

HOW DO I SET UP A CYBER SECURITY VIRTUAL HOME LAB (FREE)

Mentorship with Hands-On Labs is a better approach to learn Cyber Security. After completing a rigorous two-year Master's program in Cyber Security at the University. I compared this to engaging in three months of intensive practical experience under expert mentorship, and I have come to a compelling conclusion that the theoretical knowledge alone is no longer sufficient and not the most effective way to learn Cyber Security with a bit of Computer Networking and System Administration.

A Better approach to Cyber Security from me is through mentorship and Hands-On Labs, which will lead us to build a Cyber Security home lab. This Home Lab will be a fantastic way to gain hands-on experience and enhance our skills in a controlled environment using the following Software: Hypervisors - VMware or VirtualBox. VirtualBox preferred. Other software is Kali Linux, Windows 8, window 10, Window Server 2022, Ubuntu Server.

I will be showing you step-by-step guide on how you can install VirtualBox on Windows 11 and then set up Windows 10, Windows 8, and Windows Server 2022 as virtual machines (VMs) within VirtualBox. *Other Software like Kali Linux, Ubuntu Server, Parrot OS, Pfsense Netgate, Metasploitable, etc, will be installed later, and I hope to keep this guide updated from time to time.*

STEP 1:

Installing VirtualBox on Windows 11

- In this tutorial, I'll be using VirtualBox by Oracle. VirtualBox is known as a Type 2 hypervisor, which allows us to run multiple virtual machines (VMs) on top of our existing WIN. 11 OS.
- Open your web browser and go to the official VirtualBox website: <https://www.virtualbox.org> and click on the Download tab.

The screenshot shows a web browser displaying the VirtualBox download page at <https://www.virtualbox.org/wiki/Downloads>. The page has a header with the VirtualBox logo and navigation links for Home, Download, Documentation, and Community. The main content features a large button labeled "Download VirtualBox". Below it, there are two sections: "VirtualBox Platform Packages" and "VirtualBox Extension Pack". The "VirtualBox Platform Packages" section lists various host operating systems supported by the platform packages. The "VirtualBox Extension Pack" section provides information about the extension pack, including its version (7.2.4), the PUEL license, and a link to the "Accept and download" button. A note at the bottom of the page states that platform packages are released under the terms of the GPL version 3.

- Click on the Downloads section.
- Choose the package for your particular Host. I am installing on a Windows 11 host computer, so I click on Windows hosts.

Download VirtualBox

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VirtualBox Platform Packages

VirtualBox 7.2.4 platform packages

- Windows hosts
- macOS / Intel hosts
- macOS / Apple Silicon hosts
- Linux distributions
- Solaris hosts
- Solaris 11 IPS hosts

Platform packages are released under the terms of the [GPL version 3](#)

VirtualBox Extension Pack

VirtualBox 7.2.4 Extension Pack

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See our [FAQ](#) for answers to common questions.

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- Save to your computer.

Download VirtualBox

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VirtualBox Extension Pack

VirtualBox 7.2.4 Extension Pack

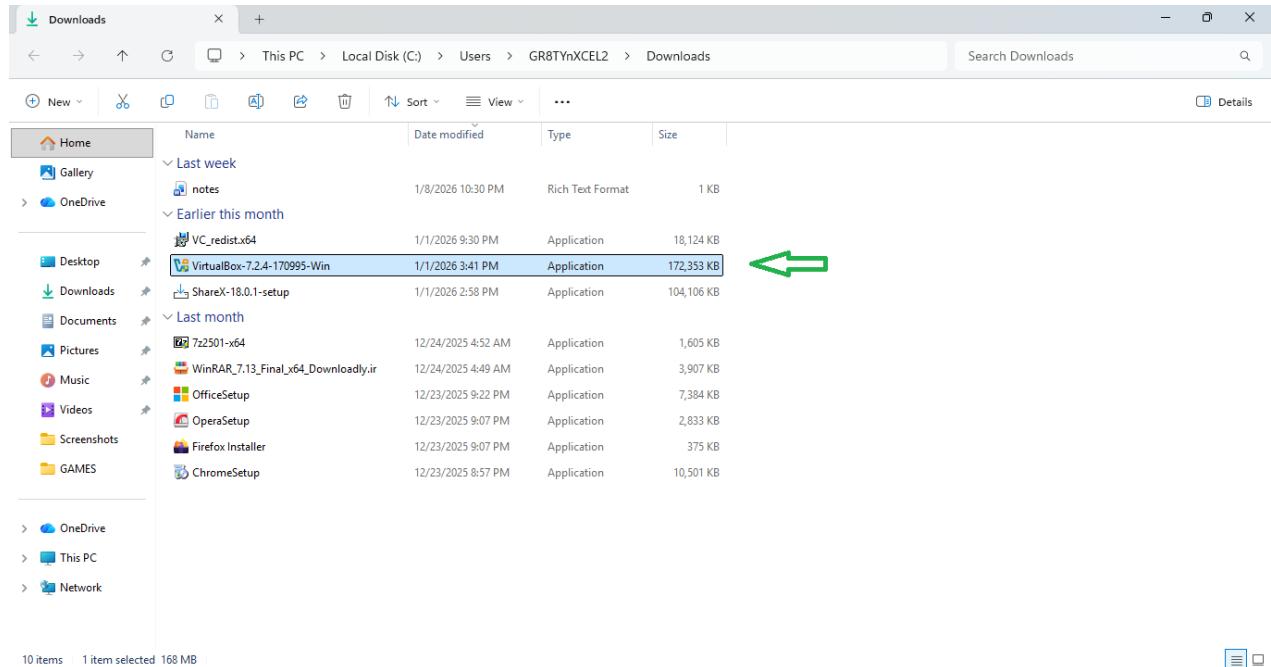
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See our [FAQ](#) for answers to common questions.

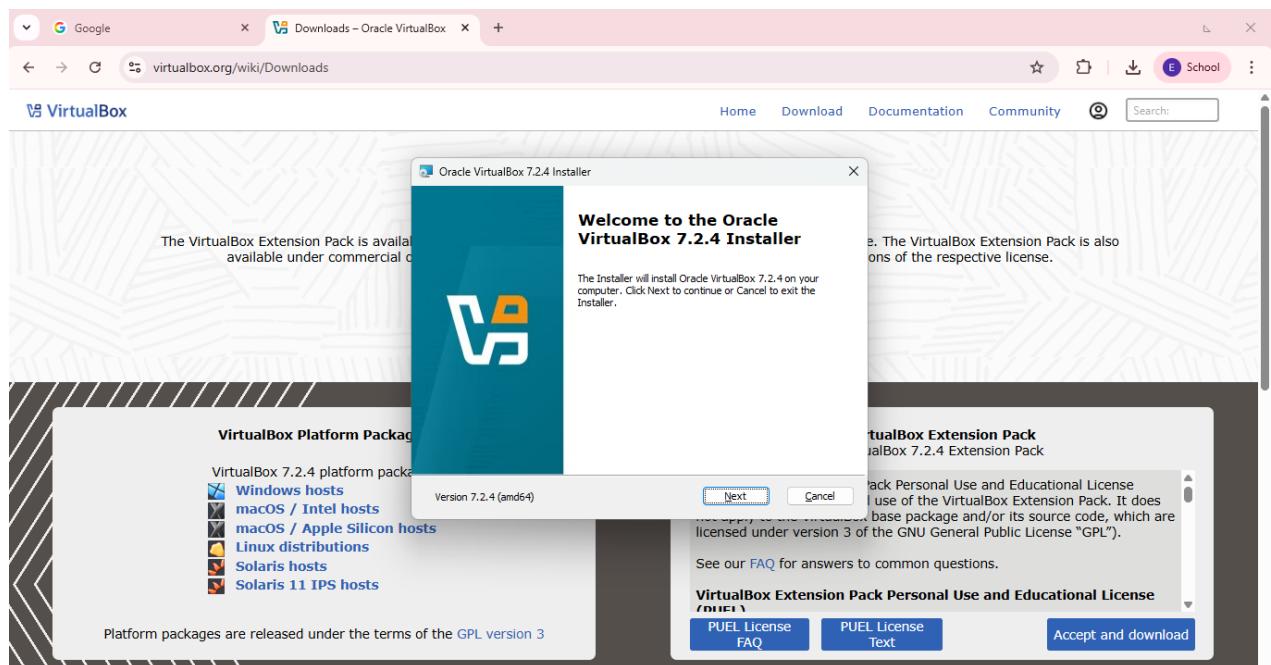
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- Locate the installer file (usually in your Downloads folder).

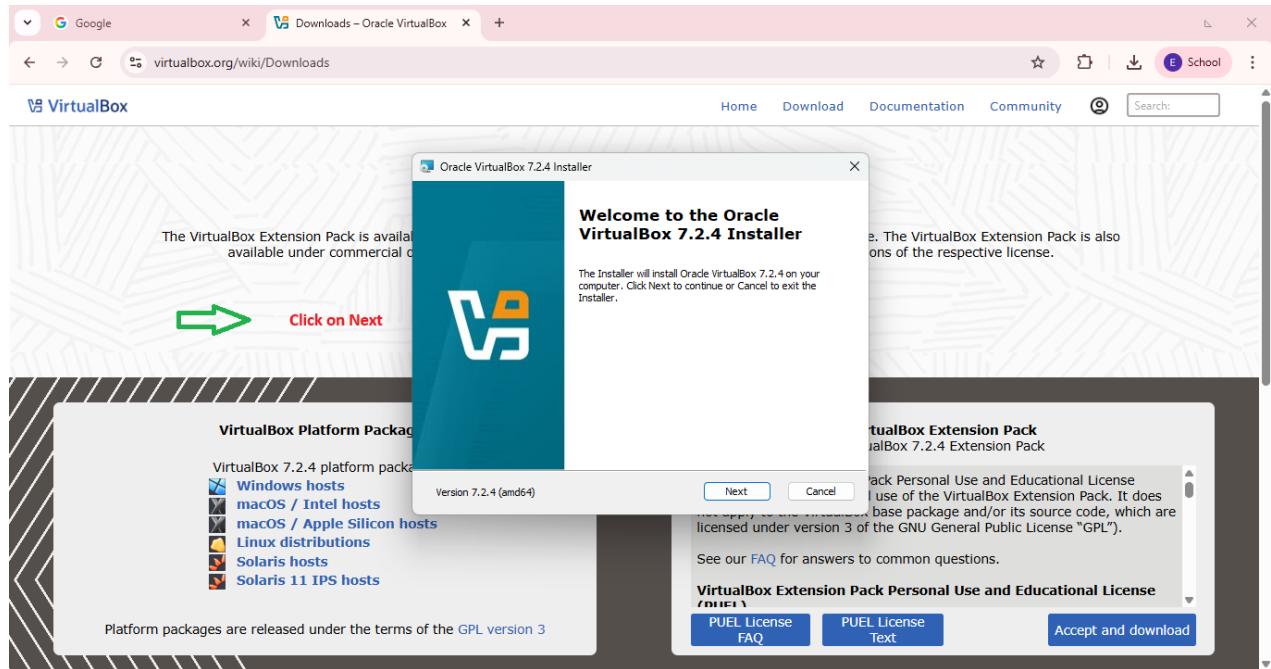


- Run the Installer

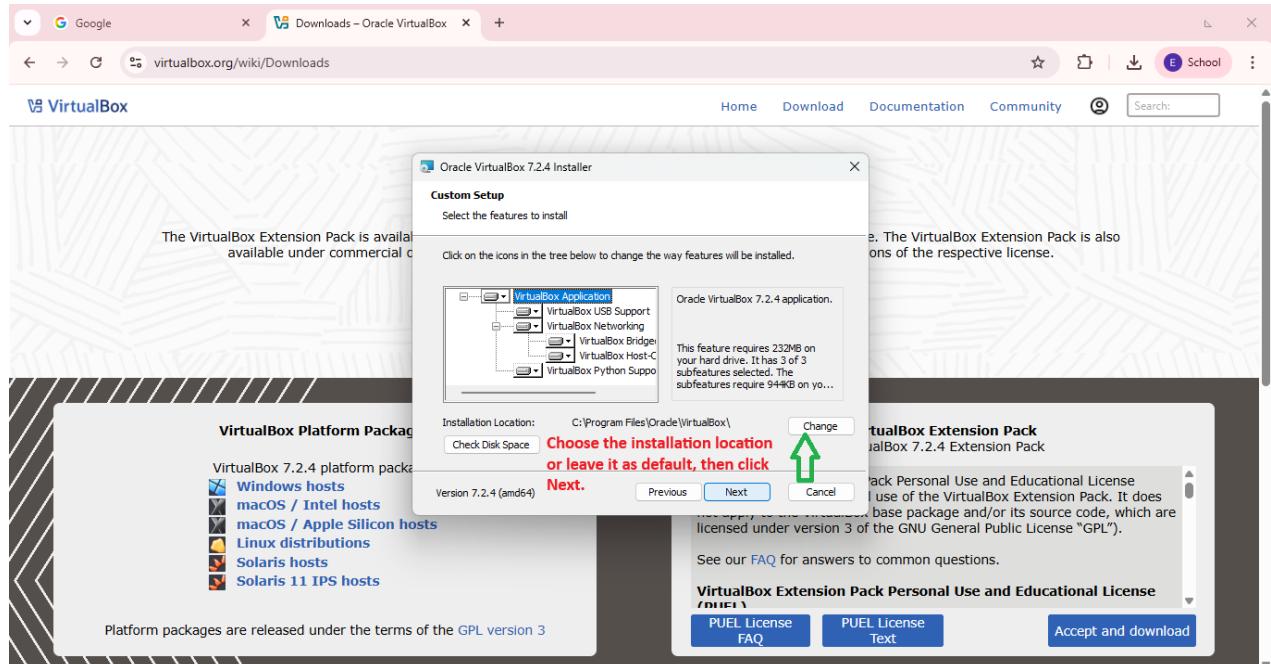


- Once the download completes,
- Double-click the installer to start the installation process.
- Follow the on-screen prompts

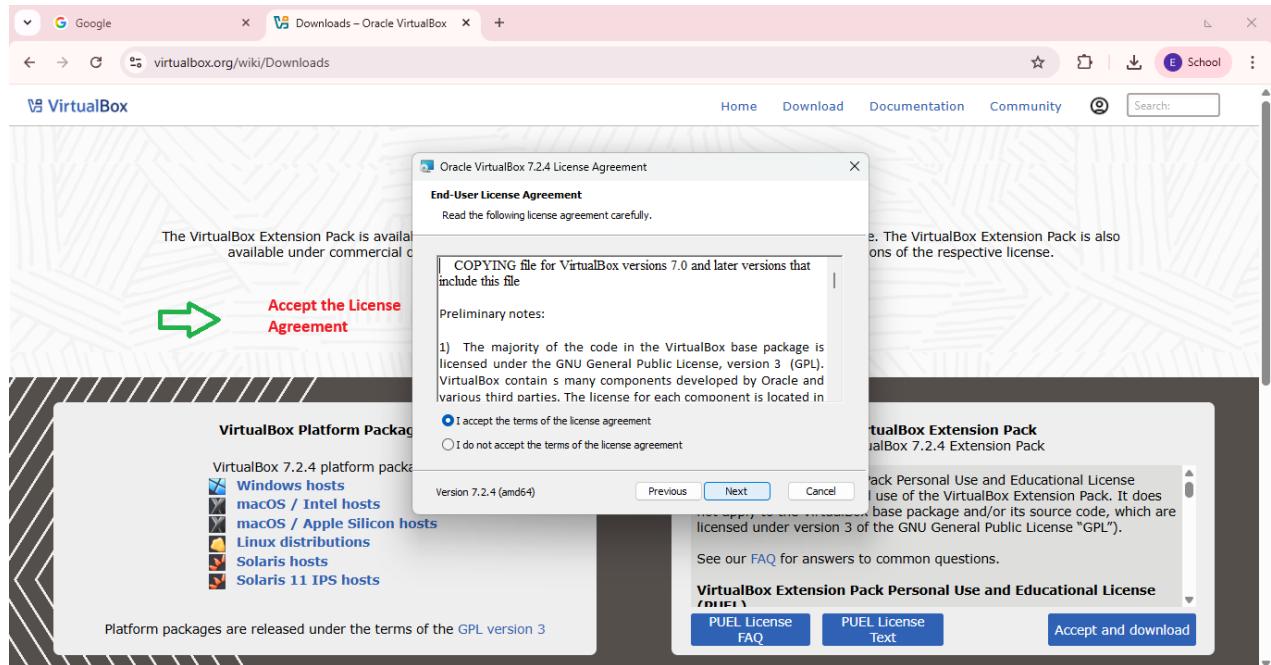
- Click Next on the welcome screen.



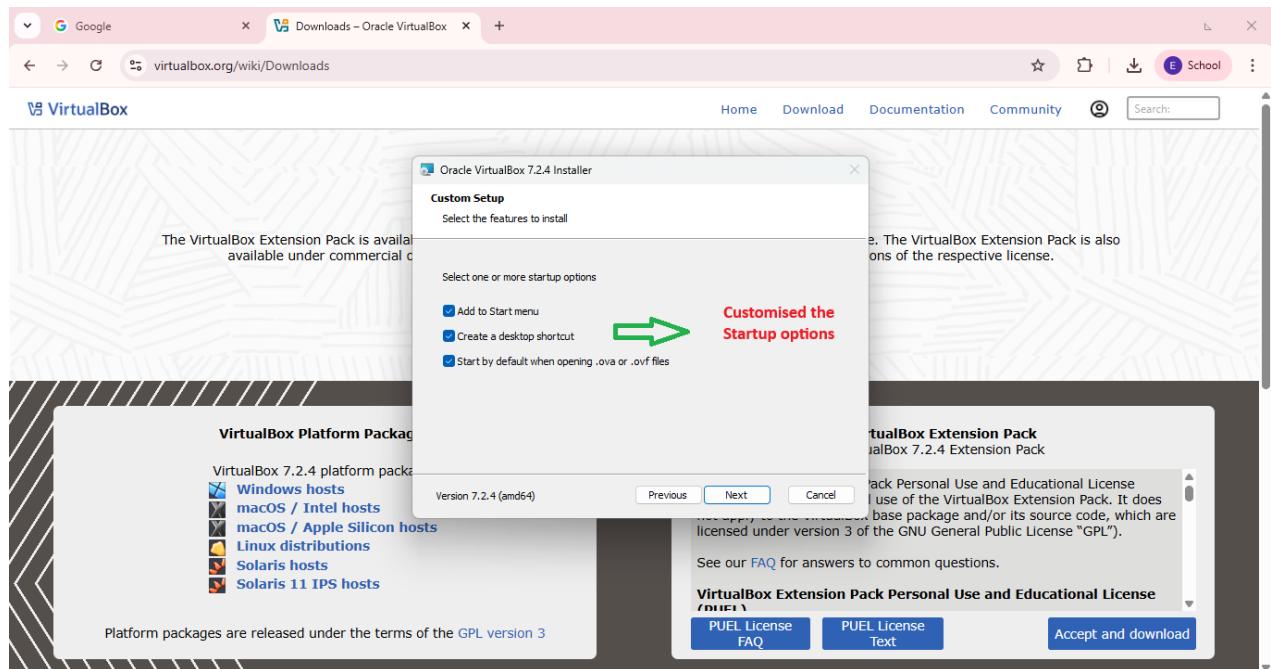
- Choose the installation location and select the components to install (default is fine).



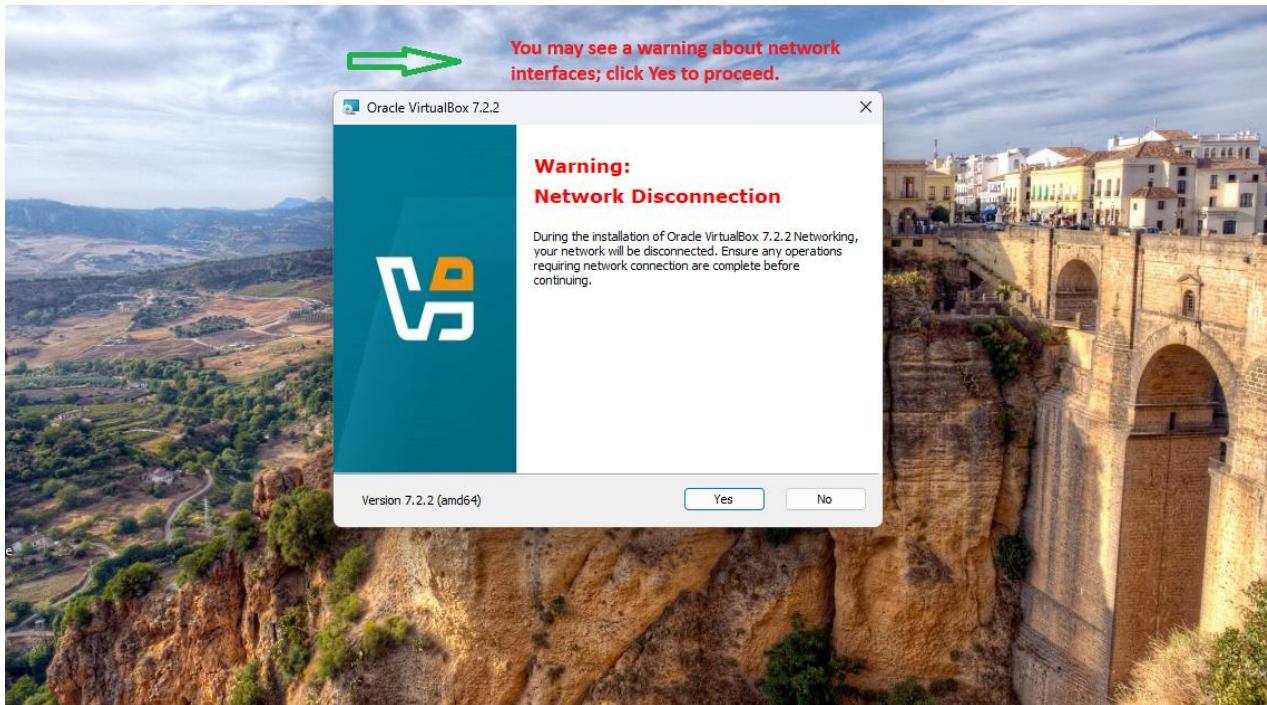
Accept terms and conditions.



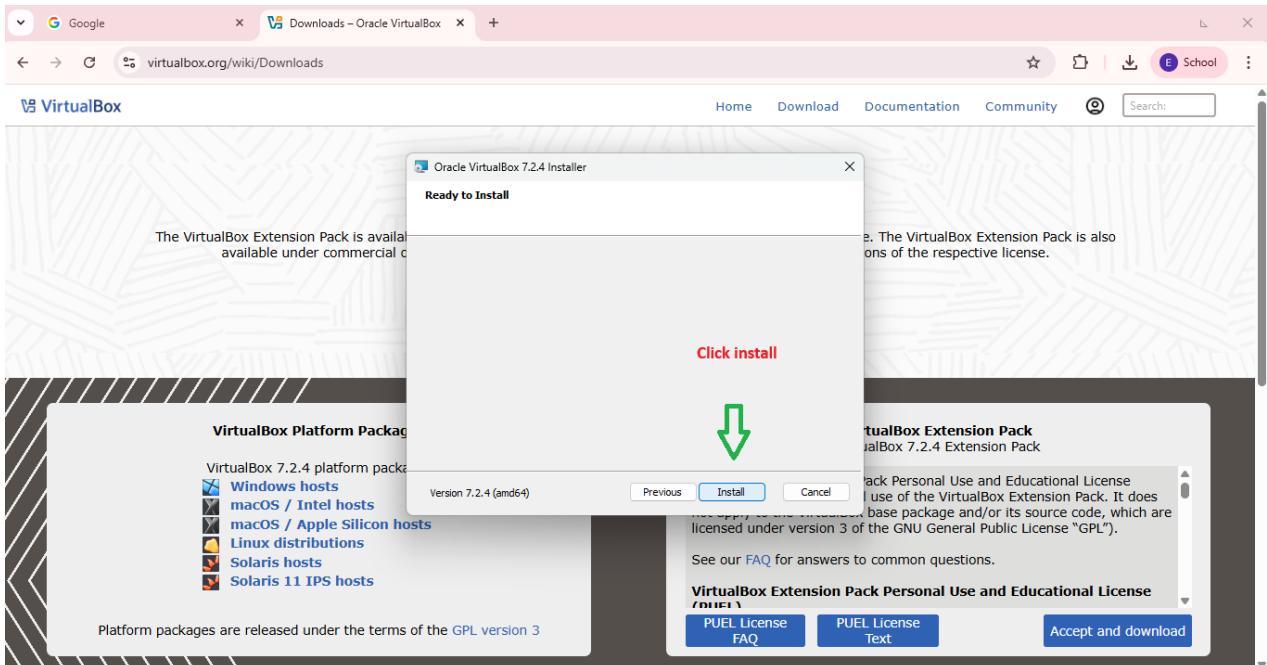
○ Customize your setup.



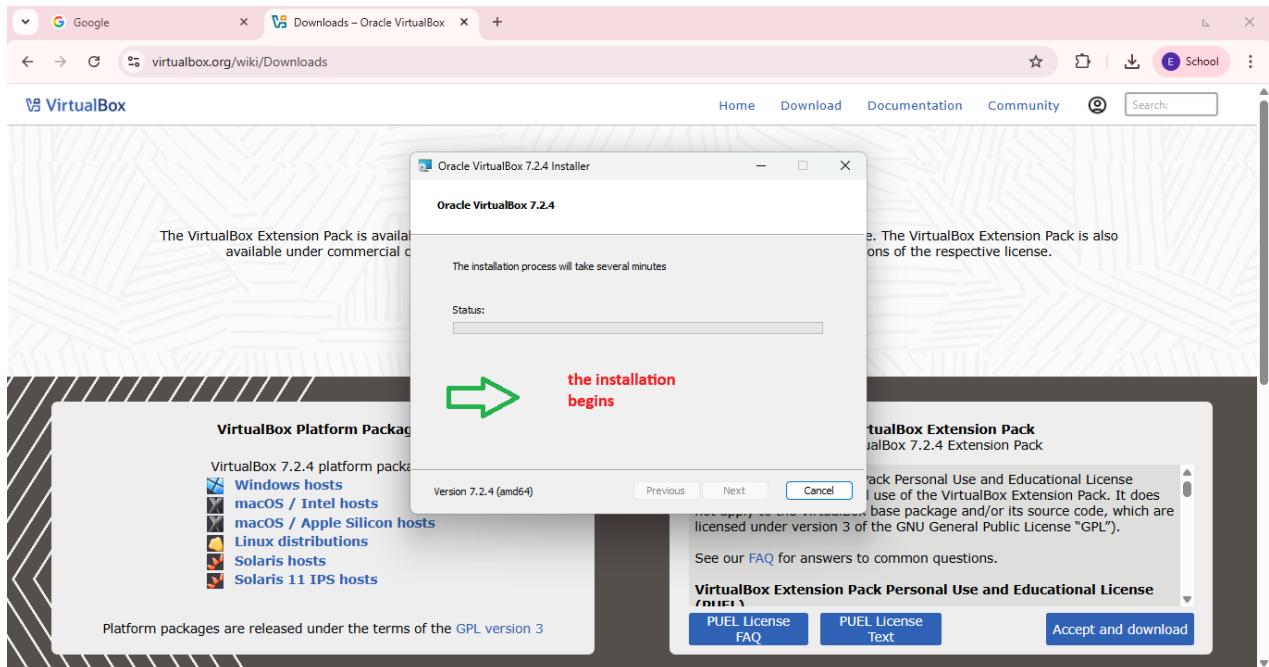
- You may be warned about network interfaces resetting; click Yes to continue.



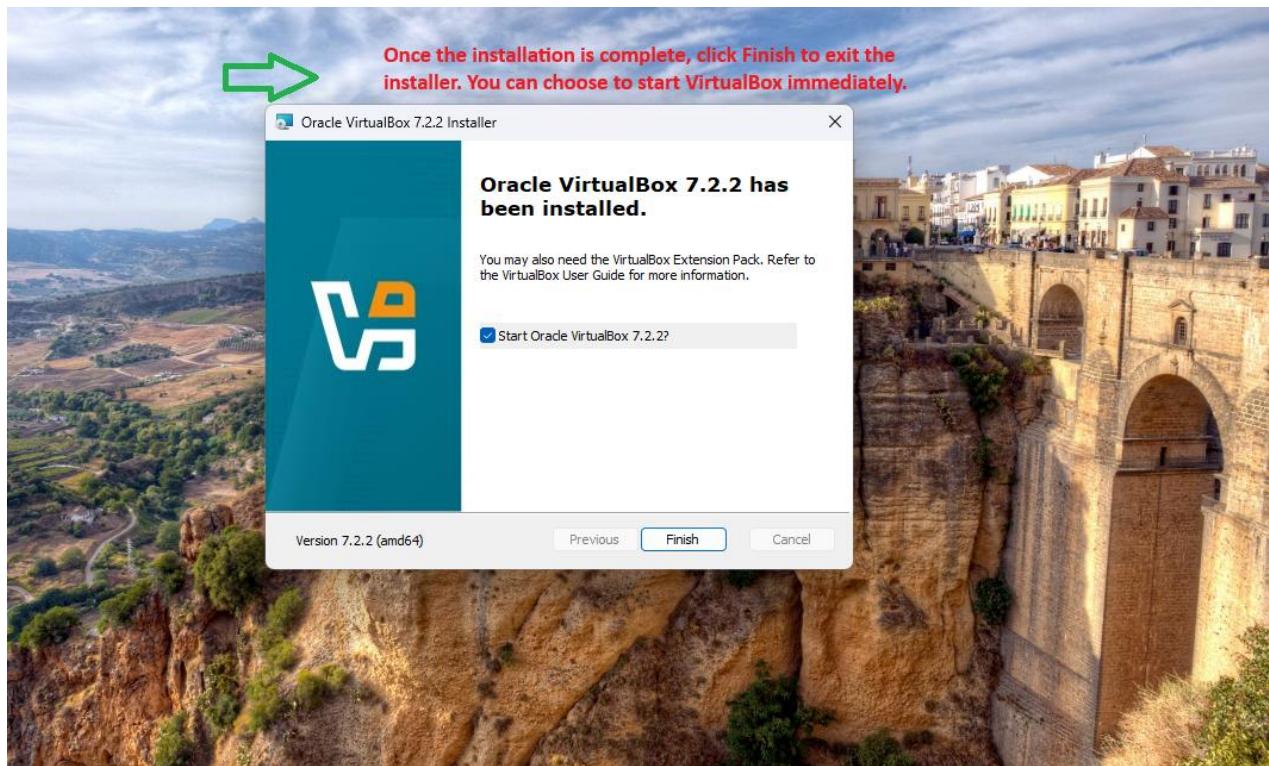
- Click Install to begin installation.



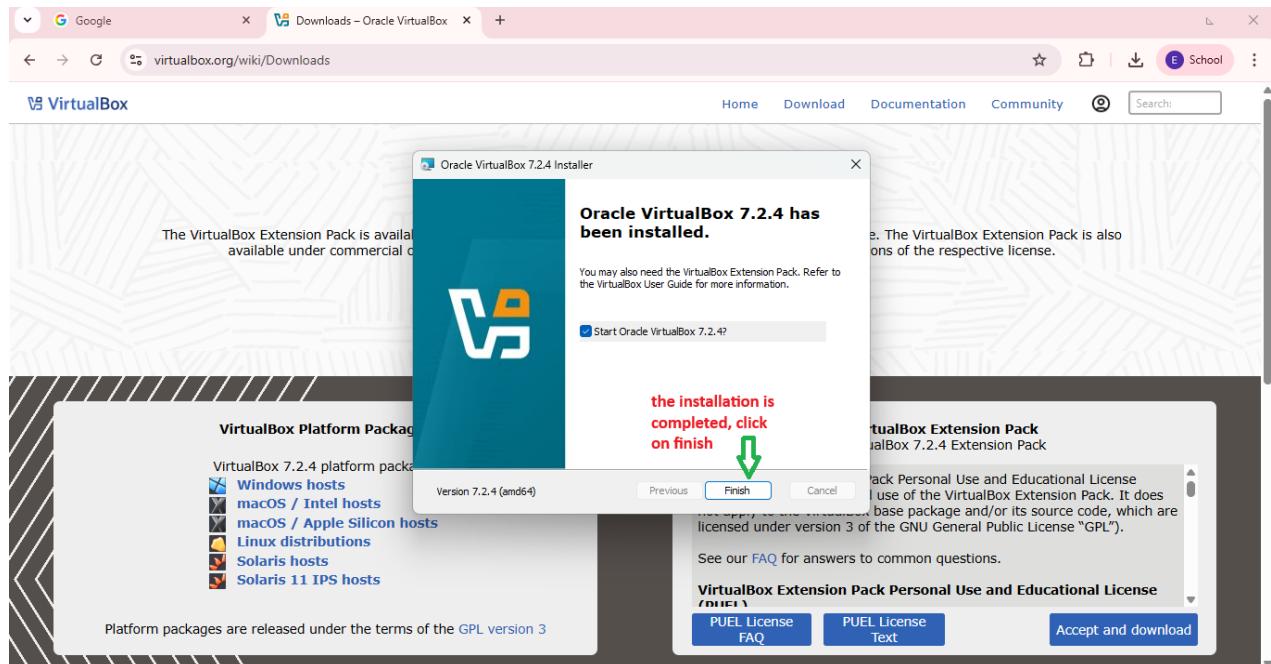
- Installation Begins



- After installation completes, click Finish to launch VirtualBox.



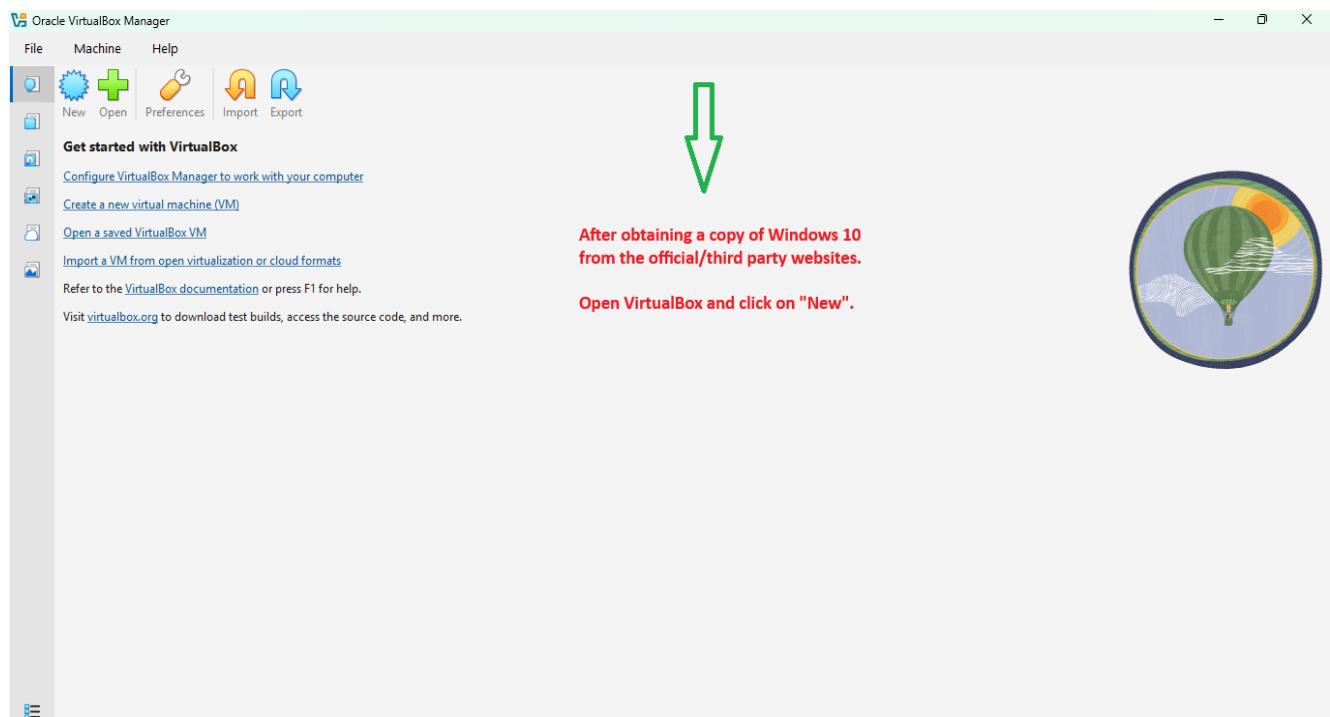
- You have now successfully installed VirtualBox!



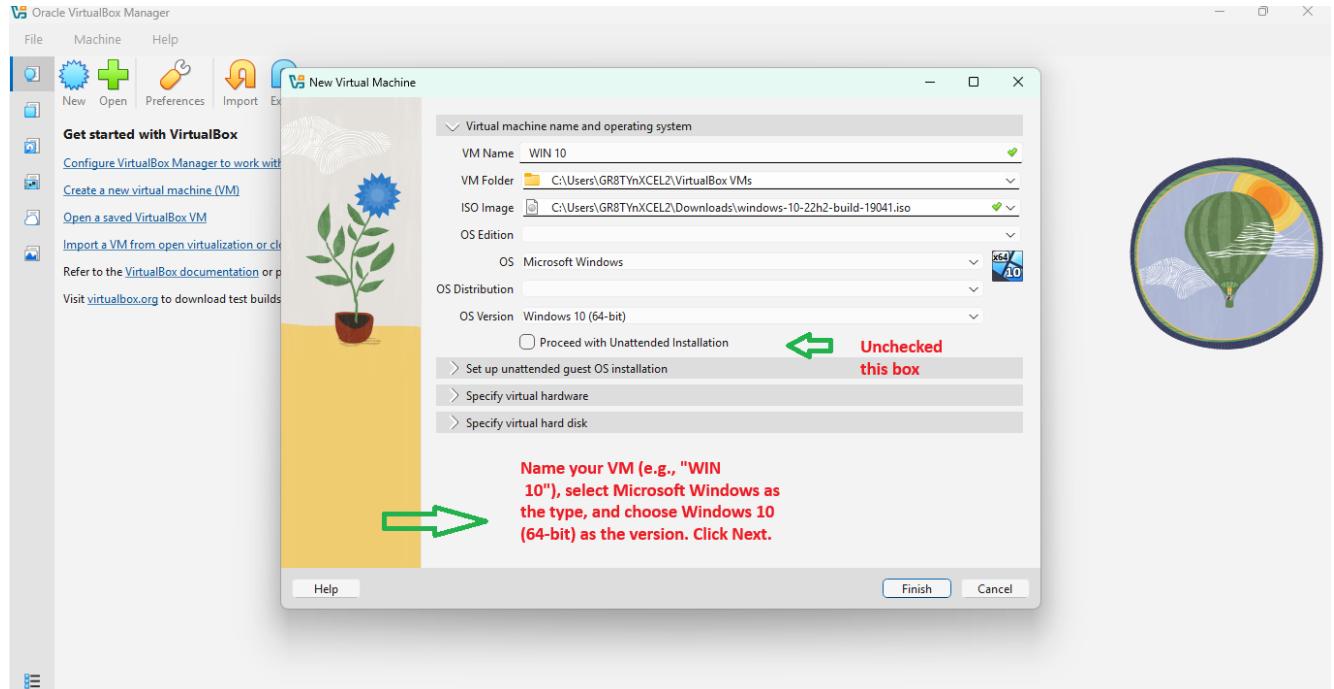
STEP 2:

Install Windows 10 on VirtualBox

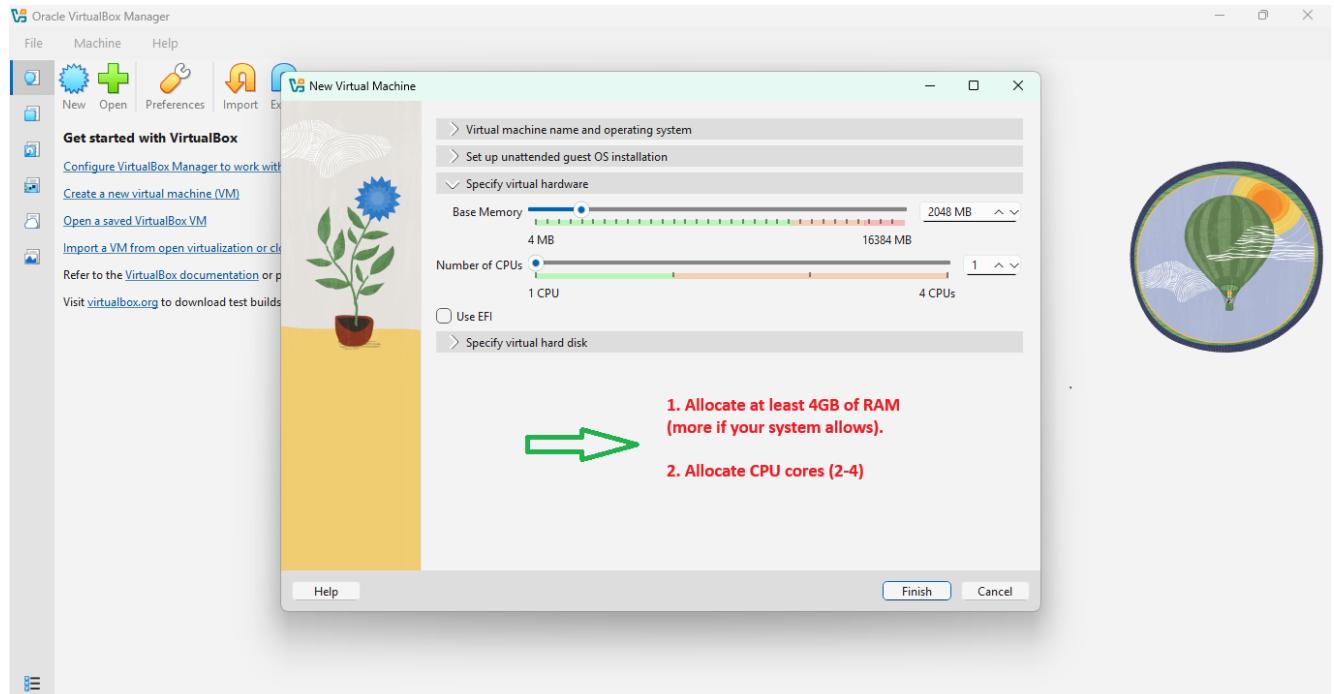
- Download Windows 10 ISO by obtaining the Windows 10 ISO file from a reliable source or official Microsoft website
- Create a New Virtual Machine.
- In VirtualBox, click on "New".



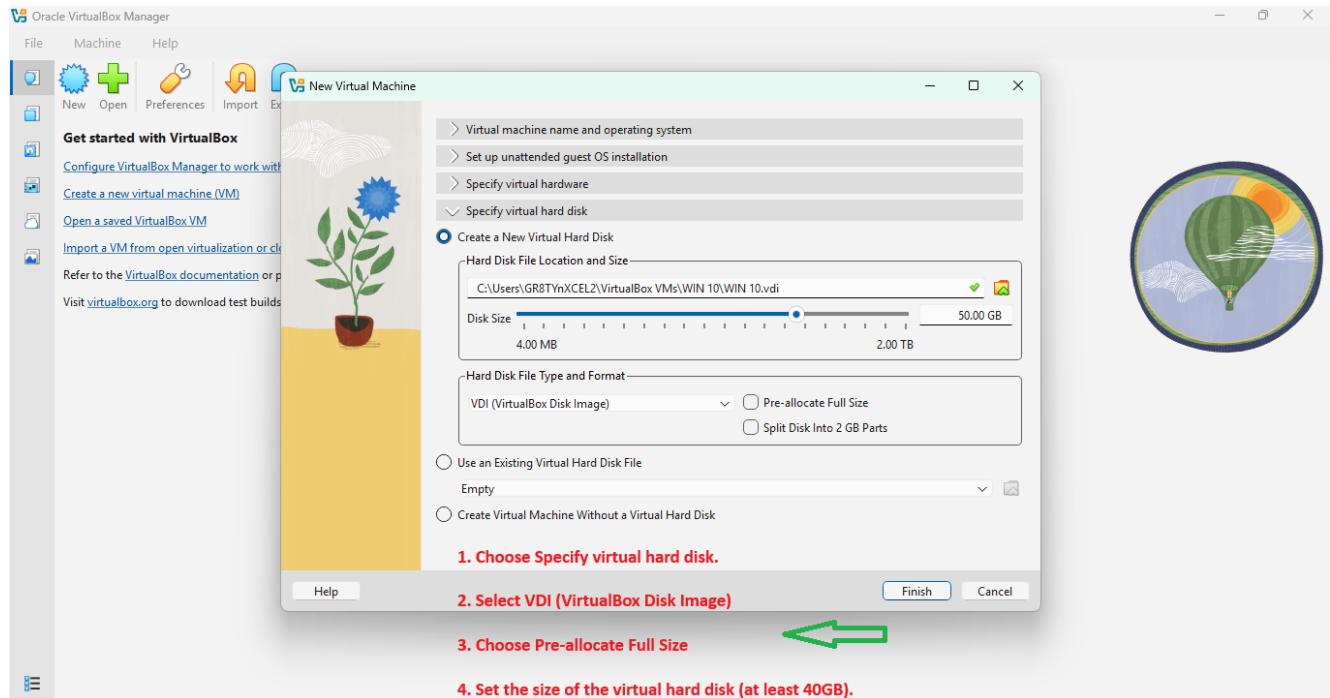
- Name your VM (e.g., "Windows 10")
- Select Microsoft Windows as the type
- Choose Windows 10 (64-bit) as the version.
- Unchecked “Proceed with Unattended Installation”.



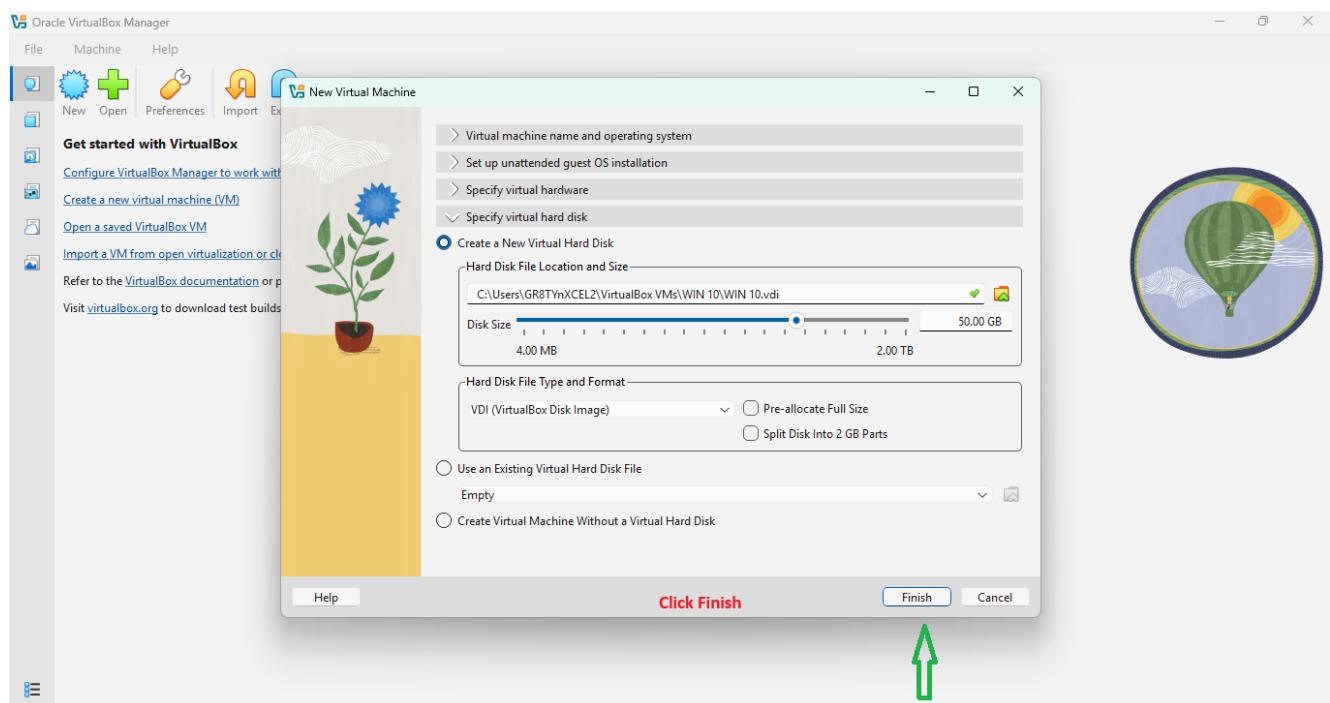
- Allocate at least 4GB of RAM (more if your system allows).



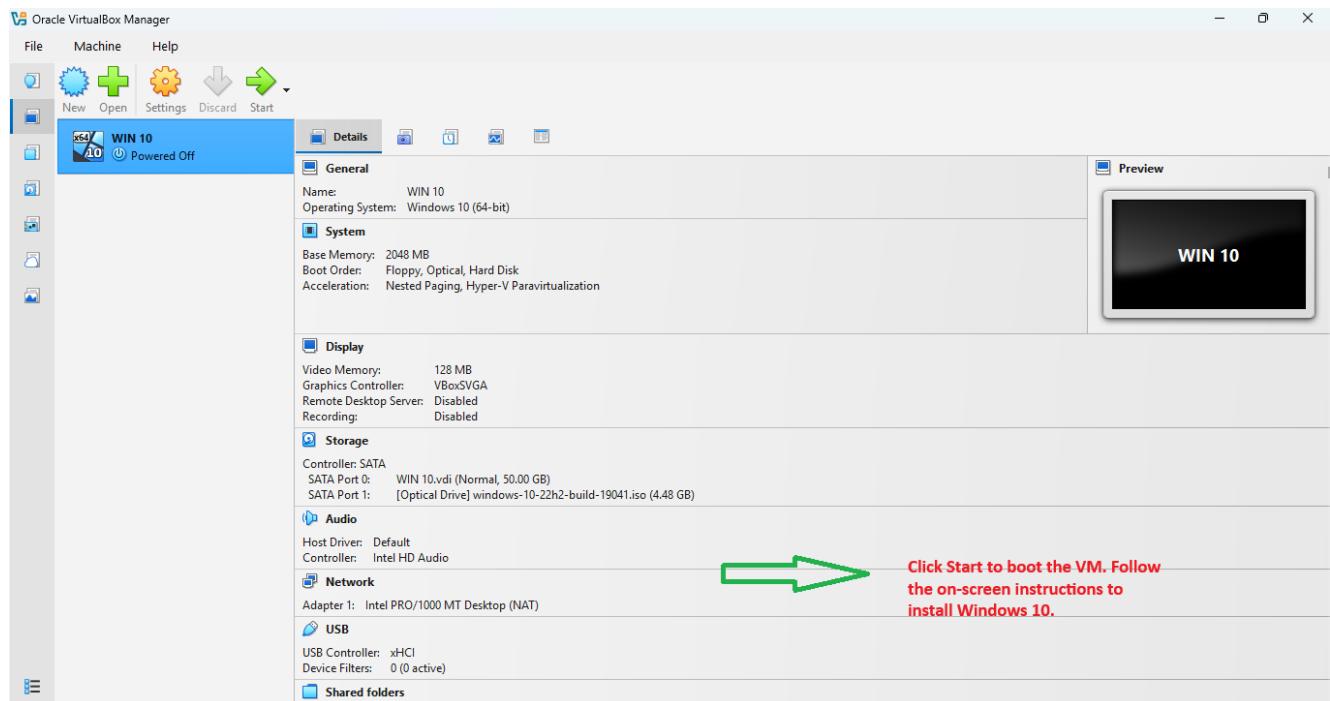
- Choose Specify Virtual Hard Disk.
- Select VDI (VirtualBox Disk Image).
- Choose Pre-allocated Full Size.
- Set the size of the virtual hard disk (at least 40GB).



- Click Finish.



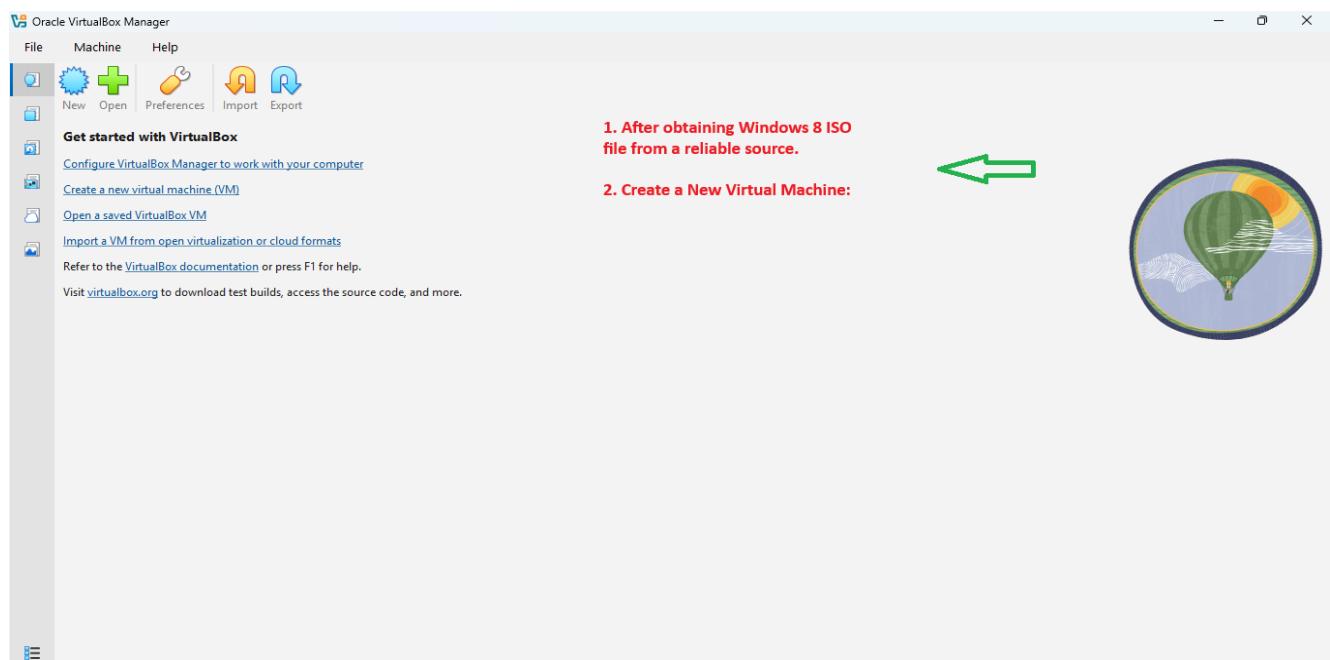
- Select your new VM (WIN 10).
- Click Start to boot the VM.
- Follow the on-screen instructions to install Windows 10.



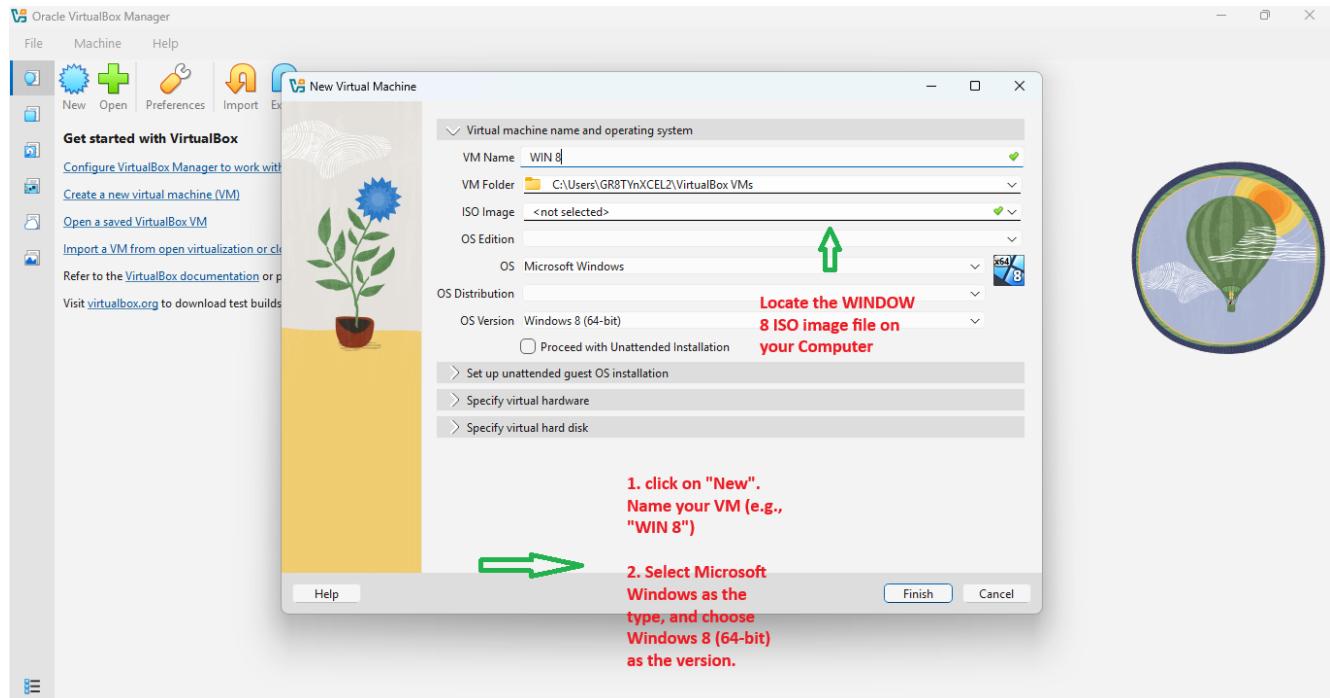
STEP 3:

Install Windows 8 on VirtualBox

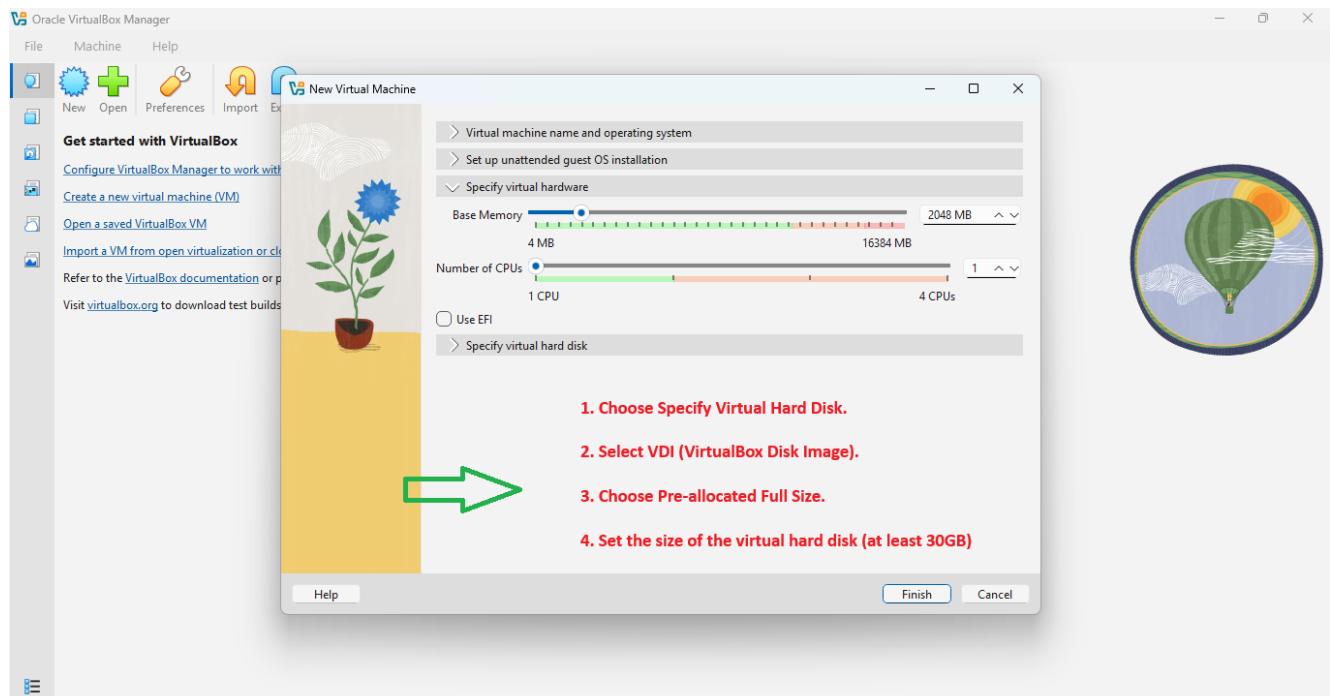
- Download Windows 8 ISO by obtaining the Windows 8 ISO file from a reliable source.
- Create a New Virtual Machine.
- In VirtualBox, click on "New".



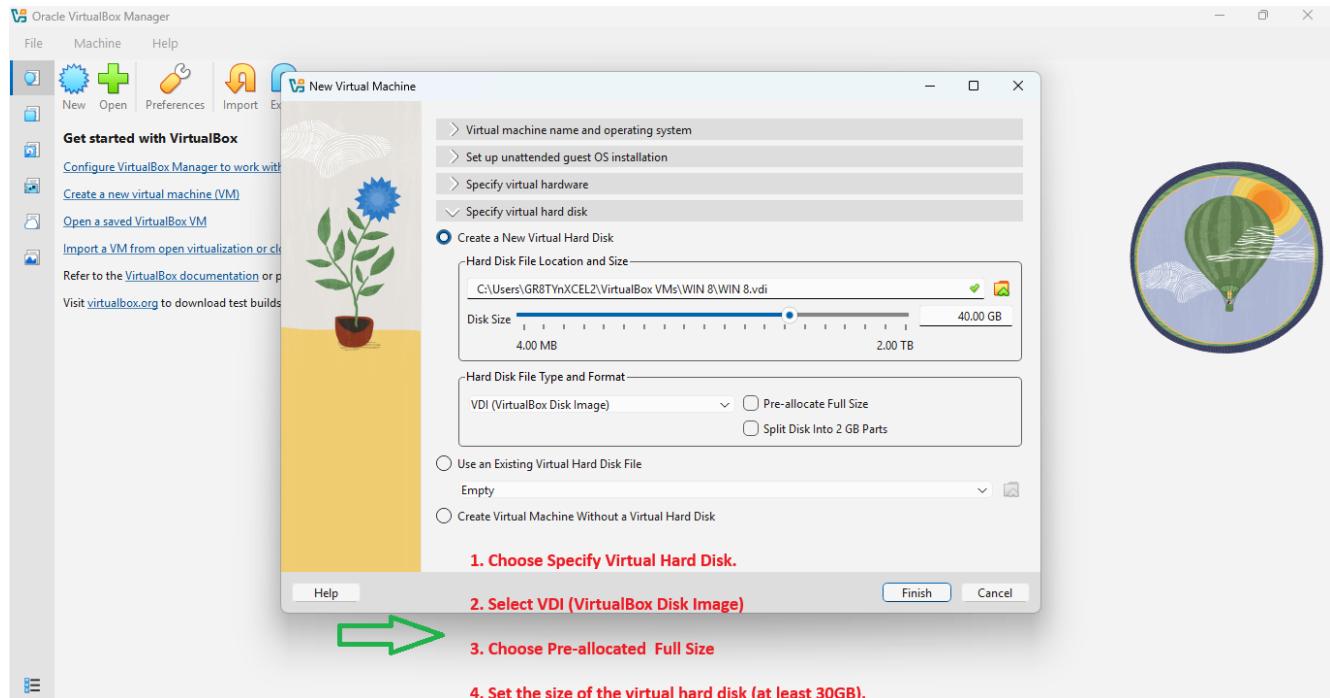
- Name your VM (e.g., "Windows 8")
- Select Microsoft Windows as the type
- Choose Windows 8 (64-bit) as the version.
- Unchecked "Proceed with Unattended Installation".



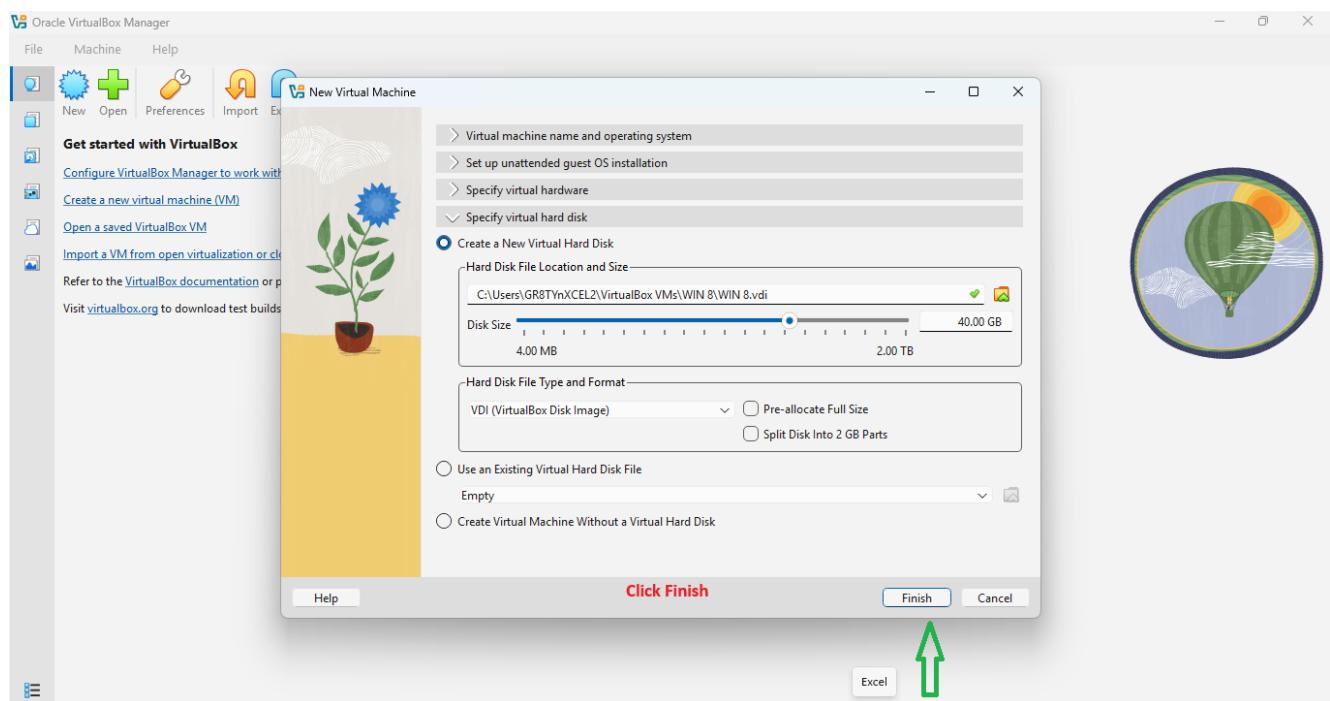
- Allocate at least 2GB of RAM (more if your system allows).



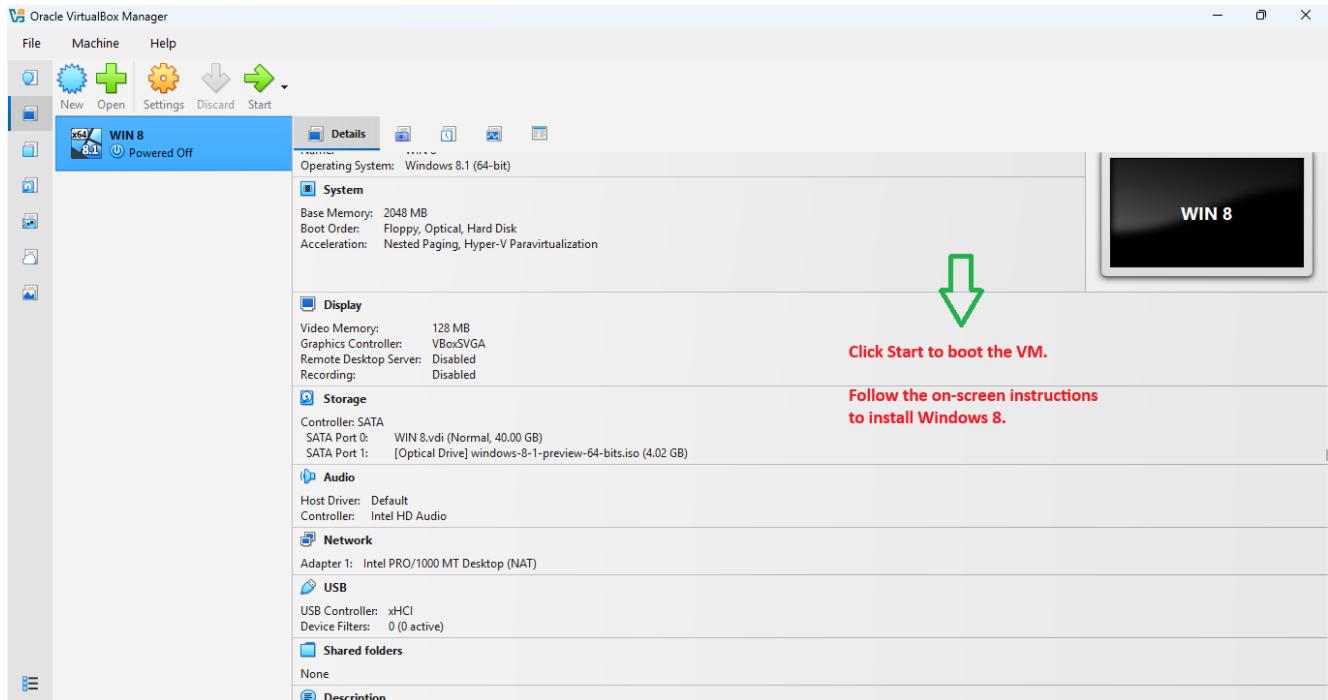
- Choose Specify Virtual Hard Disk.
- Select VDI (VirtualBox Disk Image).
- Choose Pre-allocated Full Size.
- Set the size of the virtual hard disk (at least 30GB).



- Click Finish.



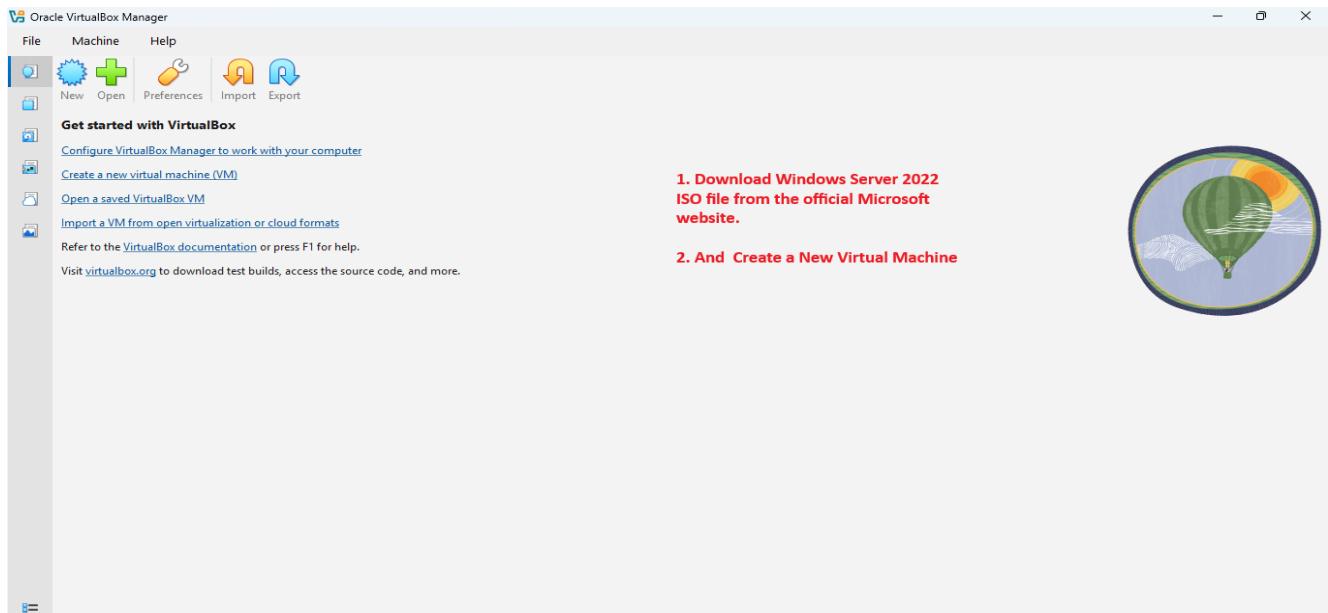
- Select your new VM (WIN 8).
- Click Start to boot the VM.
- Follow the on-screen instructions to install Windows 8.



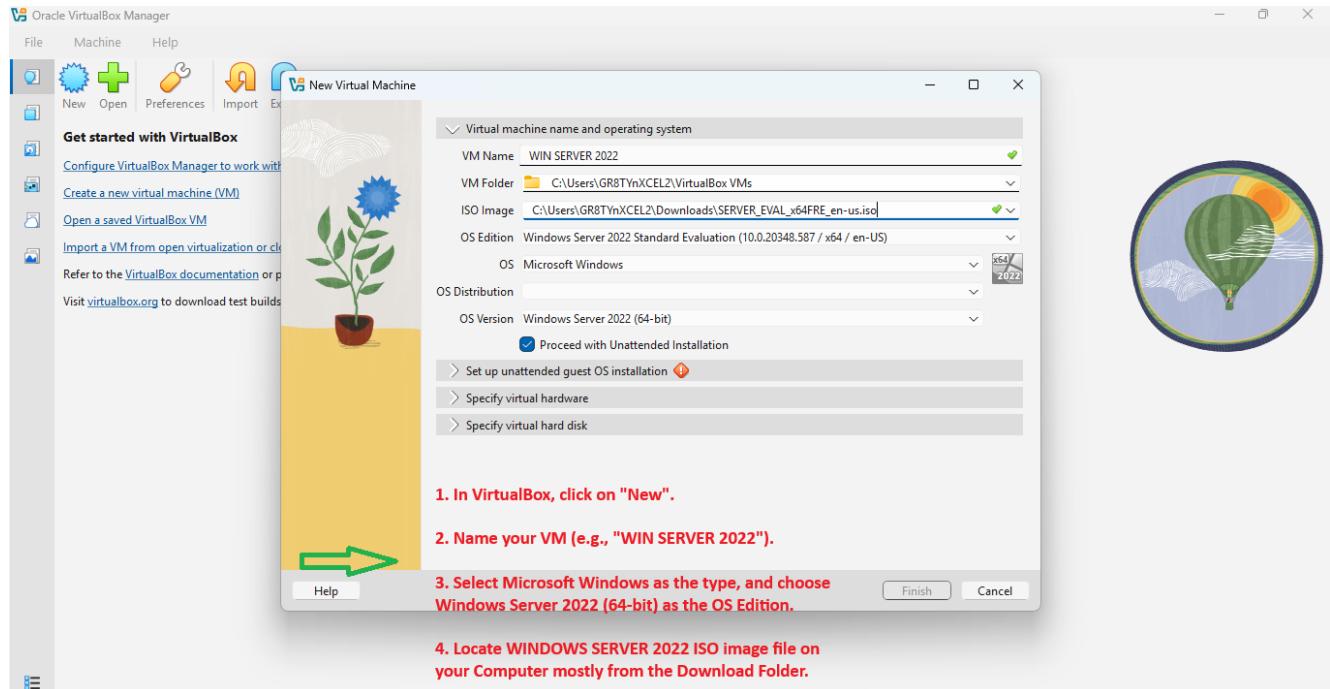
STEP 4:

Install Windows Server 2022 on VirtualBox

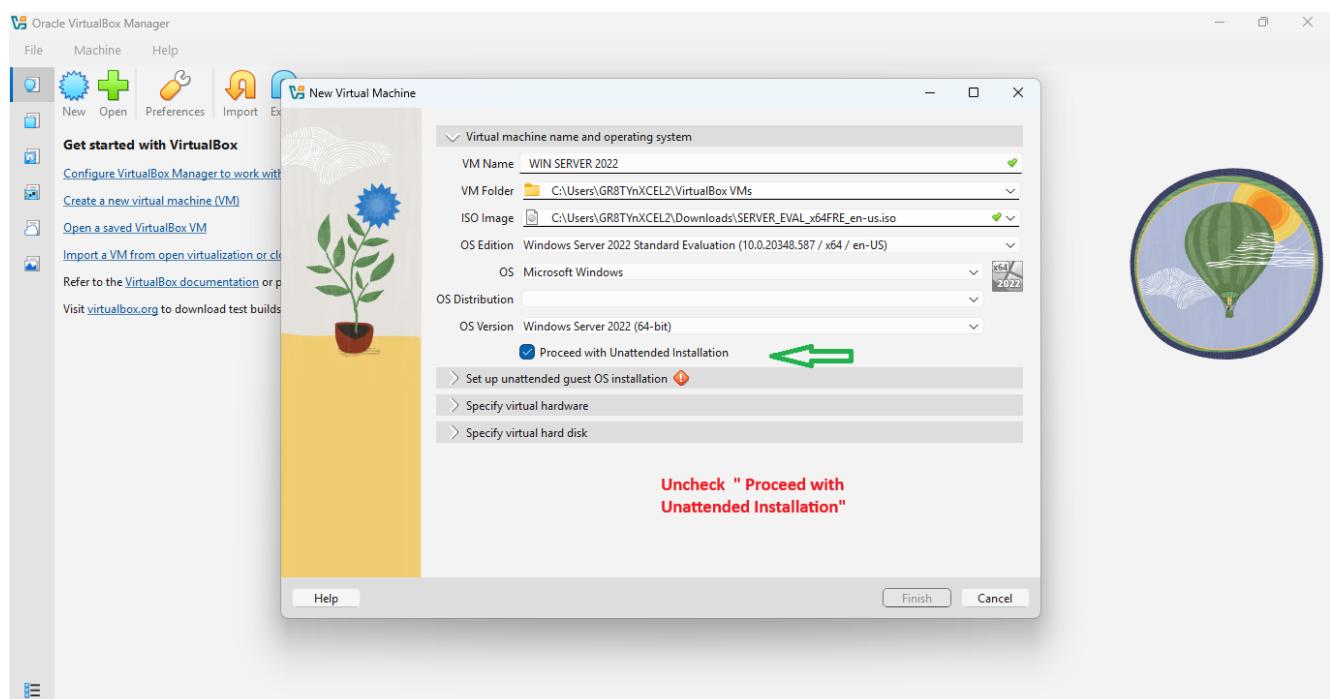
- Download Windows Server 2022 ISO by obtaining the Windows Server 2022 ISO file from a reliable source or the official Microsoft website.
- Create a New Virtual Machine.
- In VirtualBox, click on "New".



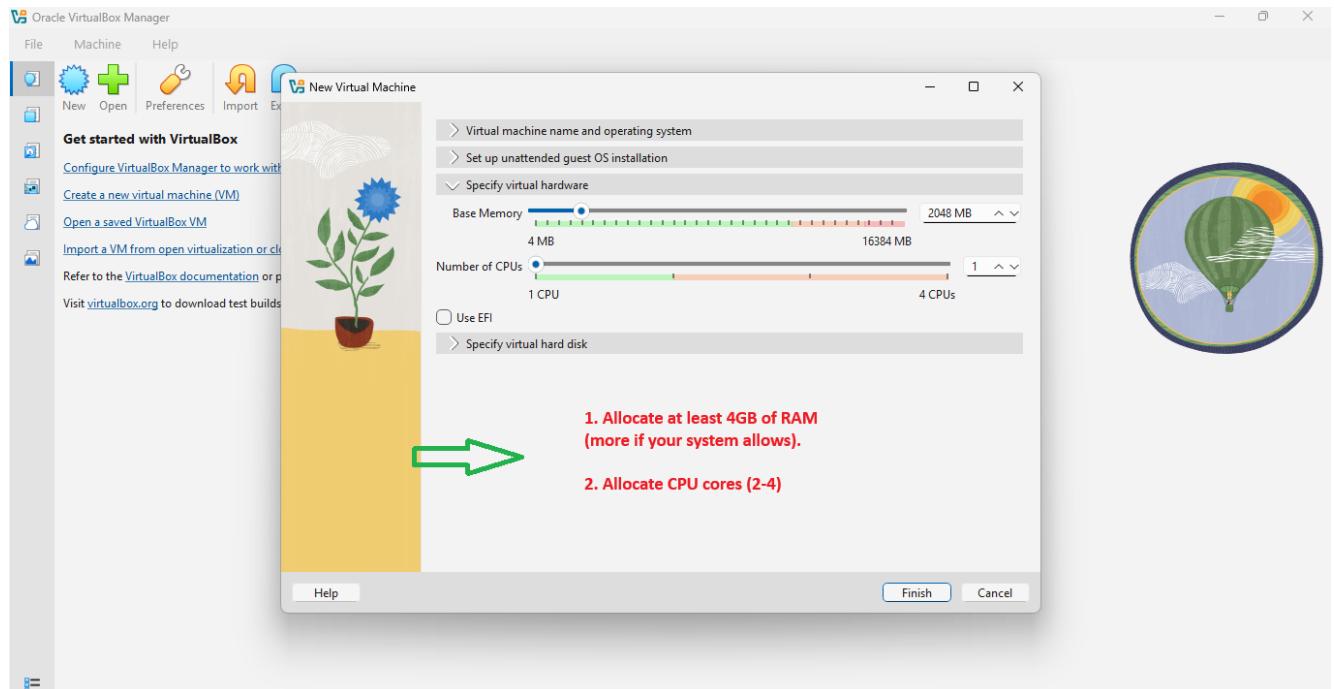
- Name your VM (e.g., "WIN SERVER 2022")
- Select Microsoft Windows as the type
- Choose Windows Server 2022 Enterprise Evaluation(64-bit) as the version.
- Click Next.



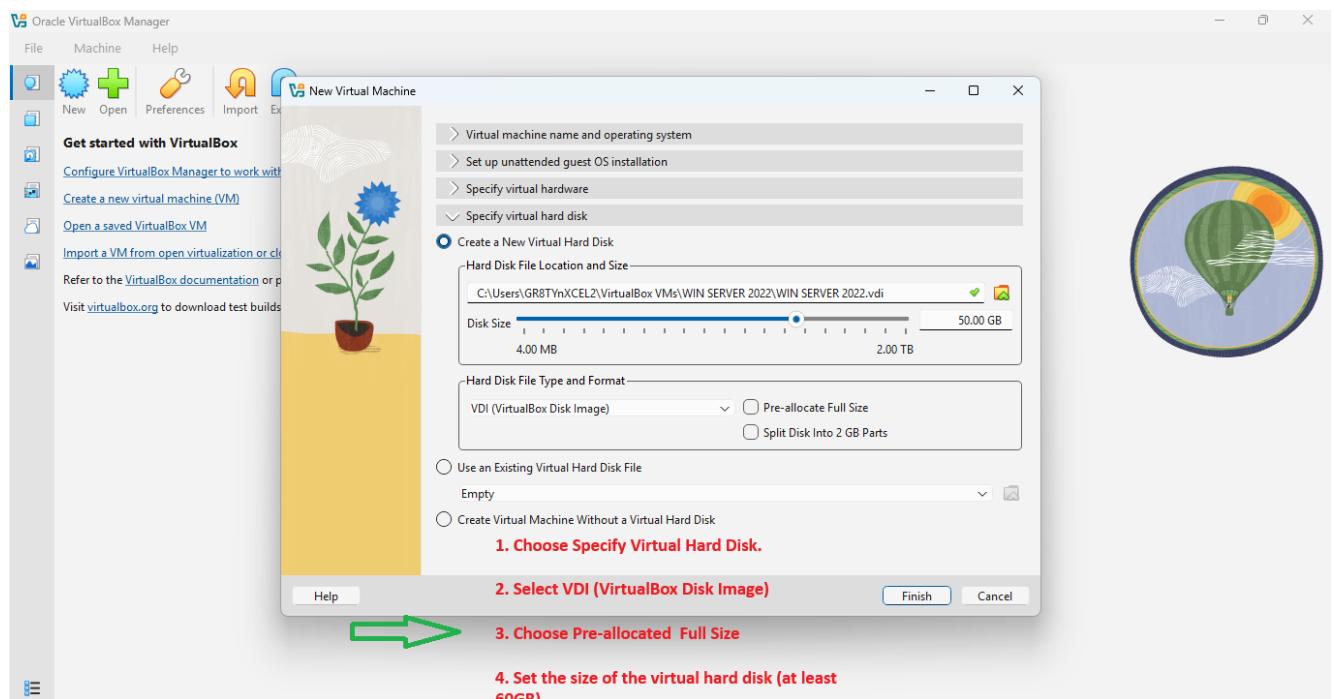
- Unchecked "Proceed with Unattended Installation"



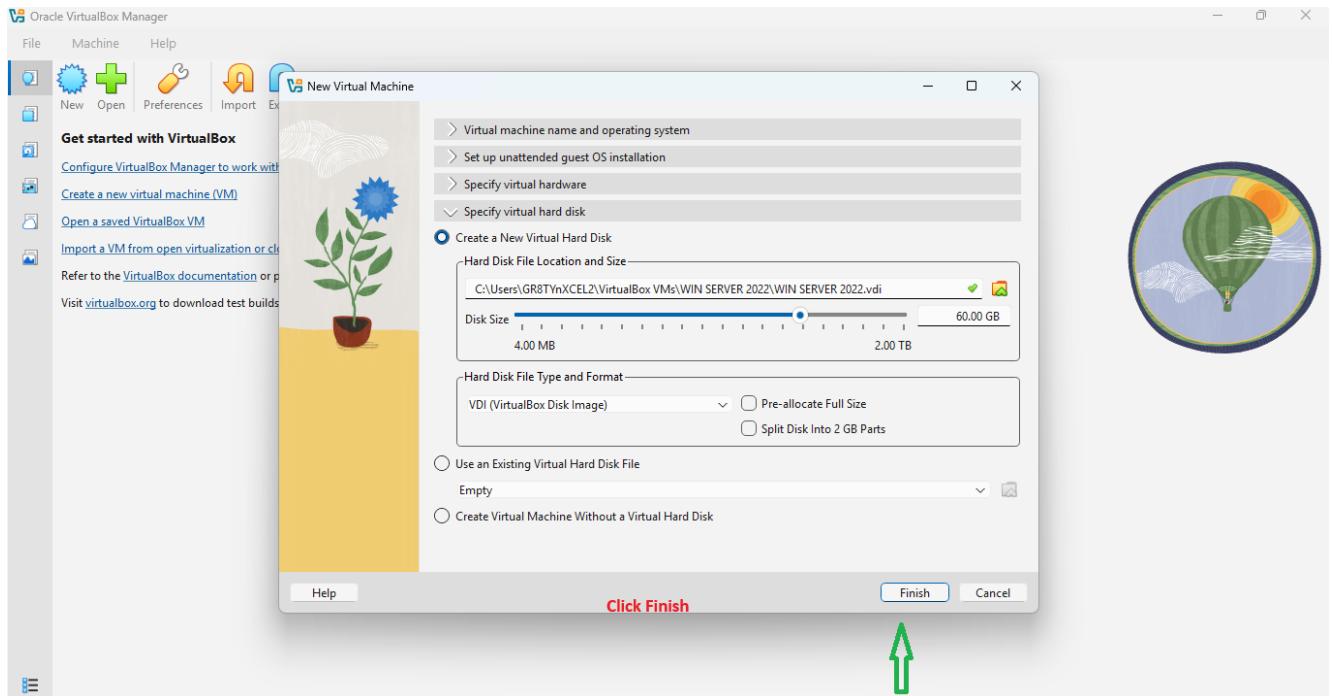
- Allocate at least 4GB of RAM (more if your system allows).



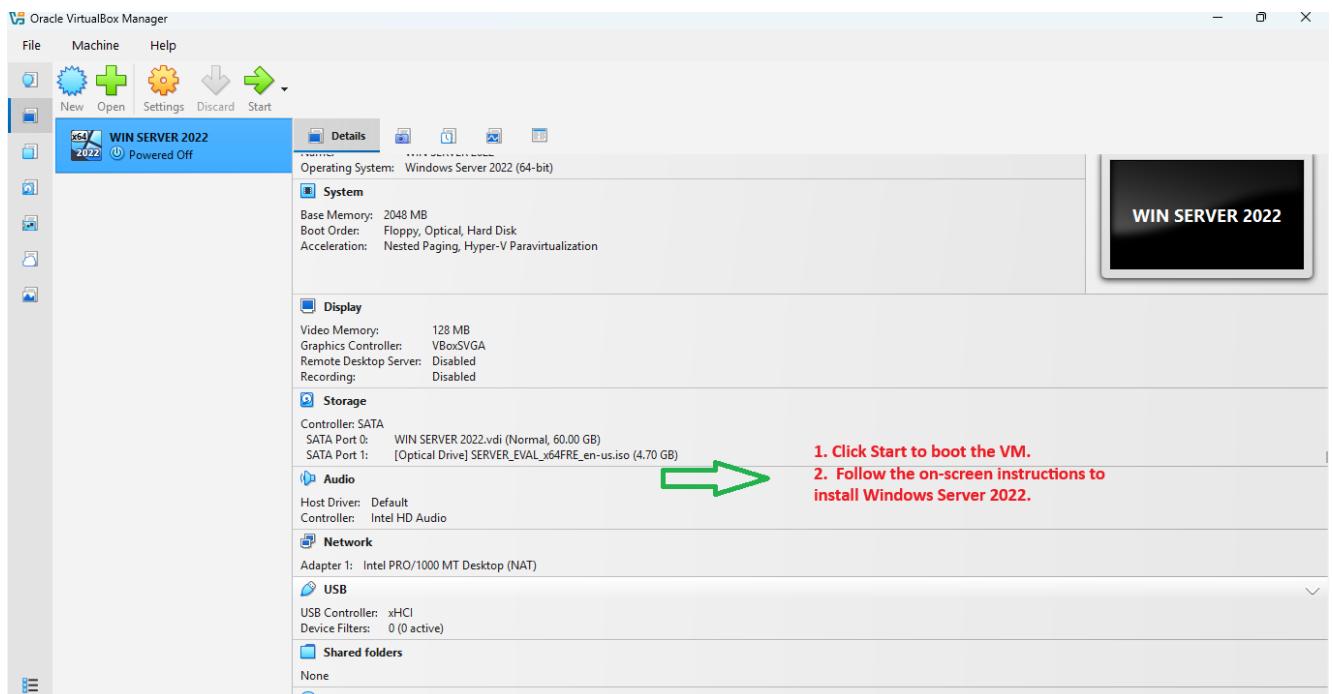
- Choose Specify Virtual Hard Disk.
- Select VDI (VirtualBox Disk Image).
- Choose Pre-allocated Full Size.
- Set the size of the virtual hard disk (at least 60GB).



- Click Finish.



- Select your new VM (WIN SERVER 2022).
- Click Start to boot the VM.
- Follow the on-screen instructions to install WIN. SERVER 2022.



Conclusion:

By following these steps, you will have successfully installed VirtualBox on Windows 11 and Set up Windows 10, Windows 8, and Windows Server 2022 as Virtual Machines for System Administration purposes.

Remember to follow on-screen instructions to complete each OS installation. Set up User Accounts and configure Network settings as needed, depending on your needs. This allows VMs to communicate with each other and the Host Machine.

TO BE CONTINUED...