



TENABLE FOR EDUCATION

# INSTRUCTOR / STUDENT GUIDE

# TABLE OF CONTENTS

<b>INTRODUCTION .....</b>	<b>3</b>
<b>About the Tenable Education Program.....</b>	<b>3</b>
<b>What is Vulnerability Assessment (VA)?.....</b>	<b>3</b>
<b>About Nessus Essentials .....</b>	<b>3</b>
<b>HOW TO GET STARTED.....</b>	<b>4</b>
<b>Get Started with Nessus .....</b>	<b>4</b>
<b>TENABLE CORE + NESSUS ESSENTIALS.....</b>	<b>4</b>
<b>What is Tenable Core + Nessus Essentials? .....</b>	<b>4</b>
<b>How to Install Core + Nessus Essentials .....</b>	<b>5</b>
Before You Begin .....	5
Register to Use Nessus Essentials for Education .....	5
Download Tenable Core + Nessus .....	5
Create Your First Scan.....	7
<b>ADDITIONAL RESOURCES.....</b>	<b>8</b>
Documentation.....	8
Additional Resources.....	8
<b>FREQUENTLY ASKED QUESTIONS .....</b>	<b>9</b>
<b>ABOUT TENABLE .....</b>	<b>9</b>

# INTRODUCTION

## About the Tenable for Education Program

The [Tenable for Education program](#) is focused on supporting the learning process for vulnerability assessment by providing instructors and students with access to Nessus Essentials. Nessus Essentials is the free version of Tenable's industry-leading vulnerability assessment solution. This solution is ideal for students, instructors, and anyone starting a cybersecurity career.

## What is Vulnerability Assessment?

Vulnerability assessment is a process that identifies and evaluates network vulnerabilities by scanning and monitoring an organization's attack surface for risks. It is the first step in defending your network against vulnerabilities. Any device attached to a network has the potential to be compromised by a threat actor. When you leave a door unlocked at your home, it's easy for a thief to enter. But maybe the front door is locked, but not a second-story window. A bit more difficult, but a determined thief will find it. A vulnerability in cybersecurity terms is a weakness on the device that allows for an exploit by an unauthorized party (threat actor).

A cyber vulnerability assessment program must answer three basic questions:

What devices do I have on my network? (asset discovery)

What vulnerabilities/weaknesses do those assets have?

How much of a threat does a vulnerability represent? (assessing priority).

## About Nessus Essentials

Nessus is the industry-standard vulnerability assessment solution from Tenable that can help students answer these questions. As one way to give back to the community, we provide a free version of this software to support the development of cybersecurity professionals and help close the security skills gap.

[Nessus Essentials](#) is a free product which allows students and instructors to scan an environment with the same tools used by professional cybersecurity practitioners and penetration testers. Built-in access to Nessus plugins enables students to learn how to perform comprehensive assessments using timely information on the latest vulnerabilities and malware.

There are a few limitations with Nessus Essentials. The user can discover as many assets as they want but are limited to scanning 16 assets for vulnerabilities. Compliance scans (i.e. Payment Card Industry scans, Center for Internet Security Benchmarks (CIS), etc.) are not included.

**STUDENT PREREQUISITES:** Students should have some background knowledge of the basics of networking: TCP/UDP, IP addresses, and network configurations when beginning to learn vulnerability assessment.

# HOW TO GET STARTED

## Get Started with Nessus

There are multiple ways to incorporate Nessus into your course curriculum or self-driven learning process.

Any student or instructor wishing to learn vulnerability assessment can download their own license of Nessus Essentials by visiting:

### [Tenable for Education License Registration](#)

Instructors integrating Nessus into their course can do so using one of the following methods:

#### Individual Downloads

Anyone learning vulnerability assessment (whether in a classroom or on the job) can register for their own license of Nessus Essentials .

Students can each download their own license on their own devices.

Instructors can download individual licenses of Nessus Essentials on each computer in a lab or have students download individually on their own devices.

#### Centralized Deployment

Instructors can install Nessus Essentials on a Virtual Machine and pre-install the license.

Guidance on downloading and getting started with Nessus Essentials can be found in the [Nessus Documentation](#). See the Additional Resources section in this document for more.

Nessus Essentials runs on various operating systems and it's the responsibility of the user to choose which version of Nessus Essentials to download. However, our recommended method to deploy Nessus Essentials is with Tenable Core. The next section will provide more information to guide you through using Tenable Core + Nessus Essentials.

# TENABLE CORE + NESSUS ESSENTIALS

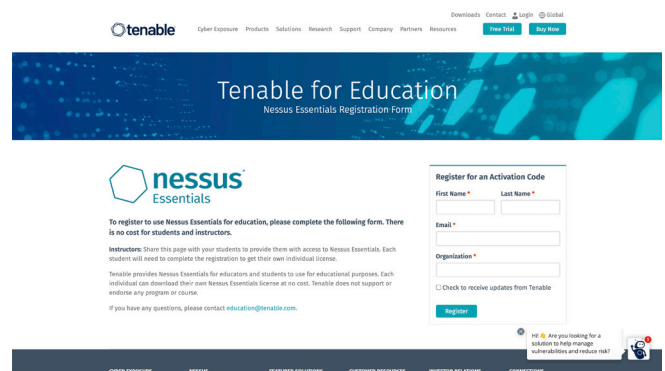
## What is Tenable Core + Nessus Essentials?

Tenable Core is an option that pre-installs Nessus Essentials on the CentOS 7 operating system with additional utilities to easily manage the environment (disk space, backups, monitoring, etc.). It is designed for people to use in a Virtual Machine (VM), hardware or Hyper-V environment.

It's offered in one of three formats:

- Open Virtualization Appliance (OVA) – for use with VMWare ESXi, WMWare Workstation Pro, or WMWare Workstation Player.
- Microsoft Hyper-V – for use with Windows Hyper-V virtual machines.
- International Standards Organization 9660 Standard for Optical Disk (ISO). – for use on new hardware (Core includes CentOS 7, so the hardware needs to be compatible with CentOS 7).

For example, a student can download the OVA version of Nessus Essentials and install it on VMWare Workstation Player. Once the OVA is loaded, Nessus Essentials is ready to run.



# How to Install Core + Nessus Essentials

## Before You Begin

Ensure your machine meets the hardware requirements for Tenable Core + Nessus.

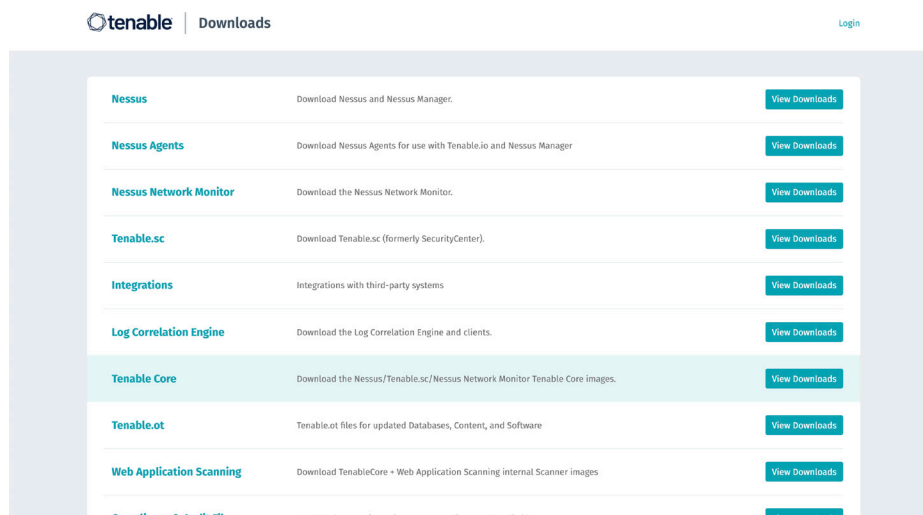
## Register to Use Nessus Essentials for Education

Complete the registration form: <https://www.tenable.com/tenable-for-education/nessus-essentials?edu=true>.

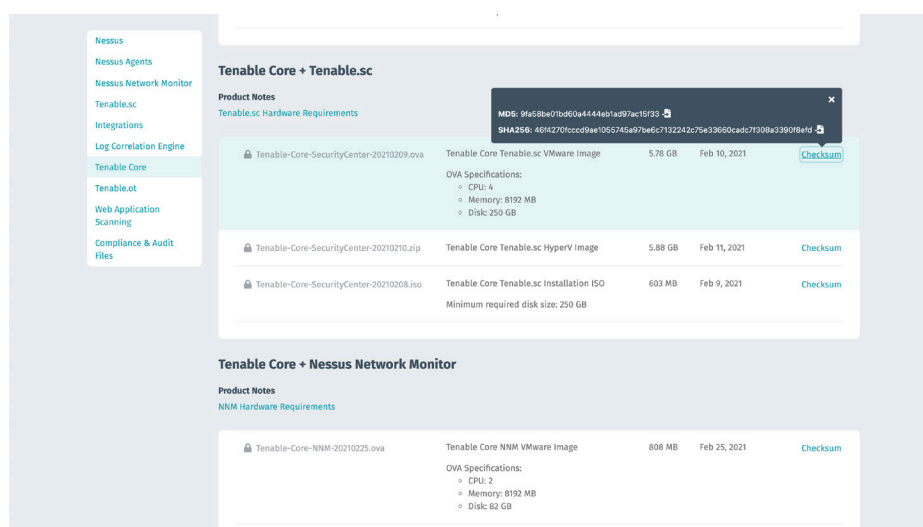
You will receive an email with an activation code that you will need later.

## Download Tenable Core + Nessus

1. Go to <https://tenable.com/downloads> and select Tenable Core.



2. Under Tenable Core + Nessus, select the package you want to download. In this example, we are downloading the OVA version of Tenable Core + Nessus.



3. Select the option to open an existing virtual machine and install.

**Note:** Setting up VMWare Workstation Player or ESXi is beyond the scope of this document.

4. Once the OVA is set up and your network is working (test this by pinging to an outside IP address such as 4.2.2.2 - Verizon DNS), use a web browser and open the IP address you set up for the host, using port 8834.

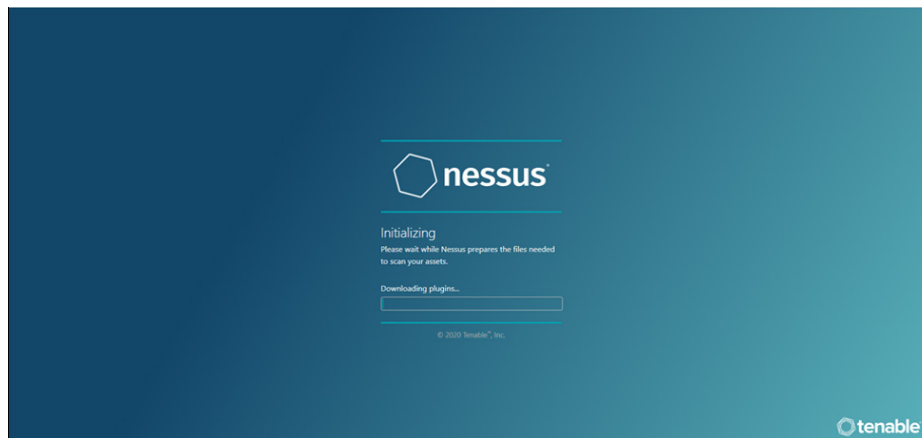
For example, if the OVA is configured with an IP address of 192.168.1.22, in your browser, go to the URL <https://192.168.1.22:8834>. You should see the Welcome to Nessus screen:



5. Select Nessus Essentials.

Do not select a different version of Nessus because the activation code you received for Nessus Essentials does not work with any other version of Nessus.

6. When prompted for the license key, enter the activation code you received in your email. If you did not already register, [register now](#).
7. Once you have completed the installation, Nessus begins compiling plugins, as shown below. This may take some time to complete.

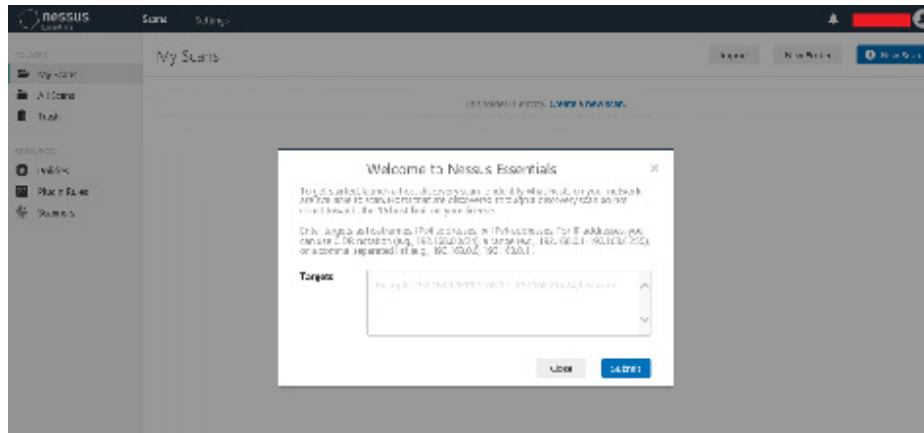


**TIP:** Plugins are the 'tests' created by Tenable that check whether a vulnerability exists. A plugin is a small piece of code written in our proprietary language, NASL. Tenable updates plugins on a frequent basis. The plugins for Nessus Essentials and Nessus Professional are the same, with the exception that plugins related to compliance scanning are not included with Nessus Essentials.



## Create Your First Scan

Once Nessus is done initializing, the user interface loads. A wizard guides you through using Nessus Essentials, starting with performing a host discovery scan.



1. In the Targets box, enter a network address range to discover.

For example, 192.168.0.0/24 would mean scanning every IP address from 192.168.0.1 to 192.168.0.254. You can discover as many assets as you want, but remember that when you scan for vulnerabilities, you are limited to 16 IP addresses.

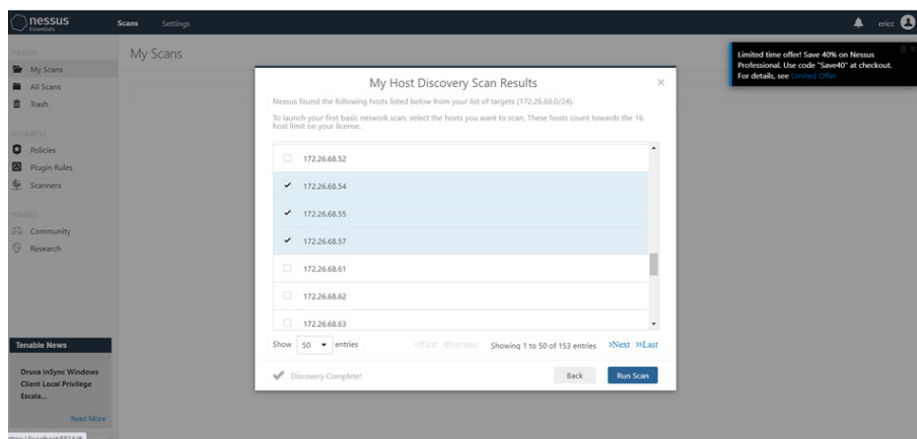
Once you have entered all your targets, click Submit.

Depending on the number of addresses you entered, the time for the scan to complete can vary. Once the scan is complete, the wizard displays the results.

**TIP:** It's important to know alternative methods for scanning networks using standard Linux network tools. Many certifications will not let you use third party tools like Nessus on tests. Students may want to review how to perform this same task using the nmap command: `Nmap -sP 192.168.0.0/24`

There are several options for the use of nmap, but the key point is to be able to show the alternatives if someone doesn't have access to Nessus.

2. In the results table, select hosts to scan for vulnerabilities using a basic network scan. You can select up to 16 hosts.



The basic network scan may take some time to complete. Once the scan is complete, Nessus Essentials generates a report and you can view the results in HTML format or download the report as a PDF.

For more information on reviewing scan results, watch our training video: [Basic Scan Results Analysis in Nessus Professional](#).

# ADDITIONAL RESOURCES

## Videos

Free Product Training Videos: [Tenable Product Education Channel](#)

**Note:** The training videos focus on Nessus Professional. You might see some options in Nessus Professional that are not available in Nessus Essentials.

Recommended videos:

- [Launch a Host Discovery Scan in Nessus Professional](#)
- [Launch a Basic Network Scan in Nessus Professional](#)

## Documentation

[Tenable Core + Nessus Requirements](#)

[Nessus User Guide](#) - The user guide covers Nessus Professional and Nessus Manager. Not all features in the user guide are available in Nessus Essentials.

[Nessus Documentation Home](#) - Access user guides, release notes, and other documentation for specific versions of Nessus.

## Additional Resources

[Tenable Community](#)

Creating an account is free. In the Tenable Community you can access a wide range of support resources as well as post a question to the community and engage with other customers, our product managers and tech support.



# FREQUENTLY ASKED QUESTIONS

## How much does Nessus Essentials cost?

Nothing! Nessus Essentials is the free version of our software, ideal for students, instructors and those starting out in cybersecurity.

## How much does Tenable Core cost?

Tenable Core is also free! If you would like to upgrade to Nessus Professional, you can still use Tenable Core just as described in this document.

## What background knowledge do students need to have?

Basics of networking, TCP/UDP, IP addresses, and network configurations are all part of a good foundation for vulnerability assessment.

## As an instructor, can I set up Nessus with pre-populated data?

Yes. When deploying Nessus Essentials with Tenable Core, there is a backup/restore feature that can help you pre-populate data.

## As an instructor, how can I reset data in between classes or semesters?

If you use a VM to deploy Nessus Essentials and have students access that instance, you can use the VM to take a 'snapshot' of a machine. After use, you can revert the machine back to that snapshot and you're ready for the new class. This also helps in case a student disrupted the configuration and needs a reset. Tenable Core's backup/restore feature can also help you reset to start fresh for new students.

## How can I pre-deploy multiple instances across a lab without individually loading it onto each machine manually?

The benefit of a virtual machine is the ability to configure Tenable Core once and then make copies of the 'base' image. How you deploy it across your lab is specific to the setup you have. In addition, once a base version has been created, upon startup, Tenable Core is set to automatically update the OS and Nessus Essentials version (this option can be turned off). See the Tenable Core + Nessus Essentials Guide section in this document for more information,

# ABOUT TENABLE

Tenable®, Inc. is the Cyber Exposure company. Over 30,000 organizations around the globe rely on Tenable to understand and reduce cyber risk. As the creator of Nessus®, Tenable extended its expertise in vulnerabilities to deliver the world's first platform to see and secure any digital asset on any computing platform. Tenable customers include more than 50 percent of the Fortune 500, more than 30 percent of the Global 2000 and large government agencies. Learn more at [www.tenable.com](https://www.tenable.com).



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