≡   🦎 GNS3®

GNS3 Windows Install

Introduction

This document explains how to install GNS3 using a Windows environment. You will learn how to:

- Download the required software
- Install prerequisite and optional software

Supported Operating Systems

GNS3 supports the following Windows operating systems:

- Windows 7 SP1 (64 bit)
- Windows 8 (64 bit)
- Windows 10 (64 bit)
- Windows Server 2012 (64 bit)
- Windows Server 2016 (64 bit)

Note: The 32 bit version is not discussed in this guide. For 32-bit CPU or older operating systems, please read this documentation.

Minimum Requirements

The following are the minimum requirements for a Windows GNS3 environment:

Item	Requirement
Operating System	Windows 7 (64 bit) or later
Processor	2 or more Logical cores

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Item	Requirement

Item	Requirement
Virtualization	Virtualization extensions required. You may need to enable this via your computer's BIOS.
Memory	4 GB RAM
Storage	1 GB available space (Windows Installation is < 200 MB).
Additional Notes	You may need additional storage for your operating system and device images.

> **IMPORTANT**
>
> The hardware requirements listed here are minimum requirements for a small GNS3 environment. If you want to create complex environments with many devices, your hardware requirements will increase.

Recommended Requirements

The following are the recommended requirements for a Windows GNS3 environment:

Item	Requirement
Operating System	Windows 7 (64 bit) or later
Processor	4 or more Logical cores - AMD-V / RVI Series or Intel VT-X / EPT
Virtualization	Virtualization extensions required. You may need to enable this via your computer's BIOS.
Memory	16 GB RAM

Storage **Item**	Solid-state Drive (SDD) with 35 GB available space **Requirement**

Additional Notes	Virtualizing devices is processor and memory intensive. More is better but properly configured device trumps RAM and Processing power.

> **IMPORTANT**
>
> The hardware requirements listed here are recommended for a small GNS3 environment. If you want to create complex environments with many devices, your hardware requirements will increase.

Optimal Requirements

The following are the optimal requirements for a Windows GNS3 environment:

| Item	Requirement
Operating System	Windows 7 (64 bit) or later
Processor	Core i7 or i9 Intel CPU / R7 or R9 AMD CPU / 8 or more Logical cores - AMD-V / RVI Series or Intel VT-X / EPT
Virtualization	Virtualization extensions required. You will need to enable this via your computer's BIOS.
Memory	32 GB RAM
Storage	Solid-state Drive (SDD) with 80 GB available space
Additional Notes	Virtualizing devices is processor and memory intensive. More is better, but a properly configured device trumps RAM and processing power.

IMPORTANT

If you want to create complex environments with many devices, your hardware requirements will increase.

Video

- Video: https://www.youtube.com/watch?v=x9pGYyEqLYs
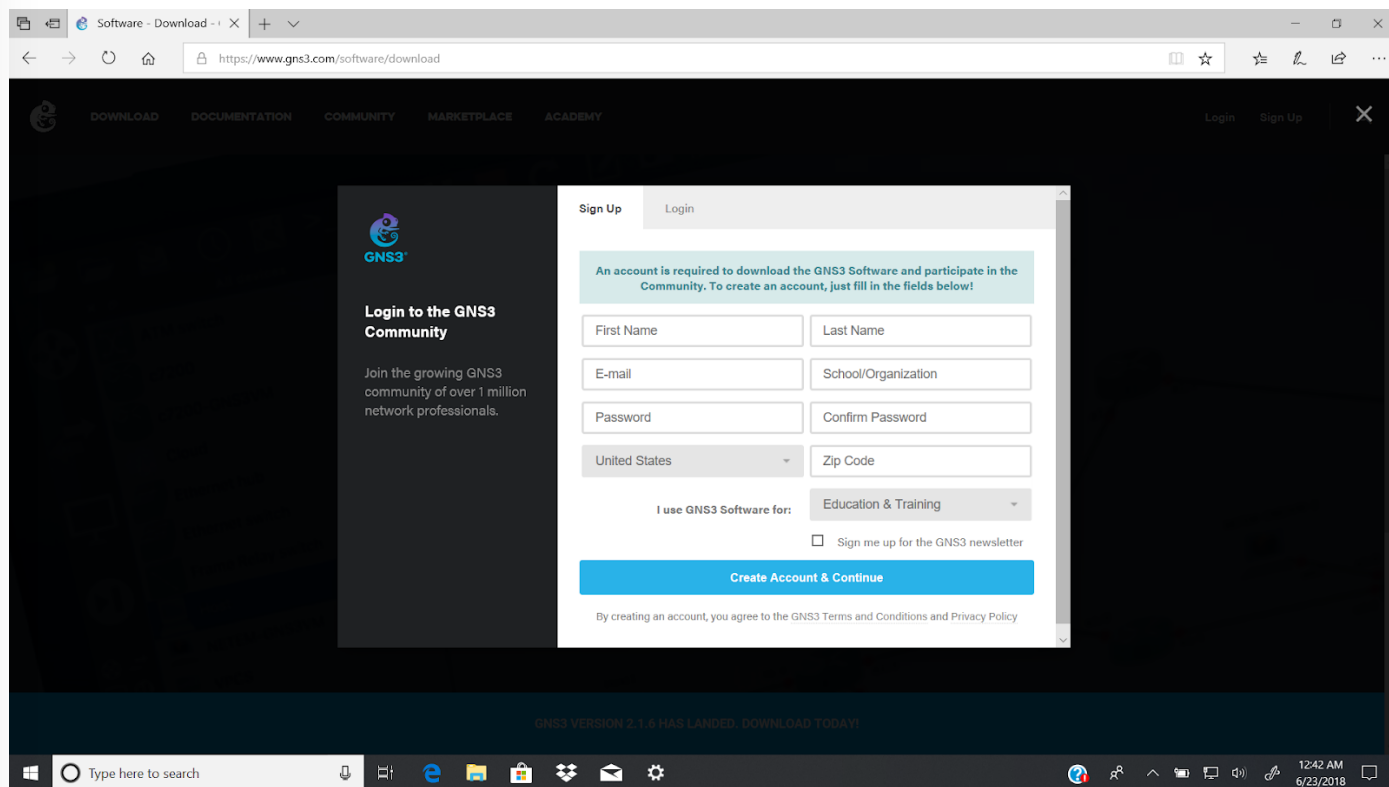- Video: https://www.youtube.com/watch?v=lFEDmM_lsxI

Download the GNS3 all-in-one-installer

Follow these steps to download GNS3 to you MAC. Using a web browser, browse to https://gns3.com and click the **Free Download** link:
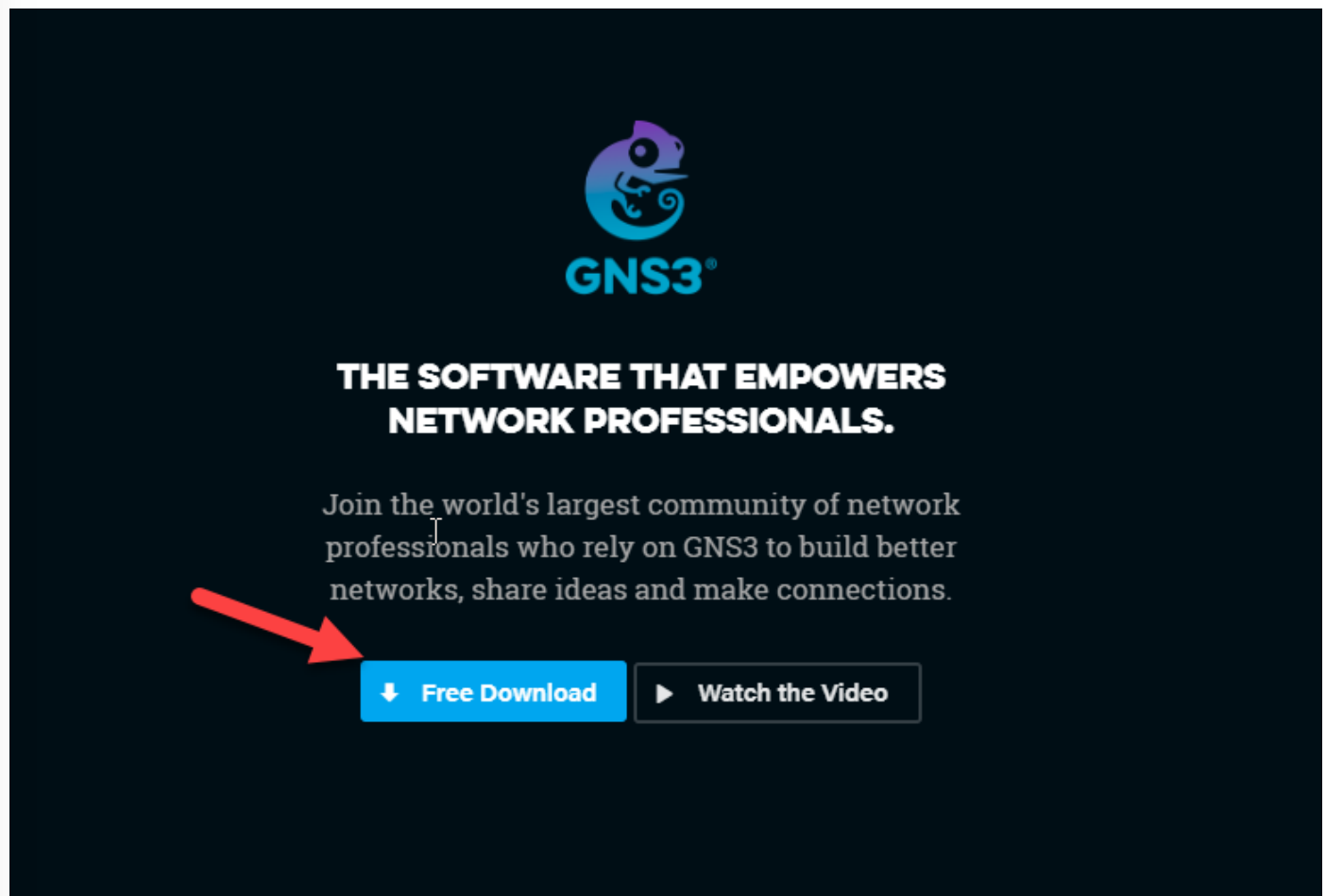
If you have not already registered on the GNS3 site, create an account and then click **Cre...** **Account & Continue**:

Or, if you already have an account, click **Login**, fill in the your details and then click **Login & Continue**:

After login, you will be prompted to select the version of GNS3 to download. In this guide, we will select the Windows installation. Click the Download button to download the GNS3-all-in-one package.
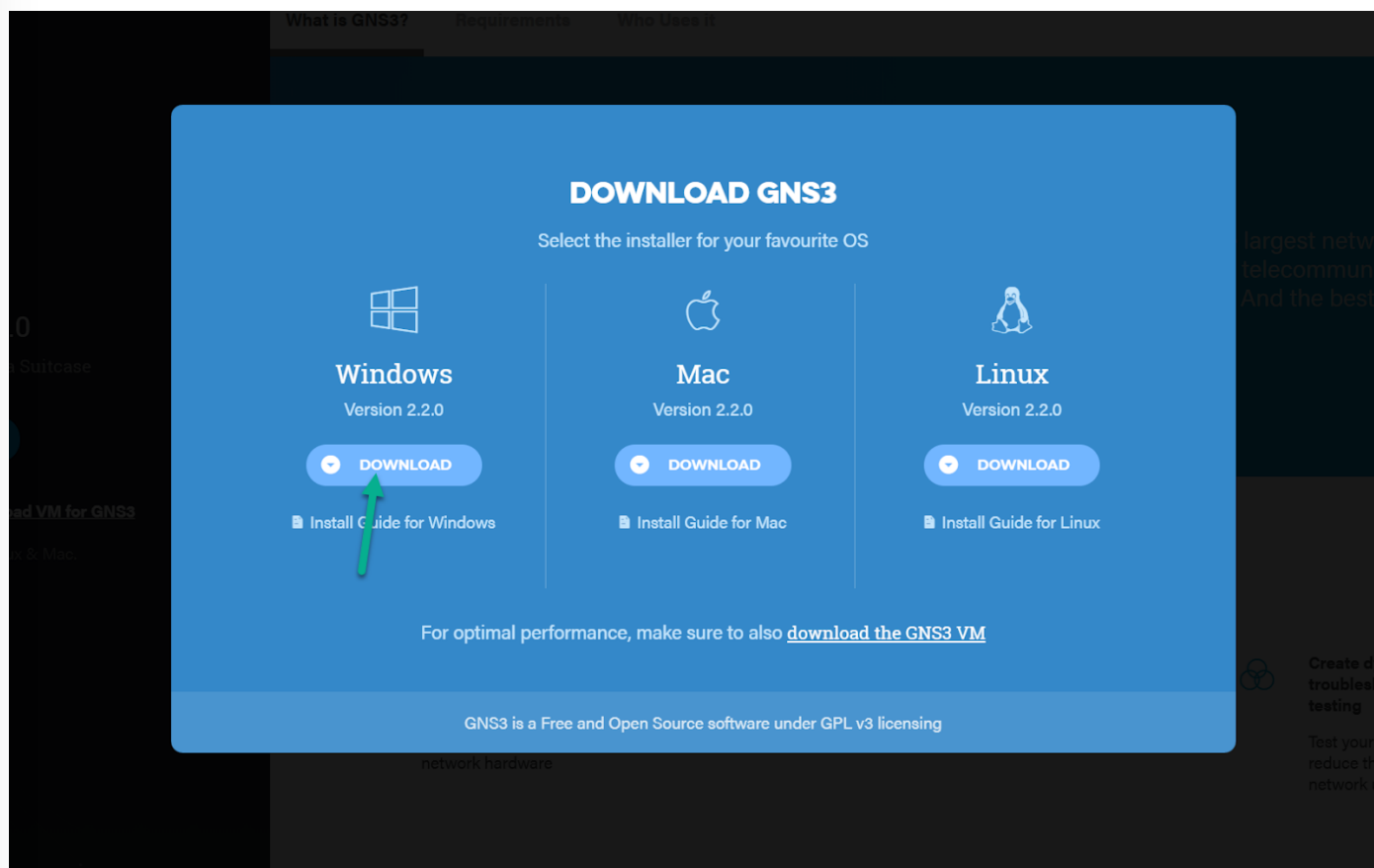
ℹ️ **NOTE**

The GNS3 executable file is about 85MB in size. The amount of time it takes to download will depend on the speed of your Internet connection.

ℹ️ **NOTE**

The GNS3 downloaded file is an executable Windows file. If you have issues downloading, ensure that your security policies such as firewall and antivirus rules allow for the downloading of .exe files.

The GNS3-all-in-one package will automatically be downloaded to your PC.
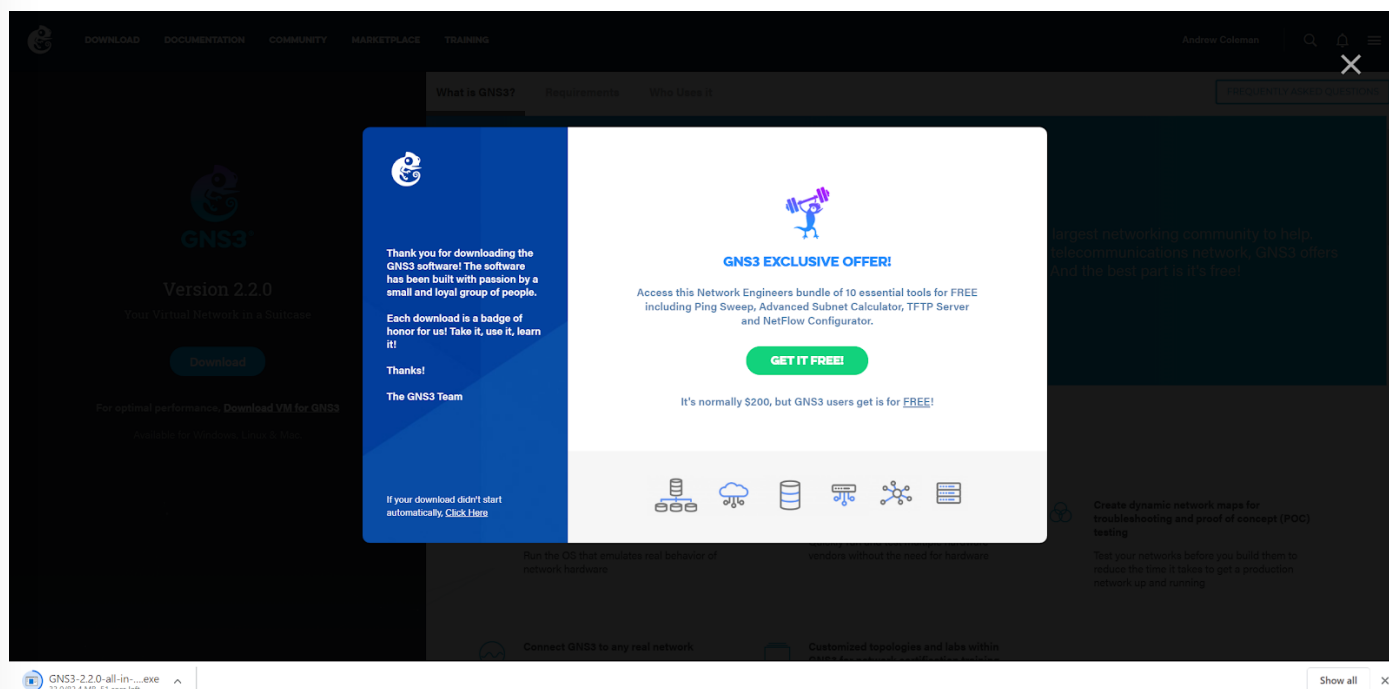
You also get an option to download a free version of the SolarWinds Network Engineers Toolkit (this is a subset of the full Pro version).

Install GNS3

Follow these steps to download GNS3 on a local Windows PC.

> (i) **NOTE**
>
> This guide only discusses a local Windows installation (Dynamips). If you are using the GNS3 VM, please refer to the GNS3 VM installation guide.

Navigate in Windows Explorer to your Downloads folder and then double-click the GNS3-2.2.0-all-in-one-regular.exe file:

> This PC > Downloads > GNS3 Download

Name	Date m
GNS3.VM.VMware.Workstation.2.2.0	10/4/2(
GNS3-2.2.0-all-in-one-regular	10/1/2(

> ⓘ **NOTE**
>
> If you have configured your browser to download files to a different directory to the default Downloads directory, look for the GNS3-2.2.0-all-in-one-regular.exe file (or the version of file you downloaded) in that directory.

If displayed, click the **Run** button to start the GNS3 installation (it's not possible to take a screenshot of the UAC prompt for this, but allow setup to continue)
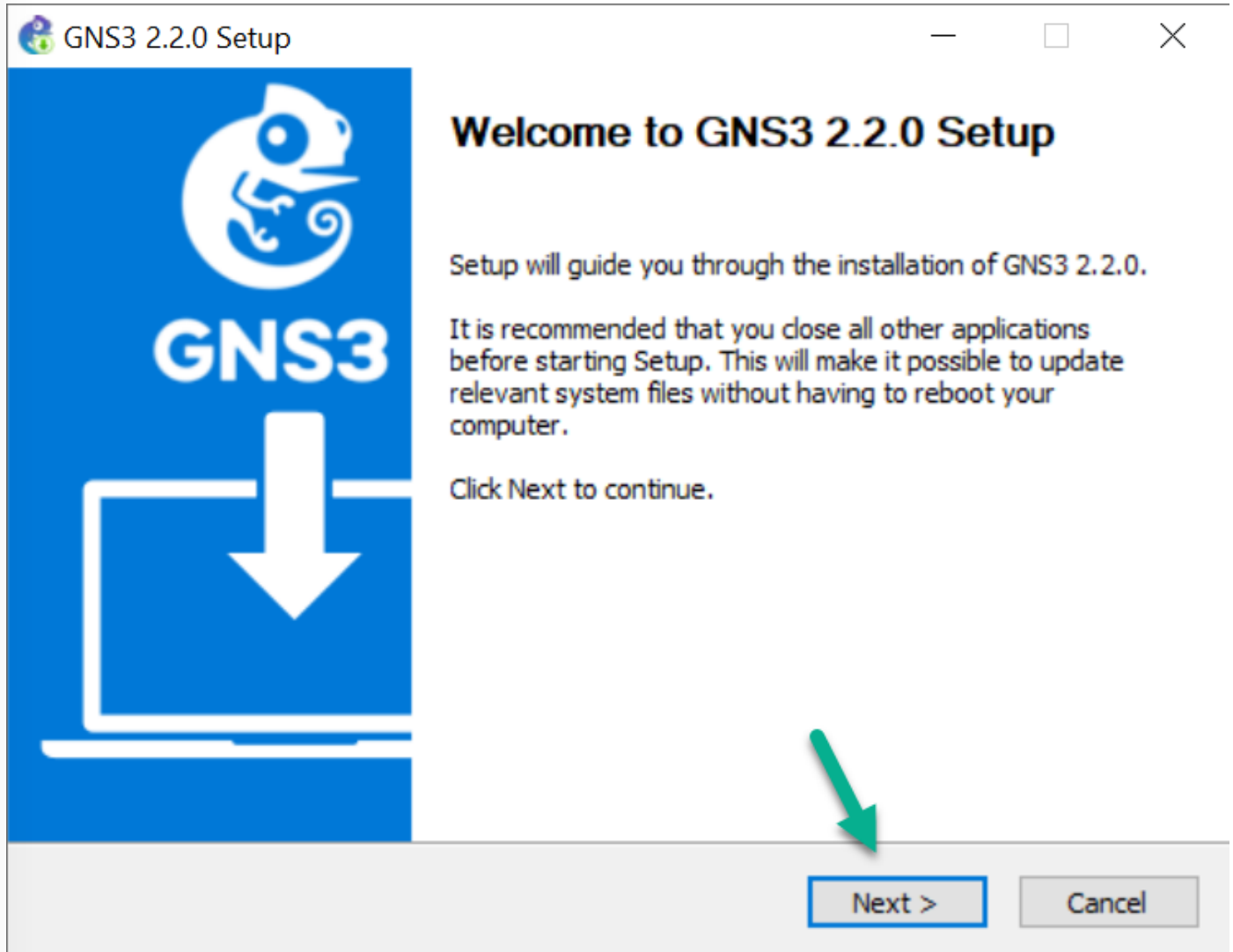
> ⓘ **NOTE**
>
> The GNS install process will run multiple installation wizards. If the process seems to have stalled, check if additional windows have been opened that are waiting for your input.

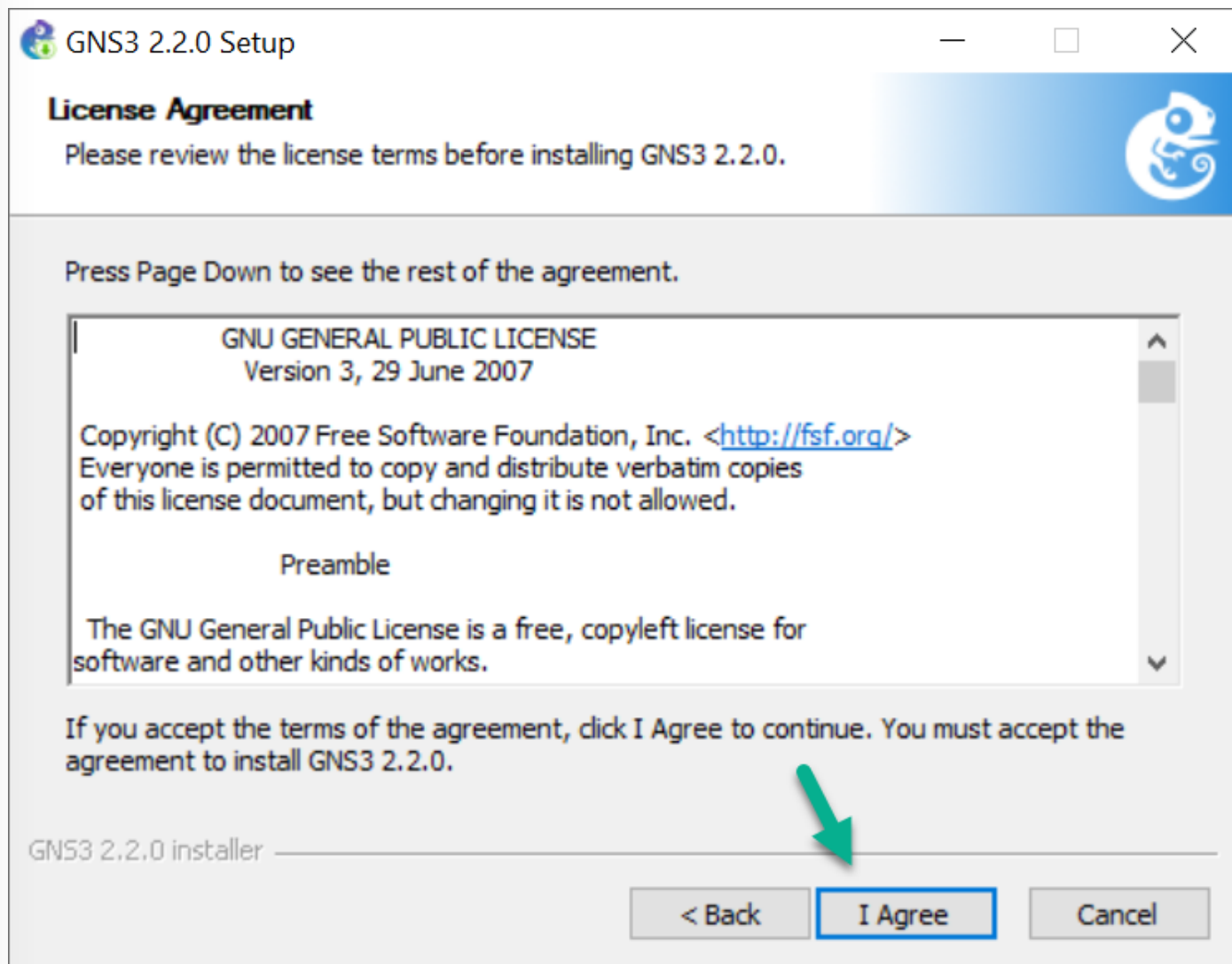The GNS3 Setup wizard displays. Click **Next >** to start the installation:

GNS3 is free open source software distributed under the GNU General Public License Version 3. Read the license agreement, and if you agree with the contents, click the **I Agree** button to continue the installation:

Select the Start Menu folder for the GNS3 shortcut. The default is the GNS3 folder. Click **Next >** to continue the installation:
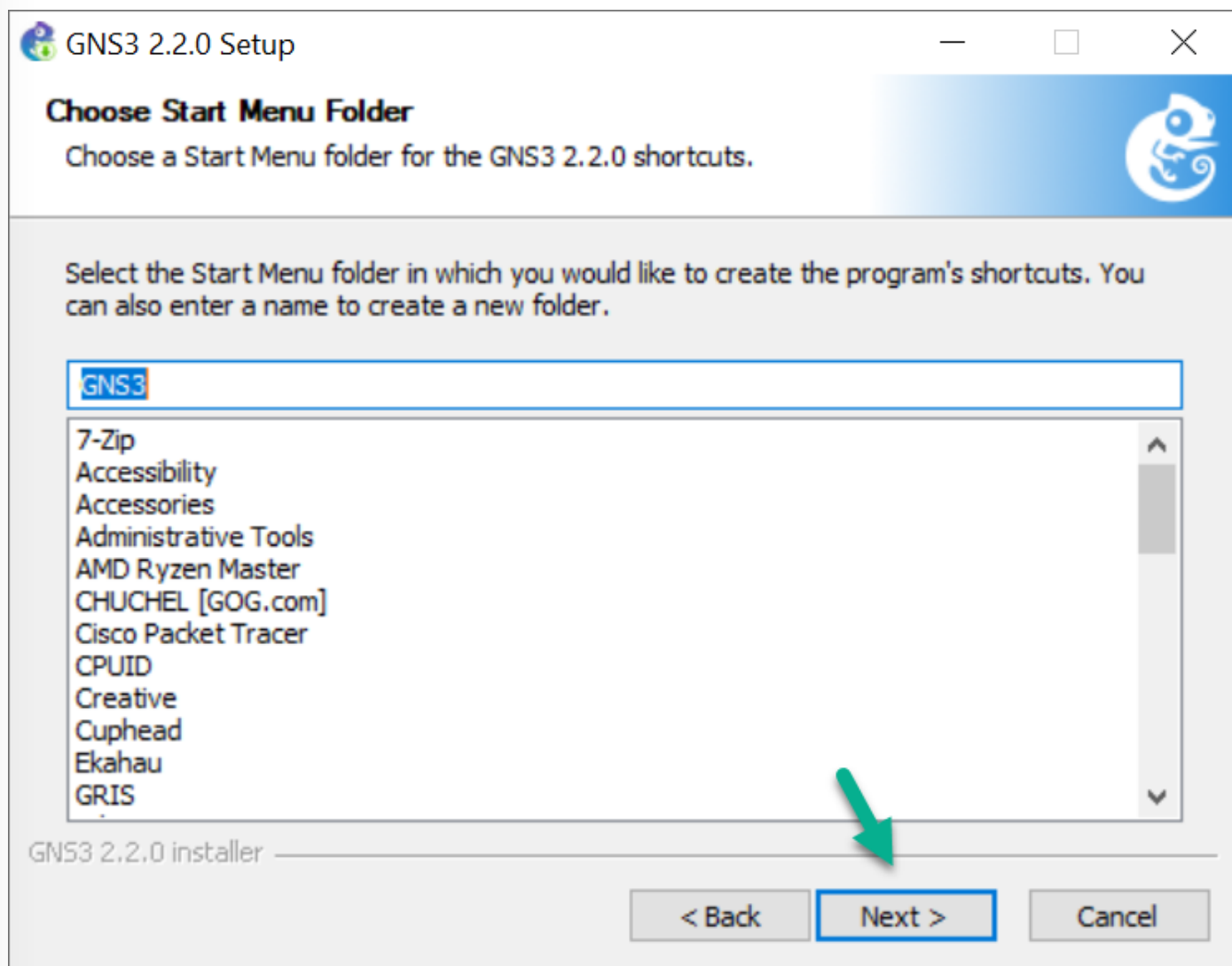
GNS3 comes bundled with various prerequisite and optional software. By default most software is selected for installation, but you can decide to only install specific software.

If you are unsure, leave all software selections at their default selection and click **Next >** to continue the installation:

NOTE

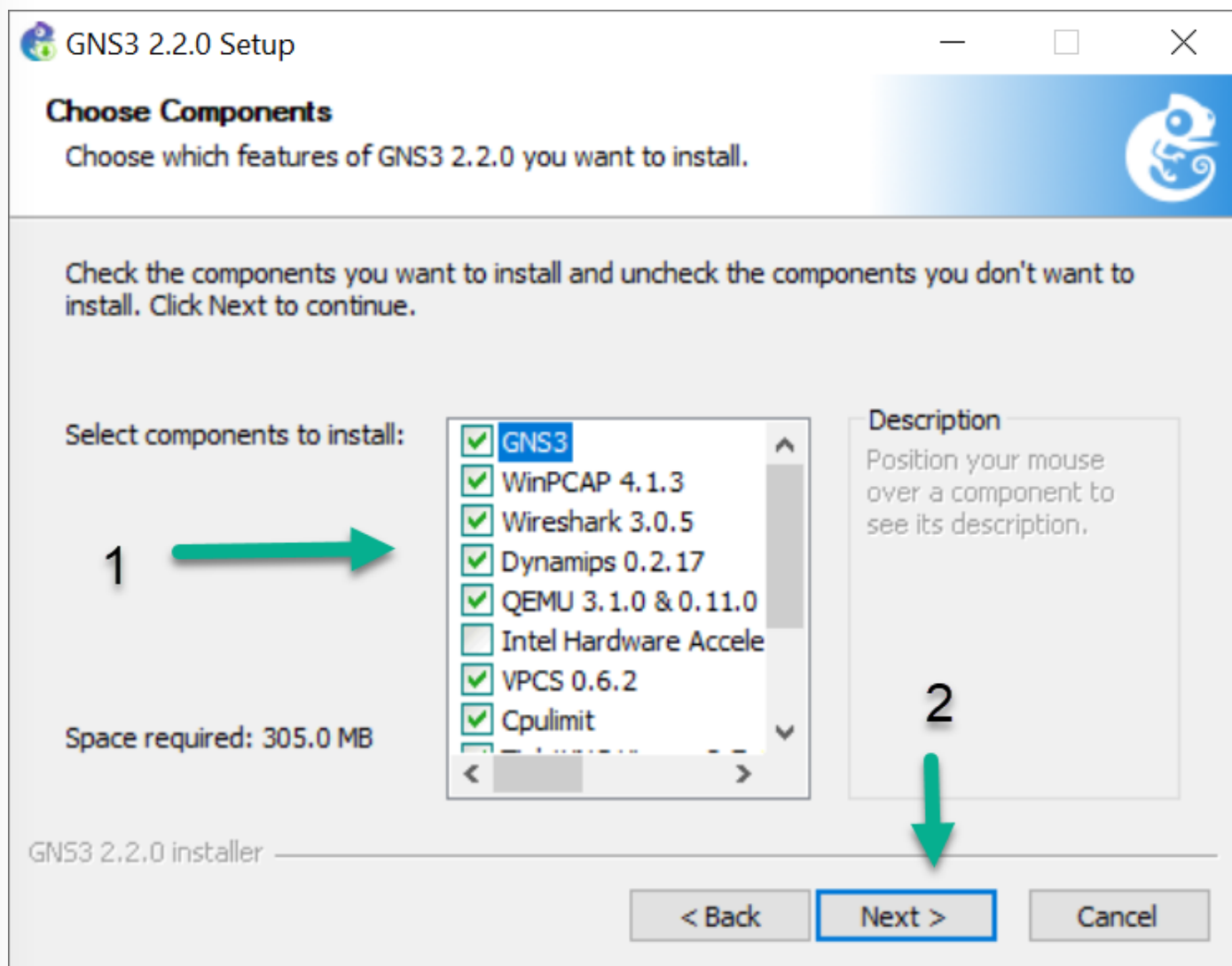Recent versions of Windows 10 have an issue with WinPcap. If Wireshark hangs while trying to use it in a GNS3 topology, consider switching to Npcap instead. Instructions can be found lower down in this document.

Here is a brief description of software:
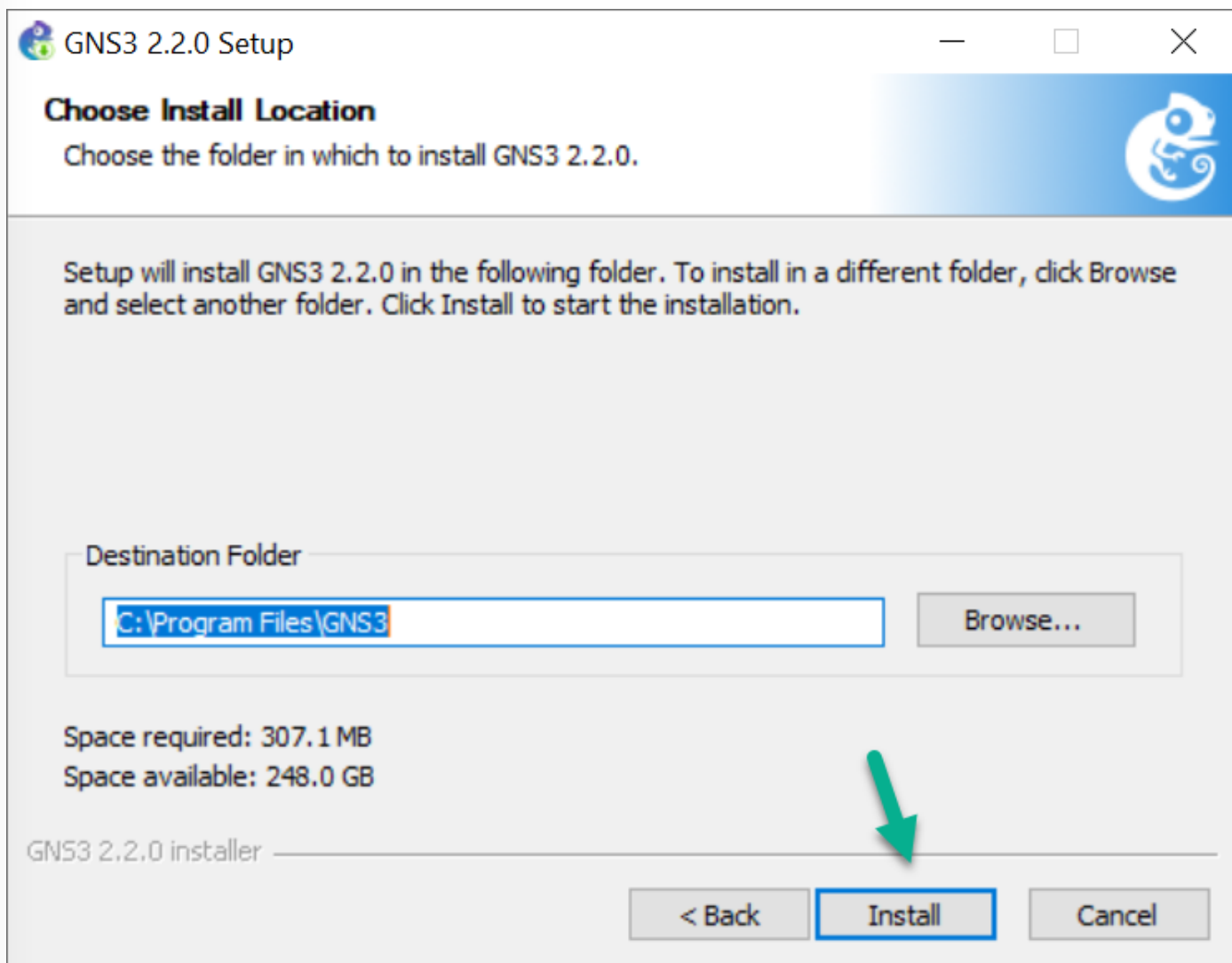
Item	Required	Description
WinPCAP	Required	Required to connect GNS3 to your computer network. Used by Cloud and NAT nodes to allow your projects communicate with the outside world.

Item	Required	Description

Item	Required	Description
Npcap	Optional	Modern replacement to WinPCAP know to fix issues with Win10 but is less tested than WinPCAP. Install Npcap with the "WinPcap API-compatible Mode" option selected, if using without WinPcap. Npcap can co-exist with WinPcap, if that option is *not* selected.
Wireshark	Recommended	Allows you to capture and view network traffic sent between nodes.
Dynamips	Required	Required to run a local installation of GNS3 with Cisco routers. Only unselect if you are going to exclusively use the GNS3 VM.
QEMU 3.1.0 and 0.11.0	Optional	A computer emulator used to emulate a full computer which could for example be Linux. The older Qemu version 0.11.0 is installed in order to support old ASA devices. It is recommended to use the GNS3 VM instead.
VPCS	Recommended	A very light PC emulator that supports basic commands like ping and traceroute
Cpulimit	Optional	Used to avoid QEMU using 100% of your CPU (when it is running) in some cases like with the old ASA devices
GNS3	Required	The core GNS3 software. This is always required.
TightVNC Viewer	Recommended	A VNC client used to connect to appliance graphical user interfaces.
Solar-Putty	Recommended	The new default Console application.
Virt-viewer	Recommended	Alternate displayer of Qemu desktop VMs that have qemu-spice pre-installed.

Item	Required	Description

| Intel Hardware Acceleration Manager (HAXM) | Optional | Only available on systems with Intel CPUs (and VT-X enabled), that are *not* using Hyper-V. Used for hardware acceleration of Android emulation, as well as QEMU. |

GNS3 2.2.0 Setup   —   □   ✕

Choose Install Location

Choose the folder in which to install GNS3 2.2.0.

Setup will install GNS3 2.2.0 in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.

Destination Folder

C:\Program Files\GNS3   Browse...

Space required: 307.1 MB
Space available: 248.0 GB

GNS3 2.2.0 installer

< Back   Install   Cancel

Choose an install location. The default location is `C:\Program Files\GNS3` . Then click **Install**:

The output displayed will depend on what you have selected to install.

- If you are new to GNS3 and this is a new install, go to the next step.

- For WinPCAP install instructions go to the next step.
- For Wireshark install instructions

- For SolarWinds Response Time Viewer install instructions
- For GNS3 install instructions

If WinPcap is already installed, a warning message is displayed. It is not necessary to reinstall WinPcap. Click **Cancel** if you do not want to reinstall WinPcap and go directly to the next step. Click **OK** to continue re-installing WinPcap:
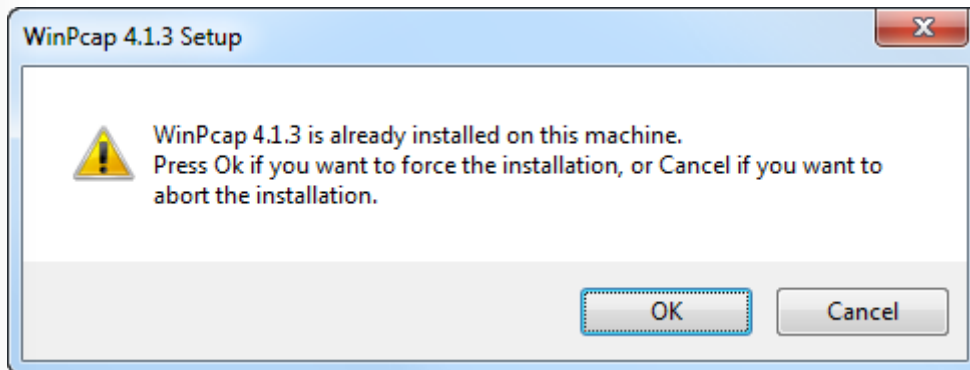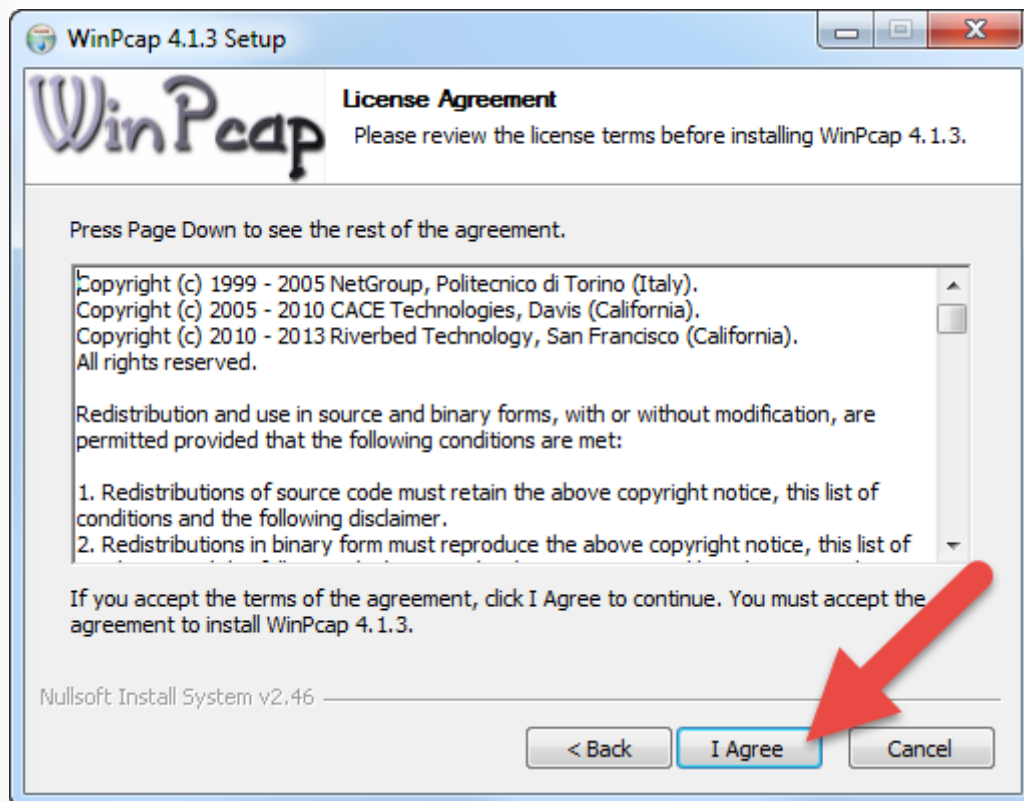

The WinPcap installation wizard displays. Click **Next >** to continue the installation:
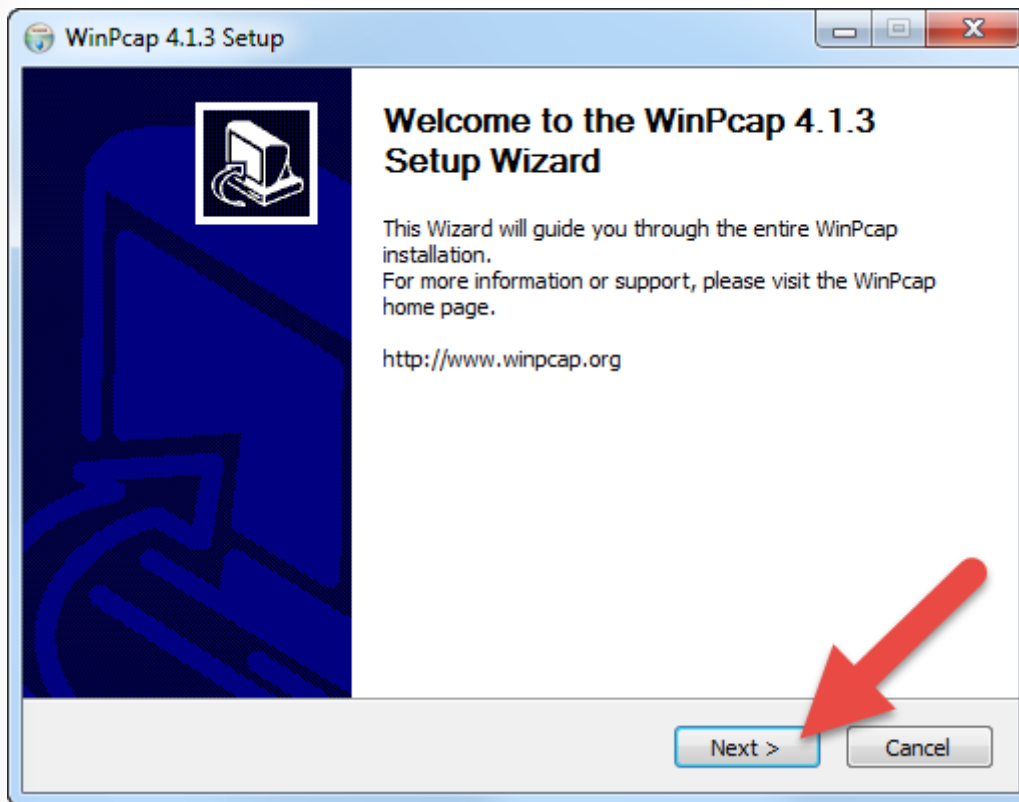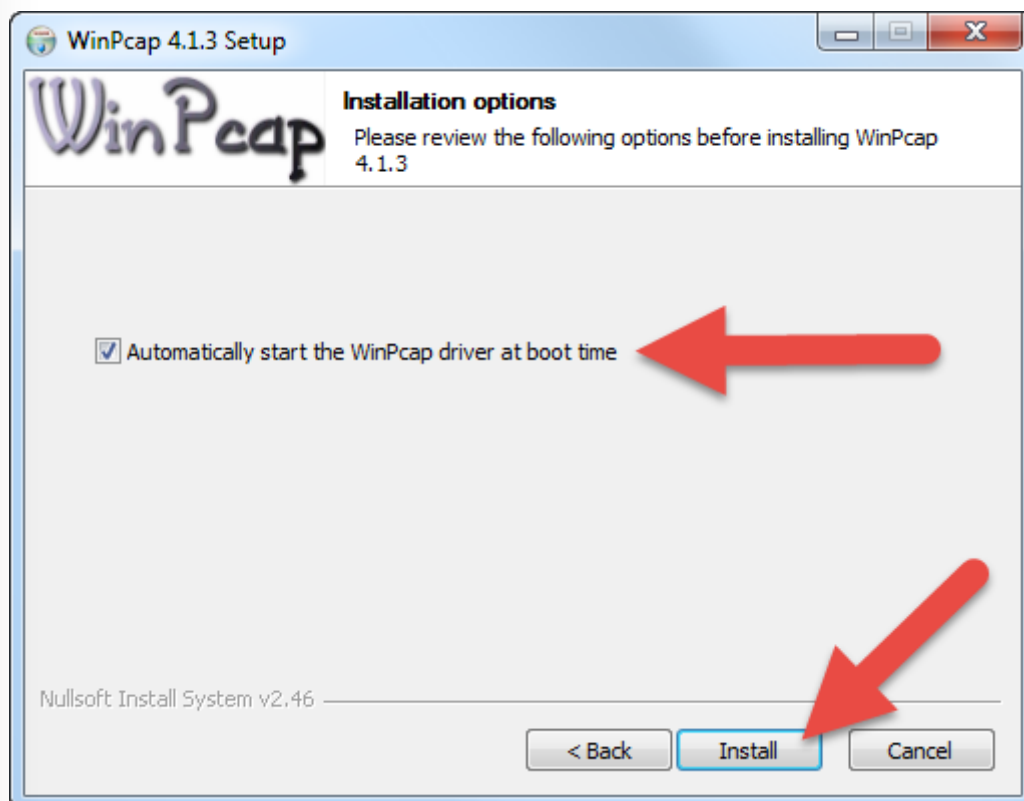

The WinPcap License Agreement displays. Read the agreement and if you agree, click the **I Agree** button to continue with the installation:
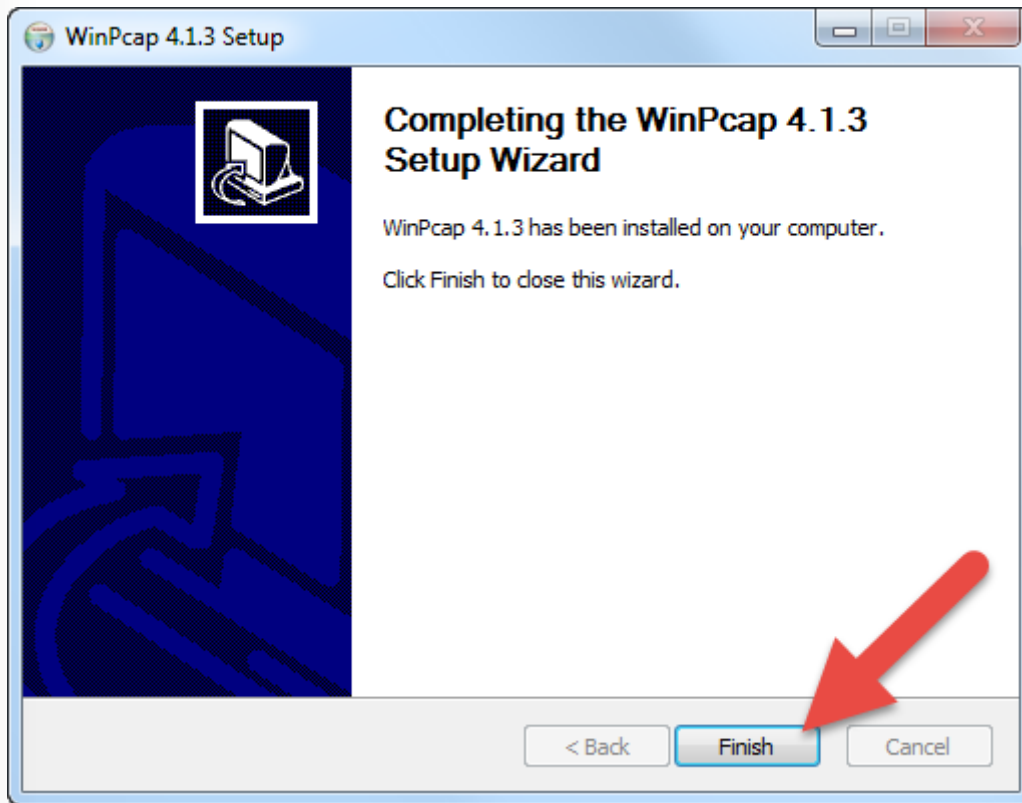
Leave the checkbox **Automatically start the WinPcap driver at boot time** checked and click **Install**:
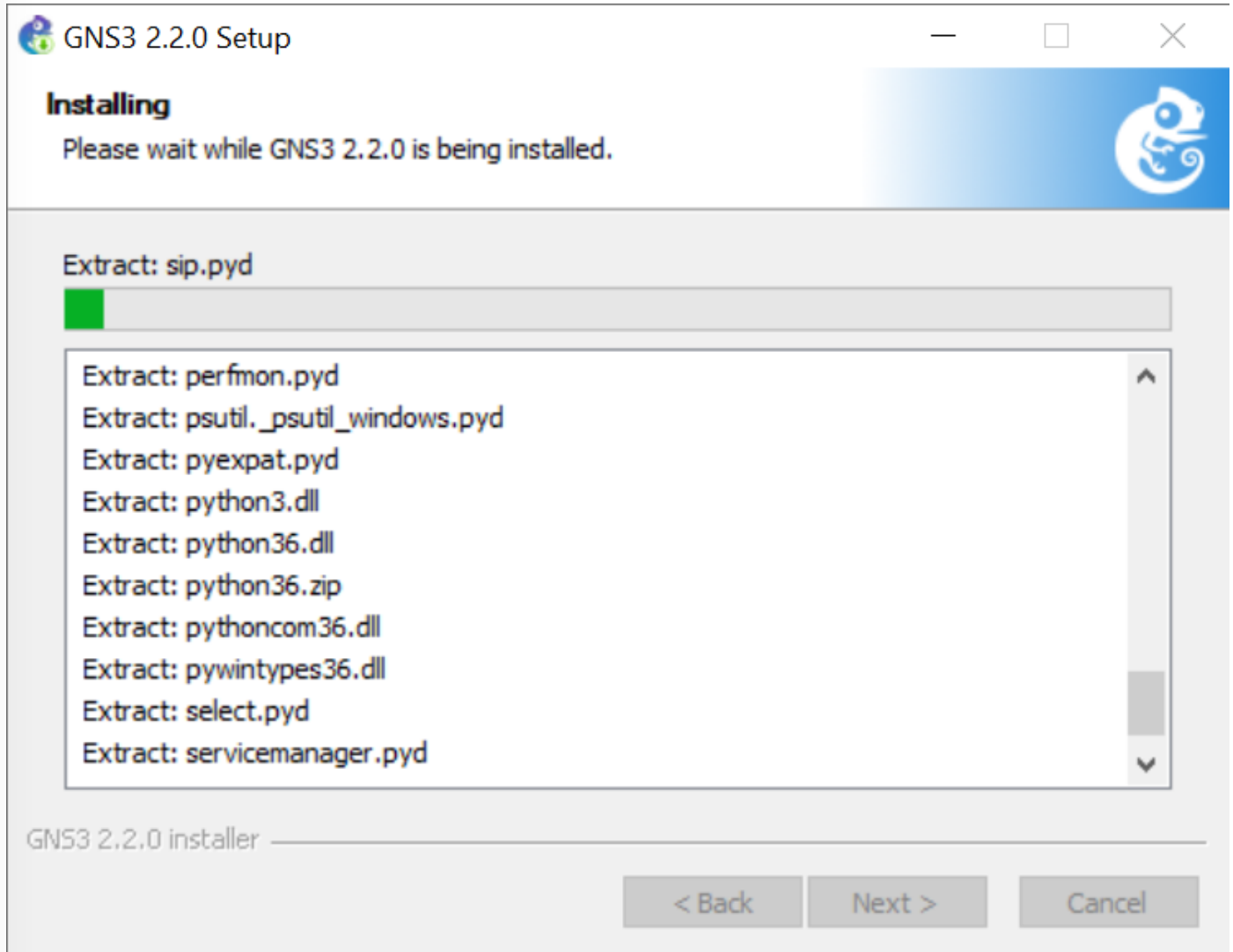

The WinPcap installation continues. Click **Finish** to complete the installation:
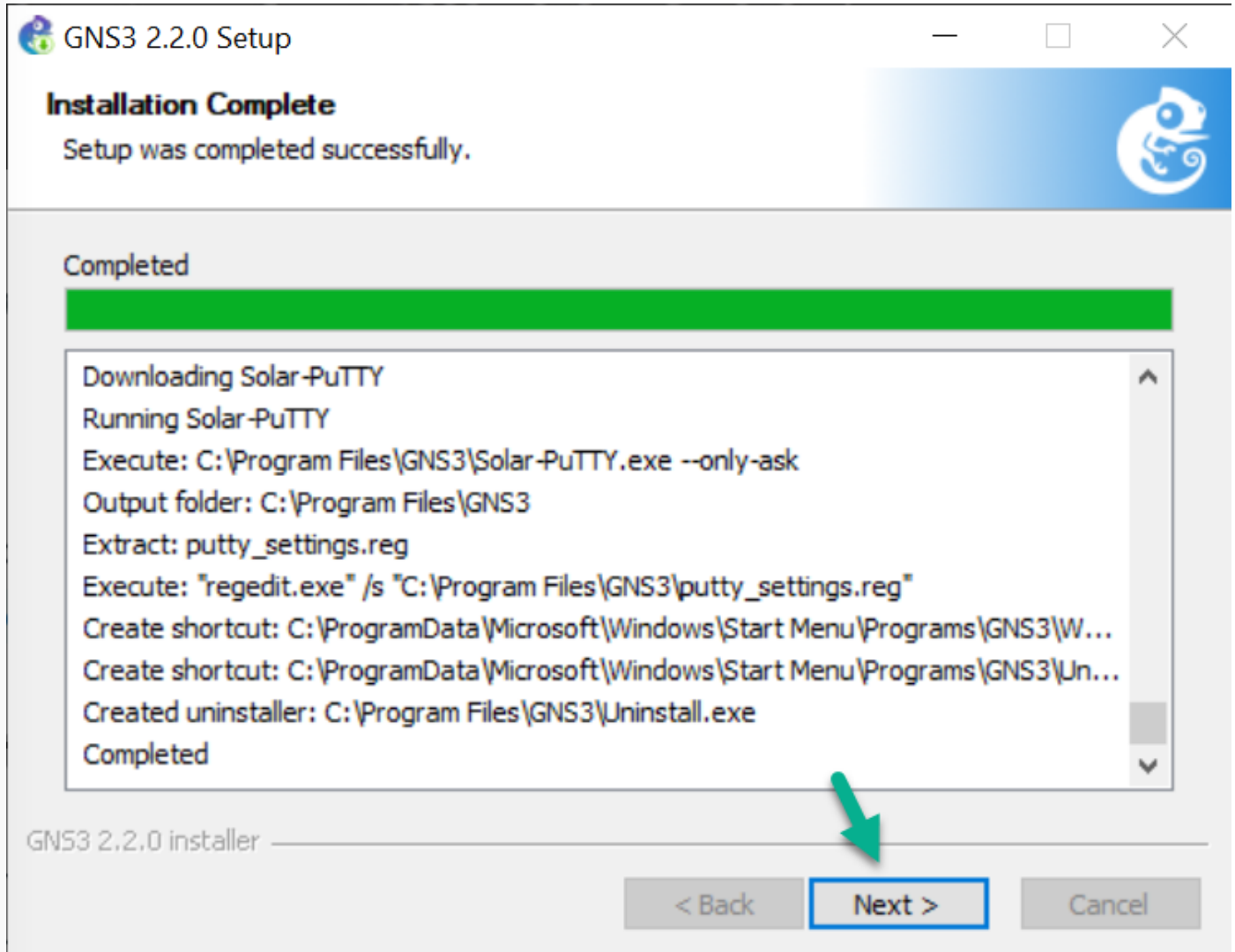
If you selected that Wireshark should be installed, the GNS3 setup software will download the Wireshark install files. Wait for the process to complete:

GNS3 will then perform a silent install of Wireshark. Wait for the process to complete:

GNS3 2.2.0 Setup — □ ✕

Installing

Please wait while GNS3 2.2.0 is being installed.

Extract: sip.pyd

```
Extract: perfmon.pyd
Extract: psutil._psutil_windows.pyd
Extract: pyexpat.pyd
Extract: python3.dll
Extract: python36.dll
Extract: python36.zip
Extract: pythoncom36.dll
Extract: pywintypes36.dll
Extract: select.pyd
Extract: servicemanager.pyd
```

GNS3 2.2.0 installer

< Back   Next >   Cancel

Once the core GNS3 software (and any optional selected items) is installed, Click **Next>**

Optional: If you are interested, install the Solarwinds Standard Toolset. This is free evaluation (a $200 value). Otherwise Select **No** and click **Next >** to continue:

If you elect to download the Standard Toolset, you'll be redirected to a webpage on Solarwinds, where you enter registration information, in order to download the software:

After registration and clicking the Download Free Toolkit link, you'll be redirected to an informational page asking that you check your email, as well as instructions on how to activate your license for the Standard Toolset:

Success! Check your email for info about your FREE Standard Toolset license.

Your network monitoring and troubleshooting is on us!

Please activate your free Standard Toolset license now. This is a perpetual license—it does not expire. To obtain your license, download and install:

1. Login to your Customer Portal using the credentials in the email you received. You will be asked to create an Individual User Account with your email address. Have questions about your individual user profile? Learn more.
2. Under the **Licensing Management** section, select **License Management**
3. Click on the green **Choose Download** button for Standard Toolset
4. **Download and install**
5. **Open Standard Toolset**—you will be prompted to enter your activation key

That's it. You're ready to begin monitoring your network.

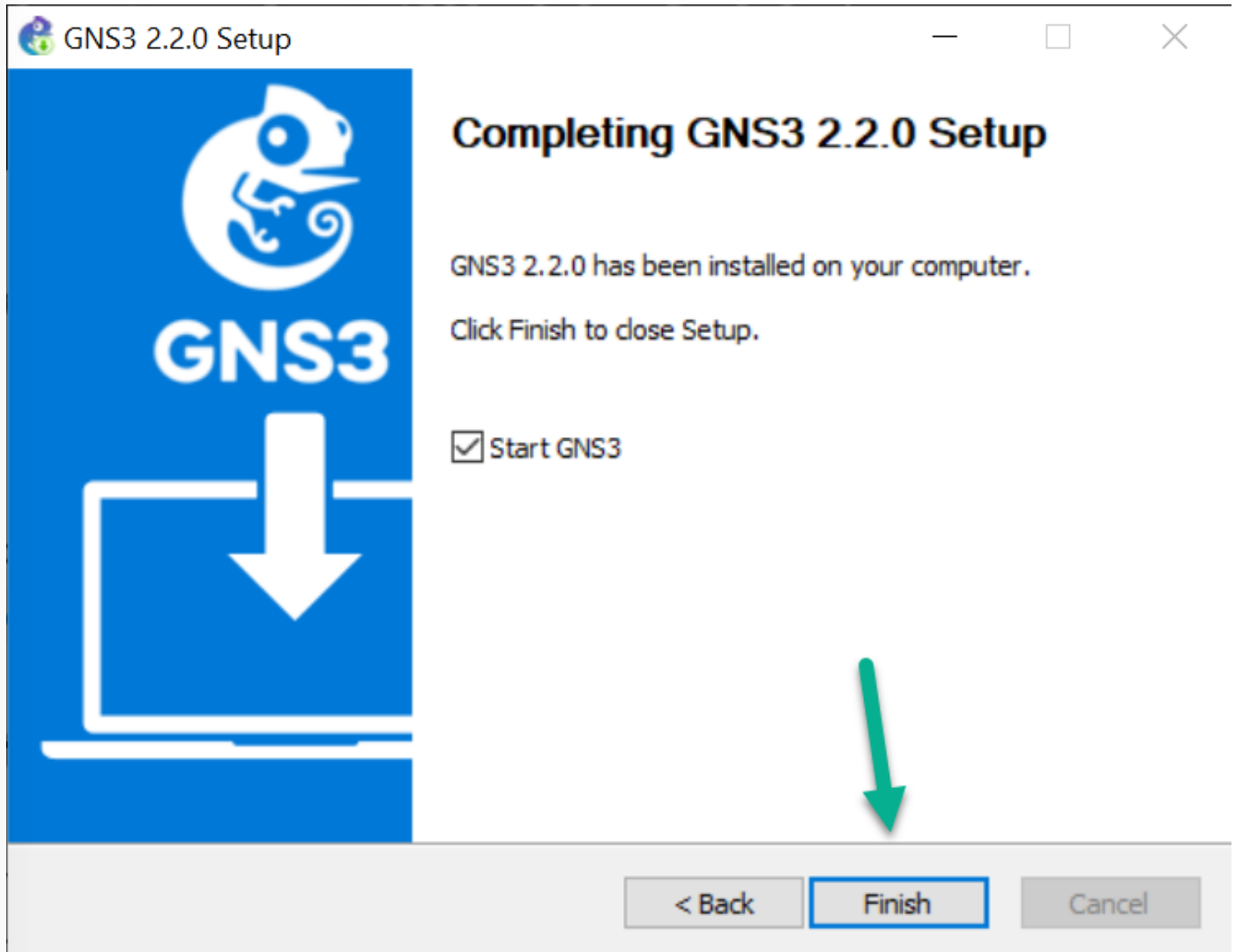### Need more monitoring muscle? Try Bandwidth Analyzer Pack for free.

SolarWinds® Bandwidth Analyzer Pack can do the heavy lifting for you. Get powerful network fault, availability, performance, and bandwidth monitoring. Monitor your network, discover traffic patterns, and avoid bandwidth hogs.

DOWNLOAD FREE TRIAL   Fully functional for 30 days
No obligation or credit card required

Bandwidth Analyzer Pack has everything you need for complete visibility. Its easy-to-use and affordable network monitoring and NetFlow analysis software can typically be deployed in about an hour. With the Bandwidth Analyzer Pack, you can:

- Resolve network outages with a dependency-aware alerting system

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GNS3 2.2.0 Setup   —   □   ✕

Completing GNS3 2.2.0 Setup

GNS3 2.2.0 has been installed on your computer.

Click Finish to close Setup.
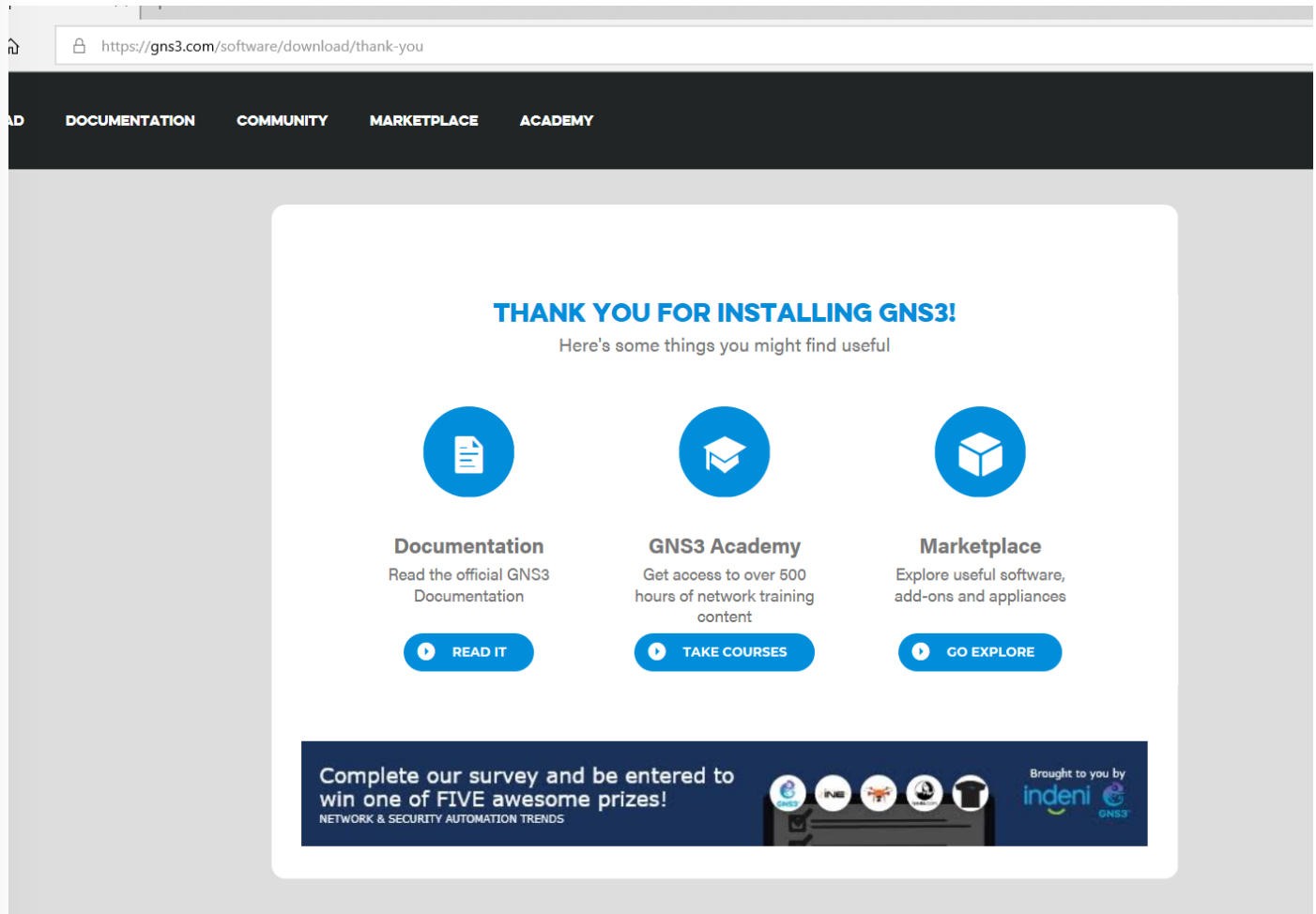
☑ Start GNS3

| < Back | Finish | Cancel |

Congratulations! You have successfully installed GNS3. A browser window will open showing additional help and options. Leave the **Start GNS3** checkbox enabled and click **Finish** to complete the GNS3 installation. Click here to for a walkthrough of using the Setup Wizard to

configure and use the Local Server.

> **ⓘ NOTE**
>
> If you intend on using the GNS3-VM to run your devices, the please leave this window open and minimized in your taskbar, proceed with importing the GNS3-VM first (please click here to see those steps), and then come back to complete this step once the GNS3-VM has been imported.

DOCUMENTATION   COMMUNITY   MARKETPLACE   ACADEMY

THANK YOU FOR INSTALLING GNS3!

Here's some things you might find useful

Documentation

Read the official GNS3 Documentation

READ IT

GNS3 Academy

Get access to over 500 hours of network training content

TAKE COURSES

Marketplace

Explore useful software, add-ons and appliances

GO EXPLORE

Complete our survey and be entered to win one of FIVE awesome prizes!
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> **ⓘ NOTE**
>
> If you are running Win10 with the latest updates, and experience issues with Wireshark hanging while trying to initialize interfaces, it's worth giving the most recent Npcap a shot. First, uninstall WinPcap and reboot. Next, either re-run the GNS3 All-In-One installer (ncap v0.9982 is included as an optional install), or open up your web browser and navigate to www.nmap.org/npacp/.
>
> Scroll down the page a little bit, and look for the most recent version (v0.9983 as of Oct 2019):

Downloading and Inst
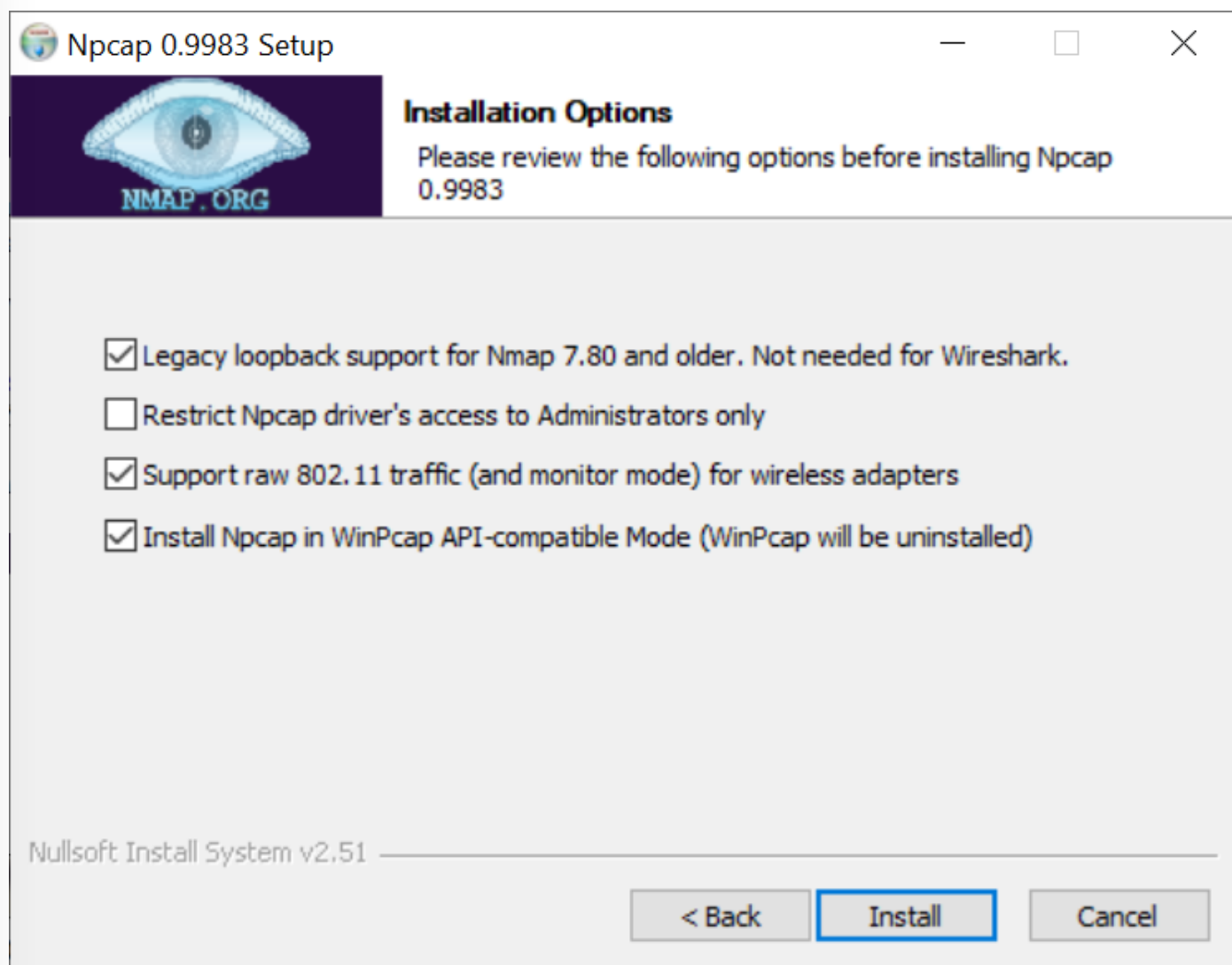
The free version of Npcap may be used (but not externally redistributed) on up to 5 systems (free license details). It m
installer. The full source code for each release is available, and developers can build their apps against the SDK. The

- Npcap 0.9983 installer for Windows Vista/2008, 7/2008R2, 8/2012, 8.1/2012R2, 10/2016 (x86 and x64).
- Npcap SDK 1.03 (ZIP).
- Npcap 0.9983 debug symbols (ZIP).
- Npcap 0.9983 source code (ZIP).

The latest development source is in our Github source repository. Windows XP and earlier are not supported; you can

Npcap OEM for Commer

When installing Npcap with WinPcap, make sure to enable the "WinPcap API-compatible Mode"
option before completing the installation:

🌐 Npcap 0.9983 Setup	—	☐	✕

Installation Options

Please review the following options before installing Npcap
0.9983

NMAP.ORG

- ☑ Legacy loopback support for Nmap 7.80 and older. Not needed for Wireshark.
- ☐ Restrict Npcap driver's access to Administrators only
- ☑ Support raw 802.11 traffic (and monitor mode) for wireless adapters
- ☑ Install Npcap in WinPcap API-compatible Mode (WinPcap will be uninstalled)

Nullsoft Install System v2.51

< Back	Install	Cancel

Click **Install**, and then reboot Windows a final time.

If you do wish to also have WinPcap installed, make sure that "WinPcap API-compatible Mode"

is not selected, so that they can co-exist.

If you wish to install Npcap before installing GNS3, you're free to do so. Just ensure that the options to install WinPcap and Npcap as part of the GNS3 installation process are deselected

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(i) **NOTE**

Solar-Putty is now the new default terminal emulation application for GNS3 in Windows, if you downloaded the GNS3 AIO installer from gns3.com (see note 3) . During GNS3 installation, if you elected to install Solar-Putty, you'll be prompted to accept a License Agreement and Privacy Notice:
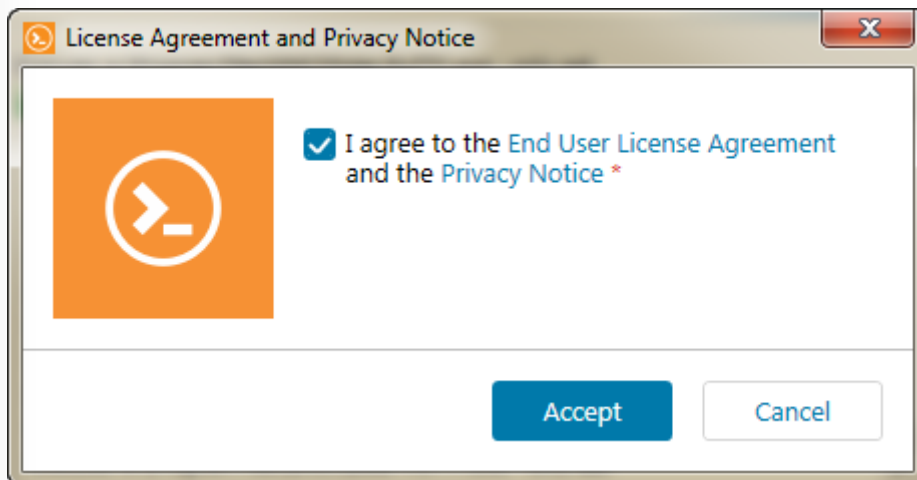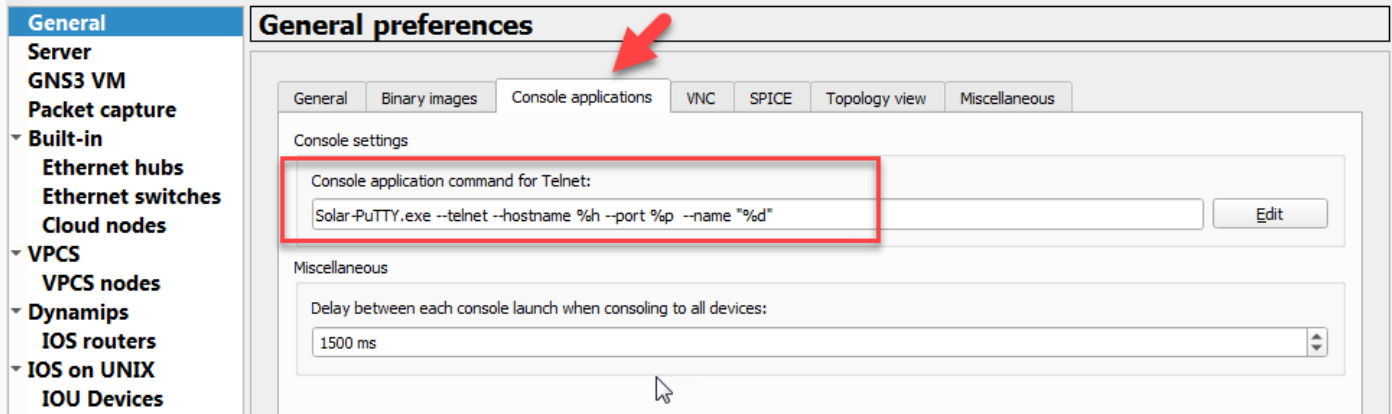

After clicking 'Accept', you'll be prompted to enter a valid email address:
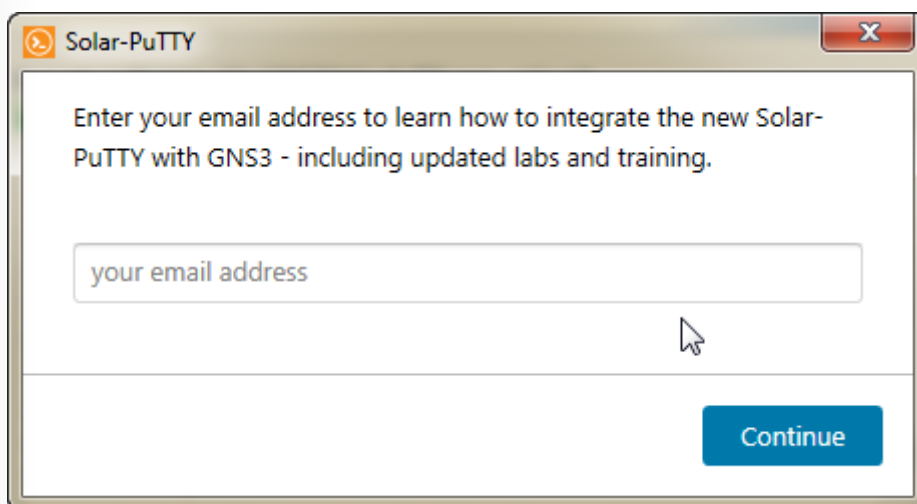
Clicking Continue will finish this part of the installation, and takes you back to the main GNS3 installation. Solar-Putty will now be the default console application, unless you choose to select a different one, by click Edit->Preferences->GNS3->Console in the main GNS3 GUI:

David Bombal has several videos online, showing Solar-Putty in general, along with configuration changes you can make:

- Video: https://www.youtube.com/watch?v=3utfGQyQOkA
- Video: https://www.youtube.com/watch?v=iuev1Hyc-f4
- Video: https://www.youtube.com/watch?v=mQKbXMlxHSk
- Video: https://www.youtube.com/watch?v=Q2TnxcJa0wI
- Video: https://www.youtube.com/watch?v=shoDldraAsE

ⓘ **NOTE**

GNS3, as well as the various versions of the GNS3 VM and the source code can also be downloaded from Github. This version of the Windows GNS3 AIO installer does *not* include Solar-PuTTY by default, and will use the original PuTTY instead.

You can still use Solar-PuTTY with GNS3 as your terminal emulator if you wish, by downloading it directly from SolarWinds. It's still free to use (registration required). It will download as a .zip archive. You can then extract the Solar-PuTTY executable file from the .zip archive, and copy/paste that file into the main GNS3 installation directory `(C:\Program Files\GNS3 by default)`. In the GNS3 GUI, click **Edit->Preferences->GNS3->Console**, and select Solar-PuTTY from the dropdown menu, to make it the default terminal emulator.

✏ Edit this page

☰

Introduction

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Recommended Requirements

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