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How to Create a Virtual Machine in Windows 10

Put Microsoft's Hyper-V to work for you

By [Kevin Parrish](#) Updated on January 4, 2022

✓ Reviewed by [Ryan Perian](#)



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Meet Hyper-V

Step-by-Step: Check Hardware Compatibility

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Extra: A Virtual Machine Example—Ubuntu 19.04 **Ubuntu 20.04**

Extra: How to Load Your Virtual Machine

Frequently Asked Questions

Running a virtual machine is a good way to use an operating system without installing it on your PC. For instance, you can test drive the latest Windows version or a new [Ubuntu Linux](#) distribution without any risk. Here's how to create a virtual machine in Windows 10 without installing third-party software.

Machine on Windows 10. It's only available on these platforms.

Windows 10 Enterprise (64-bit)

Windows 10 Pro (64-bit)

Windows 10 Education (64-bit)

Note: If your PC runs Windows 10 Home, you must install a third-party virtual machine client. Hyper-V is not available on this platform.

While Hyper-V is a useful tool, it may not be the ideal solution for software development. As [Microsoft explains about Hyper-V](#), programs and apps that require specific hardware—like a discrete graphics processor—may not work correctly in a virtual machine.

Even more, simply enabling Hyper-V may cause performance issues for “latency-sensitive, high-precision applications.”

Not just any computer can run a virtual machine, however. You’ll need to see if your PC’s processor can handle a virtual machine before moving forward.

How to Check Virtual Machine Hardware Compatibility

Here are the hardware requirements from Microsoft:

64-bit Processor with Second Level Address Translation (SLAT)

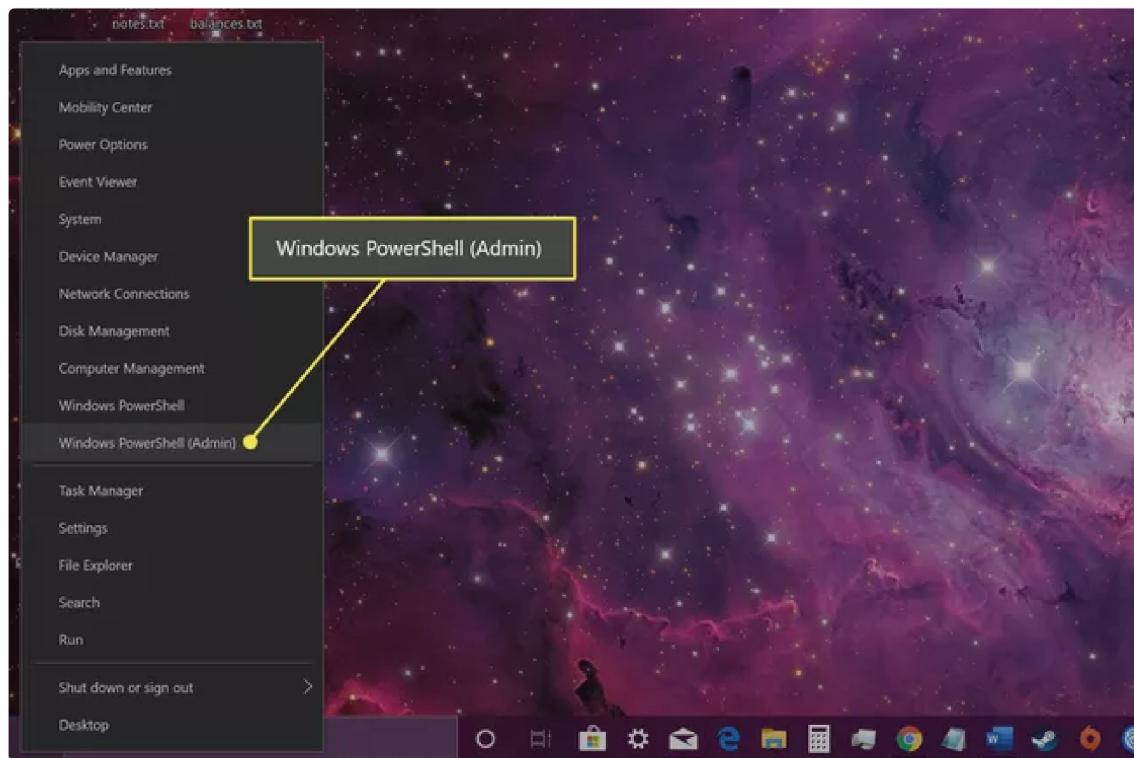
CPU support for VM Monitor Mode Extension (VT-c on Intel CPUs)

Minimum of 4GB system memory

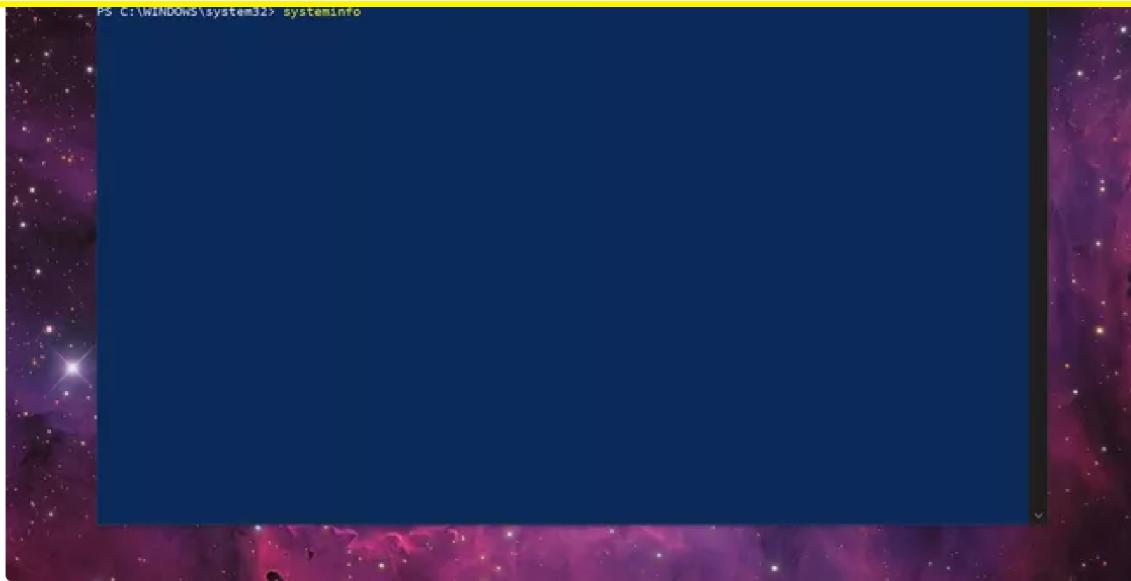
VIRTUALIZATION TECHNOLOGY (OR A SIMILAR LABEL, DEPENDING ON THE
MOTHERBOARD MANUFACTURER)

Still not sure your Windows 10 PC can run a virtual machine using Hyper-V? Microsoft provides the means to find out. Follow these steps:

1. Right-click the **Start** button and select **Windows PowerShell (Admin)**.



2. Type "**Systeminfo**" in the PowerShell window and press the **Enter** key on your keyboard.



3. Scroll down to the bottom of the results to find the Hyper-V Requirements section. Here's how to interpret those results:

If you see "Yes" next to the four Hyper-V requirements: Your PC can run a virtual machine.

If you see "No" next to the four Hyper-V requirements: Your CPU doesn't support virtual machines and/or you need to adjust settings in the BIOS.

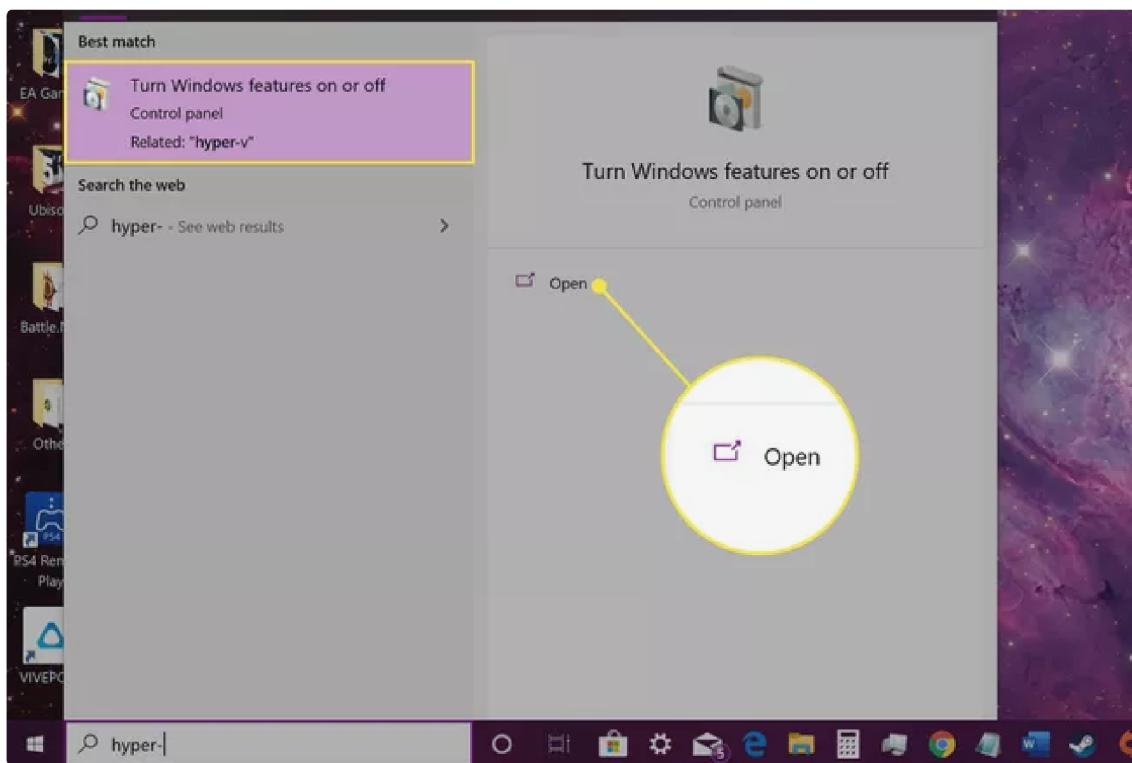
If you see "No" next to "Virtualization Enabled in Firmware" in the results: You will need to reboot into the PC's firmware and enable this feature. The setting's label depends on your PC's motherboard and BIOS version.

If you see "A hypervisor has been detected. Features required for Hyper-V will not be displayed" in the results: You're already running Hyper-V in Windows 10.

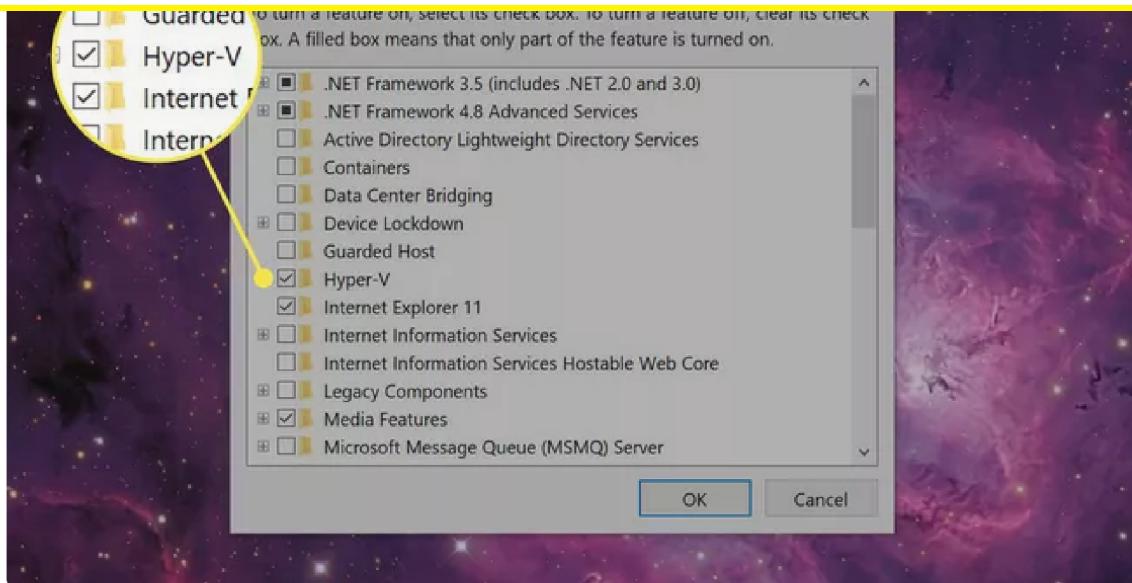
How to Enable Hyper-V in Windows 10 Pro, Enterprise, and Education

support up and running.

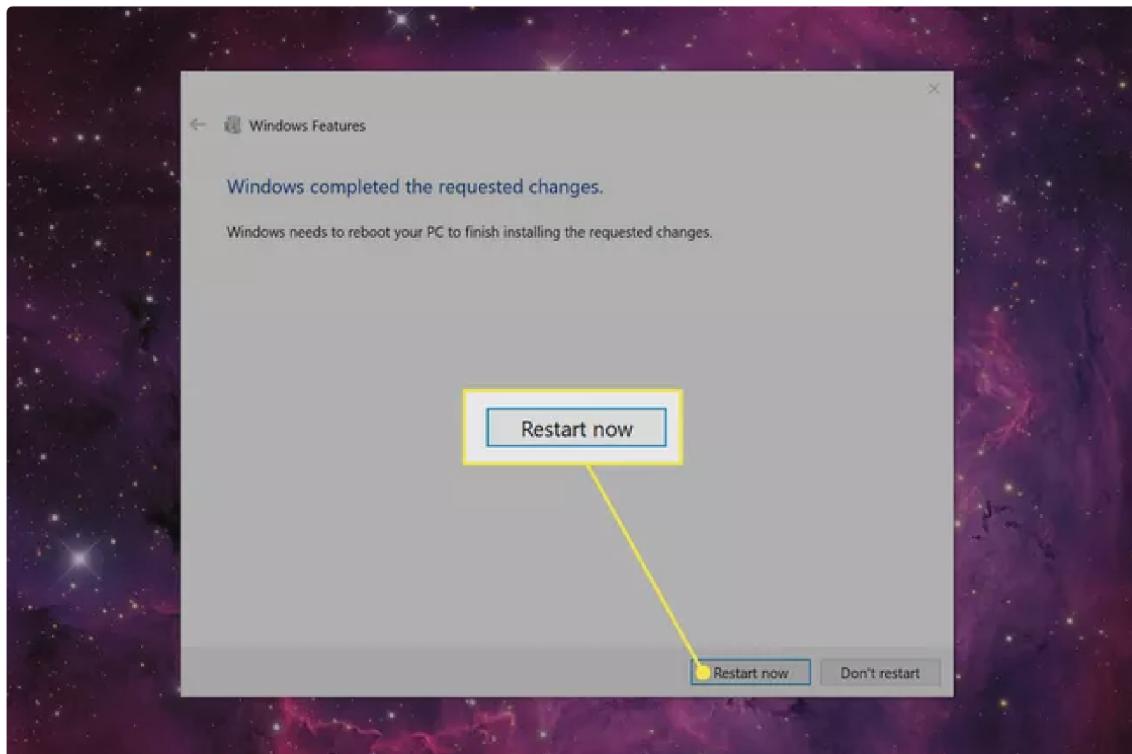
1. Type "**Hyper-V**" in the taskbar's search field and press the **Enter** key on your keyboard.
2. Select **Turn Windows features on or off** in the results, then select **Open**.



3. On the next screen, check the box next to the **Hyper-V** option, then select **OK**.



4. Select **Restart Now**. Your PC will reboot.

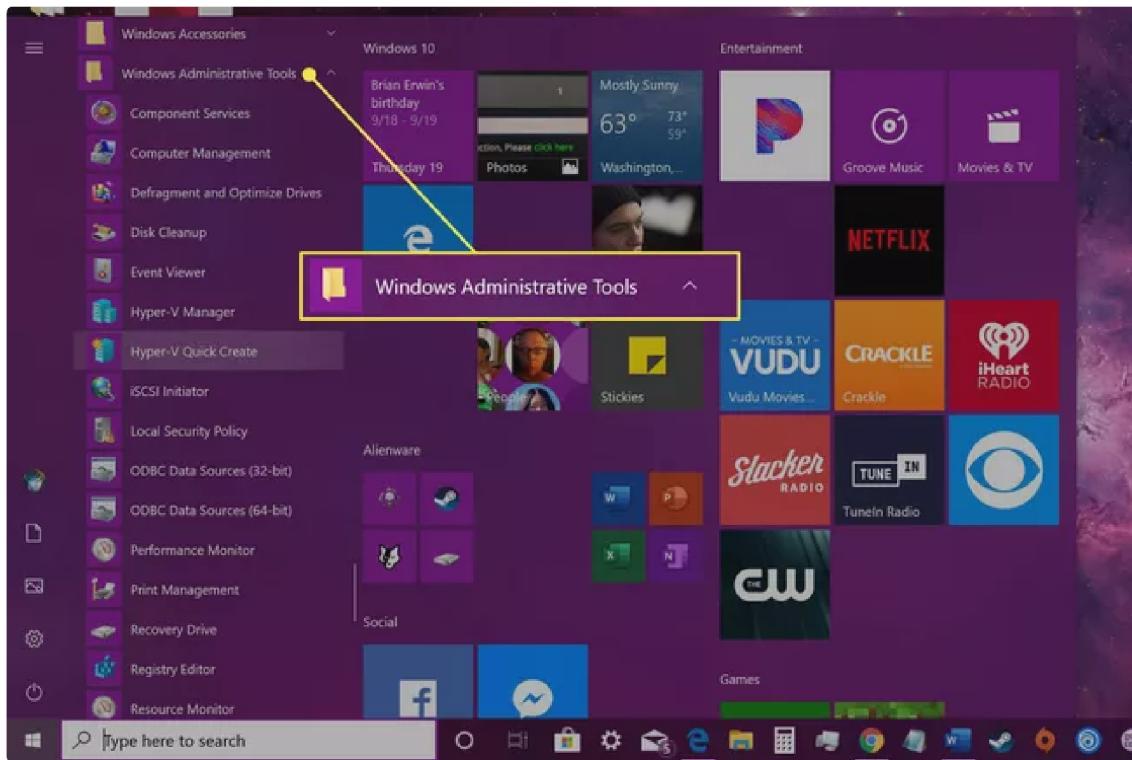


How to Create a Virtual Machine in Windows 10 Using Hyper-V Quick Create

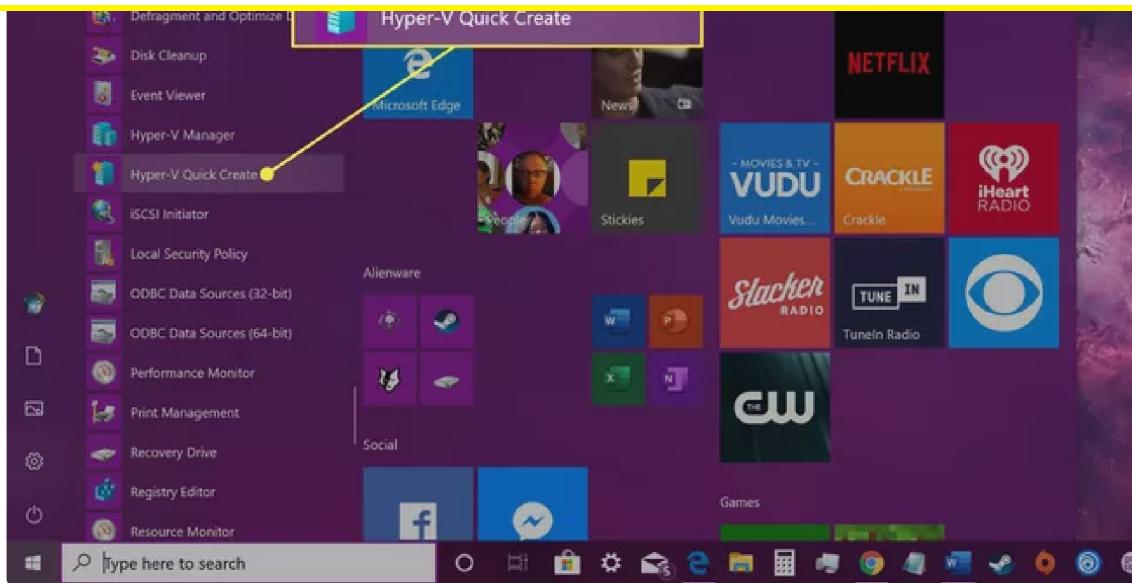
Packaging tool Environment, and the Windows 10 Development Environment.

If you want to run a preview build of Windows 10, you'll need to manually download an ISO.

1. Select the **Start** button, scroll down on the Start Menu, then select **Windows Administrative Tools** to expand it.

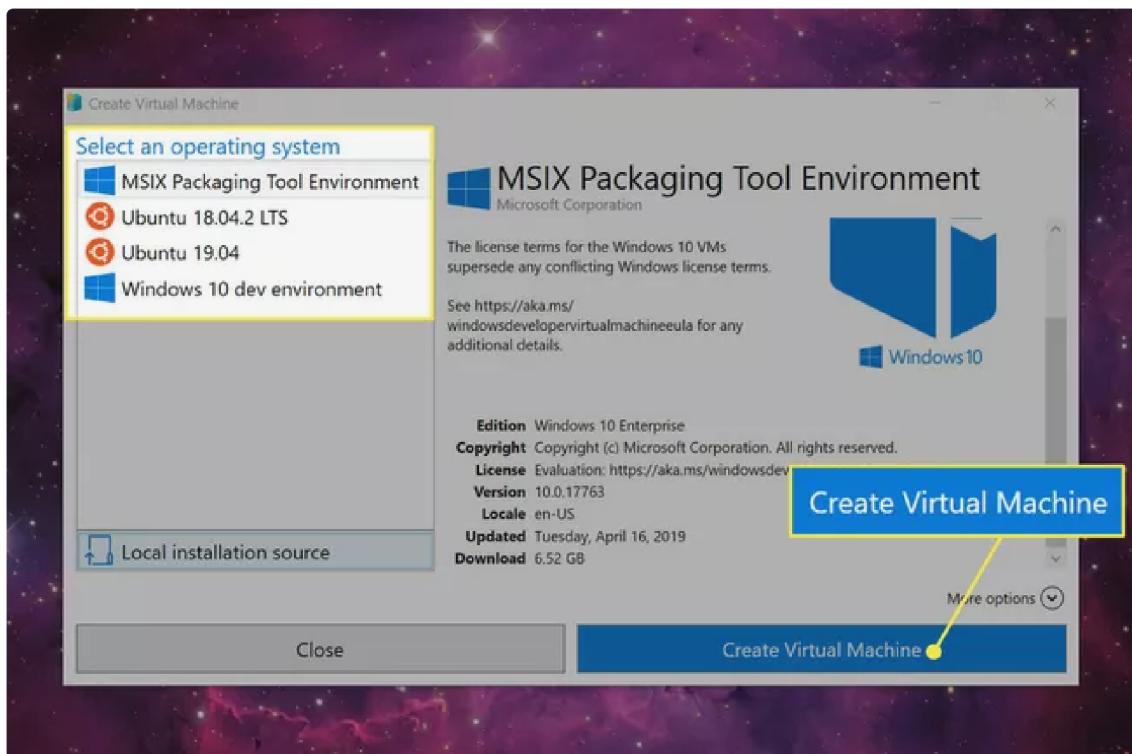


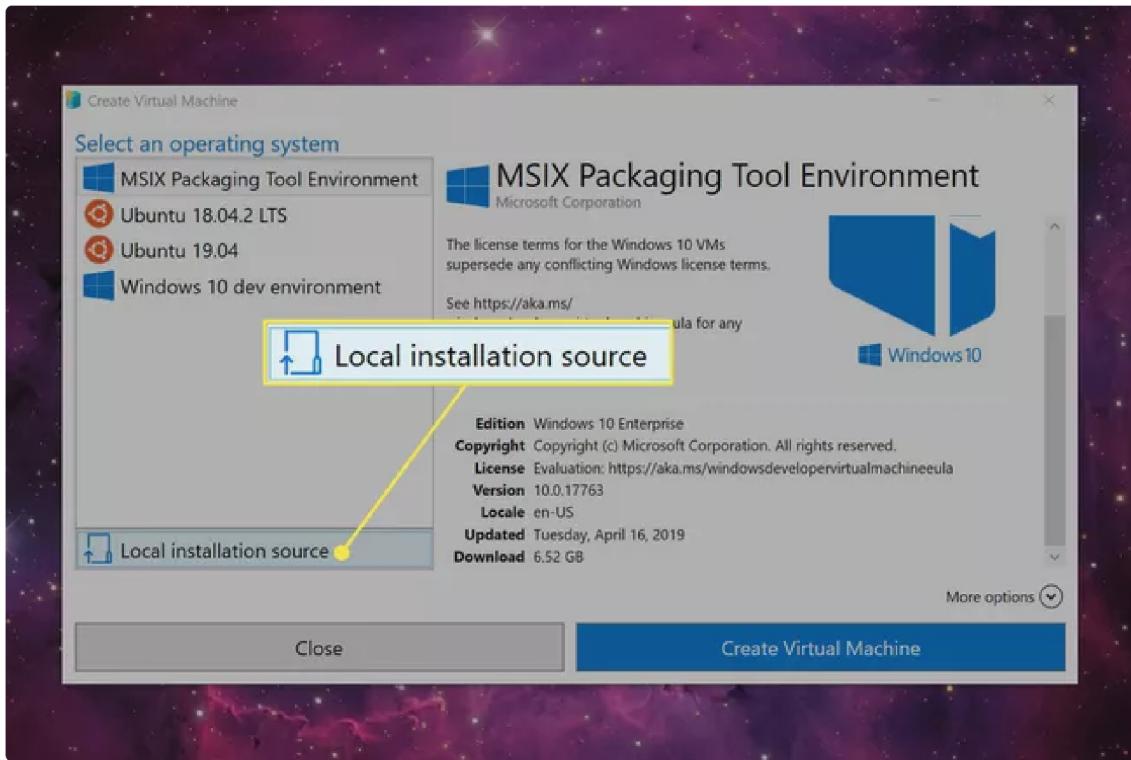
2. Select **Hyper-V Quick Create**.



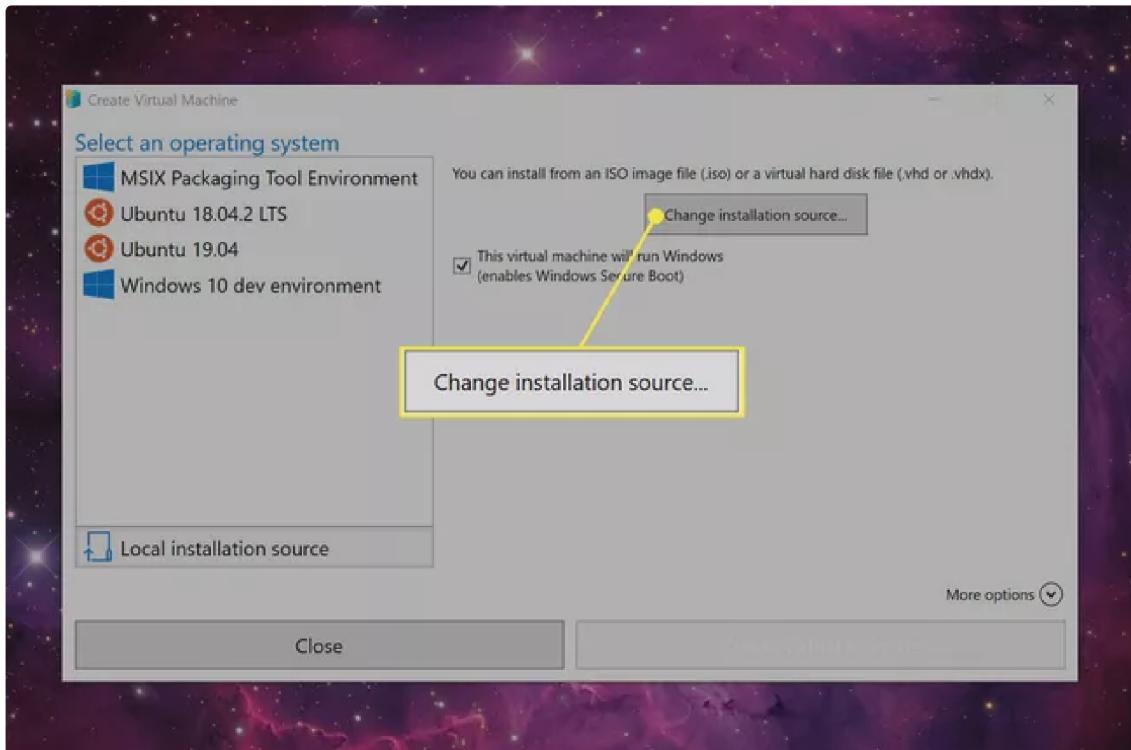
3. In the following Create Virtual Machine window, select one of the four listed installers, then select **Create Virtual Machine**. Do not move on to Step 4.

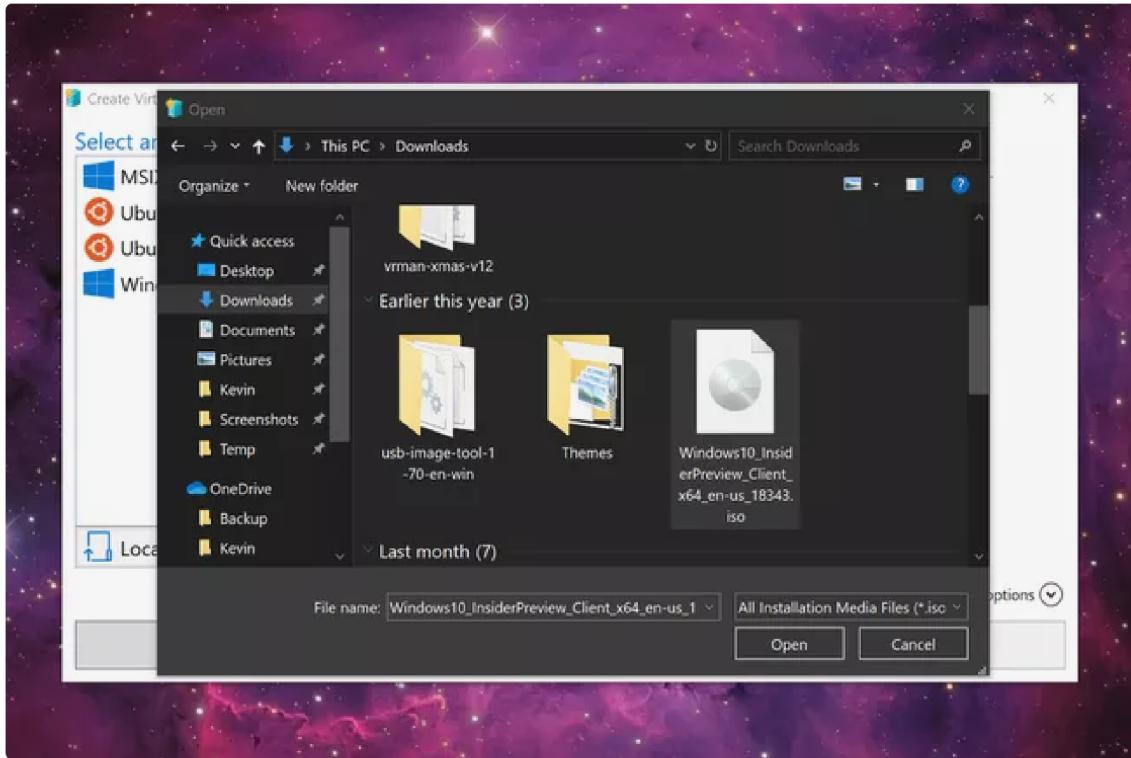
However, if you have a different OS you want to use, continue on with Step 4.



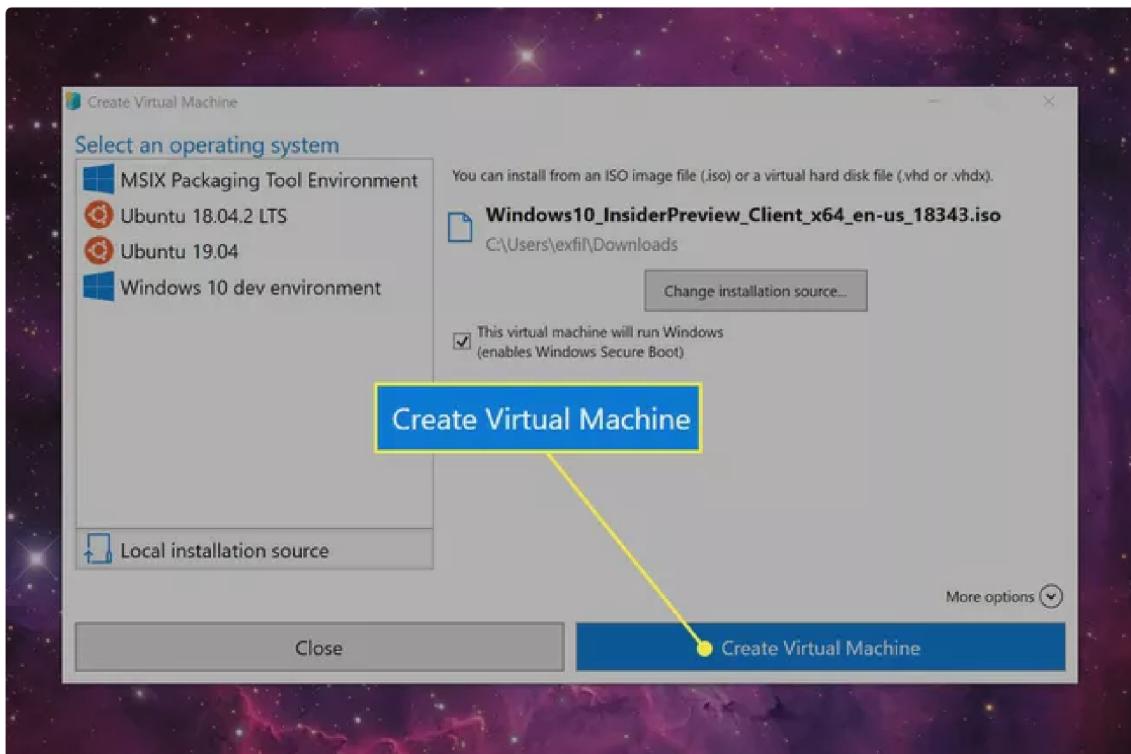


5. Select Change installation source.





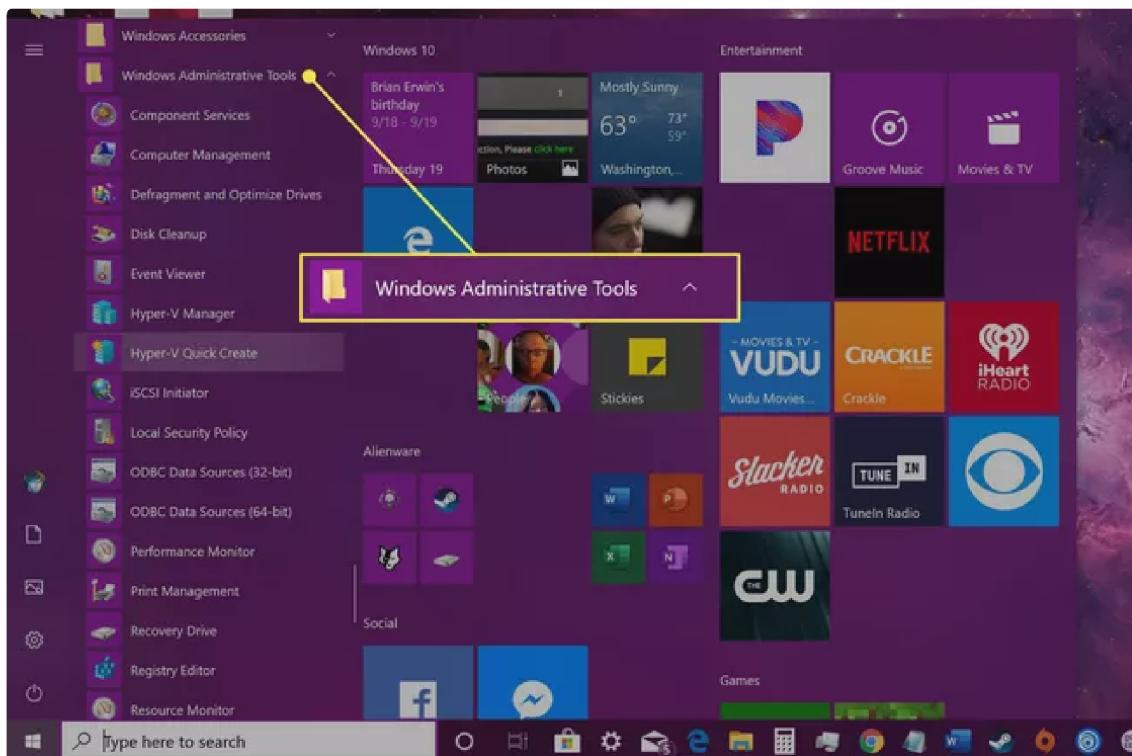
7. Finally, select **Create Virtual Machine**.



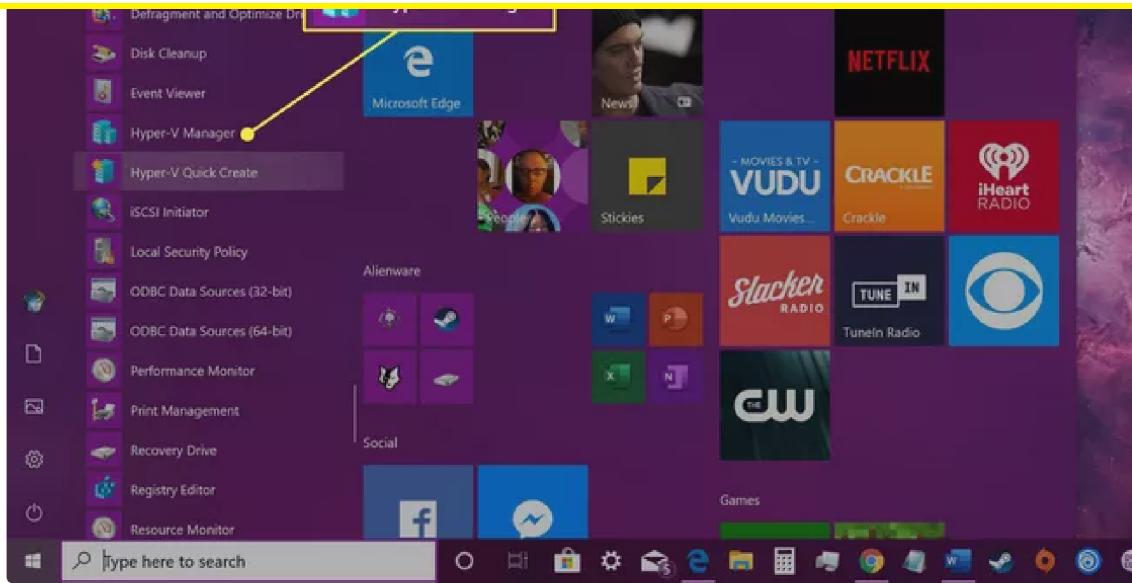
At first glance, this version looks old-school compared to the Quick Create version. However, this interface is the meat of your virtual machine loading and unloading. Here you're provided with advanced tools for importing a virtual machine, creating a virtual machine from scratch using a step-by-step process, and more.

You can access the simpler Quick Create tool from this interface as well.

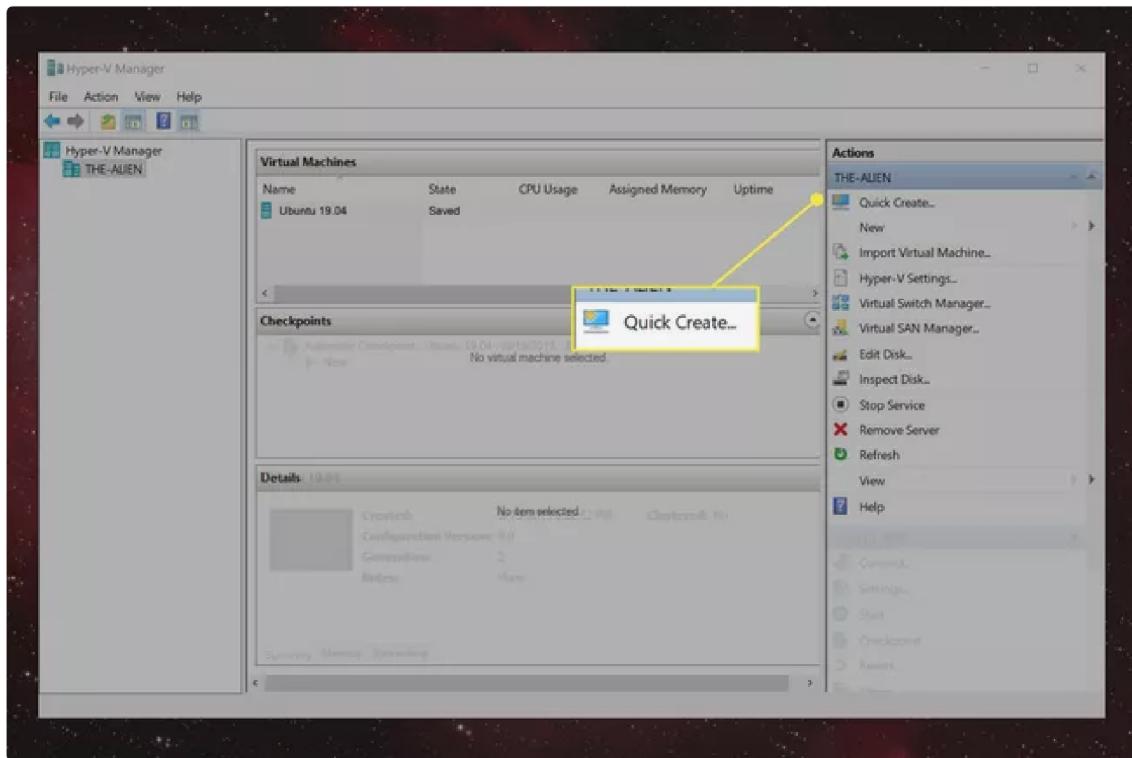
1. Select **Start**, scroll down on the Start Menu, then select **Windows Administrative Tools** to expand it.



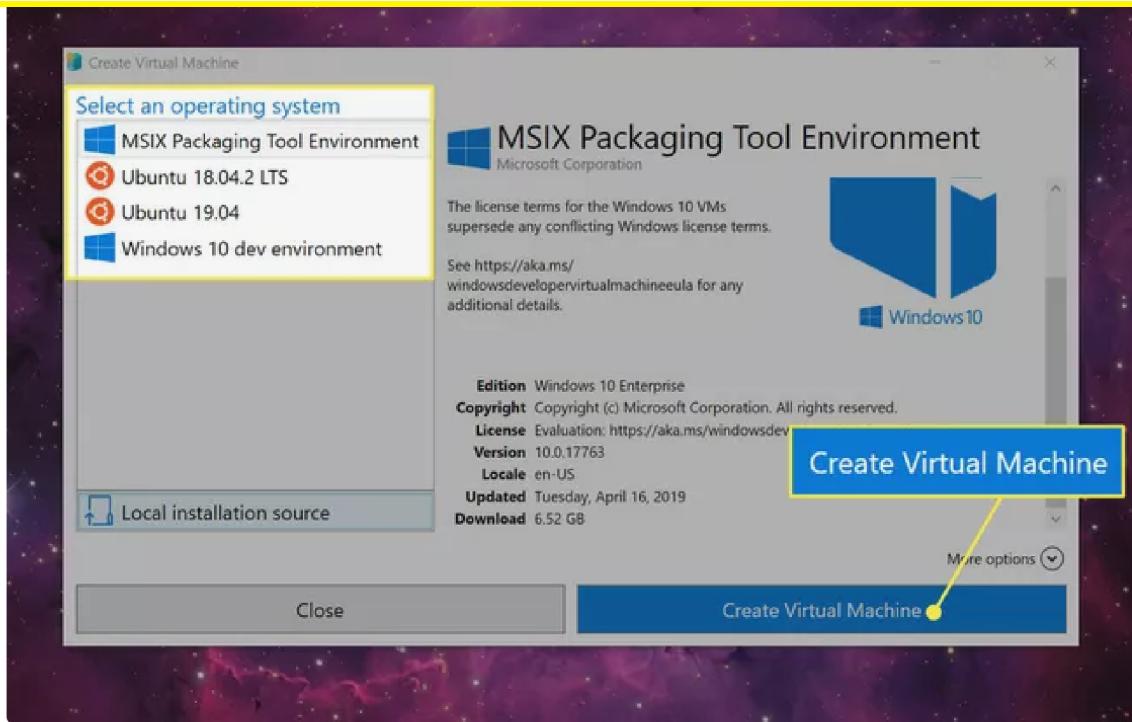
2. Select **Hyper-V Manager**.



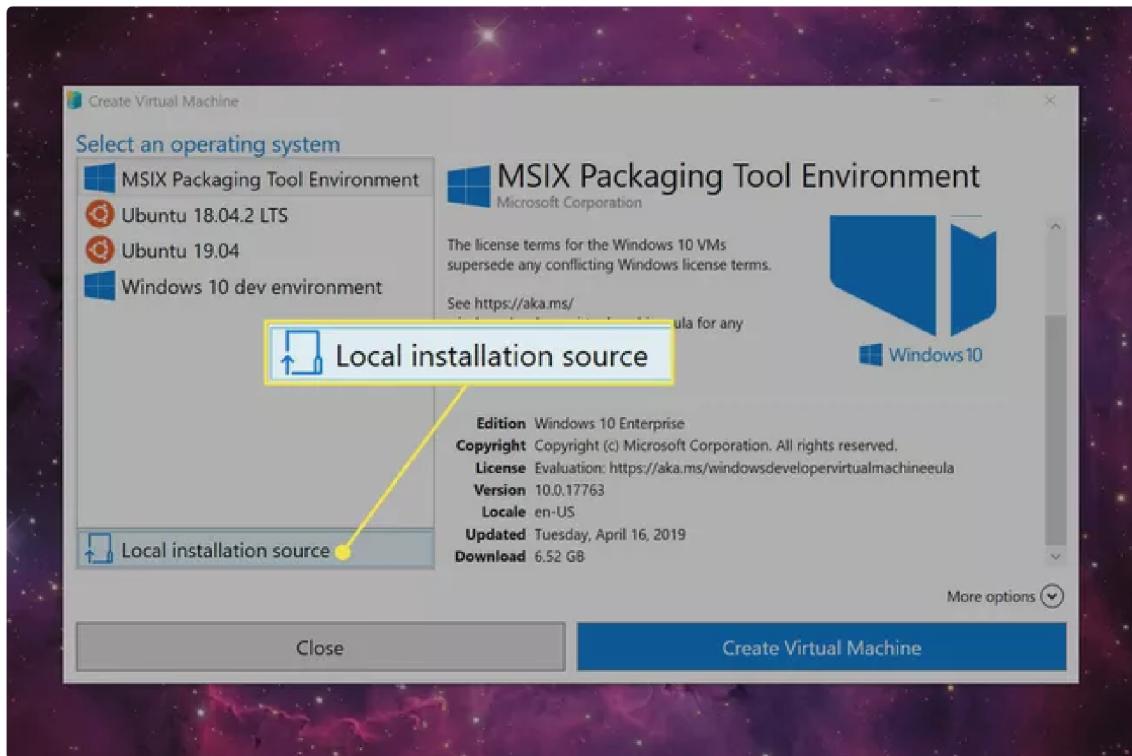
3. In the following Hyper-V Manager window, select **Quick Create** located under **Actions** on the right.



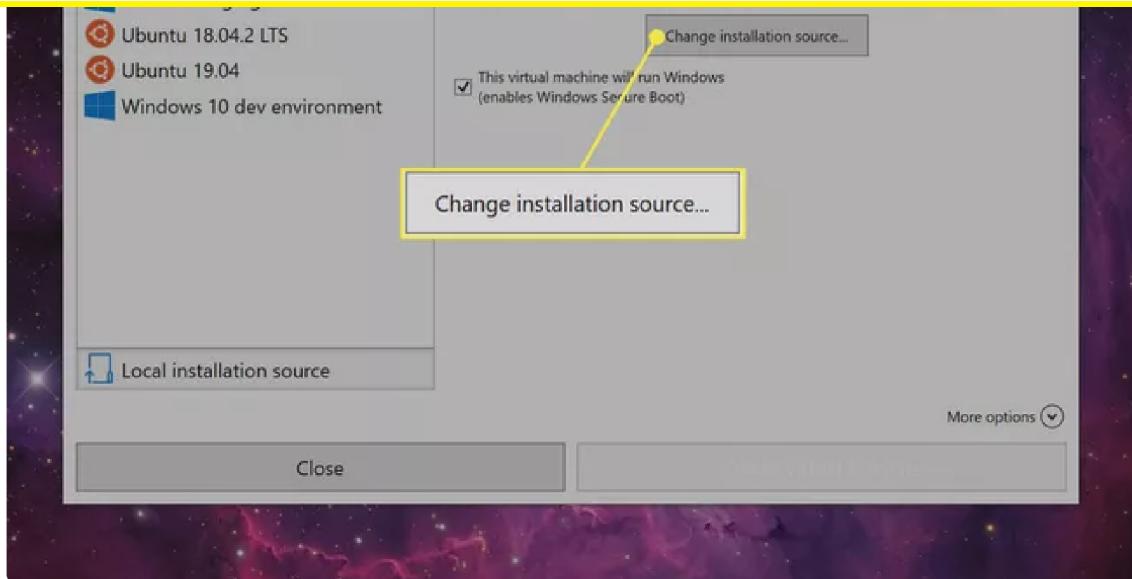
4. In the following Create Virtual Machine window, select one of the four listed installers and select **Create Virtual Machine**. Do not move on to Step 5.



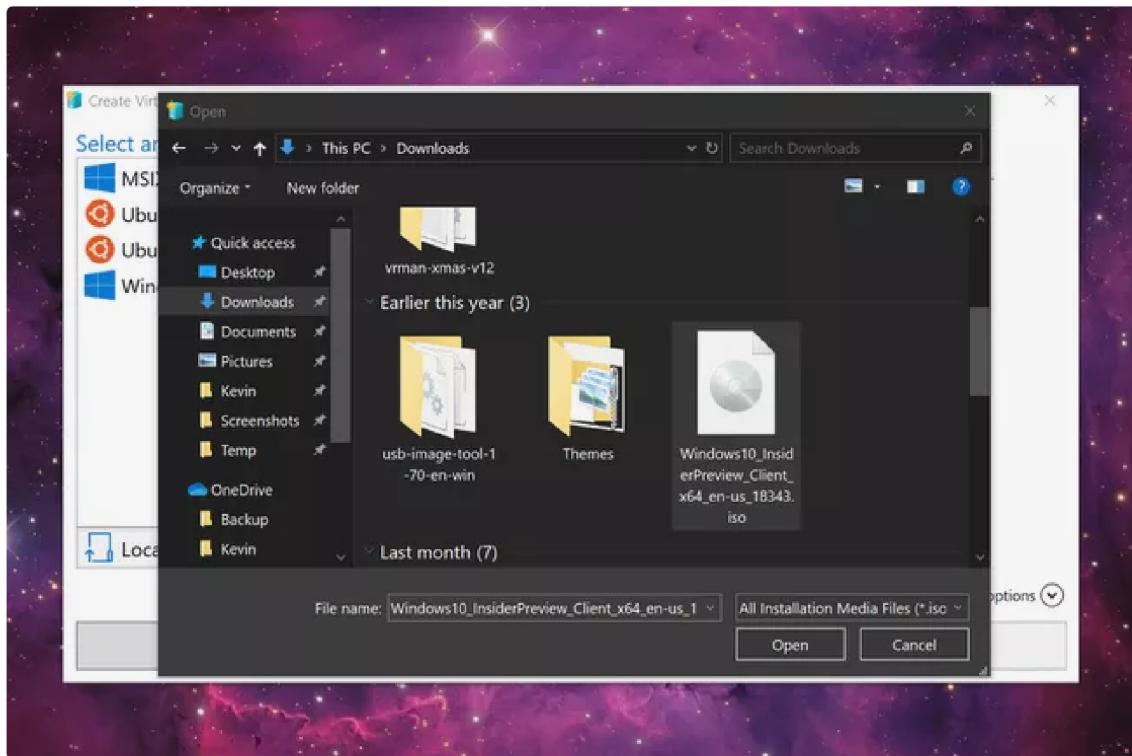
5. Select Local installation source.



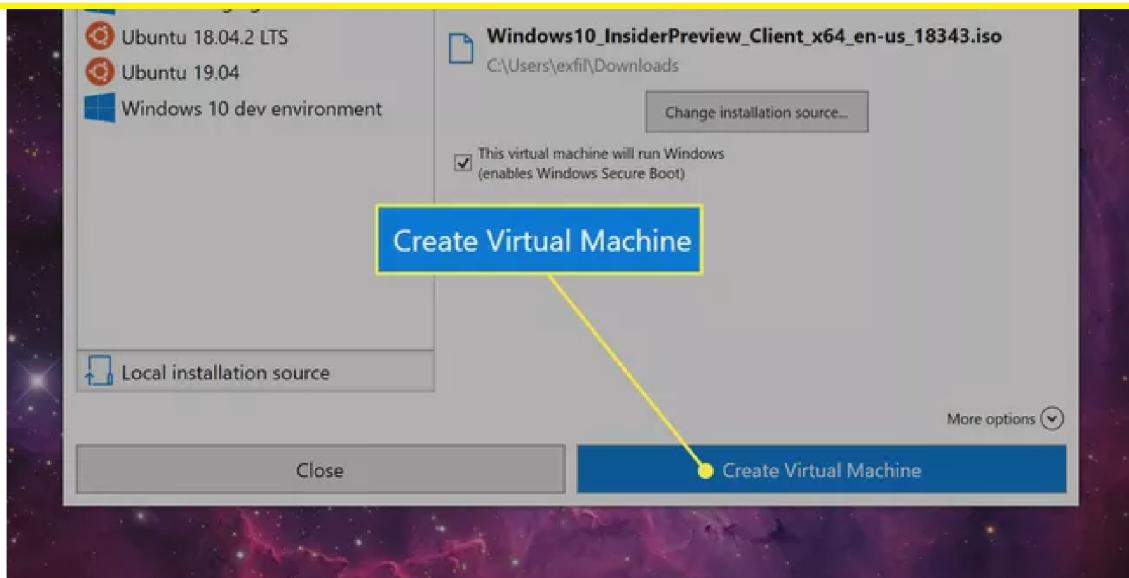
6. Select Change installation source.



7. Locate and select an ISO image stored locally on your PC., then select **Open**.



8. Finally, select **Create Virtual Machine**.



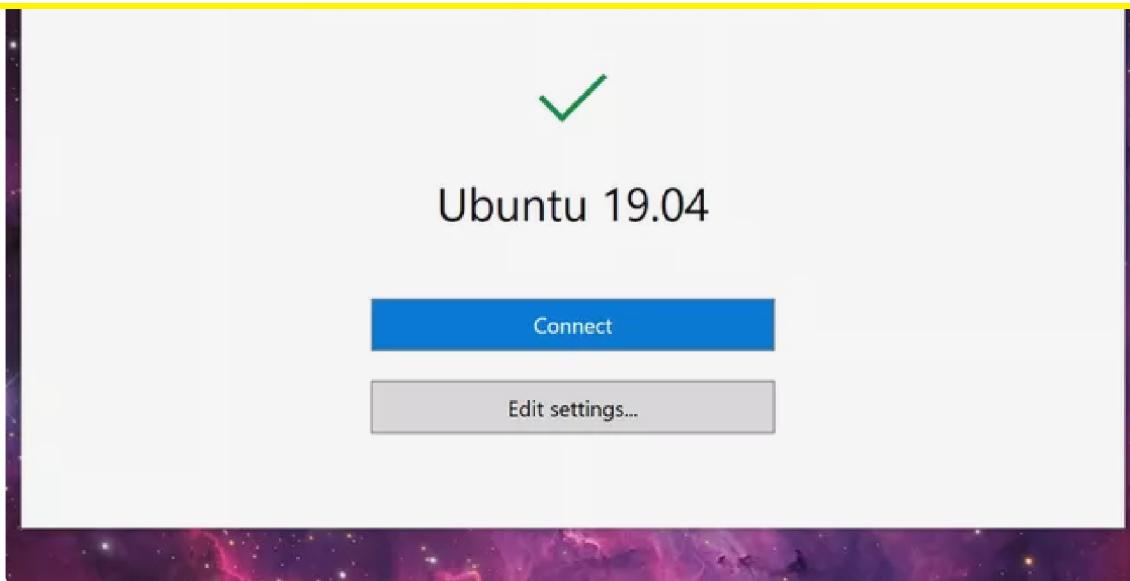
20.04

A Virtual Machine Example: Ubuntu 19.04

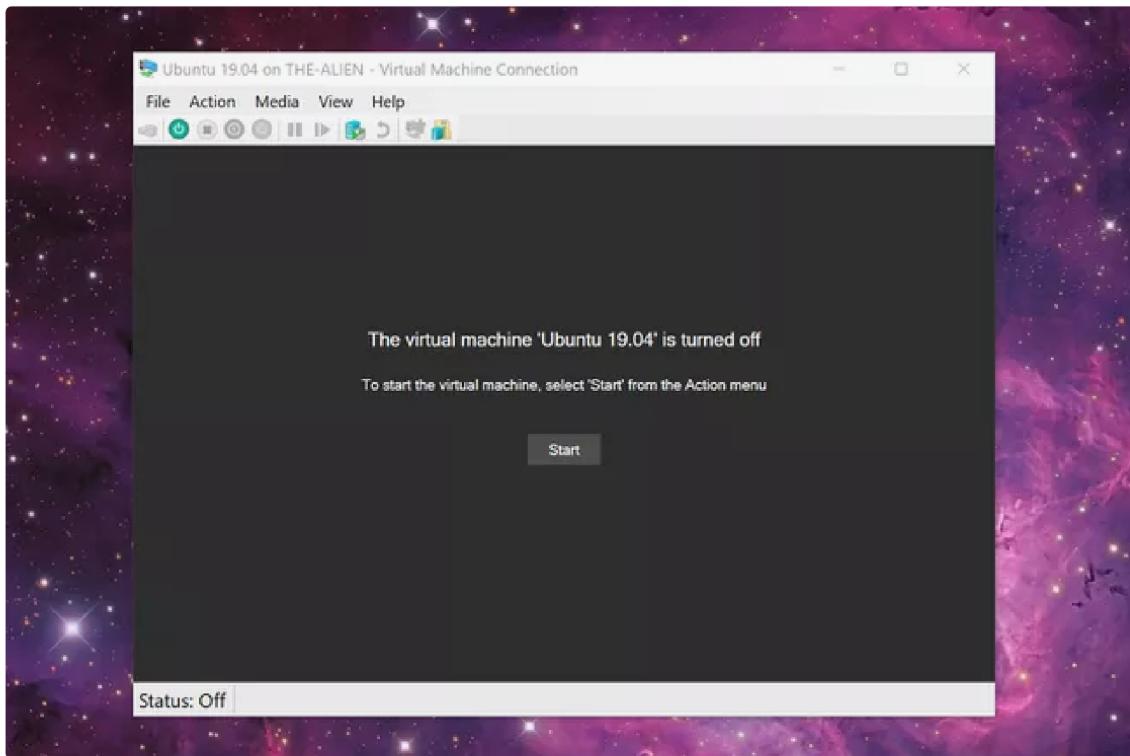
Once you select the Ubuntu 19.04 option and click **Create Virtual Machine**, the Hyper-V client will download and install Ubuntu in a software “container” (aka virtual machine). Once completed, Hyper-V prompts you with two buttons.

1. Click **Connect** to load the Virtual Machine Connection window.

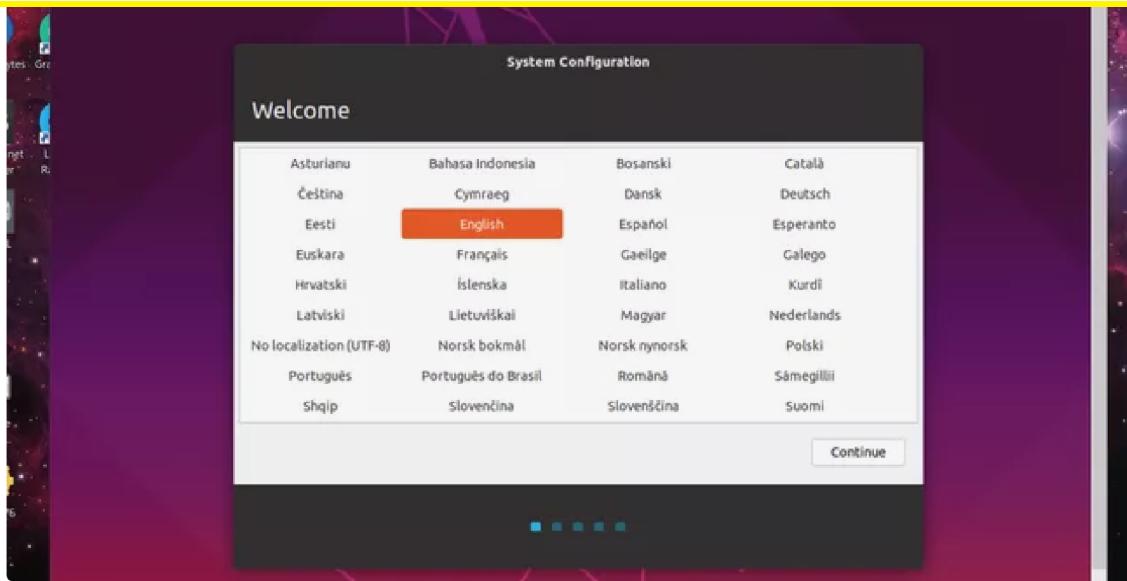
Note: Click **Edit settings** to access the settings for the hardware emulation needed to run a fake PC. This includes firmware, security, memory, processor, storage, and network connection.



2. Click the **Start** button in the Virtual Machine Connection window to launch your emulated operating system.



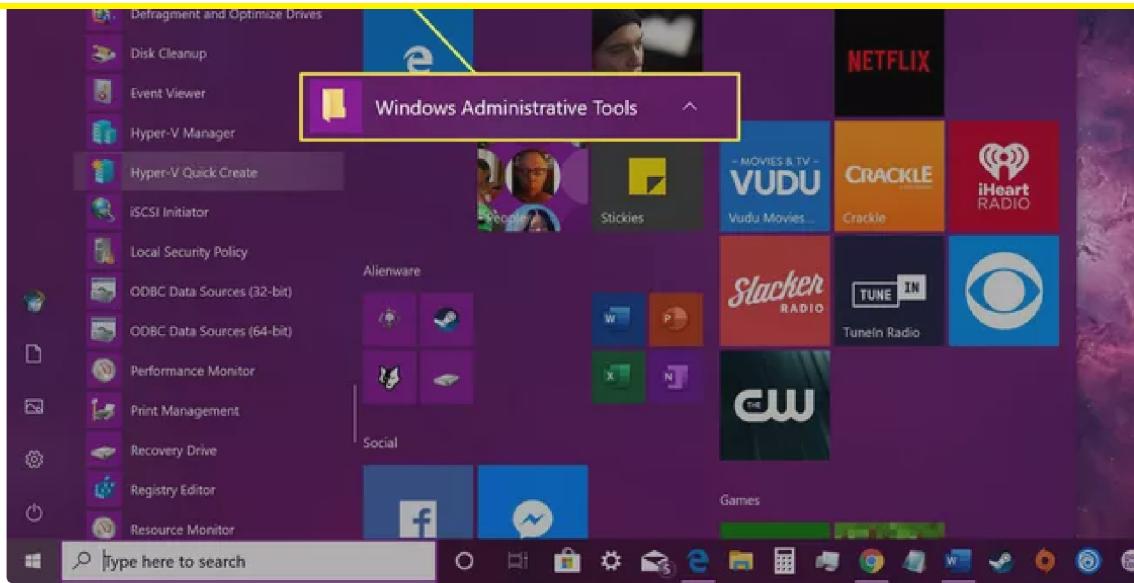
3. Follow the platform's on-screen instructions as if you're setting up a new PC. You will not need to run this setup again unless you create a new virtual machine.



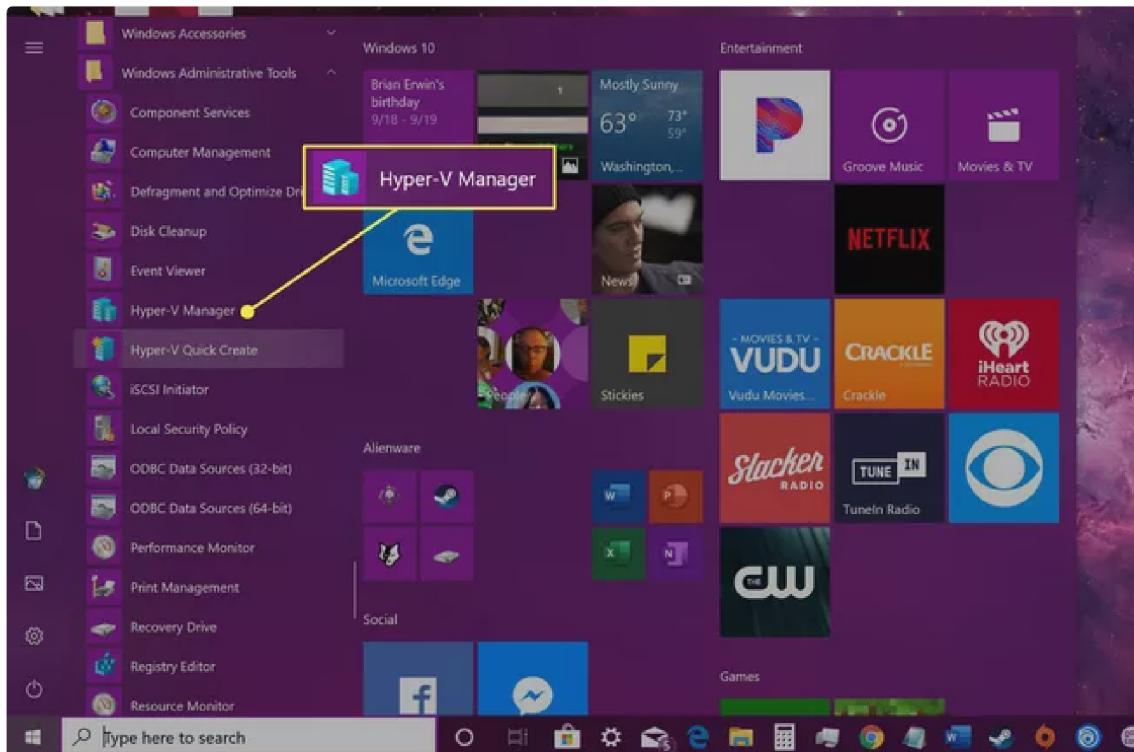
How to Load Your Virtual Machine

Because you're not installing a second operating system directly onto your PC, there's no shortcut on the Start Menu or the desktop. There's also no option to load your virtual machine from the Hyper-V Quick Create tool. Instead, you must load and shut down your virtual machine using the Hyper-V Manager.

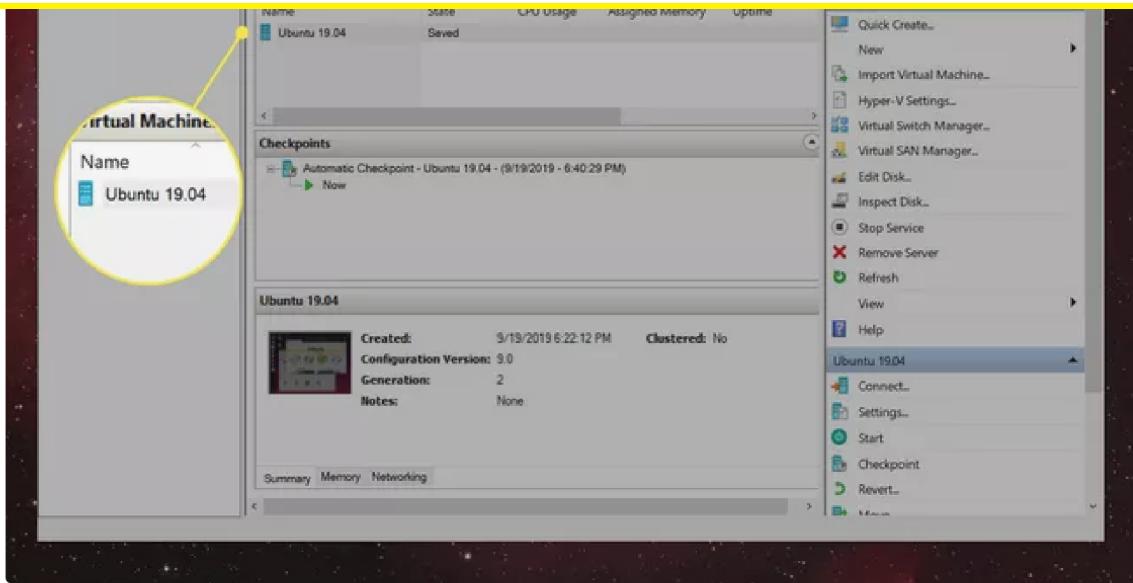
1. Select the **Start** button, scroll down on the Start Menu, then select **Windows Administrative Tools** to expand it.



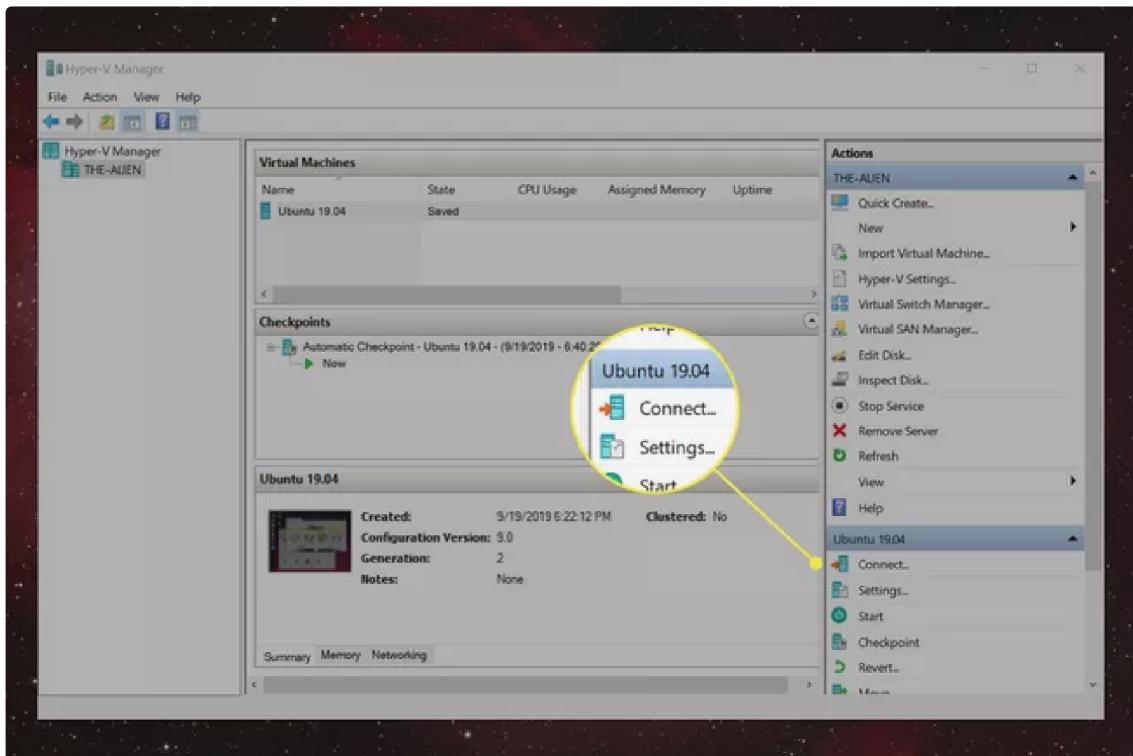
2. Select Hyper-V Manager.



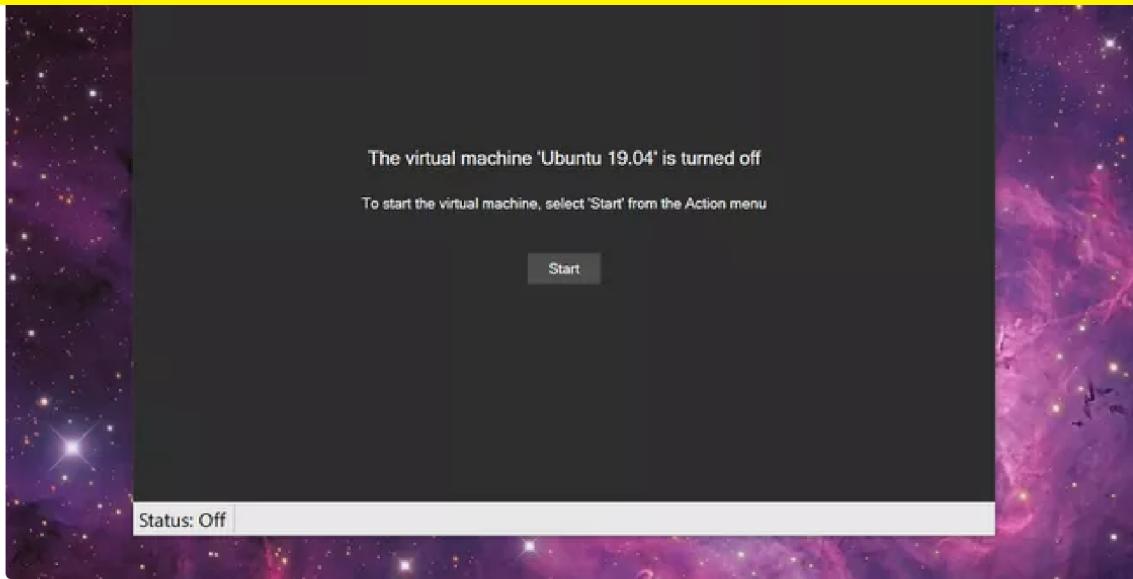
3. In the following Hyper-V Manager screen, highlight your saved virtual machine listed under **Virtual Machines**.



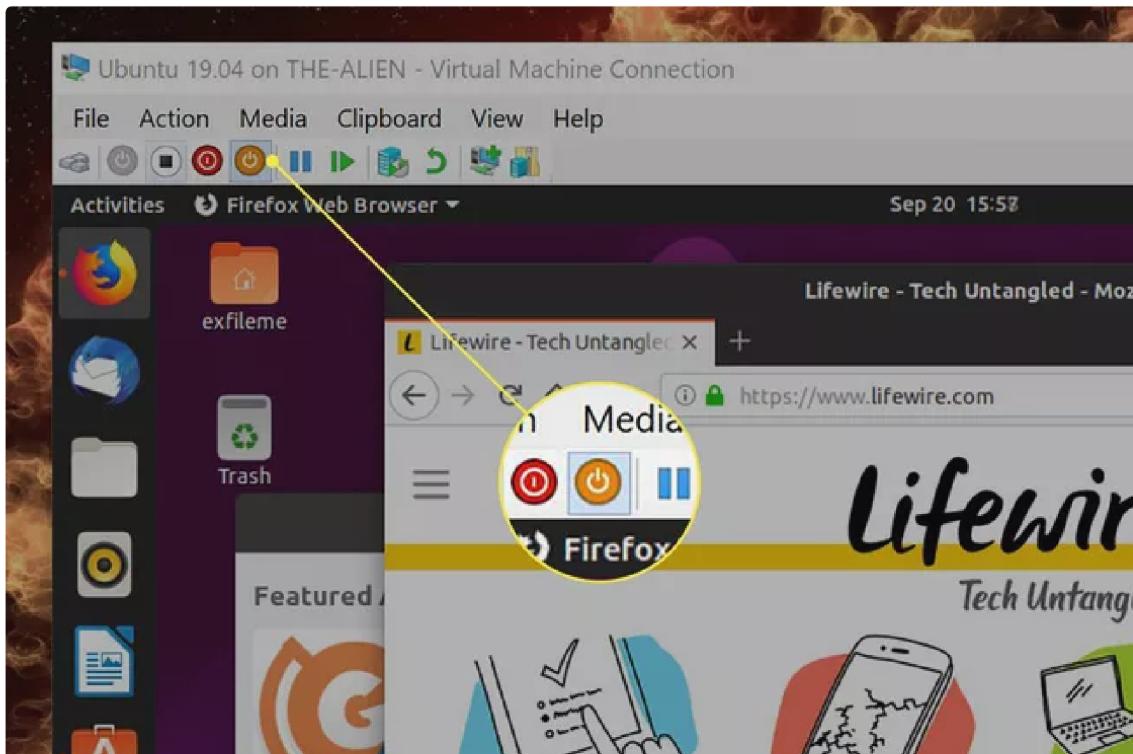
4. Select **Connect** located in the bottom right corner.



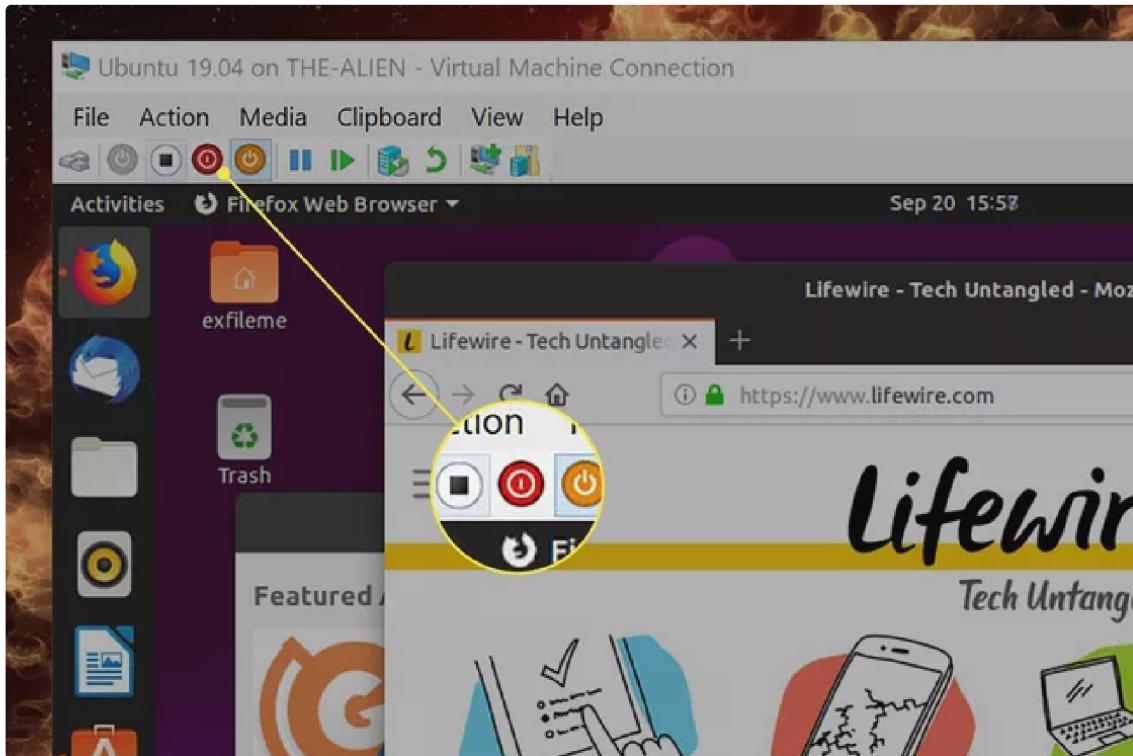
5. The Virtual Machine Connection screen appears. Select the **Start** button to "turn on" your virtual machine.



6. To save the current state of your virtual machine, select the orange **Save** icon located on the Virtual Machine Connection toolbar.



7. To shut down your virtual machine, select the red **Shut Down** icon located on the Virtual Machine Connection toolbar. This is similar to telling your PC to power down.



FAQ

How do I disable Hyper-V in Windows 10?

To disable in Windows 10, press the **Windows key+X** and go to **Apps and Features > Programs and Features > Turn Windows features on or off**. Locate **Hyper-V** and uncheck the box. Click **OK** to save changes and restart.

What is a Java Virtual Machine?

A Java Virtual Machine (**JVM**) is a virtual machine that provides an environment to run Java apps or code. The code can be either Java-based or code compiled by Java bytecode.

Was this page helpful?

