

Installing the Microsoft Windows Server VM on Hyper-V in Azure Lab

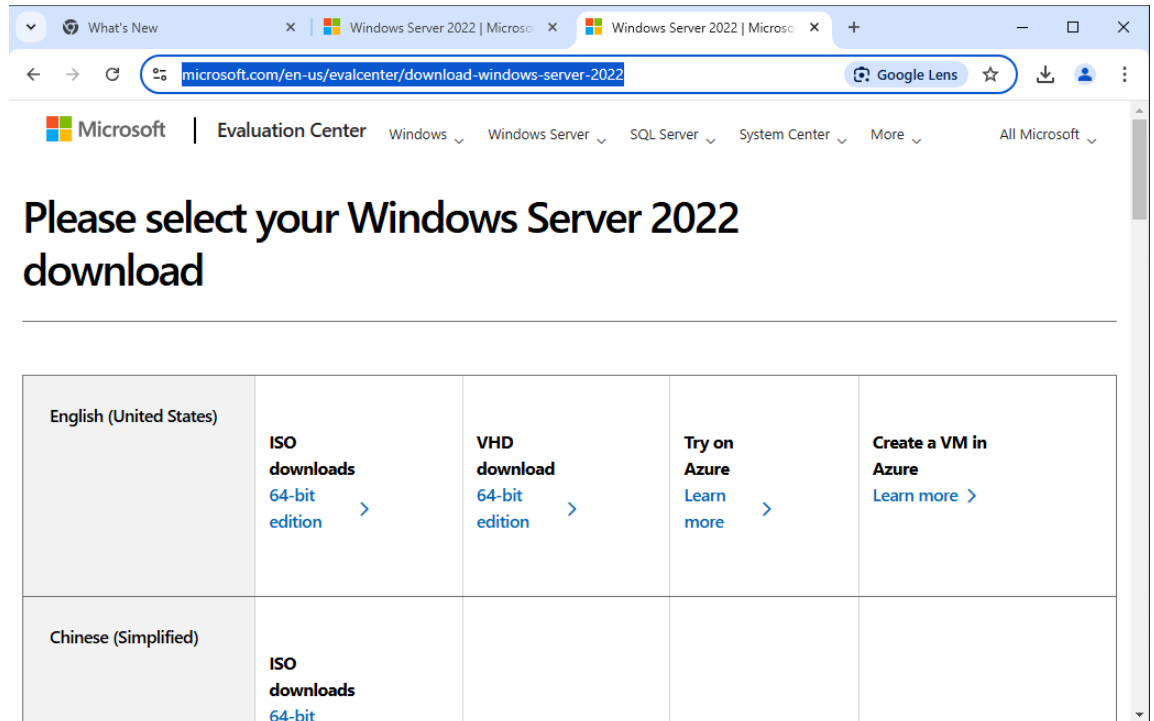
Summary of Steps

Step	Description
1	Downloading Windows Server 2022 ISO File <ul style="list-style-type: none">• Sign in to provided Azure Lab• Go to Chrome browser and enter this URL: https://www.microsoft.com/en-us/evalcenter/download-windows-server-2022• Download the 64-bit edition• Check File Explorer > Downloads
2	Create a New Windows Server 2022 VM in Hyper-V <ul style="list-style-type: none">a) Open Hyper-V Manager, Click New > Virtual Machineb) Before You Begin > Nextc) Specify Name and Location: Name: "Windows Server 2022"; Location: [can keep desired path or default as shown] > Nextd) Specify Generation: Choose "Generation 2" > Nexte) Assign Memory: Startup Memory: 4096 MB (minimum 4GB) [Can allocate 4-8GB] > Nextf) Configure Networking: Connection: "LabServerSwitch" > Nextg) Connect Virtual Hard Disk: Select "Create a virtual hard disk": Name and Location: [Can remain default or as you desire] Size: 40GB > Nexth) Installation Options: Select "Install an operating system from a bootable image file": Media: Image file: [Browse and select the .iso file] > Nexti) Check the Summary of your New Windows Server 2022 VM setup > Finish
3	Install Windows Server 2022 <ul style="list-style-type: none">a) Open Hyper-V, Right-click on Windows Server 2022 VM > Settings... > Security > Uncheck "Enable Secure Boot" > Apply > OKb) In Hyper-V, Right-click on Windows Server 2022 VM > Connect (This will boot the OS from the DVD Drive using the ISO file) Language to install: English (United States) > Nextc) Click "Install now"d) Select "Windows Server 2022 Standard Evaluation (Desktop Experience)" > Nexte) Check "I accept ..." at the bottom > Nextf) Click "Custom: Install Microsoft Server Operating System only (advanced)"g) Select the Virtual hard drive to install (allotted 40GB one) > Next
4	Check the Windows Server 2022 VM functioning <ul style="list-style-type: none">• When prompted, update the Administrator Password > Finish (Make a note of the password)• Log in to the system with the password• Server Manager of Windows Server 2022 VM should be up and running

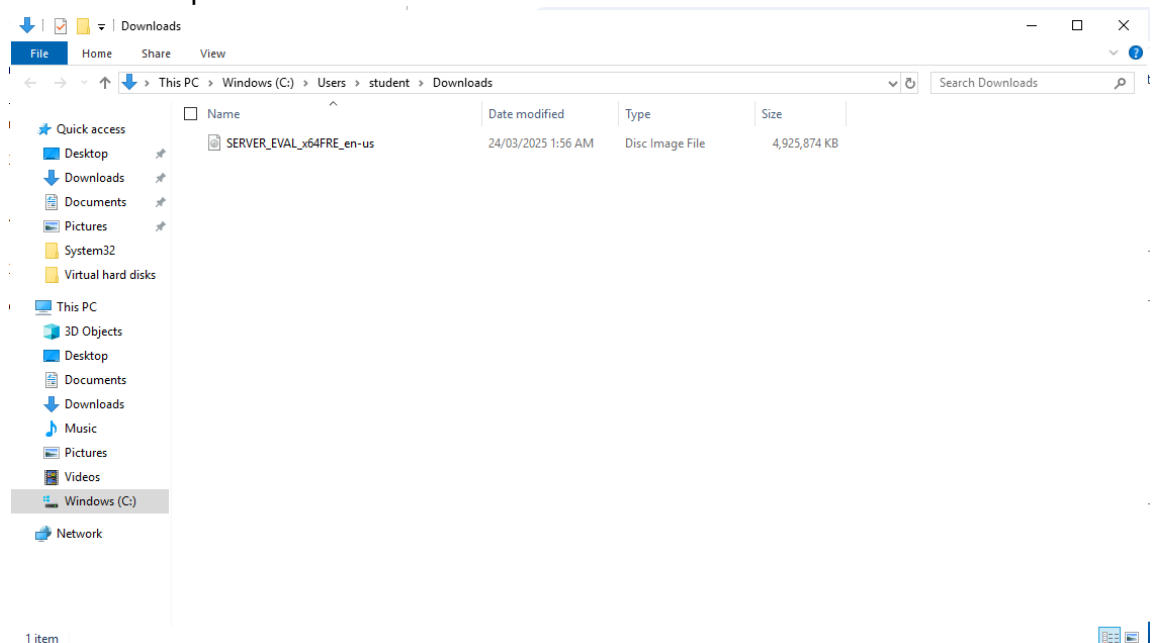
Screenshots

1. Downloading Windows Server 2022 ISO File:

- Sign in to provided **Azure Lab**
- Go to **Chrome browser** and enter this URL: <https://www.microsoft.com/en-us/evalcenter/download-windows-server-2022>
- Download the 64-bit edition

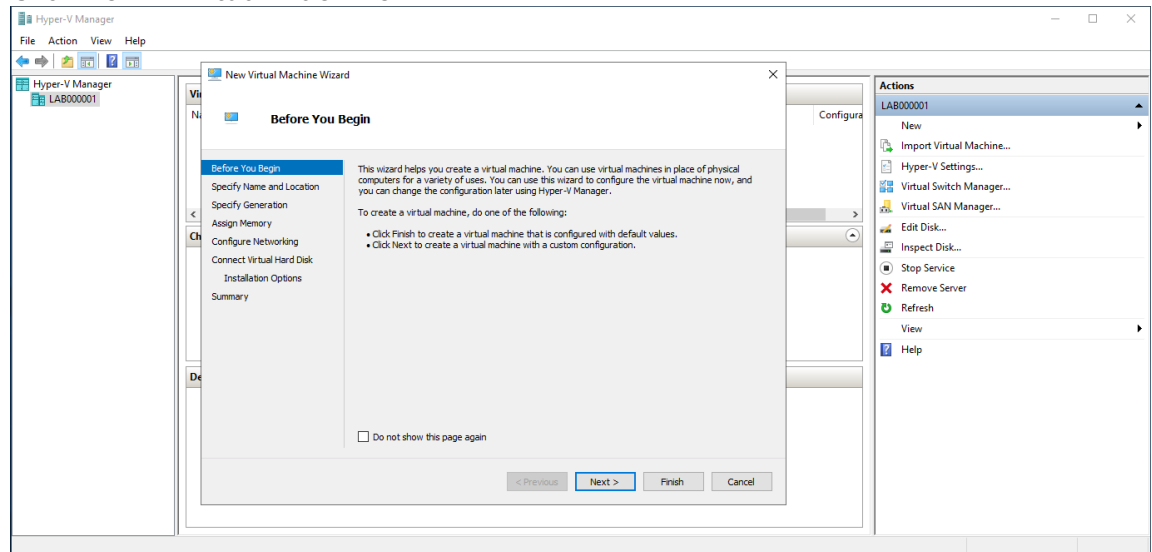


- Check File Explorer > Downloads

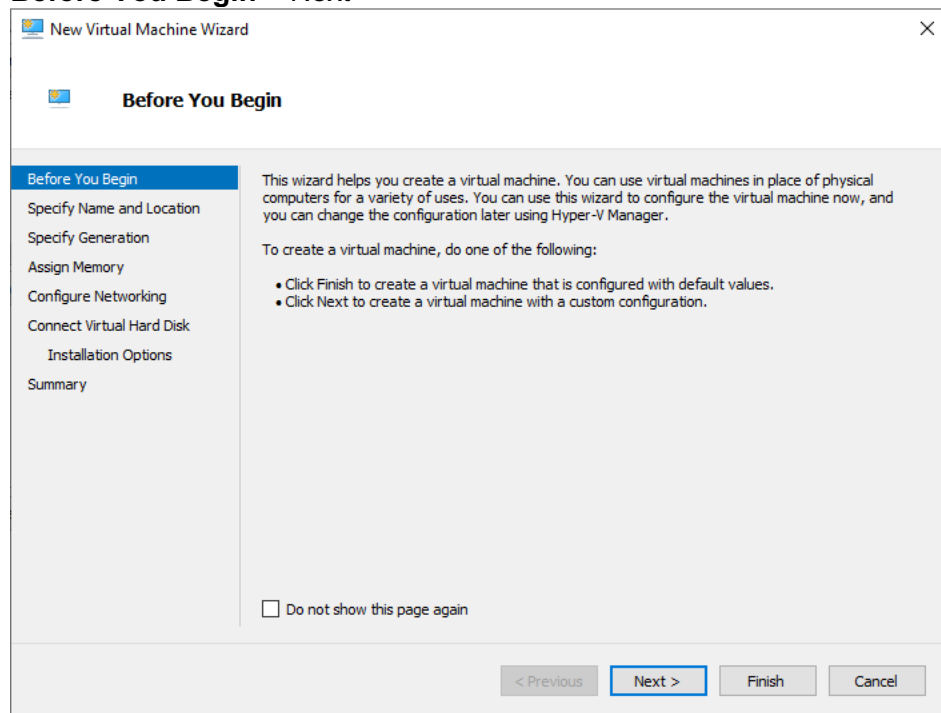


2. Create a New Windows Server 2022 VM in Hyper-V

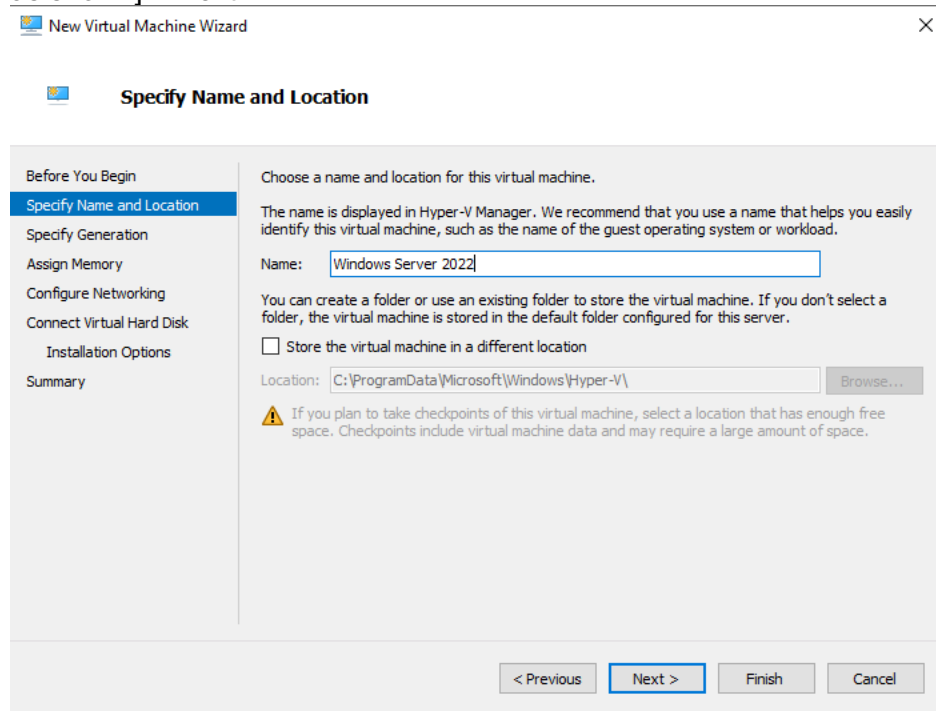
- j) Open **Hyper-V Manager**
Click **New > Virtual Machine**



- k) **Before You Begin > Next**

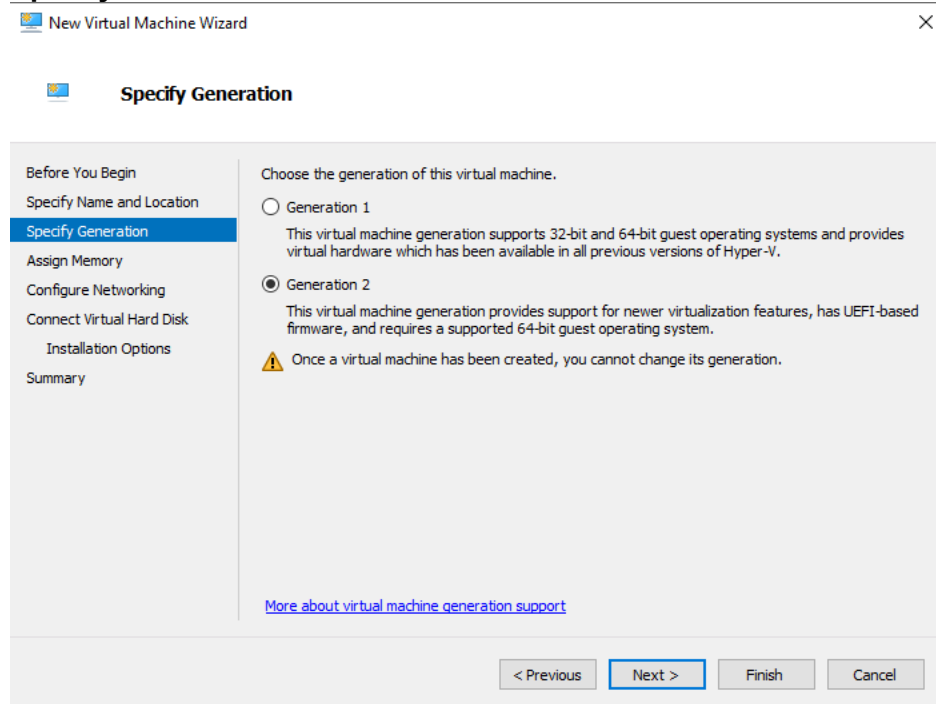


- l) **Specify Name and Location:**
Name: **"Windows Server 2022"**; Location: [can keep desired path or default as shown] > Next



The screenshot shows the 'Specify Name and Location' step of the 'New Virtual Machine Wizard'. The left sidebar contains a list of steps: 'Before You Begin', 'Specify Name and Location' (highlighted), 'Specify Generation', 'Assign Memory', 'Configure Networking', 'Connect Virtual Hard Disk', 'Installation Options', and 'Summary'. The main area has the title 'Specify Name and Location' and a sub-header 'Choose a name and location for this virtual machine.' Below this, it says 'The name is displayed in Hyper-V Manager. We recommend that you use a name that helps you easily identify this virtual machine, such as the name of the guest operating system or workload.' There is a text box for 'Name' containing 'Windows Server 2022'. Below that, it says 'You can create a folder or use an existing folder to store the virtual machine. If you don't select a folder, the virtual machine is stored in the default folder configured for this server.' There is a checkbox 'Store the virtual machine in a different location' which is unchecked. Below the checkbox is a text box for 'Location' containing 'C:\ProgramData\Microsoft\Windows\Hyper-V\' and a 'Browse...' button. At the bottom, there is a warning icon and text: 'If you plan to take checkpoints of this virtual machine, select a location that has enough free space. Checkpoints include virtual machine data and may require a large amount of space.' At the bottom right, there are four buttons: '< Previous', 'Next >' (highlighted), 'Finish', and 'Cancel'.

- m) **Specify Generation:** Choose **"Generation 2"** > Next



The screenshot shows the 'Specify Generation' step of the 'New Virtual Machine Wizard'. The left sidebar contains a list of steps: 'Before You Begin', 'Specify Name and Location', 'Specify Generation' (highlighted), 'Assign Memory', 'Configure Networking', 'Connect Virtual Hard Disk', 'Installation Options', and 'Summary'. The main area has the title 'Specify Generation' and a sub-header 'Choose the generation of this virtual machine.' Below this, there are two radio button options: 'Generation 1' and 'Generation 2'. 'Generation 2' is selected. Below the radio buttons, it says 'This virtual machine generation provides support for newer virtualization features, has UEFI-based firmware, and requires a supported 64-bit guest operating system.' Below that, there is a warning icon and text: 'Once a virtual machine has been created, you cannot change its generation.' At the bottom, there is a link 'More about virtual machine generation support'. At the bottom right, there are four buttons: '< Previous', 'Next >' (highlighted), 'Finish', and 'Cancel'.

- n) **Assign Memory:**
Startup Memory: 2048 MB (min) - **4096 MB (max 4GB)** [Can allocate 2-4GB] > Next

The screenshot shows the 'Assign Memory' step of the 'New Virtual Machine Wizard'. The left sidebar contains a list of steps: 'Before You Begin', 'Specify Name and Location', 'Specify Generation', 'Assign Memory' (highlighted), 'Configure Networking', 'Connect Virtual Hard Disk', 'Installation Options', and 'Summary'. The main area has a title bar with a Windows logo and the text 'Assign Memory'. Below the title bar, there is a paragraph: 'Specify the amount of memory to allocate to this virtual machine. You can specify an amount from 32 MB through 251658240 MB. To improve performance, specify more than the minimum amount recommended for the operating system.' Below this, there is a label 'Startup memory:' followed by a text box containing '2048' and the unit 'MB'. There is a checked checkbox labeled 'Use Dynamic Memory for this virtual machine.' and an information icon with a text box: 'When you decide how much memory to assign to a virtual machine, consider how you intend to use the virtual machine and the operating system that it will run.' At the bottom, there are four buttons: '< Previous', 'Next >', 'Finish', and 'Cancel'.

- o) **Configure Networking:** Connection: "LabServerSwitch" > Next

The screenshot shows the 'Configure Networking' step of the 'New Virtual Machine Wizard'. The left sidebar contains a list of steps: 'Before You Begin', 'Specify Name and Location', 'Specify Generation', 'Assign Memory', 'Configure Networking' (highlighted), 'Connect Virtual Hard Disk', 'Installation Options', and 'Summary'. The main area has a title bar with a Windows logo and the text 'Configure Networking'. Below the title bar, there is a paragraph: 'Each new virtual machine includes a network adapter. You can configure the network adapter to use a virtual switch, or it can remain disconnected.' Below this, there is a label 'Connection:' followed by a dropdown menu showing 'LabServicesSwitch'. At the bottom, there are four buttons: '< Previous', 'Next >', 'Finish', and 'Cancel'.

p) **Connect Virtual Hard Disk:**

Select **"Create a virtual hard disk"**:

Name and Location: [Can remain default or as you desire]

Size: **20GB** > Next

The screenshot shows the 'Connect Virtual Hard Disk' step of the 'New Virtual Machine Wizard'. The left sidebar contains a list of steps: 'Before You Begin', 'Specify Name and Location', 'Specify Generation', 'Assign Memory', 'Configure Networking', 'Connect Virtual Hard Disk' (highlighted), 'Installation Options', and 'Summary'. The main area has a title bar 'Connect Virtual Hard Disk' and a close button. Below the title bar, there is a descriptive text: 'A virtual machine requires storage so that you can install an operating system. You can specify the storage now or configure it later by modifying the virtual machine's properties.' There are three radio button options: 1. 'Create a virtual hard disk' (selected): 'Use this option to create a VHDX dynamically expanding virtual hard disk.' It includes fields for 'Name' (Windows Server 2022.vhdx), 'Location' (C:\ProgramData\Microsoft\Windows\Virtual Hard Disks\), and 'Size' (20 GB, with a maximum of 64 TB). 2. 'Use an existing virtual hard disk': 'Use this option to attach an existing virtual hard disk, either VHD or VHDX format.' It includes a 'Location' field (C:\ProgramData\Microsoft\Windows\Virtual Hard Disks\). 3. 'Attach a virtual hard disk later': 'Use this option to skip this step now and attach an existing virtual hard disk later.' At the bottom, there are four buttons: '< Previous', 'Next >' (highlighted), 'Finish', and 'Cancel'.

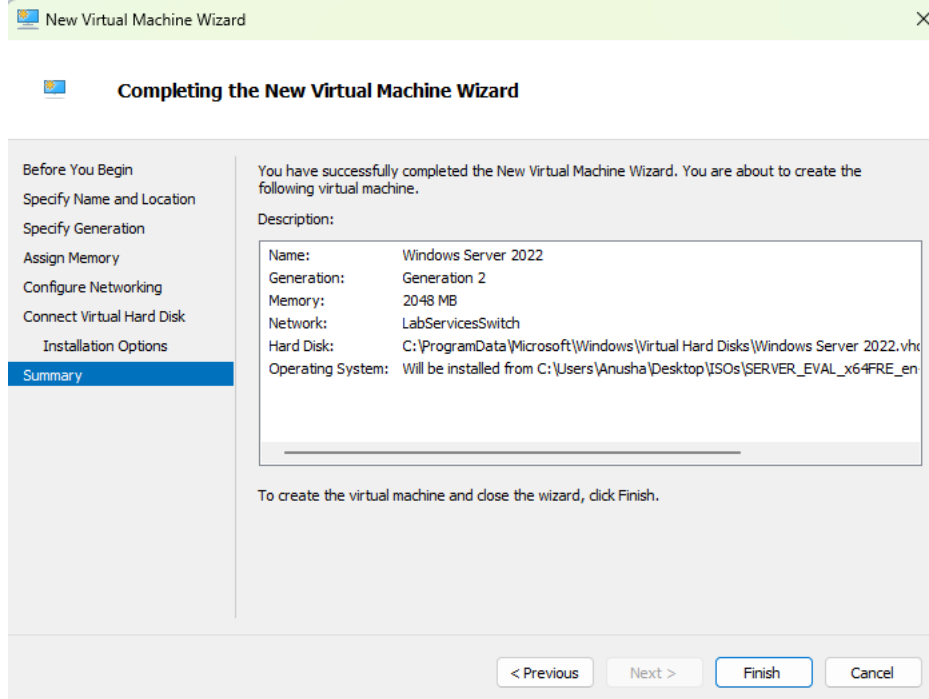
q) **Installation Options:**

Select **"Install an operating system from a bootable image file"**:

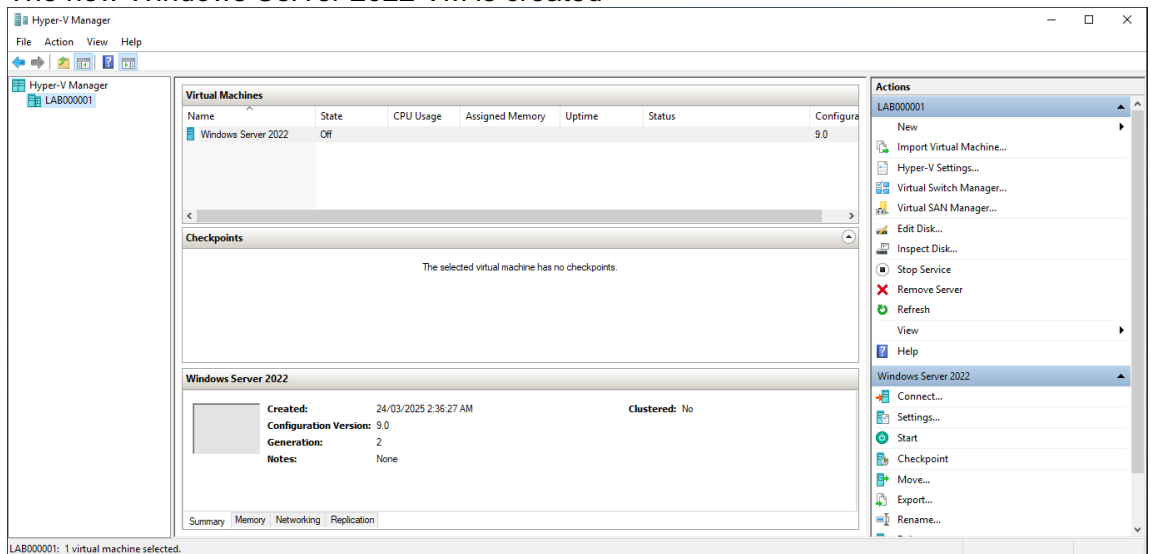
Media: **Image file**: [Browse and select the .iso file] > Next

The screenshot shows the 'Installation Options' step of the 'New Virtual Machine Wizard'. The left sidebar contains a list of steps: 'Before You Begin', 'Specify Name and Location', 'Specify Generation', 'Assign Memory', 'Configure Networking', 'Connect Virtual Hard Disk', 'Installation Options' (highlighted), and 'Summary'. The main area has a title bar 'Installation Options' and a close button. Below the title bar, there is a descriptive text: 'You can install an operating system now if you have access to the setup media, or you can install it later.' There are three radio button options: 1. 'Install an operating system later'. 2. 'Install an operating system from a bootable image file' (selected): It includes a 'Media' section with a label 'Image file (.iso):' and a text field containing 'ent\Downloads\SERVER_EVAL_x64FRE_en-us.iso', followed by a 'Browse...' button. 3. 'Install an operating system from a network-based installation server'. At the bottom, there are four buttons: '< Previous', 'Next >' (highlighted), 'Finish', and 'Cancel'.

r) Check the **Summary** of your New Windows Server 2022 VM setup > Finish



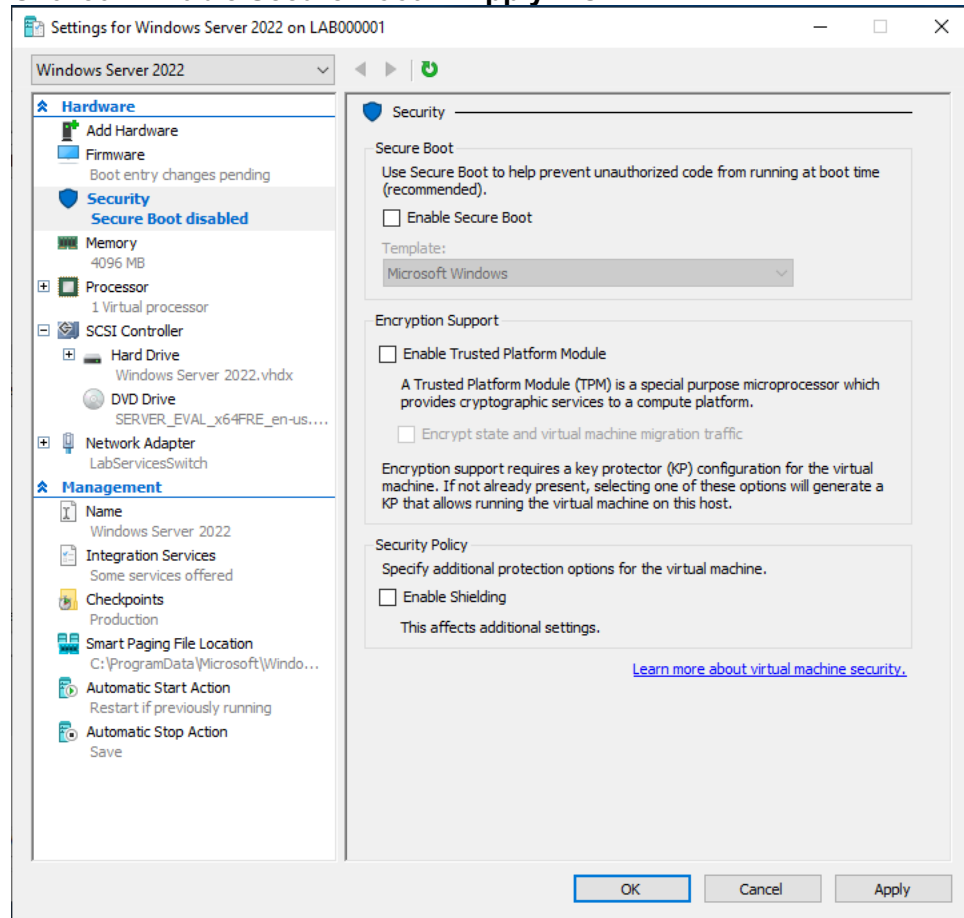
The new Windows Server 2022 VM is created



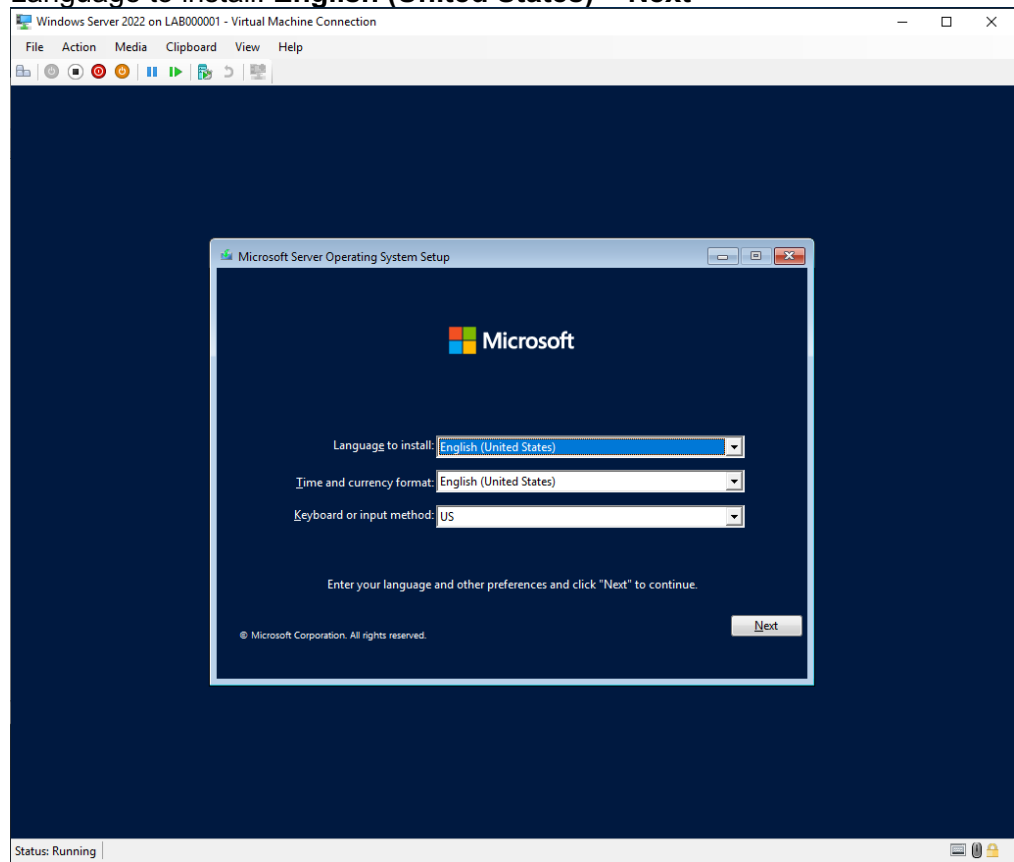
3. Install Windows Server 2022

a) Open Hyper-V

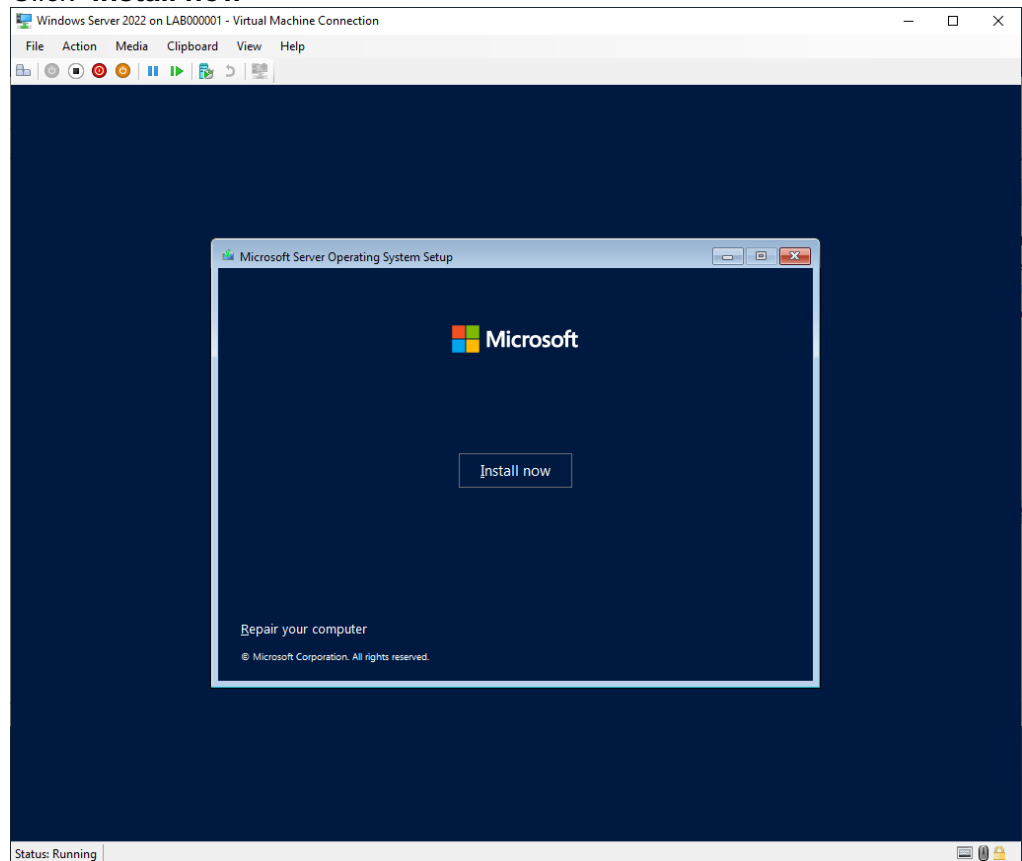
Right-click on **Windows Server 2022 VM** > **Settings...** > **Security** > Uncheck **"Enable Secure Boot"** > **Apply** > **OK**



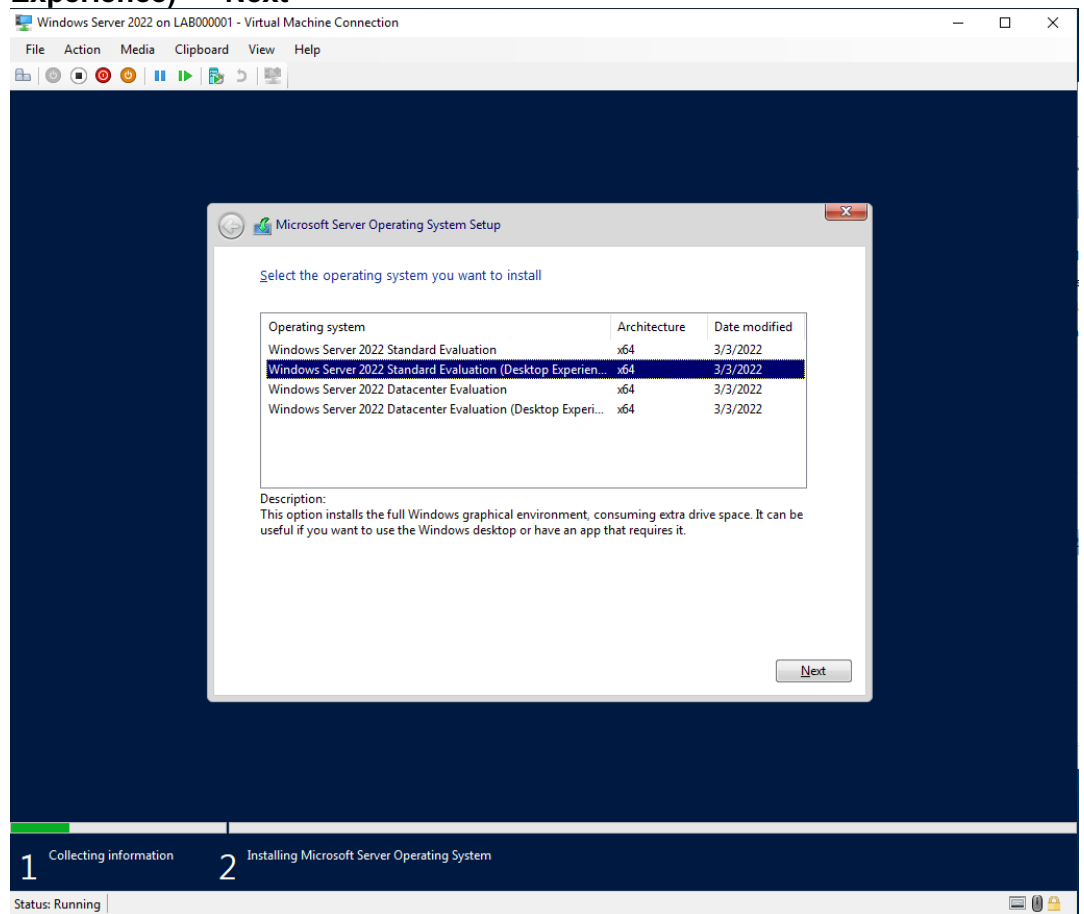
- b) In **Hyper-V**,
Right-click on **Windows Server 2022 VM > Connect**
(This will boot the OS from the DVD Drive using the ISO file)
Language to install: **English (United States) > Next**



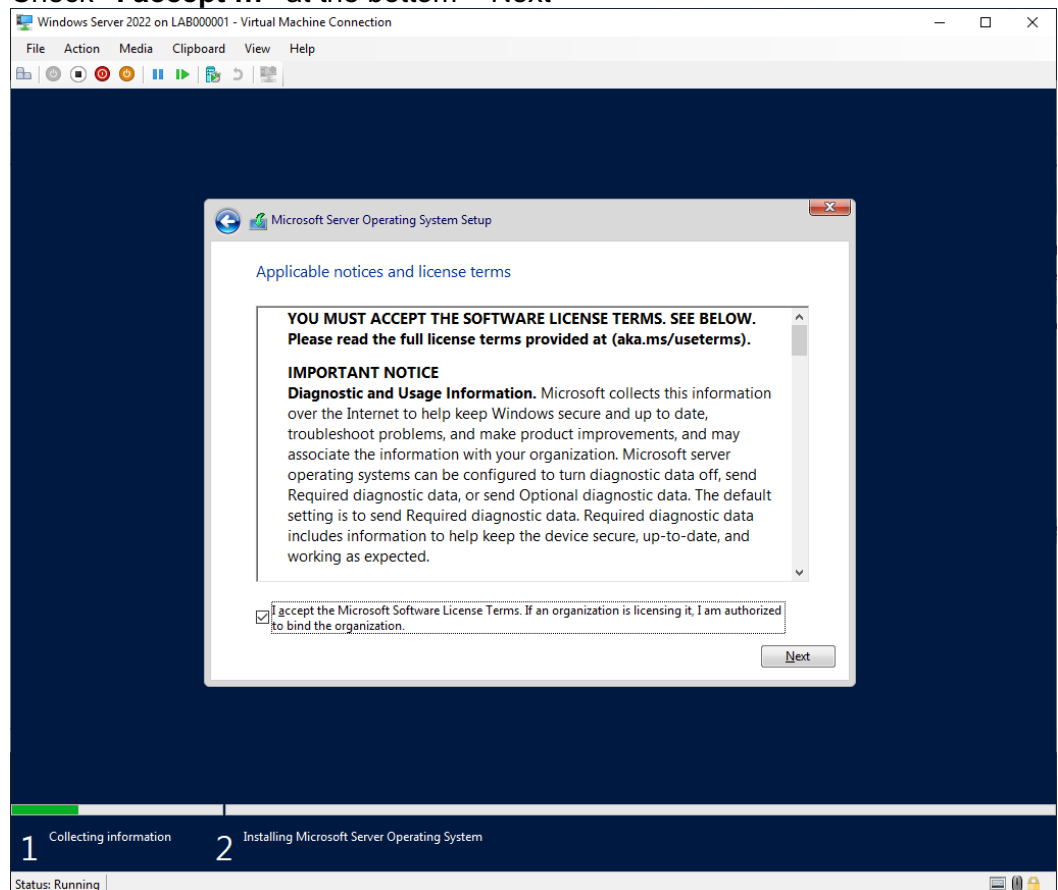
- c) Click **"Install now"**



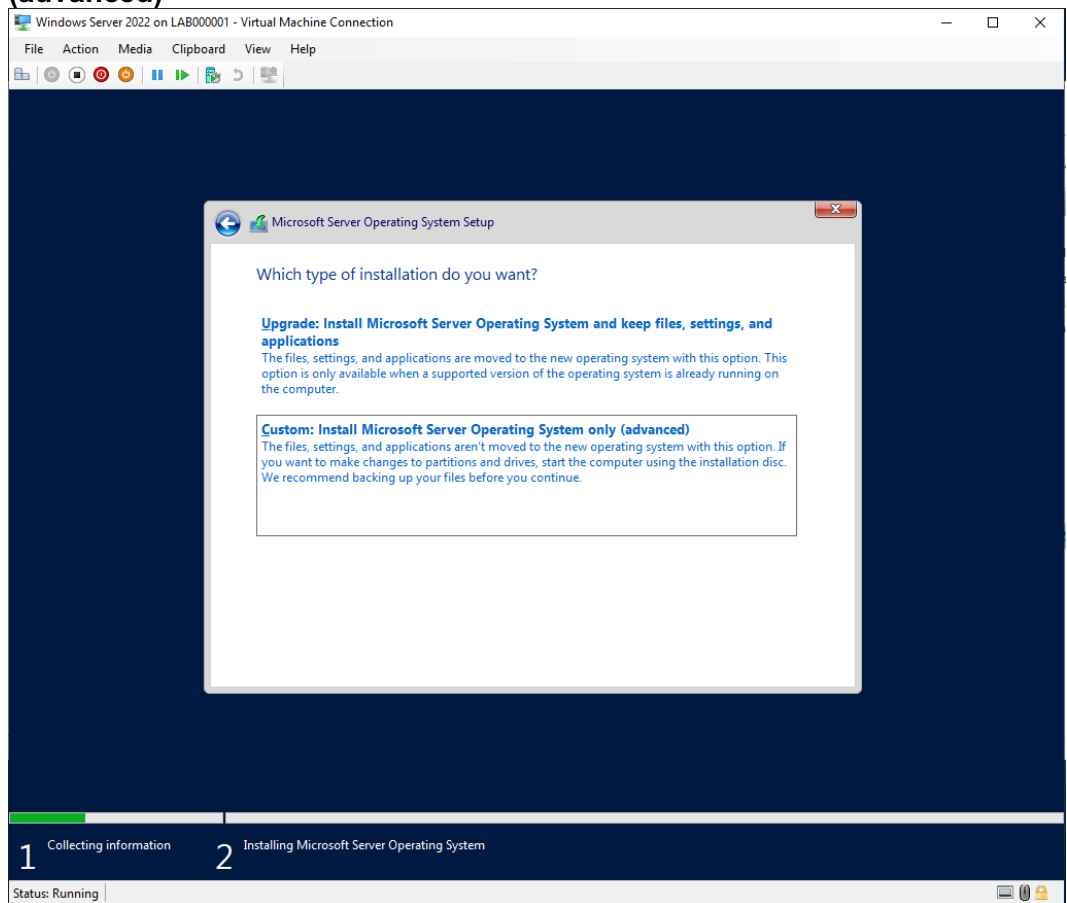
- d) Select “**Windows Server 2022 Standard Evaluation (Desktop Experience)**” > Next



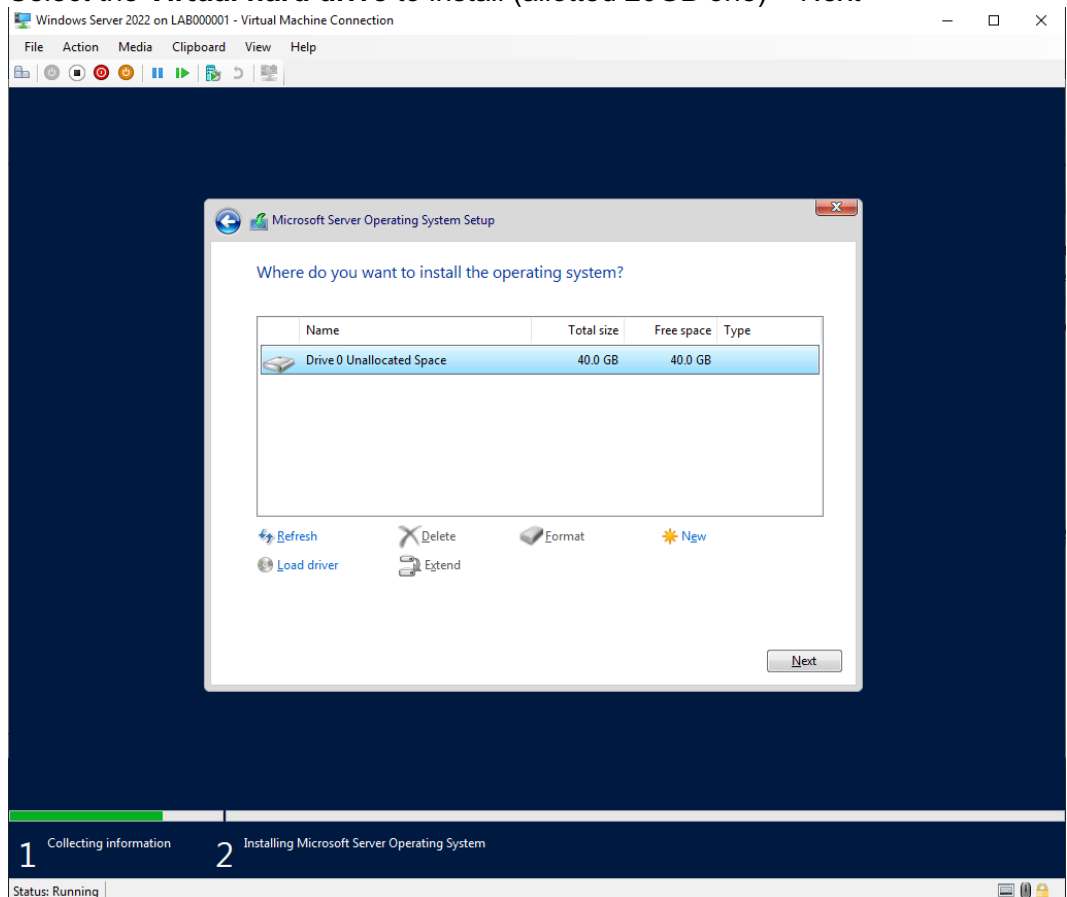
- e) Check “**I accept ...**” at the bottom > Next



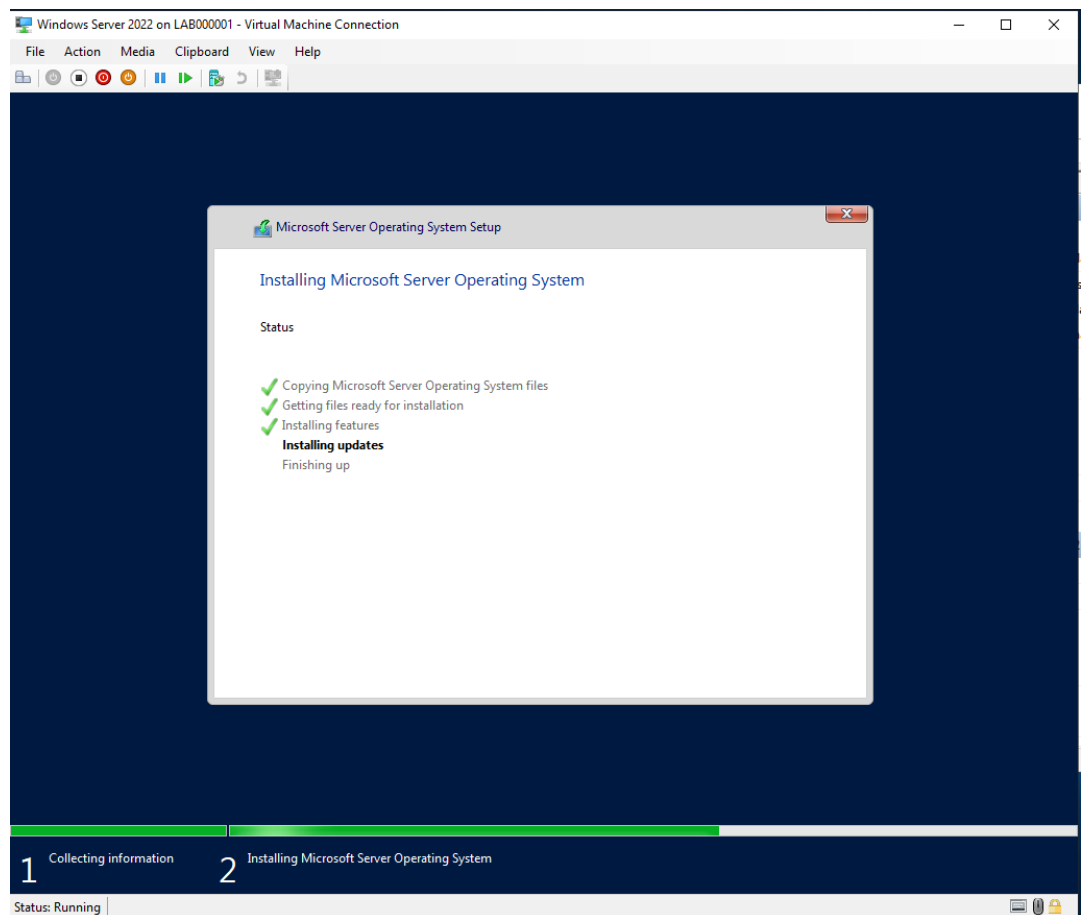
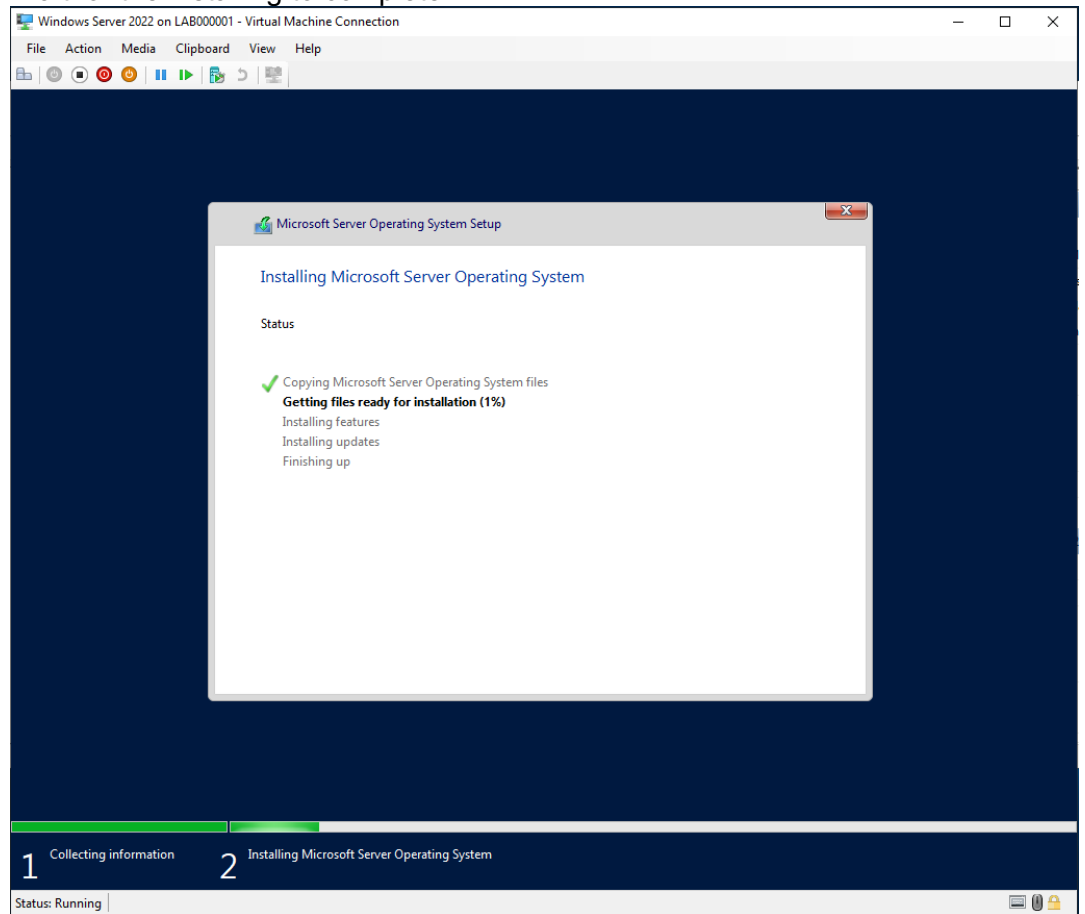
- f) Click “**Custom: Install Microsoft Server Operating System only (advanced)**”



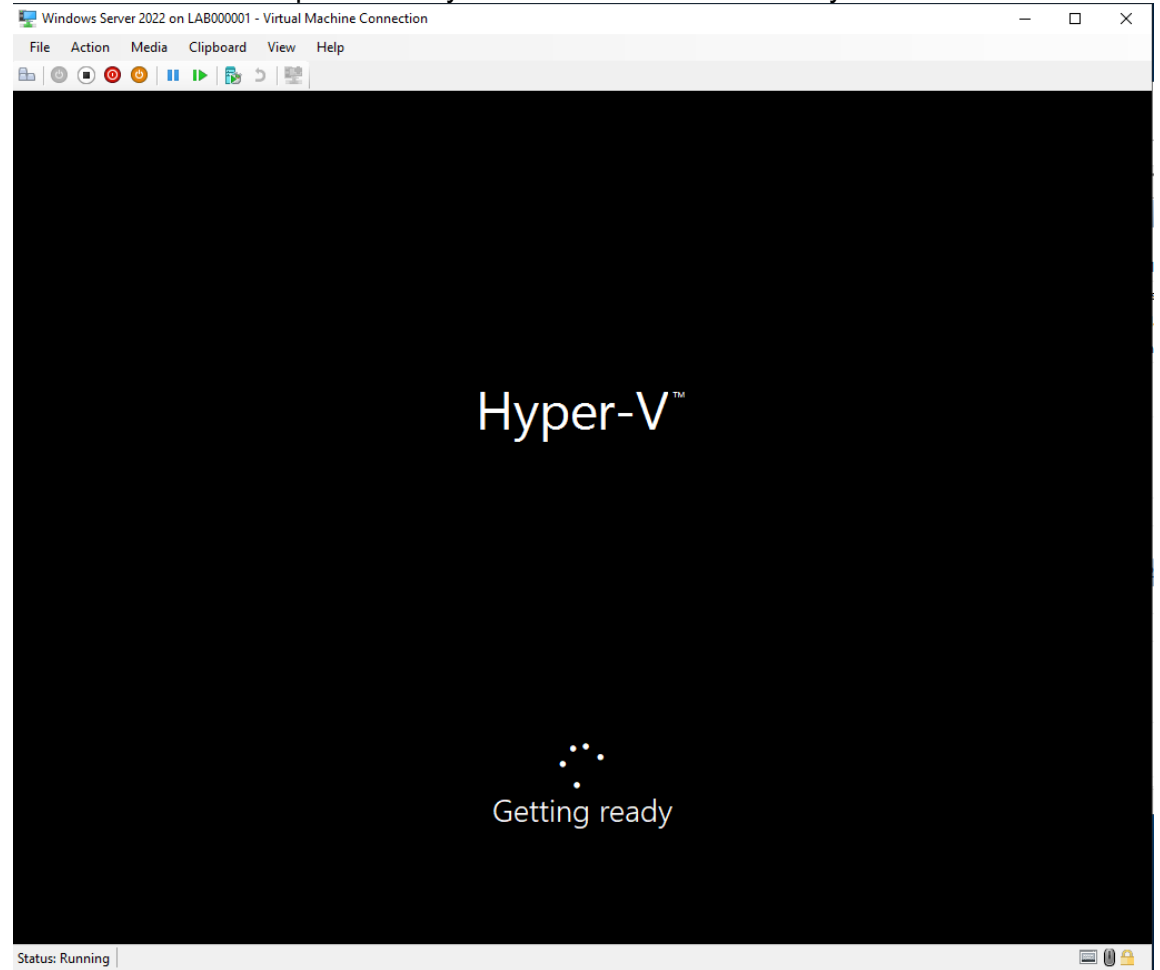
- g) Select the **Virtual hard drive** to install (allotted 20GB one) > Next



h) Wait for the installing to complete

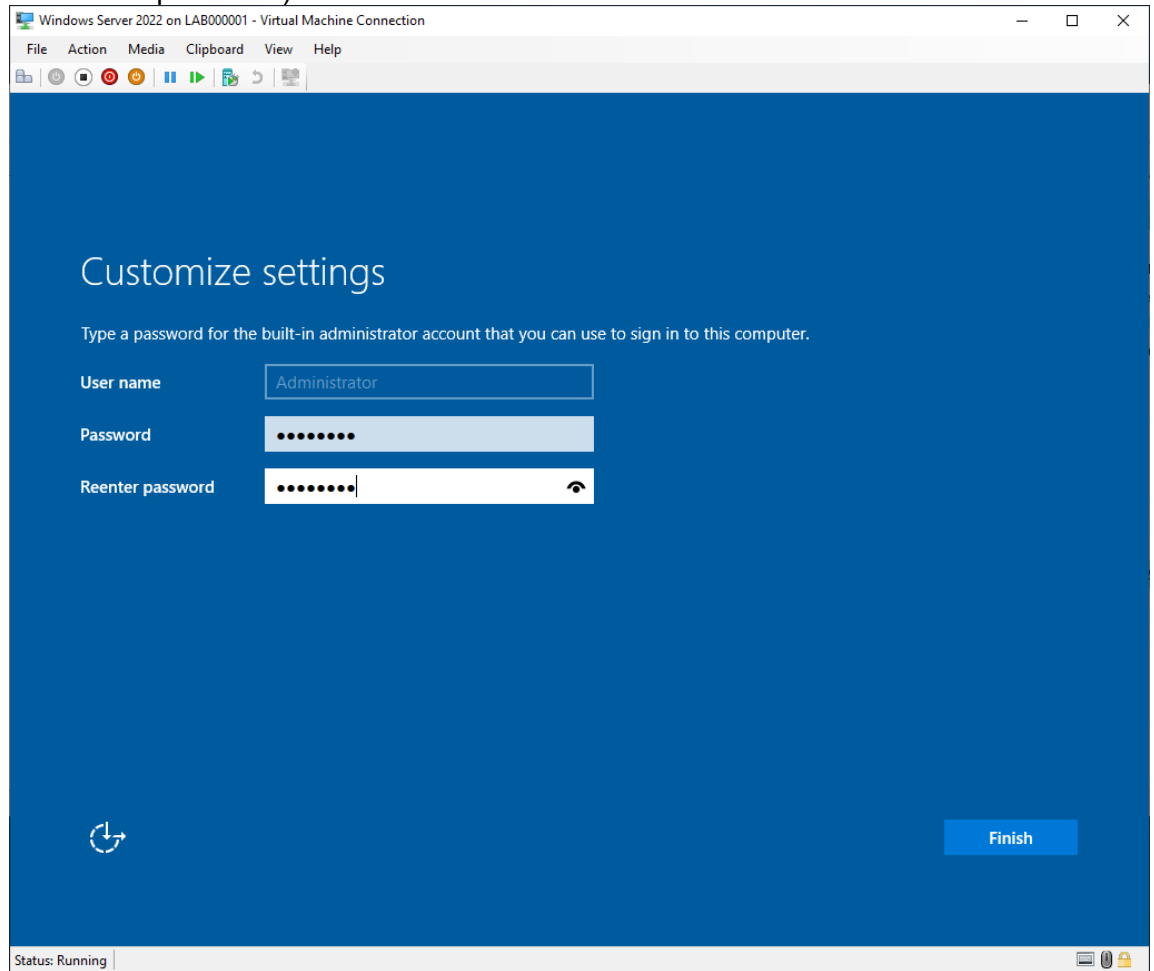


Once Installation completes the system will restart automatically

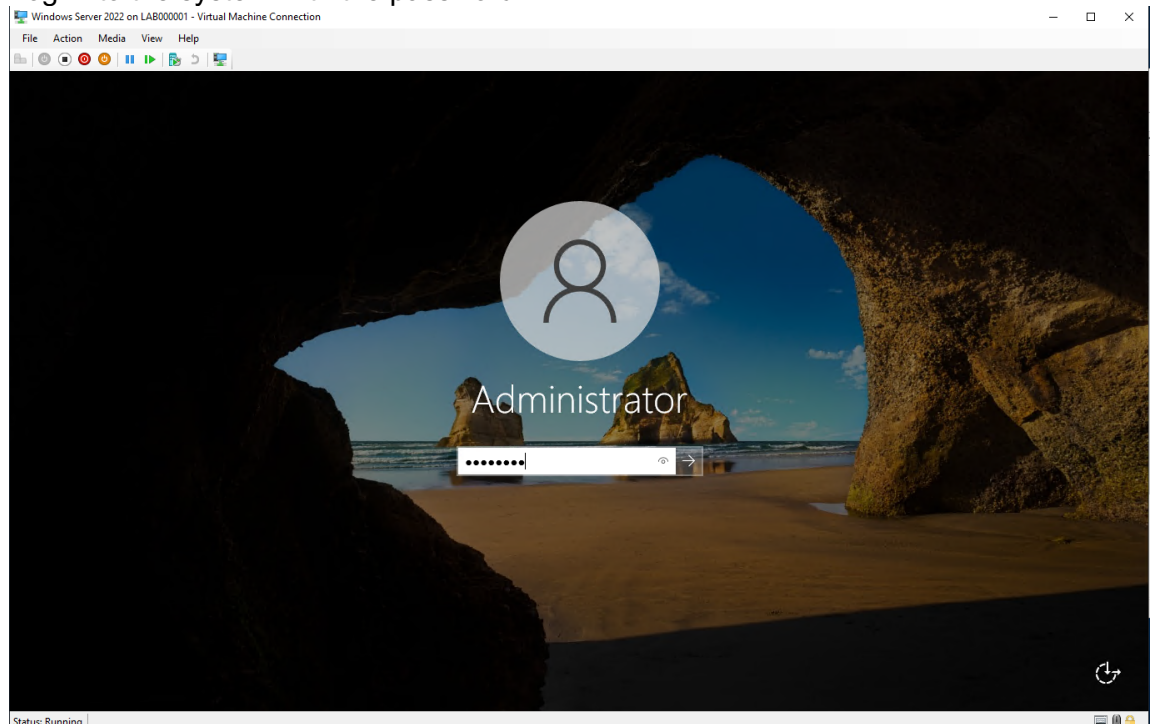


4. Check the Windows Server 2022 VM functioning

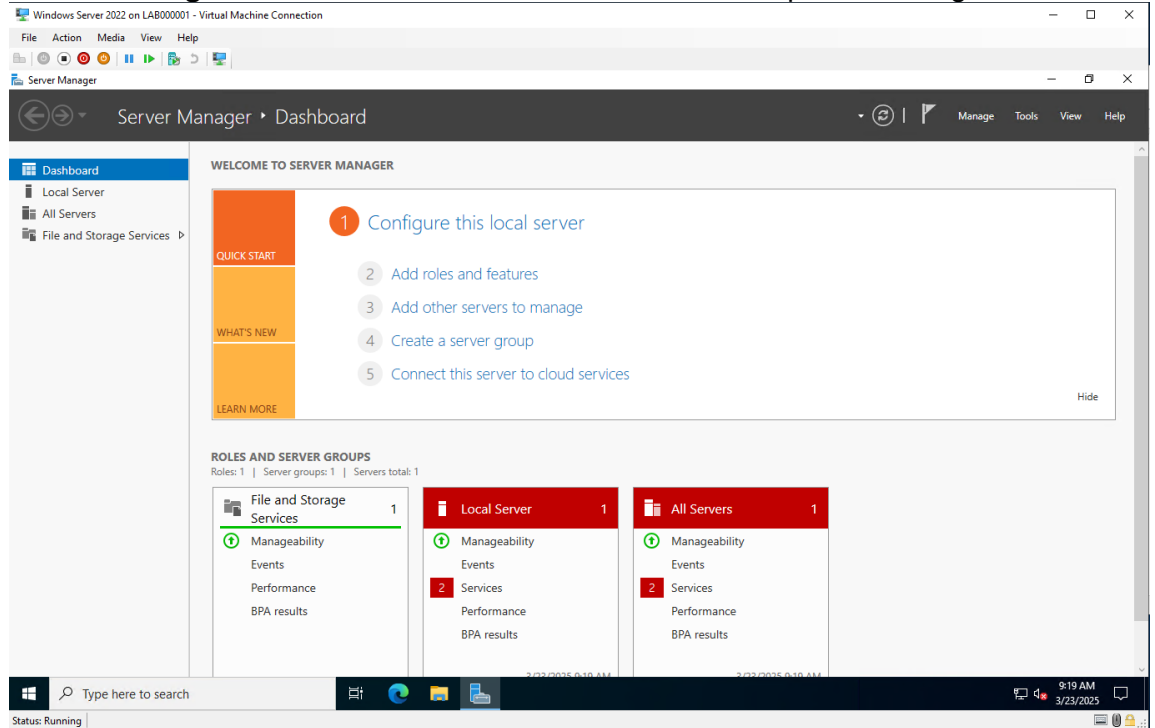
- When prompted, update the **Administrator Password** > Finish (Make a note of the password)



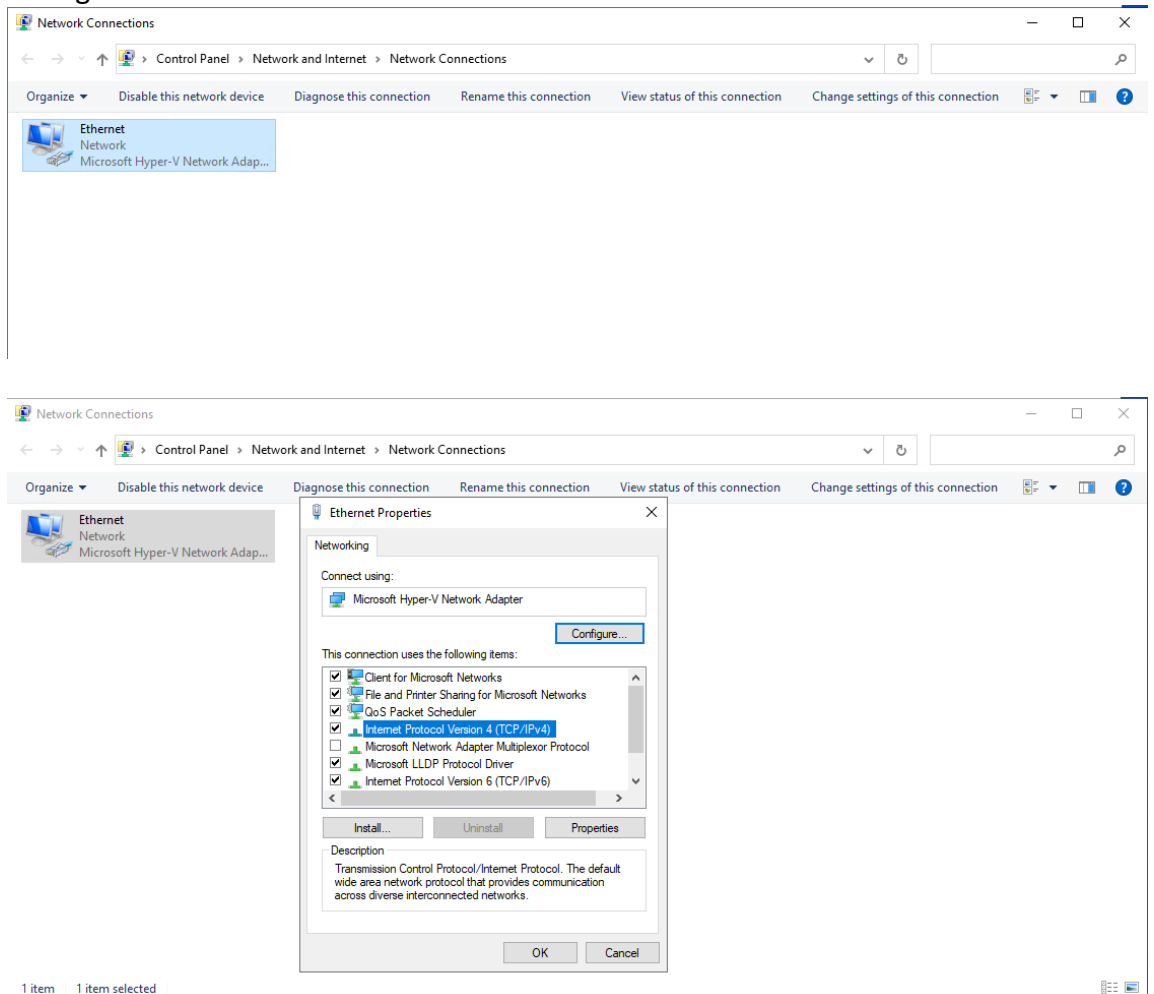
- Log in to the system with the password

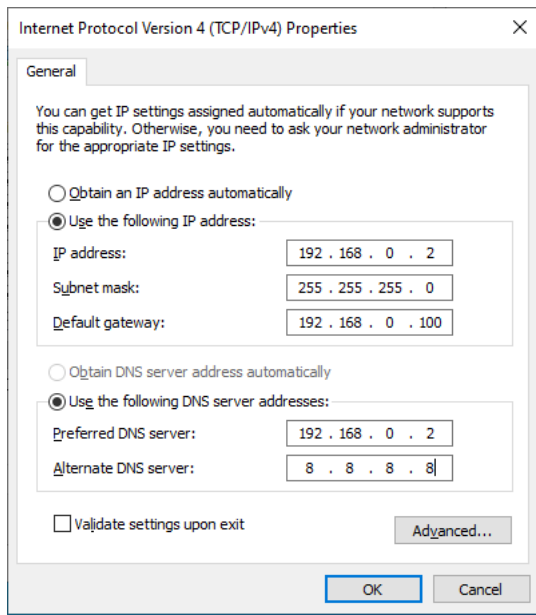


- **Server Manager of Windows Server 2022 VM should be up and running**



Configure Static IP Address:





Restart WinServer

Check IP Config in cmd prompt:

```
Administrator: Windows PowerShell
PS C:\Users\Administrator> ipconfig /all

Windows IP Configuration

Host Name . . . . . : WIN-QTCR162PPCS
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No

Ethernet adapter Ethernet:

Connection-specific DNS Suffix . :
Description . . . . . : Microsoft Hyper-V Network Adapter
Physical Address. . . . . : 00-15-5D-00-05-0B
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::a04e:81a8:9a0c:8f11%6(Preferred)
IPv4 Address. . . . . : 192.168.0.2(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.0.100
DHCPv6 IAID . . . . . : 100668765
DHCPv6 Client DUID. . . . . : 00-01-00-01-2F-72-E8-E1-00-15-5D-00-05-0B
DNS Servers . . . . . : 192.168.0.2
                        8.8.8.8
NetBIOS over Tcpip. . . . . : Enabled

PS C:\Users\Administrator>
```

Test Connectivity:

Ping the Ubuntu (WebServer):


```
Administrator: Windows PowerShell
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Administrator> ping 192.168.0.3

Pinging 192.168.0.3 with 32 bytes of data:
Reply from 192.168.0.3: bytes=32 time<1ms TTL=64
Reply from 192.168.0.3: bytes=32 time<1ms TTL=64
Reply from 192.168.0.3: bytes=32 time<1ms TTL=64
Reply from 192.168.0.3: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
PS C:\Users\Administrator> _
```