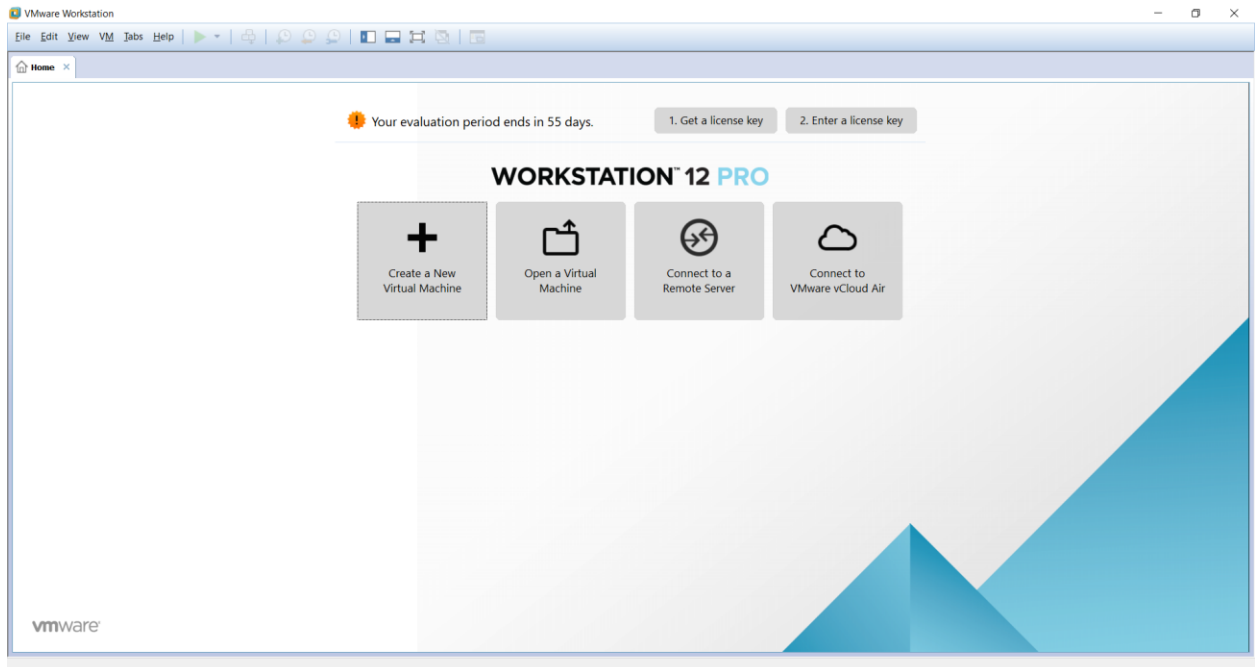


How to Configure a Windows Server 2016 Domain Controller

By Justin Mah

- 1) Start VMware Workstation Pro/VMware Workstation Player
- 2) Click “Create New Virtual Machine”



3) Select "Custom (advanced)"



4) Accept default, click next

The screenshot shows a 'New Virtual Machine Wizard' window with a close button (X) in the top right corner. The title bar reads 'New Virtual Machine Wizard'. The main heading is 'Choose the Virtual Machine Hardware Compatibility', followed by the question 'Which hardware features are needed for this virtual machine?'. Below this, a section titled 'Virtual machine hardware compatibility' contains a 'Hardware' dropdown menu set to 'Workstation 12.0' and a 'Compatible' checkbox labeled 'ESX Server' which is checked. Two list boxes are present: 'Compatible products' on the left, containing 'Fusion 8.x' and 'Workstation 12.0', and 'Limitations' on the right, containing '64 GB memory', '16 processors', '10 network adapters', and '8 TB disk size'. At the bottom, there are four buttons: 'Help', '< Back', 'Next >' (which is highlighted with a blue border), and 'Cancel'.

New Virtual Machine Wizard

Choose the Virtual Machine Hardware Compatibility
Which hardware features are needed for this virtual machine?

Virtual machine hardware compatibility

Hardware: Workstation 12.0

Compatible: ☒ ESX Server

Compatible products:

- Fusion 8.x
- Workstation 12.0

Limitations:

- 64 GB memory
- 16 processors
- 10 network adapters
- 8 TB disk size

Help < Back Next > Cancel


- 5) Select "I will install the operating system later"

New Virtual Machine Wizard ✕

Guest Operating System Installation
A virtual machine is like a physical computer; it needs an operating system. How will you install the guest operating system?

Install from:

☐ Installer disc:

 BD-ROM Drive (E:) ▼

☐ Installer disc image file (iso):

D:\Downloads\mu_system_center_2012_service_mar ▼ Browse...

☒ I will install the operating system later.

The virtual machine will be created with a blank hard disk.

Help < Back **Next >** Cancel

- 6) Select Microsoft Windows and set the version to Windows Server 2016

New Virtual Machine Wizard

Select a Guest Operating System
Which operating system will be installed on this virtual machine?

Guest operating system

☒ Microsoft Windows
☐ Linux
☐ Novell NetWare
☐ Solaris
☐ VMware ESX
☐ Other

Version

Windows Server 2016

Help < Back Next > Cancel

- 7) Set Virtual Machine Name to DC and save it in folder of your choice

New Virtual Machine Wizard

Name the Virtual Machine
What name would you like to use for this virtual machine?

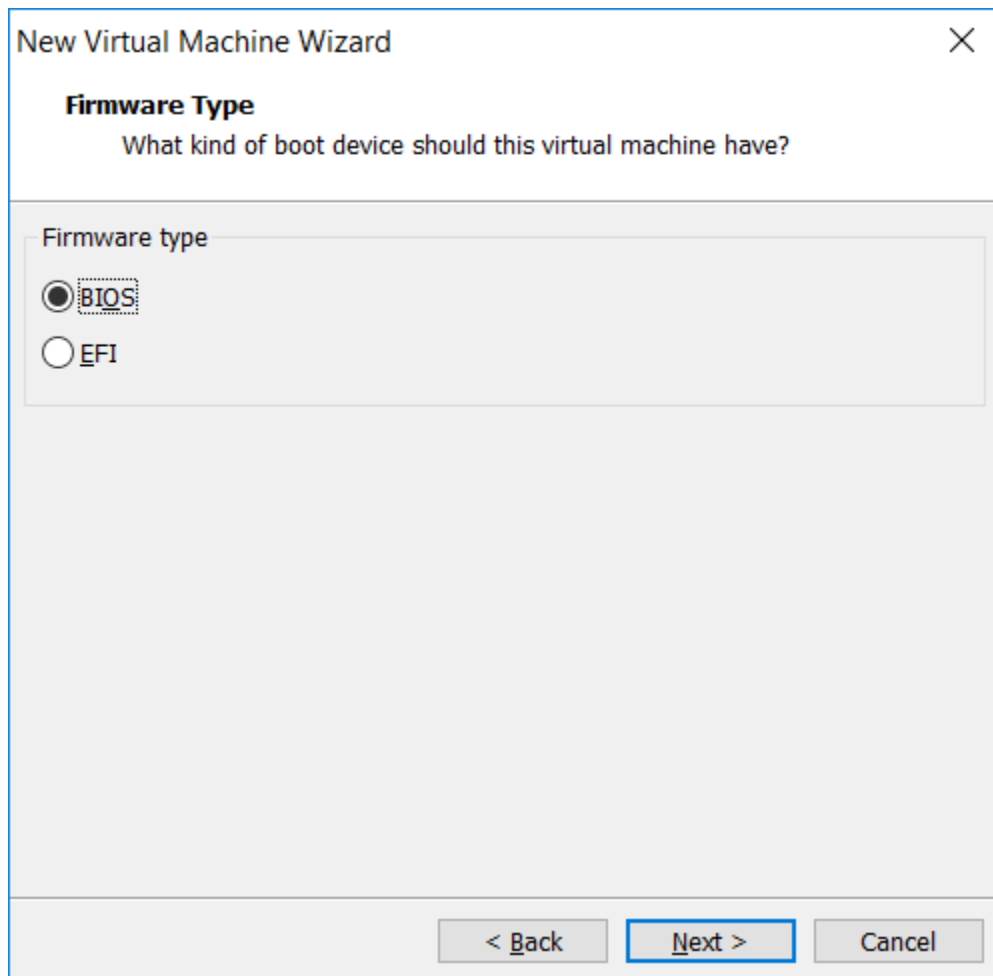
Virtual machine name:
DC

Location:
D:\Virtual Machines\DC Browse...

The default location can be changed at Edit > Preferences.

< Back **Next >** Cancel

8) Select BIOS



The image shows a screenshot of the 'New Virtual Machine Wizard' window, specifically the 'Firmware Type' step. The window has a title bar with the text 'New Virtual Machine Wizard' and a close button (X) in the top right corner. Below the title bar, the section is titled 'Firmware Type' in bold, followed by the question 'What kind of boot device should this virtual machine have?'. The main area of the window contains a group box labeled 'Firmware type' which includes two radio button options: 'BIOS' (which is selected) and 'EFI'. At the bottom of the window, there are three buttons: '< Back', 'Next >' (which is highlighted with a blue border), and 'Cancel'.

New Virtual Machine Wizard

Firmware Type
What kind of boot device should this virtual machine have?

Firmware type

☒ BIOS

☐ EFI

< Back Next > Cancel

- 9) Set number of cores to 2

New Virtual Machine Wizard ✕

Processor Configuration
Specify the number of processors for this virtual machine.

Processors

Number of processors:	1	▼
Number of cores per processor:	2	▼
Total processor cores:	2	

Help < Back **Next >** Cancel

10) Set Memory to 2 GB

New Virtual Machine Wizard ✕

Memory for the Virtual Machine
How much memory would you like to use for this virtual machine?

Specify the amount of memory allocated to this virtual machine. The memory size must be a multiple of 4 MB.

64 GB -
32 GB -
16 GB -
8 GB -
4 GB -
2 GB -
1 GB -
512 MB -
256 MB -
128 MB -
64 MB -
32 MB -
16 MB -
8 MB -
4 MB -

Memory for this virtual machine: MB

☐ Maximum recommended memory:
13716 MB

☒ Recommended memory:
2048 MB

☐ Guest OS recommended minimum:
1024 MB

Help < Back **Next >** Cancel

11) Select NAT

The image shows a screenshot of the 'New Virtual Machine Wizard' dialog box, specifically the 'Network Type' step. The dialog has a title bar with the text 'New Virtual Machine Wizard' and a close button (X) in the top right corner. Below the title bar, the section is titled 'Network Type' with the question 'What type of network do you want to add?'. The main area contains a group box labeled 'Network connection' which includes four radio button options. The second option, 'Use network address translation (NAT)', is selected and highlighted with a dashed border. At the bottom of the dialog, there are four buttons: 'Help', '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

New Virtual Machine Wizard

Network Type
What type of network do you want to add?

Network connection

- ☐ Use bridged networking
Give the guest operating system direct access to an external Ethernet network. The guest must have its own IP address on the external network.
- ☒ Use network address translation (NAT)
Give the guest operating system access to the host computer's dial-up or external Ethernet network connection using the host's IP address.
- ☐ Use host-only networking
Connect the guest operating system to a private virtual network on the host computer.
- ☐ Do not use a network connection

Help < Back Next > Cancel

12) Select LSI logic SAS

The image shows a screenshot of the 'New Virtual Machine Wizard' dialog box, specifically the 'Select I/O Controller Types' step. The dialog box has a title bar with 'New Virtual Machine Wizard' and a close button (X). Below the title bar, the section is titled 'Select I/O Controller Types' with the question 'Which SCSI controller type would you like to use?'. The main area is labeled 'I/O controller types' and contains a group box 'SCSI Controller:'. Inside this group box, there are three radio button options: 'BusLogic (Not available for 64-bit guests)', 'LSI Logic (Not supported by Windows Server 2016)', and 'LSI Logic SAS (Recommended)'. The 'LSI Logic SAS' option is selected, indicated by a filled radio button. At the bottom of the dialog box, there are four buttons: 'Help', '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

New Virtual Machine Wizard

Select I/O Controller Types
Which SCSI controller type would you like to use?

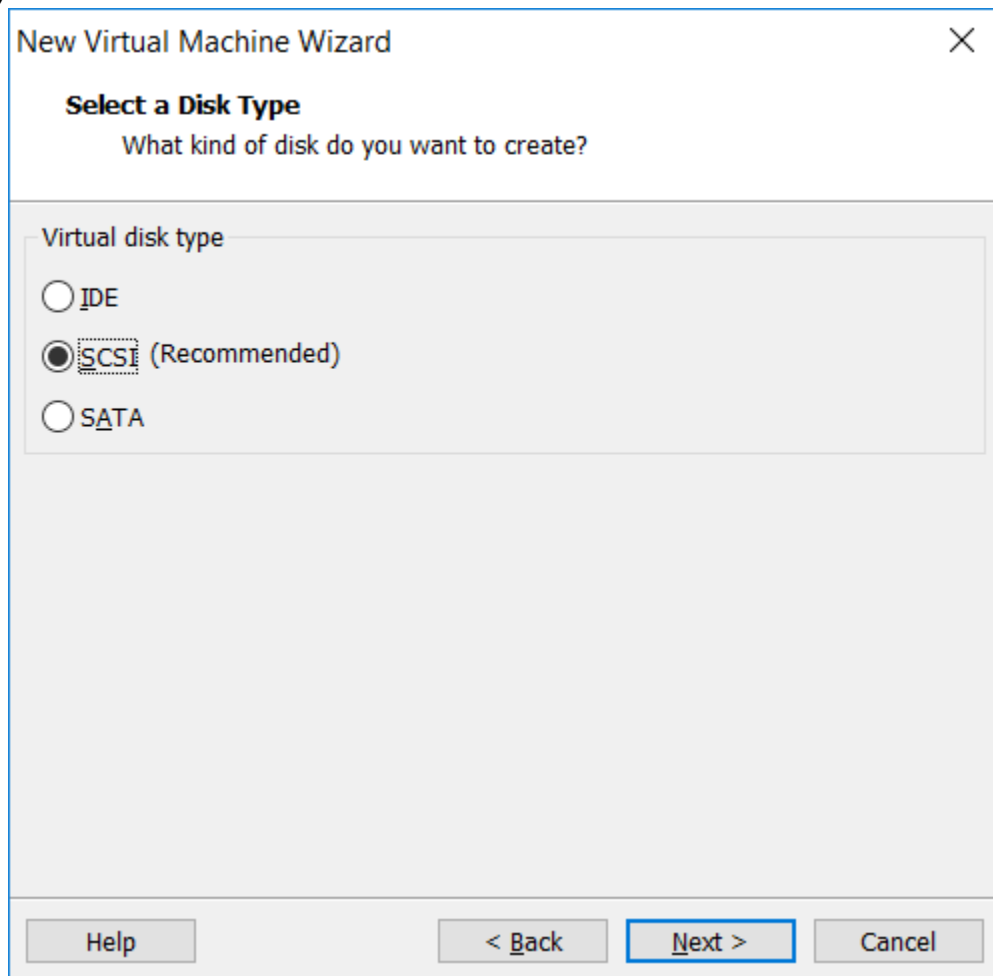
I/O controller types

SCSI Controller:

- ☐ BusLogic (Not available for 64-bit guests)
- ☐ LSI Logic (Not supported by Windows Server 2016)
- ☒ LSI Logic SAS (Recommended)

Help < Back Next > Cancel

13) Select SCSI



The image shows a screenshot of the 'New Virtual Machine Wizard' window, specifically the 'Select a Disk Type' step. The window has a title bar with the text 'New Virtual Machine Wizard' and a close button (X) in the top right corner. Below the title bar, the section is titled 'Select a Disk Type' with the subtitle 'What kind of disk do you want to create?'. The main area is labeled 'Virtual disk type' and contains three radio button options: 'IDE', 'SCSI (Recommended)', and 'SATA'. The 'SCSI (Recommended)' option is selected, indicated by a filled radio button. At the bottom of the window, there are four buttons: 'Help', '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

New Virtual Machine Wizard

Select a Disk Type
What kind of disk do you want to create?

Virtual disk type

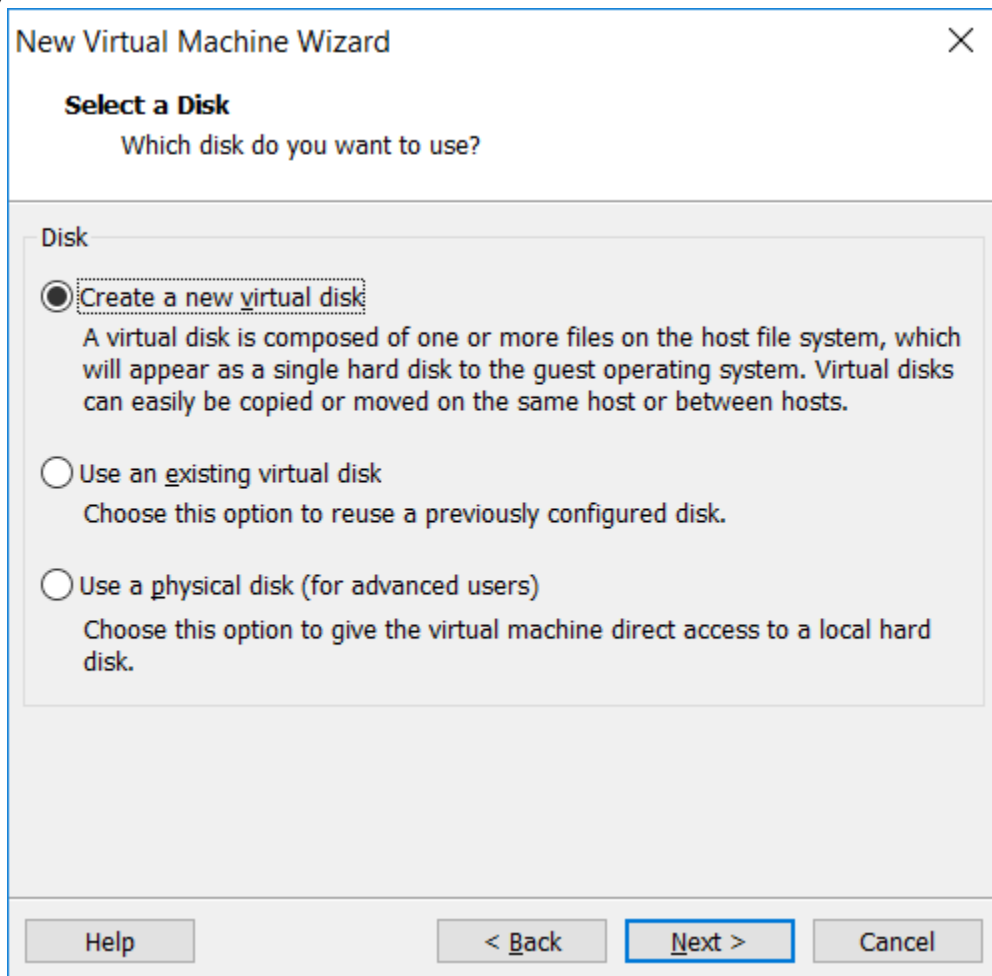
☐ IDE

☒ SCSI (Recommended)

☐ SATA

Help < Back Next > Cancel

14) Select "Create a New Virtual Disk"



The screenshot shows a window titled "New Virtual Machine Wizard" with a close button (X) in the top right corner. Below the title bar, the section is labeled "Select a Disk" with the question "Which disk do you want to use?". The main area is titled "Disk" and contains three radio button options:

- ☒ **Create a new virtual disk**
A virtual disk is composed of one or more files on the host file system, which will appear as a single hard disk to the guest operating system. Virtual disks can easily be copied or moved on the same host or between hosts.
- ☐ Use an existing virtual disk
Choose this option to reuse a previously configured disk.
- ☐ Use a physical disk (for advanced users)
Choose this option to give the virtual machine direct access to a local hard disk.

At the bottom of the window, there are four buttons: "Help", "< Back", "Next >" (which is highlighted with a blue border), and "Cancel".

15) Set "Maximum disk size" to 60.0 GB and select "Store virtual disk and a single file"

New Virtual Machine Wizard



Specify Disk Capacity

How large do you want this disk to be?

The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.

Maximum disk size (GB):

60.0



Recommended size for Windows Server 2016: 60 GB

☒ Store virtual disk as a single file

☐ Split virtual disk into multiple files

Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.

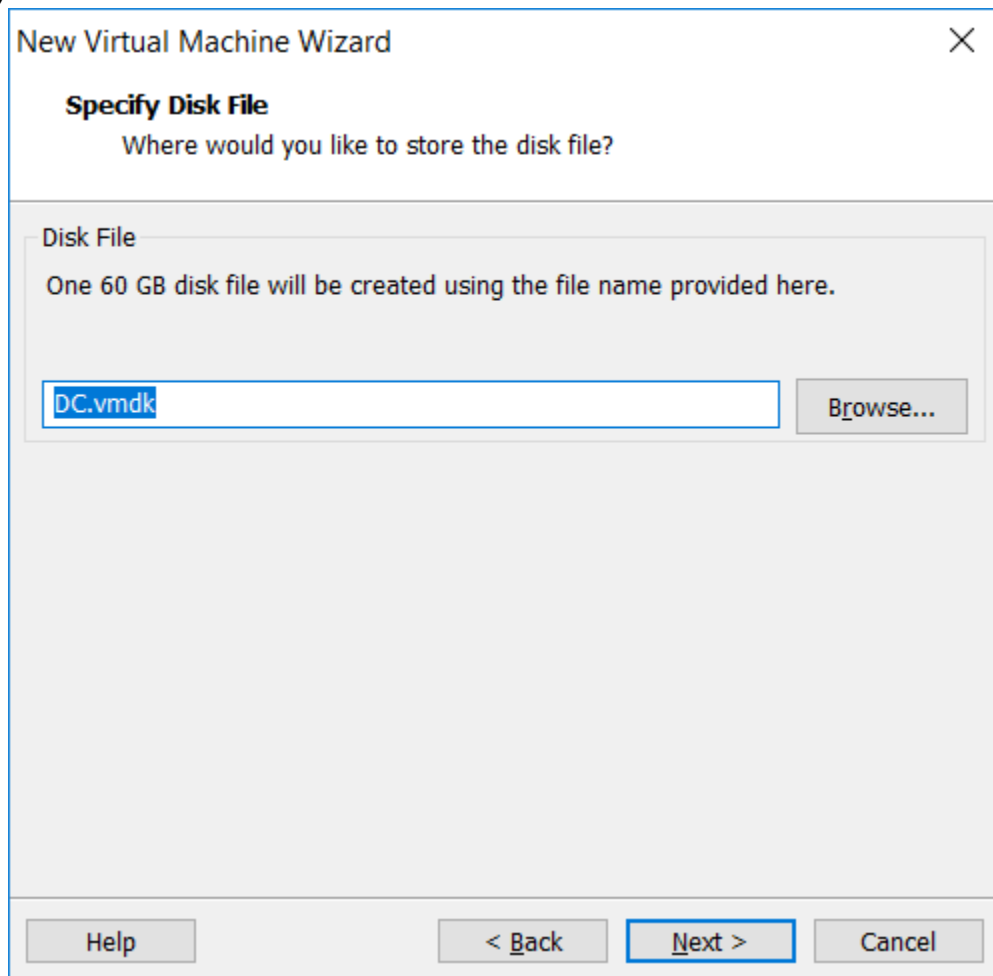
Help

< Back

Next >

Cancel

16) Set Virtual Disk Name



The image shows a 'New Virtual Machine Wizard' dialog box with a close button (X) in the top right corner. The title bar reads 'New Virtual Machine Wizard'. The main heading is 'Specify Disk File' with a subtitle 'Where would you like to store the disk file?'. Below this, a section titled 'Disk File' contains the text 'One 60 GB disk file will be created using the file name provided here.' A text input field contains 'DC.vmdk' and a 'Browse...' button is to its right. At the bottom, there are four buttons: 'Help', '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

New Virtual Machine Wizard

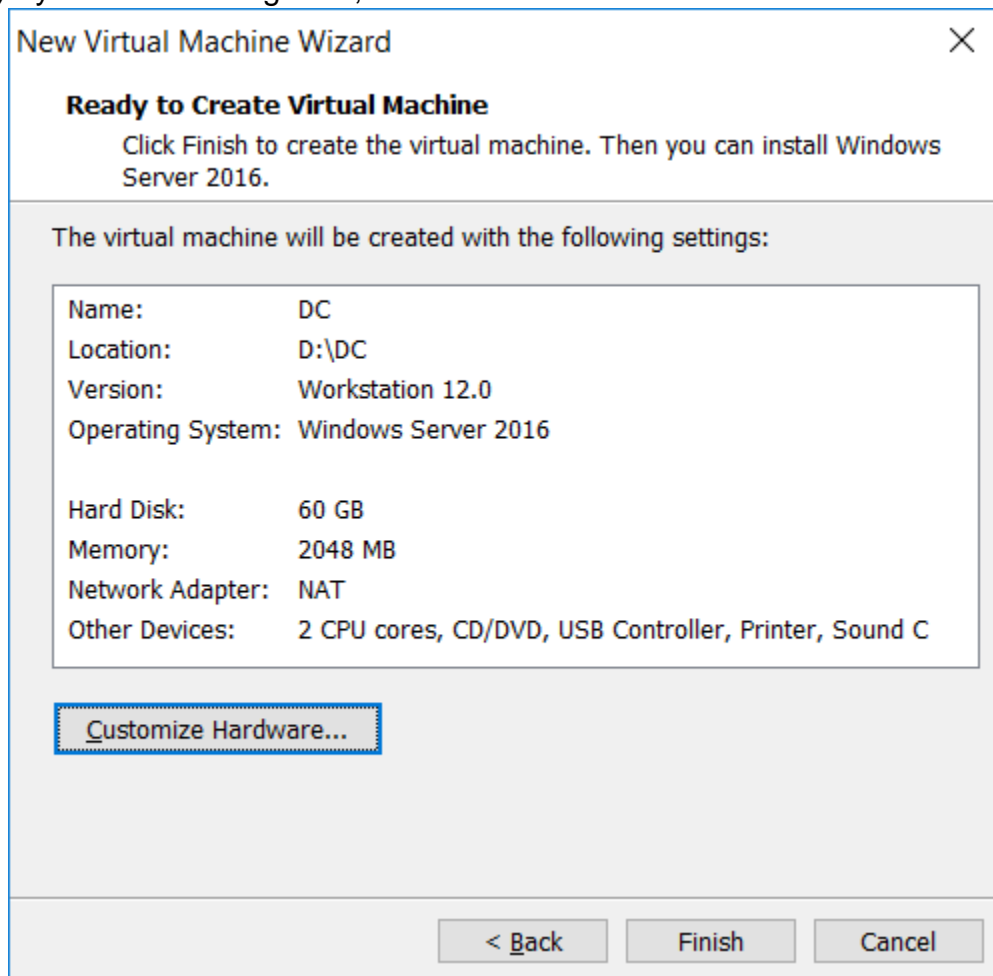
Specify Disk File
Where would you like to store the disk file?

Disk File
One 60 GB disk file will be created using the file name provided here.

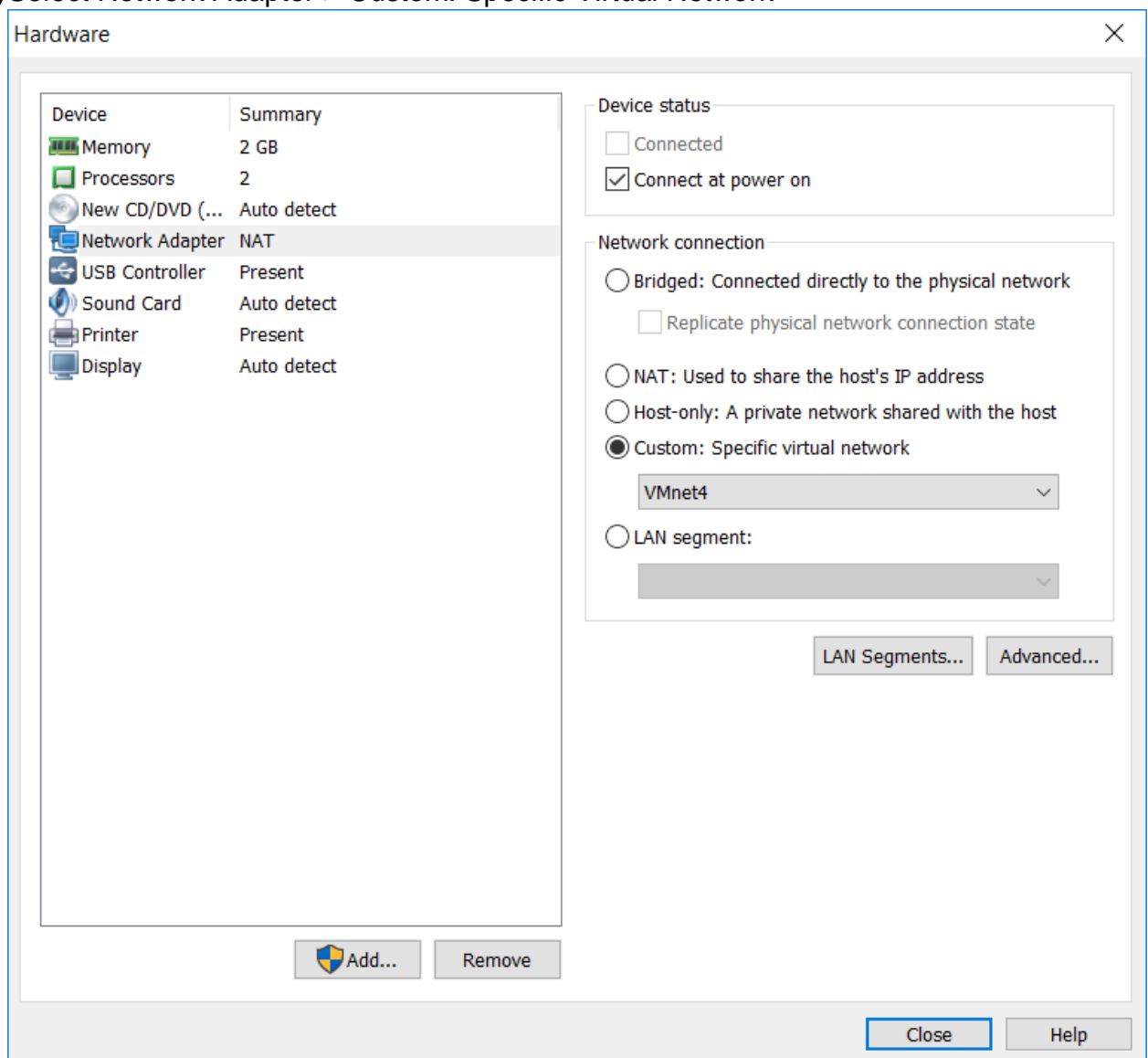
DC.vmdk Browse...

Help < Back Next > Cancel

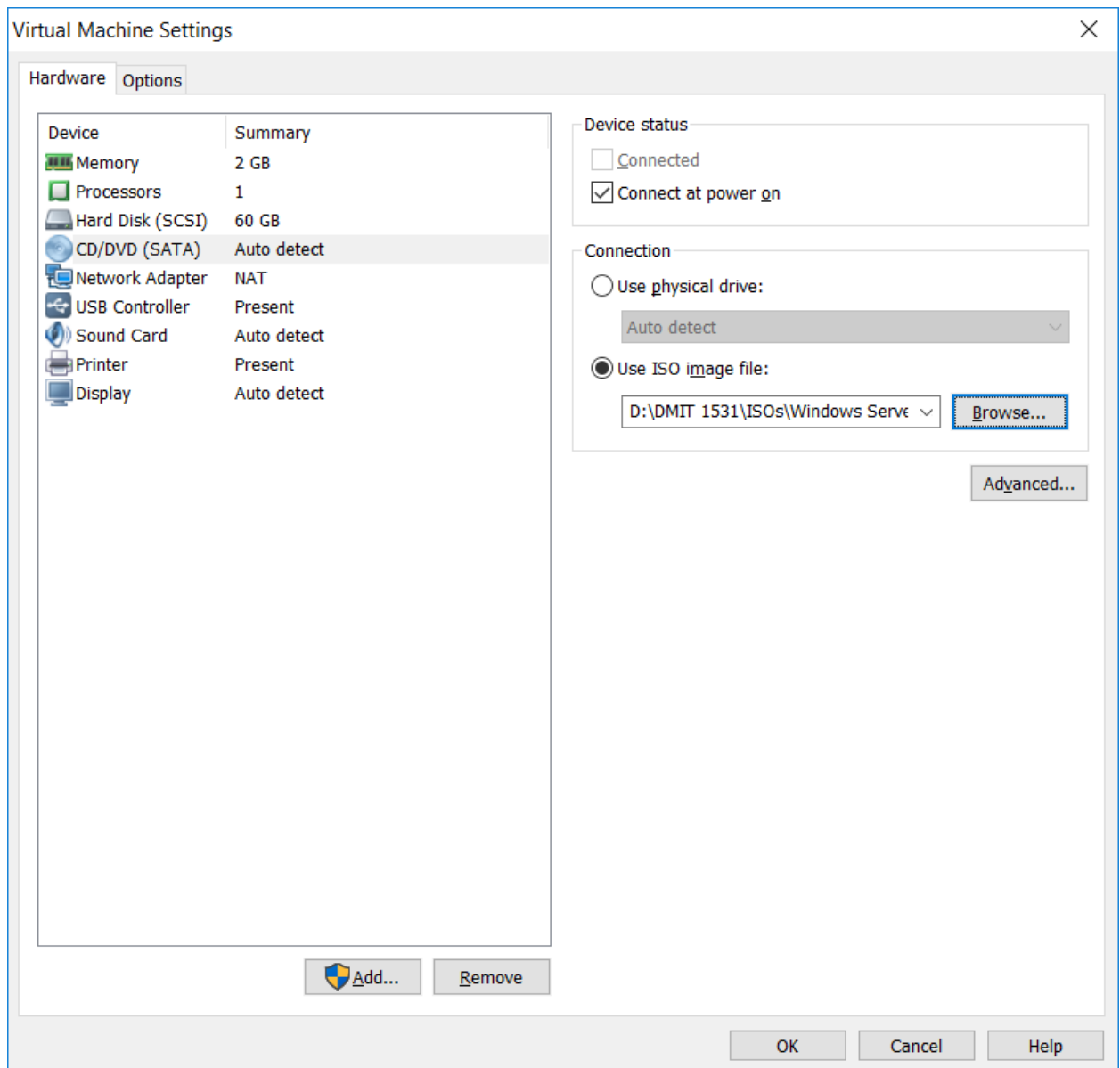
17) If you are not using NAT, click customize hardware



18) Select Network Adapter > Custom: Specific Virtual Network



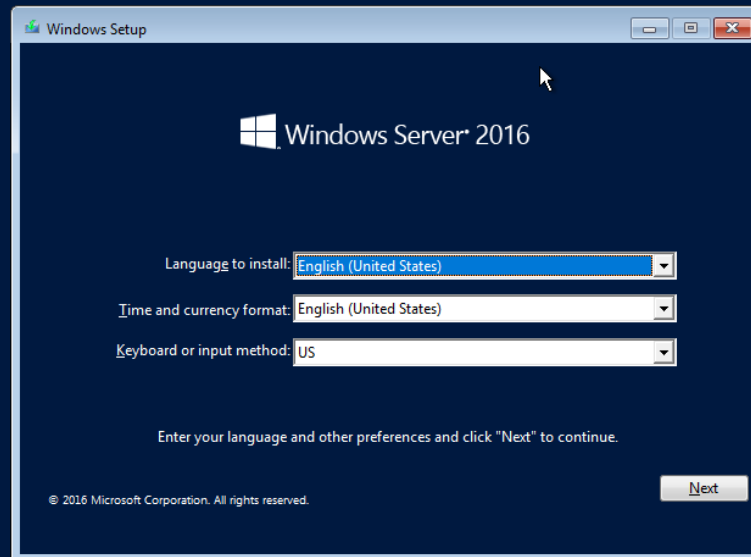
19) Select CD/DVD > select "Use ISO image file" > Locate Windows Server 2016 iso file click



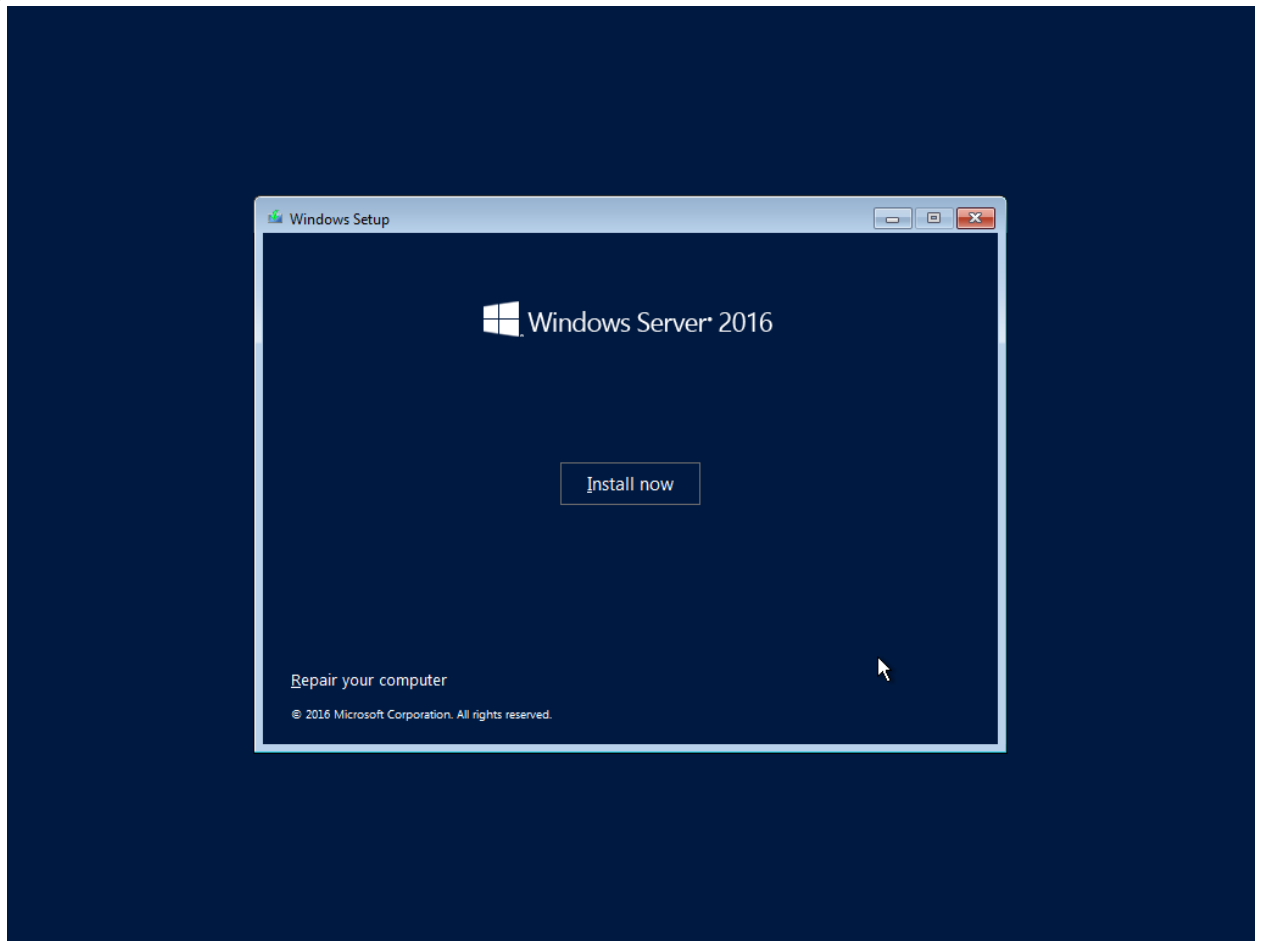
20) Click



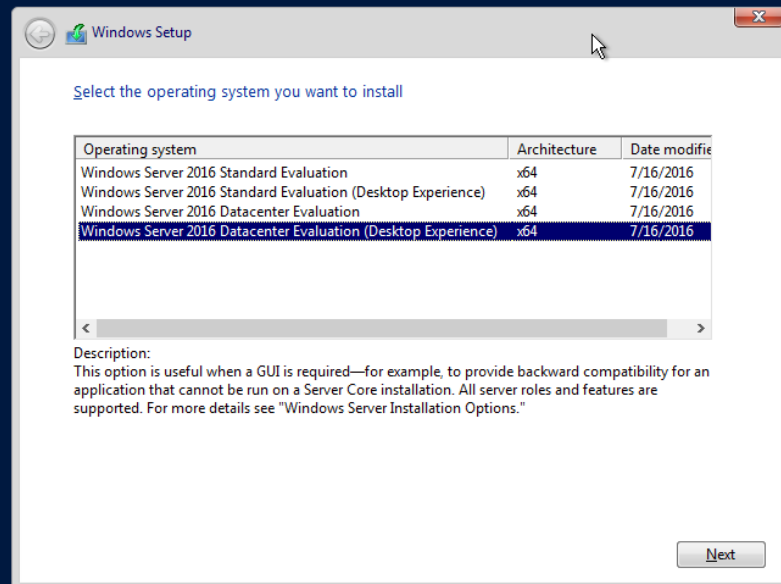
21) Set language



22) Click install now



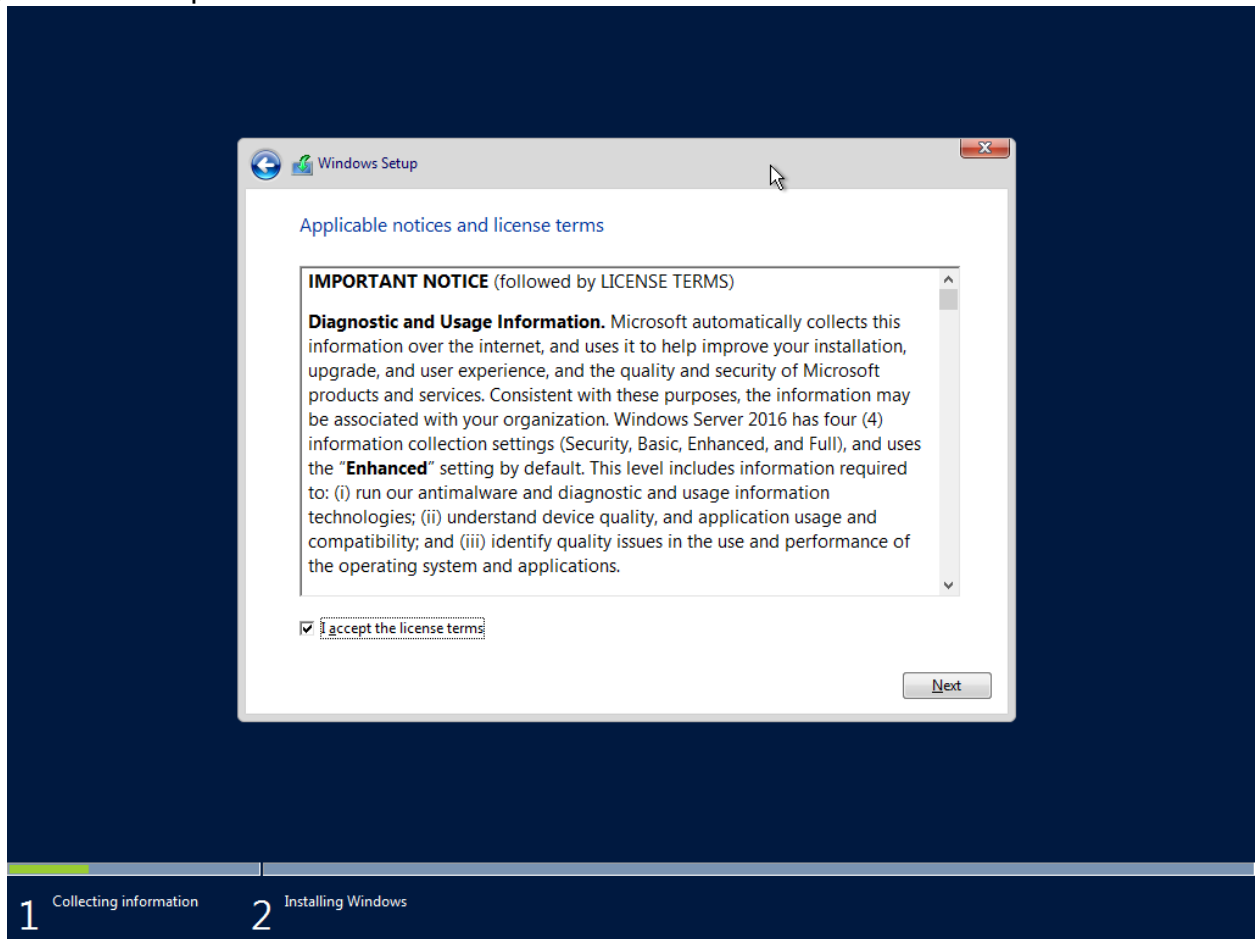
23) Select Windows Server 2016 Datacenter (Desktop Experience)



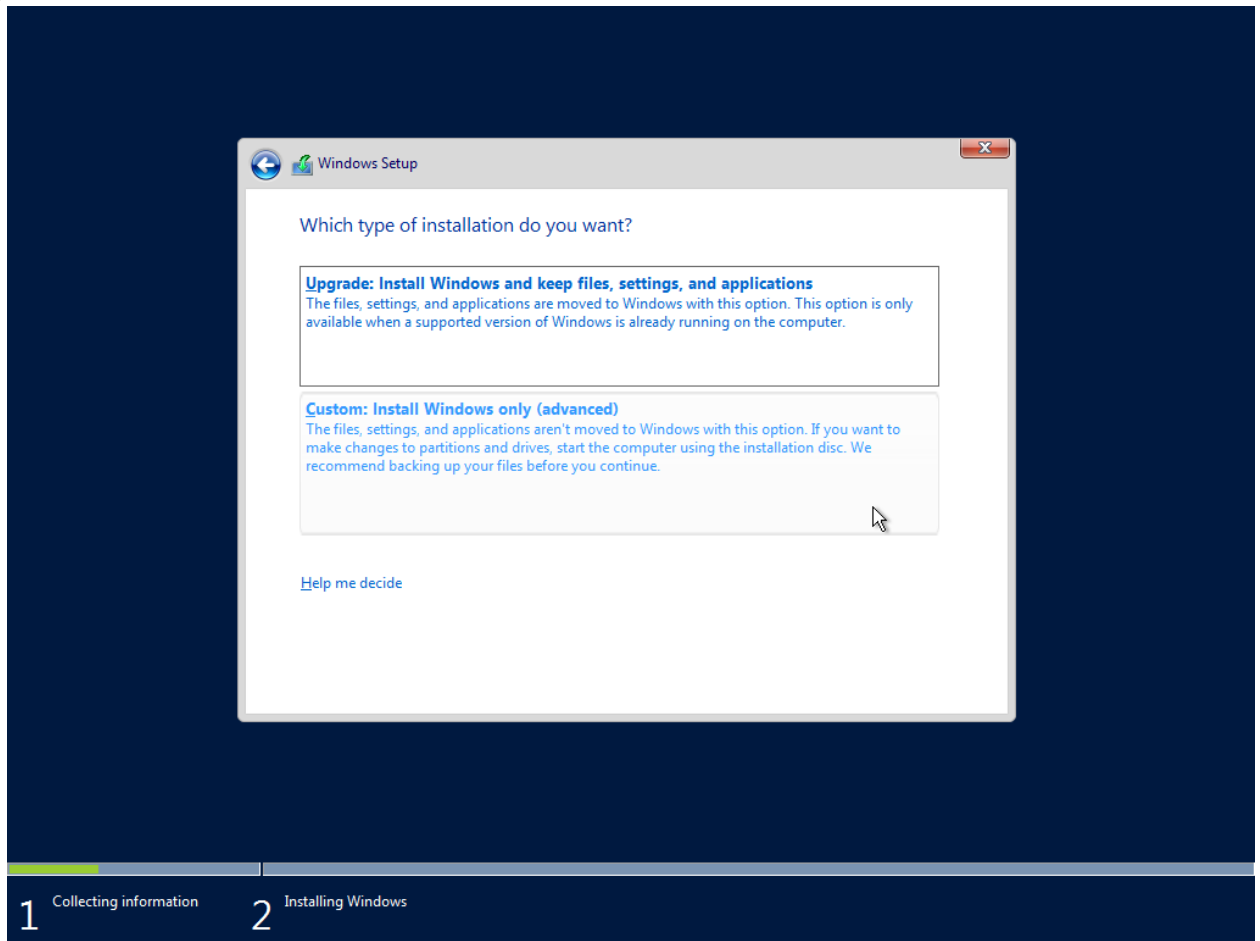
1 Collecting information

2 Installing Windows

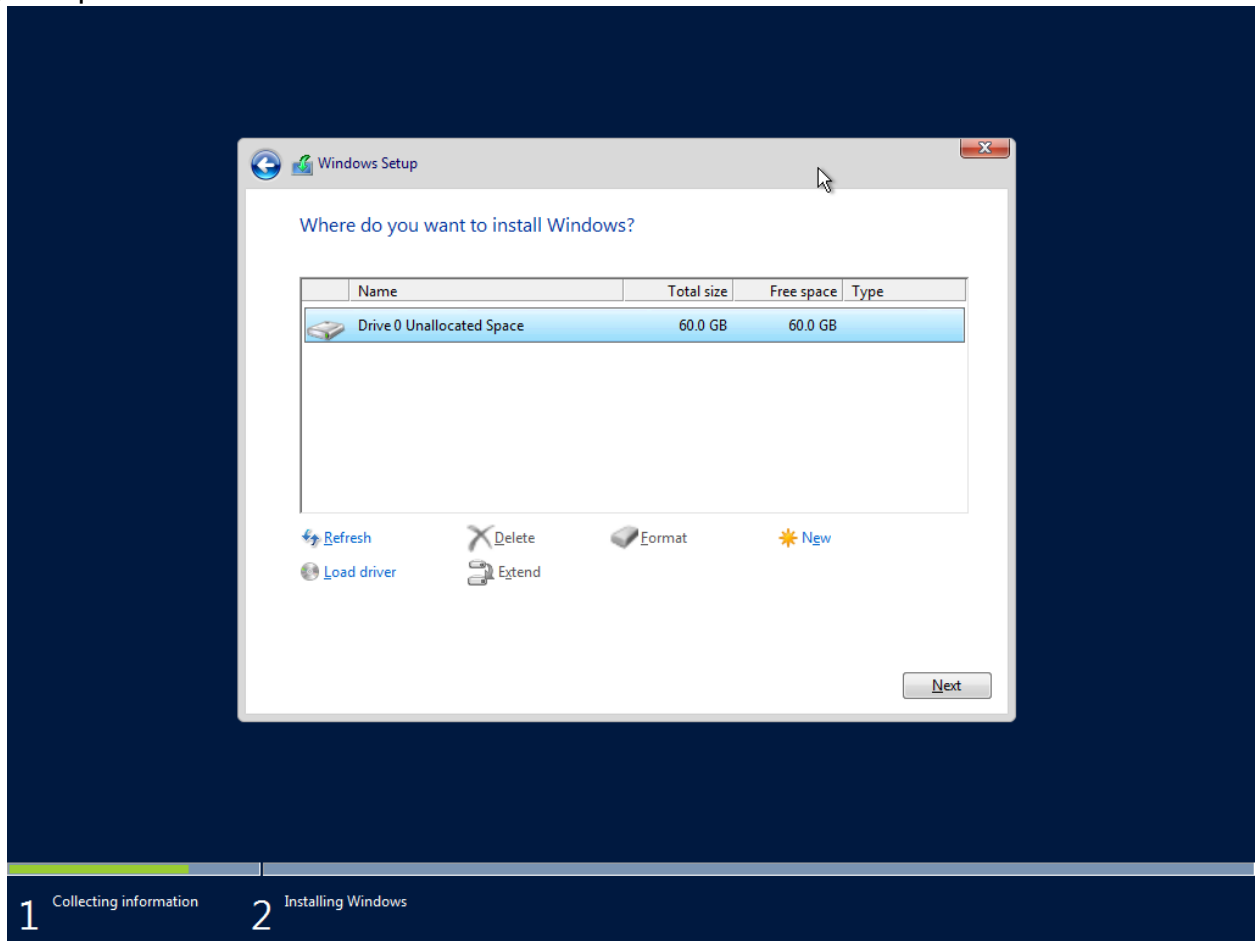
24) Select I accept the license



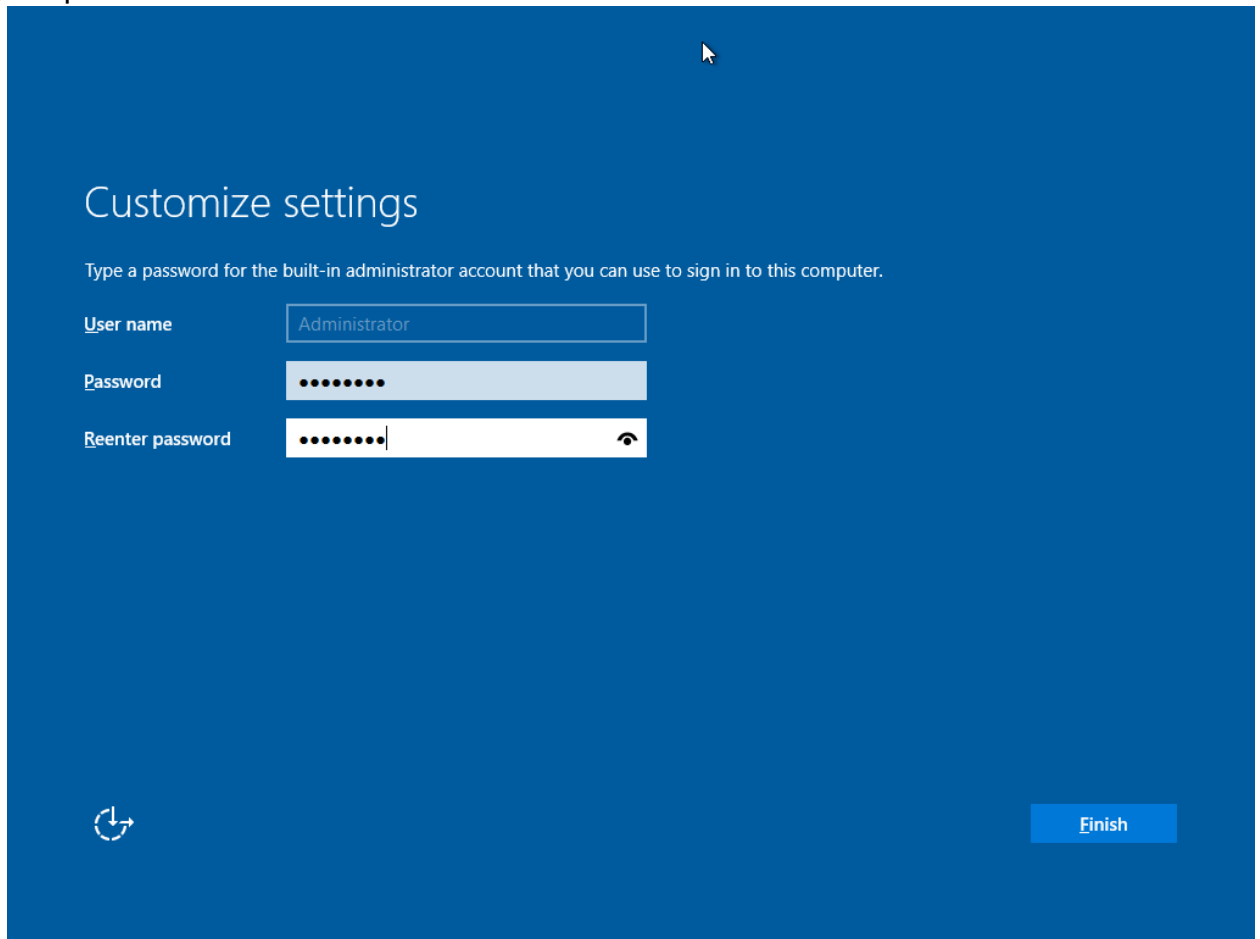
25) Select Custom



26) Accept default



27) Set password





Customize settings

Type a password for the built-in administrator account that you can use to sign in to this computer.

User name Administrator

Password

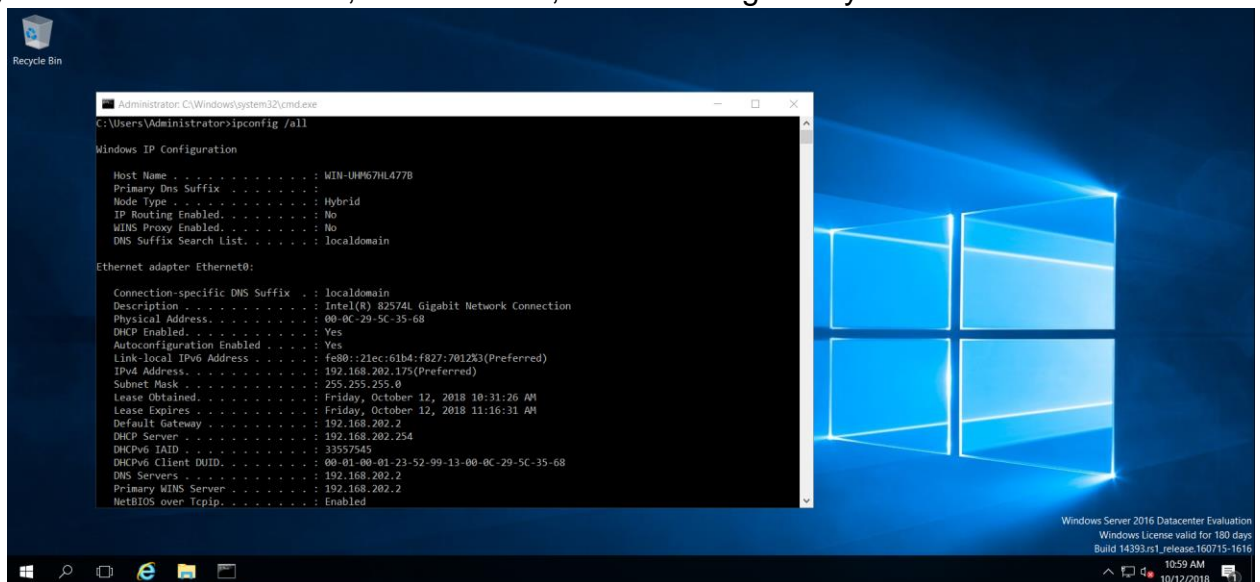
Reenter password 

 Finish

28) (if using NAT) Push Windows Key + R > CMD

29) Type ipconfig /all

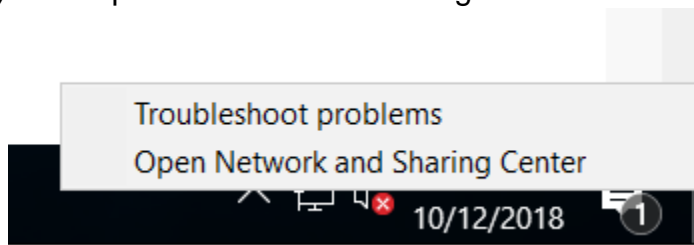
30) Take note of IP address, Subnet Mask, and Default gateway



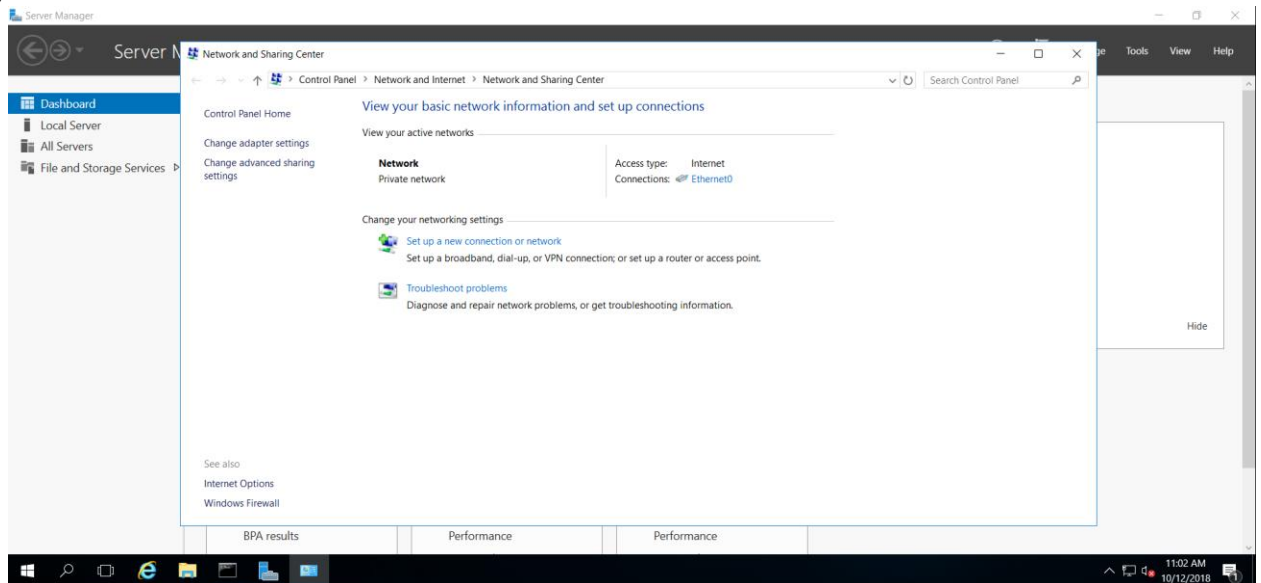
31) Right click



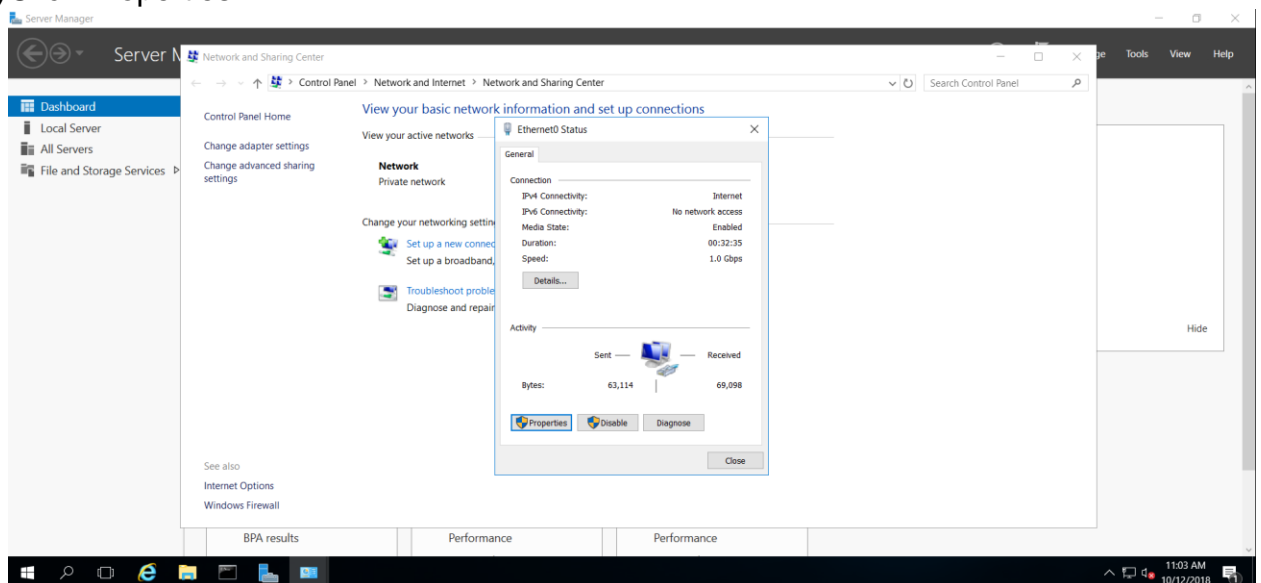
32) Click Open Network and Sharing Center



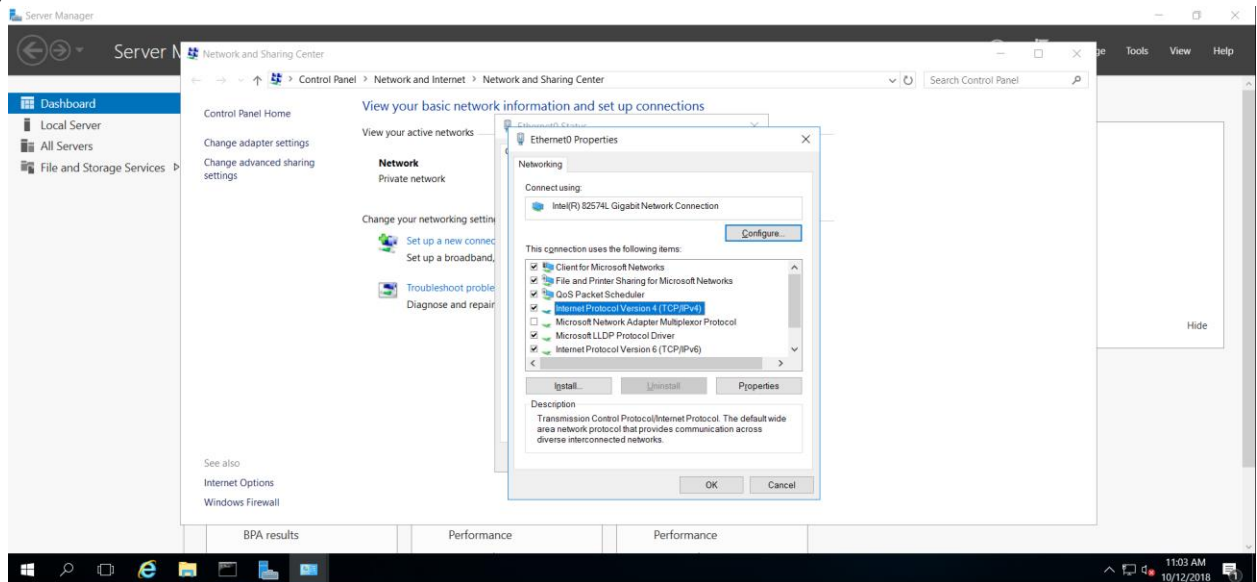
33) Click ethernet 0



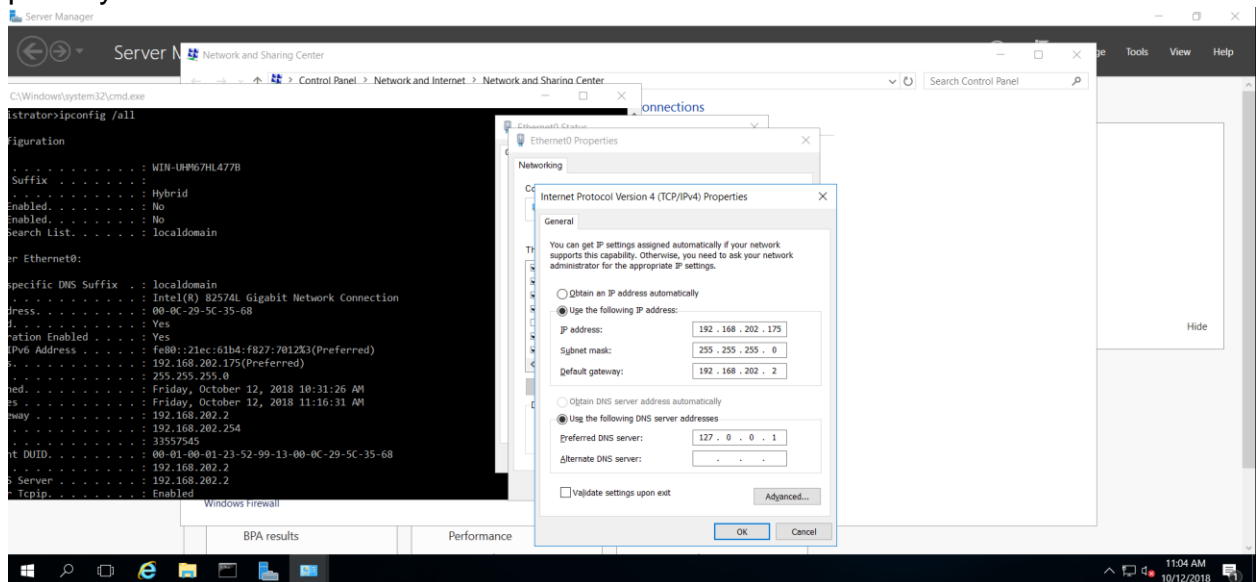
34) Click Properties



35) Click Internet Protocol Version 4



36) Select "Use the following IP address" and "Use the following DNS server address" set the following to the configuration outlined in step 4. If not using NAT, set the IP address and Subnet mask according to specification, and set the primary DNS server to 127.0.0.1



37) Open Server Manager once your computer is logged in (Server Manager should open by default when Server Manager 2016 is started.)



In case the Server Manager will not start automatically, click this icon to start Server Manager manually.

Figure 1-6 (server manager)

38) In the top right corner of your screen click **Manage > Add Roles and Features**

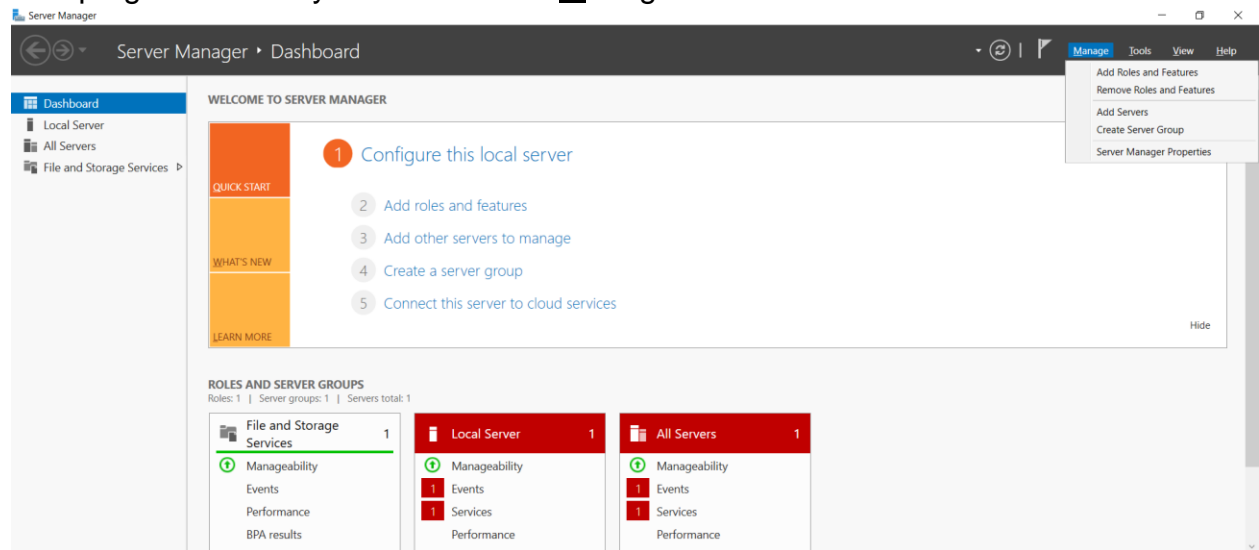
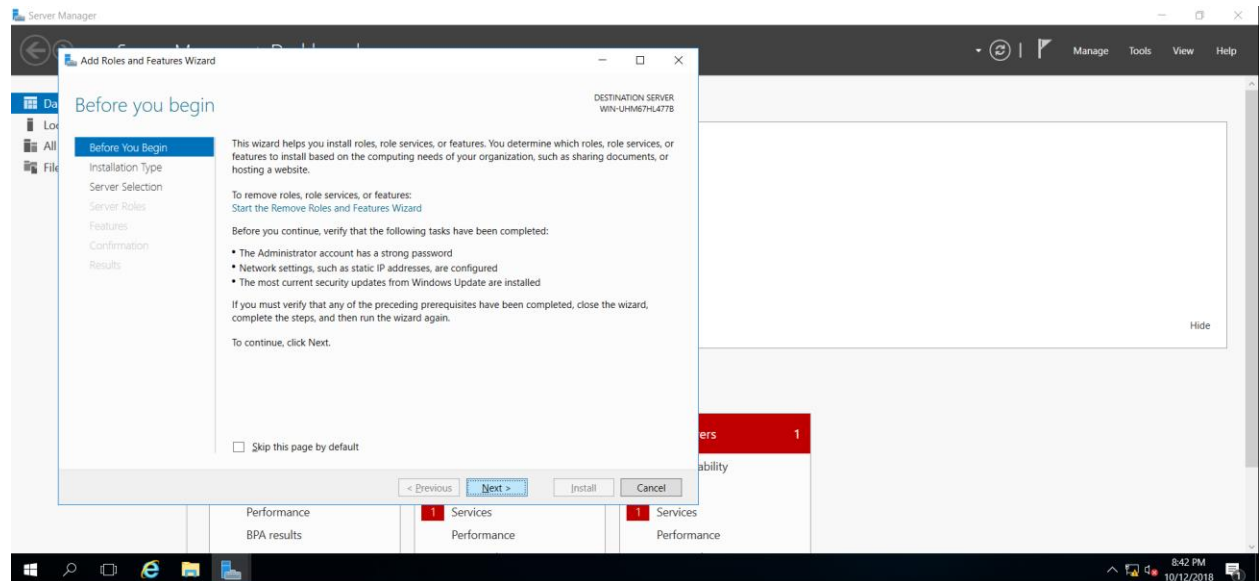


Figure 1-7 (clicking manage)

39) Click **“Next”**



40) Select the **“Role-based or feature-based installation”** option which will only configure the one server with roles and features

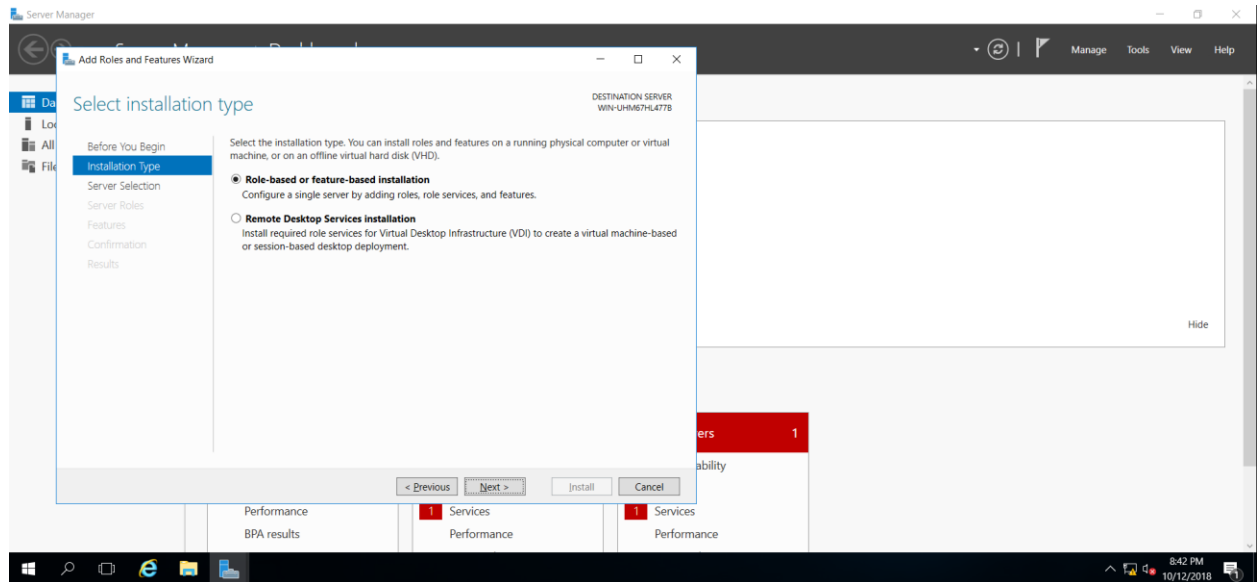
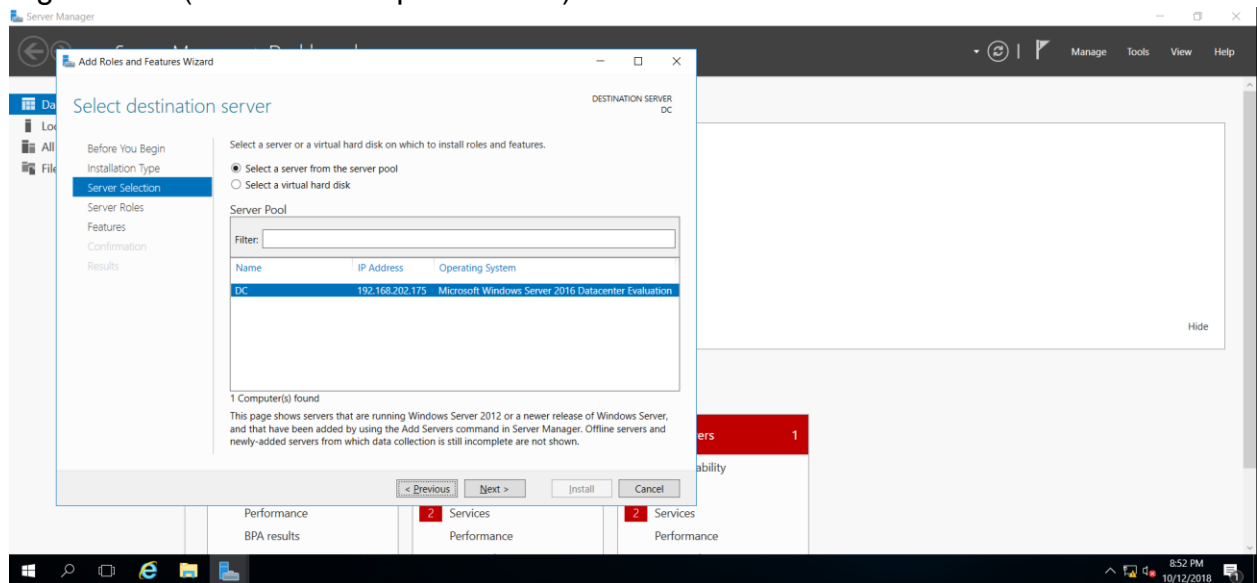


Figure 1-10 (the second screen -Installation type)

- 41) On the “Select destination server” screen choose the option “Select a server from the server pool” and then click next since the only server pool you have is the computer you are using now

Figure 1-11 (Select server pool screen)



- 12) On the “Select server roles” page check the “ Active Directory Domain Services” box. Another box will appear that will tell you what features will be installed on your computer as a result of selecting the “Active Directory Domain Services” box. Afterwards, click “Add Features”, and then click next

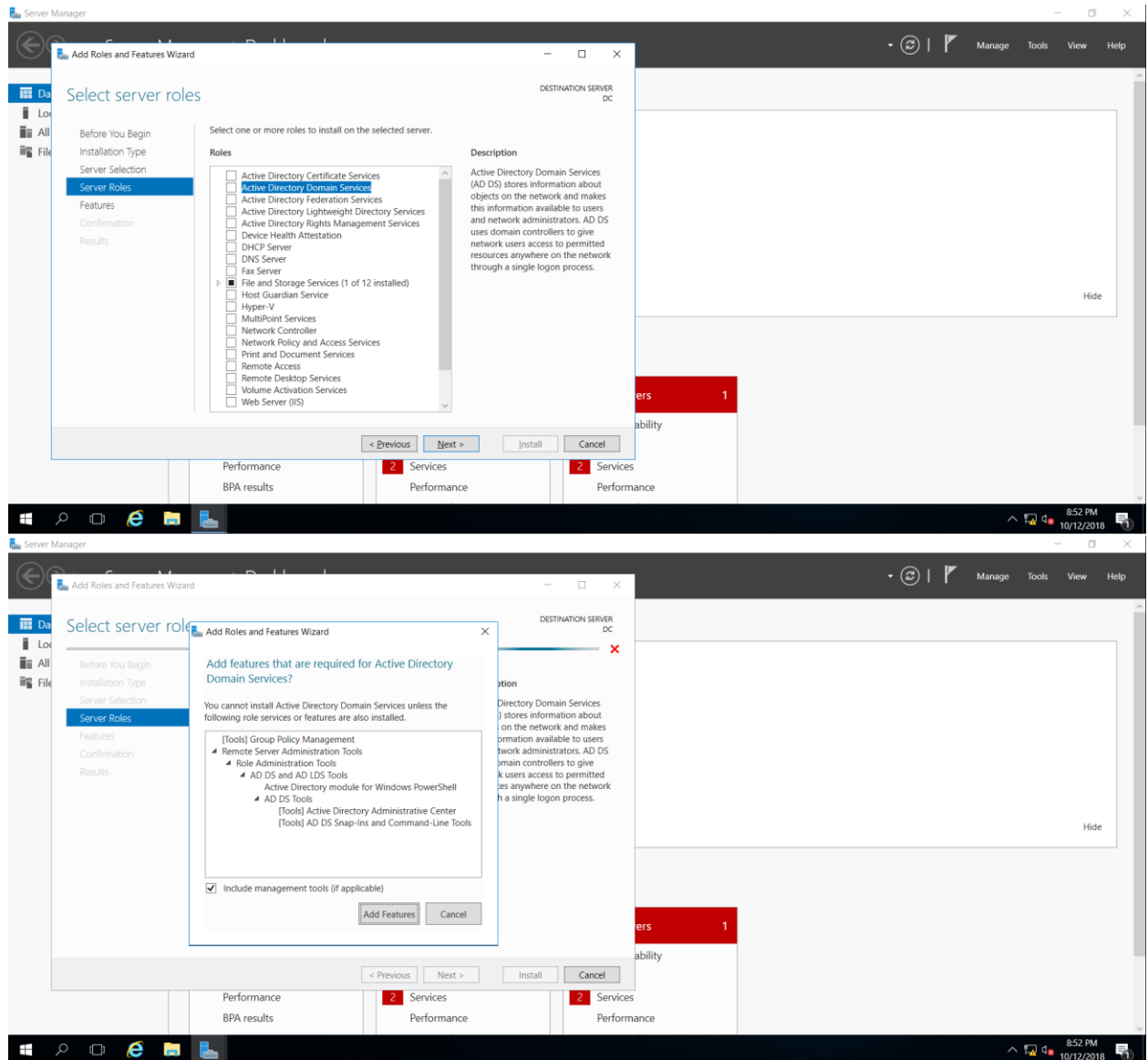
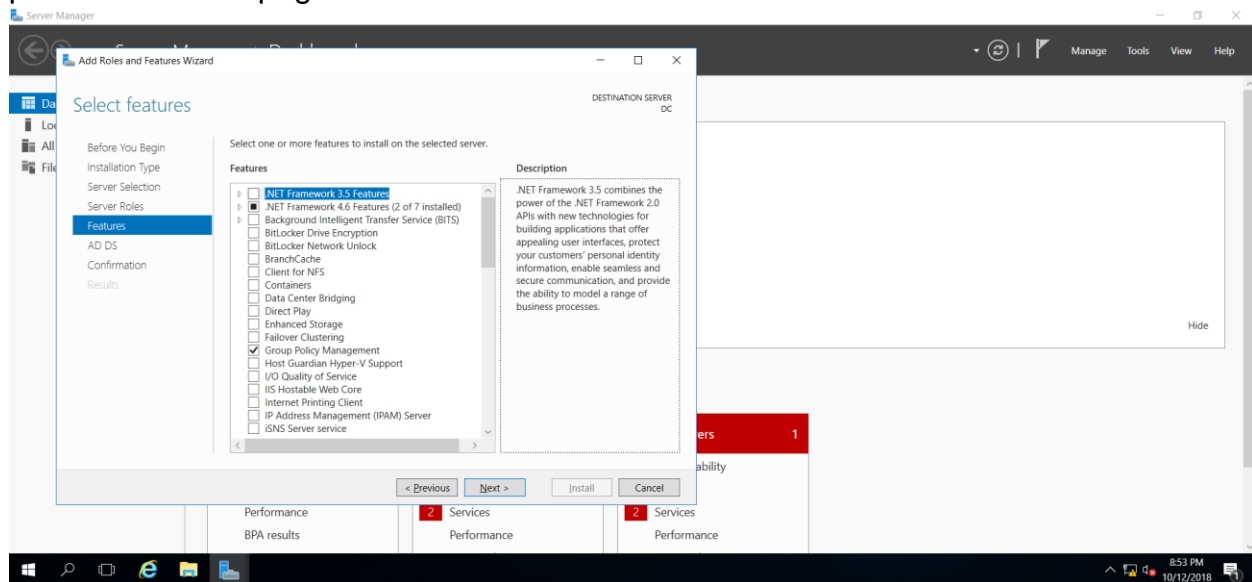


Figure 1-12 (select server roles screen)

13) On the “*Select features*” page click next as you will not be needing the features presented on the page



14) Read the text on the Active Directory Domain Services page and then click next

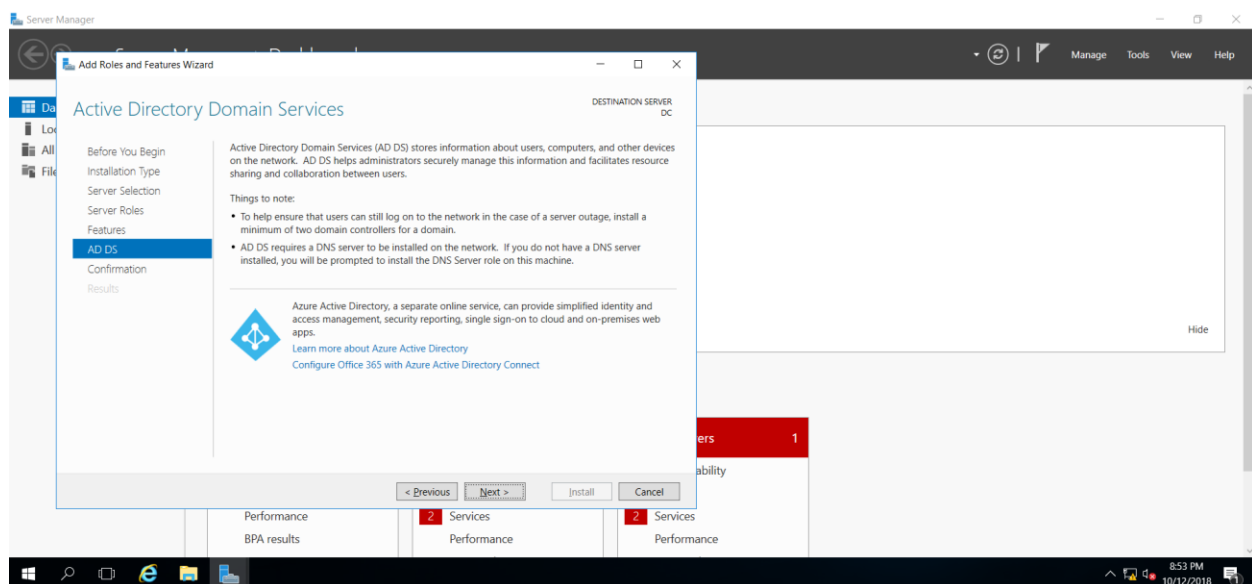


Figure 1-13 (description of Active Directory Domain Services)

15) On the Confirmation page check off the “*Restart the destination server automatically if required*” as installing “Active Directory Domain Services” requires it, and then click install. Once the install is complete close the box

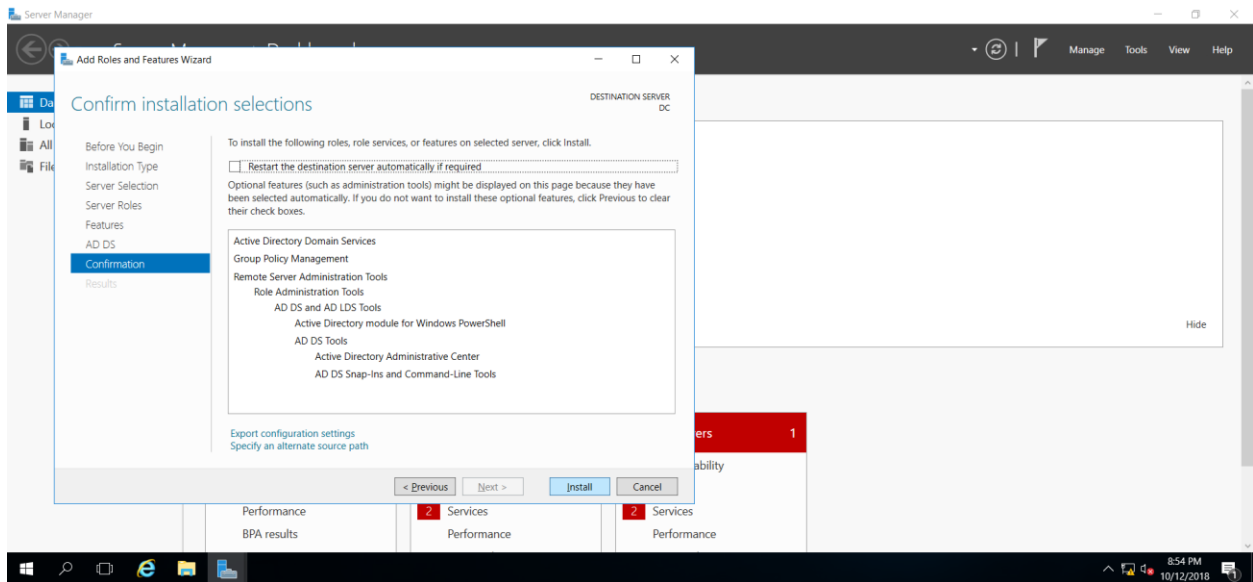


Figure 1-14 (confirmation of installation)

16) After closing the “Installation Progress” window, there will be a flag with a caution sign, be sure to click that sign after installing “*Active Directory Domain Services*” then click “*Promote this server to a domain controller*”

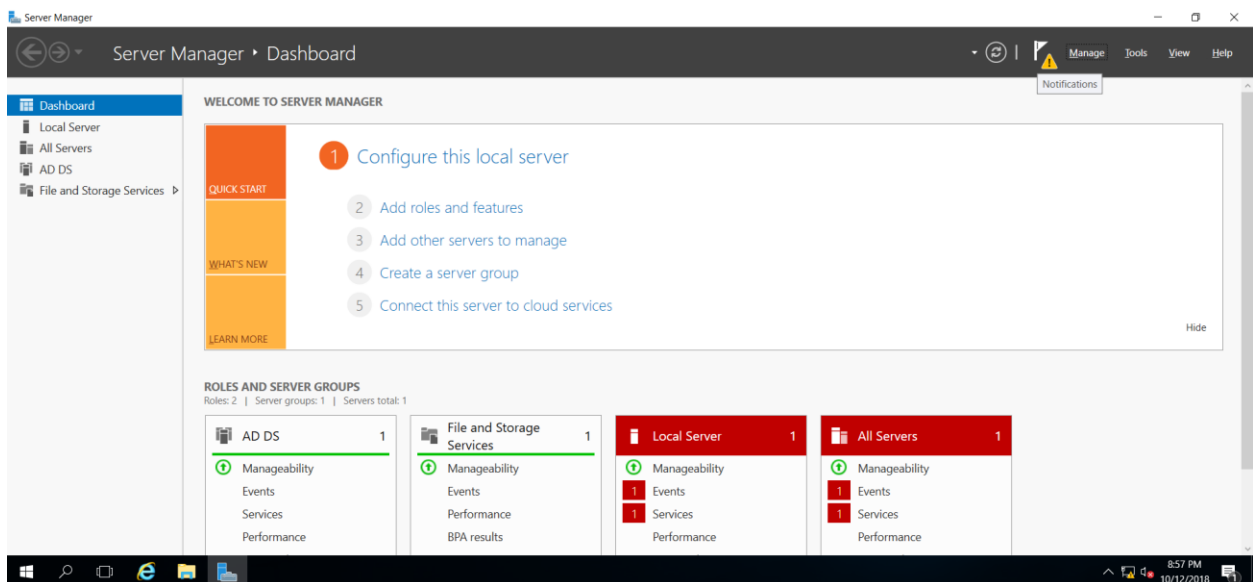
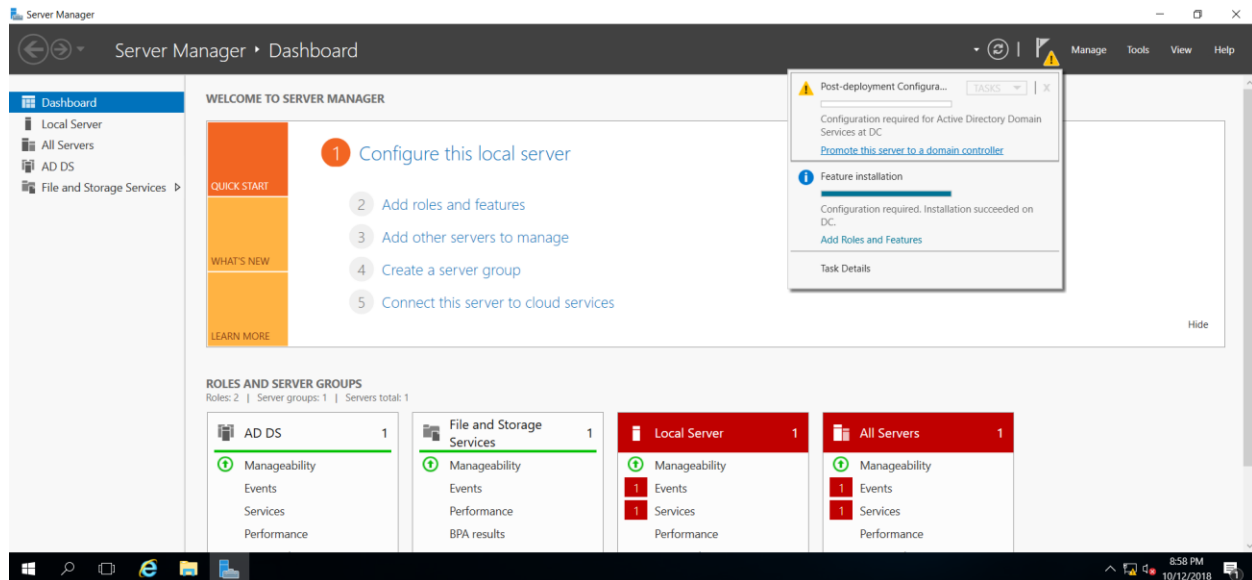


Figure 1-16 (server manager after installing Active Directory Domain Services)

17) After Clicking “*Promote this server to a domain controller*” select the option “Add a new forest”



18) This is your first domain controller for your domain and forest (which houses the domain controllers for your domain). In the text box below, specify the name of your “*Root domain name*”, this is going to be the name of your domain, click next after.

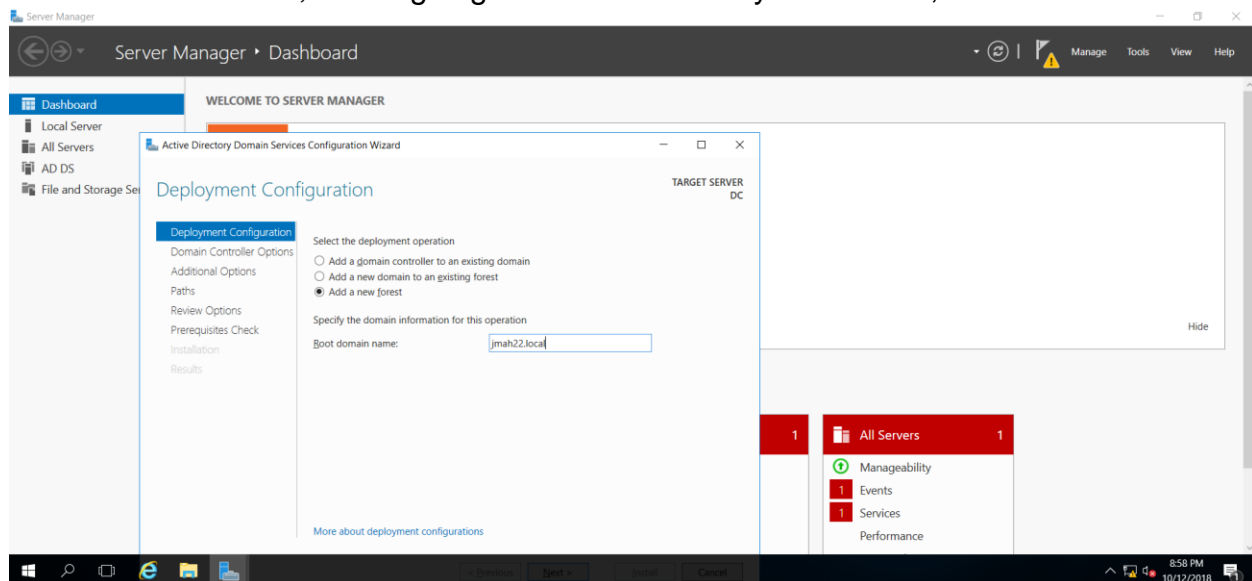


Figure 1-19 (creating a domain)

19) On the “*Domain Controller Options*” page, leave the options at their defaults since this Domain Controller is for creating Users and policies for the users. Enter a password for the Directory Service Restore Mode (this will restart the domain controller in the event of a disruption)

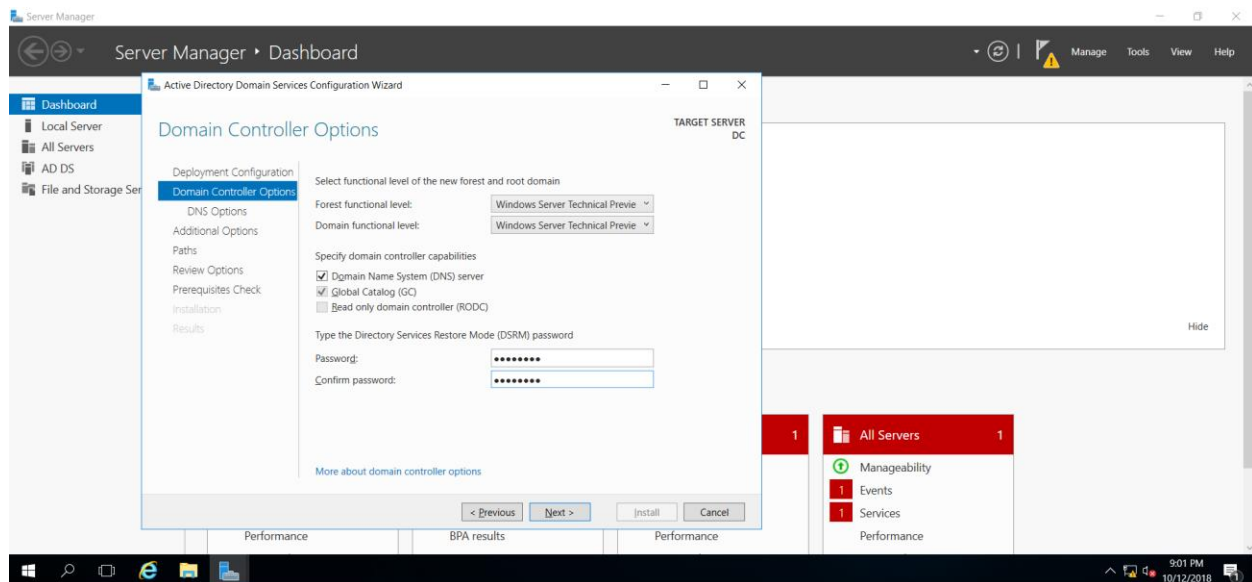


Figure 1-20 (configuring domain controller type)

21) Ignore the warning on the top of the “*DNS options*” page and then click next since DNS will not be used unless connecting other computers to your network.

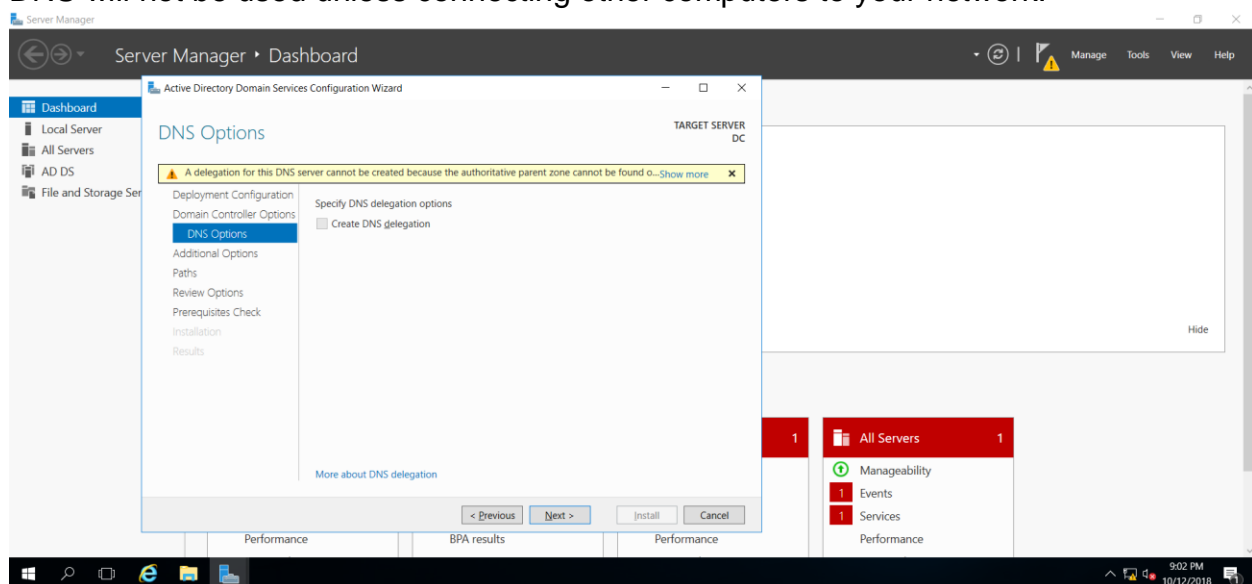


Figure 1-21 (DNS options screen)

22) At the “*Additional Options*” page click next

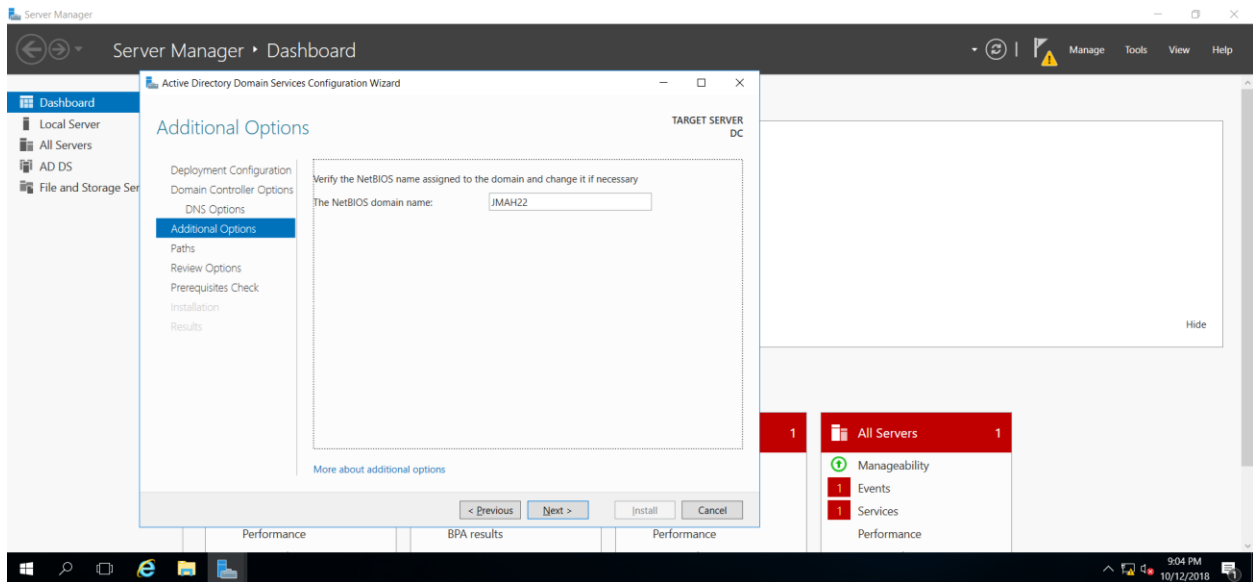


Figure 1-22 (additional options screen)

- 1) On the “*Paths*” window leave the database, log files, and SYSVOL folder location at their defaults, and then click next

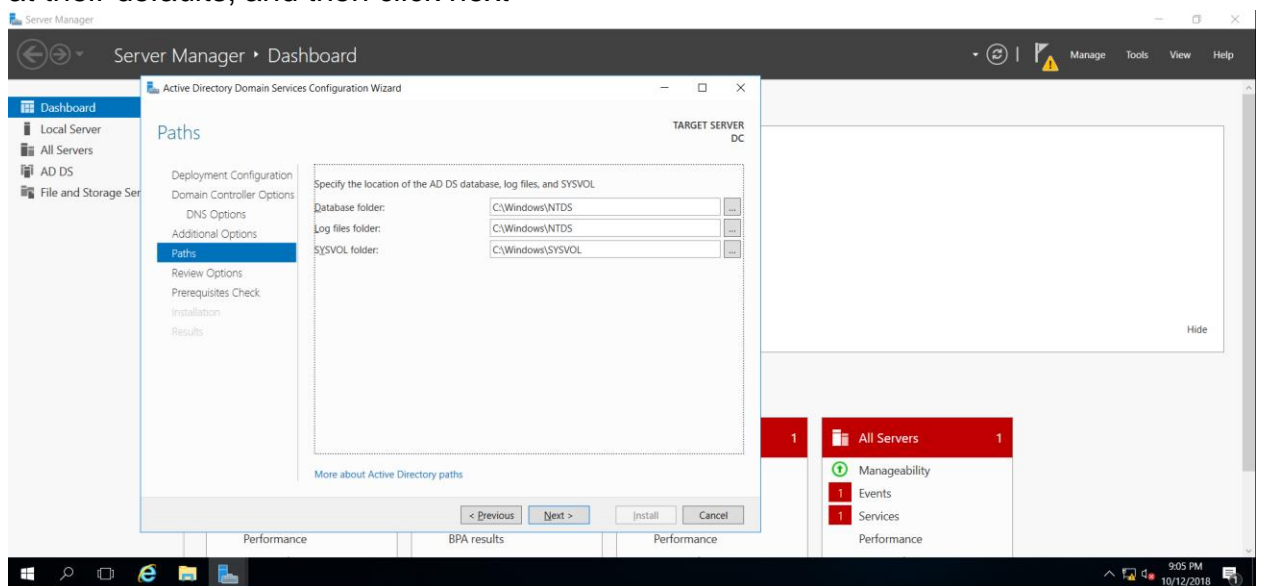


Figure 1-23 (folder direction for logs, database, and SYSVOL)

- 2) Carefully review your options at the “*Review Options*” window before proceeding and click next

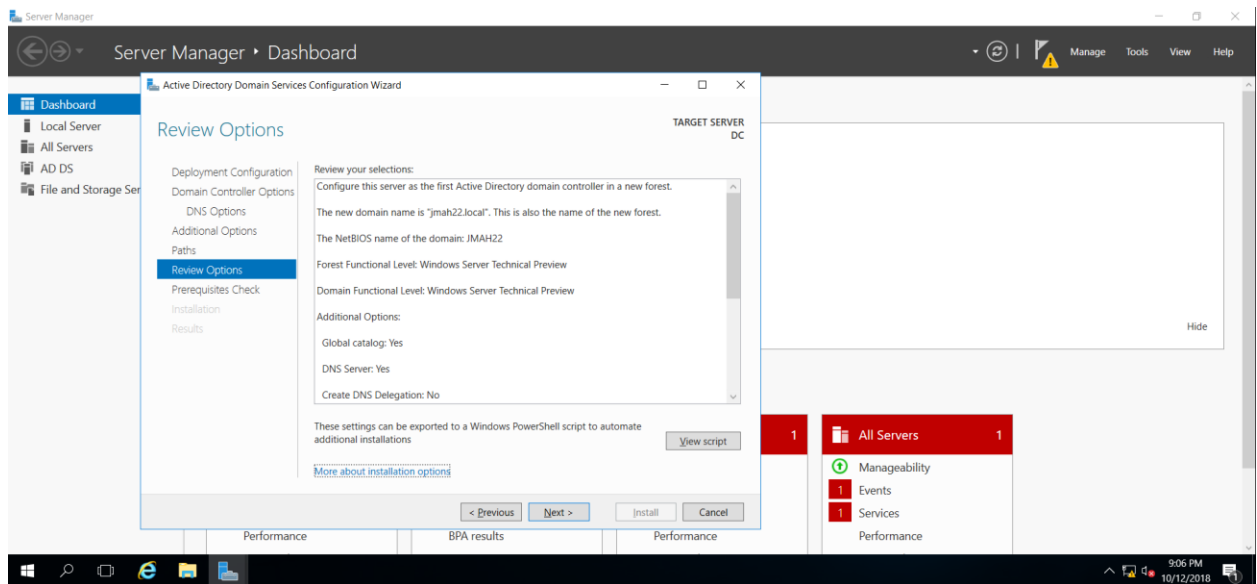


Figure 1-24 (review options screen)

24) At the “*Prerequisites Check*” window, click install after the prerequisite check is completed

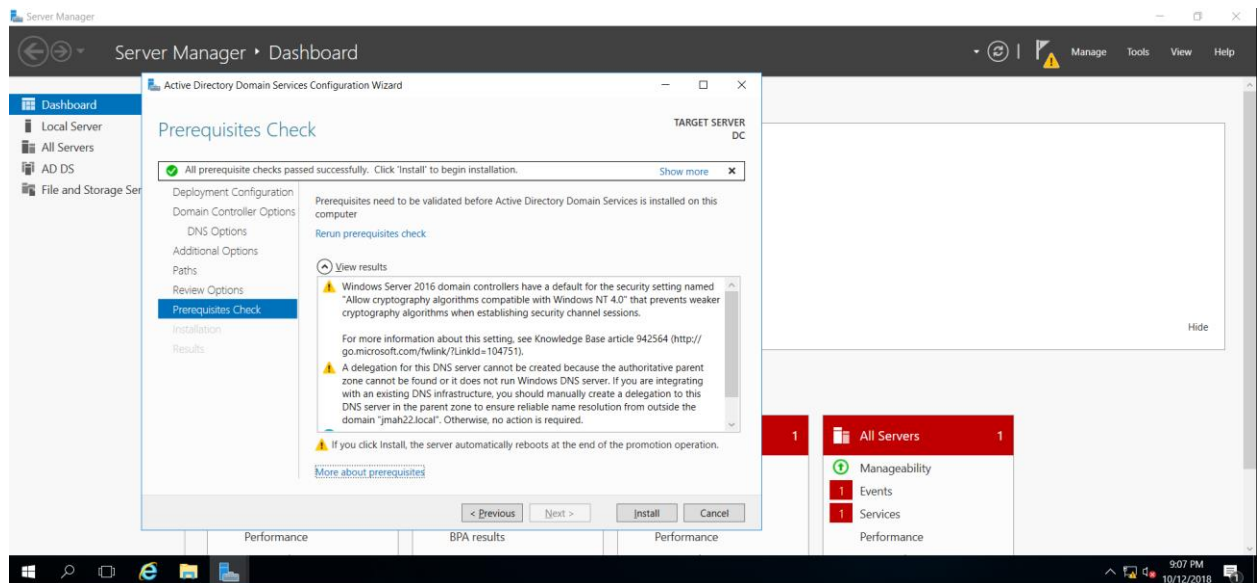


Figure 1-25 (prerequisite screen)

25) Your computer will be restarted after the installation is complete

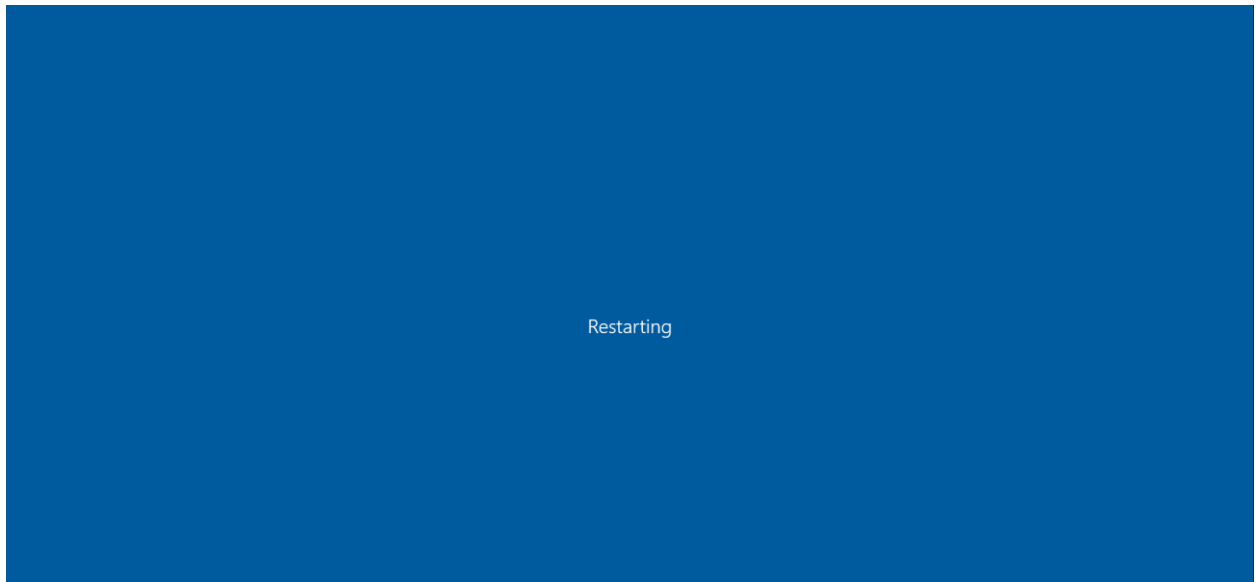


Figure 1-26 (restart notification)

26) To verify that your computer successfully installed Active Directory Domain Services click on “Tools” at the top right corner of your server manager screen and expect to see 5 Active directory tools

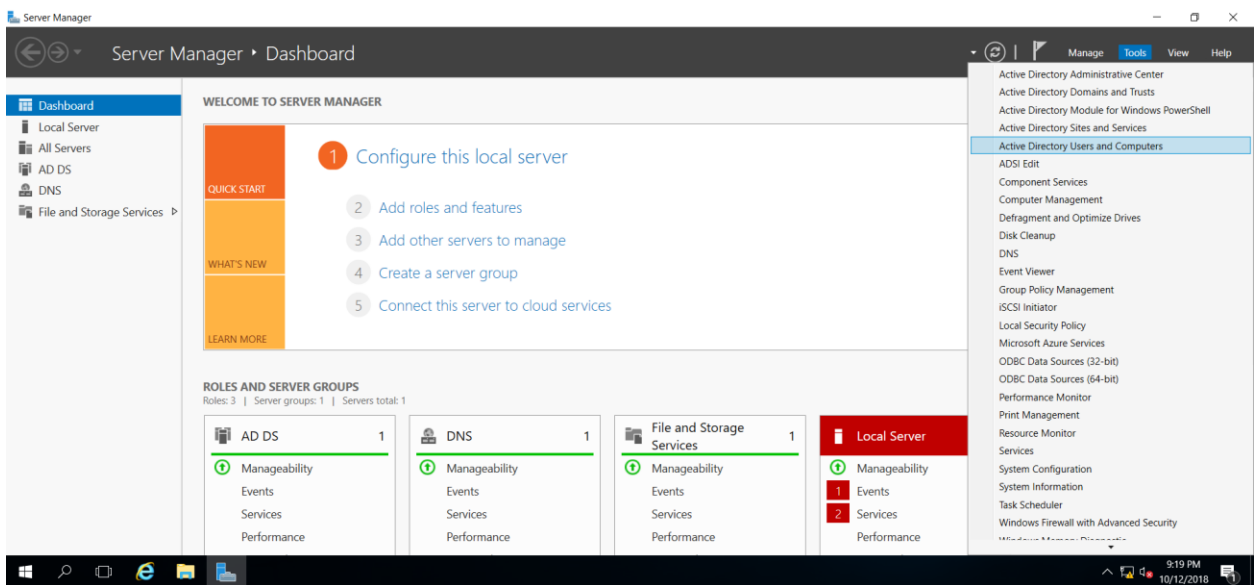


Figure 1-27 (server manager screen after promoting computer to domain controller)