

The software installation and troubleshooting are a prerequisite to Chapter 10.

Install VMware Workstation 17 Pro on Windows 11, Import GNS3 VM, Install GNS3, Troubleshoot Intel VT-x/EPT platform Error.

About this document:

Welcome to the software installation guide for Apress book, **“Introduction to Python Network Automation: The First Journey, Edition 2”**. This guide has been created by the author as complementary material to the book, but it is not part of the actual book. Its purpose is to provide a clear and concise set of instructions to help you install the necessary software to follow along with the book's examples and exercises.

By following the steps outlined in this guide, you will be able to set up the required software for Ansible network automation and start exploring the practical concepts covered in the book. Please note that this guide is not intended to be a comprehensive resource on network automation or Python, but rather a focused guide to help you get started quickly and easily.

If you have any questions or issues during the installation process, please don't hesitate to reach out to the authors or consult the resources listed in the guide. We hope this guide proves helpful in your journey towards mastering Python network automation.

Version:	1.1
Created:	23/Oct/2023
Last updated:	N/A

What's required?

Host OS:	Windows 11
File name:	VMware-workstation-full-17.0.1-21139696.exe GNS3.VM.VMware.Workstation.2.2.42.zip GNS3-2.2.42-all-in-one.exe
Internet connection:	Yes, required

Note: This document assumes that all readers are using an Intel CPU with VT-x/EPT support. However, if you are using an AMD CPU, the document is still relevant with a minor difference in the troubleshooting of the Virtualization platform in Step D.

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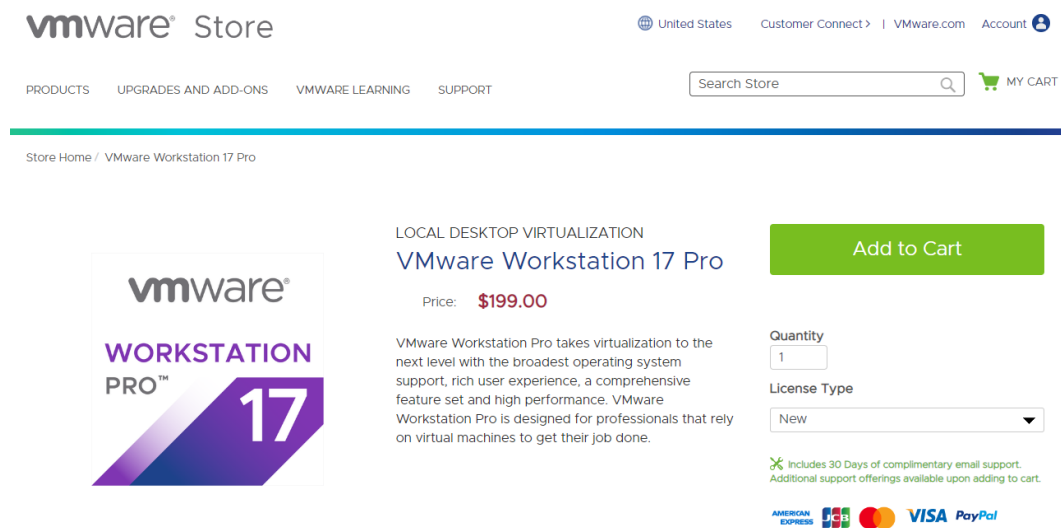
A. VMware Workstation 17 Pro Installation

Installation Steps:

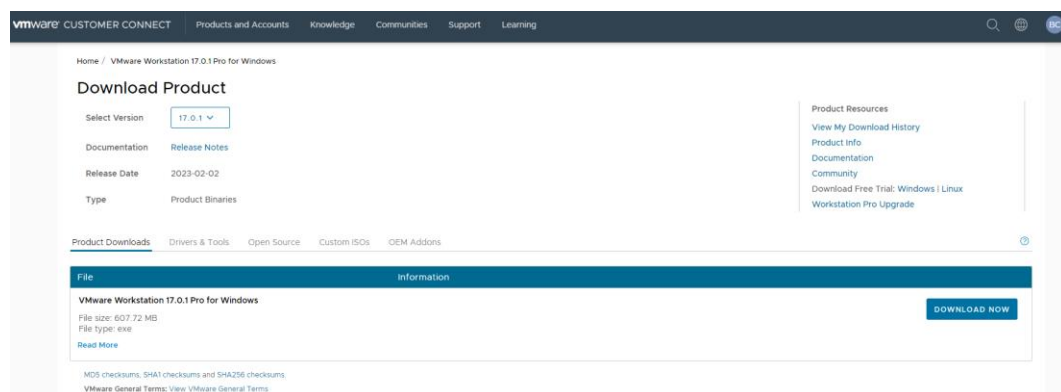
1. First, you need to download the VMware Workstation 17 installer from the VMware website. You can do this by visiting the following link:

<https://www.vmware.com/products/workstation-pro/workstation-pro-evaluation.html>

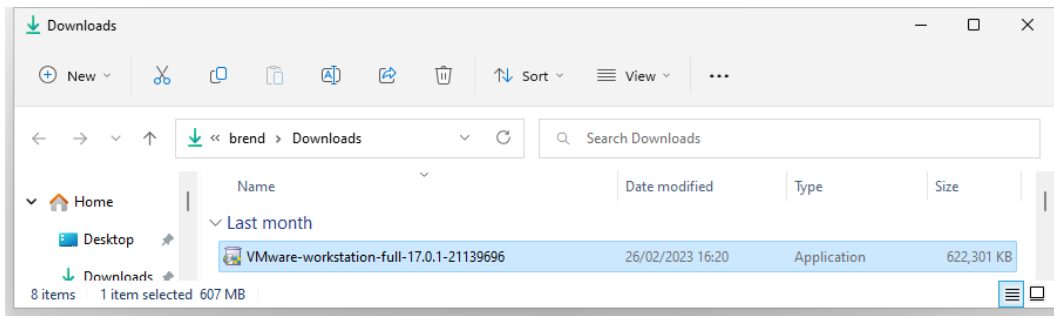
<https://store-us.vmware.com/vmware-workstation-17-pro-5709912600.html>



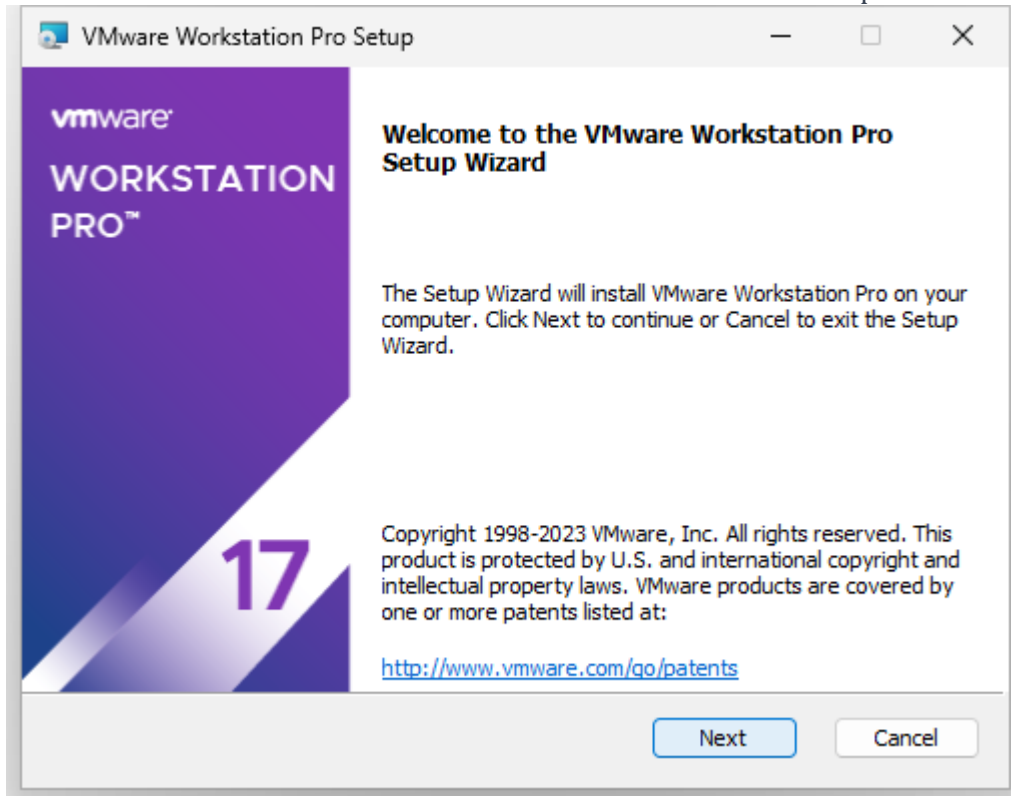
<https://customerconnect.vmware.com/en/downloads/details?downloadGroup=WKST-1701-WIN&productId=1376&rPid=100683>



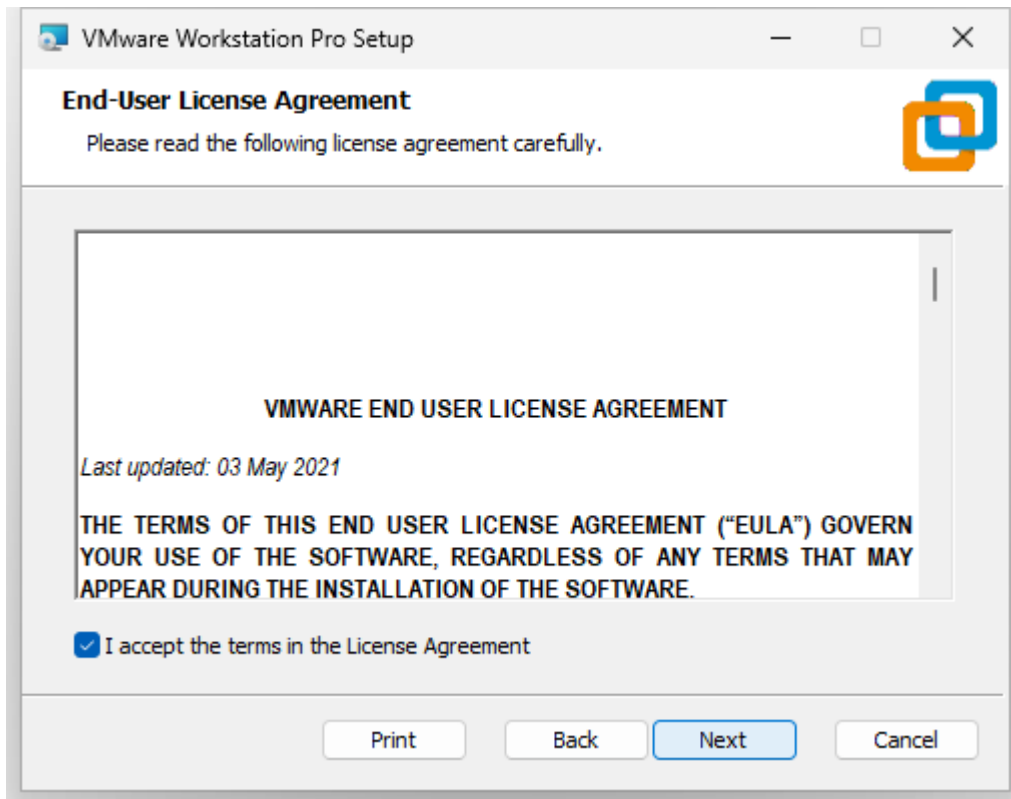
2. Once the download is complete, double-click on the installer file to begin the installation process.



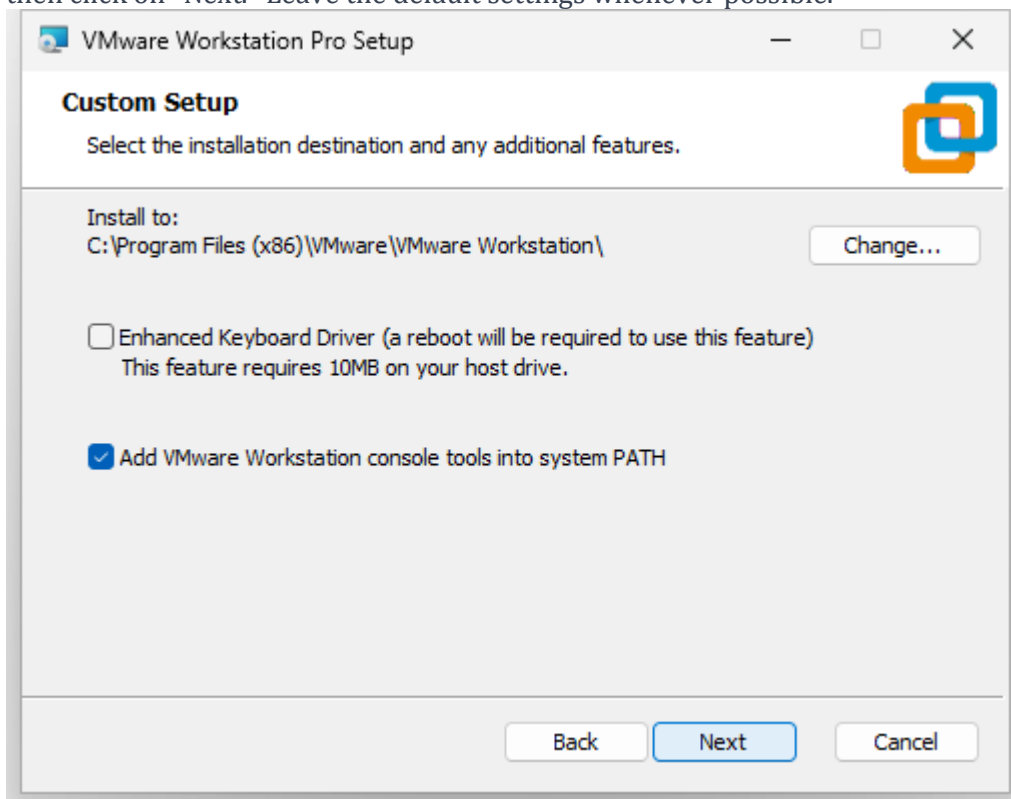
3. The VMware Workstation 17 installer will launch. Click on "Next" to proceed.



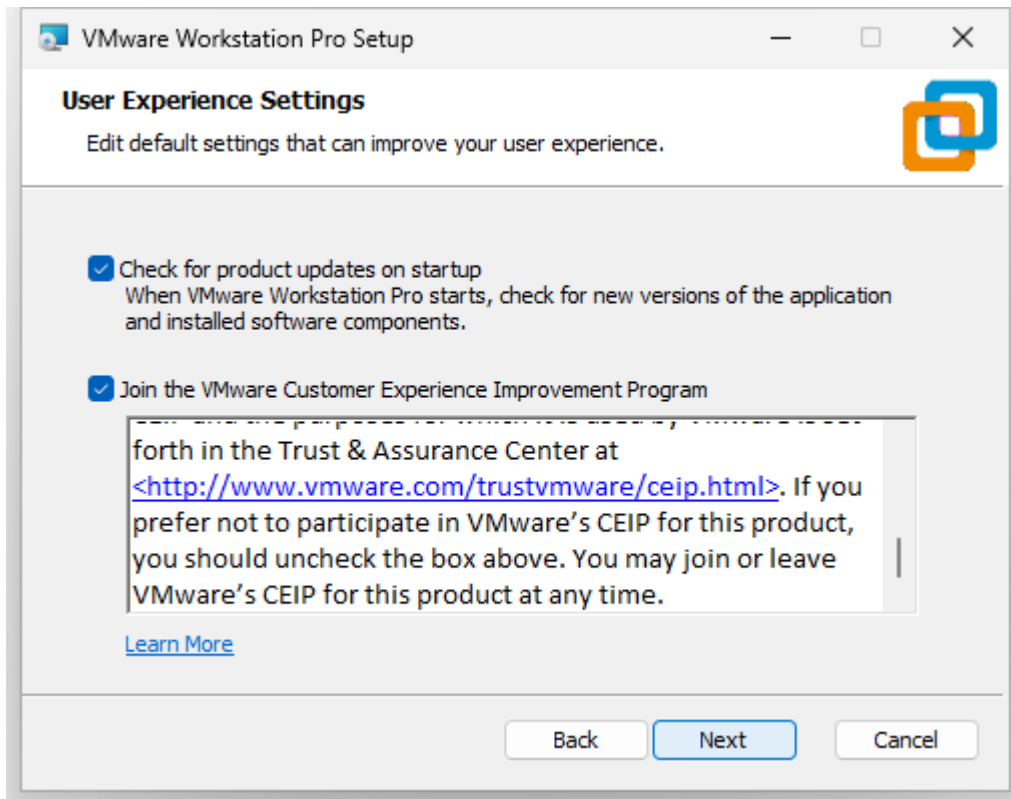
4. Read and accept the license agreement, then click on "Next."



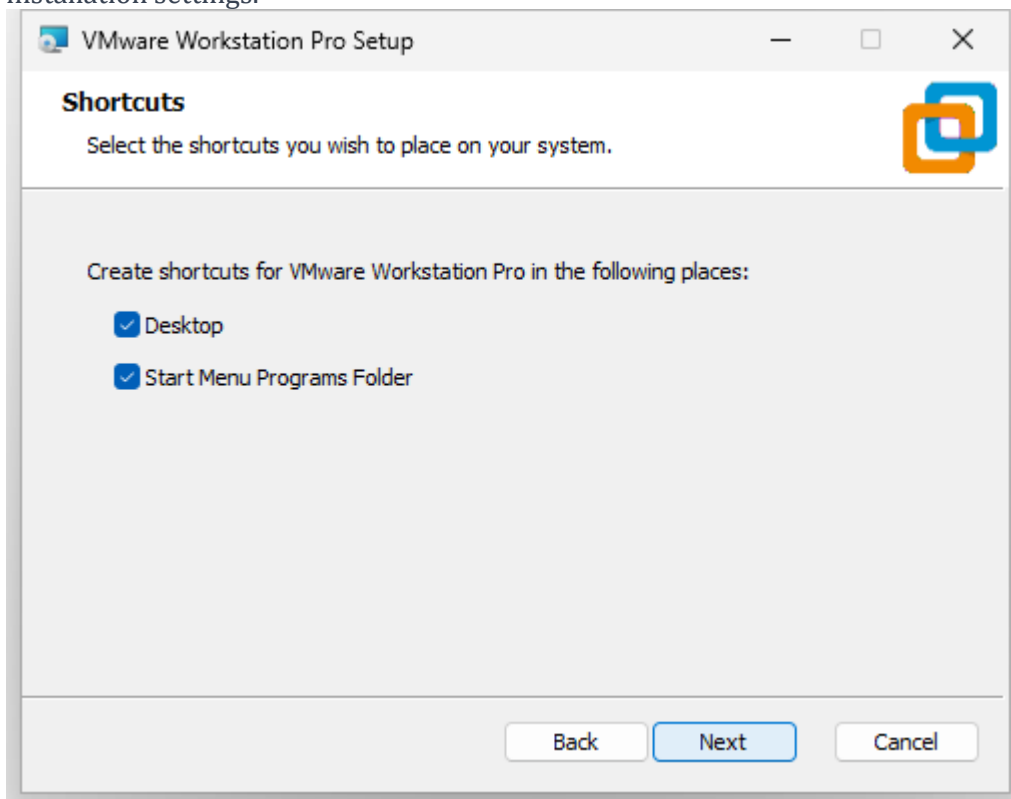
5. Choose the installation directory where you want to install VMware Workstation 17, then click on "Next." Leave the default settings whenever possible.



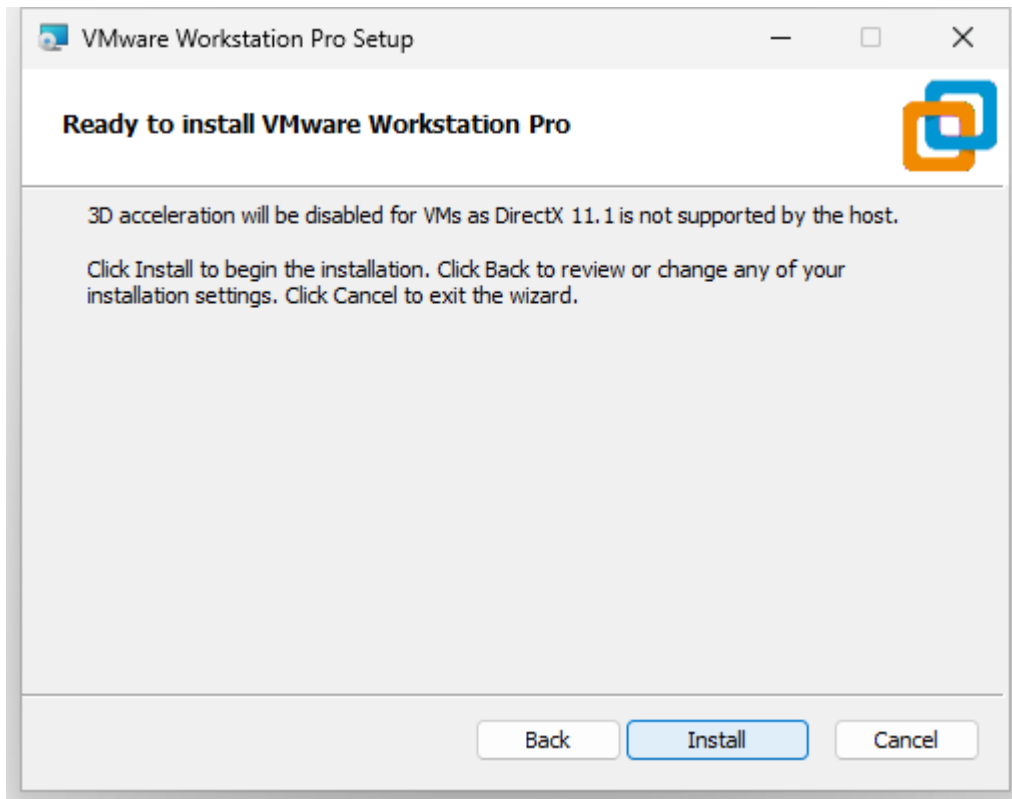
6. Choose User Experience Settings and click on "Next" to continue. This does not have any effect on the system performance, but if you want regular checks and updates, select both options.



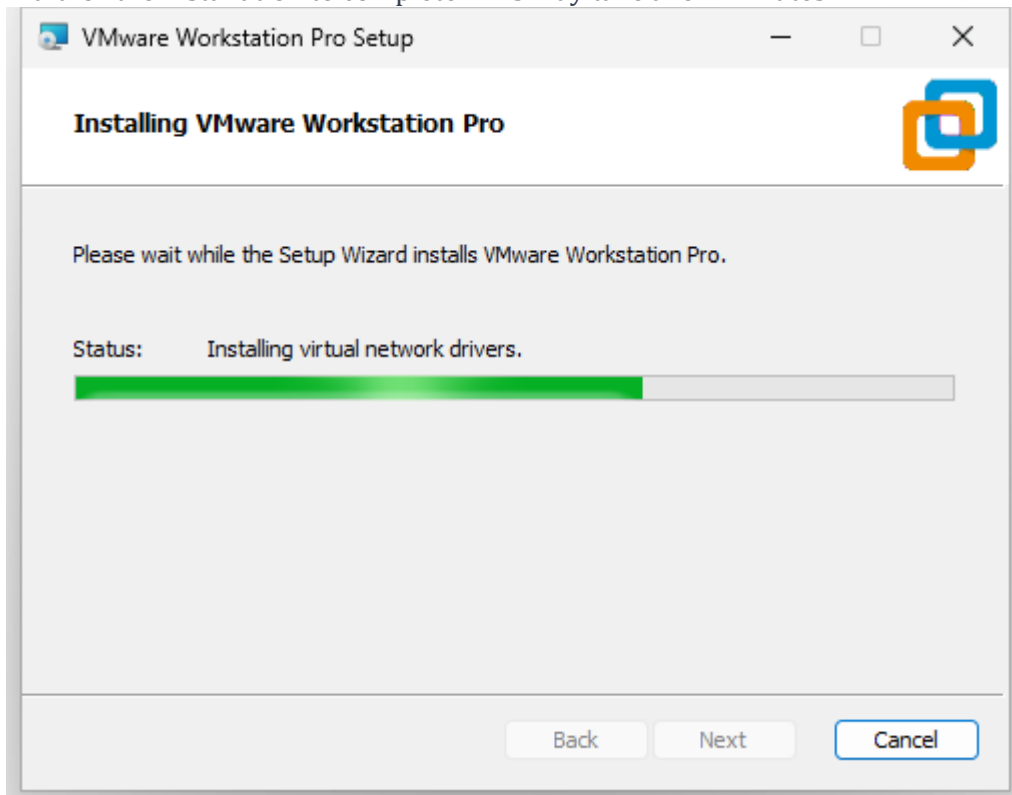
7. Choose the shortcut options and click on “Next” to continue. Again, try to use the typical installation settings.



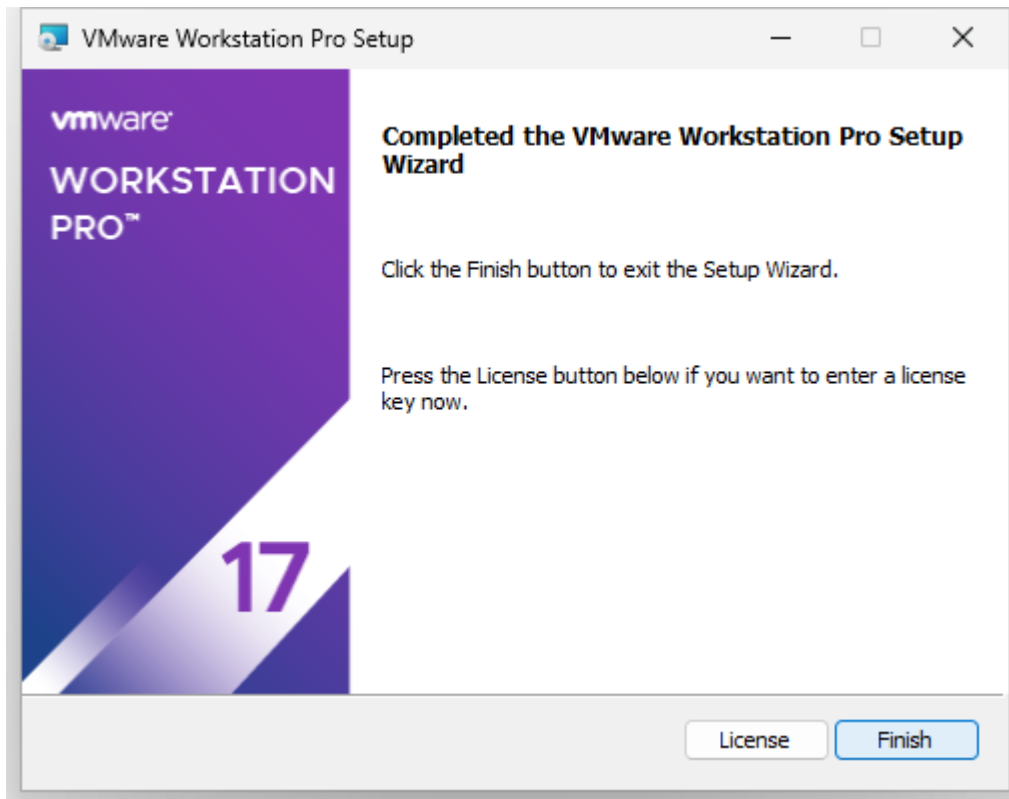
8. Click on “Install” to continue.



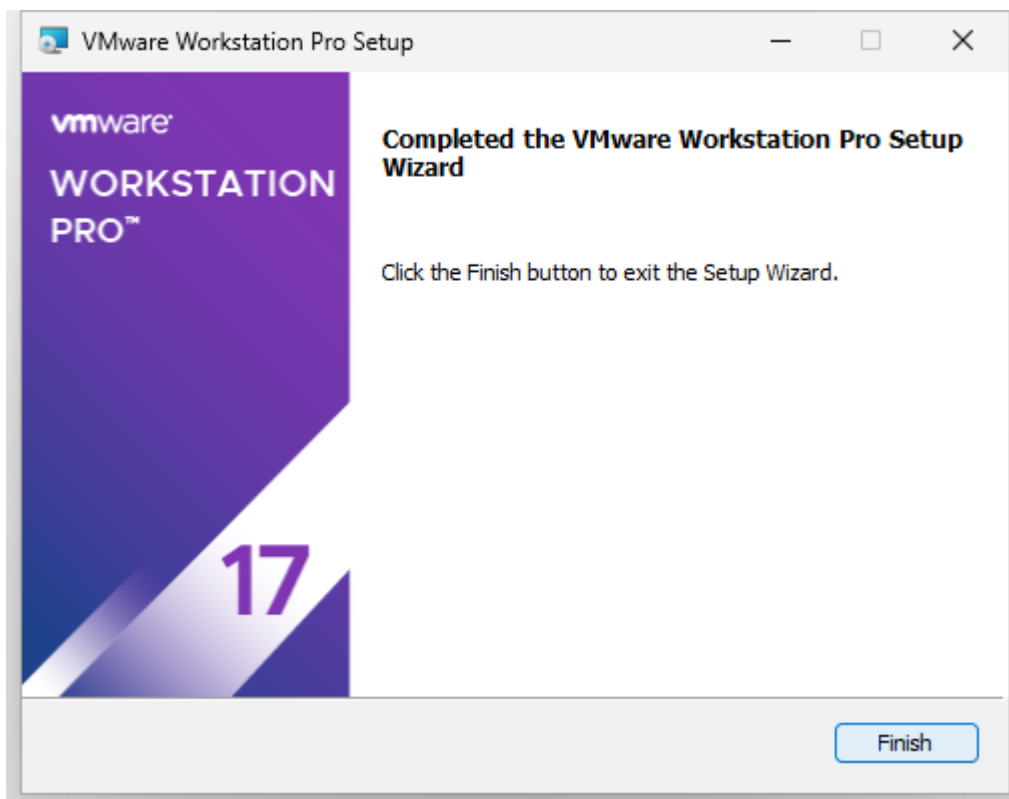
9. Wait for the installation to complete. This may take a few minutes.



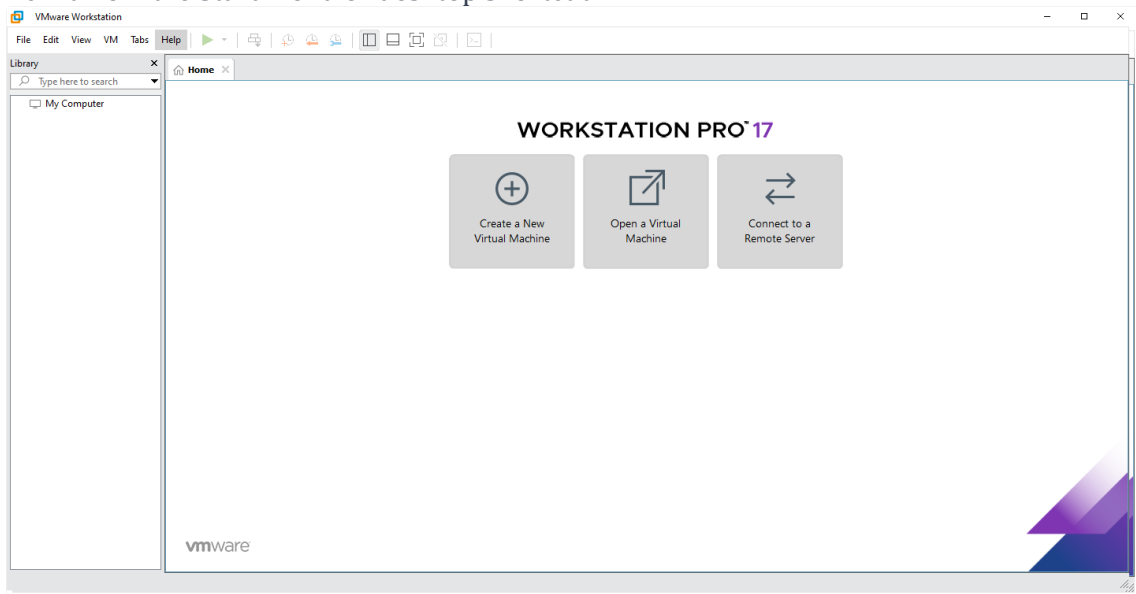
10. Once the installation is complete, click on "Finish" to exit the installer.



If you have a valid license to enter, enter it now. If not you will be running with a free 30-day trial license from the day of installation. You can always enter the new license from the main menu at a later time.



11. VMware Workstation 17 is now installed on your Windows 11 computer. You can launch it from the Start menu or desktop shortcut.

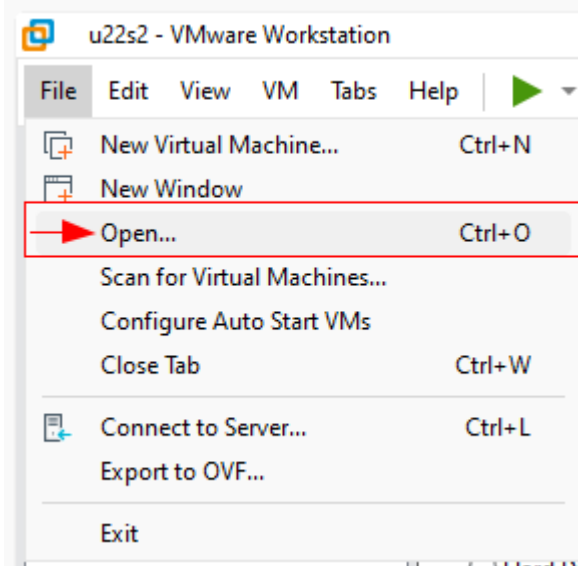


B. Import GNS3 VM

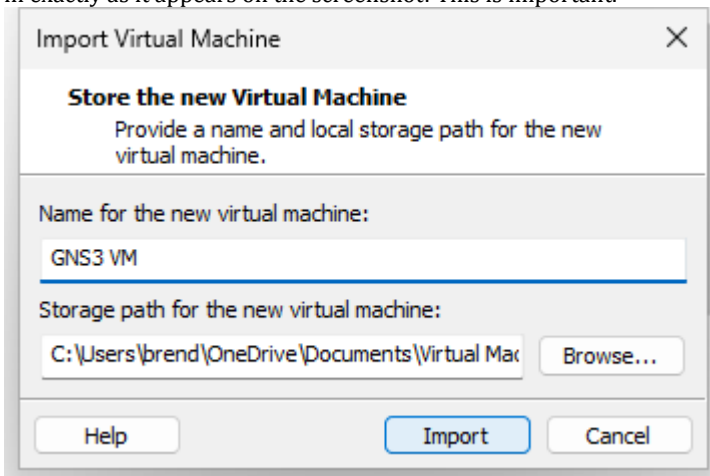
You should import the GNS3 VM by following the end of Chapter 6 of the book. Only depicting the first two steps but you must complete this task and have the GNS3 VM ready for the next step.

Task

- ① Go to File > Open to start importing a .ova file for GNS3 VM.



- ② Enter the Virtual machine name "GNS3 VM", this name has to be entered with the spacing and capitalization. Type in exactly as it appears on the screenshot! This is important.




- ③ Follow Chapter 6 for the completion of this task...

C. GNS3 Installation

The following are the screenshots of the GNS3 installation on Windows 11. Follow the instructions to complete your task.

Task

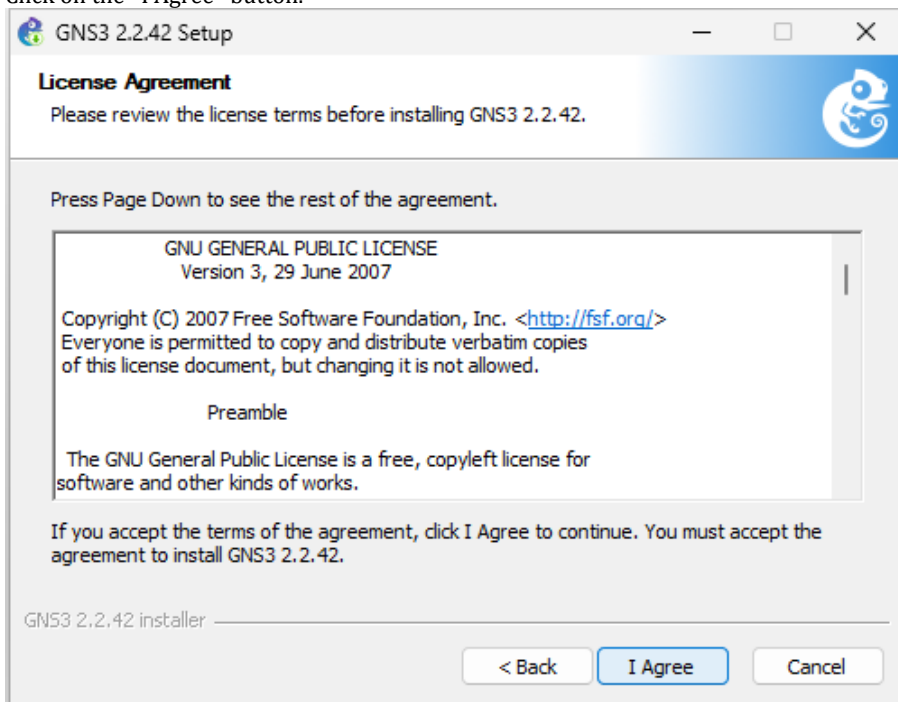
- ① Locate the GNS3 installation file in your Downloads folder and double-click to begin the software installation.

 GNS3-2.2.42-all-in-one

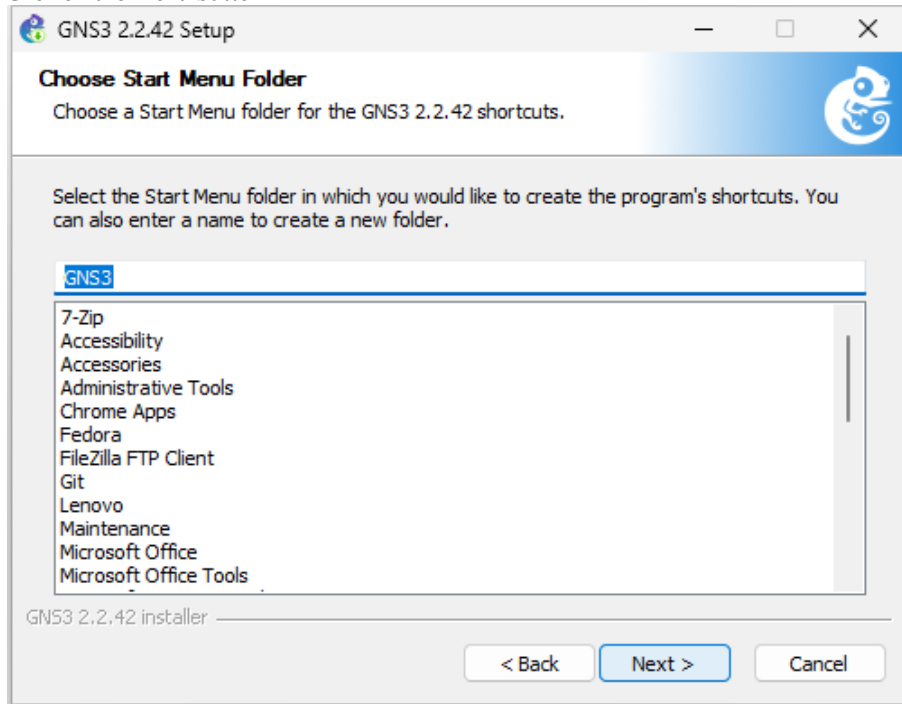
- ② Click on the 'Next' button.



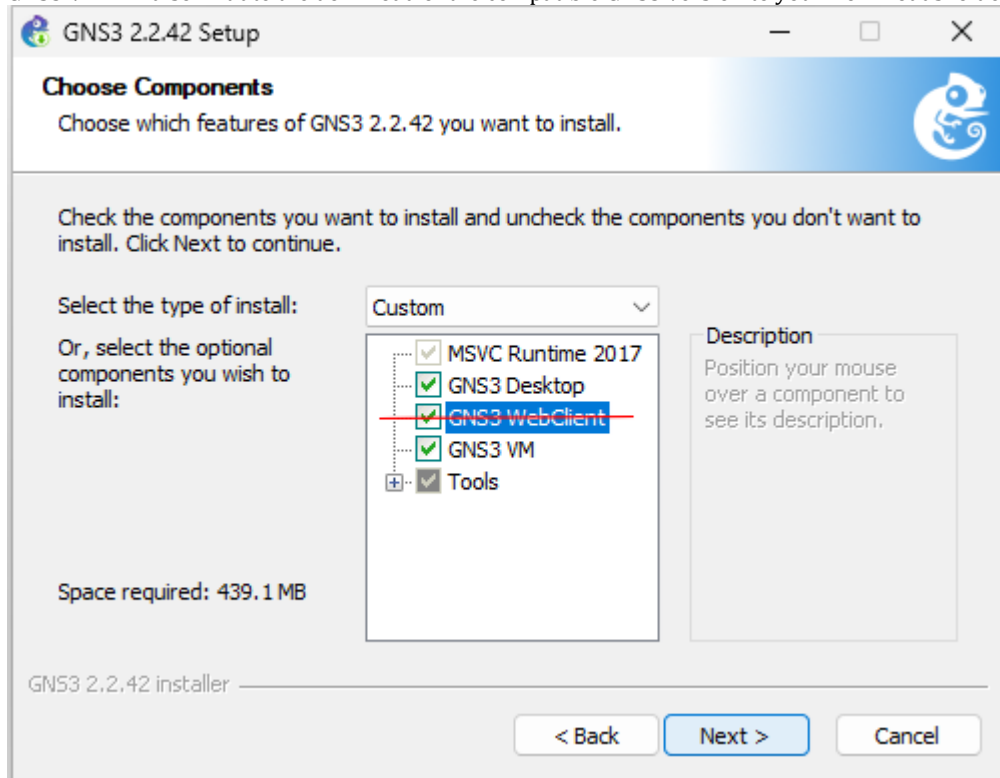
- ③ Click on the 'I Agree' button.



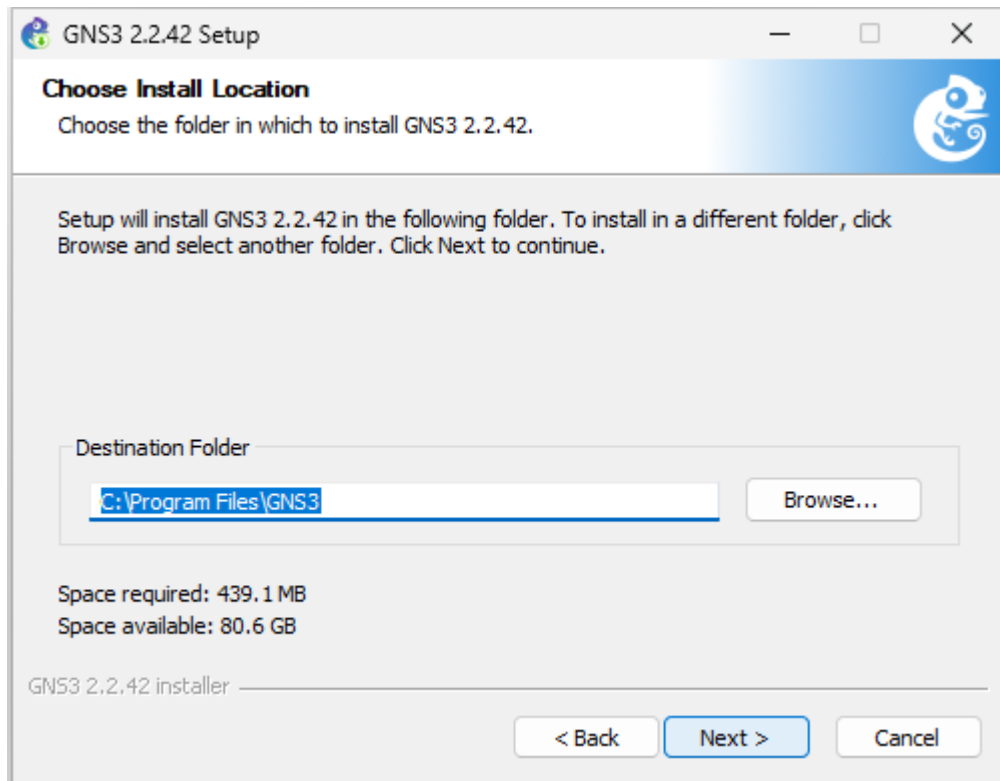
- ④ Click on the 'Next' button.



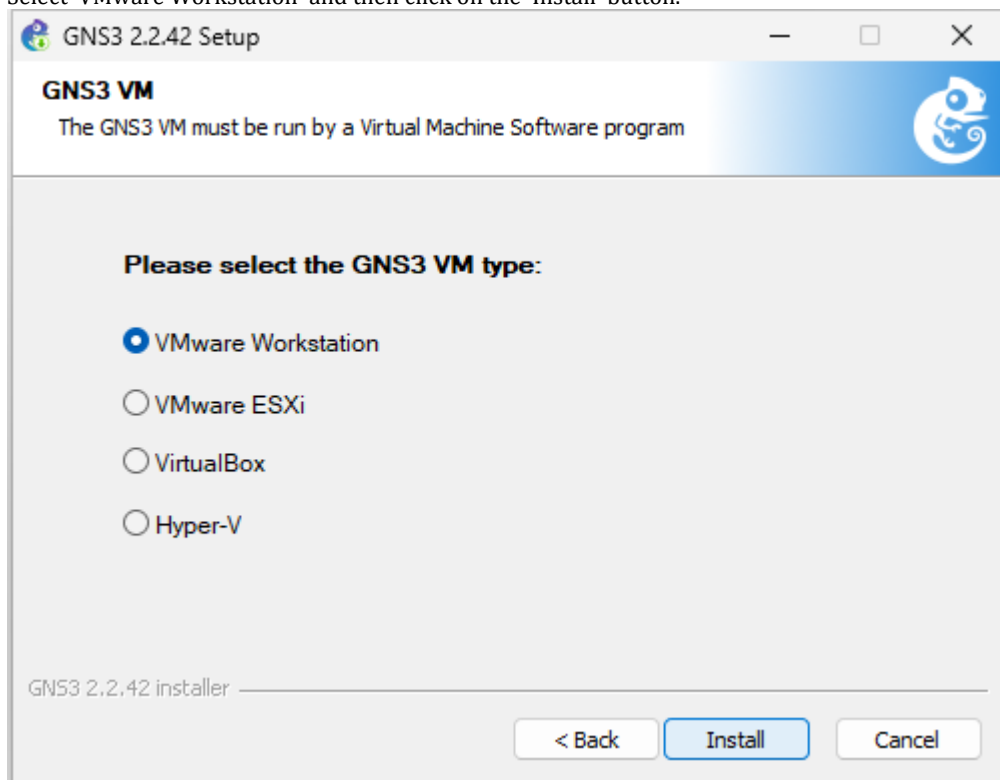
- ⑤ Select 'GNS3 Desktop' and 'GNS3 VM' and click on the 'Next' button. 'GNS3 WebClient' is optional. Selecting the GNS3 VM will also initiate the download of the compatible GNS3 version to your Downloads folder.



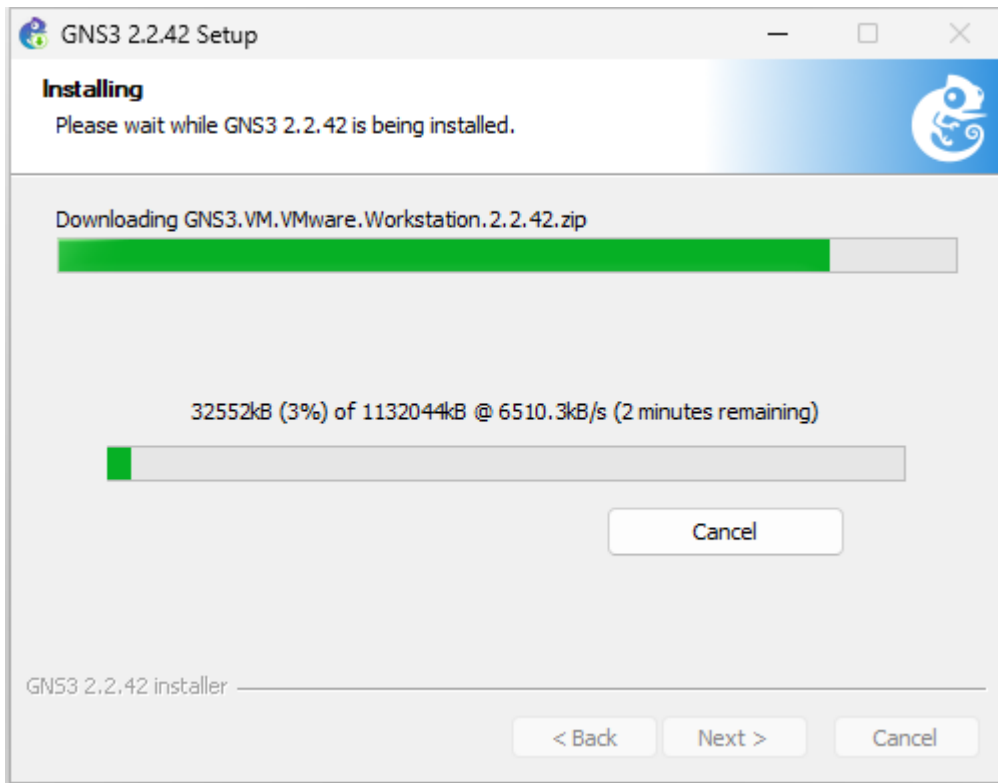
- ⑥ Click on the 'Next' button.



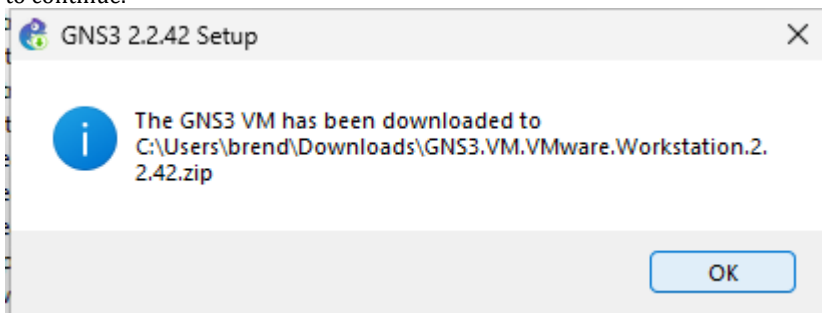
- ⑦ Select 'VMware Workstation' and then click on the 'Install' button.



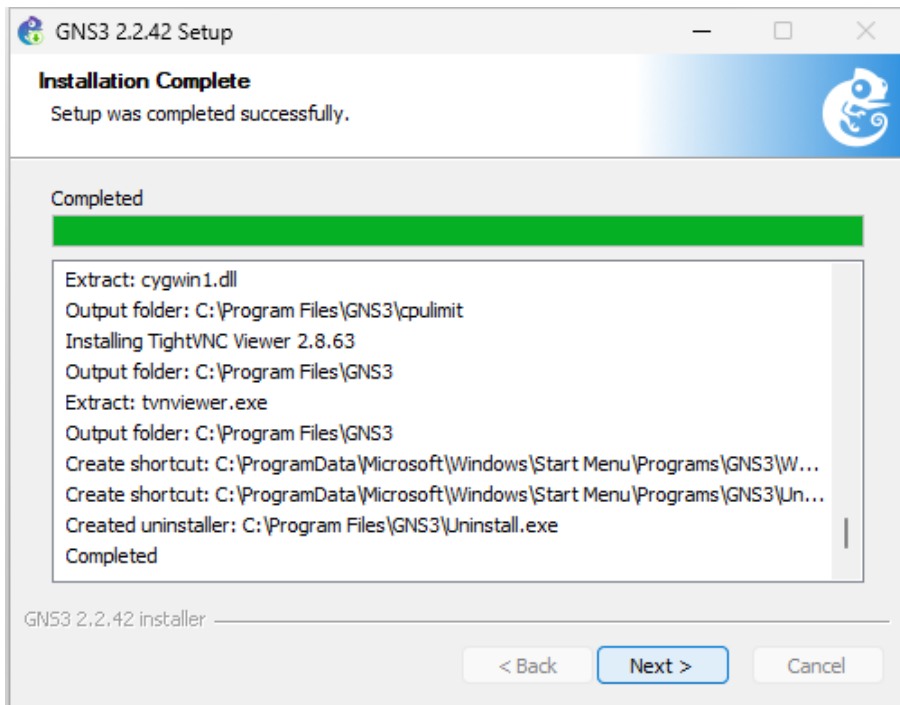
- ⑧ Wait until the installation process is completed.



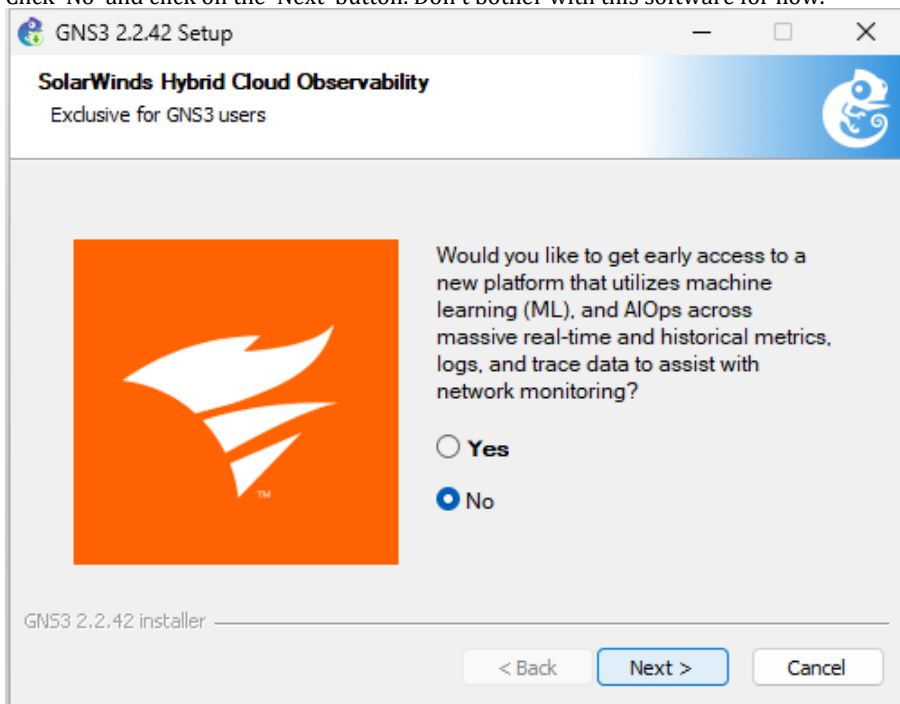
- ⑨ Once the GNS3 VM zip file is downloaded, you will be prompted with the following message. Click on the 'OK' button to continue.



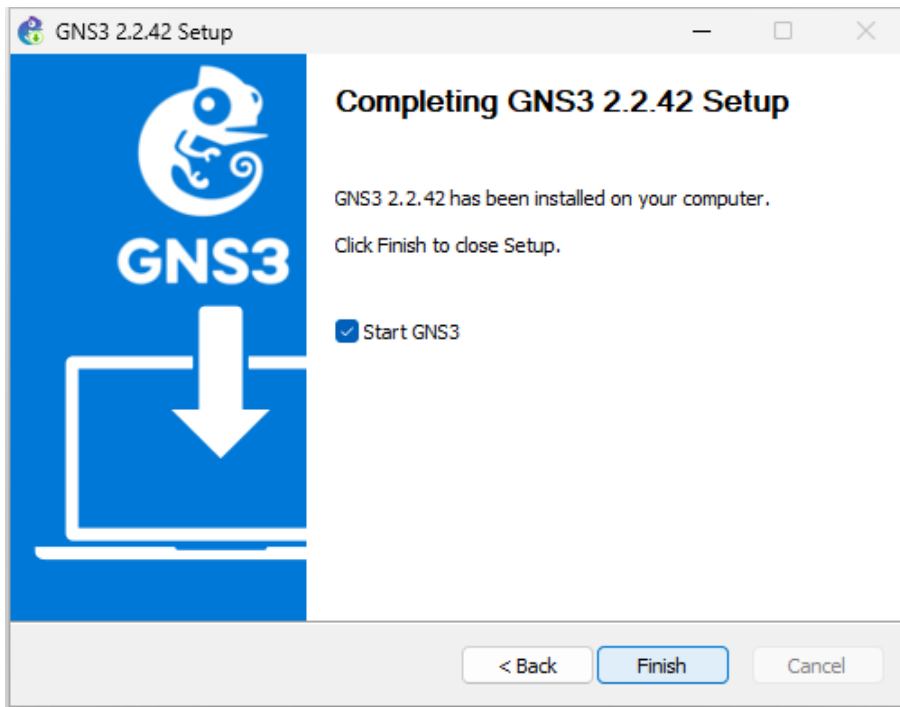
- ⑩ Wait until the software installation is completed.



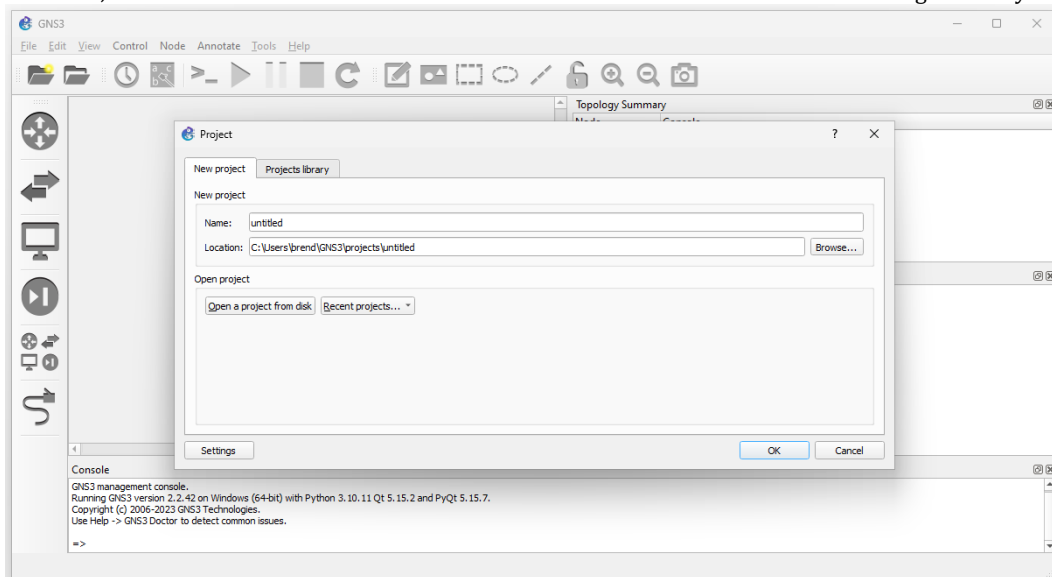
- ⑪ Click 'No' and click on the 'Next' button. Don't bother with this software for now.

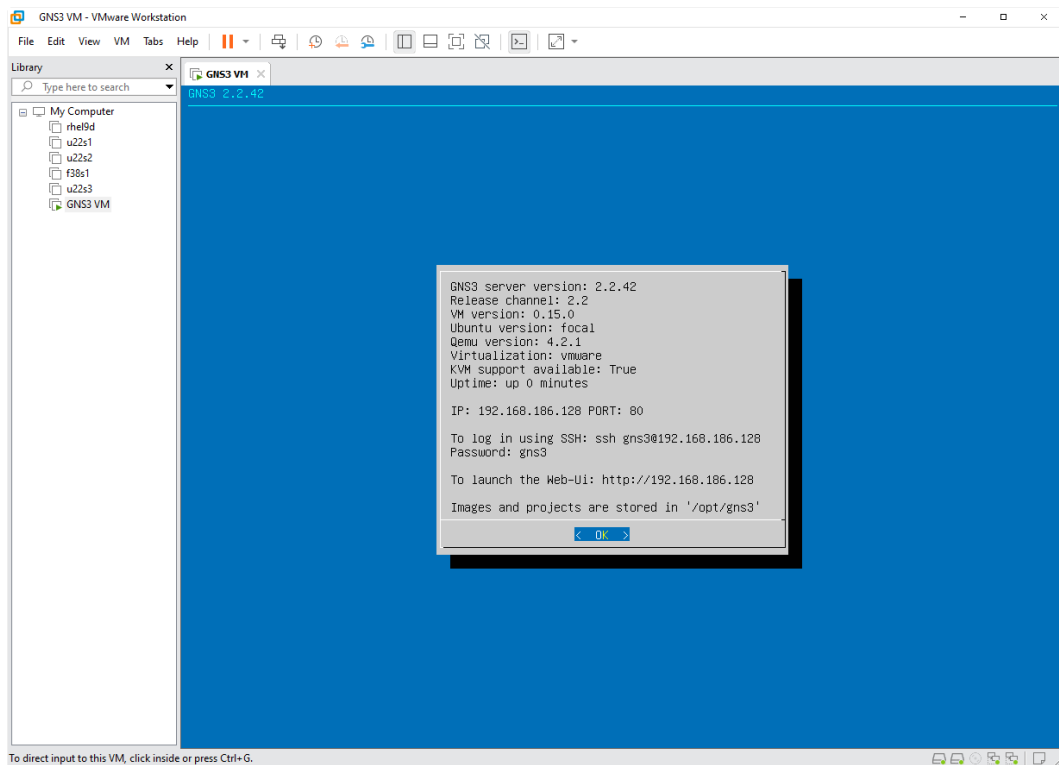


- ⑫ Once the installation of GNS3 is completed, you will be prompted with the final installation wizard window. Leave the 'Start GNS3' and click on the 'Finish' button to start GNS3 for the first time.



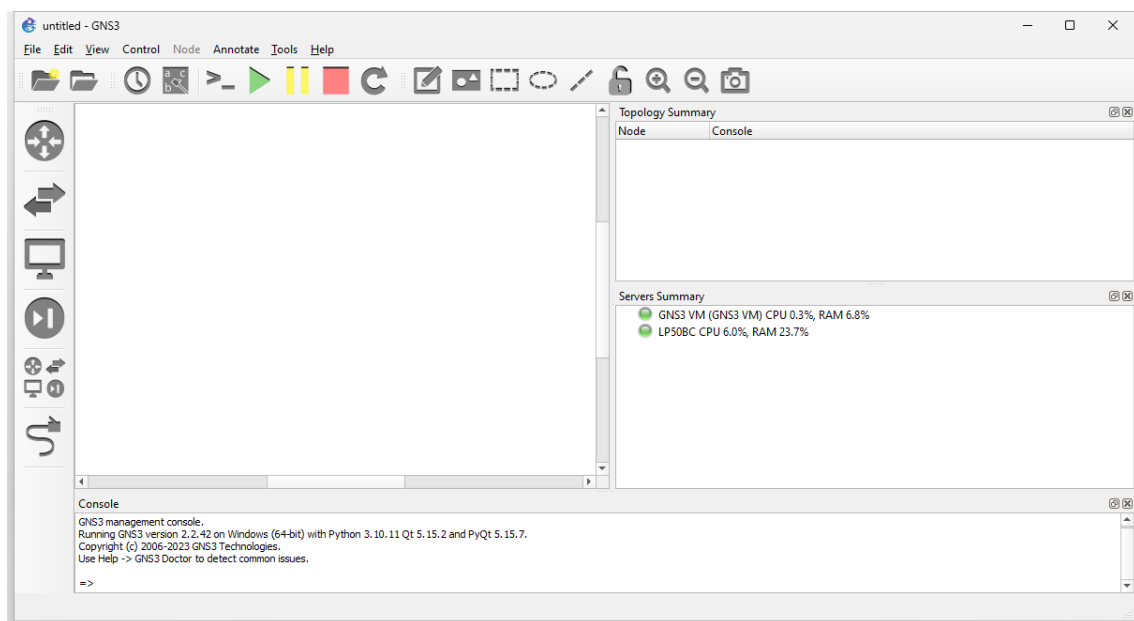
- ⑬ Your application should start normally and if all your Windows settings are compatible, it should kick-start the GNS3 VM, and both the GNS3 and GNS3 VM on VMware Workstation 17 should be running smoothly.





Warning! If you don't see the above window you get the dreaded 'Virtualized Intel VT-x/EPT is not supported on this platform. Continue without the virtualized Intel VT-x/EPT error, then you have to move to the next section and complete the troubleshooting. Unless you complete the full integration, you won't be able to use the GNS3 and GNS3 VM to build your Network Automation labs on your laptop/PC.

- ⑭ The following screenshot is the normal working Window of GNS3 with the GNS3 VM running normally.



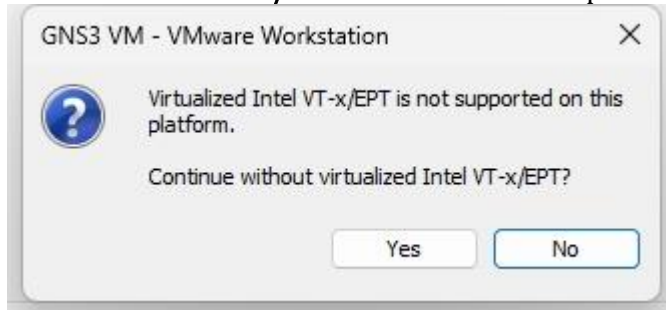
If you have created a project named 'untitled' before, you will have to navigate to the following folder path and delete the folder. C:\Users\brend\GNS3\projects

If you have reached here, you are ready to build your Python Network Automation Labs! Let's have some fun!

D. Virtualized Intel VT-x/EPT Troubleshooting Guide

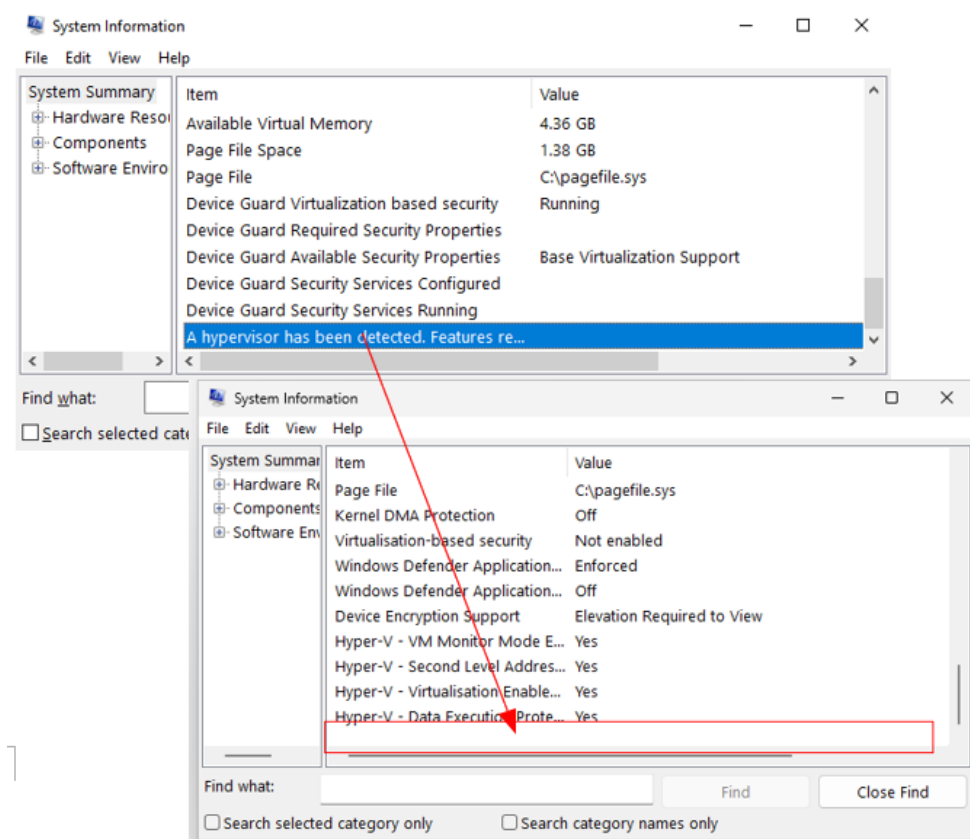
Reference links: <https://kb.vmware.com/s/article/2146361>

If you are using the latest Windows 11 (or moving forward to Windows 12 in the future), your chance of running into the following error is highly likely due to Microsoft Hyper-V features. The dreaded '**Virtualized Intel VT-x/EPT is not supported on this platform. Continue without virtualized Intel VT-x/EPT error!!!**' You could spend hours or days troubleshooting this issue.



To follow my book, you must follow the troubleshooting steps so your GNS3 and GNS3 VM on VMware Workstation is fully functioning!

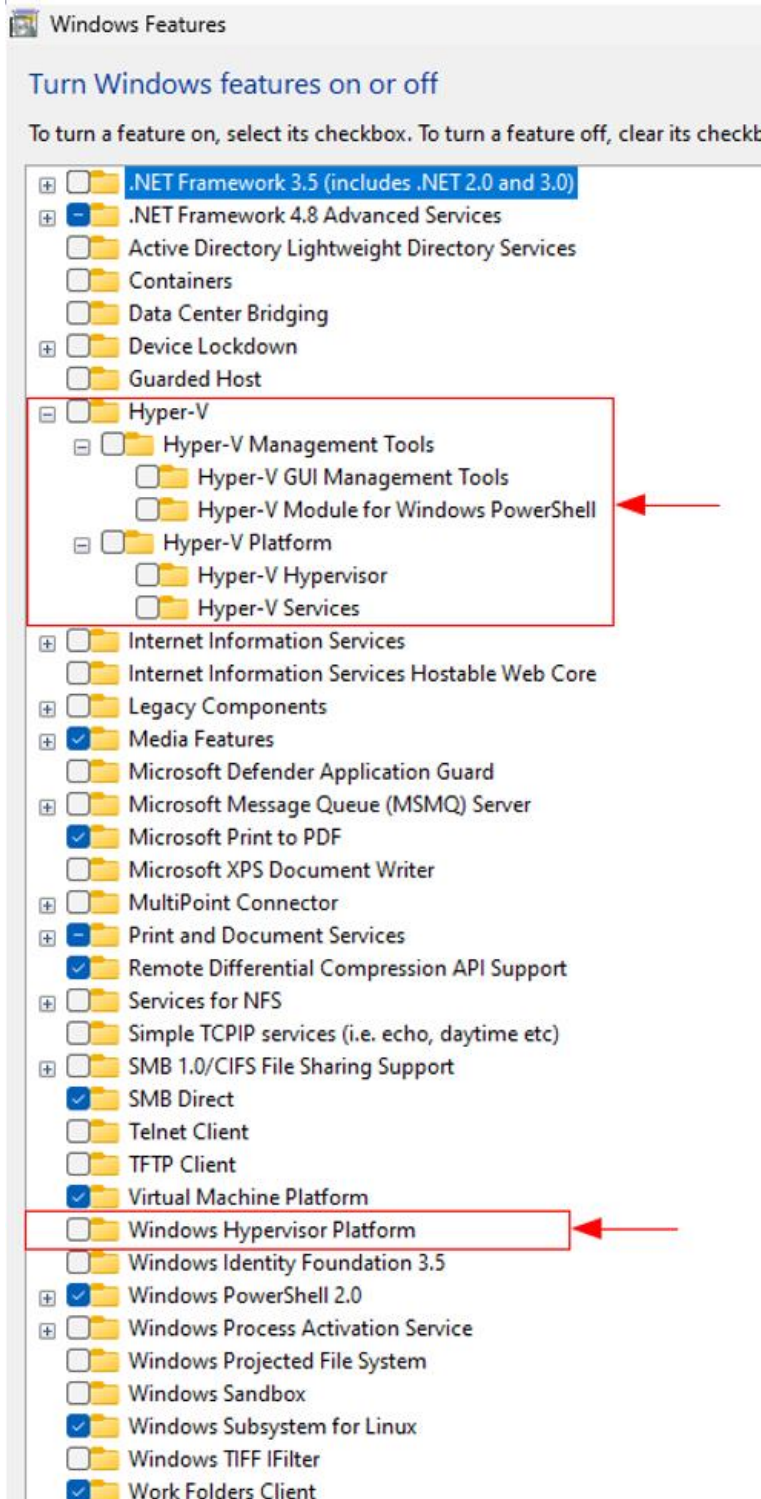
<https://learn.microsoft.com/en-us/troubleshoot/windows-client/application-management/virtualization-apps-not-work-with-hyper-v>



If you see the “A hypervisor has been detected. Features required for Hyper-V will not be displayed.” Message under your “System Information” window at the bottom, you won’t be able to use the GNS3 VM with the Intel VT-x/EPT feature if your system is running an Intel CPU. We must disable the detection feature to move forward. Follow the instructions given in this guide.

Task

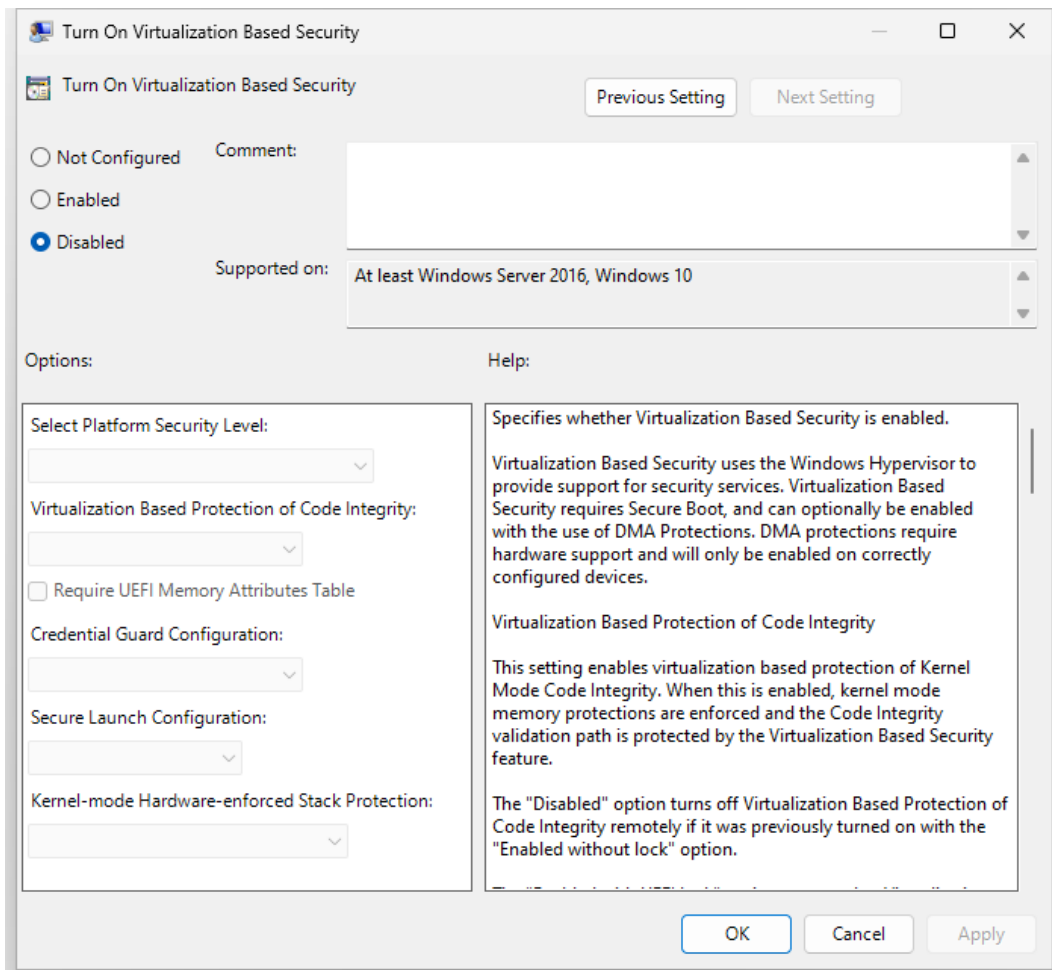
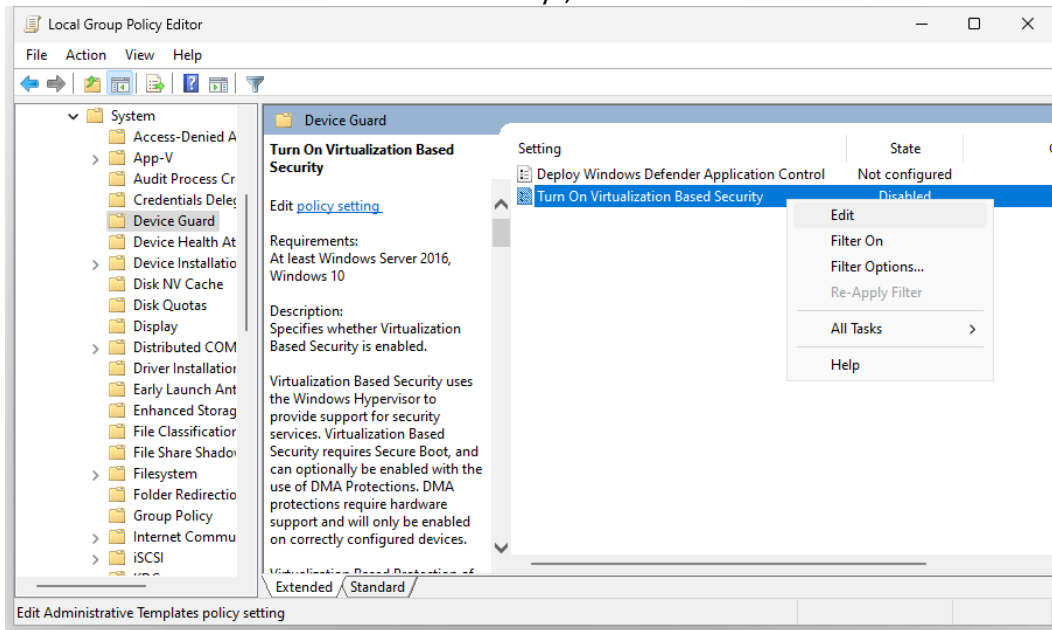
- ① Go to the "Turn Windows features on or off" applet and **uncheck the entire "Hyper-V" tree and also uncheck "Windows Hypervisor platform"**.



Reboot the system!

- ② **Disable Credential Guard** by running the "Edit group policy" applet, and navigating to the following path:
Local Computer Policy > Computer Configuration > Administrative Templates > System > Device Guard.

For the "Turn On Virtualization Based Security", set it to "Disabled"



Reboot the system!

③ Turn off Hypervisor in the bootloader!

On Windows Command Prompt window as an administrator

Run "bcdedit /enum {current}"

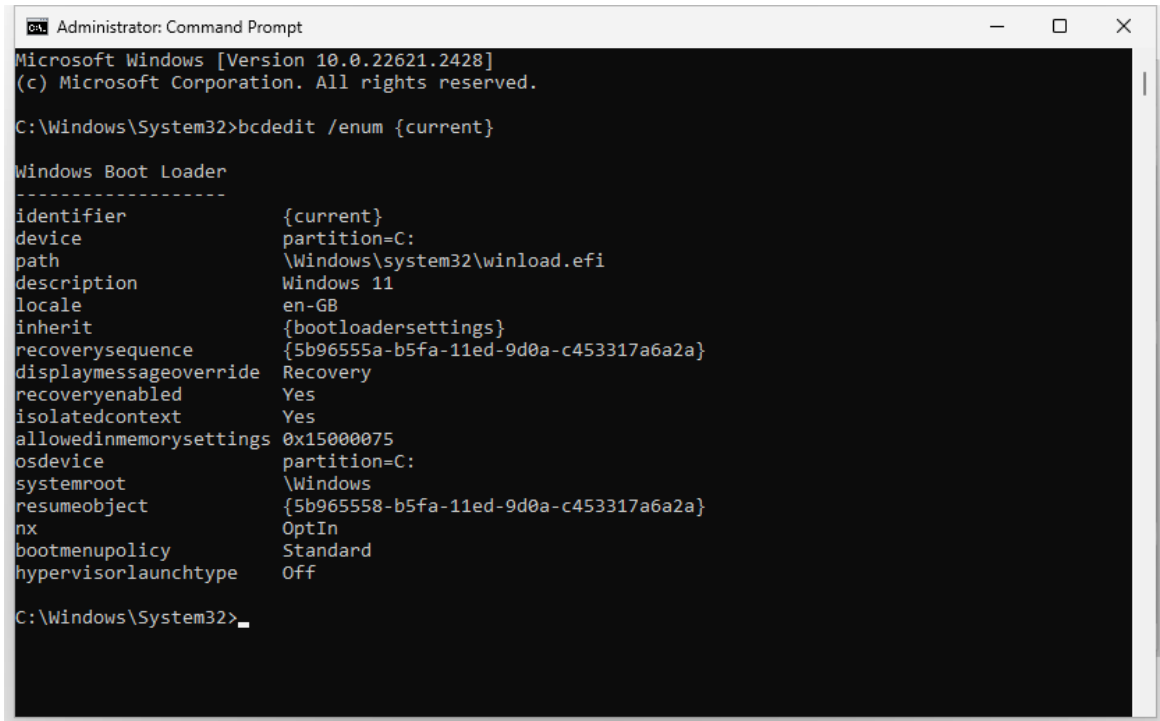
Note down the hypervisorlaunchtype in case this needs to be reverted

Run "bcdedit /set hypervisorlaunchtype off" to disable hypervisor Close the command prompt after executing the commands and restart the system

C:\Windows\System32>bcdedit /enum {current}

C:\Windows\System32>bcdedit /set hypervisorlaunchtype off

C:\Windows\System32>bcdedit /enum {current}

A screenshot of a Windows Command Prompt window titled "Administrator: Command Prompt". The window shows the output of the command "bcdedit /enum {current}". The output lists various boot loader settings for the current Windows 11 installation, including identifier, device, path, description, locale, inherit, recoverysequence, displaymessageoverride, recoveryenabled, isolatedcontext, allowedinmemorysettings, osdevice, systemroot, resumeobject, nx, bootmenupolicy, and hypervisorlaunchtype (which is set to Off).

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.22621.2428]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\System32>bcdedit /enum {current}

Windows Boot Loader
-----
identifier           {current}
device               partition=C:
path                 \Windows\system32\winload.efi
description           Windows 11
locale               en-GB
inherit               {bootloadersettings}
recoverysequence      {5b96555a-b5fa-11ed-9d0a-c453317a6a2a}
displaymessageoverride Recovery
recoveryenabled        Yes
isolatedcontext        Yes
allowedinmemorysettings 0x15000075
osdevice              partition=C:
systemroot            \Windows
resumeobject          {5b965558-b5fa-11ed-9d0a-c453317a6a2a}
nx                    OptIn
bootmenupolicy         Standard
hypervisorlaunchtype  Off

C:\Windows\System32>
```

OR On Windows PowerShell as Administrator:

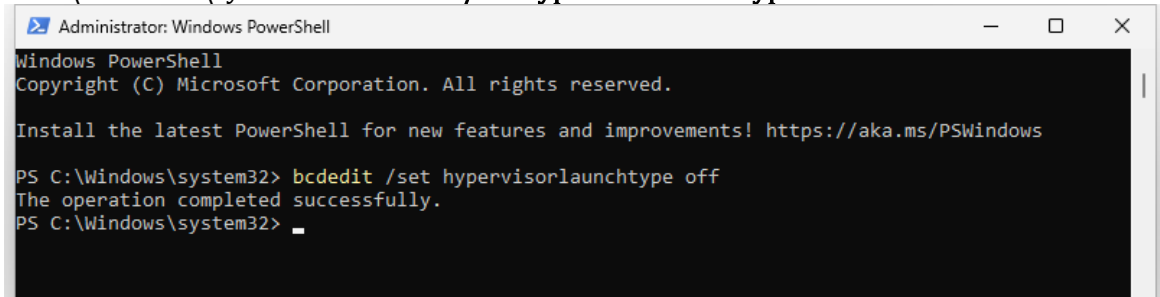
Windows PowerShell

Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements!

<https://aka.ms/PSWindows>

PS C:\Windows\system32> bcdedit /set hypervisorlaunchtype off

A screenshot of a Windows PowerShell window titled "Administrator: Windows PowerShell". The window shows the execution of the command "bcdedit /set hypervisorlaunchtype off". The output indicates that the operation completed successfully.

```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

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

PS C:\Windows\system32> bcdedit /set hypervisorlaunchtype off
The operation completed successfully.
PS C:\Windows\system32>
```

Reboot the system!

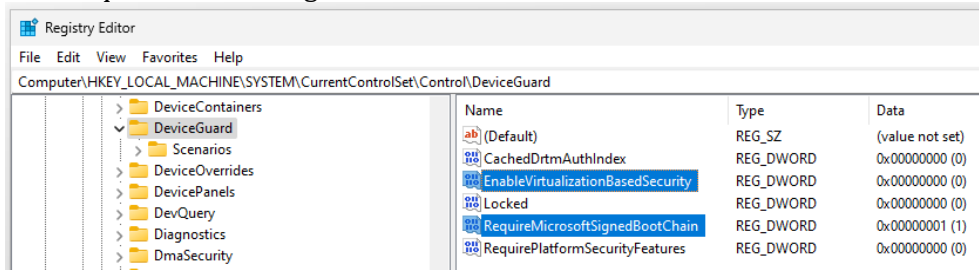
④ **Disable DeviceGuard** by running the "Registry Editor" applet. Navigate to the following path.

Computer > HKEY_LOCAL_MACHINE > SYSTEM > CurrentControlSet > Control >

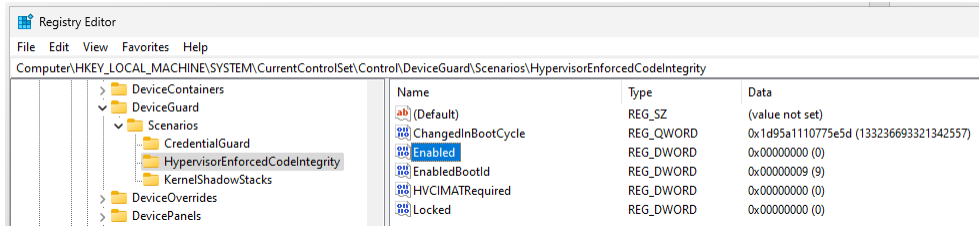
DeviceGuard

Set the "EnableVirtualizationBasedSecurity" to 0.

Set "RequireMicrosoftSignedBootChain" to 0.

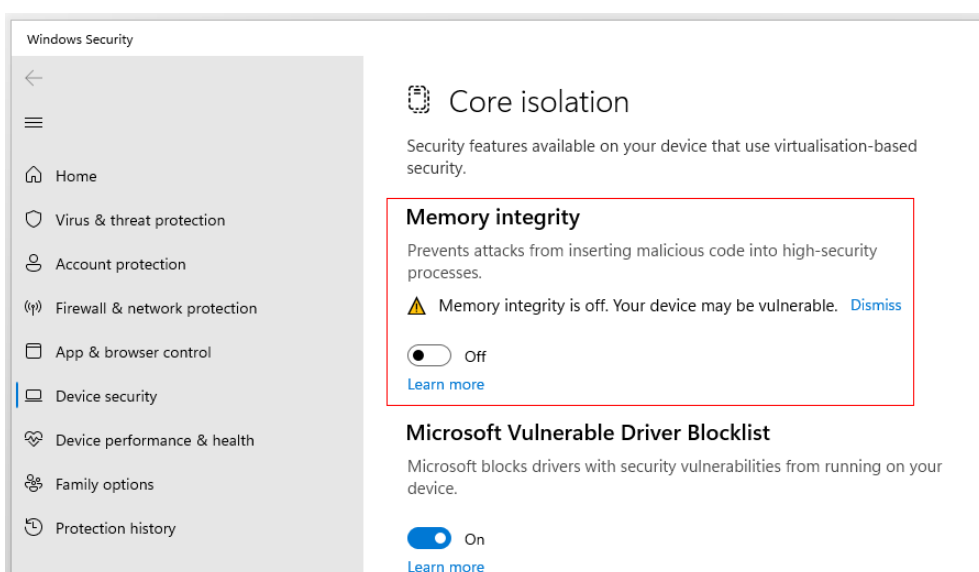
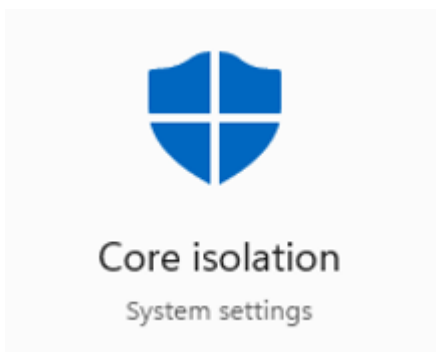


And drill down to the lower path "Scenarios" and set HypervisorEnforcedCodeIntegrity and set "Enabled" to 0.



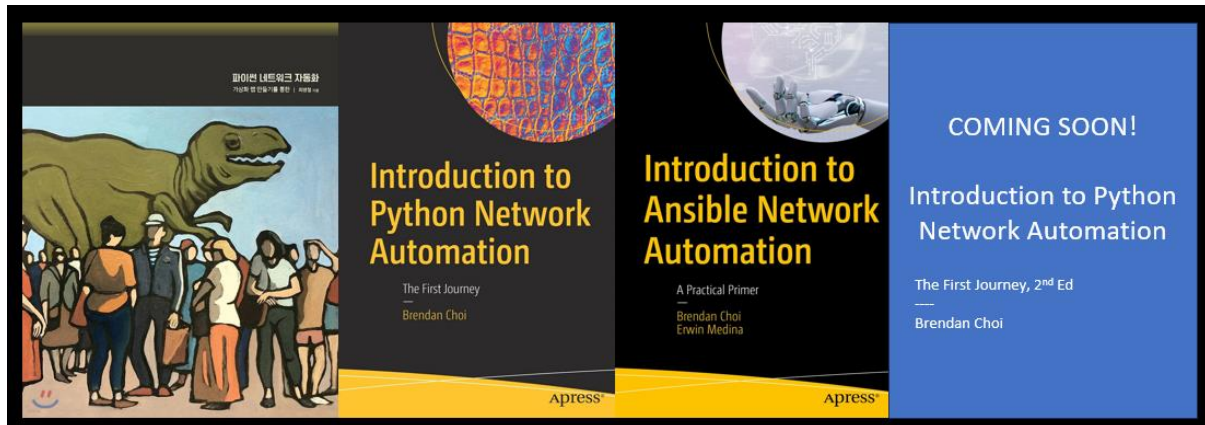
Reboot the system!

- ⑤ **Disable Memory Integrity** in the Settings Applet, navigate to Update & Security > Windows Security > Device Security > Core Isolation.



Reboot the system!

If you're using a company-provided SOE (Standard Operating Environment) laptop or PC, you may not have full access to core isolation settings. In such cases, you'll need to request permission from your system administrators to relax the Group Policy, allowing you to make these necessary changes. If corporate policy prohibits this, you might have to resort to using a personally sourced laptop or PC. This is one of the reasons it's important to use your equipment, as it provides more freedom and control over your lab environment. I don't endorse using company laptops on the corporate network, as it could introduce new problems and service interruptions if not done carefully.



"Enjoy the Python Network Automation on VMware Desktop Virtualization experience!"