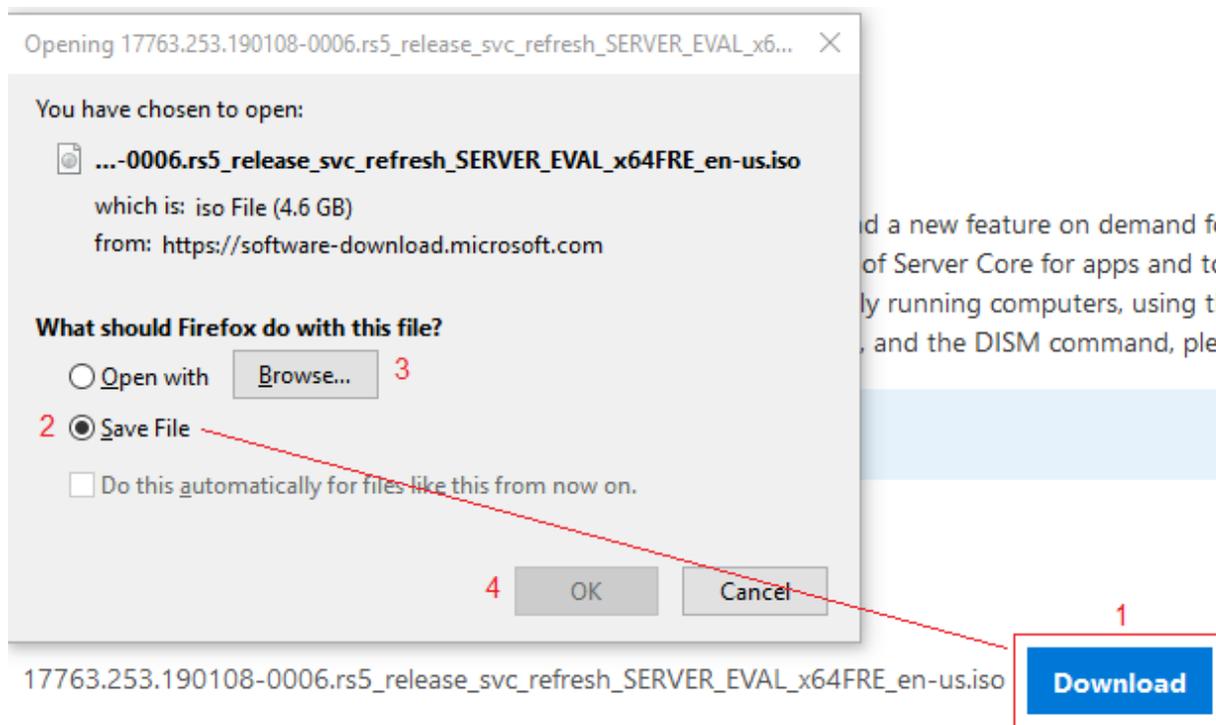
 **Start your evaluation**

**Please select your language:**

English 

**Back** **Download**

Click the download button. Save the file locally on you machine or network and then clock, OK.

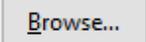


Opening 17763.253.190108-0006.rs5\_release\_svc\_refresh\_SERVER\_EVAL\_x6...

You have chosen to open:

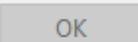
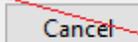
 ...-0006.rs5\_release\_svc\_refresh\_SERVER\_EVAL\_x64FRE\_en-us.iso  
which is: iso File (4.6 GB)  
from: https://software-download.microsoft.com

**What should Firefox do with this file?**

Open with  3

2  Save File

Do this automatically for files like this from now on.

4  

17763.253.190108-0006.rs5\_release\_svc\_refresh\_SERVER\_EVAL\_x64FRE\_en-us.iso 

Check yourself....

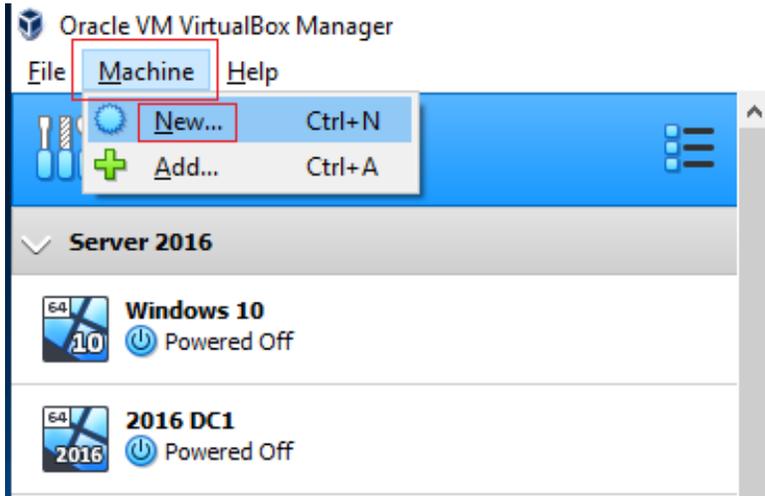
Server 2019 ISO ready for installation.

[Download VirtualBox](#) for Windows. The version may be updated, but it is still the same software. Act accordingly.

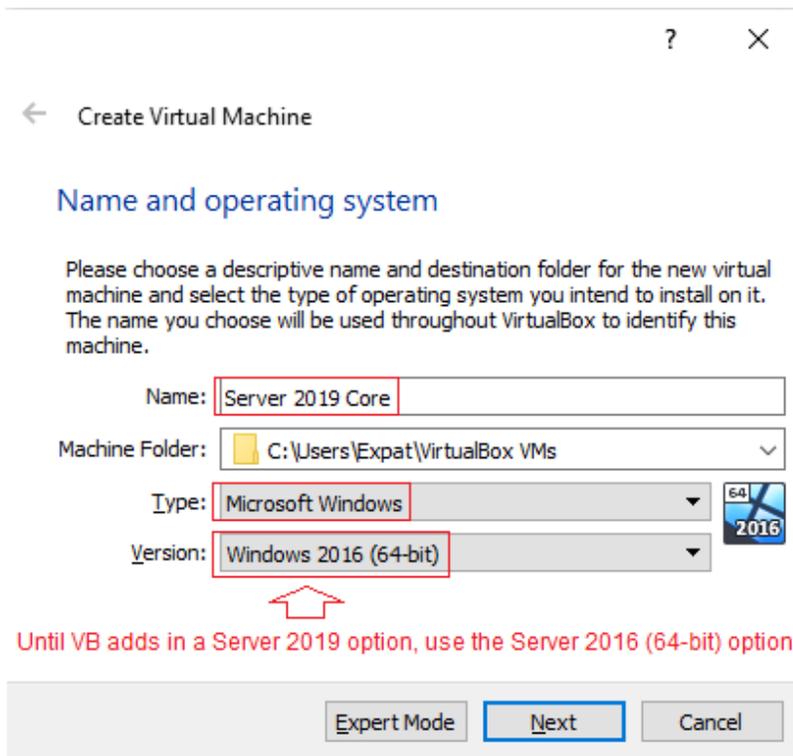
Install VirtualBox and follow the simple instructions given below to install Windows Server 2012 on VirtualBox. Install the virtual adapters if prompted.

Begin the lab!

To begin creating a 2019 Core installation, open VirtualBox and from the upper left corner, click on Machine and from the context menu. Select new.

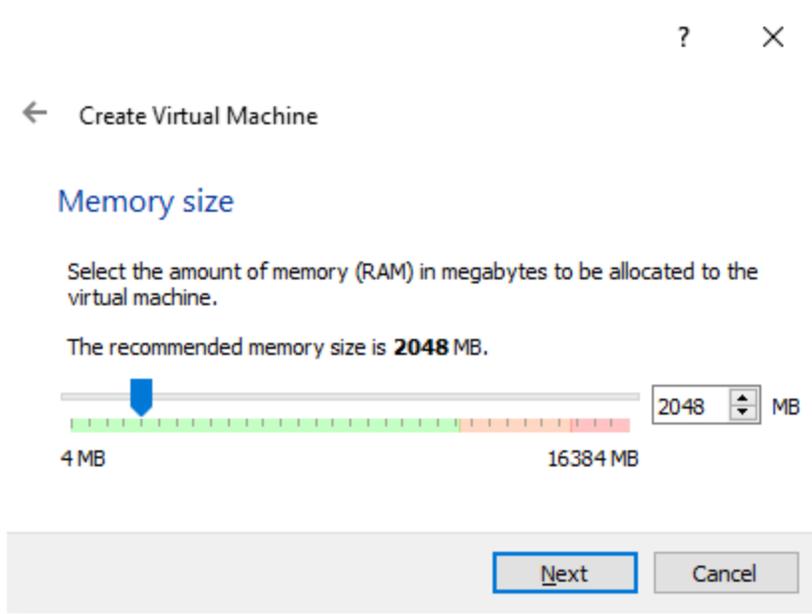


This starts the Create Virtual Machine Wizard.

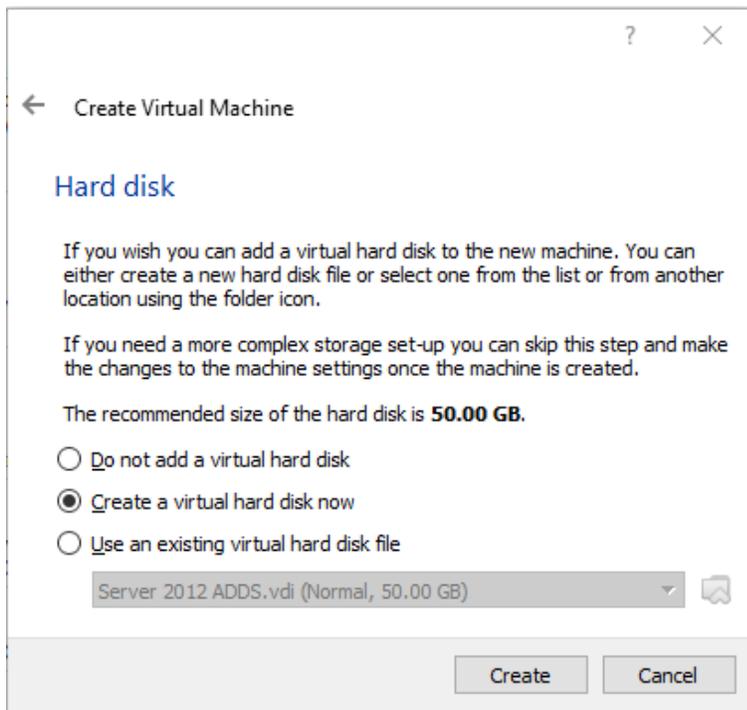


Until VB adds in a Server 2019 option, use the Server 2016 (64-bit) option

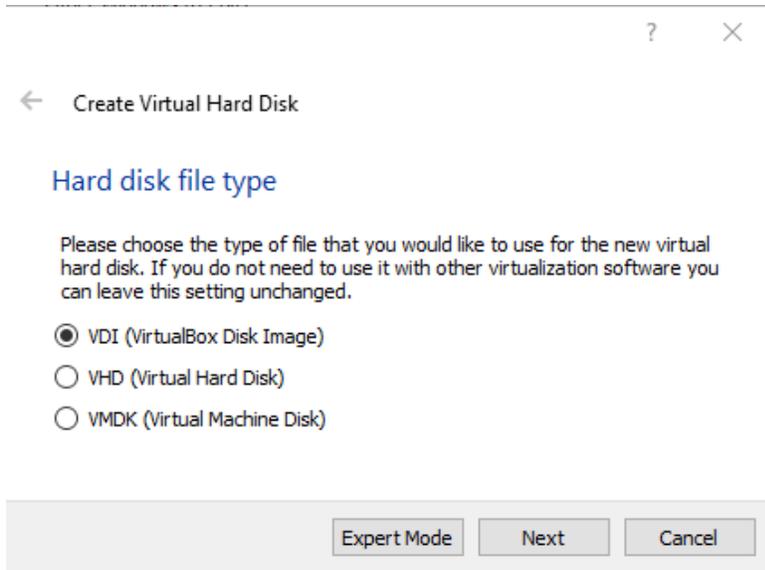
On the next window, accept the default of 2048 MB of RAM. Click next.



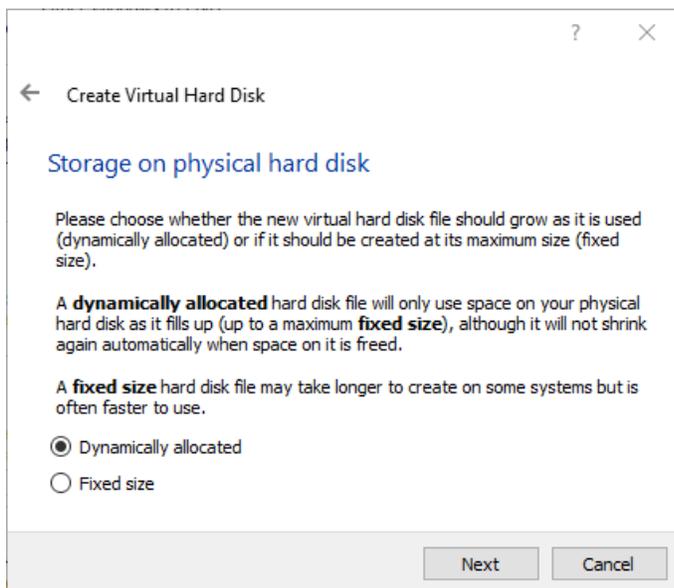
On the next screen, accept the default to create a virtual hard disk now. Click create.



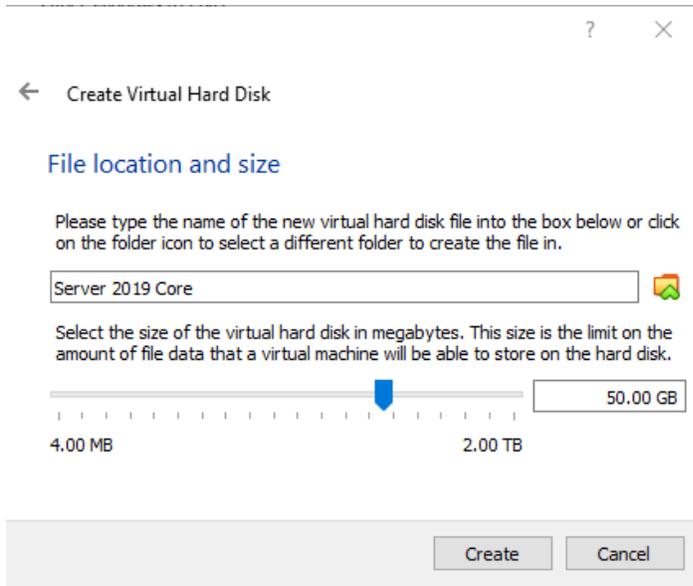
Accept the default for the hard disk type as VDI. Click next.



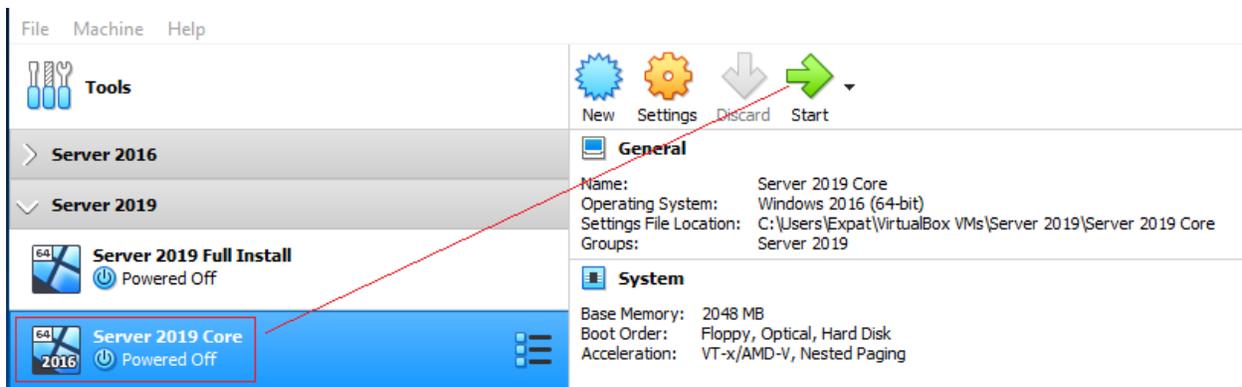
On the next screen, accept the default for the storage on the physical hard disk to be dynamically allocated.



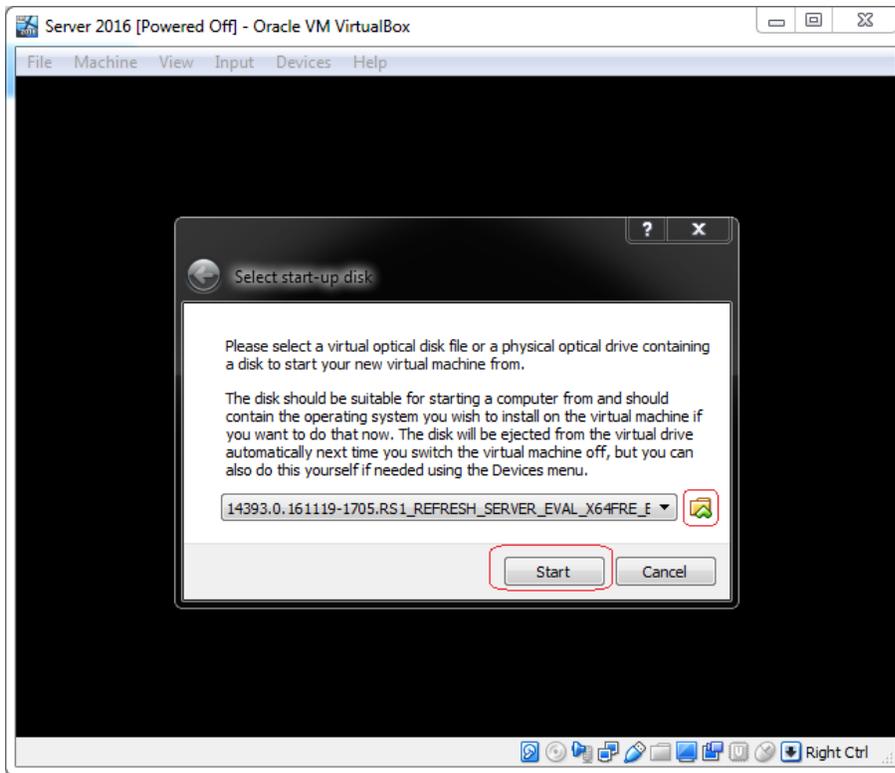
On the next screen, accept the default for the file location and size of 50 GB. Click create.



From the left window pane, ensure your disk for Server 2019 Full Install is highlighted and from the grey taskbar, click on the start arrow.

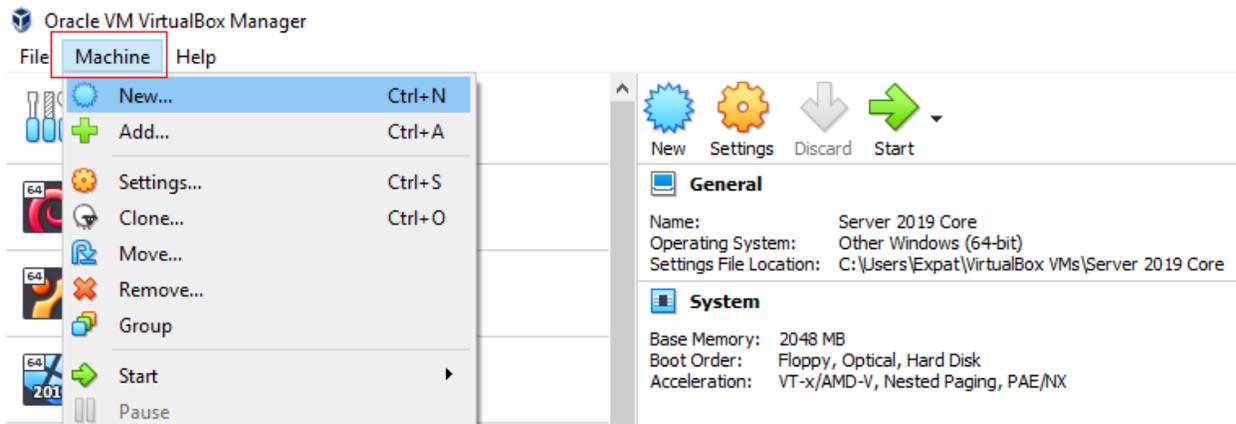


From the select Start-up Disk screen, click on the folder browse button and browse to the download location for your ISO image of Server 2019. Double-click the ISO image and click the Start button.

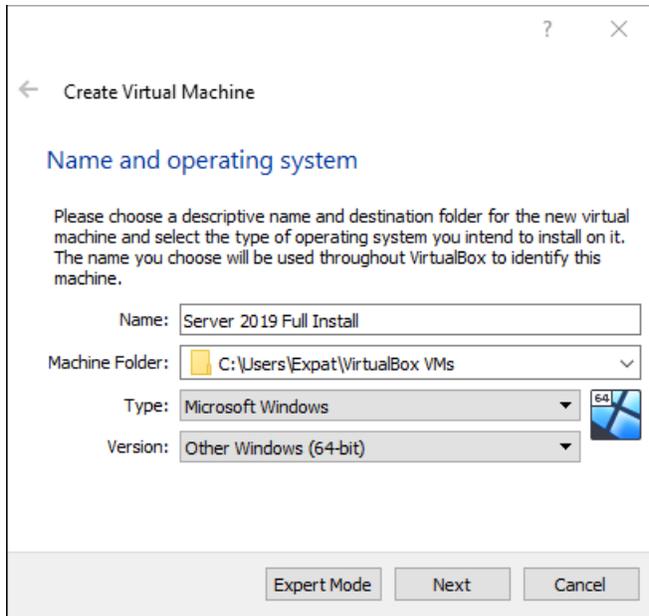


Begin the lab!

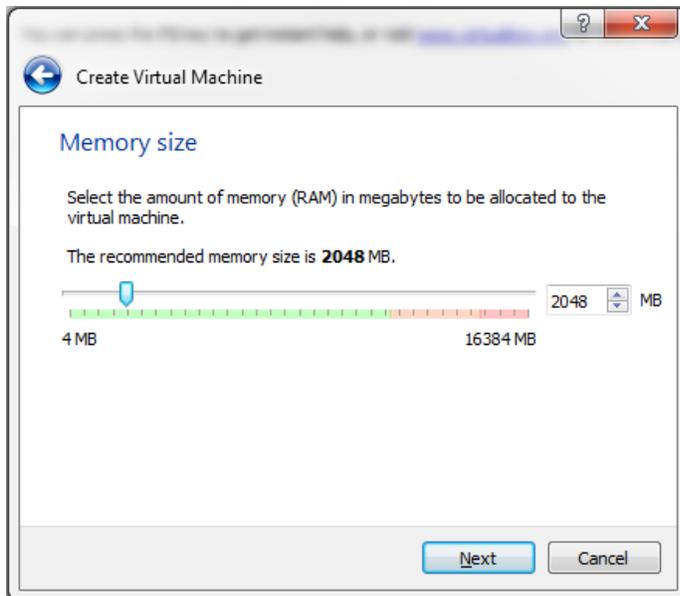
To begin the 2019 creation process, open VirtualBox and from the upper left corner, click on Machine and from the context menu, select New.



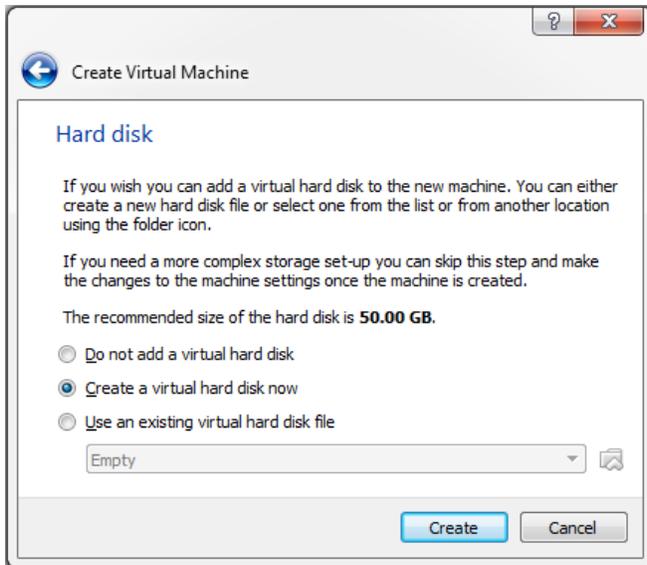
This launches the Create Virtual Machine Wizard.



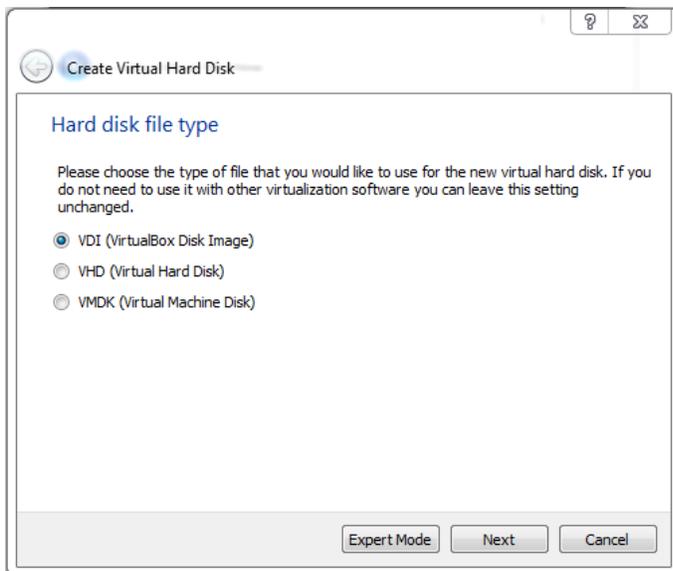
On the next window, accept the default of 2048 MB of RAM. Click next.



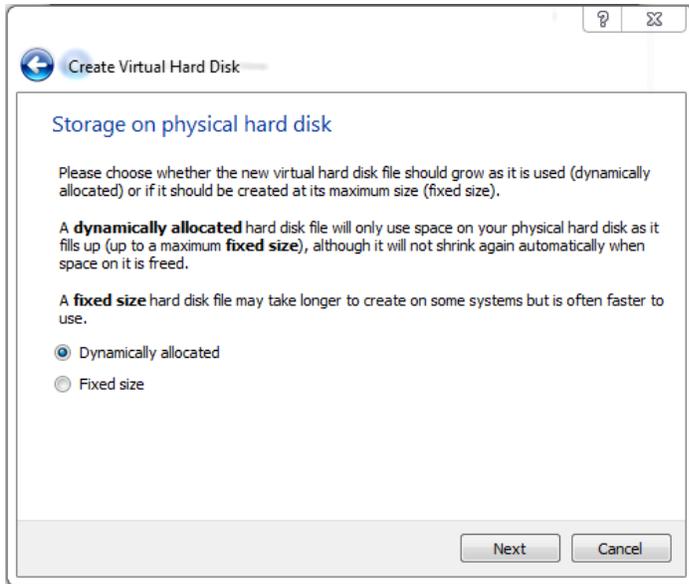
On the next screen, accept the default to create a virtual hard disk now. Click create.



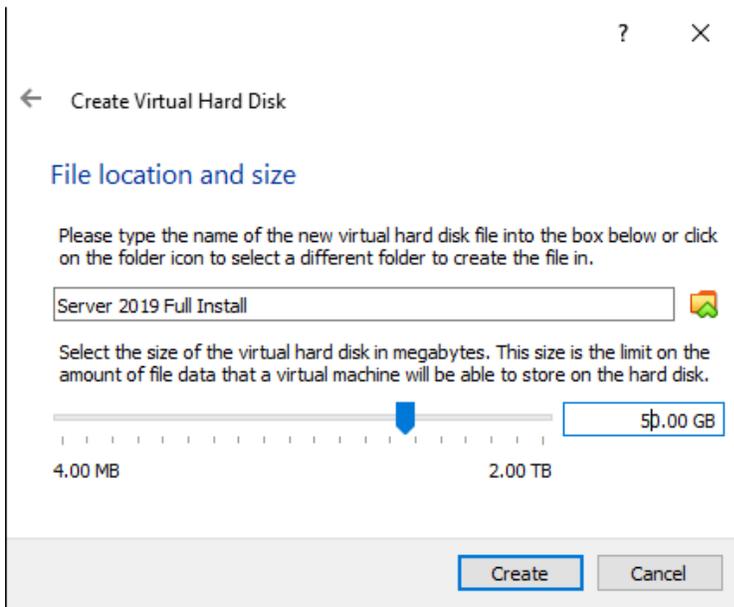
Accept the default for the hard disk type as VDI. Click next.



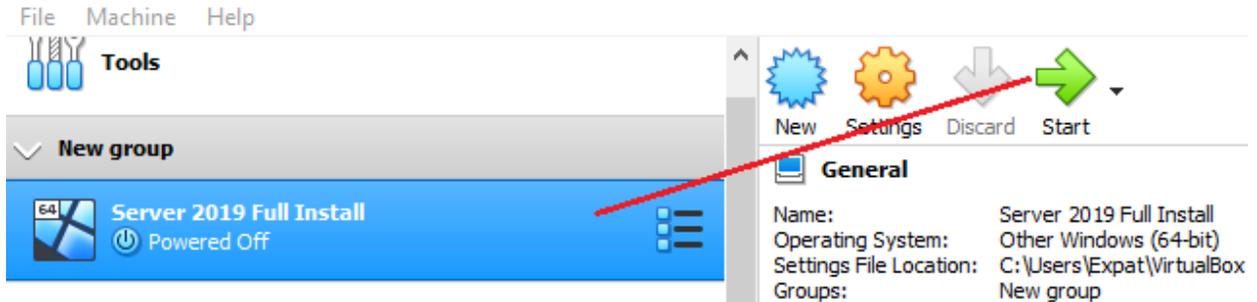
On the next screen, accept the default for the storage on the physical hard disk to be dynamically allocated.



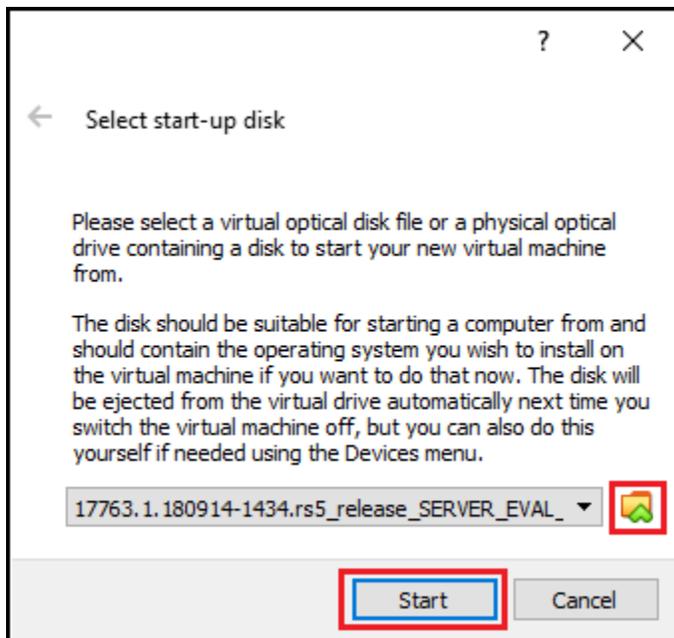
On the next screen, accept the default for the file location and size of 50 GB. Click create.



From the left window pane, ensure your disk for Server 2019 Full Install is highlighted and from the grey taskbar, click on the green start arrow.



From the select Start-up Disk screen, click on the folder browse button and browse to the download location for your ISO image of Server 2019. Double-click the ISO image and click the Start button.

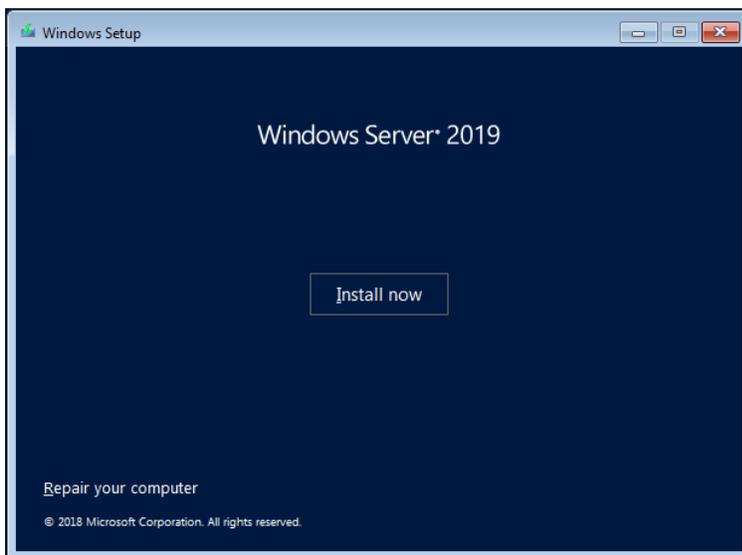


VirtualBox begins the install.

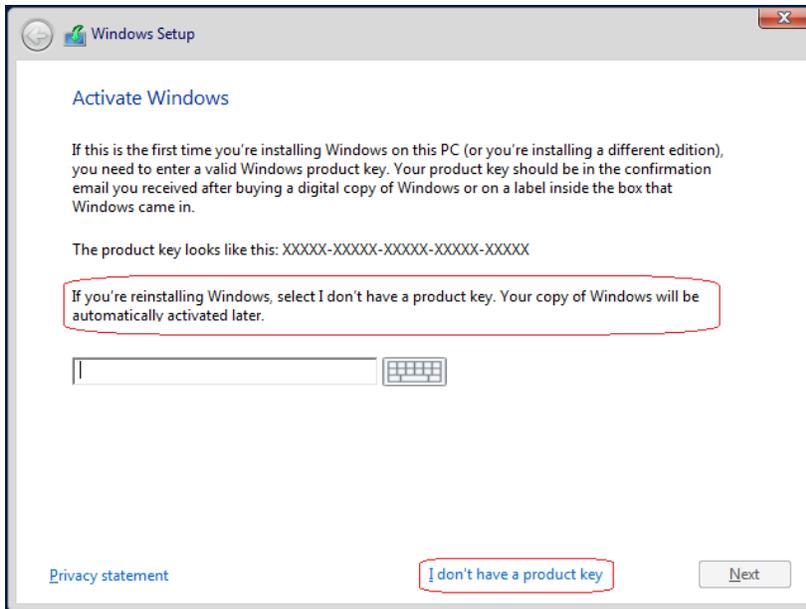


Click on Next to start the Windows Server 2019 installation.

Click on Install now

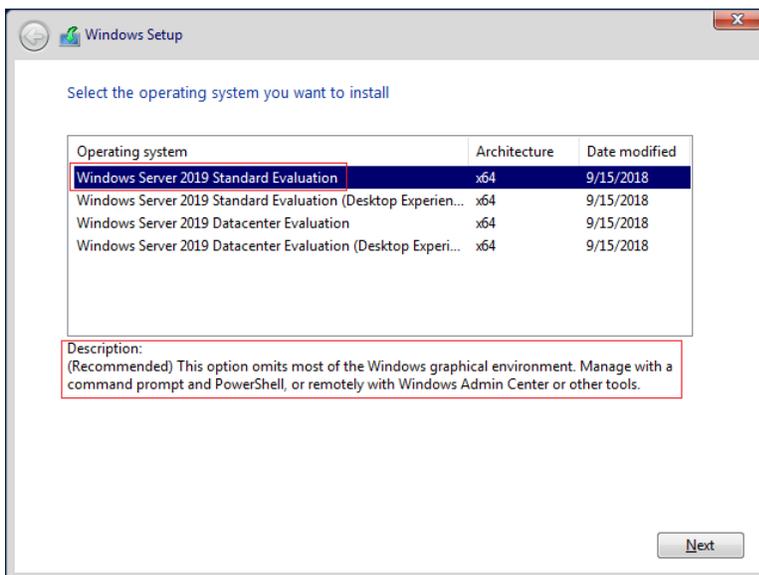


On the next screen, click, 'I don't have a product key' to start your 180-day evaluation of Server 2019.

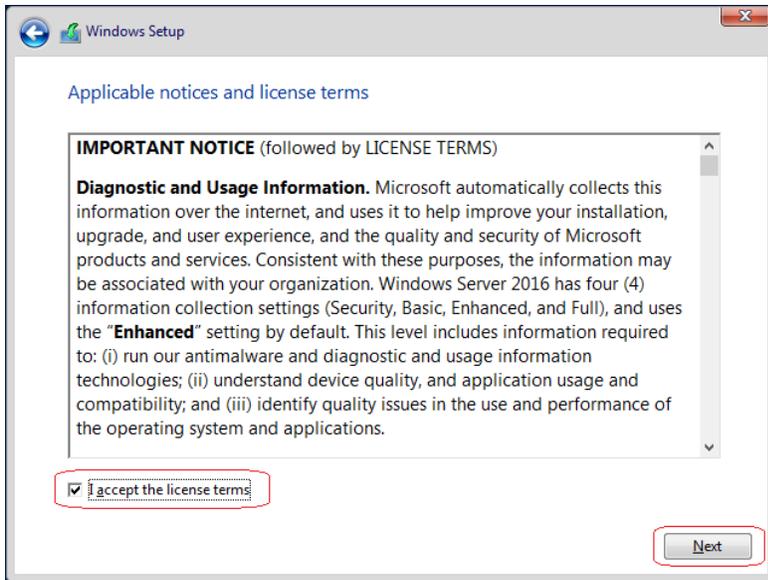


16. Select the operating system that you wish to install. **Regardless if you install the Server 2019 Datacenter or the 2016 Standard version, you want the installing package that includes the Desktop Experience. Otherwise, you end up with just the Server 2019 Core and no GUI.**

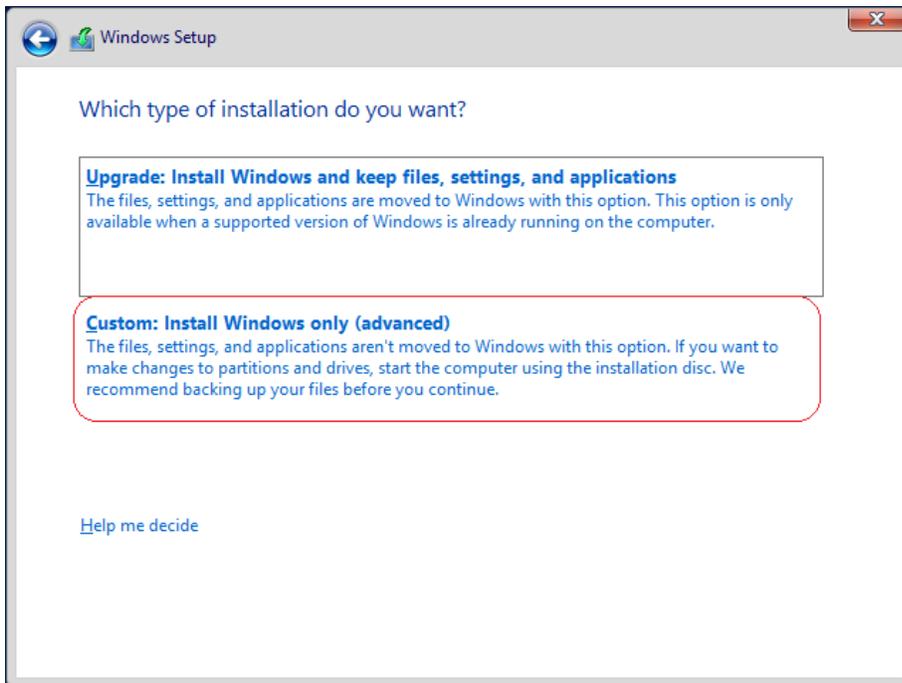
Datacenter can handle more RAM and CPU options, but they are identical operating systems. Students may use either for their labs.



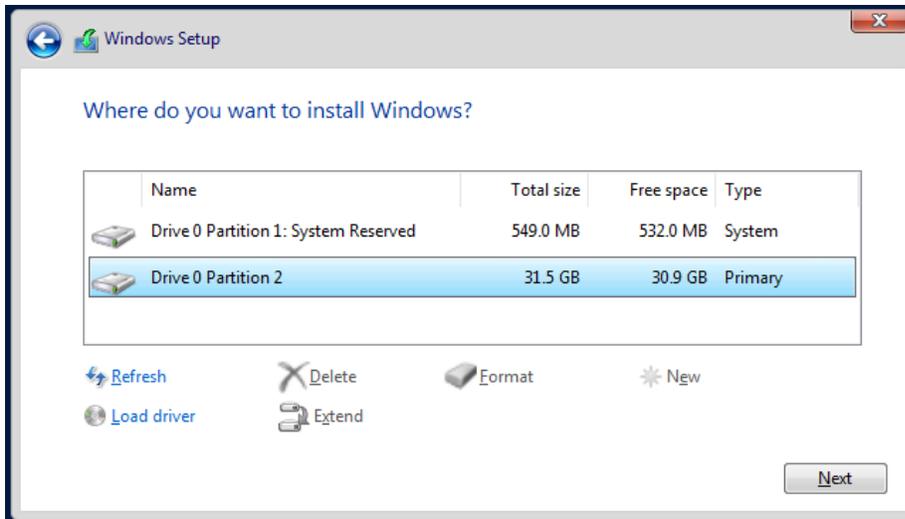
Accept the license agreement.



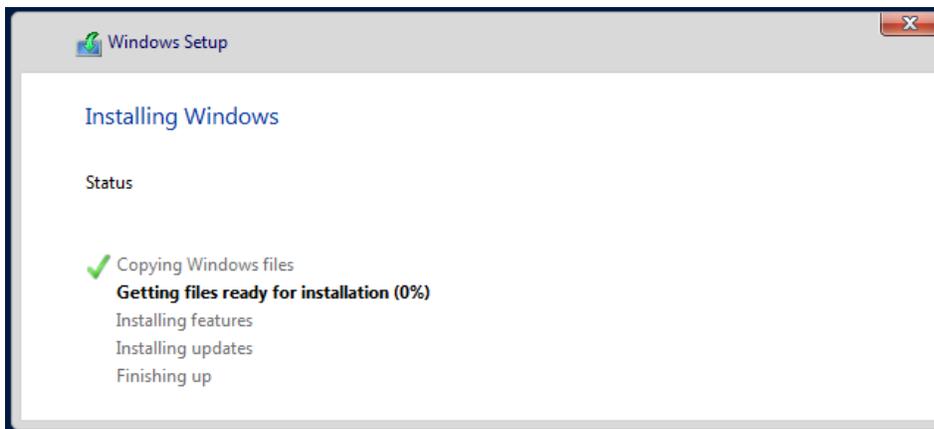
Select Custom Install Windows only (advanced).



Nothing to do here but click Next.



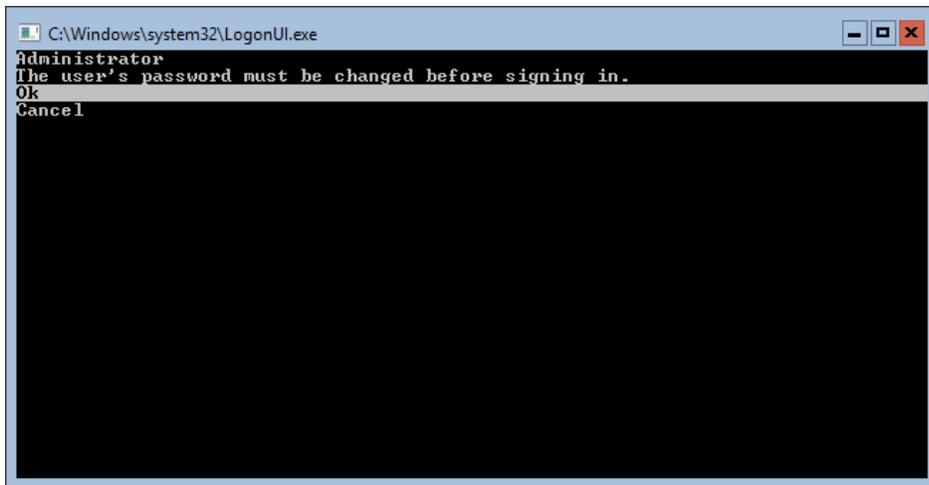
Server 2019 begins the file copy process. Take a break while the installation finishes.



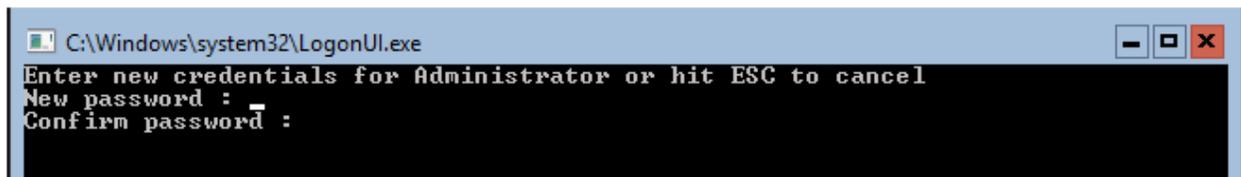
Windows will reboot. Be patient!

The Installation restarts.

At the next screen, hit enter to accept the changing of the administrator's password.



Type in your new administrator password. Hit the tab key to move the confirm password line.



Your password change is confirmed. Hit enter.

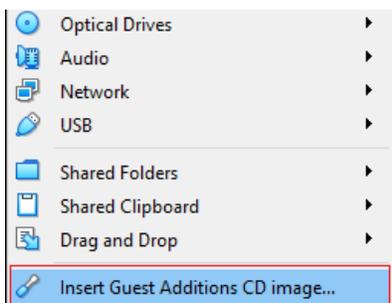


You are now at the command prompt for Server 2019 Core.

### Installing the VirtualBox Guest Additions

We next need to install the Guest additions using the command prompt.

From the VirtualBox tools menu, click on Devices and from the menu, click on. "Insert Guest Additions CD Image."



At the command prompt cursor, change drives from your C:\ to your D:\ by typing in, d: and hitting enter.

At the D:\> prompt, type, dir, hit enter.

Follow along with the steps shown in the image.

```
Administrator: C:\Windows\system32\cmd.exe
C:\Users\Administrator>d: Change to the D:\ drive
D:\>dir Show directory contents
Volume in drive D is VBox_GAs_6.0.4
Volume Serial Number is F1F3-CDD8

Directory of D:\

01/21/2019  10:01 AM                763  AUTORUN.INF
01/25/2019  11:43 AM             <DIR>    NT3x
01/25/2019  11:43 AM             <DIR>    OS2
01/25/2019  11:40 AM          3,701,906  VBoxDarwinAdditions.pkg
01/25/2019  11:40 AM           3,949  VBoxDarwinAdditionsUninstall.tool
01/25/2019  11:40 AM          9,522,634  VBoxLinuxAdditions.run
01/25/2019  11:40 AM        20,574,720  VBoxSolarisAdditions.pkg
01/25/2019  11:36 AM          270,096  VBoxWindowsAdditions.exe
01/25/2019  11:42 AM        26,099,616  VBoxWindowsAdditions-amd64.exe
01/25/2019  11:38 AM        12,905,760  VBoxWindowsAdditions-x86.exe
01/25/2019  11:40 AM           6,384  autorun.sh
01/25/2019  11:43 AM             <DIR>    cert
01/25/2019  11:40 AM           4,821  runasroot.sh
          10 File(s)      73,090,649 bytes
           3 Dir(s)         0 bytes free

D:\>vboxwindowsadditions.exe. Type in the name of the executable. Hit enter.
```

Wait for the Guest Additions wizard to launch, step through the wizard accepting all the defaults. Install any additional drivers as prompted.



Reboot when prompted. Log back in.

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

Since we're doing the Core installation, all you get is a command line window which you use to configure the server via commands and/or scripts including PowerShell. To start your initial server configuration, type "Sconfig" command to start the server configuration.

```
Administrator: C:\Windows\system32\cmd.exe
C:\Users\Administrator>sconfig
```

You are greeted with the default parameters and options that you can change.

```
Administrator: C:\Windows\system32\cmd.exe - sconfig
Microsoft (R) Windows Script Host Version 5.812
Copyright (C) Microsoft Corporation. All rights reserved.

Inspecting system...

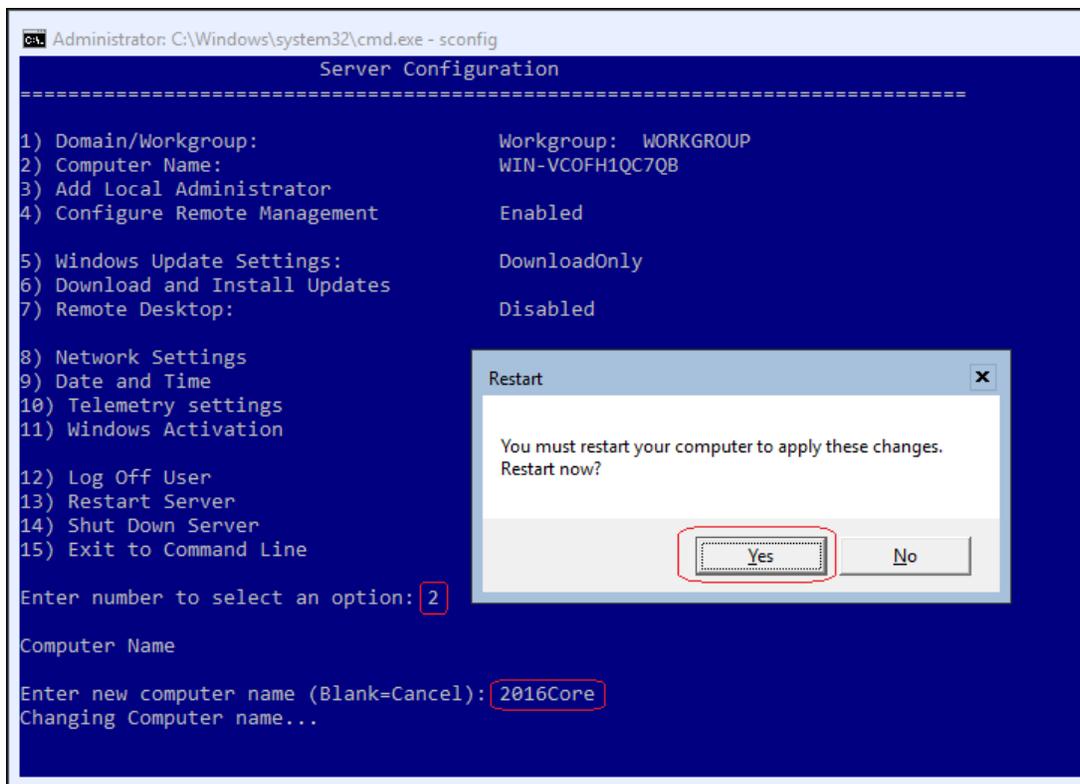
=====
Server Configuration
=====

1) Domain/Workgroup:           Workgroup: WORKGROUP
2) Computer Name:             WIN-VCOFH1QC7QB
3) Add Local Administrator
4) Configure Remote Management Enabled
5) Windows Update Settings:   DownloadOnly
6) Download and Install Updates
7) Remote Desktop:           Disabled
8) Network Settings
9) Date and Time
10) Telemetry settings        Enhanced
11) Windows Activation

12) Log Off User
13) Restart Server
14) Shut Down Server
15) Exit to Command Line

Enter number to select an option:
```

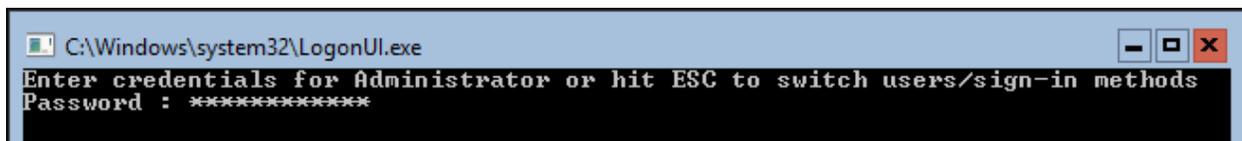
To change the Computer name, choose option 2. Once submitted, a restart will be required.



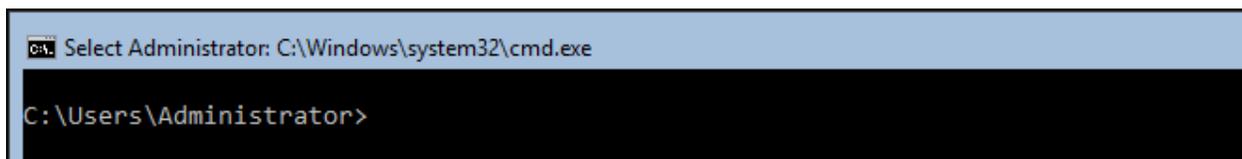
Use your VM to send a Ctrl+Alt+Delete message to the prompt.



Type in your administrator password.

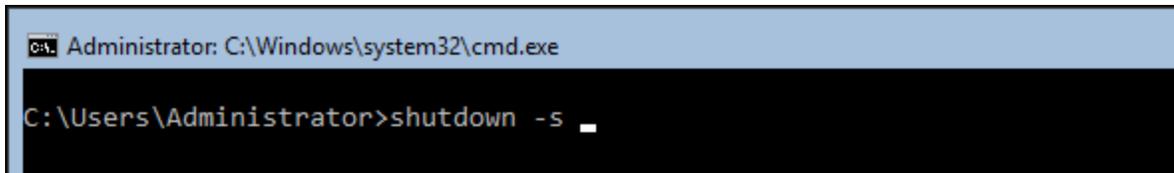


You are now back at the command prompt.



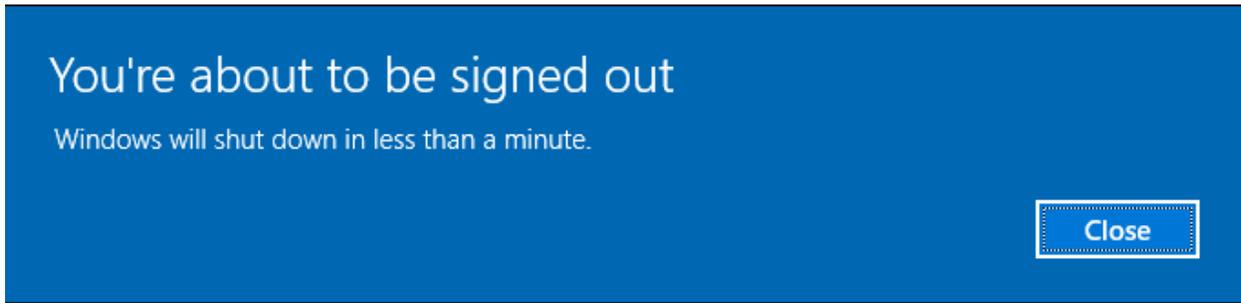
Additional configuration of your Server to include configuring the network adapter and joining the domain will be completed in Section 3 of the course.

To gracefully power off your Server Core installation, at the prompt, type shutdown -s.



```
Administrator: C:\Windows\system32\cmd.exe
C:\Users\Administrator>shutdown -s
```

On the next screen, press the Close button.



We will configure the network settings and join the Server 2019 Core to the domain in Section 3 of the course.

End of the lab!