Installing a Windows 10 Virtual Machine on Windows 11 host

The Windows 11 H2/24 update removed support for the browser Http protocol supported on prior versions of the Windows operating system. Captools/net software uses the Http protocol because it does not require server certificates which typically involve additional third-party fees and special installation procedures.

Unless and until Captools can provide for the Https protocol now required by Windows 11, we recommend that users with Windows 11 (and later) computers install a Windows 10 "virtual machine" on their physical Windows 11 machine.

The Windows 11 Pro version supports virtual machine using its "Hyper-V Manager" tool. If you have a "Home" edition of Windows 11, you must first upgrade that to the "Pro" edition.

You must have Windows 10 License. This may be available online for a price from third party resellers, or you may be able to convert an existing Windows 10 machine to an "ISO" image which can be hosted by your virtual machine. Here are a couple links to online instructions on how this can be done :

3 Ways: Create Windows 10/11 ISO Image from Existing Installation - MiniTool

How to Create an ISO Image from Your Operating System

Downloading Media Creation Tool to create Windows-10.iso File

If you do not have an ISO image file made from an existing Windows 10 machine per one of the above links, you can download a Windows 10 ISO creation tool **MediaCreationTool_22H2.exe** from Microsoft at the following link:

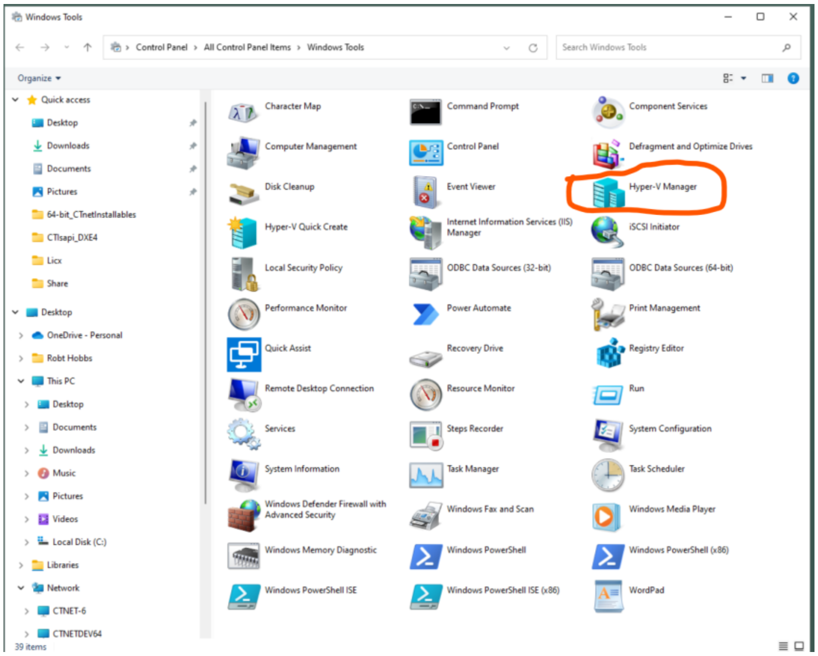
Download Windows 10

Run the MediaCreationTool_22H2.exe . Choose the option "Create Installation Media" to create the Windows 10 Installation ISO file (Windows.iso) on your Windows 11 host machine (ignore the note that this option will require "burning to a DVD"). This process will take some time. We suggest you specify saving the "Windows.iso" file in a folder you create on a drive with at least 8GB of free space. The Windows.iso file will be used later in this virtual machine creation process.

You will still need a valid Windows 10 license key but this will be later in the process, and can be deferred temporarily until you start using the virtual machine.

Activating Windows Hyper-V Manager

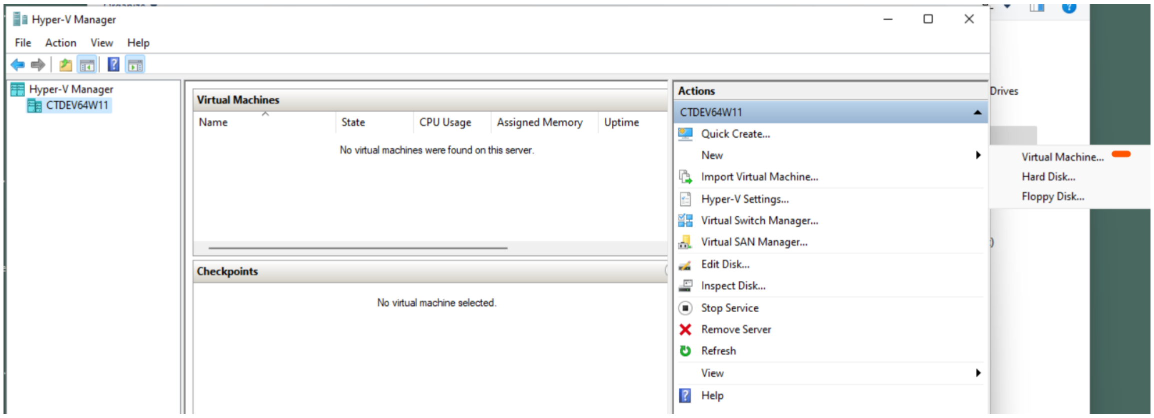
If your Hyper-V Manager is already activated on your Windows 11, you can start it by opening the list of Windows 11 Apps, going to "Windows Tools" and look for "Hyper-V Manager".



If do not see “Hyper-V”, on the list, open the Windows Control Panel and click on “Programs & Features” and click on “Turn on Windows Features”, find the “Hyper-V” feature and check the checkbox to turn it on letting Windows complete the setup which may include restarting your machine. Upon returning to the “Windows Tools” you should see the “Hyper-V Manager” tool. We suggest that you pin this to your Windows Task bar as you will need access to this tool whenever you are going to start your virtual machine.

Creating a New Virtual Machine

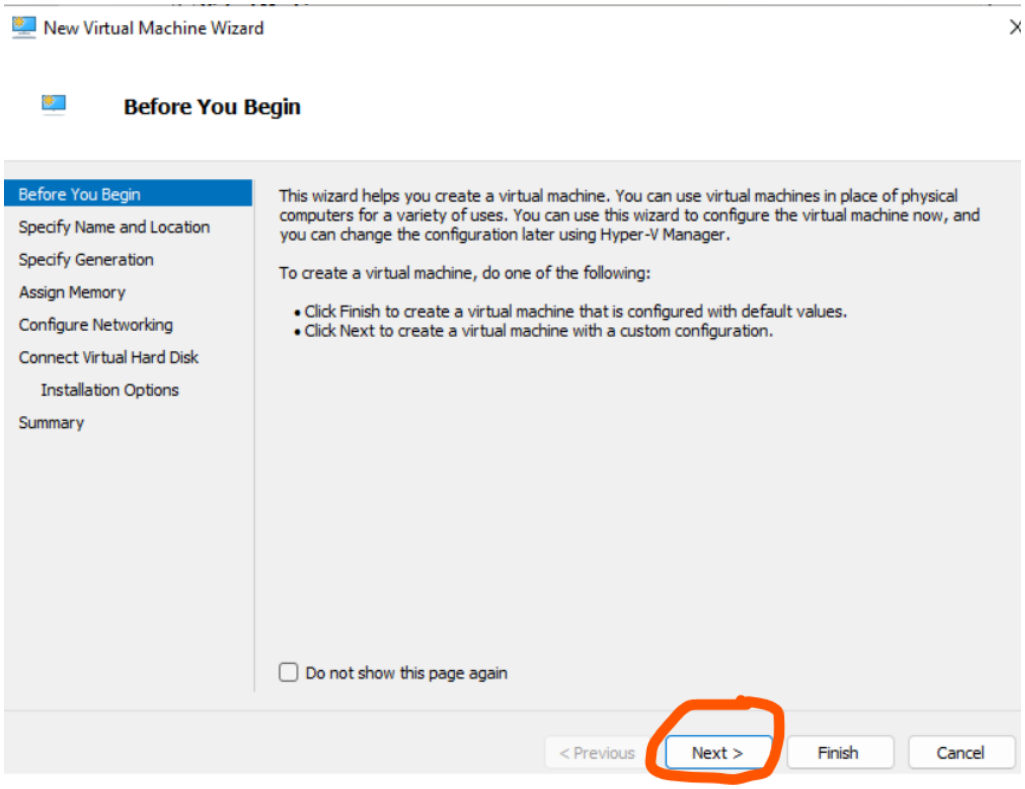
Open your Hyper-V manager, select your machine name that appears in the upper left corner and click on “New/Virtual Machine:



No virtual machines were found on this server.

No virtual machine selected.

Use the “Virtual Machine Wizard” to proceed through the setup.



This wizard helps you create a virtual machine. You can use virtual machines in place of physical computers for a variety of uses. You can use this wizard to configure the virtual machine now, and you can change the configuration later using Hyper-V Manager.

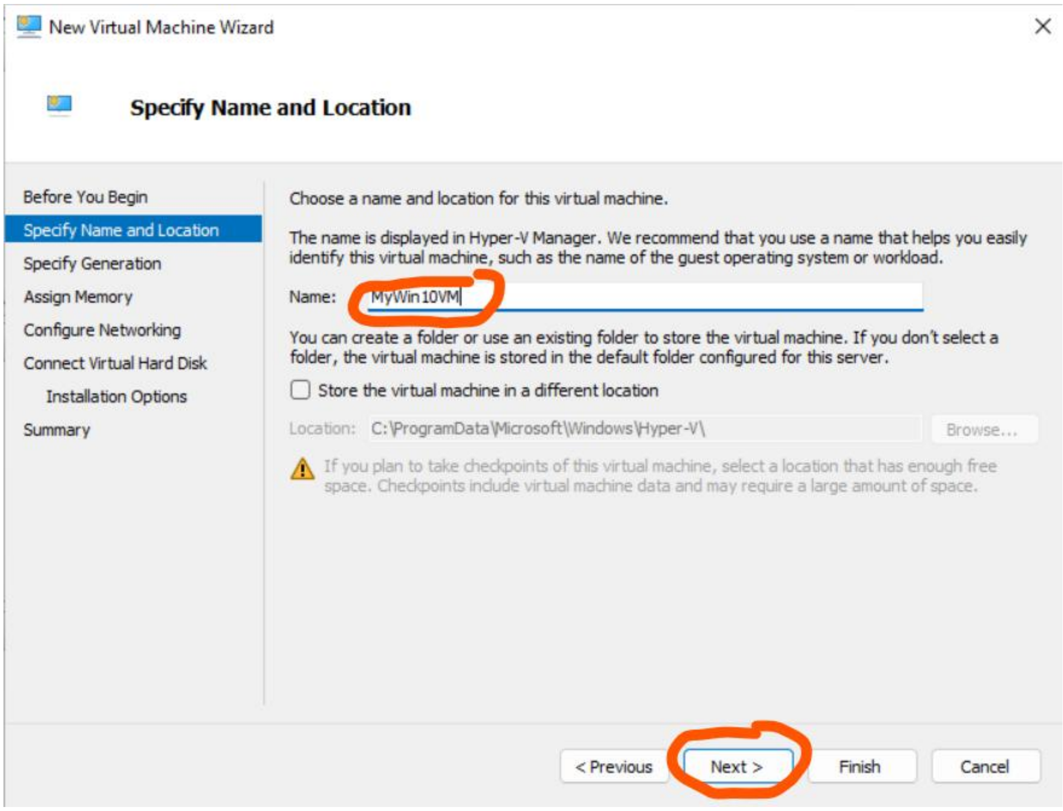
To create a virtual machine, do one of the following:

- Click Finish to create a virtual machine that is configured with default values.
- Click Next to create a virtual machine with a custom configuration.

☐ Do not show this page again

(Note if the Hyper-V Manager does not show the “actions” in the preceding example it may be due to the host machine having “virtualization support” disabled, which may require modification to the machine BIOS/UEFI settings, for which you may need 3rd party assistance to resolve).

Assign a name for your virtual machine:



Choose a name and location for this virtual machine.

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.

Name: MyWin10VM

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.

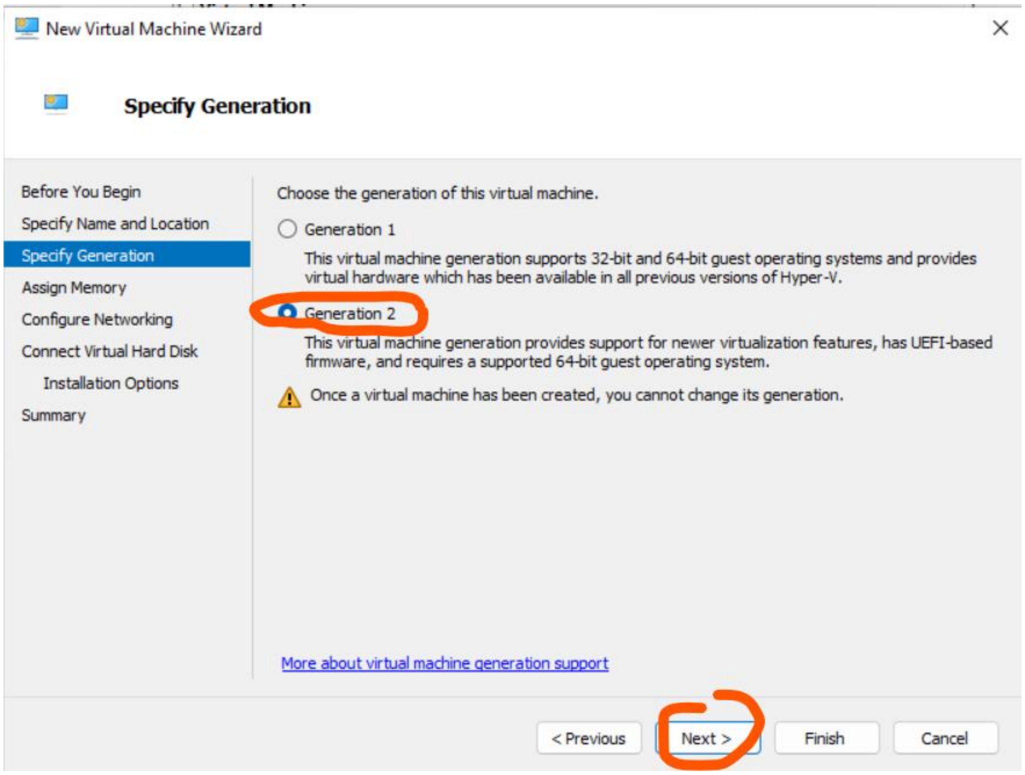
☐ Store the virtual machine in a different location

Location: C:\ProgramData\Microsoft\Windows\Hyper-V\

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.

Specify Generation 2

Specify Generation 2 because it supports the security methodology “UEFI” boot security supported by Windows 10 and higher. (in some rare cases you may need to restart and use Generation 1 if the your host machine only supports the old virtualization methods)



Specify Generation

Choose the generation of this virtual machine.

○ Generation 1

This virtual machine generation supports 32-bit and 64-bit guest operating systems and provides virtual hardware which has been available in all previous versions of Hyper-V.

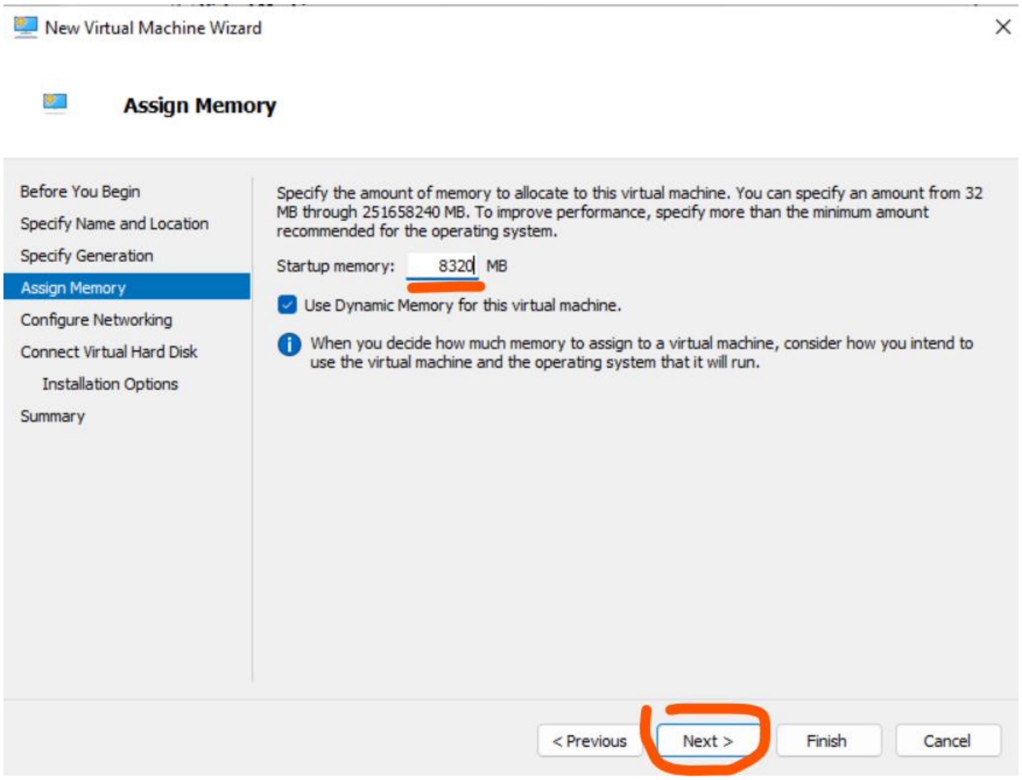
● Generation 2

This virtual machine generation provides support for newer virtualization features, has UEFI-based firmware, and requires a supported 64-bit guest operating system.

⚠ Once a virtual machine has been created, you cannot change its generation.

More about virtual machine generation support

Assign enough memory to this virtual machine. If your host machine has 16 GB of RAM we would suggest allocating up to 8 GB (8320M) of RAM to the virtual machine, more if you have more memory.



Assign Memory

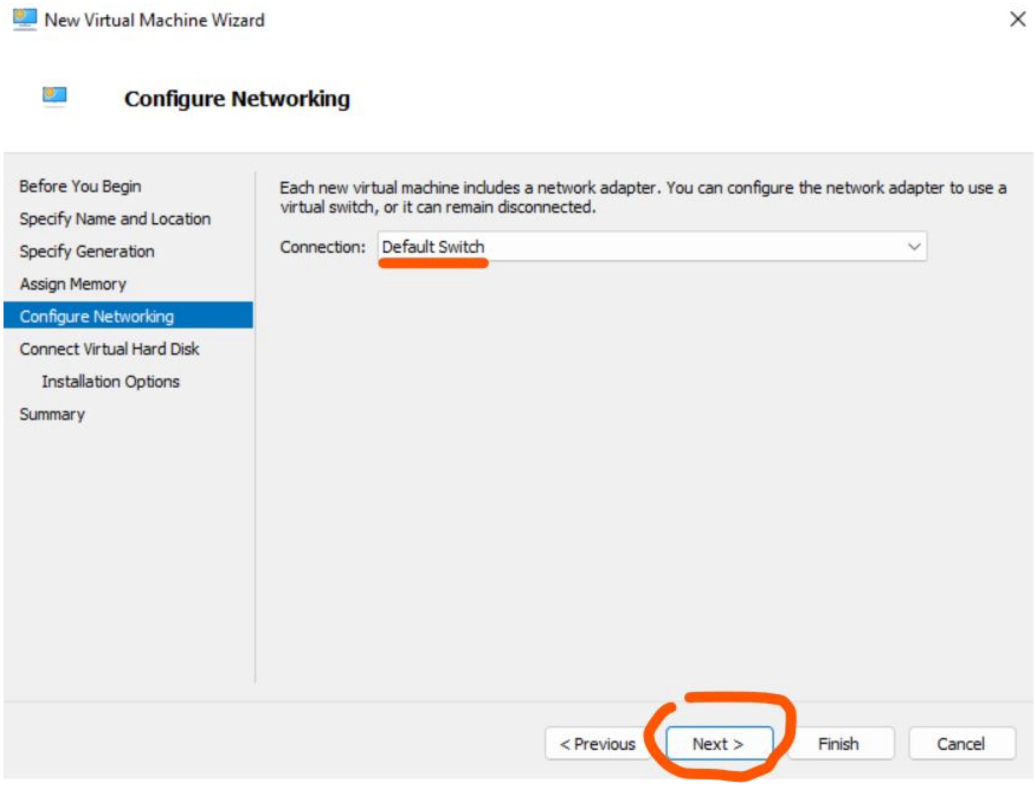
Specify the amount of memory to allocate to this virtual machine. You can specify an amount from 32 MB through 251658240 MB. To improve performance, specify more than the minimum amount recommended for the operating system.

Startup memory: 8320 MB

☑ Use Dynamic Memory for this virtual machine.

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.

Specify “Default Switch” for Networking:

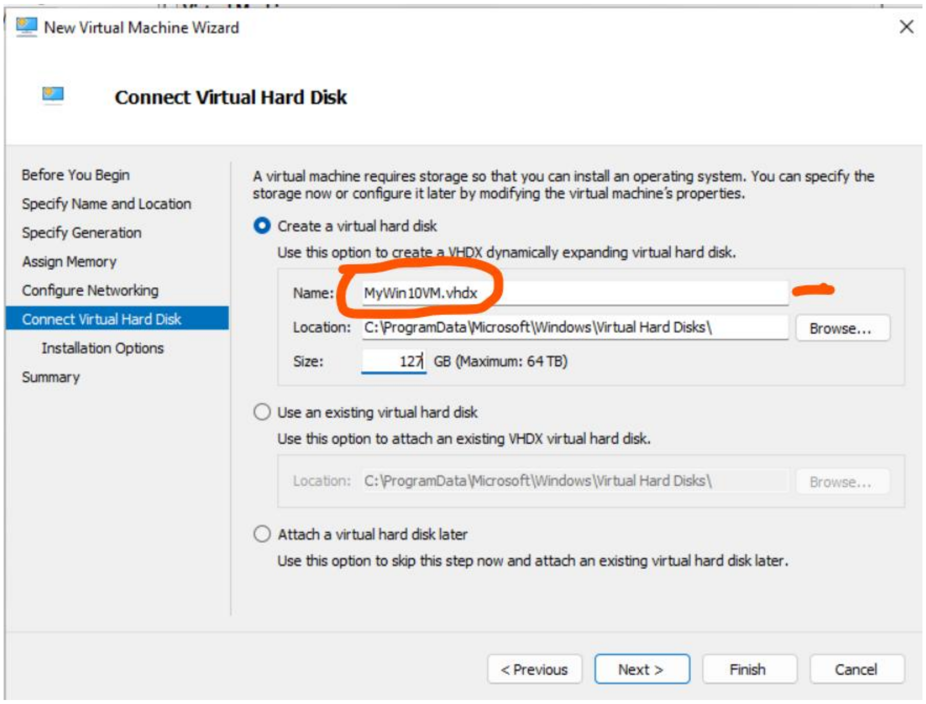


Configure Networking

Each new virtual machine includes a network adapter. You can configure the network adapter to use a virtual switch, or it can remain disconnected.

Connection: Default Switch

Specify the filename and location for storing the virtual hard drive contents. The Windows default location (as shown below) is ok, but you can change it later if you need to. The default drive size, shown below is fine, but if you specify less, remember that the VM operating system will take up around 30 GB of space leaving the balance for your programs and data, including any data backups you leave on the VM drive:



Connect Virtual Hard Disk

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.

● Create a virtual hard disk

Use this option to create a VHDX dynamically expanding virtual hard disk.

Name: MyWin10VM.vhdx

Location: C:\ProgramData\Microsoft\Windows\Virtual Hard Disks\

Size: 127 GB (Maximum: 64 TB)

○ Use an existing virtual hard disk

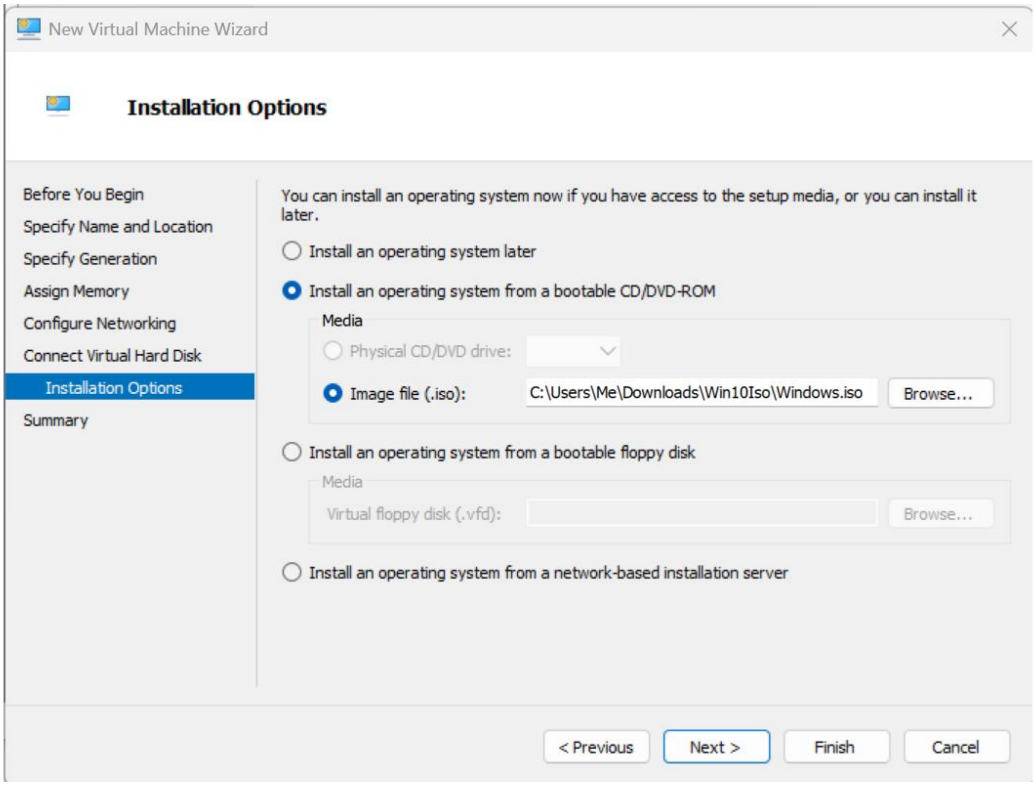
Use this option to attach an existing VHDX virtual hard disk.

Location: C:\ProgramData\Microsoft\Windows\Virtual Hard Disks\

○ Attach a virtual hard disk later

Use this option to skip this step now and attach an existing virtual hard disk later.

Specify the path to Windows 10 ISO (Windows.iso) file you generated earlier with the Media Creation tool:



Installation Options

You can install an operating system now if you have access to the setup media, or you can install it later.

○ Install an operating system later

● Install an operating system from a bootable CD/DVD-ROM

Media

○ Physical CD/DVD drive:

● Image file (.iso): C:\Users\Me\Downloads\Win10Iso\Windows.iso Browse...

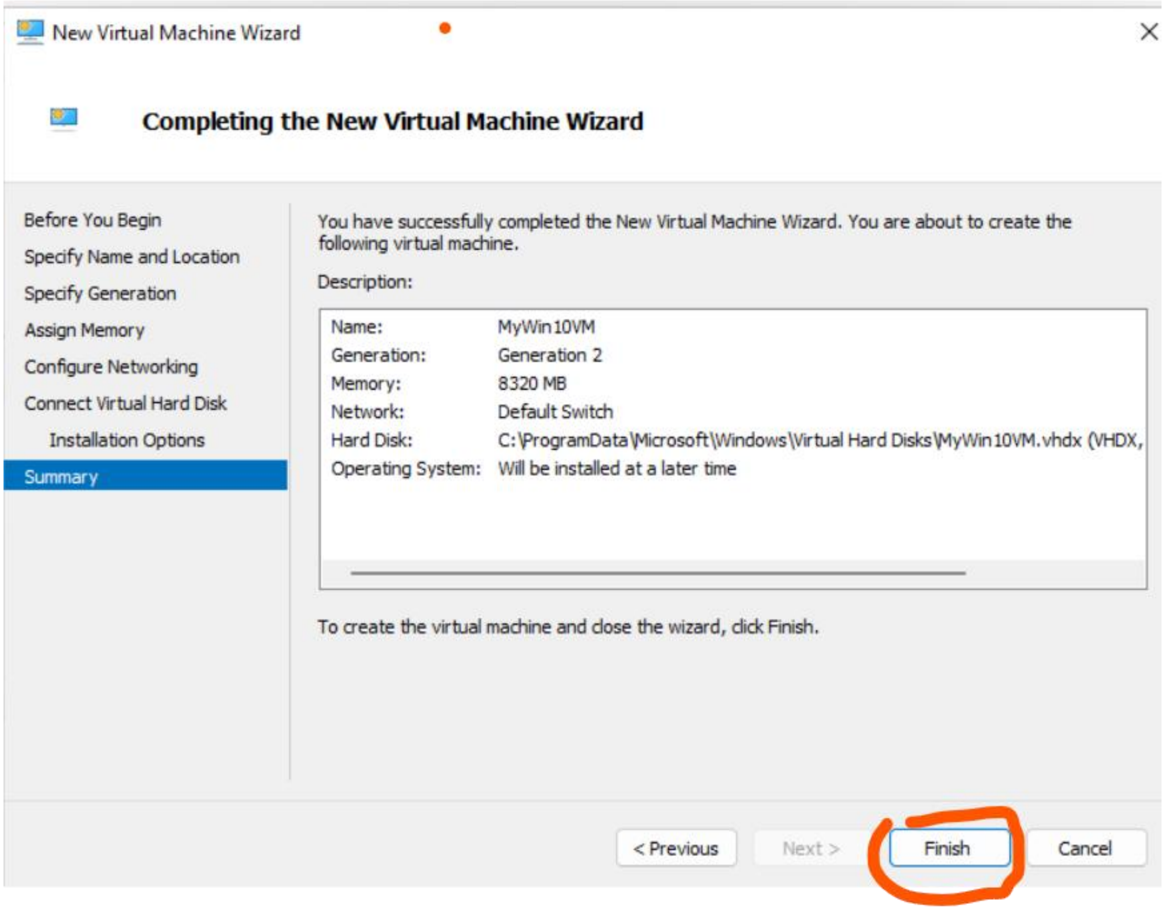
○ Install an operating system from a bootable floppy disk

Media

Virtual floppy disk (.vfd): Browse...

○ Install an operating system from a network-based installation server

Complete the creation of the VM framework on the host machine:



Completing the New Virtual Machine Wizard

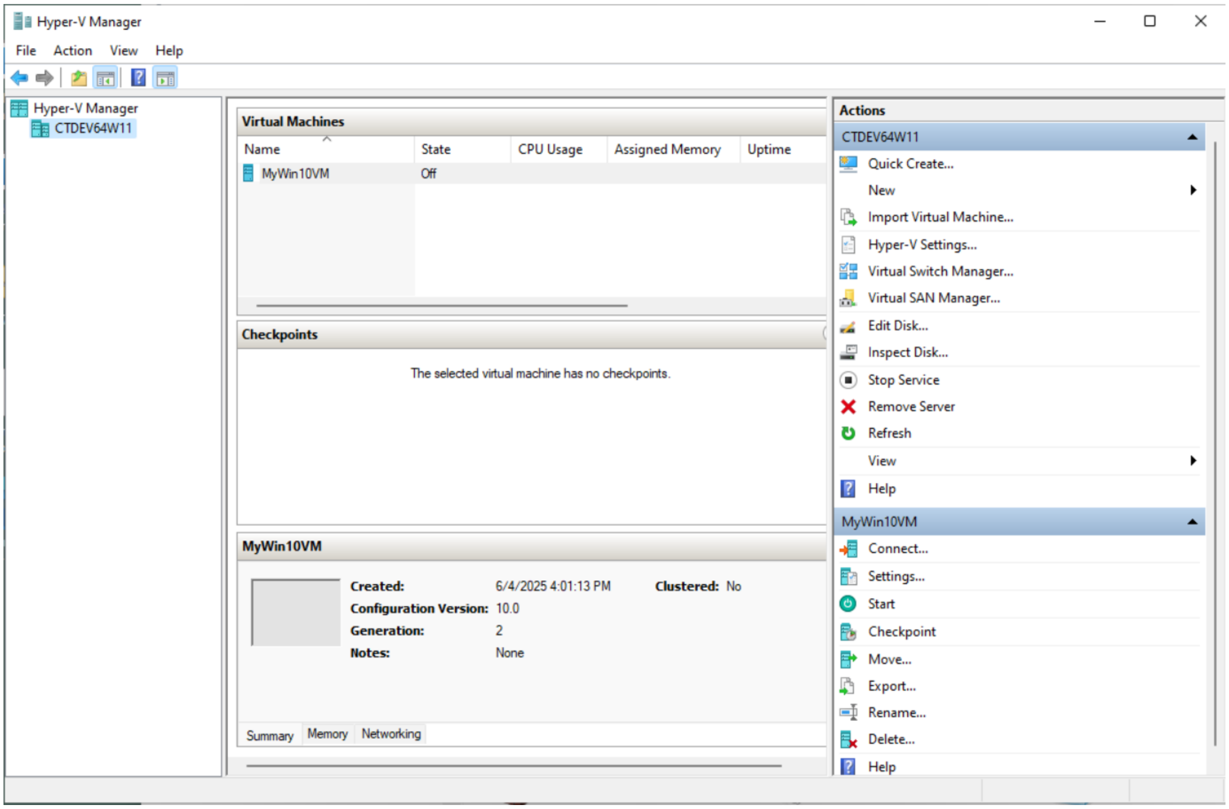
You have successfully completed the New Virtual Machine Wizard. You are about to create the following virtual machine.

Description:

```
Name:              MyWin10VM
Generation:        Generation 2
Memory:            8320 MB
Network:           Default Switch
Hard Disk:         C:\ProgramData\Microsoft\Windows\Virtual Hard Disks\MyWin10VM.vhdx (VHDX,
Operating System:  Will be installed at a later time
```

To create the virtual machine and close the wizard, click Finish.

You will now see your VM in the Hyper-V Manager interface as follows:



Virtual Machines

Name	State	CPU Usage	Assigned Memory	Uptime
MyWin10VM	Off			

Checkpoints

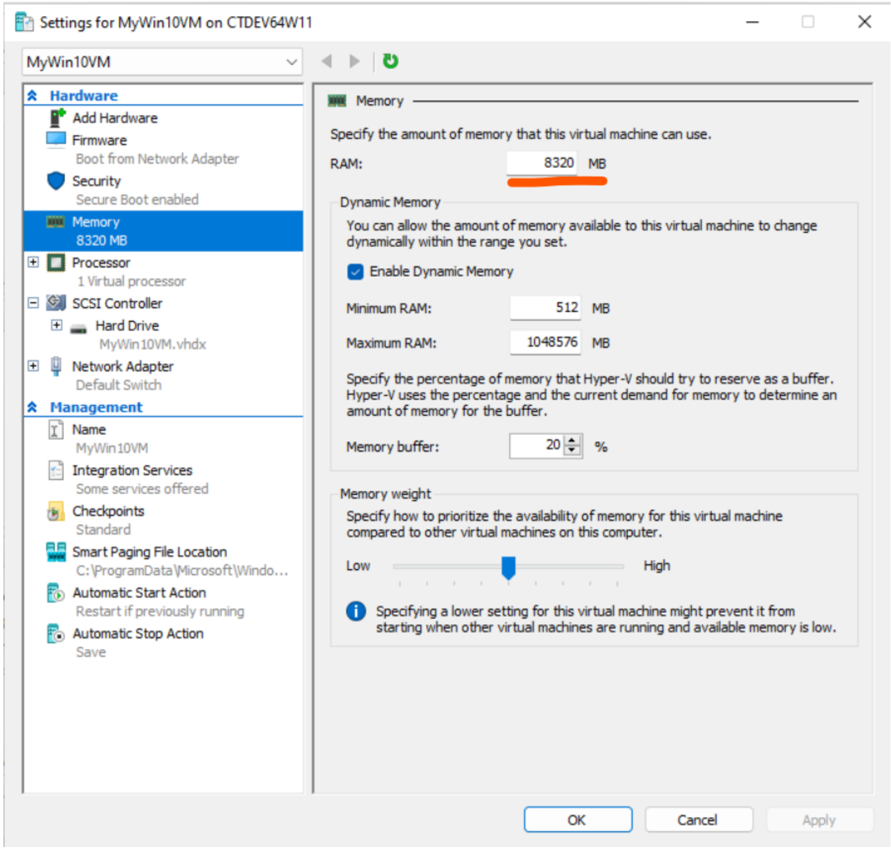
The selected virtual machine has no checkpoints.

MyWin10VM

Created: 6/4/2025 4:01:13 PM
Clustered: No
Configuration Version: 10.0
Generation: 2
Notes: None

In the lower right, select the “Settings” for review, as there are a couple things you may need to change.

If you want to increase or decrease the amount of RAM memory allocated to your VM, you can do that here (note: this example shows a SCSI controller, an IDE controller is also Ok):



Memory

Specify the amount of memory that this virtual machine can use.

RAM: 8320 MB

Dynamic Memory

You can allow the amount of memory available to this virtual machine to change dynamically within the range you set.

☑ Enable Dynamic Memory

Minimum RAM: 512 MB

Maximum RAM: 1048576 MB

Specify the percentage of memory that Hyper-V should try to reserve as a buffer. Hyper-V uses the percentage and the current demand for memory to determine an amount of memory for the buffer.

Memory buffer: 20 %

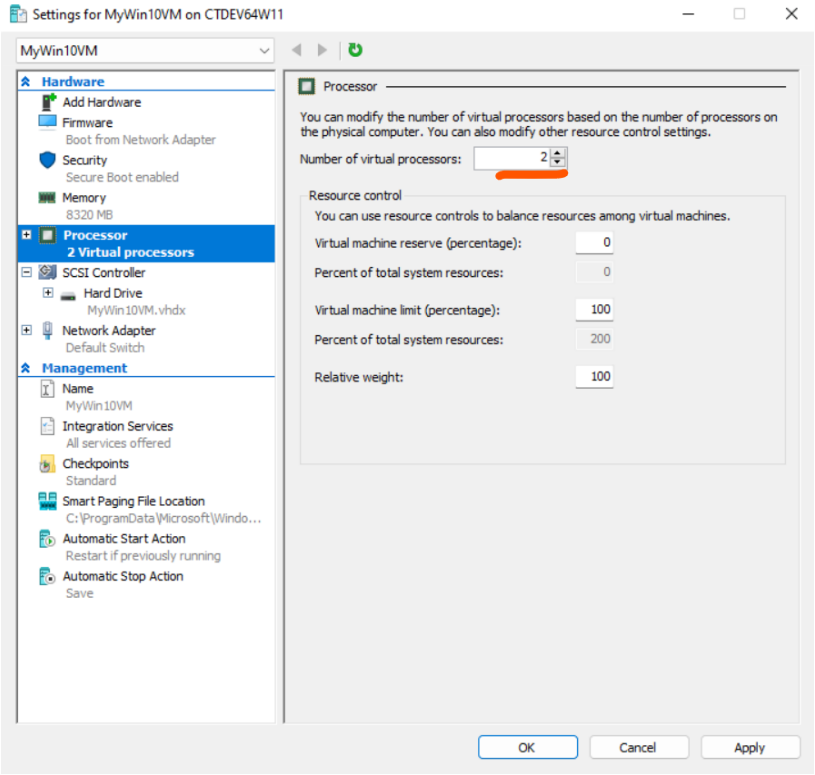
Memory weight

Specify how to prioritize the availability of memory for this virtual machine compared to other virtual machines on this computer.

Low High

Specifying a lower setting for this virtual machine might prevent it from starting when other virtual machines are running and available memory is low.

We suggest specifying at least 2 or 3 processors for the virtual machine (more means better performance for the VM, but lower performance for the host machine) as shown here:


Settings for MyWin10VM on CTDEV64W11

MyWin10VM

Processor

You can modify the number of virtual processors based on the number of processors on the physical computer. You can also modify other resource control settings.

Number of virtual processors: 2

Resource control

You can use resource controls to balance resources among virtual machines.

Virtual machine reserve (percentage): 0

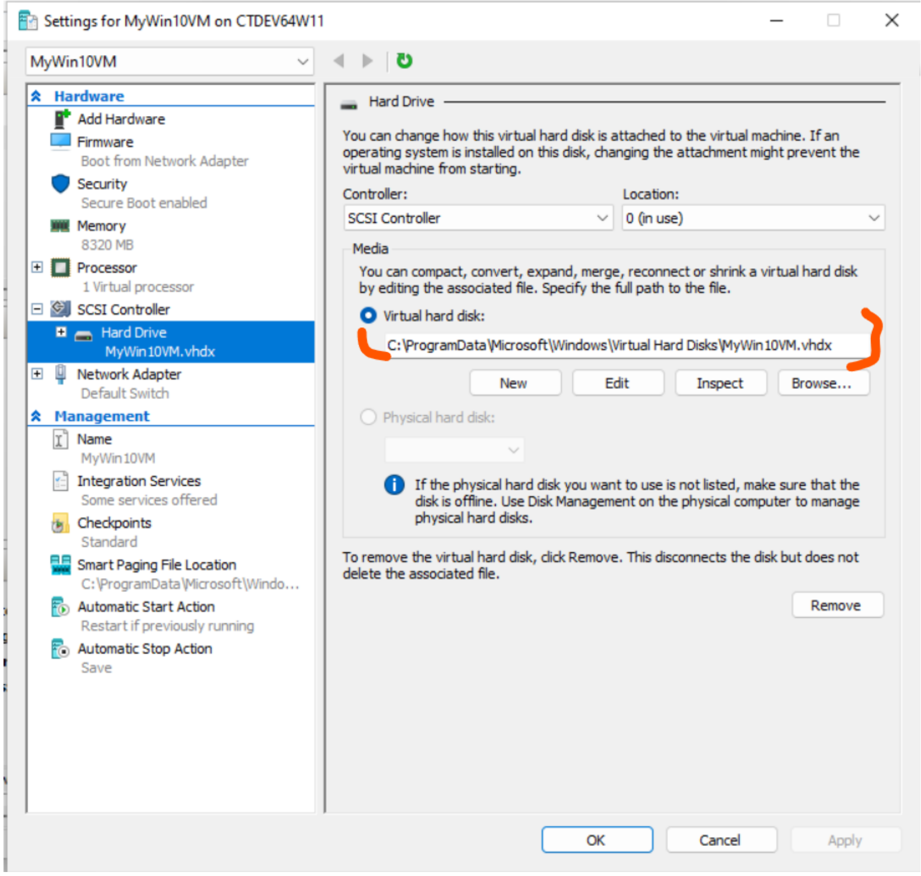
Percent of total system resources: 0

Virtual machine limit (percentage): 100

Percent of total system resources: 200

Relative weight: 100

If you want to change the location or name of the file that contains your VM, you can do this here (note: this example shows a "SCSI" drive controller, an IDE controller is also OK):


Settings for MyWin10VM on CTDEV64W11

MyWin10VM

Hard Drive

You can change how this virtual hard disk is attached to the virtual machine. If an operating system is installed on this disk, changing the attachment might prevent the virtual machine from starting.

Controller: SCSI Controller

Location: 0 (in use)

Media

You can compact, convert, expand, merge, reconnect or shrink a virtual hard disk by editing the associated file. Specify the full path to the file.

● Virtual hard disk:

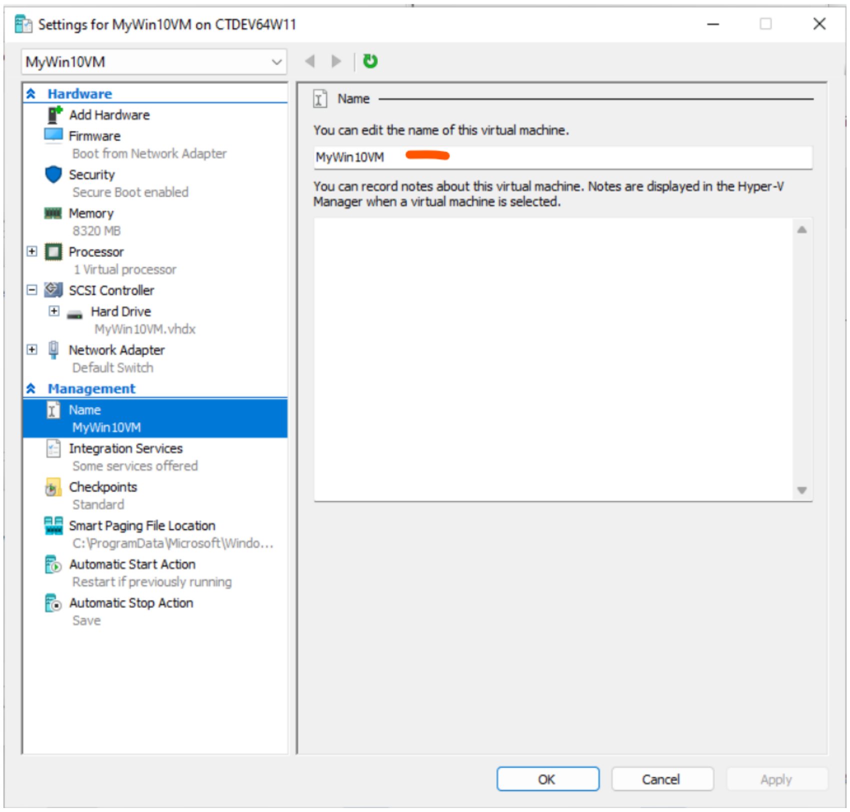
C:\ProgramData\Microsoft\Windows\Virtual Hard Disks\MyWin10VM.vhdx

○ Physical hard disk:

If the physical hard disk you want to use is not listed, make sure that the disk is offline. Use Disk Management on the physical computer to manage physical hard disks.

To remove the virtual hard disk, click Remove. This disconnects the disk but does not delete the associated file.

You can change the name of the VM here:



Settings for MyWin10VM on CTDEV64W11

MyWin10VM

Hardware
- Add Hardware
- Firmware
  Boot from Network Adapter
- Security
  Secure Boot enabled
- Memory
  8320 MB
- Processor
  1 Virtual processor
- SCSI Controller
  - Hard Drive
    MyWin10VM.vhdx
- Network Adapter
  Default Switch

Management
- Name
  MyWin10VM
- Integration Services
  Some services offered
- Checkpoints
  Standard
- Smart Paging File Location
  C:\ProgramData\Microsoft\Windo...
- Automatic Start Action
  Restart if previously running
- Automatic Stop Action
  Save

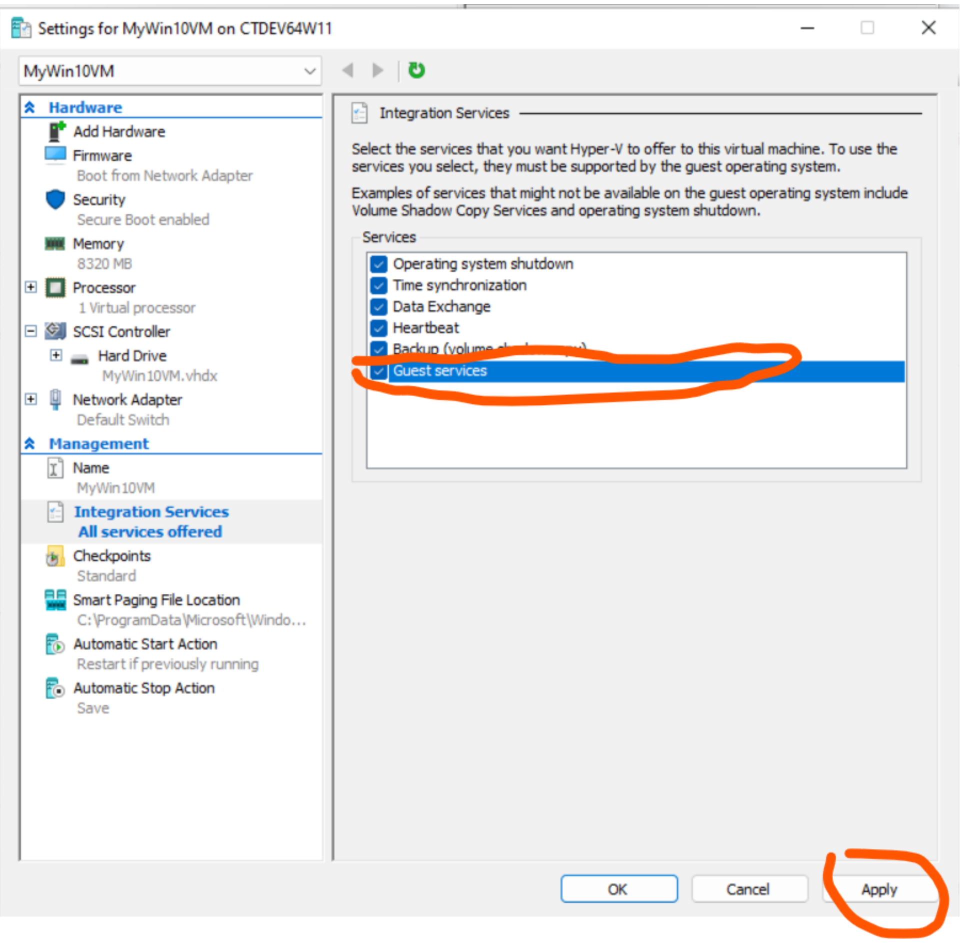
Name

You can edit the name of this virtual machine.

MyWin10VM

You can record notes about this virtual machine. Notes are displayed in the Hyper-V Manager when a virtual machine is selected.

Important! Integration Services: You **must** check "Guest Services" on this dialog!



Settings for MyWin10VM on CTDEV64W11

MyWin10VM

Hardware
- Add Hardware
- Firmware
  Boot from Network Adapter
- Security
  Secure Boot enabled
- Memory
  8320 MB
- Processor
  1 Virtual processor
- SCSI Controller
  - Hard Drive
    MyWin10VM.vhdx
- Network Adapter
  Default Switch

Management
- Name
  MyWin10VM
- **Integration Services**
  All services offered
- Checkpoints
  Standard
- Smart Paging File Location
  C:\ProgramData\Microsoft\Windo...
- Automatic Start Action
  Restart if previously running
- Automatic Stop Action
  Save

Integration Services

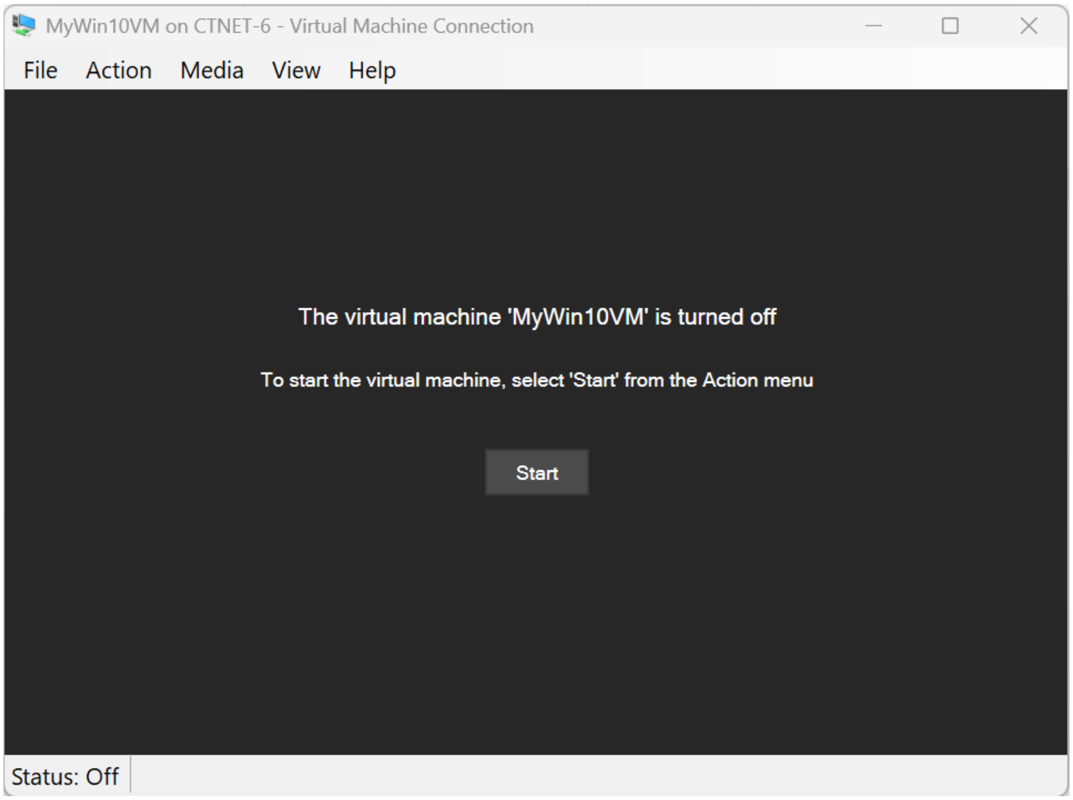
Select the services that you want Hyper-V to offer to this virtual machine. To use the services you select, they must be supported by the guest operating system.

Examples of services that might not be available on the guest operating system include Volume Shadow Copy Services and operating system shutdown.

Services
- ☑ Operating system shutdown
- ☑ Time synchronization
- ☑ Data Exchange
- ☑ Heartbeat
- ☑ Backup (volume shadow copy)
- ☑ Guest services

Do not forget to click “Apply” when making changes! Click “OK” to close the Settings dialog.

At this point you are ready to start your VM. Do this by Selecting and right-clicking on the VM name in the Hyper-V manager, and Click “Connect” to get the following screen; click “connect” to start the VM.



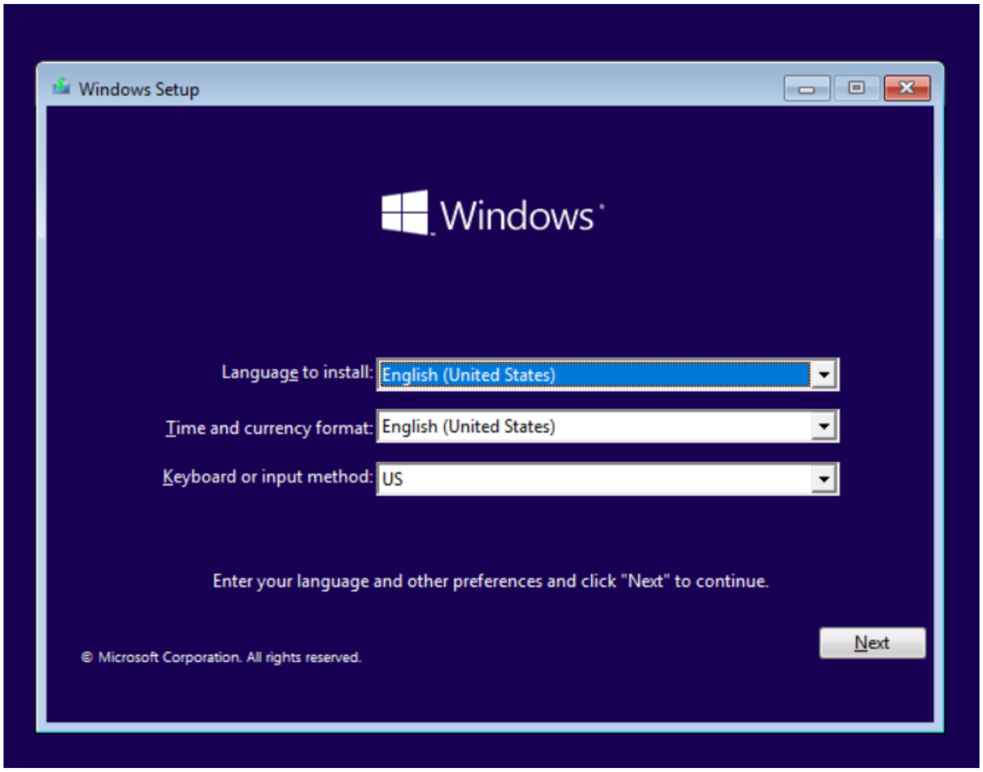
MyWin10VM on CTNET-6 - Virtual Machine Connection

The virtual machine 'MyWin10VM' is turned off

To start the virtual machine, select 'Start' from the Action menu

Status: Off

Since this is the first time you’ve started, the Windows 10 Install window will appear:



Windows Setup

Language to install: English (United States)

Time and currency format: English (United States)

Keyboard or input method: US

Enter your language and other preferences and click "Next" to continue.

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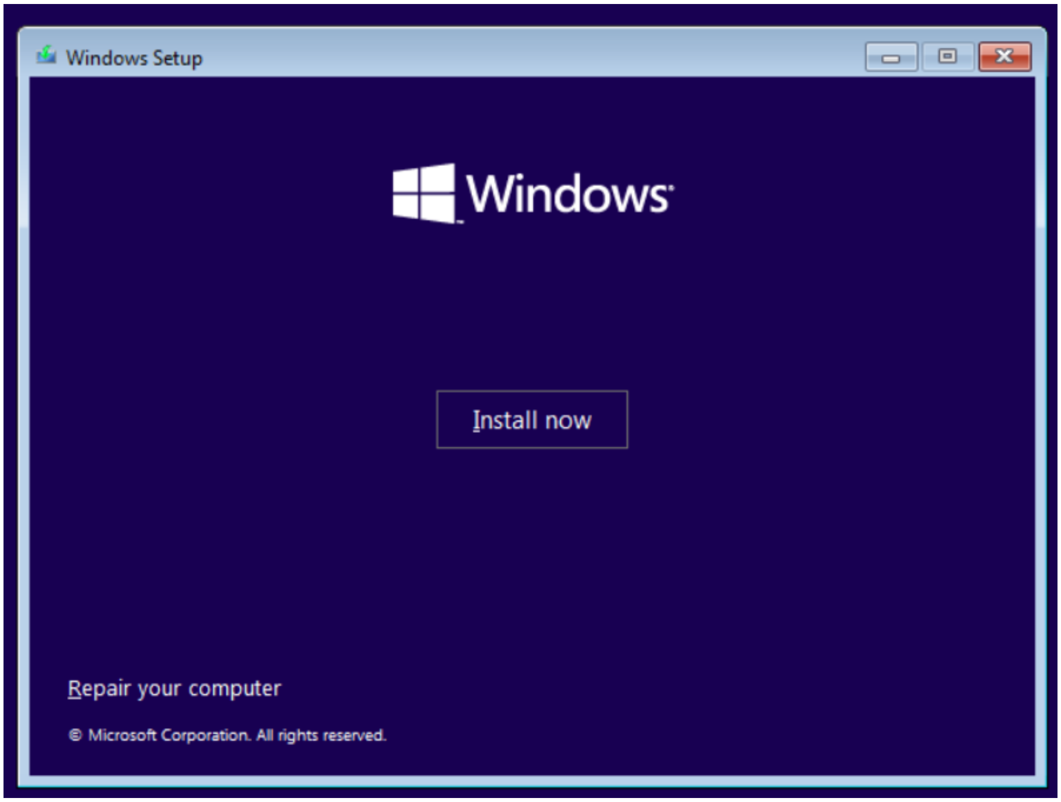
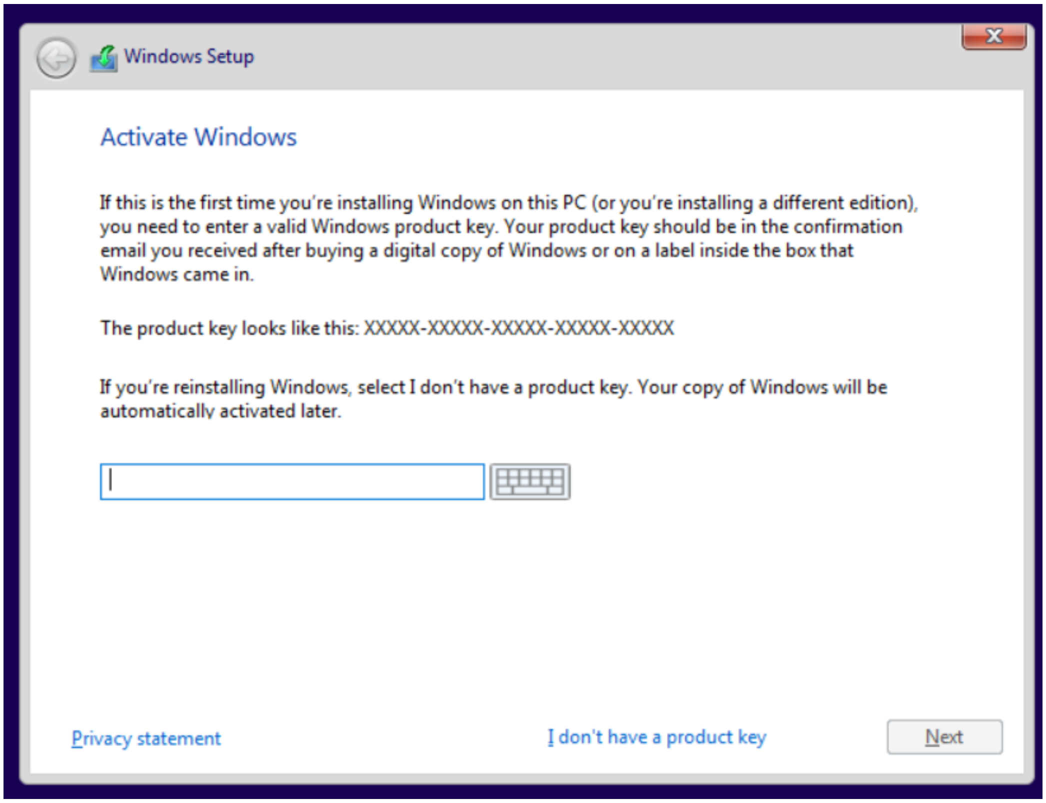
Change the field settings as appropriate, and click “Next”, then “Install Now”



If you have a Windows 10 product key, enter it on the following screen, otherwise choose “I don’t have a product key”:



Activate Windows

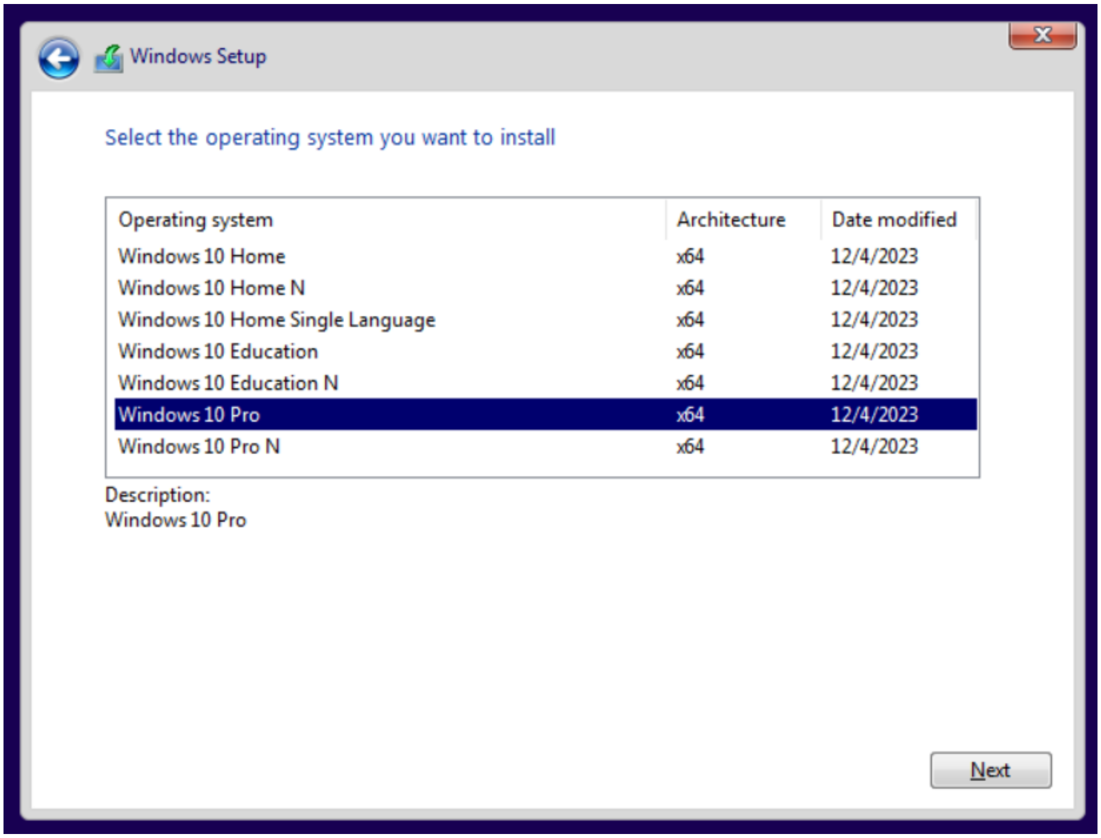
If this is the first time you're installing Windows on this PC (or you're installing a different edition), you need to enter a valid Windows product key. Your product key should be in the confirmation email you received after buying a digital copy of Windows or on a label inside the box that Windows came in.

The product key looks like this: XXXXX-XXXXX-XXXXX-XXXXX-XXXXX

If you're reinstalling Windows, select I don't have a product key. Your copy of Windows will be automatically activated later.

You later get your key, enter “Activation” in the Window “Search” function to get the appropriate link to enter the key.

Select “Windows 10 Pro 64” for the operating system:

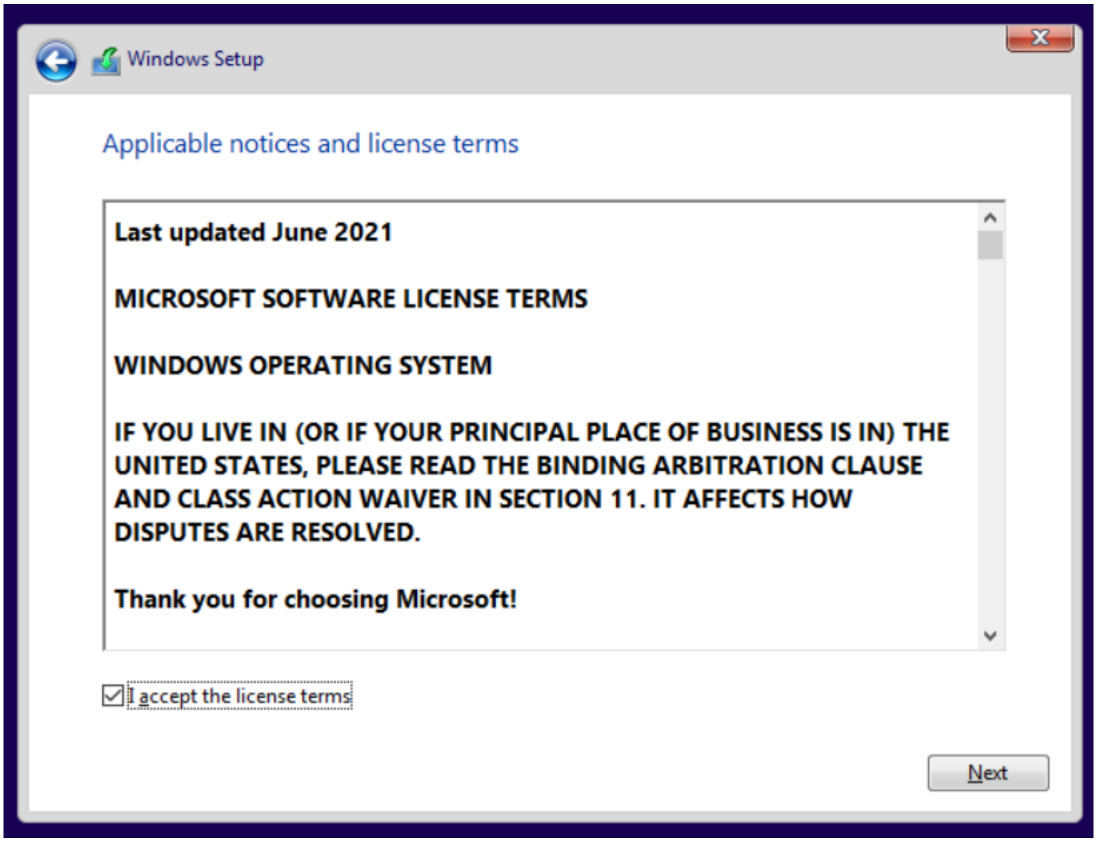


Select the operating system you want to install

Operating system	Architecture	Date modified
Windows 10 Home	x64	12/4/2023
Windows 10 Home N	x64	12/4/2023
Windows 10 Home Single Language	x64	12/4/2023
Windows 10 Education	x64	12/4/2023
Windows 10 Education N	x64	12/4/2023
Windows 10 Pro	x64	12/4/2023
Windows 10 Pro N	x64	12/4/2023

Description:
Windows 10 Pro

Review and accept the license terms:



Applicable notices and license terms

Last updated June 2021

MICROSOFT SOFTWARE LICENSE TERMS

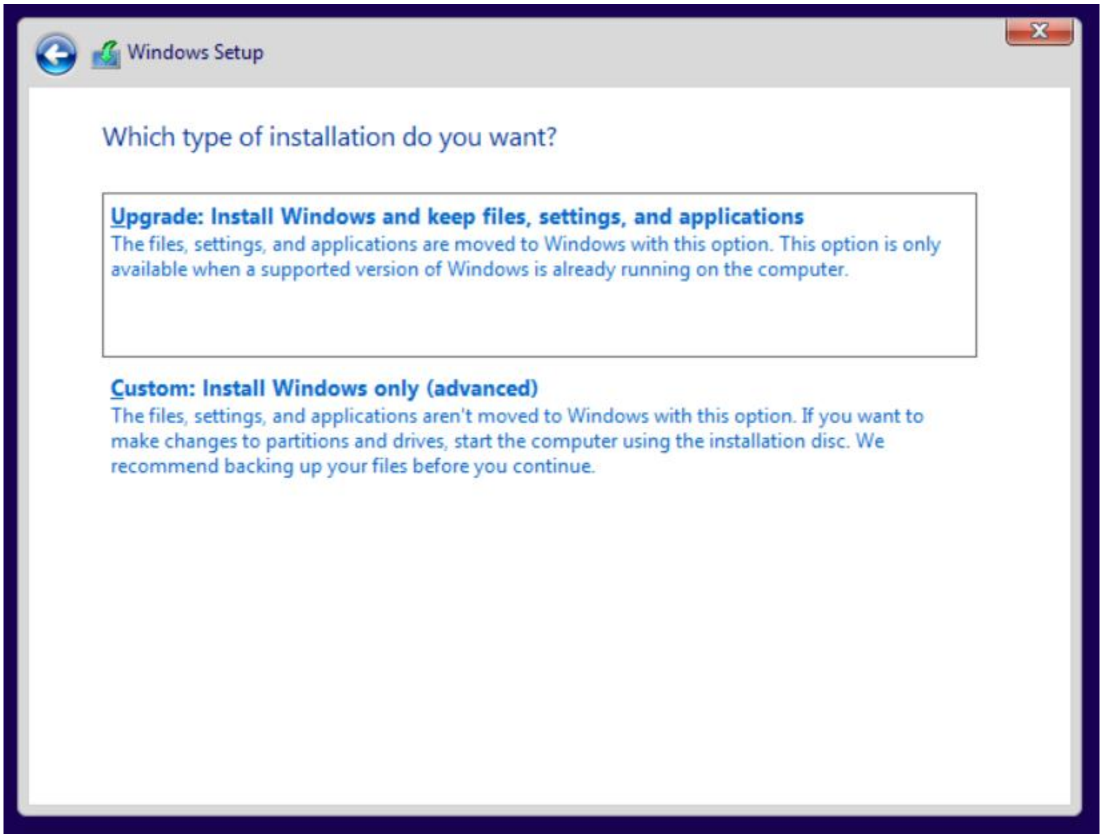
WINDOWS OPERATING SYSTEM

IF YOU LIVE IN (OR IF YOUR PRINCIPAL PLACE OF BUSINESS IS IN) THE UNITED STATES, PLEASE READ THE BINDING ARBITRATION CLAUSE AND CLASS ACTION WAIVER IN SECTION 11. IT AFFECTS HOW DISPUTES ARE RESOLVED.

Thank you for choosing Microsoft!

☑ I accept the license terms

Since this is a new install on the virtual machine, select “Custom, Install Windows Only”

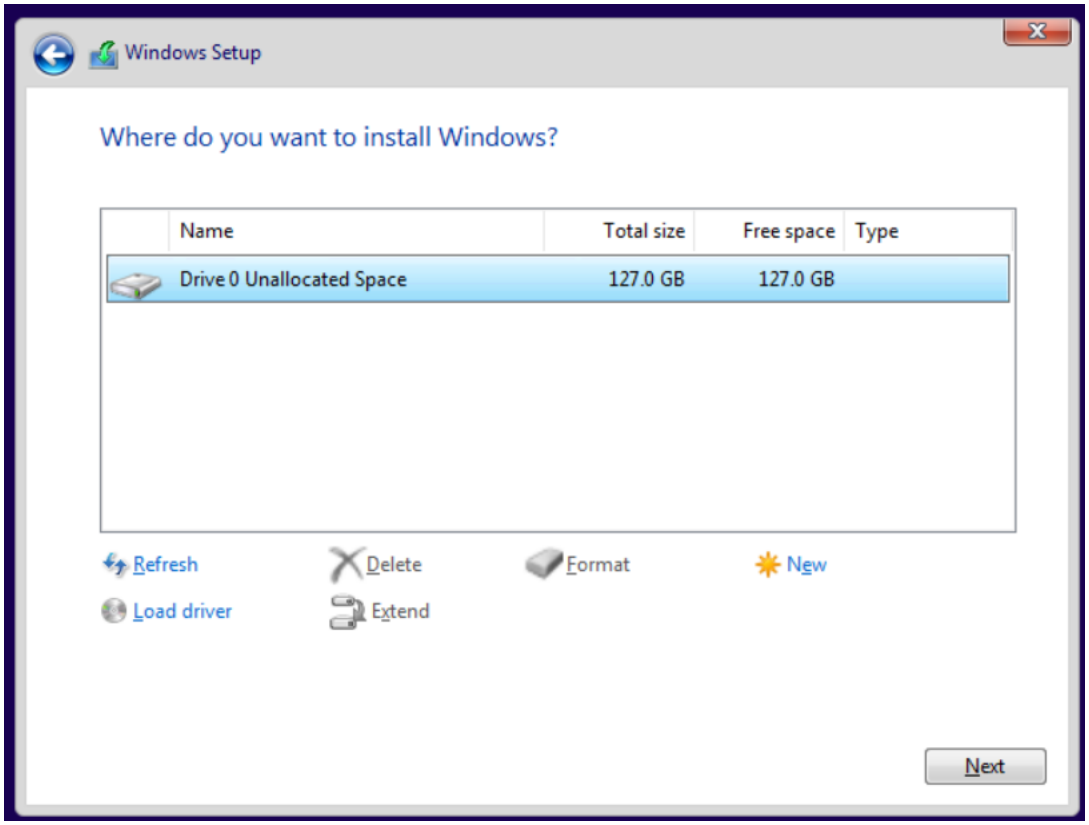


Which type of installation do you want?

Upgrade: Install Windows and keep files, settings, and applications
The files, settings, and applications are moved to Windows with this option. This option is only available when a supported version of Windows is already running on the computer.

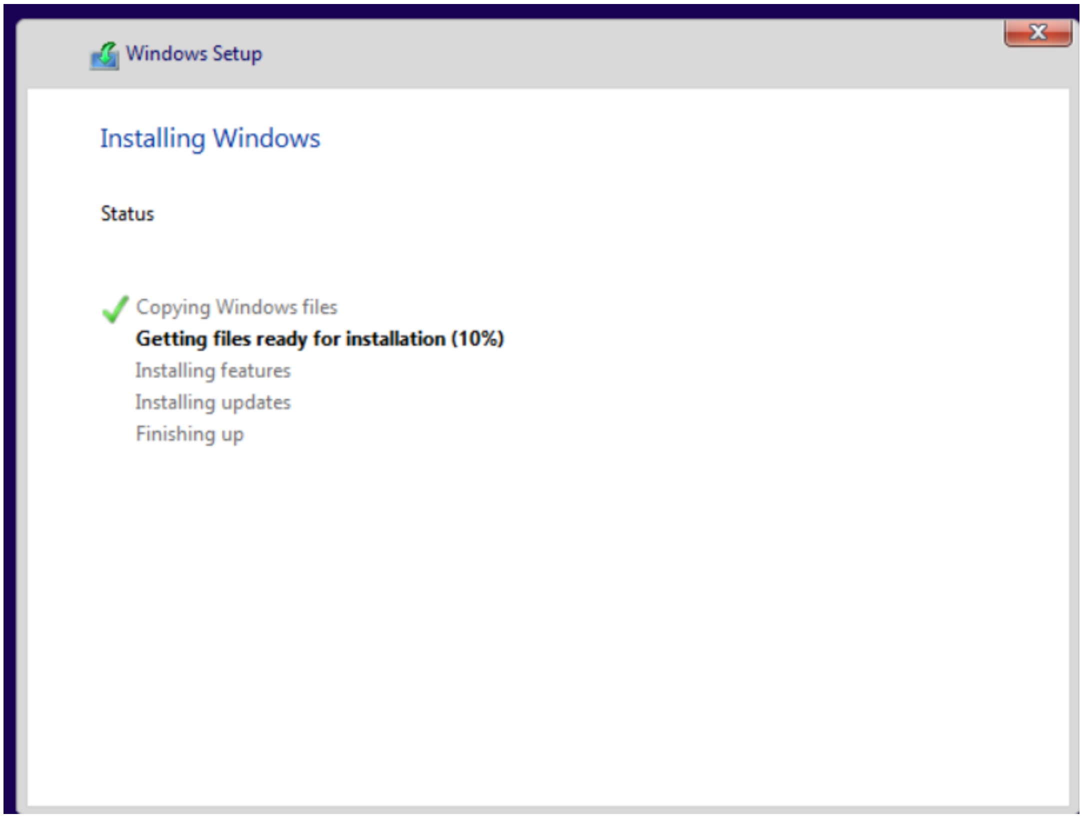
Custom: Install Windows only (advanced)
The files, settings, and applications aren't moved to Windows with this option. If you want to make changes to partitions and drives, start the computer using the installation disc. We recommend backing up your files before you continue.

Proceed with “Next” here through the rest of the setup dialogs:



Where do you want to install Windows?

Name	Total size	Free space	Type
Drive 0 Unallocated Space	127.0 GB	127.0 GB	



Windows Setup

Installing Windows

Status

✓ Copying Windows files

Getting files ready for installation (10%)

Installing features

Installing updates

Finishing up

Until Windows restarts… and performs various installation tasks… including some questions that you can answer appropriately.

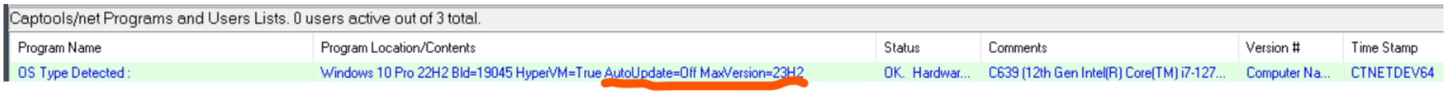
Now that you have your virtual machine running on Windows 10, you can download the Captools installer from www.captools.com/ctnet/WU/CTNetSetup.exe and run it as you have for prior installs (call Captools for help as necessary).

Additional things to do:

Disable Automatic Windows Updates to Your Virtual Machine (Important!)

Once you have installed your Windows 10 virtual machine, you will need to ensure that Windows does not try to upgrade that virtual machine to Windows 11. The most recent versions of Captools, delivered via a "HotFix" (SCPanel.exe dated on/after 10/30/2025) deals with this issue by including a function that disables automatic Windows updates and also blocks updates dated later than 2023/H3.

After you install that Captools hotfix (run you Captools "Server Control Panel", click on "Help/Advanced/Download a Hotfix"), upon running the new Server Control Panel you will be prompted to respond whether to block Windows Automatic Updates. We recommend responding "Yes" as that "should" prevent Windows from "upgrading" your Windows 10 virtual machine to Windows 11 which would again prevent the operation of Captools browser-based functions. Once you have successfully performed this function, upon re-starting the first line of the Server Control Panel should appear similar to the following:



Captools/net Programs and Users Lists. 0 users active out of 3 total.

Program Name	Program Location/Contents	Status	Comments	Version #	Time Stamp
OS Type Detected :	Windows 10 Pro 22H2 Bld=19045 HyperVM=True AutoUpdate=Off MaxVersion=23H2	OK. Hardwar...	C639 (12th Gen Intel(R) Core(TM) i7-127...	Computer Na...	CTNETDEV64

Manually Disable Automatic Windows Updates: If you inadvertently bypass this function (i.e. decline the option to disable the autoupdate), you can run it later while running the Captools/net Server Control Panel by clicking upon *"Utilities/More (Advanced)/Disable Windows Updates"*. (Captools disables Windows updates by writing to the Windows *Hkey_Local_Machine\Policies\Microsoft \Windows\WindowsUpdate* registry, which seems to accomplish the same as using the Windows "gpedit" function to control updates).

Sharing between Host Machine and Virtual Machine

Since your virtual machine is on the same network as its host machine, you will want to share some folders with that machine so you can copy backups and other files between the host machine to your Windows 10 Virtual Machine.

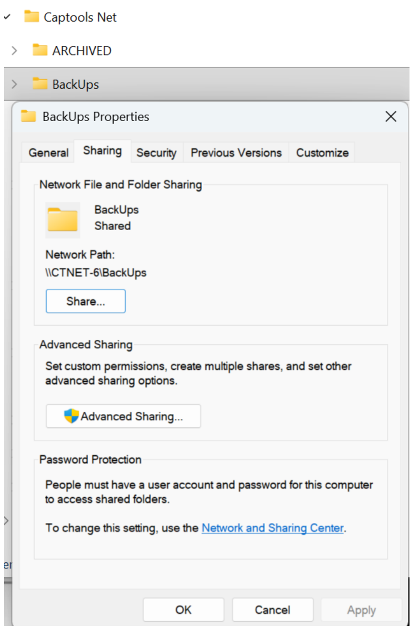
There are two approaches to sharing folders between the host machine and the virtual machine:

Run the Virtual Machine in "Enhanced Session Mode"

Use the Virtual Machine "View" submenu to activate the "Enhanced Session Mode". This mode allows you to "drag and drop" or "copy/paste" files and folders from the Host to the Virtual machine and vice versa. For this function to be fully active it appears that you must be logged into the virtual machine using a "Password" as opposed to a "PIN" security code. If you installed the virtual machine without entering an activation key, you may find that "Password" access is not available to you, and thus file/folder sharing non-functional. Otherwise, this is a convenient way to pass your Captools data folder from the Host Machine to your Win 10 virtual machine.

Use Windows Network File Sharing between Host and Virtual Machine.

To share between the host and virtual machine without depending upon "Enhanced Session Mode" you need to set the "Sharing Property" on folders to be shared on each machine. Do this by right-clicking on the relevant folders and then click on "Properties" and then click on the "Sharing" tab and then click on the "Share" button.



BackUps
Shared

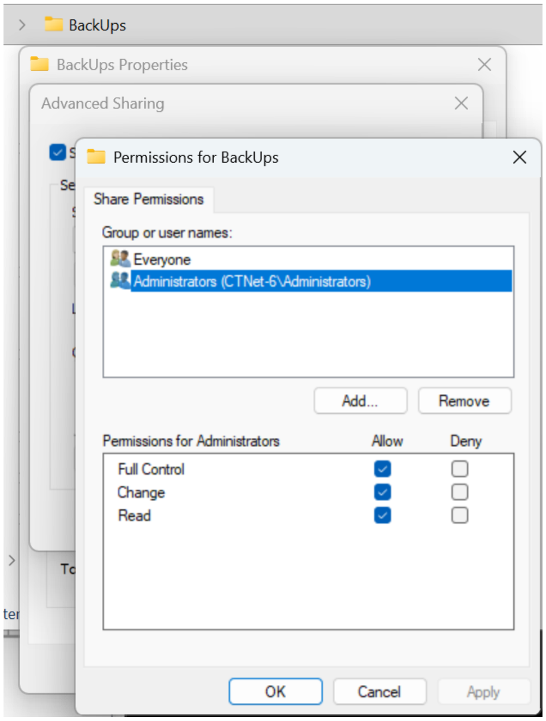
Network Path:
\\CTNET-6\BackUps

Set custom permissions, create multiple shares, and set other advanced sharing options.

People must have a user account and password for this computer to access shared folders.

To change this setting, use the Network and Sharing Center.

Click on “Advanced Sharing”, then “Permissions” to specify who has access to the files. If you are on a private network that includes just you, we suggest including “Full Control” for everyone to get around having to use Windows credentials for each access.



Group or user names:

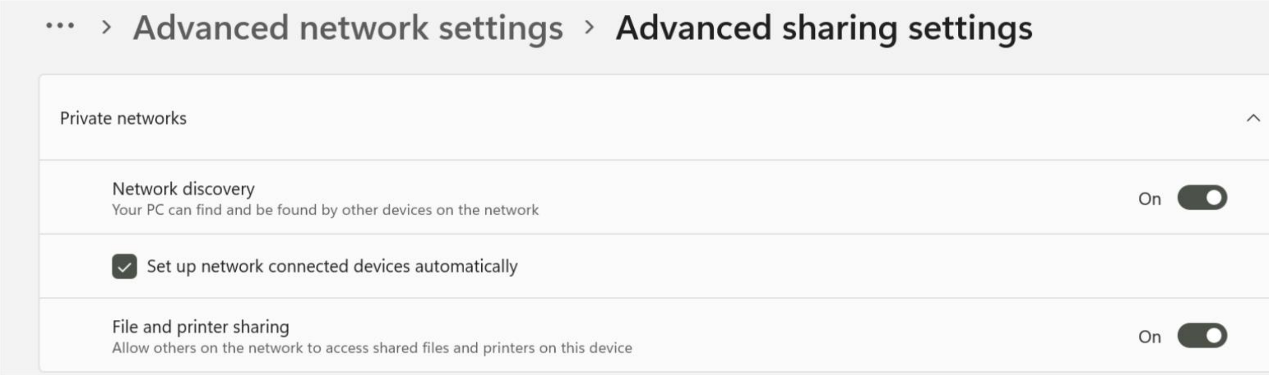
- Everyone
- Administrators (CTNet-6\Administrators)

Permissions for Administrators	Allow	Deny
Full Control	☑	□
Change	☑	□
Read	☑	□

To ensure that sharing is not blocked by network settings on either machine, on each machine configure network settings as follows:

1) Open Windows Control Panel and click on “Network and Sharing Center” and then on “Change Advanced Sharing”.
2) Expand “Private Networks” and setting the following settings (Win 11 is assumed Host machine, and Win 10 is assumed Virtual Machine).

Win 11



··· > Advanced network settings > Advanced sharing settings

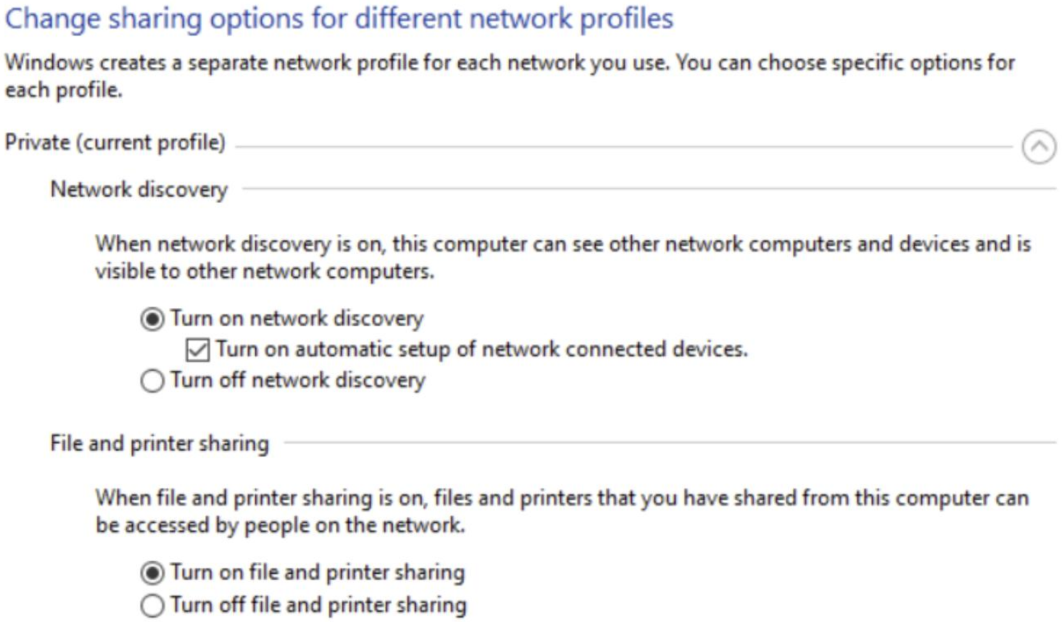
Private networks

Network discovery
Your PC can find and be found by other devices on the network — On

☑ Set up network connected devices automatically

File and printer sharing
Allow others on the network to access shared files and printers on this device — On

Win 10



Change sharing options for different network profiles

Windows creates a separate network profile for each network you use. You can choose specific options for each profile.

Private (current profile)

Network discovery

When network discovery is on, this computer can see other network computers and devices and is visible to other network computers.

● Turn on network discovery
☑ Turn on automatic setup of network connected devices.
○ Turn off network discovery

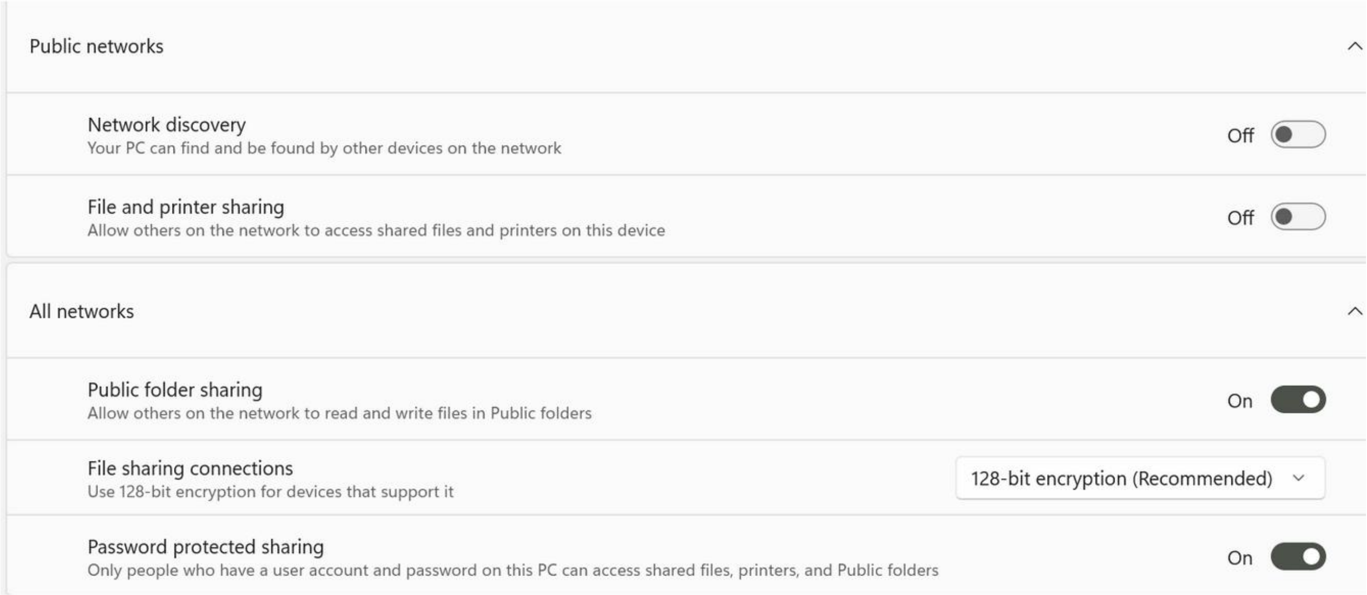
File and printer sharing

When file and printer sharing is on, files and printers that you have shared from this computer can be accessed by people on the network.

● Turn on file and printer sharing
○ Turn off file and printer sharing

Expand, if necessary the “Public” and “All Networks” groups and set or confirm as follows:

Win 11



Public networks

Network discovery
Your PC can find and be found by other devices on the network — Off

File and printer sharing
Allow others on the network to access shared files and printers on this device — Off

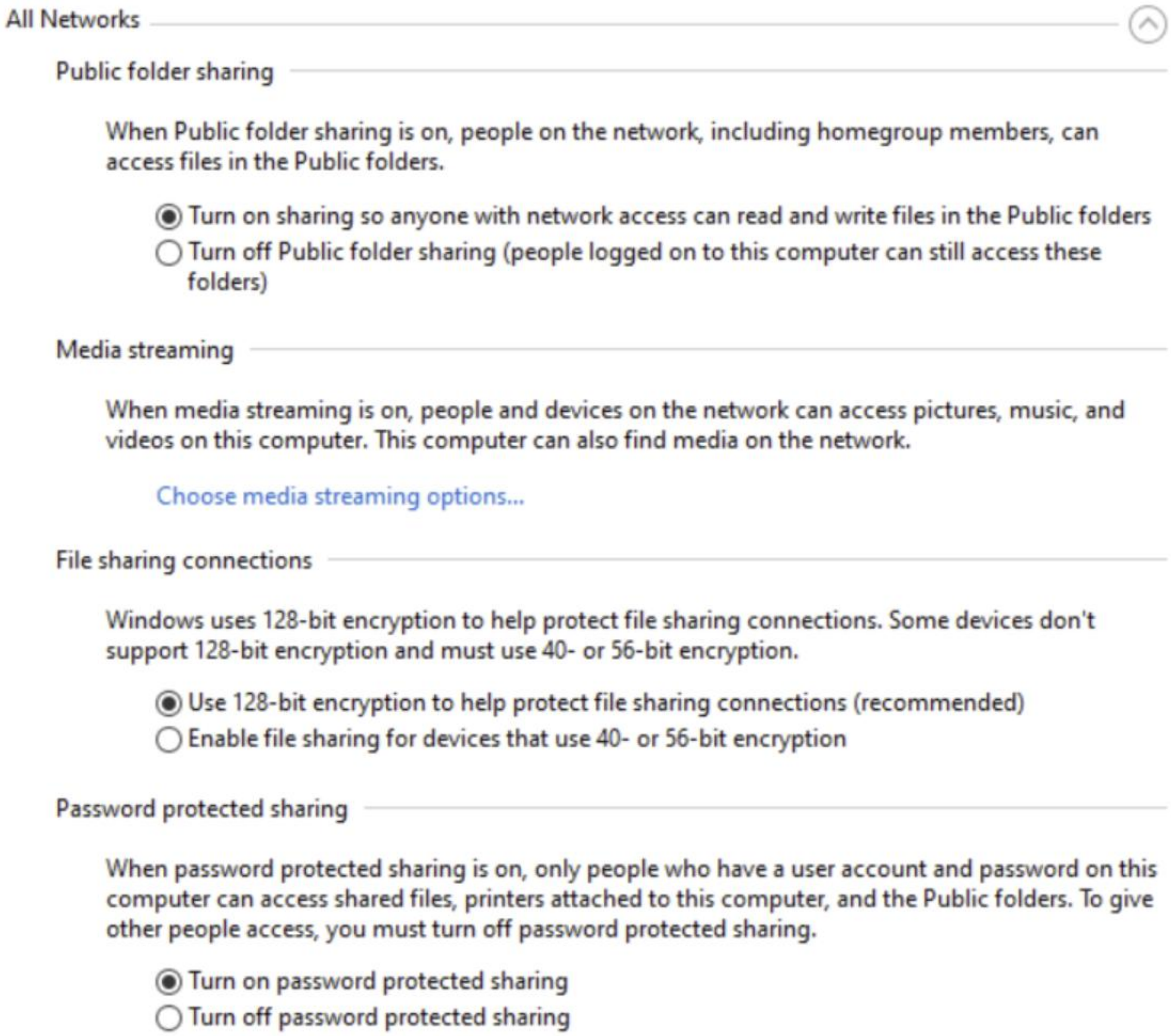
All networks

Public folder sharing
Allow others on the network to read and write files in Public folders — On

File sharing connections
Use 128-bit encryption for devices that support it — 128-bit encryption (Recommended)

Password protected sharing
Only people who have a user account and password on this PC can access shared files, printers, and Public folders — On

Win 10



All Networks

Public folder sharing

When Public folder sharing is on, people on the network, including homegroup members, can access files in the Public folders.

● Turn on sharing so anyone with network access can read and write files in the Public folders
○ Turn off Public folder sharing (people logged on to this computer can still access these folders)

Media streaming

When media streaming is on, people and devices on the network can access pictures, music, and videos on this computer. This computer can also find media on the network.

Choose media streaming options...

File sharing connections

Windows uses 128-bit encryption to help protect file sharing connections. Some devices don't support 128-bit encryption and must use 40- or 56-bit encryption.

● Use 128-bit encryption to help protect file sharing connections (recommended)
○ Enable file sharing for devices that use 40- or 56-bit encryption

Password protected sharing

When password protected sharing is on, only people who have a user account and password on this computer can access shared files, printers attached to this computer, and the Public folders. To give other people access, you must turn off password protected sharing.

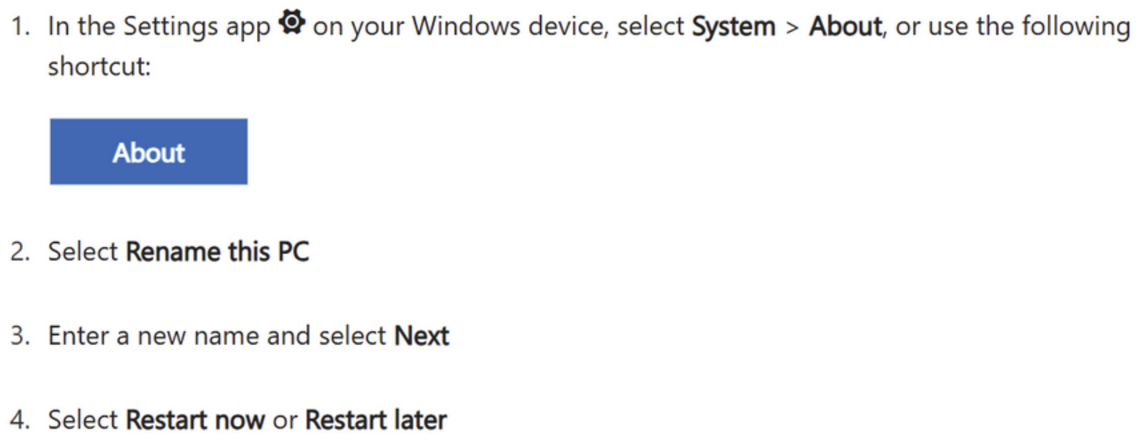
● Turn on password protected sharing
○ Turn off password protected sharing

Rename your Virtual Machine

Many computers have "factory set" names like "Desktop ABC43-XYZ" which are hard to recognize when you open the "Network" Node on "File Explorer"

We recommend renaming your machine so it can be easily recognized by you, to something like "Win11Host-A" and "Captools-Win10VM"

To rename a Windows machine do the following:



1. In the Settings app ⚙ on your Windows device, select **System** > **About**, or use the following shortcut:

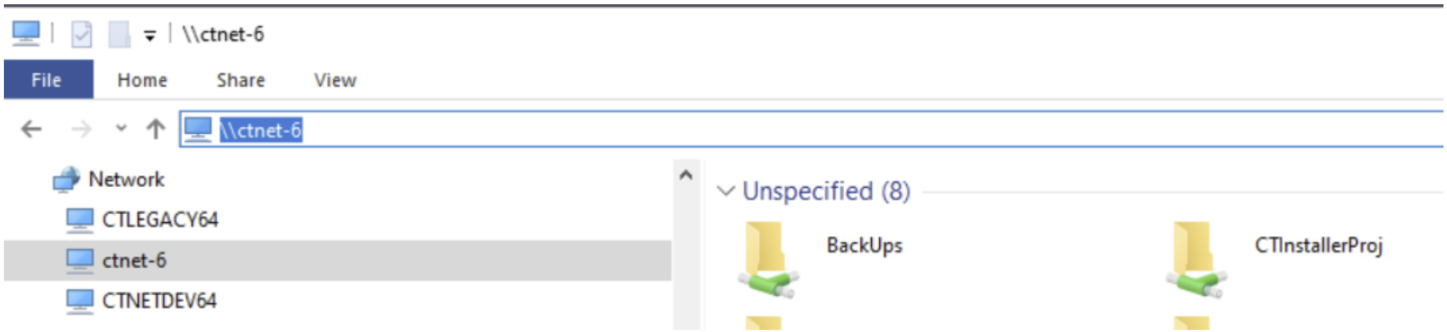
   About

2. Select **Rename this PC**
3. Enter a new name and select **Next**
4. Select **Restart now** or **Restart later**

Expedite Machine to Machine recognition

Occasionally the host and virtual machine take some time to recognize each other so that each machine appears in the "network node" in windows file explorer.

This can be expedited by using the following type notation in your windows file explorer to access the "other machine" on a "Host/VM" network pair:



\\ctnet-6

Please note the double backslash “\" notation followed by the name of the machine you want to access. This usually will work even if you do not "see" the machine listed under the "Network" node, provided that you have at least one folder on the target machine that has been "shared" by right-clicking on that folder while on that machine and using "Properties\Sharing" to share that folder with a class of user that you belong to (e.g. your name, "guest" or "everyone").