

Virtual Machine Setup

Last modified 20 August 2024

Setup of the SCSIET virtual machine consists of four steps:

1. Installing the VirtualBox management software
2. Copying the virtual machine configuration files
3. Modifying the configuration files (if necessary)
4. Adding the virtual machine to the VirtualBox manager

Important Note

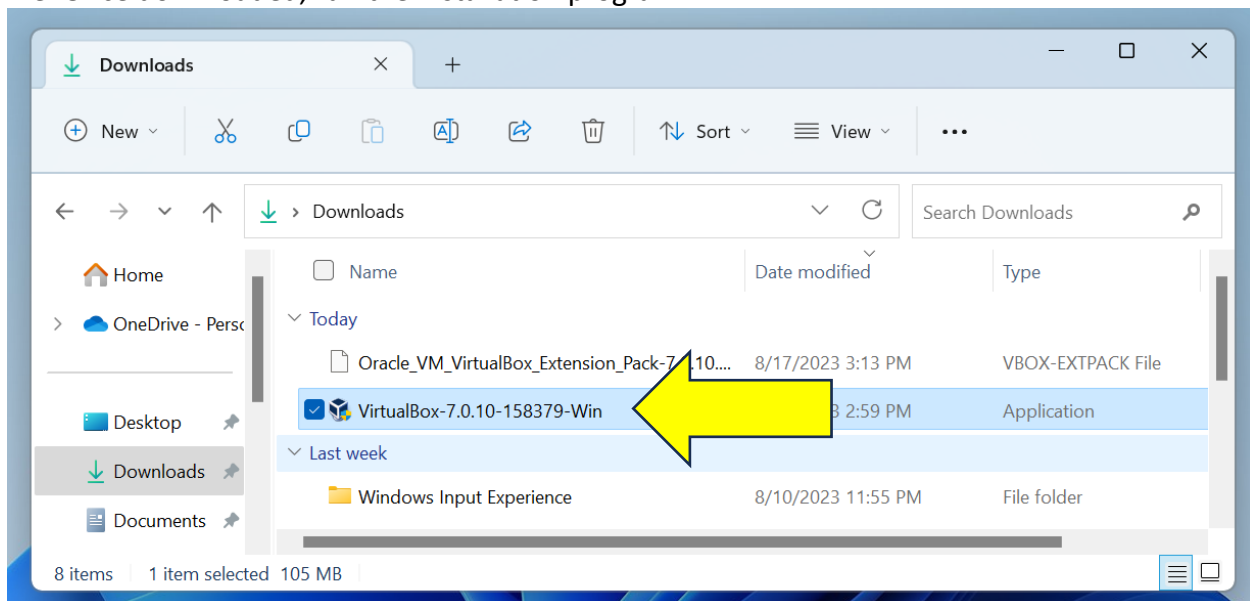
This software only works on Intel-based systems. If you are using a Mac with an M1 or M2 processor (Apple Silicon), this virtual machine will not work. However, you can still work with program files written in lab, as the software tools have versions that work with Apple products.

Installing the Management Software

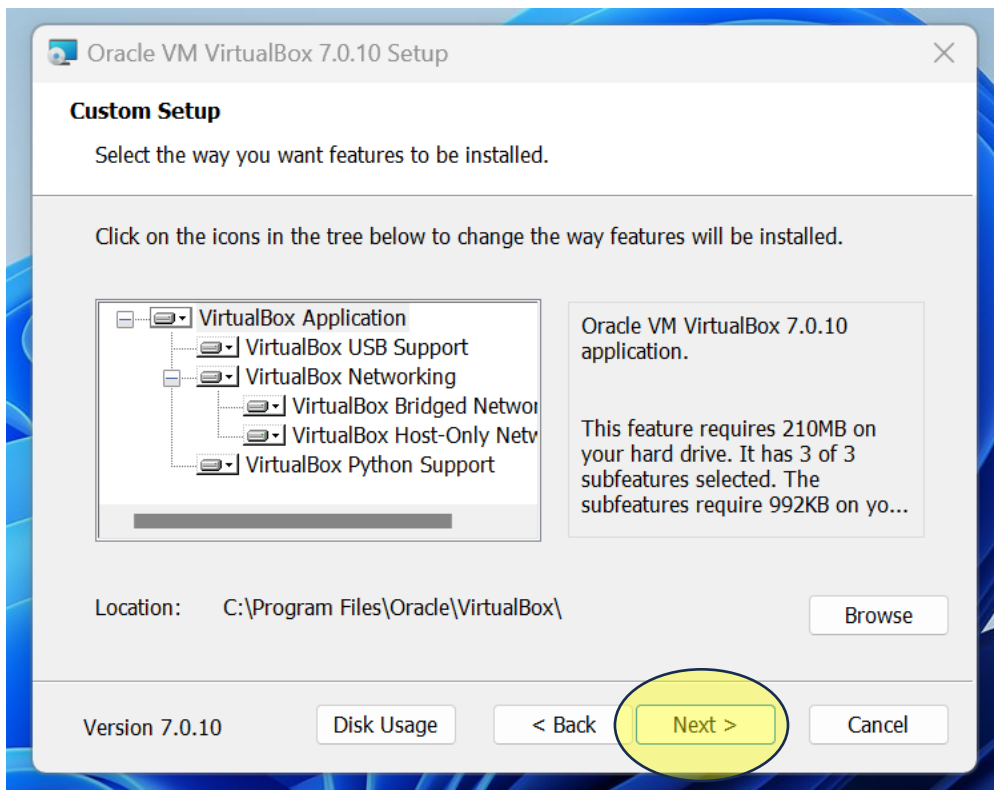
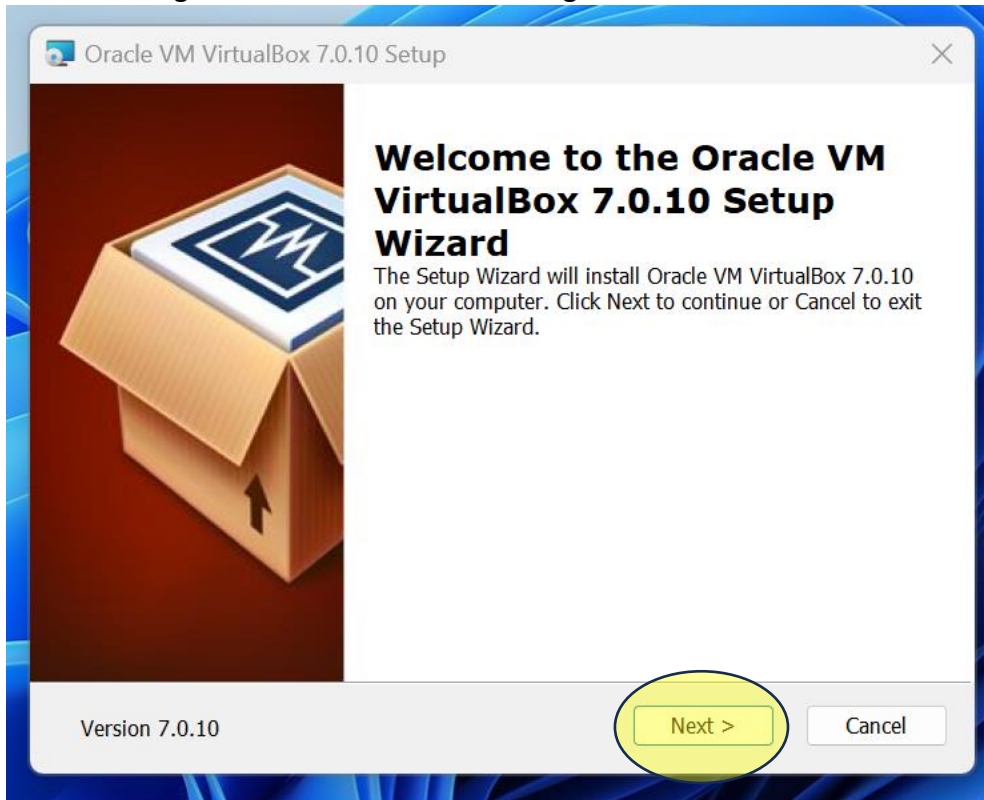
Note: This is already done in the lab, so this step can be skipped there.

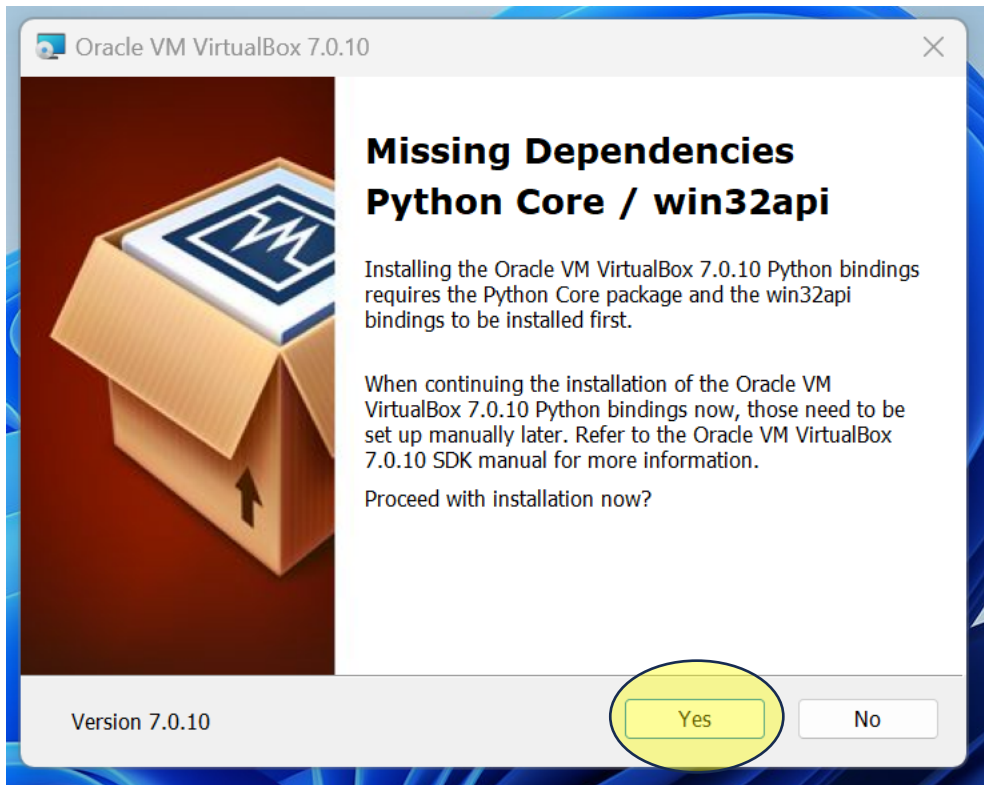
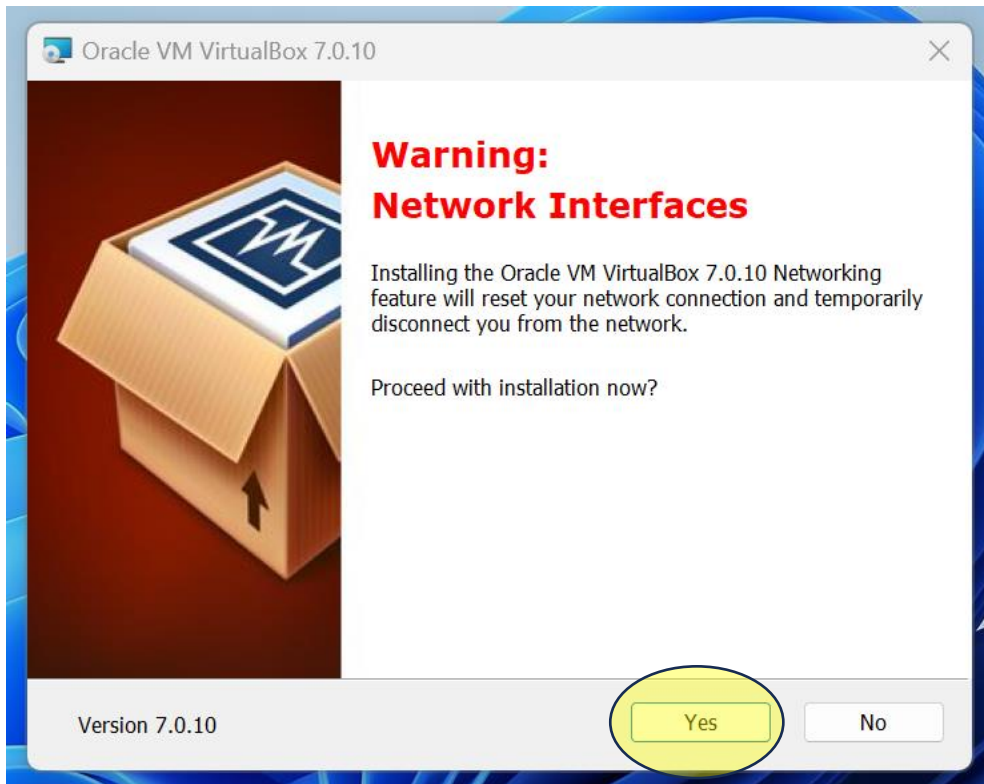
In order to use the virtual machine, the VirtualBox management software must first be installed. Begin by going to <https://virtualbox.org> and clicking on the large Download button.

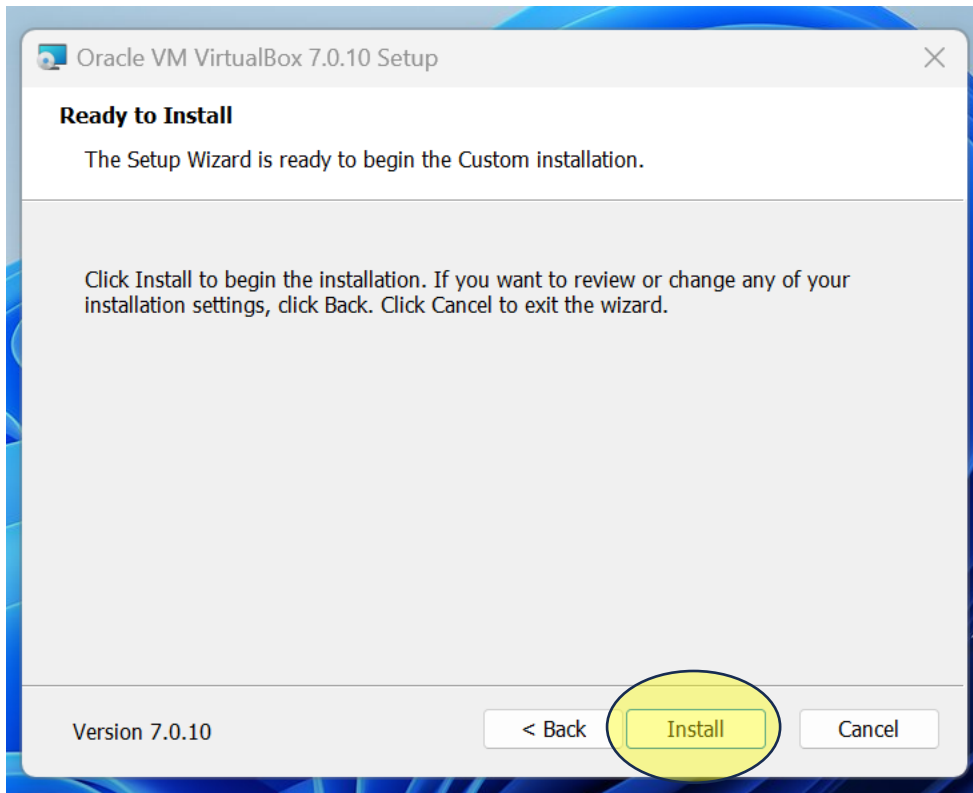
Click on the link for your system (“Windows hosts” or “macOS / Intel hosts”) and download the file. Once downloaded, run the installation program.



The installation program has several options / choices to select from. You can simply click on "Next" throughout to choose default settings.

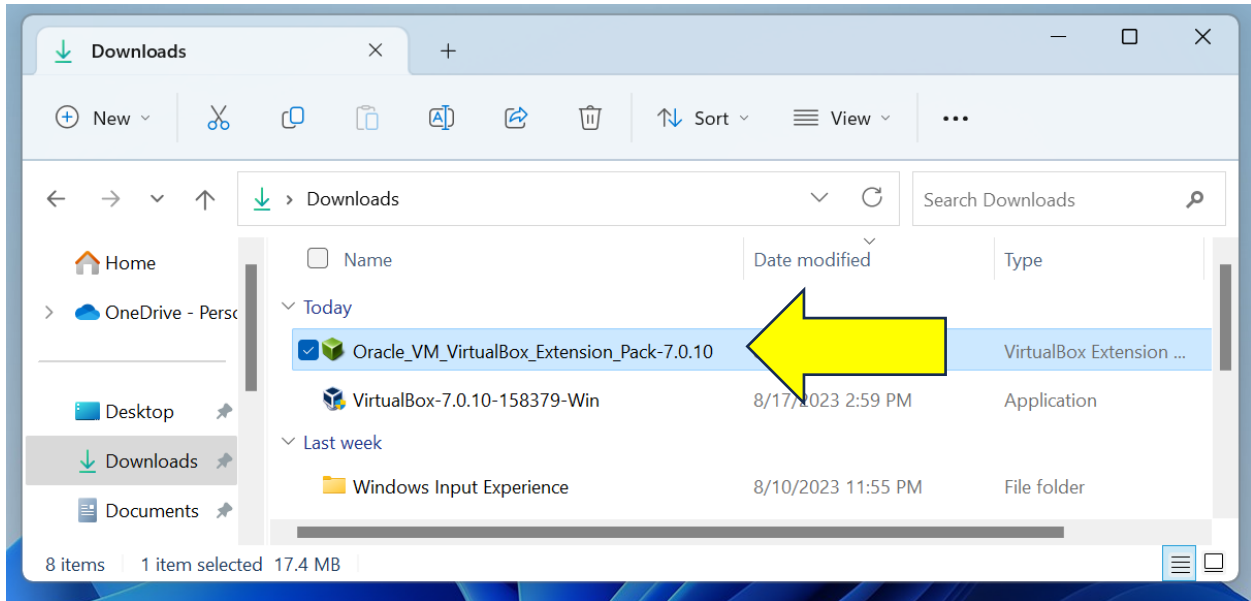






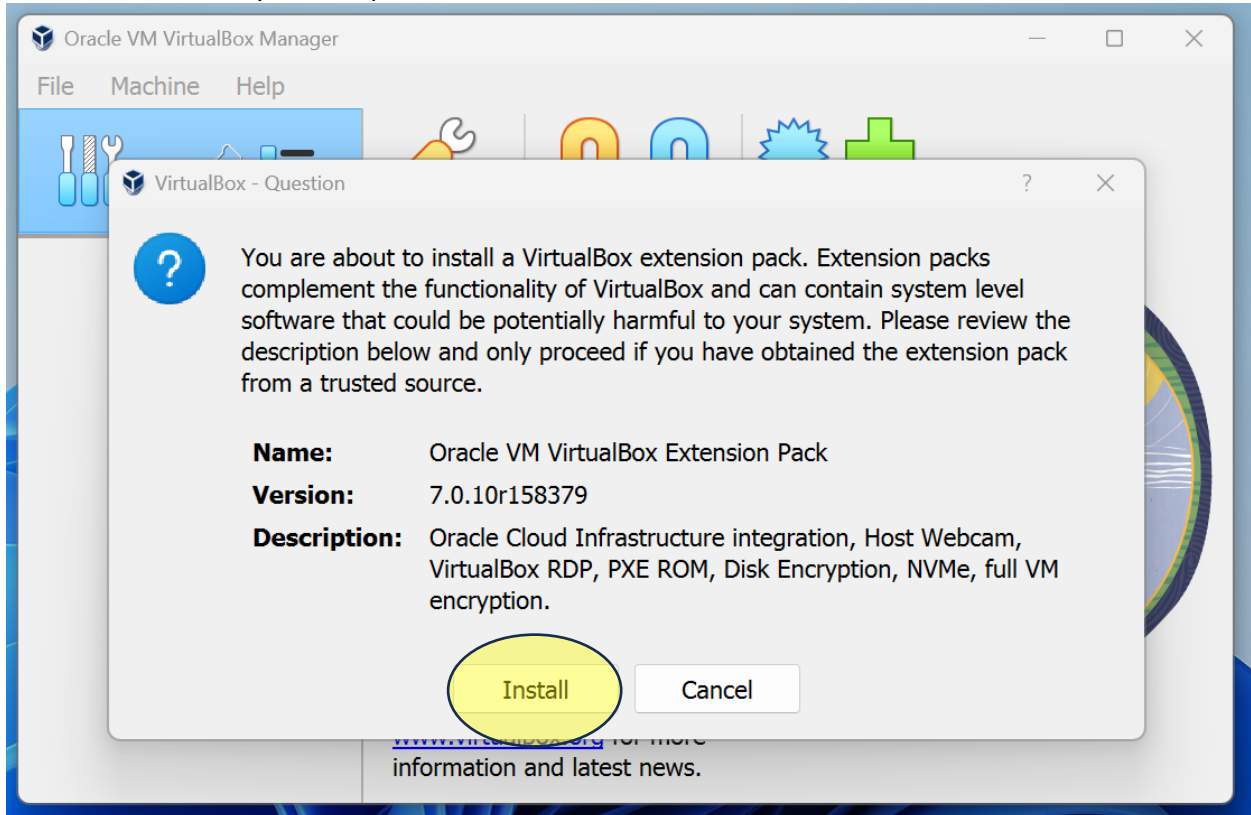
You can either uncheck the “Start Oracle VM...” box or close the manager once it starts.

Once completed, return to the web browser and click on the “All supported platforms” link for the VirtualBox Extension Pack. Then, launch that file to install it.

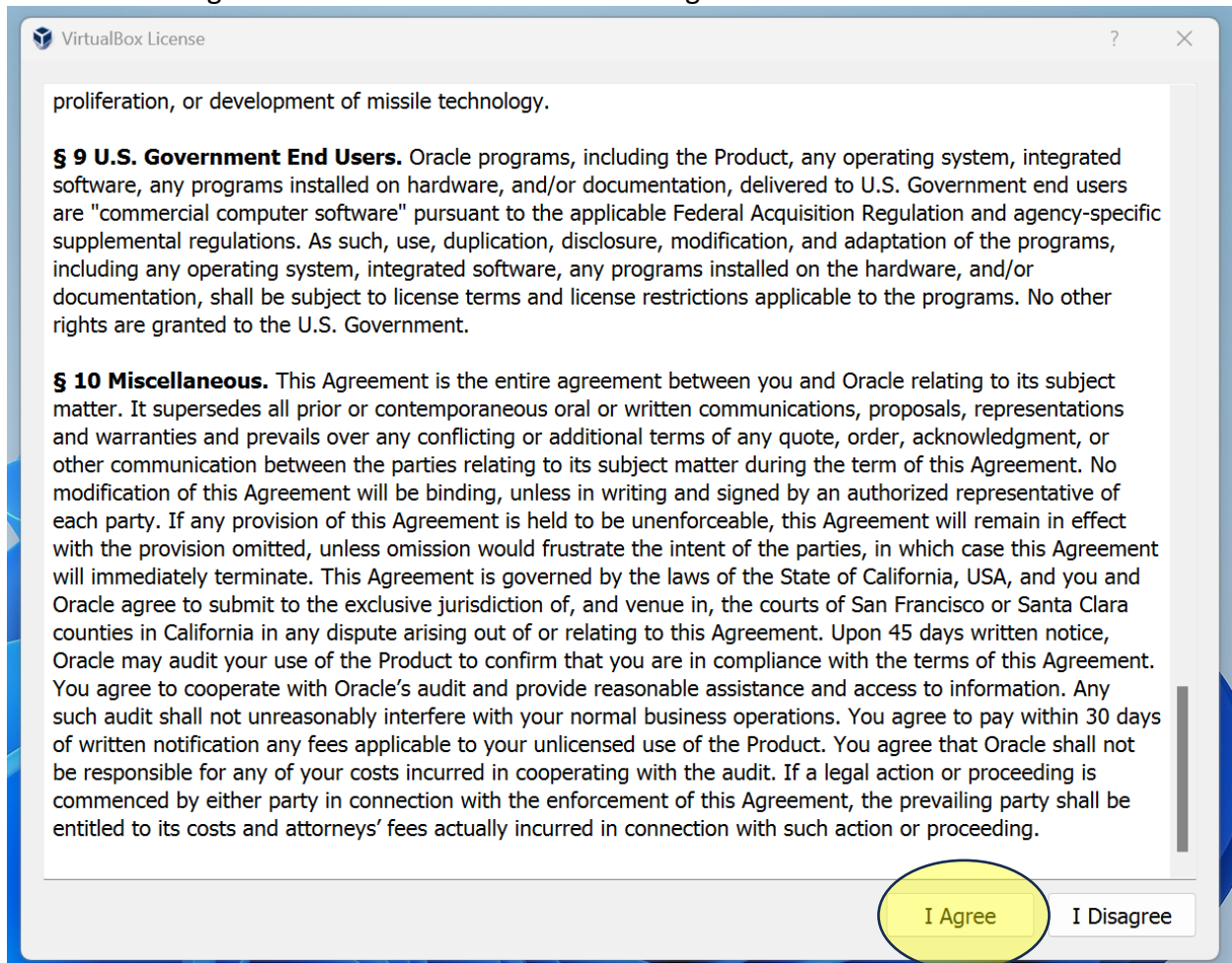


The VirtualBox manager software installs the extension pack. Click on the “Install” button to start the process.

Note: Windows may ask for permission to install this file. Click Yes if asked.



You will need to agree to the PUEL. Feel free to read through it; you will need to scroll to the bottom of the agreement in order to activate the “I Agree” button.



Once completed, you will see the VirtualBox manager software. At this point, the installation of this software is completed. A shortcut is placed on the desktop for future use.

Copying the Configuration Files

The second step is to copy the configuration files onto your system. On the USB drive, there are two folders:

- SCSIET 2024/Configurations/Windows
- SCSIET 2024/Configurations/MacOS (Intel)

Copy the appropriate folder to your system. Although this folder can go anywhere on your system, it is recommended to place the folder either on your desktop or in your Documents folder.

That completes the next setup step.

Two Warnings

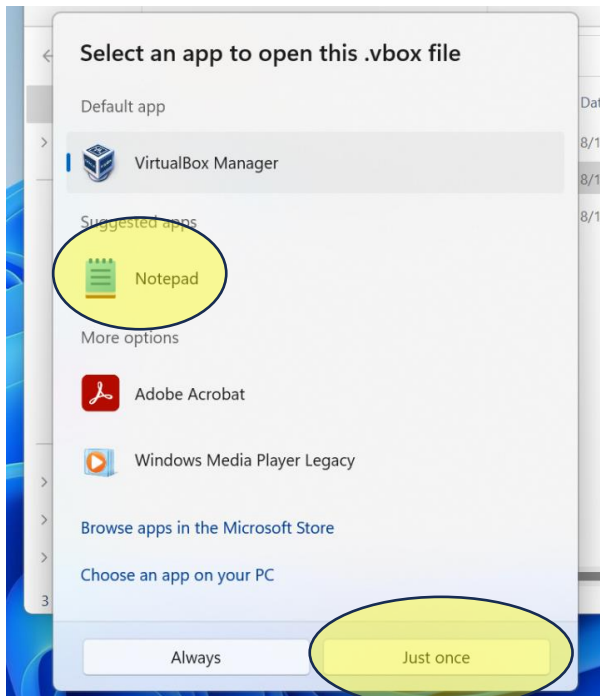
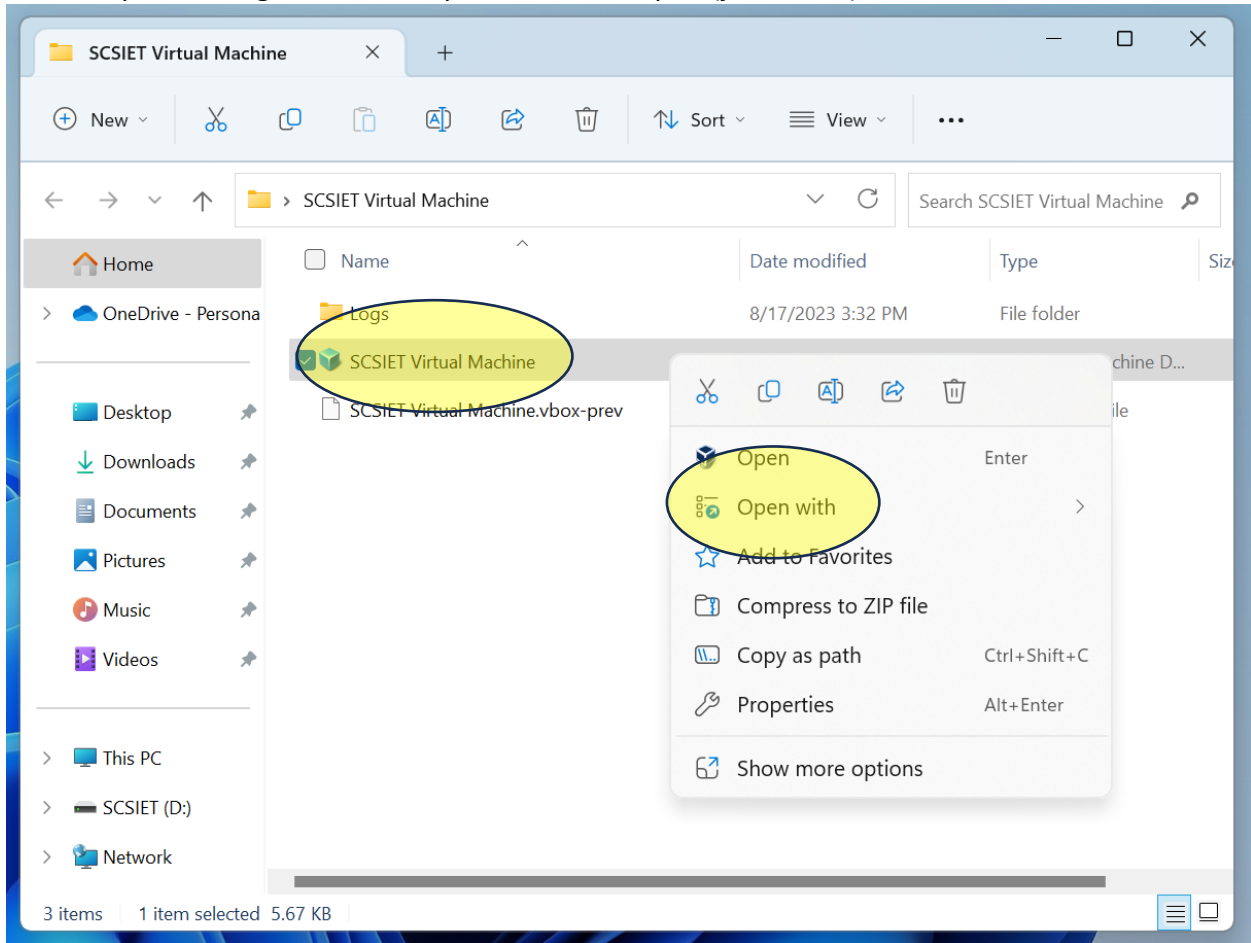
- **DO NOT COPY THE CONFIGURATION TO YOUR ONEDRIVE**
Since OneDrive follows you from machine to machine, you will be forced to use one configuration that might not work on a different machine
- **DO NOT USE THE ORIGINAL CONFIGURATION FILES ON THE USB**
You must make a copy of the proper folder; again, not doing this forces you to use the same configuration on all machines

Modifying the Configuration Files

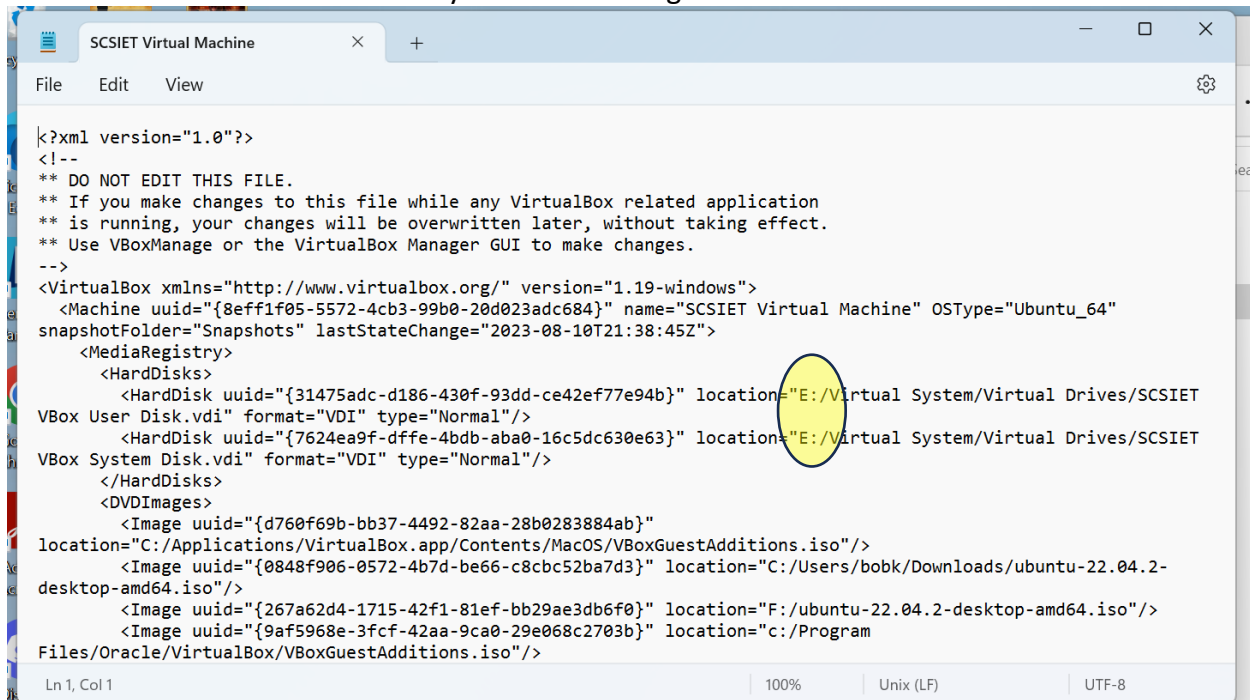
The virtual machine assumes that on a Windows system, the USB drive will be the E:\ drive. While this is the case in the lab, your mileage may vary at home or on your laptop. If it shows up as a different drive (*e.g.*, the D:\ drive), you will need to modify the configuration file, as it assumes that the virtual disk drives (two large files that take up most of the USB drive space) are on the E:\ drive.

If your USB drive is the E:\ drive, you can skip this step.

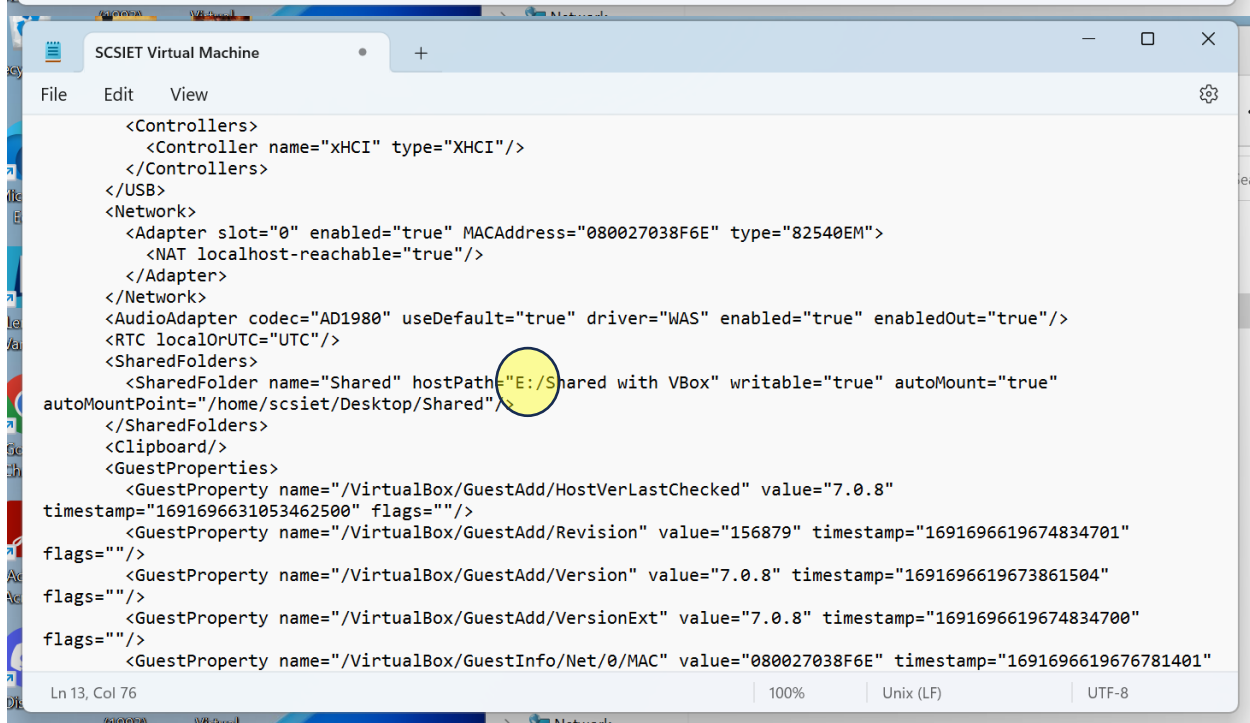
To modify the configuration file, open it with Notepad (just once!).



You will need to make exactly three changes to the file (insert Monty Python and the Holy Grail reference if you wish). The E:\ drive is referenced three times to specify files. Change these three instances to the drive letter your drive is using. DO NOT CHANGE ANYTHING ELSE!



```
<?xml version="1.0"?>
<!--
** DO NOT EDIT THIS FILE.
** If you make changes to this file while any VirtualBox related application
** is running, your changes will be overwritten later, without taking effect.
** Use VBoxManage or the VirtualBox Manager GUI to make changes.
-->
<VirtualBox xmlns="http://www.virtualbox.org/" version="1.19-windows">
  <Machine uuid="{8eff1f05-5572-4cb3-99b0-20d023adc684}" name="SCSIET Virtual Machine" OSType="Ubuntu_64"
  snapshotFolder="Snapshots" lastStateChange="2023-08-10T21:38:45Z">
    <MediaRegistry>
      <HardDisks>
        <HardDisk uuid="{31475adc-d186-430f-93dd-ce42ef77e94b}" location="E:\Virtual System/Virtual Drives/SCSIET
VBox User Disk.vdi" format="VDI" type="Normal"/>
        <HardDisk uuid="{7624ea9f-dffe-4bdb-aba0-16c5dc630e63}" location="E:\Virtual System/Virtual Drives/SCSIET
VBox System Disk.vdi" format="VDI" type="Normal"/>
      </HardDisks>
      <DVDImages>
        <Image uuid="{d760f69b-bb37-4492-82aa-28b0283884ab}"
location="C:/Applications/VirtualBox.app/Contents/MacOS/VBoxGuestAdditions.iso"/>
        <Image uuid="{0848f906-0572-4b7d-be66-c8cbc52ba7d3}" location="C:/Users/bobk/Downloads/ubuntu-22.04.2-
desktop-amd64.iso"/>
        <Image uuid="{267a62d4-1715-42f1-81ef-bb29ae3db6f0}" location="F:/ubuntu-22.04.2-desktop-amd64.iso"/>
        <Image uuid="{9af5968e-3fcf-42aa-9ca0-29e068c2703b}" location="c:/Program
Files/Oracle/VirtualBox/VBoxGuestAdditions.iso"/>
    </MediaRegistry>
  </Machine>
</VirtualBox>
```



```
<Controllers>
  <Controller name="xHCI" type="xHCI"/>
</Controllers>
</USB>
<Network>
  <Adapter slot="0" enabled="true" MACAddress="080027038F6E" type="82540EM">
    <NAT localhost-reachable="true"/>
  </Adapter>
</Network>
<AudioAdapter codec="AD1980" useDefault="true" driver="WAS" enabled="true" enabledOut="true"/>
<RTC localOrUTC="UTC"/>
<SharedFolders>
  <SharedFolder name="Shared" hostPath="E:\Shared with VBox" writable="true" autoMount="true"
autoMountPoint="/home/scsiet/Desktop/Shared"/>
</SharedFolders>
<Clipboard/>
<GuestProperties>
  <GuestProperty name="/VirtualBox/GuestAdd/HostVerLastChecked" value="7.0.8"
timestamp="1691696631053462500" flags=""/>
  <GuestProperty name="/VirtualBox/GuestAdd/Revision" value="156879" timestamp="1691696619674834701"
flags=""/>
  <GuestProperty name="/VirtualBox/GuestAdd/Version" value="7.0.8" timestamp="1691696619673861504"
flags=""/>
  <GuestProperty name="/VirtualBox/GuestAdd/VersionExt" value="7.0.8" timestamp="1691696619674834700"
flags=""/>
  <GuestProperty name="/VirtualBox/GuestInfo/Net/0/MAC" value="080027038F6E" timestamp="1691696619676781401"
flags=""/>
</GuestProperties>
</VirtualBox>
```

Save the file and close Notepad.

Note: Windows can be told to always use the same drive letter for a USB drive. You can do this on your laptop or home machine, but we do not have permission to do this in the lab.

This completes the modification step.

Adding the Virtual Machine

The last step is to add the virtual machine to the manager. Launch the VirtualBox manager if it isn't already running.

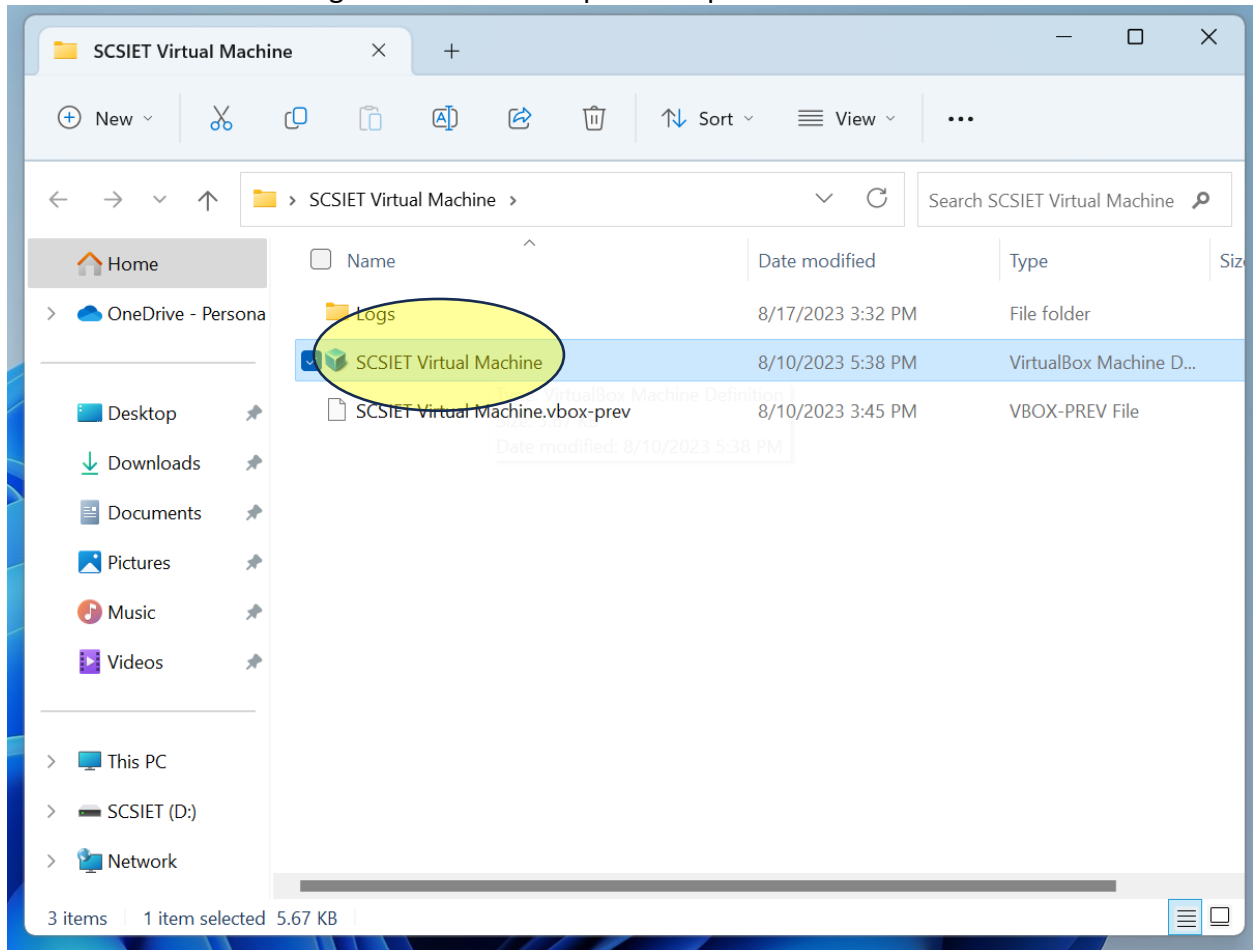


Once running, click on the “Add” button.



Navigate to the SCSIET Virtual Machine folder that you copied onto your system. DO NOT USE THE FOLDER ON THE USB DRIVE!

Double-click on the configuration file to complete the process.

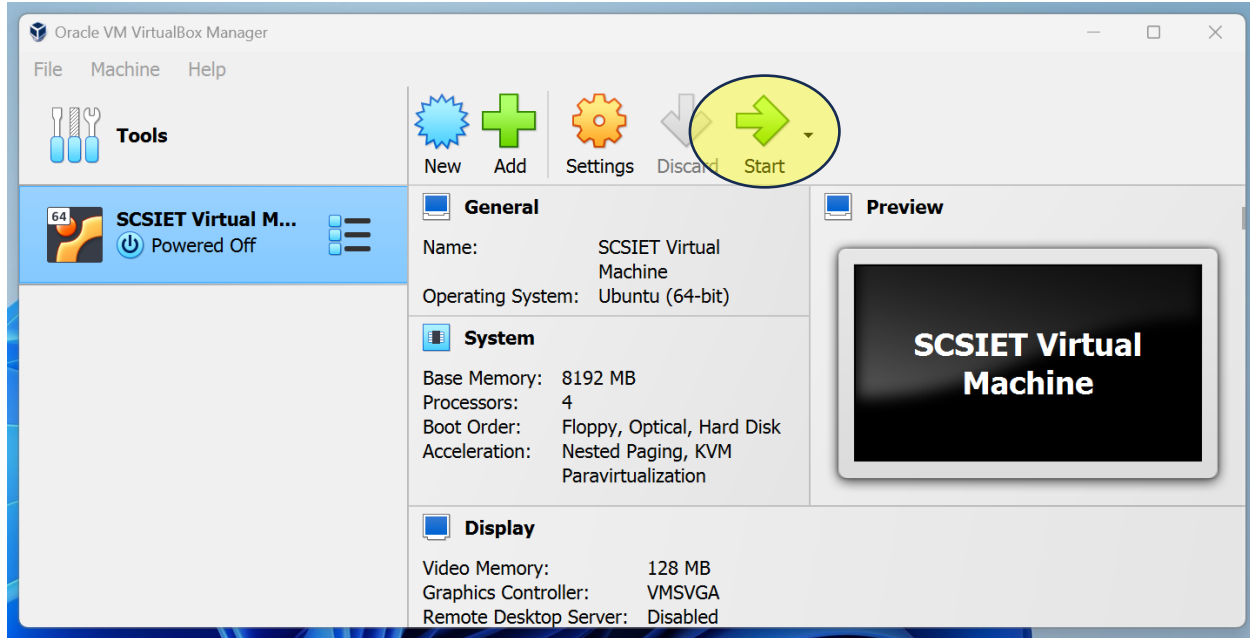


Setup is now complete.

Starting the Virtual Machine

To start the virtual machine, launch the VirtualBox manager.

Once the manager window appears, click on the “Start” button to start the virtual machine.



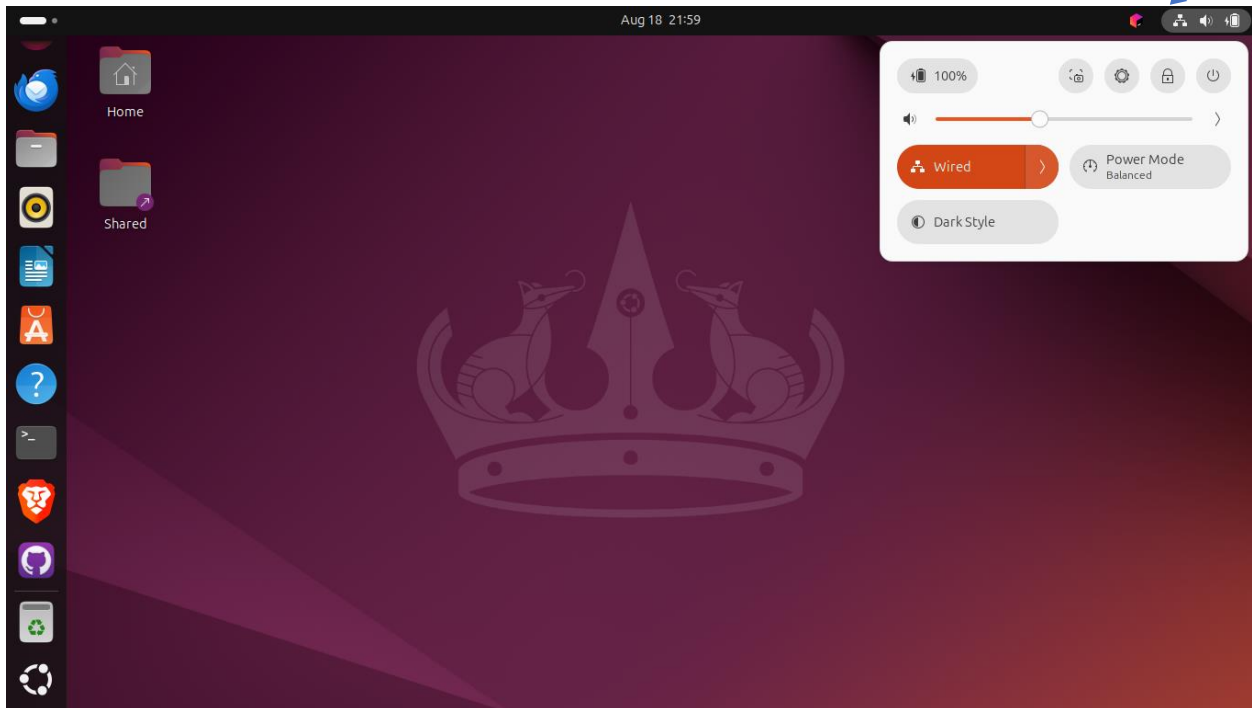
Note: On your home system or laptop, when starting the virtual machine you may get an error message about virtualization not being enabled. If this occurs, you will need to enable virtualization on your device. This is beyond the scope of this document, as the process is different for each device. Consult your owners manual or the web for information on how to set up your device. Fortunately, this is a one-time operation.

Shutting Down the Virtual Machine

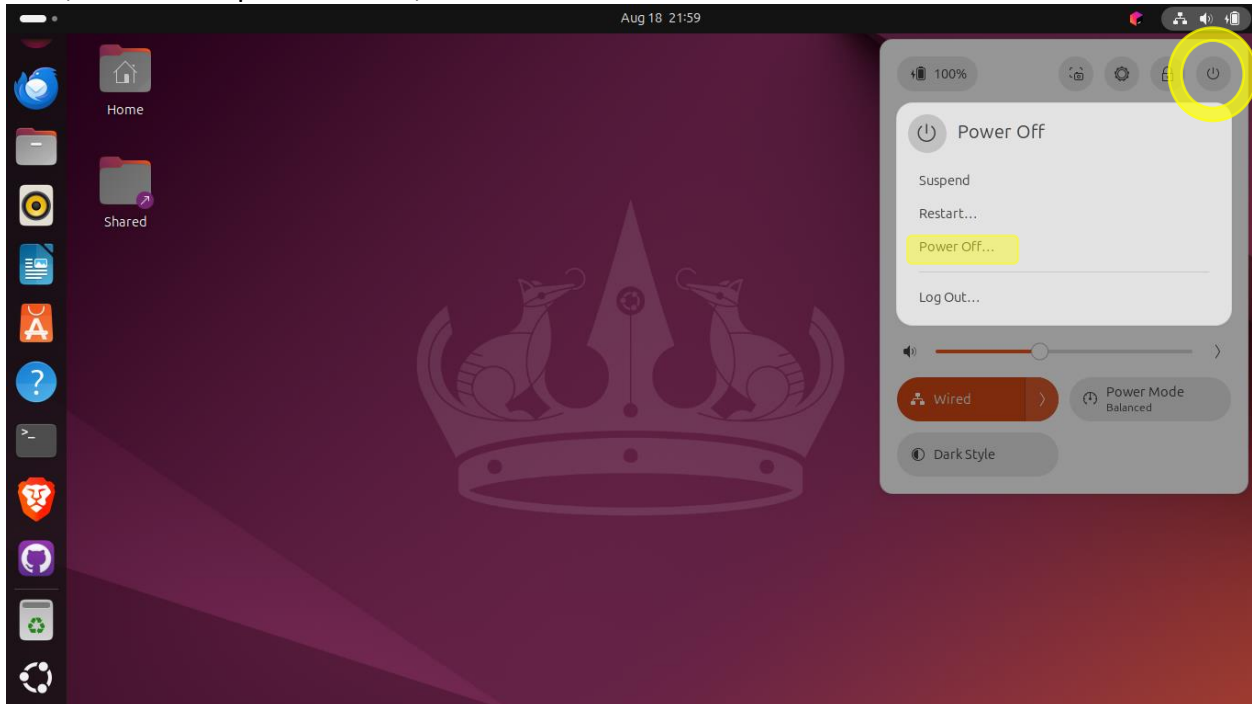
It is extremely important to shut the virtual machine down properly. Not doing so will eventually corrupt the system files and you will not be able to start the VM.

To begin the shutdown process, first close all running programs and windows. Next, click on the shutdown button in the top right corner of the VM window. **DO NOT CLICK ON THE X!**

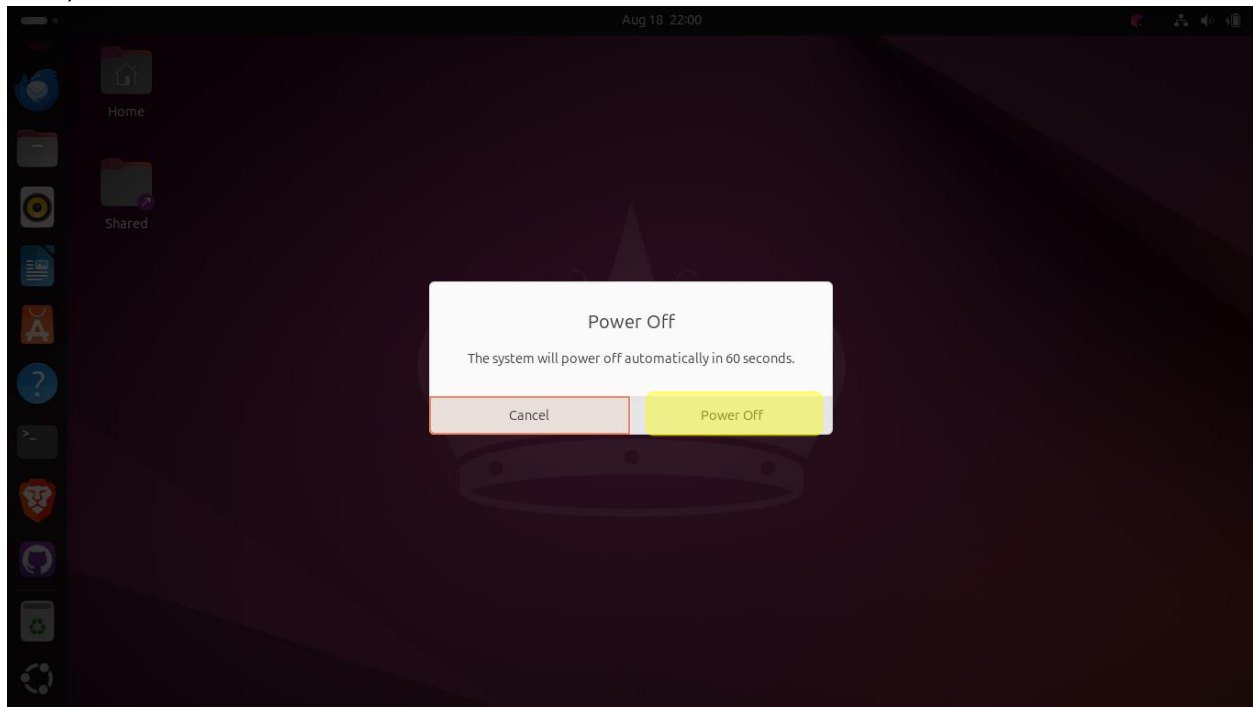
Click here



Next, click on the power button, then select "Power Off..."



Next, select “Power Off” one last time to shut down the virtual machine.



WARNING

Do not close down the virtual machine by clicking on the X (or the red circle on MacOS systems). Doing so is guaranteed to eventually corrupt the virtual system's files and will prevent your virtual system from starting.