



Tenable Core + Tenable Nessus Network Monitor User Guide

Last Revised: July 10, 2023



Table of Contents

Welcome to Tenable Core + Tenable Nessus Network Monitor	6
Get Started	7
Tenable Core Requirements	8
System and License Requirements	9
Access Requirements	12
Default Security Configuration Standards	14
Deploy or Install Tenable Core	19
Deploy Tenable Core in VMware	20
Deploy Tenable Core in Hyper-V	22
Install Tenable Core on Hardware	24
Edit the Network Configuration	26
Edit the Proxy Configuration	28
Disk Management	30
Add or Expand Disk Space	31
Manually Configure a Static IP Address	33
Create an Initial Administrator User Account	37
Log In to Tenable Core	39
Configure Tenable Nessus Network Monitor in the Tenable Nessus Network Monitor User Interface	40
Configure and Manage	43
View the Dashboard	46
Add a Server	47
Edit a Server	48



Delete a Server	49
Synchronize Accounts	50
Manage the System	51
Change Performance Profile	52
Restart Tenable Core	53
Shut Down Tenable Core	54
Edit Your Tenable Core Hostname	55
Edit Your Time Settings	56
View the System Log	57
Filter the System Log	58
Manage System Networking	59
Add a Bonded Interface	60
Add a Team of Interfaces	62
Add a Bridge Network	63
Add a VLAN	64
Manage System Storage	65
Rename a Filesystem	66
Delete a Filesystem	67
Manage User Accounts	68
Create New User Account	69
Edit a User Account	71
Delete a User Account	75
Manage Services	76
Create a Timer	79



Generate a Diagnostic Report	80
Access the Terminal	81
Configure Tenable Nessus Network Monitor in Tenable Core	82
Configure a Proxy Server	84
Start, Stop, or Restart Your Application	85
Manage Updates	86
Configure Automatic Updates	87
Configure Your Automatic Update Schedule	88
Update On Demand	89
Update Tenable Core Offline	92
Manage Certificates	93
Manage the Server Certificate	94
Upload a Custom Server Certificate	95
Remove a Custom Server Certificate	98
Upload a Certificate for a Trusted Certificate Authority	99
Use Different Certificates for Tenable Core and Your Application	101
Application Data Backup and Restore	102
Configure a Remote Storage Host	106
Perform an On-Demand Backup	108
Change the Scheduled Backup Time	109
Restore a Backup	111
SNMP Agent Configuration	113
Configure an SNMP Agent via the User Interface	114
Configure an SNMP Agent via the CLI	117



Take a Virtual Machine Snapshot	118
FAQ	119



Welcome to Tenable Core + Tenable Nessus Network Monitor

You can use the Tenable Core operating system to run an instance of Tenable Nessus Network Monitor in your environment. After you deploy Tenable Core + Tenable Nessus Network Monitor, you can monitor and manage your Tenable Nessus Network Monitor processes through the secure Tenable Core platform.

To get started quickly with Tenable Core + Tenable Nessus Network Monitor, see [Get Started](#).

Features

- Secure, stable platform that reduces the time to your first scan.
- Provides automatic application installation and updates via Tenable public repositories.
- Built on CentOS 7.
- Targets Center for Internet Security (CIS) standards for CentOS 7 with SELinux enabled. For more information, see [Default Security Configuration Standards](#).
- Root access enabled on builds.

Other Tenable Core Configurations

To run a different Tenable application on Tenable Core, see:

- [Tenable Core + Nessus](#)
- [Tenable Core + Tenable Security Center](#)
- [Tenable Core + Tenable Web App Scanning](#)
- [Tenable Core + Tenable OT Security](#)
- [Tenable Core + Tenable OT Security Sensor](#)

Note: Tenable does not recommend deploying multiple applications on a single instance of Tenable Core. If you want to deploy several applications on Tenable Core, deploy a unique instance for each application.



Get Started

Tenable recommends the following sequence to deploy and get started with Tenable Core + Tenable Nessus Network Monitor.

To get started with Tenable Core:

1. Confirm that your environment meets the requirements in [Tenable Core Requirements](#). If necessary, prepare to increase your disk space after you deploy.
2. [Deploy or install](#) Tenable Core + Tenable Nessus Network Monitor.

Note: You can also deploy Tenable Core using the command-line interface (CLI). For more information, see [Deploy Tenable Core in Microsoft Azure via the CLI](#).

3. (Optional) If you want to increase your disk space to accommodate your organization's data storage needs, see [Disk Management](#).
4. (Optional) If Dynamic Host Configuration Protocol (DHCP) is not available on the network where you deployed Tenable Core, [configure an IP address](#) for your Tenable Core + Tenable Nessus Network Monitor deployment.
5. Log in as a wizard user and create an administrator account, as described in [Create an Initial Administrator User Account](#).
6. [Log In to Tenable Core](#) with your new administrator credentials.
7. (Optional) If you want to create more user accounts, see [Create New User Account](#).
8. (Optional) If you want to configure Tenable Core to use a proxy server, see [Configure a Proxy Server](#).
9. [Configure Tenable Nessus Network Monitor](#) to meet the specifications you want for your application.

For more information about configuring and operating Tenable Nessus Network Monitor, see the [Nessus Network Monitor User Guide](#).

10. Configure and manage Tenable Core. To access the application interface, see [Configure and Manage](#).



Tenable Core Requirements

You can deploy Tenable Core + Tenable Nessus Network Monitor on any system that meets the following Tenable Core and Tenable Nessus Network Monitor environment requirements.

Note: Tenable does not recommend deploying multiple applications on a single instance of Tenable Core. If you want to deploy several applications on Tenable Core, deploy a unique instance for each application.

[System and License Requirements](#)

[Access Requirements](#)

[Default Security Configuration Standards](#)



System and License Requirements

To install and run Tenable Core + Tenable Nessus Network Monitor, your application and system must meet the following requirements established for Tenable Nessus Network Monitor. For more information about Tenable Nessus Network Monitor requirements, see [Tenable Nessus Network Monitor](#) in the *General Requirements User Guide*.

Note: Tenable Support does not assist with issues related to your host operating system, even if you encounter them during installation or deployment.

Environment		Tenable Core File Format	More Information
Virtual Machine	VMware	.ova file	Deploy Tenable Core in VMware
	Microsoft Hyper-V	.zip file	Deploy Tenable Core in Hyper-V
Hardware		.iso image	Install Tenable Core on Hardware

Note: While you could use the packages to run Tenable Core in other environments, Tenable does not provide documentation for those procedures.

License Requirements

To deploy Tenable Core + Tenable Nessus Network Monitor, your Tenable Nessus Network Monitor application must meet the requirements described in [NNM Licensing Requirements](#) in the *General Requirements User Guide*.

Tenable Nessus Network Monitor Hardware Requirements

Note: Tenable does not recommend deploying multiple applications on a single instance of Tenable Core. If you want to deploy several applications on Tenable Core, deploy a unique instance for each application.

Enterprise networks can vary in performance, capacity, protocols, and overall activity. Resource requirements to consider for Tenable Nessus Network Monitor deployments include raw network



speed, the size of the network being monitored, and the configuration of Tenable Nessus Network Monitor.

The following chart outlines some basic hardware requirements for operating Tenable Nessus Network Monitor:

Version	Installation scenario	RAM	Processor	Hard Disk
All Versions	Tenable Nessus Network Monitor managing up to 50,000 hosts * (**)	2 GB RAM (4 GB RAM recommended)	2 2GHz cores	20 GB HDD minimum
	Tenable Nessus Network Monitor managing more than 50,000 hosts **	4 GB RAM (8 GB RAM recommended)	4 2GHz cores	20 GB HDD minimum
	Tenable Nessus Network Monitor running in High Performance mode	16 GB RAM (HugePages memory: 2 GB)	10 2GHz cores with hyper-threading enabled	20 GB HDD minimum

*The ability to monitor a given number of hosts depends on the bandwidth, memory, and processing power available to the system running Tenable Nessus Network Monitor.

**For optimal data collection, Tenable Nessus Network Monitor must be connected to the network segment via a hub, spanned port, or network tap to have a full, continuous view of network traffic.

Note: Research your VM software vendor for comparative recommendations, as VMs typically see up to a 30% loss in efficiency compared to dedicated servers. Tenable Nessus Network Monitor supports VMware's vmxnet3 driver.

High Performance Mode



To run Tenable Nessus Network Monitor in High Performance mode, a minimum of two of the following types of Intel NICs are required; one as a management interface and at least one as a monitoring interface:

- e1000 (82540, 82545, 82546)
- e1000e (82571, 82574, 82583, ICH8.ICH10, PCH.PCH2)
- igb (82575, 82576, 82580, I210, I211, I350, I354, DH89xx)
- ixgbe (82598, 82599, X540, X550)
- i40e (X710, XL710)
- NT40A01-4x1



Access Requirements

Your Tenable Core + Tenable Nessus Network Monitor deployment must meet the following requirements.

- [Internet Requirements](#)
- [Port Requirements](#)

Internet Requirements

You must have internet access to download Tenable Core files.

After you transfer a file to your machine, internet access requirements to deploy or update Tenable Core vary depending on your environment.

Environment		Tenable Core Format	Internet Requirement
Virtual Machine	VMware	.ova file	You do not need internet access to deploy or update Tenable Core.
	Microsoft Hyper-V	.zip file	
Hardware		.iso image	Requires internet access to install or update Tenable Core.

Tip: You do not need access to the internet when you install updates to Tenable Core + Tenable Nessus Network Monitor via an offline .iso file. For more information, see [Update Tenable Core Offline](#).

Port Requirements

Your Tenable Core deployment requires access to specific ports for inbound and outbound traffic.

Inbound Traffic

Allow inbound traffic to the following ports listed.

Note: Inbound traffic refers to traffic from users configuring Tenable Core, etc.



Port	Traffic
TCP 22	Inbound SSH connections.
TCP 8000	Inbound HTTPS communications to the Tenable Core interface.
TCP 8090	Inbound HTTPS communications for restoring backups. Inbound communications with the file upload server.
TCP 8834	Inbound communications to the Tenable Core + Tenable Nessus interface.
TCP 8835	Inbound communications to the Tenable Core + Tenable Nessus Network Monitor interface.

Outbound Traffic

Allow outbound traffic to the following ports listed.

Port	Traffic
TCP 22	Outbound SSH connections, including remote storage connections.
TCP 443	Outbound communications to the <code>sensor.cloud.tenable.com</code> server for system updates.
UDP 53	Outbound DNS communications for Tenable Nessus Network Monitor and Tenable Core.



Default Security Configuration Standards

By default, Tenable Core applies security configurations based on the following Center for Internet Security (CIS) standards. For more information about CIS standards, see [cisecurity.org](https://www.cisecurity.org).

Note: SELinux: is enabled by default on the Tenable Core operating system.

CIS Standards


CIS Benchmarks: Tenable has implemented the following parts of the CIS Level 1 Benchmark on the Tenable Core:

CIS Level 1 - 1.x

- CIS 1.1.1.* (Disable mounting of miscellaneous filesystems)
- CIS 1.1.21 (Ensure sticky bit is set on all world-writable directories)
- CIS 1.4.* (Bootloader adjustments)
 - CIS 1.4.1 Ensure permissions on bootloader config are configured
- CIS 1.7.1.* (Messaging/banners)
 - Ensure message of the day is configured properly
 - Ensure local login warning banner is configured properly
 - Ensure remote login warning banner is configured properly
 - Ensure GDM login banner is configured - banner message enabled
 - Ensure GDM login banner is configured - banner message text

CIS Level 1 - 2.x

- CIS 2.2.* (disabled packages)
 - x11
 - avahi-server
 - CUPS

-
- 
- nfs
 - Rpc

CIS level 1 - 3.x

- CIS 3.1.* (packet redirects)
 - 3.1.2 Ensure packet redirect sending is disabled - 'net.ipv4.conf.all.send_redirects = 0'
 - 3.1.2 Ensure packet redirect sending is disabled - 'net.ipv4.conf.default.send_redirects = 0'
- CIS 3.2.* (ipv4, icmp, etc)
 - 3.2.1 Ensure source routed packets are not accepted - 'net.ipv4.conf.all.accept_source_route = 0'
 - 3.2.1 Ensure source routed packets are not accepted - 'net.ipv4.conf.default.accept_source_route = 0'
 - 3.2.2 Ensure ICMP redirects are not accepted - 'net.ipv4.conf.all.accept_redirects = 0'
 - 3.2.2 Ensure ICMP redirects are not accepted - 'net.ipv4.conf.default.accept_redirects = 0'
 - 3.2.3 Ensure secure ICMP redirects are not accepted - 'net.ipv4.conf.all.secure_redirects = 0'
 - 3.2.3 Ensure secure ICMP redirects are not accepted - 'net.ipv4.conf.default.secure_redirects = 0'
 - 3.2.4 Ensure suspicious packets are logged - 'net.ipv4.conf.all.log_martians = 1'
 - 3.2.4 Ensure suspicious packets are logged - 'net.ipv4.conf.default.log_martians = 1'
 - 3.2.5 Ensure broadcast ICMP requests are ignored
 - 3.2.6 Ensure bogus ICMP responses are ignored
 - 3.2.7 Ensure Reverse Path Filtering is enabled - 'net.ipv4.conf.all.rp_filter = 1'



- 3.2.7 Ensure Reverse Path Filtering is enabled - 'net.ipv4.conf.default.rp_filter = 1'
- 3.2.8 Ensure TCP SYN Cookies is enabled
- CIS 3.3.* (IPv6)
 - 3.3.1 Ensure IPv6 router advertisements are not accepted
 - 3.3.2 Ensure IPv6 redirects are not accepted
- CIS 3.5.* (network protocols)
 - 3.5.1 Ensure DCCP is disabled
 - 3.5.2 Ensure SCTP is disabled
 - 3.5.3 Ensure RDS is disabled
 - 3.5.4 Ensure TIPC is disabled

CIS Level 1 - 4.x

- CIS 4.2.* (rsyslog)
 - 4.2.1.3 Ensure rsyslog default file permissions configured
 - 4.2.4 Ensure permissions on all logfiles are configured

CIS Level 1 - 5.x

- CIS 5.1.* (cron permissions)
 - 5.1.2 Ensure permissions on /etc/crontab are configured
 - 5.1.3 Ensure permissions on /etc/cron.hourly are configured
 - 5.1.4 Ensure permissions on /etc/cron.daily are configured
 - 5.1.5 Ensure permissions on /etc/cron.weekly are configured
 - 5.1.6 Ensure permissions on /etc/cron.monthly are configured
 - 5.1.7 Ensure permissions on /etc/cron.d are configured
 - 5.1.8 Ensure at/cron is restricted to authorized users - at.allow



- 5.1.8 Ensure at/cron is restricted to authorized users - at.deny
- 5.1.8 Ensure at/cron is restricted to authorized users - cron.allow
- CIS 5.3.* (password/pam)
 - 5.3.1 Ensure password creation requirements are configured - dcredit
 - 5.3.1 Ensure password creation requirements are configured - lcredit
 - 5.3.1 Ensure password creation requirements are configured - minlen
 - 5.3.1 Ensure password creation requirements are configured - ocredit
 - 5.3.1 Ensure password creation requirements are configured - ucredit
 - 5.3.2 Lockout for failed password attempts - password-auth 'auth [default=die] pam_faillock.so authfail audit deny=5 unlock_time=900'
 - 5.3.2 Lockout for failed password attempts - password-auth 'auth [success=1 default=bad] pam_unix.so'
 - 5.3.2 Lockout for failed password attempts - password-auth 'auth required pam_faillock.so preauth audit silent deny=5 unlock_time=900'
 - 5.3.2 Lockout for failed password attempts - password-auth 'auth sufficient pam_faillock.so authsucc audit deny=5 unlock_time=900'
 - 5.3.2 Lockout for failed password attempts - system-auth 'auth [default=die] pam_faillock.so authfail audit deny=5 unlock_time=900'
 - 5.3.2 Lockout for failed password attempts - system-auth 'auth [success=1 default=bad] pam_unix.so'
 - 5.3.2 Lockout for failed password attempts - system-auth 'auth required pam_faillock.so preauth audit silent deny=5 unlock_time=900'
 - 5.3.2 Lockout for failed password attempts - system-auth 'auth sufficient pam_faillock.so authsucc audit deny=5 unlock_time=900'
 - 5.3.3 Ensure password reuse is limited - password-auth
 - 5.3.3 Ensure password reuse is limited - system-auth



- CIS 5.4.* (user prefs)
 - 5.4.1.2 Ensure minimum days between password changes is 7 or more
 - 5.4.1.4 Ensure inactive password lock is 30 days or less
 - 5.4.4 Ensure default user umask is 027 or more restrictive - /etc/bashrc
- CIS 5.6.* (wheel group)
 - 5.6 Ensure access to the su command is restricted - pam_wheel.so
 - 5.6 Ensure access to the su command is restricted - wheel group contains root

CIS Level 1 - 6.x

- CIS 6.1.* (misc conf permissions)
 - 6.1.6 Ensure permissions on /etc/passwd- are configured
 - 6.1.8 Ensure permissions on /etc/group- are configured



Deploy or Install Tenable Core

You can run Tenable Core + Tenable Nessus Network Monitor in the following environments.

Note: Tenable Support does not assist with issues related to your host operating system, even if you encounter them during installation or deployment.

Environment		Tenable Core File Format	More Information
Virtual Machine	VMware	.ova file	Deploy Tenable Core in VMware
	Microsoft Hyper-V	.zip file	Deploy Tenable Core in Hyper-V
Hardware		.iso image	Install Tenable Core on Hardware

Note: While you could use the packages to run Tenable Core in other environments, Tenable does not provide documentation for those procedures.



Deploy Tenable Core in VMware

To deploy Tenable Core + Tenable Nessus Network Monitor as a VMware virtual machine, you must download the Tenable Core + Tenable Nessus Network Monitor .ova file and deploy it on a hypervisor.

Before you begin:

- Confirm your environment will support your intended use of the instance, as described in [System and License Requirements](#).
- Confirm your internet and port access will support your intended use of the instance, as described in [Access Requirements](#).

VMware Version Support

VMware vCenter: Tenable supports versions 7 and 8. The SOAP API is supported on versions 7 and 8, and the REST API is supported on versions 7.0.3 and later.

VMware vSphere: Tenable supports versions 7 and 8. The SOAP API is supported on versions 7 and 8, and the REST API is not supported.

To deploy Tenable Core + Tenable Nessus Network Monitor as a VMware virtual machine:

1. Download the **Tenable Core NNM VMware Image** file from the [Tenable Downloads](#) page.
2. Open your VMware virtual machine in the hypervisor.
3. Import the Tenable Core + Tenable Nessus Network Monitor VMware .ova file from your computer to your virtual machine. For information about how to import a .ova file to your virtual machine, see [VMware documentation](#).
4. In the setup prompt, configure the virtual machine to meet your organization's storage needs and requirements, and those described in [System and License Requirements](#).
5. Launch your Tenable Core + Tenable Nessus Network Monitor instance.

The virtual machine boot process appears in a terminal window.

Note: The boot process may take several minutes to complete.



When the virtual machine boot process finishes, the Tenable Core + Tenable Nessus Network Monitor deployment is complete .

What to do next:

- Continue getting started with Tenable Core + Tenable Nessus Network Monitor, as described in [Get Started](#).



Deploy Tenable Core in Hyper-V

To deploy Tenable Core + Tenable Nessus Network Monitor as a Microsoft Hyper-V virtual machine, you must download the Tenable Core + Tenable Nessus Network Monitor .zip file and deploy it on the host where you want to launch Tenable Core + Tenable Nessus Network Monitor.

Note: After you download the .zip file, you can use an external storage device to deploy it on another machine. You do not need internet access on the machine hosting Tenable Core.

Before you begin:

- Confirm your environment will support your intended use of the instance, as described in [System and License Requirements](#).
- Confirm your internet and port access will support your intended use of the instance, as described in [Access Requirements](#).

To deploy Tenable Core + Tenable Nessus Network Monitor as a Hyper-V virtual machine:

1. Download the **Tenable Core NNM VMware Image** file from the [Tenable Downloads](#) page.
2. Navigate to your Hyper-V Manager on the machine where you want to deploy Tenable Core + Tenable Nessus Network Monitor.
3. Extract the .zip file you previously downloaded. Extracting may take a few minutes.
4. In your Hyper-V Manager, create a new virtual machine.

The Hyper-V Manager wizard appears.

5. In the setup wizard, adjust the virtual machine configurations to meet your organization's storage needs, and the requirements described in [System and License Requirements](#).

Note: Tenable recommends that you select **Generation 1** when the Hyper-V Manager wizard prompts you during the configuration.

6. When prompted to Connect to a Virtual Hard Disk in the wizard, select **Use an existing virtual hard disk**.



7. Click **Browse** and select the .vhd file.

8. Click **Finish**.

The Hyper-V setup completes.

9. (Optional) If you want to increase the number of CPUs on your virtual machine:

a. In the **Virtual Machines** table, right-click the row for your machine and click **Settings**.

The settings window appears.

b. In the **Hardware** section, click **Processor**.

c. Modify the settings as necessary.

d. Click **Ok**.

10. In the **Virtual Machines** table, right-click the row for your machine and click **Start** or **Connect**.

The virtual machine load process appears in a console. The load process may take several minutes to complete.

What to do next:

- Continue getting started with Tenable Core + Tenable Nessus Network Monitor, as described in [Get Started](#).



Install Tenable Core on Hardware

You can install Tenable Core + Tenable Nessus Network Monitor directly on hardware using an .iso image. When you install Tenable Core via an .iso image on your computer, Tenable Core replaces your existing operating system with the Tenable Core operating system.

Before you begin:

- Confirm your environment will support your intended use of the instance, as described in [System and License Requirements](#).
- Confirm your internet and port access will support your intended use of the instance, as described in [Access Requirements](#).

To install Tenable Core + Tenable Nessus Network Monitor on hardware:

1. Download the **Tenable Core NNM VMware Image** file from the [Tenable Downloads](#) page.
2. Boot the .iso. For more information, see your environment documentation.

Caution: Booting the .iso replaces your existing operating system with the Tenable Core operating system.

Tip: To monitor the progress of the installation, select `Install TenableCore` using serial console from the boot menu. For more information about the Tenable OT Security serial console, see the *Tenable OT Security User Guide*.

The installer installs Tenable Core + Tenable Nessus Network Monitor on your hardware.

3. The installation begins if there are no configuration errors.

For Tenable Core deployments with EL7 operating systems:

The **Installation** menu appears if there are configuration errors.

If you need to resolve configuration errors [!] with your **4) Installation source** or **5) Software selection** settings, see [Edit the Network Configuration](#) or [Edit the Proxy Configuration](#).

Caution: Do not enter any other menus or modify any other settings.

The installation runs and the server restarts.



What to do next:

- Continue getting started with Tenable Core + Tenable Nessus Network Monitor, as described in [Get Started](#).



Edit the Network Configuration

During installation, you may need to edit the network configuration settings. Perform this procedure to resolve errors [!] with your **4) Installation source** and/or **5) Software selection** settings.

Caution: Do not enter any other menus or modify any other settings.

To edit the network configuration:

1. From the **Installation** menu, press the **8** key.
2. Press the **Enter** key.

The **Network Configuration** menu appears.

3. Press the **2** key.
4. Press the **Enter** key.

The **Device Configuration** menu appears.

5. Review the **1) IPv4 address or "dhcp" for DHCP**, **2) IPv4 netmask**, **3) IPv4 gateway**, and **6) Nameservers** settings and, if necessary, edit them.

For example, you must edit these settings if you are installing Tenable Core on a static network without DHCP.

6. Check **8) Apply configuration in installer**.
7. Press the **c** key until you return to the **Installation** menu.
8. Press the **r** key to refresh the menu.
9. Confirm that settings 1-7 show an **[x]**. If the settings all show an **[x]** proceed to step 11.
10. If **4) Installation source** still shows a **[!]**:

Refresh the repository URL:

- a. Press the **4** key.
- b. Press the **Enter** key.

The **Installation Source** menu appears.



c. Press the **3** key.

d. Press the **Enter** key.

The **Installation Source** submenu appears.

e. Press the **2** key.

f. Press the **Enter** key.

The **Specify Repo Options** menu appears.

g. Press the **c** key.

h. Press the **Enter** key.

The system refreshes the repository URL and the **Installation** menu appears.

11. Press the **r** key to refresh the menu.

12. Press the **c** key until you return to the **Installation** menu.



Edit the Proxy Configuration

During installation, you may need to edit the proxy configuration settings to identify the proxy you want to use for internet access.

Caution: Do not enter any other menus or modify any other settings.

To edit the proxy configuration:

1. From the **Installation** menu, press the **3** key.
2. Press the **Enter** key.

The **Proxy Configuration** menu appears.

3. Type the proxy you want to use. For example, *https://username:password@192.0.2.221:3128*.

Note: If your password includes a special character, the special character must be HTML URL encoded.

4. Press the **Enter** key.
5. If your proxy is a man-in-the-middle proxy that intercepts SSL traffic, a prompt appears.

In the prompt:

1. Type yes.
2. Press the **Enter** key.

The system temporarily disables SSL verification. The system automatically re-enables SSL verification after the installation completes.

The **Installation** menu appears.

6. Press the **4** key.
7. Press the **Enter** key.

The **Installation Source** menu appears.

8. Press the **3** key.
9. Press the **Enter** key.



The **Installation Source** submenu appears.

10. Press the **2** key.

11. Press the **Enter** key.

The **Specify Repo Options** menu appears.

12. Press the **c** key.

13. Press the **r** key, then the **Enter** key.

14. If necessary, continue pressing the **r** key, then the **Enter** key until **4) Installation source** no longer says (**Processing...**).

The system refreshes the repository URL.



Disk Management

You can use the Tenable Core interface to manage some aspects of your Tenable Core machine disk space. Tenable Core uses Linux logical volume management (LVM) for disk management.

Disk management via the Tenable Core interface assumes you understand basic LVM terminology:

- Volume group – A group of one or more physical volumes.
- Physical volume – A hard disk, hard disk partition, or RAID unit.
- Logical volume – A block of space on the volume group sized to mirror several or all of your physical volumes.
- File system – The file system on the logical volume.
- Mount point – The location where you mounted the file system in your operating system.

For more information about these concepts, see general documentation for Linux.

Tenable Core Partitions

Tenable Core deploys with the following preconfigured partitions:

- /boot
- Swap
- /
- /var/log
- /opt

To add more storage space to Tenable Core (typically, in /opt), add a disk or expand a disk as described in [Add or Expand Disk Space](#).



Add or Expand Disk Space

If you need more space in Tenable Core to meet the [requirements](#), add space to your machine by expanding an existing disk or adding a new disk. For general information about Tenable Core disk management, see [Disk Management](#).

Caution: You cannot reassign disk space after you have assigned the space to a file system.

To add or expand existing disk space on your Tenable Core machine:

1. Power down your machine, as instructed by your local administrator or the documentation for your local environment.
2. Add a new disk or expand an existing disk in your machine configuration, as instructed by your local administrator or the documentation for your local environment.
3. Power up your machine, as instructed by your local administrator or the documentation for your local environment.
4. Log in to Tenable Core.

The **System** page appears.

5. In the left navigation bar, click **Storage**.

The **Storage** page appears.

6. In the **Filesystems** section, locate the file system with `/opt` as the **Mount Point** and note the file system **Name** (for example, `/dev/vg0/00`).

Tip: Typically, you want to add space to `/opt`. To add more storage space to a less common partition (for example, `/` or `/var/log`), locate the file system for that partition.

7. Click the row for the file system **Name** that includes your preferred partition as the **Mount Point**.

The **Volume Group** page appears.

8. In the **Physical Volumes** section, click the + button.

The **Add Disks** window appears.



9. Click the check box for the space you added.

10. Click **Add**.

The **Volume Group** page appears, updated to show the added space in the **Physical Volumes** section.

11. In the **Logical Volumes** section, expand the section for the file system **Name** that includes your preferred partition as the **Mount Point**.

12. Click **Grow**.

The **Grow Logical Volume** window appears.

13. Use the slider to increase the size of the file system to your desired size (typically, to the new maximum).

14. Click **Grow**.

The system expands the logical volume and the file system.

The **Volume Group** page appears, refreshed to reflect the new size.



Manually Configure a Static IP Address

If you deploy Tenable Core in an environment where DHCP is configured, Tenable Core automatically receives network configurations (including your IP address). If DHCP is not configured, you must manually configure a static IP address in Tenable Core.

For more information about the default NIC configuration in your environment, see [System and License Requirements](#).

Before you begin:

- Deploy or install Tenable Core + Tenable Nessus Network Monitor, as described in [Deploy or Install Tenable Core](#).
- Contact your network administrator and obtain your network's netmask and the IP address for your Tenable Core + Tenable Nessus Network Monitor deployment.

To configure a static IP address manually:

1. In the command-line interface (CLI) in Tenable Core, type the following to log in as a wizard user:

```
tenable-y3u1xwh1 login: wizard
Password: admin
```

A prompt appears asking if you want to configure a static IP address.

2. Press the **y** key.

(Optional) If the prompt does not appear, in the command-line interface (CLI) in Tenable Core, run the following command to access the configuration user interface:

```
nmtui edit
```

The list of connections page appears.

3. Select the connection you want to configure.
4. Press **Tab** to select **<Edit>**.



5. Press **Enter**.

The **Edit Connection** window appears.

6. In the **IPv4 Configuration** row, press **Tab** to select **<Automatic>**.

7. Press **Enter**.

8. Select **<Manual>** from the drop-down box.

9. Press **Enter**.

10. Press **Tab** to select **<Show>**.

11. Press **Enter**.

More configuration fields appear.

Note: Type the value for each configuration field as four numbers separated by a period. Refer to the examples for each field.

12. In the **Addresses** field, type the IPv4 IP address for your Tenable Core + Tenable Nessus Network Monitor deployment, followed by a forward slash and your netmask.

Example:

192.0.2.57

13. In the **Gateway** field, type your gateway IP address.

Example:

192.0.2.177

14. In the **DNS servers** field, type your DNS server IP address.

Example:

192.0.2.176



15. Press **Tab** to select **<Add...>**.

Note: Complete steps 12-15 only if you have more DNS server IP addresses to add. Repeat for each IP address.

16. Press **Enter**.

An empty box appears in the **DNS servers** row.

17. In the new row, type your second DNS server IP address.

Example:

```
192.0.2.8
```

18. Select the check the box in the **Require IPv4 addressing for this connection** row.

19. Press **Tab** to select **<OK>**.

The list of connections appears.

20. Press **Tab** to select **<Quit>**.

21. Press **Enter**.

If you log in with a wizard, a prompt appears asking if you want to create an administrator account.

To create an administrator account, see [Create a First-Time User Account](#).

You are logged out of the wizard account.

22. Log into the CLI using the administrator account.

23. Restart the connection. In the command-line interface (CLI) in Tenable Core, run the following command:

```
$ nmcli connection down "Wired connection 1" && nmcli connection up "Wired connection 1"
```

Note: Restarting the connection enables the system to recognize your static IP address. You can reboot the system instead to trigger the response.

What to do next:



- Confirm that the Tenable Core **nic1** MAC address matches the NIC MAC address in your VMware passive scanning configuration. If necessary, modify your VMware configuration to match your Tenable Core MAC address. For more information, see [System and License Requirements](#).



Create an Initial Administrator User Account

The first time you access Tenable Core + Tenable Nessus Network Monitor, you log in as a wizard user.

Then, you create an initial administrator account.

Tip: If you delay creating an initial administrator account, after a few minutes, the system locks you out of the wizard user account. Reboot Tenable Core to proceed with the initial administrator account creation.

Before you begin:

- Deploy or install Tenable Core + Tenable Nessus Network Monitor, as described in [Deploy or Install Tenable Core](#).

To create an initial administrator user account:

1. Navigate to the URL for your Tenable Core virtual machine.

The login page appears.

2. In the **User name** field, type **wizard**.
3. In the **Password** field, type **admin**.
4. Click **Log In**.

The **Create New Administrator** window appears.

5. In the **Username** field, type the username you want to use for your administrator account.
6. In the **Password** field, type a new password for your administrator account.

Note: Your password must meet the following minimum requirements:

- Minimum 14 characters long
- One capital letter
- One lowercase letter
- One numeric digit (0-9)
- One special character (~`!@#\$\$%^&*()+= _-{}[]\|:;'"?/<>,.)



- Cannot be a palindrome (i.e., a word or phrased spelled the same backward and forward)

7. Click **Create Account**.

A confirmation window appears.

8. Click **Finish Setup**.

Tenable Core creates your user account.

9. Click **Log Out**.

Tenable Core logs you out.

What to do next:

- (Optional) If you want to log in again, see [Log In to Tenable Core](#).
- (Optional) If you want to create another user account, see [Create New User Account](#).

Note: Log in again to create a new user account.



Log In to Tenable Core

Log in to Tenable Core to configure and manage your Tenable Core + Tenable Nessus Network Monitor instance in the Tenable Core interface.

Before you begin:

- Deploy Tenable Core + Tenable Nessus Network Monitor, as described in [Deploy or Install Tenable Core](#).

Note: For information on inbound and outbound port requirements, see [Access Requirements](#).

To log in to Tenable Core:

1. Navigate to the URL for your Tenable Core virtual machine.

The login page appears.

2. In the **User name** field, type your username.
3. In the **Password** field, type your password.
4. (EL7 deployments only) Select the **Reuse my password for privileged tasks** check box.

Note: You cannot configure or manage your instance of Tenable Core + Tenable Nessus Network Monitor if you do not select the **Reuse my password for privileged tasks** check box.

5. Click **Log in**.

Tenable Core logs you in to the user interface.



Configure Tenable Nessus Network Monitor in the Tenable Nessus Network Monitor User Interface

1. Click on the **URL** in the Tenable Nessus Network Monitor Installation Info Card.
2. Enter the default username and password, which are both **admin**.
3. Click **Sign In to Continue**.
4. The **Change Default Password** screen of the **Quick Setup** window appears, where you can change the default password. The new password must meet the following minimum requirements:
 - Minimum 5 characters long
 - One capital letter
 - One lowercase letter
 - One numeric digit
 - One special character from the following list: !@#\$\$%^&*().
5. Click **Next Step**. The **Set Activation Code** screen appears.

Quick Setup

Step 2 - Set Activation Code

If this NNM will be managed by SecurityCenter, Tenable.io, or Industrial Security in Standard performance mode, please enter 'SecurityCenter', 'Cloud', or 'IndustrialSecurity', respectively, as the Activation Code below.

Register Offline

Activation Code

Fetch Plugins From

[◀ Previous Step](#) [Next Step ▶](#)



6. Enter an **Activation Code**.
7. Click **Next Step**. The **Monitoring Configuration Screen** Appears.

Quick Setup

Step 3 - Monitoring Configuration

Monitored Network Interfaces

- ▶ ens160
- ▶ lo

Monitored Network IP Addresses and Ranges

172.26.97.0/24

Excluded Network IP Addresses and Ranges

◀ Previous Step Finish

- The **Monitored Network Interfaces** box displays the monitored interfaces identified by Tenable Nessus Network Monitor. You can select one or more of the defined interfaces. The caret icon displays additional information about each interface.
- The **Monitored Network IP Addresses and Ranges** box displays the IP address ranges Tenable Nessus Network Monitor monitors.
- The **Excluded Network IP Addresses and Ranges** box displays the IP address ranges Tenable Nessus Network Monitor does not monitor.
- The **Monitored Network IP Addresses and Ranges** and **Excluded Network IP Addresses and Ranges** boxes accept both IPv4 and IPv6 CIDR address definitions. Separate the entries using commas or new lines when using multiple addresses.

8. Click **Finish**.



The **Monitoring** page appears. Once Tenable Nessus Network Monitor starts monitoring traffic, the page displays various high-level charts about the vulnerabilities, assets, connections, and bandwidth usage that Tenable Nessus Network Monitor has detected, and real-time events that Tenable Nessus Network Monitor has triggered.

Note: See the [Nessus Network Monitor User Guide](#) for additional information.



Configure and Manage

You can use the Tenable Core user interface to configure and manage Tenable Core + Tenable Nessus Network Monitor.

[View the Dashboard](#)

[Add a Server](#)

[Edit a Server](#)

[Delete a Server](#)

[Synchronize Accounts](#)

[Manage the System](#)

[Change Performance Profile](#)

[Restart Tenable Core](#)

[Shut Down Tenable Core](#)

[Edit Your Tenable Core Hostname](#)

[Edit Your Time Settings](#)

[View the System Log](#)

[Filter the System Log](#)

[Manage System Networking](#)

[Add a Bonded Interface](#)

[Add a Team of Interfaces](#)

[Add a Bridge Network](#)

[Add a VLAN](#)

[Manage System Storage](#)

[Rename a Filesystem](#)

[Delete a Filesystem](#)

[Manage User Accounts](#)



[Create New User Account](#)

[Edit a User Account](#)

[Delete a User Account](#)

[Manage Services](#)

[Create a Timer](#)

[Generate a Diagnostic Report](#)

[Access the Terminal](#)

[Configure Tenable Nessus Network Monitor in Tenable Core](#)

[Configure a Proxy Server](#)

[Start, Stop, or Restart Your Application](#)

[Manage Updates](#)

[Configure Automatic Updates](#)

[Update On Demand](#)

[Update Tenable Core Offline](#)

[Manage Certificates](#)

[Manage the Server Certificate](#)

[Upload a Certificate for a Trusted Certificate Authority](#)

[Use Different Certificates for Tenable Core and Your Application](#)

[Application Data Backup and Restore](#)

[Configure a Remote Storage Host](#)

[Perform an On-Demand Backup](#)

[Change the Scheduled Backup Time](#)

[Restore a Backup](#)

[SNMP Agent Configuration](#)

[Configure an SNMP Agent via the User Interface](#)



[Configure an SNMP Agent via the CLI](#)

[Take a Virtual Machine Snapshot](#)



View the Dashboard

You can use the **Dashboard** page to view usage statistics and manage your attached servers.

To view the Tenable Core dashboard:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. Hover over the left navigation bar and click **Overview**.

The **Overview** page appears.

You can:

Section	Action
Data graphs	<ul style="list-style-type: none">• View a graph of the CPU usage on your instance.• View a graph of the Memory usage on your instance.• View a graph of the Network bandwidth usage on your instance.• View a graph of the Disk I/O bandwidth usage on your instance.• To change the time range for data displayed in the graph:<ol style="list-style-type: none">1. In the top-right corner of the graph, click the drop-down box.2. Select a time range.The system refreshes the graph.
Servers table	<ul style="list-style-type: none">• Add a server, as described in Add a Server.• Edit a server, as described in Edit a Server.• Delete a server, as described in Delete a Server.• Synchronize user accounts, as described in Synchronize Accounts.• To view detailed information about a server, click a server row. For more information, see System.



Add a Server

To add a server:


Note: You can add as many servers to the Dashboard as you want.

1. Hover over the far-left navigation bar.

The left navigation plane appears.

2. Click **Dashboard**.

The **Dashboard** page appears.

3. Click the  icon.

The **Add Machine to Dashboard** window appears.

4. In the **Address** field, type the IP address or hostname for the server you want to add.

5. In the **Color** field, click the color you want to represent the server.

6. Click **Add**.

A confirmation window appears.

Note: If Tenable Core cannot establish authentication, the Unknown Host window appears. Contact your administrator to confirm your server's name or IP address.

7. Click **Connect**.

A credentials window appears.

8. Type your credentials in the **User name** and **Password** fields.

Note: To synchronize your accounts so that your account information and passwords are the same across multiple servers, click the *synchronize accounts and passwords* link. Refer to [Synchronize Accounts](#) for more information.

9. Click **Log In**.

Tenable Core adds the server to your list of servers in the **Servers** table.

Note: If the server does not appear in the list right away, refresh the browser.



Edit a Server

To edit a server:

1. From the top bar in the **Servers** table, click the  icon.

A pencil icon () and a trashcan icon () appear next to each server name.

2. Click the  icon.

The **Edit Server** window appears.

3. Do any of the following:

- In the **Host Name** box, type the name you want for your server.
- Update the server color:

- In the **Color** box, click the color bar.

A color menu appears.

- Click the color you want to represent the server.

The server color changes.

4. Click **Set**.

Tenable Core updates your server information.



Delete a Server

To delete a server:

1. From the top bar in the **Servers** table, click the check mark icon.

A pencil icon and a trashcan icon appear next to each server name.

2. Click the trashcan icon.

The server disappears from the server list.



Synchronize Accounts

If you have multiple user accounts but do not want to manage credentials for each one, you can synchronize your accounts, which allows you to navigate seamlessly between accounts without providing a different username and password for each account.

Note: You can synchronize accounts while either adding or editing servers in the [Dashboard](#).

To synchronize accounts:

1. While either adding or editing a server, click the **Synchronize users** link in the dialogue box. The **SYNCHRONIZE USERS** dialogue box appears with a list of your accounts.

Note: If you are adding a server, the linked text in the dialogue box is **synchronize accounts and passwords**.

2. Check the boxes next the accounts you want to synchronize.
3. Click **Synchronize**.



Manage the System

You can use the **System** page to view usage statistics and manage system settings.

To manage the Tenable Core system:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

You can:

Section	Action
System details section	<ul style="list-style-type: none">• View summary information about your Tenable Core instance.• Change the performance profile for your instance, as described in Change Performance Profile.• Restart or shut down your instance, as described in Restart Tenable Core and Shut Down Tenable Core.• Edit the hostname for your instance, as described in Edit Your Tenable Core Hostname.• Edit the time and time zone settings for your instance, as described in Edit Your Time Settings.
Data graphs	<ul style="list-style-type: none">• View a graph of the CPU usage on your instance.• View a graph of the Memory & Swap usage on your instance.• View a graph of the Disk I/O bandwidth usage on your instance.• View a graph of the Network Traffic bandwidth usage on your instance.• To change the time range for data displayed in the graphs:<ol style="list-style-type: none">1. In the top-right corner of the graph, click the drop-down box.2. Select a time range.The system refreshes the graph.



Change Performance Profile

To change the performance profile for your Tenable Core instance:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation pane, click the **Overview** option.

The **Overview** page displays.

3. Click on the **edit** link next to the **Performance profile** option in the **Configuration** tile. A new window appears displaying **Performance Profile** options.

4. Select the desired **Performance Profile**. The recommended profile is labeled in the list.

5. Click **Change Profile** to confirm the new selection.

Change Performance Profile

- powersave
Optimize for low power consumption
- throughput-performance
Broadly applicable tuning that provides excellent performance across a variety of common server workloads. This is the default profile for RHEL7.
- virtual-guest** **recommended**
Optimize for running inside a virtual guest.

Cancel Change Profile



Restart Tenable Core

To restart your Tenable Core instance:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation pane, click the **System** option.

The **System** page displays.

3. Next to the **Power Options** item, click the **Restart** button or select it from the drop-down box.

A new window appears.

4. Enter a message for the users in the text box.

5. Select the delay time from the drop-down menu. This is the time that the restart begins.

Choose from one of the minute increments or enter a specific time. There is also an option to restart immediately with no delay.

6. Click the **Restart** button to initiate and save the updated information.

Restart

Message to logged in users

Delay



Shut Down Tenable Core

To shut down your Tenable Core instance:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation pane, click the **System** option.

The **System** page displays.

3. Next to the **Power Options** item, click the arrow by **Restart** to display the drop-down menu. Select **Shut Down**.

A new window appears.

4. Enter a message for the users in the text box.
5. Select the delay time from the drop-down menu. This is the time that the shutdown begins. Choose from one of the minute increments or enter a specific time. There is also an option to Shut Down immediately with no delay.
6. Click **Shut Down** to initiate and save the updated information.

Shut Down

Message to logged in users

Delay



Edit Your Tenable Core Hostname

To edit the hostname for your Tenable Core instance:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation pane, click the **Overview** option.

The **Overview** page displays.

3. Click the **edit** link next to the **Hostname** option in the **Configuration** tile.

A new window appears with the options to enter or edit the **Pretty Host Name** and **Real Host Name**.

4. Enter the **Pretty Host Name** for the machine.

The **Real Host Name** updates as you enter the **Pretty Host Name**.

5. Click **Change** to update the name.

The new name displays next to the **Hostname** option.

Change Host Name

Pretty Host Name

Real Host Name



Edit Your Time Settings

To edit the system time and time zone settings for your Tenable Core instance:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation pane, click the **Overview** option.

The **Overview** page displays.

3. Next to **System time**, click the link.

The **Change System Time** window appears.

4. In the **Time Zone** drop-down box, select your time zone.

Tip: Type the first few letters of the desired time zone to filter the list.

5. In the **Set Time** drop-down box, select your preferred method for time synchronization.

Tip: By default, Tenable Core is set to **Automatically using NTP**.

6. Click **Change**.

Tenable Core saves the change.



View the System Log

You can use the **System Log** page to view errors encountered in the system. The system log lists, categorizes, and stores system issues that have occurred within the last seven days. Click on an individual entry (row) to get additional information.

August 24, 2017 Severity Problems, Errors

August 24, 2017

▲	11:21	Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to /dev/sr2: ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-erro...	storaged
▲	11:21	Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to /dev/sr1: ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-erro...	storaged
▲	11:21	Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to /dev/sr0: ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-erro...	storaged
▲	11:21	Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to /dev/sr2: ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-erro...	storaged
▲	11:21	Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to /dev/sr1: ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-erro...	storaged
▲	11:21	Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to /dev/sr0: ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-erro...	storaged
▲	11:21	Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to /dev/sr2: ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-erro...	storaged
▲	11:21	Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to /dev/sr1: ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-erro...	storaged
▲	11:21	Error probing device: Error sending ATA command IDENTIFY PACKET DEVICE to /dev/sr0: ATA command failed: error=0x01 count=0x02 status=0x50 (g-io-erro...	storaged

August 21, 2017

▲	15:04	fatal: Read from socket failed: Connection reset by peer [preauth]	sshd 2 ▶
---	-------	--------------------------------------------------------------------	-----------------------

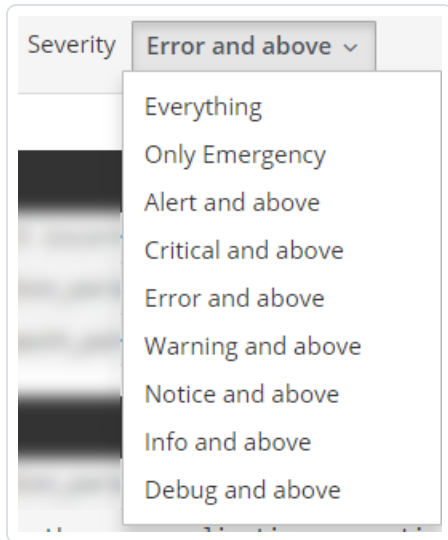
August 16, 2017

▲	15:55	Failed to start Crash recovery kernel arming.	systemd
▲	15:55	Failed to start Network Manager Wait Online.	systemd
▲	15:54	piix4_smbus 0000:00:07.3: Host SMBus controller not enabled!	kernel
▲	15:54	sd 0:0:0:0: [sda] Assuming drive cache: write through	kernel

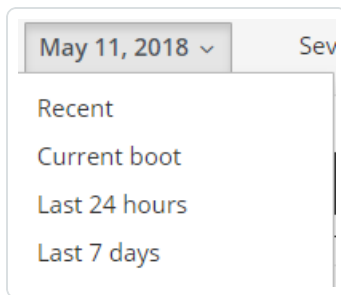


Filter the System Log

Several log type filters are available. The **Everything** option is selected by default. Select another option using the drop-down menu at the top of the page. The logs are listed with the most recent entry displayed first. Previous days are divided into sections with the corresponding date displayed in the header.



Filter the logs using the drop-down menu. Click on the date to display the filter options for the logs.





Manage System Networking

You can use the **Networking** page to view real-time system network traffic information, interface connection options, and logs.

To manage Tenable Core system networking:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation bar, click **Networking**.

The **Networking** page appears.

You can:

Section	Action
Graphs	<ul style="list-style-type: none">• View a graph of the Sending (outbound) network traffic on your instance.• View a graph of the Receiving (inbound) network traffic on your instance.
Firewall section	<ul style="list-style-type: none">• View Firewall rules.• Add Zones.• Add Allowed Services.
Interfaces table	<ul style="list-style-type: none">• Aggregate multiple network interfaces into a single-bonded interface, as described in Add a Bonded Interface.• Add a team of interfaces, as described in Add a Team of Interfaces.• Add a bridge to create a single aggregate network from multiple communication networks, as described in Add a Bridge Network.• Add a VLAN, as described in Add a VLAN.
Networking Logs table	View a log of activity for the system network.



Add a Bonded Interface

You can add a bond to aggregate multiple network interfaces into a single-bonded interface.

To add a bonded interface to Tenable Core:

1. In the left navigation pane, click the **Networking** option. The **Networking** page displays.
2. In the **Interfaces** heading, click the **Add Bond** button on the **Interfaces** section. A new window appears.
3. Enter a **Name** for the bond.
4. Select the members (interfaces) to bond to in the **Members** section.
5. Select an option for **MAC**.
6. Select the **Mode**.
7. Select a **Primary**.
8. Select the type of **Link Monitoring**. Labeled in the drop-down list is the recommended type.



9. Enter the **Monitoring Intervals** with options to link up or down delay increments.

Bond Settings

Name	<input type="text" value="bond0"/>
Members	<input type="checkbox"/> ens160 <input type="checkbox"/> ens32
MAC	<input type="text"/>
Mode	Active Backup
Primary	
Link Monitoring	MII (Recommended)
Monitoring Interval	<input type="text" value="100"/>
Link up delay	<input type="text" value="0"/>
Link down delay	<input type="text" value="0"/>



Add a Team of Interfaces

To add a team of interfaces to Tenable Core:

1. In the left navigation pane, click the **Networking** option. The **Networking** page displays.
2. In the **Interfaces** heading, click the **Add Team** button on the **Interfaces** section. A new window appears.
3. Enter the **Team Name**.
4. Select the **Ports** needed for the new team.
5. Select the **Runner** and **Link Watch** from the drop-down list.
6. Enter the **Link up** and **Link down delay** increments.

Team Settings

Name	<input type="text" value="team0"/>
Ports	<input type="checkbox"/> ens192
Runner	Active Backup ▼
Link Watch	Ethtool ▼
Link up delay	<input type="text" value="0"/>
Link down delay	<input type="text" value="0"/>



Add a Bridge Network

You can add a bridge to create a single aggregate network from multiple communication networks.

To add a bridge network to Tenable Core:

1. In the left navigation pane, click the **Networking** option. The **Networking** page displays.
2. In the **Interfaces** heading, click the **Add Bridge** button on the **Interfaces** section. A new window appears.
3. Enter a **Name** for the bridge.
4. Select the **Ports** that you want to connect to the bridge.
5. Click the box next to **Spanning Tree Protocol (STP)** to get more STP options.
6. Click **Apply** to add the new bridge.

Bridge Settings

Name	<input type="text" value="bridge0"/>
Ports	<input type="checkbox"/> ens192 <input type="checkbox"/> ens192.1
Spanning Tree Protocol (STP)	<input checked="" type="checkbox"/>
STP Priority	<input type="text" value="32768"/>
STP Forward delay	<input type="text" value="15"/>
STP Hello time	<input type="text" value="2"/>
STP Maximum message age	<input type="text" value="20"/>



Add a VLAN

To add a VLAN to Tenable Core:

1. Click the **Add VLAN** button on the Interfaces section. A new window appears.
2. Select the **Parent** from the drop-down list.
3. Enter the **VLAN Id** and name.
4. Click **Apply** to add the **VLAN**.
5. The new **VLAN** displays in the **Interface** list.

VLAN Settings

Parent	<input type="text" value="ens192"/>
VLAN Id	<input type="text" value="1"/>
Name	<input type="text" value="ens192.1"/>



Manage System Storage

You can use the **Storage** page to view real-time system storage graphs, filesystem information, and logs. For more information, see [Disk Management](#).

To manage Tenable Core storage:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation bar, click **Storage**.

The **Storage** page appears.

You can:

Section	Action
Graphs	<ul style="list-style-type: none">• View a graph of the Reading storage activity on your instance.• View a graph of the Writing storage activity on your instance.
Filesystems table	<ul style="list-style-type: none">• View information about each filesystem.• Click a row to view more details about the filesystem.• Rename a filesystem, as described in Rename a Filesystem.• Delete a filesystem, as described in Delete a Filesystem.



Rename a Filesystem

To rename a filesystem in Tenable Core:

1. In the left navigation pane, click **Storage**.

The **Storage** page appears.

2. In the **File Systems** section, click on the individual file in the file systems list.

The details page appears.

3. Click the **Rename** button in the upper right section of the window.

A new window appears.

4. Enter the new name for the **File System**.

5. Click **Create**.

The new name appears on the page.



Delete a Filesystem

To delete a filesystem in Tenable Core:

1. In the left navigation pane, click the **Storage** option. The **Storage** page displays.
2. In the **File System** section, click the individual file in the files systems list. The details page appears.
3. Click the red **Delete** button in the system heading.
4. Confirm that you want to delete the **File System**.

Please confirm deletion of centos

This device has filesystems that are currently in use. Proceeding will unmount all filesystems on it.

/	/dev/centos/root
---	------------------

Deleting a volume group will erase all data on it.

Caution: Deleting a volume group erases all data on it.



Manage User Accounts

You can use the **Accounts** page to manage user accounts for your Tenable Core instance.

To manage Tenable Core user accounts:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation bar, click **Accounts**.

The **Accounts** page appears.

Do any of the following:

- Create a new user account, as described in [Create New User Account](#).
- Edit a user account, as described in [Edit a User Account](#).
- Delete a user account, as described in [Delete a User Account](#).



Create New User Account

Required User Role: Administrator

You can create a new user account from the **Accounts** page.

To create a new user account:

1. Log in to Tenable Core, as described in [Log In to Tenable Core](#).

2. In the left navigation bar, click **Accounts**.

The **Accounts** page appears.

3. Click **Create New Account**.

The **Create New Account** window appears.

4. In the **Full Name** box, type the user's full name.

5. In the **User Name** box, type a username for the user account.

6. In the **Password** box, type a password for the user account.

Note: Your password must meet the following minimum requirements:

- Minimum 14 characters long
- One capital letter
- One lowercase letter
- One numeric digit (0-9)
- One special character (~!@#\$%^&*()+=-_{}[]\|:;'"?/<>,.)
- Cannot be a palindrome (i.e., a word or phrased spelled the same backward and forward)

7. In the **Confirm** box, retype the password.

8. Click **Create**.

Tenable Core creates the new account and displays it on the **Accounts** page.

What to do next:



- (Optional) If you want to configure the user account, see [Edit a User Account](#).
- (Optional) If you want to delete the user account, see [Delete a User Account](#).



Edit a User Account

Required User Role: Administrator

You can edit a user account configuration, including the user's full name, password, roles, access, and public SSH keys.

Before you begin:

To edit a user account:

1. Log in to Tenable Core, as described in [Log In to Tenable Core](#).
2. In the left navigation bar, click **Accounts**.

The **Accounts** page appears.

3. Click the user account you want to edit.

The account page for the user account appears.

4. On the user account page, you can:

Section	Action
Full Name	Type a name for the user account.
Roles	<ul style="list-style-type: none">• To grant the user account administrator access, select the Server Administrator check box.• To remove administrator access from the user account, clear the Server Administrator check box.
Access	<ul style="list-style-type: none">• To lock the user account, select the Lock Account check box to lock the user account.• To unlock the user account, clear the Lock Account check box to unlock the user account.• To configure the account to remain unlocked indefinitely: <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;">Note: If you do not configure the account to remain unlocked indef-</div>



	<p>Initially, Tenable Core automatically locks the account on the set expiration date.</p> <ol style="list-style-type: none">1. Click Never lock account. The Account Expiration window appears.2. Select the Never lock account option.3. Click Change. Tenable Core sets the account to remain unlocked indefinitely. <ul style="list-style-type: none">• Select an expiration date for the account:<ol style="list-style-type: none">1. Click Never lock account. The Account Expiration window appears.2. Select the Lock account on option.3. Click the box next to the Lock account on option. A calendar drop-down box appears.4. In the calendar drop-down box, select the date when you want the account to age out.5. Click Change. Tenable Core sets the expiration date for the user account.
Password	<ul style="list-style-type: none">• To set a new user account password:<ol style="list-style-type: none">1. Click Set Password. The Set Password window appears.2. In the New Password box, type the password you want to use for the account. <p>Note: Your password must meet the following minimum</p>



requirements:

- Minimum 14 characters long
- One capital letter
- One lowercase letter
- One numeric digit (0-9)
- One special character (~!@#\$%^&*()+=-_{} []\|:;'"?/<>,.)
- Cannot be a palindrome (i.e., a word or phrased spelled the same backward and forward)

3. Click **Set**.

Tenable Core updates the user account password.

- To force a user to change their user account password:

1. Click **Force Change**.

The **Force password change** window appears.

2. Click **Reset**.

Tenable Core disables the password for the user account.

The user must change the password on the next log in attempt.

- Configure the user account password to remain active indefinitely:



Note: If you do not configure the password to remain active indefinitely, Tenable Core automatically ages out the password on the set expiration date.

1. Click **Never expire password**.

The **Password Expiration** window appears.

2. Select the **Never expire password** option.



	<ol style="list-style-type: none">3. Click Change. Tenable Core sets the password to remain active indefinitely. <ul style="list-style-type: none">• Select an expiration date for the user account password:<ol style="list-style-type: none">1. Click Never expire password. The Password Expiration window appears.2. Select the Require password change every [blank] days option.3. In the Require password change every [blank] days section, type the number of days that you want to pass between password expiration dates (for example, type <i>90</i> if you want the password to age out every 90 days).4. Click Change. Tenable Core sets the expiration date for the user account password.
Authorized Public SSH Keys	<ul style="list-style-type: none">• To add a public SSH key to the user account:<ol style="list-style-type: none">1. In the Authorized Public SSH Keys table, click the  icon. The Add public key window appears.2. In the text box, type or paste your public SSH key.3. Click Add key. Tenable Core adds the SSH key to the user account.• To remove a public SSH key:<ol style="list-style-type: none">1. In the Authorized Public SSH Keys table, next to the key you want to remove, click the  icon. Tenable Core removes the SSH key from your account.



Delete a User Account

Required User Role: Administrator

You can delete a user account from the **Accounts** page.

To delete a new user account:

1. Log in to Tenable Core in a browser, as described in [Log In to Tenable Core](#).

2. In the left navigation bar, click **Accounts**.

The **Accounts** page appears.

3. Click the user account you want to delete.

The account page for the user account appears.

4. In the upper-right corner, click **Delete**.

The delete window for the user account appears.

5. (Optional), if you want to delete files attached to the user account, select the **Delete Files** check box.

Note: This file deletion is permanent. If you do not delete them, the files remain attached to the Tenable Core instance, along with their existing access permissions. Users who were previously granted access can still access the files.

6. Click **Delete**.

Tenable Core delete the user account.



Manage Services

You can use the **Services** page to view information about targets, system services, sockets, timers, and paths.

To manage Tenable Core services:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation bar, click **Services**.

The **Services** page appears.

You can:

Tab	Action
Targets	<ol style="list-style-type: none">1. Click Stop, Start, Restart, or Reload. <div data-bbox="537 978 1479 1094" style="border: 1px solid #0070C0; padding: 5px;"><p>Note: Restarting a service completely stops and restarts the service. Reloading a service only reloads the service's configuration files.</p></div> <p>The system changes the status of the service.</p>
System Services	<ul style="list-style-type: none">• View a list of system services.• Click a row to view detailed information about a service.• To change the status of a service:<ol style="list-style-type: none">1. Click a row.<p>The service details page appears.</p>2. Click Stop, Start, Restart, or Reload. <div data-bbox="618 1623 1479 1776" style="border: 1px solid #0070C0; padding: 5px;"><p>Note: Restarting a service completely stops and restarts the service. Reloading a service only reloads the service's configuration files.</p></div> <p>The system changes the status of the service.</p>



Sockets	<ul style="list-style-type: none">• View a list of socket services.• Click a row to view detailed information about a service.• To change the status of a service:<ol style="list-style-type: none">1. Click a row.<p>The service details page appears.</p>2. Click Stop, Start, Restart, or Reload.<div data-bbox="617 598 1477 751" style="border: 1px solid blue; padding: 5px;">Note: Restarting a service completely stops and restarts the service. Reloading a service only reloads the service's configuration files.</div><p>The system changes the status of the service.</p>
Timers	<ul style="list-style-type: none">• View a list of timer services.• Click a row to view detailed information about a service.• Create a new timer, as described in Create a Timer.• To change the status of a service:<ol style="list-style-type: none">1. Click a row.<p>The service details page appears.</p>2. Click Stop, Start, Restart, or Reload.<div data-bbox="617 1354 1477 1507" style="border: 1px solid blue; padding: 5px;">Note: Restarting a service completely stops and restarts the service. Reloading a service only reloads the service's configuration files.</div><p>The system changes the status of the service.</p>
Paths	<ul style="list-style-type: none">• View a list of path services.• Click a row to view detailed information about a service.• To change the status of a service:



1. Click a row.

The service details page appears.

2. Click **Stop**, **Start**, **Restart**, or **Reload**.

Note: Restarting a service completely stops and restarts the service. Reloading a service only reloads the service's configuration files.

The system changes the status of the service.



Create a Timer

To create a timer:

1. In the left navigation pane, click the **Services** option. The **Services** page displays.
2. In the **Services** page heading, click the **Create Timers** button.

A new window appears.

3. Enter the **Service Name**, **Description**, **Command**, and **Run** information.
4. Click **Save**.

The new timer displays in the enabled section of the list.

Create Timers

Service name

Description

Command

Run After



Generate a Diagnostic Report

You can use diagnostic reports to assist with troubleshooting Tenable Core.

To generate a diagnostic report for troubleshooting:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation bar, click **Diagnostic Reports**.

The **Diagnostic Reports** page appears.

3. Click the **Create Report** button.

4. A new window with a status bar appears as the report generates.

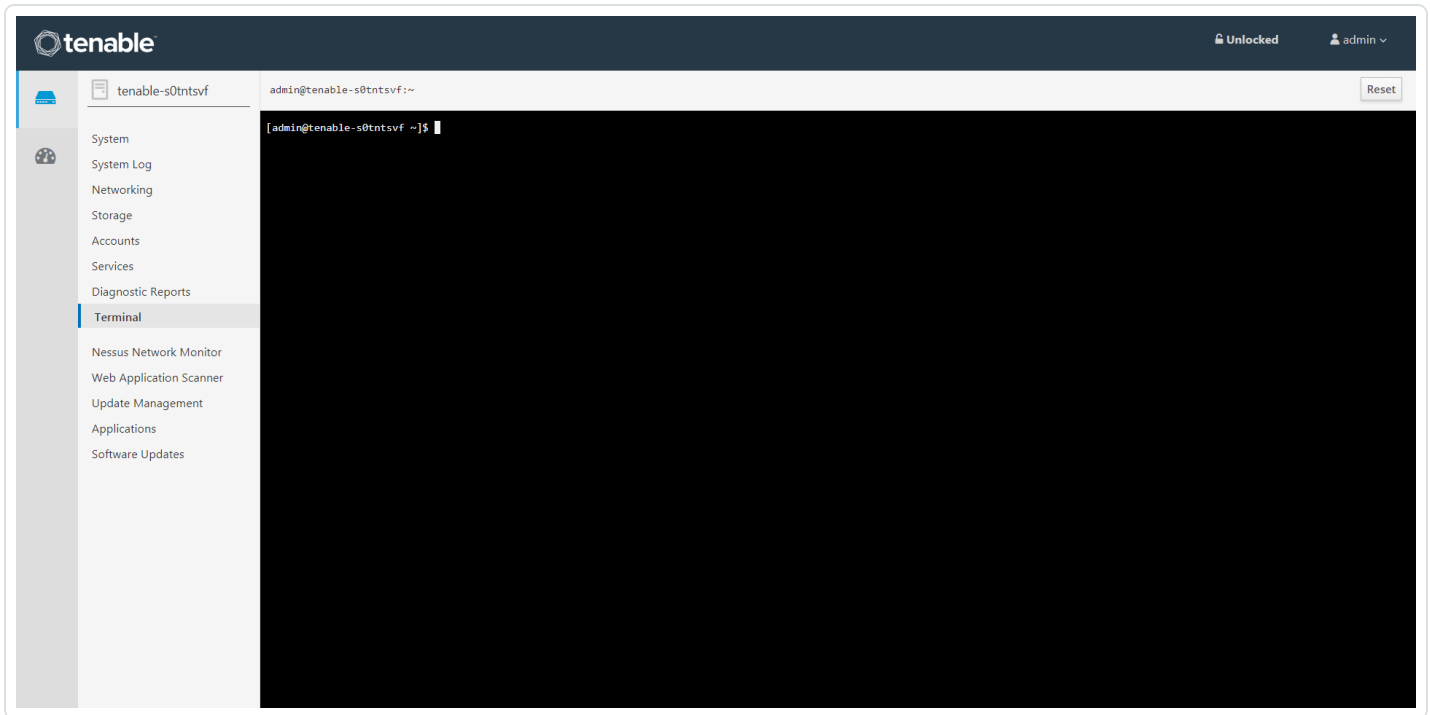
5. When the report is complete, the status displays **Done**.

6. Click the **Download Report** button to save and print the report.



Access the Terminal

The **Terminal** page provides a console to access a user-specific command-line interface.

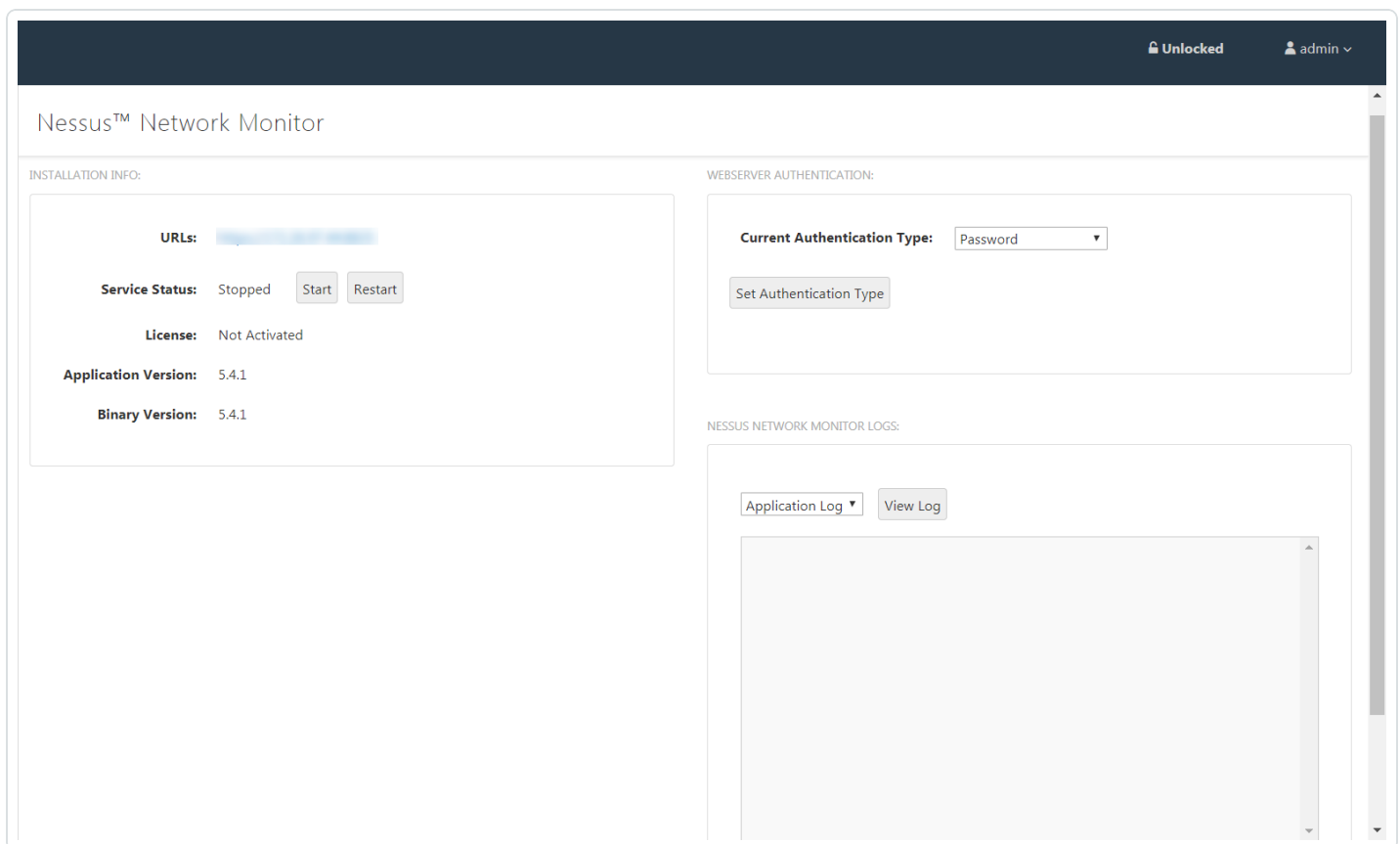




Configure Tenable Nessus Network Monitor in Tenable Core

Tenable Tenable Nessus Network Monitor (Tenable Nessus Network Monitor) is a network discovery and vulnerability analysis software solution, delivering real-time network profiling and monitoring for continuous assessment of an organization's security posture in a non-intrusive manner. The Tenable Nessus Network Monitor monitors network traffic at the packet layer to determine topology, services, and vulnerabilities. Where an active scanner takes a snapshot of the network in time, the Tenable Nessus Network Monitor behaves like a security motion detector on the network.

Activate and configure the Tenable Nessus Network Monitor application to make the system manageable via a browser, or used by Tenable Security Center or Tenable Vulnerability Management.



Installation Info

The Tenable Nessus Network Monitor Installation Info section provides information for the Tenable Nessus Network Monitor application. Users can view the URLs, Service Status, License, Application version, and Binary version.



Webserver Authentication

The Web Server Authentication section controls the configuration of the SSL Client Certificate authentication permissions. The two options are **password** or **SSL Client Certificate**. This setting controls the option available for users to log into the Tenable Nessus Network Monitor server via password authentication or SSL client certificate.

- The **SSL Client Certificate** option configures the Tenable Nessus Network Monitor web server to accept only connections from browsers that present a valid SSL client certificate. The web server rejects other connection attempts, with the exact message displayed dependent on the browser in use.
- The **password** option configures the server to ignore any SSL client certificates but allows the browser connection. This is the default setting and works with most browsers without issue.

Tenable Nessus Network Monitor Logs

The Tenable Nessus Network Monitor Logs section contains four different log types: Application log, Webserver log, PASL log, and Realtime log

1. Click on the drop-down menu to view the different logs.
2. After making your selection, click **view log**.



Configure a Proxy Server

If your organization configured a proxy server to conceal your IP address, share an internet connection on your local network, or control internet access on your network, set the proxy configuration in Tenable Core.

Note: This proxy configuration only applies to updates and Tenable Core + Tenable Web App Scanning connections. The proxy configuration for the application updates itself needs to be completed from the application user interface.

Before you begin:

- Log in to Tenable Core in a browser, as described in [Log In to Tenable Core](#).

To configure a proxy server:

1. In the left navigation bar, click **Update Management**.

The **Updates** page appears.

2. In the **Proxy Host** box, type the hostname and port for your proxy server in the format *hostname:port* (for example, `https://192.0.2.1:2345`).
3. (Optional) In the **Proxy Username** box, type a username for your proxy server.
4. (Optional) In the **Proxy Password** box, type a password for the proxy.
5. Click **Save Proxy**.

The system initiates your proxy configuration.



Start, Stop, or Restart Your Application

To start, stop, or restart your application via the user interface:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation bar, click **Tenable Nessus Network Monitor**.

The application page appears.

3. In the **Installation Info** section, click **Start**, **Stop**, or **Restart**.

To start, stop, or restart your application via the CLI:

1. Log in to Tenable Core via [the Terminal page](#) or command line interface (CLI).

The command line appears.

2. To change the status of your application, select your operating system in [Command Line Operations](#) in the *Tenable Nessus Network Monitor User Guide*.



Manage Updates

You can use the **Updates Management** page to manage your Tenable Core and application updates.

If your deployment is online, Tenable recommends:

- Configuring automatic updates. For more information, see [Configure Automatic Updates](#).
- Performing on-demand updates, as needed. For more information, see [Update On Demand](#).

If your deployment is offline, you can perform offline updates. For more information, see [Update Tenable Core Offline](#).



Configure Automatic Updates

By default, Tenable Core has automatic updates enabled.

If you deploy Tenable Core in an online environment, Tenable recommends keeping automatic updates enabled. When performing an automatic update, Tenable Core retrieves and installs:

- The latest version of Tenable Nessus Network Monitor.
- The latest version of host operating system included in Tenable Core.
- The latest version of any additional packages required by Tenable Core.
- The latest version of any additional host operating system packages you installed.

Note: Automatic updates described here only apply to the Tenable Core operating system. For information on Tenable Security Center feed updates, see the [Tenable Security Center user guide](#).

To configure automatic updates:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation pane, click **Update Management**.

The **Update Management** page appears.

3. In the **AUTOMATIC UPDATES** section, click the **Edit** link in the **Unit State** row.

The **Services** details page appears, displaying the details for the **Scheduled System Updates** service.

4. Confirm that you have set **Unit State** to enabled (set to enabled by default).

5. Review the schedule for the automatic updates and modify, if needed, as described in [Configure Your Automatic Update Schedule](#).



Configure Your Automatic Update Schedule

By default, Tenable Core has automatic updates set to enabled.

If you deploy Tenable Core in an online environment, Tenable recommends keeping automatic updates enabled.

To configure the schedule for your automatic updates:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation pane, click **Update Management**.

The **Update Management** page appears.

3. In the **AUTOMATIC UPDATES** section, click the link in **Timer Config Line**.

The **Edit Timer Configuration** window appears.

4. Modify the schedule.

Note: If you set both a **Day of week** and a **Day of month**, the system only performs updates on days when those two parameters are true. For example, if you set **Wednesday** as the **Day of week** and **8** as the **Day of month**, Tenable Core performs automatic updates only on the 8th of the month if it is a Wednesday.

Tip: Tenable Core uses Eastern Time as your default time zone, unless you modify it as described in [Edit Your Time Settings](#).

5. Click **Save**.

Tenable Core modifies the schedule for automatic updates.



Update On Demand

If you deploy Tenable Core in an online environment, you can perform updates on demand. When updating on demand, Tenable Core retrieves and installs the following:

- The latest version of Tenable Nessus Network Monitor.
- The latest version of host operating system included in Tenable Core.
- The latest version of any additional packages required by Tenable Core.
- The latest version of any additional host operating system packages you installed.

Before you begin (Tenable Core deployments with EL7 operating systems):

- Configure for Update Checks:
 1. Navigate to the **Updates Management** page.
 2. Click **Configure** when this pop-up appears:



Confirmation of the upgrade success appears:



To update on demand (Tenable Core deployments with EL7 operating systems):



1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation pane, click **Software Updates**.

The **Software Updates** page appears.

3. Click **Check for Updates**.

The page refreshes and displays available updates.

4. If updates are available, click **Install all updates**.

Tenable Core confirms the updates are successfully completed.

What to do next (Tenable Core deployments with EL7 operating systems):

1. If the update included any of the following packages, restart Tenable Core as described in [Restart Tenable Core](#).

- kernel
- glibc
- linux-firmware
- systemd

2. After manually updating, a pop-up screen appears directing you to restart:



Restart Recommended

Updated packages may require a restart to take effect.

Ignore

Restart Now

3. Restart your system.



Update Tenable Core Offline

Tenable recommends applying all offline updates, in order, to your offline Tenable Core machine. Do not skip offline updates.

For information about the contents of individual offline update files, see the [Tenable Core Release Notes](#).

Note: Service pack (SP) updates to Tenable OT Security may not be available for an online update in Tenable's repositories. Complete an offline update by downloading the latest installation ISO and performing the offline update procedure if you wish to update your version.

To upload a Tenable Core offline update .iso file:

1. Navigate to the Tenable Core Offline Update ISO section of the [Tenable Downloads](#) page.
2. Click and download the offline update .iso file.
3. Rename the offline update .iso file as **tenable-offline-updates.iso**.
4. Upload the file via scp. For example:

```
scp local-iso-file.iso user@host:/srv/tenablecore/offlineiso/tenable-offline-updates.iso
```

Note: The target line may vary; however, the destination must be the following path:
`/srv/tenablecore/offlineiso/tenable-offline-updates.iso`

After the upload, updates apply automatically at the configured time. You can also install updates manually.

Note: Once you upload the .iso file, no further action is needed. However, you can make subsequent updates by replacing the existing .iso file if desired.



Manage Certificates

From the **SSL/TLS Security Certificates** page, you can manage the certificates used by Tenable Core and your application.

[Manage the Server Certificate](#)

[Upload a Certificate for a Trusted Certificate Authority](#)

[Use Different Certificates for Tenable Core and Your Application](#)



Manage the Server Certificate

When you first deploy Tenable Core, Tenable provides a default server certificate for accessing the Tenable Core and application interfaces.

Tip: By default, Tenable Core uses the same certificates for Tenable Core as well as Tenable Nessus Network Monitor. To use a different server certificate for Tenable Nessus Network Monitor, see [Use Different Certificates for Tenable Core and Your Application](#).

Note: The default certificate is not signed by a recognized certificate authority (CA). If your browser reports that the Tenable Core or application server certificate is untrusted, Tenable recommends uploading a custom server certificate signed by a trusted certificate authority (CA) for Tenable Core and application use. For more information, see [Upload a Custom Server Certificate](#). Alternatively, you can download the Tenable-provided CA certificate (cacert.pem) for your server certificate and upload it to your browser.

If you upload a custom server certificate signed by a custom CA, you must also provide certificates in the chain to validate your custom server certificate.

For more information, see:

- [Upload a Custom Server Certificate](#)
- [Remove a Custom Server Certificate](#)



Upload a Custom Server Certificate

If you do not want to use the Tenable-provided server certificate, you can upload a custom server certificate to Tenable Core. For more information, see [Manage the Server Certificate](#).

You cannot upload multiple custom server certificates to Tenable Core. Uploading a new file replaces the existing file.

Tip: By default, Tenable Core uses the same certificates for Tenable Core as well as Tenable Nessus Network Monitor. To use a different server certificate for your application, see [Use Different Certificates for Tenable Core and Your Application](#).

Before you begin:

- Confirm your custom server certificate and key files use the *.der, *.pem, or *.crt extension.
- Move the custom server certificate and key files to a location accessible from your browser.

To upload a custom server certificate for Tenable Core:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation pane, click **SSL/TLS Certificates**.

The **SSL/TLS Certificates** page appears.

3. Click the **System Certificate** tab.
4. Locate the **Update Certificate** section in the **SERVER CERTIFICATES** section.



Update Certificate:

* Server Certificate:	<input type="button" value="Choose File"/>	No file chosen
* Server Key:	<input type="button" value="Choose File"/>	No file chosen
Intermediate Certificate:	<input type="button" value="Choose File"/>	No file chosen
Custom Root CA Certificate:	<input type="button" value="Choose File"/>	No file chosen

* - Required

5. Provide your **Server Certificate**.

- a. Click **Choose File**.

The upload window appears.

- b. Browse to and select the file.

Tenable Core loads the file.

6. Provide your **Server Key**.

- a. Click **Choose File**.

The upload window appears.

- b. Browse to and select the file.

Tenable Core loads the file.

7. (Optional) If your custom server certificate is signed by a custom CA that requires an intermediate certificate to validate the custom server certificate, provide your **Intermediate Certificate**.

- a. Click **Choose File**.

The upload window appears.

- b. Browse to and select the file.

Tenable Core loads the file.



8. (Optional) If your custom server certificate is signed by a custom CA, upload your **Custom Root CA Certificate**.

a. Click **Choose File**.

The upload window appears.

b. Browse to and select the file.

Tenable Core loads the file.

9. Click **Install Server Certificates**.

Tenable Core uploads the files. A success message appears to confirm the upload succeeded.

10. In the left navigation pane, click **Services**.

The **Services** page appears.

11. Restart the **Cockpit** service, as described in [Manage Services](#).

The **Cockpit** service restarts and enables the new certificate.



Remove a Custom Server Certificate

If you no longer want to use your custom server certificate for Tenable Core, you can remove the certificate and revert to using a Tenable-provided server certificate. For more information, see [Manage the Server Certificate](#).

To remove a custom server certificate and revert to the Tenable-provided default certificate:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation pane, click **SSL/TLS Certificates**.

The **SSL/TLS Certificates** page appears.

3. Click the **System Certificate** tab.

4. In the **SERVER CERTIFICATES** section, in the **Update Certificate** section, click **Reset Server Certificates**.

A confirmation window appears.

5. Click **Reset**.

A success message appears to confirm the reset succeeded.



Upload a Certificate for a Trusted Certificate Authority

You can upload a trusted certificate authority (CA) certificate for any of the following purposes:

- You want to use certificate authentication for user accounts on Tenable Nessus Network Monitor.

You do not need to upload a trusted CA certificate for any other reasons. You can upload any number of trusted CA certificates to Tenable Core.

Note: By default, Tenable Core uses the same certificates for Tenable Core as well as Tenable Nessus Network Monitor. To decouple the certificates used for your Tenable Core system and your application, see [Use Different Certificates for Tenable Core and Your Application](#).

If you decouple the certificates, Tenable Core disregards the custom CA certificate configuration on the **System Certificate** tab. Tenable Core does not use custom CA certificates for reasons other than the application use.

To view details about an existing certificate, click to expand the **Filename** section for a certificate. To remove an existing certificate, select the certificate and click the **Delete** button.

Before you begin:

- Confirm the trusted CA certificate is in .der, .pem, or .crt format.
- Move the trusted CA certificate to a location accessible from your Tenable Core server.

Upload a trusted CA certificate:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation pane, click **SSL/TLS Certificates**.

The **SSL/TLS Certificates** page appears.

3. Click the **System Certificate** tab.

4. In the **TRUSTED CERTIFICATE AUTHORITIES** section, in the **Add Certificate Authority** section, next to **Certificate**, click **Choose File**.



TRUSTED CERTIFICATE AUTHORITIES:

Current Authorities:

▶ Filename:	cacert.pem	✕
-------------	------------	---

Add Certificate Authority:

* Certificate: No file chosen

* - Required

The upload window appears.

5. Browse to and select the certificate file.

Tenable Core uploads the certificate file.

6. Click **Install Certificate Authority**.

A success message appears to confirm the upload succeeded.



Use Different Certificates for Tenable Core and Your Application

By default, Tenable Core uses the same certificates for Tenable Core as well as Tenable Nessus Network Monitor. If needed, you can decouple your system and application certificates and customize them independently.

Before you begin:

- Upload a custom server certificate for Tenable Core, as described in [Upload a Custom Server Certificate](#).

To decouple and customize your application certificates:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation pane, click **SSL/TLS Certificates**.

The **SSL/TLS Certificates** page appears.

3. Click the application tab.

The application tab appears.

4. Clear the **Reuse System Certificate** check box.

The application tab refreshes to display the settings in edit mode.

5. Remain on the application tab and configure the settings for your application-specific server certificate, as described in [Upload a Custom Server Certificate](#).

6. Remain on the application tab and configure the settings for one or more custom certificate authority (CA) certificate, as described in [Upload a Certificate for a Trusted Certificate Authority](#).

Note: If you upload a custom CA certificate on the application tab, Tenable Core disregards the custom CA certificate configuration on the **System Certificate** tab. Tenable Core does not use custom CA certificates for reasons other than the application use described in [Upload a Certificate for a Trusted Certificate Authority](#).



Application Data Backup and Restore

Backup and restore requires a connection to a remote storage host. When Tenable Core begins a scheduled or on-demand backup, your files are stored temporarily in `/opt/tenablecore/backup/spool` before being sent to the configured remote storage host.

Later, you can restore your backup data by uploading your backup file to Tenable Core.

For more information, see:

- [Configure a Remote Storage Host](#)
- [Perform an On-Demand Backup](#)
- [Change the Scheduled Backup Time](#)
- [Restore a Backup](#)

If you want to enable or disable a scheduled backup, click **Scheduled backups can be configured Here**.

Note: During a backup or a restore, Tenable Core stops the Tenable Nessus Network Monitor application service. You cannot use Tenable Nessus Network Monitor or the Tenable Nessus Network Monitor interface during this time.

After the backup or restore completes, your services restart and Tenable Nessus Network Monitor resumes normal function.

Tip: A virtual machine snapshot backs up the entire virtual machine (application-installed files, application data, OS files, and configurations.) To take a snapshot of your virtual machine, see [Take a Snapshot](#).

Remote Storage Host Requirements

The location where you store your backups must:

- Have rsync installed.
- Have an SSH server installed and running.
- Have sufficient storage space to hold your application's backup data. While application data size, and file compression varies, you could safely size your remote storage host by doubling



the disk space currently in use on your application.

- Have a user with write permissions to manage the remote storage host location.

Note: Tenable Core does not manage your remote storage system. If you have concerns about space on your remote storage system, remove backup files manually when you no longer need them.

Configuration-only Backups

Tenable recommends performing regular backups of your Tenable Core configuration in addition to your Tenable Core + Tenable Security Center data. You can restore a configuration backup to resume normal Tenable Core operation quickly as part of your disaster recovery plan. Along with standard backups, you can also perform a configuration-only backup:

The screenshot shows a web interface titled "Backup/Restore". Under the heading "AVAILABLE MODULES:", there is a section titled "Include in scheduled backups". This section contains two rows of options, each with a checkbox, a label, and a "Take Backup Now" button.

Module Name	Include in scheduled backups	Action
Tenable.sc	<input type="checkbox"/>	Take Backup Now
Tenable.sc Configuration Only	<input type="checkbox"/>	Take Backup Now



Note: Tenable Core + Tenable Security Center configuration-only backups don't include any of their data.

RESTORE SC-CONFIG-20211117-162157-TNSTENABLECORE-5_19_1.TAR.GZ?



This appears to be a Tenable.sc Configuration backup. Tenable Core is not able to verify its contents, but it is able to pass it to Tenable.sc to be restored. **Note: clicking restore will REMOVE ALL DATA before applying the packaged configuration.**

Backup taken for	Tenable.sc	
Backed up RPM version	unknown	
Backed up binary version	unknown	
Version currently installed	5.20.0	5.20.0
unpackagedSize:	unknown	

Restore Cancel

Caution: Restoring a Tenable Core + Tenable Security Center configuration-only backup erases all data before performing the restore.

For more information on Tenable Security Center configuration backups, see [Backup and Restore](#) in the Tenable Security Center documentation.

Tenable Core configuration backups do not include configurations for managed Tenable Core + Tenable Security Center instances, such as scans, scan policies, or credentials. Perform a separate backup for each Tenable Core + Tenable Security Center instance.

Configuration-only backups do not include data (such as vulnerability data, trend data, licenses, or secure connection settings). When your repositories contain new vulnerability data, you can use your dashboards, reports, and analysis tools to assess your network.

Note: After you restore a configuration backup, Tenable recommends performing discovery scans to re-populate your repositories with vulnerability data. For more information, see *Scanning Overview* in the [Tenable Security Center documentation](#).

Configuration-only backup requirements:



- Restore a backup file to a Tenable Core + Tenable Security Center running the same version. For example, you cannot restore a backup file created on version 5.20.0 to a Tenable Core + Tenable Security Center running a later version.

Note: For best performance after restoring a configuration backup, ensure the hostname associated with the configuration backup file matches the hostname on the receiving Tenable Core + Tenable Security Center.

Configurations Included in a Configuration-only Backup

For a complete list of configurations included in a configuration-only backup for Tenable Core + Tenable Security Center, see [Configurations Included in a Configuration Backup](#) in the Tenable Security Center documentation.



Configure a Remote Storage Host

Before you back up application data, you must establish a remote storage host with SSH key authentication and configure that host in Tenable Core.

Before you begin:

- Confirm your SSH private key for authenticating to the remote storage host is in OpenSSH key format.
- Prepare your remote storage host environment, as described in the [Remote Storage Host Requirements](#).
- Confirm that you can log in to your remote storage host using SSH key authentication.

Note: There are several ways to create your own SSH private key. These are not Tenable-specific processes. Consult your system administrator.

To configure your remote storage host:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation bar, click **Remote Storage**.

The **Remote Storage Configuration** page appears.

3. In the **Remote Host** box, type the hostname for the remote storage host where you want to store your backup files.
4. In the **Remote Path:** box, type the location on the remote host where you want to store your backup files.
5. In the **User** box, type the username for a user on the remote host with edit permissions for the remote path location.
6. In the **SSH private key** box, paste the SSH private key for authenticating to the remote storage host.
7. Click **Save Configuration**.

What to do next:



- Perform a backup, as described in [Perform a Backup on Demand](#).
- (Optional) Change your automatic backup schedule, as described in [Change Your Automatic Backup Schedule](#).
- (Optional) Restore a backup, as described in [Restore a Backup](#).



Perform an On-Demand Backup

Perform a backup of your application data anytime between scheduled backups. For more information about scheduled backups, see [Change the Scheduled Backup Time](#).

Note: During a backup or a restore, Tenable Core stops the Tenable Nessus Network Monitor application service. You cannot use Tenable Nessus Network Monitor or the Tenable Nessus Network Monitor interface during this time.

After the backup or restore completes, your services restart and Tenable Nessus Network Monitor resumes normal function.

Before you begin:

- Configure your remote storage host, as described in [Configure Remote Storage Host](#).

To perform an on-demand backup:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation bar, click **Backup/Restore**.

The **Backup/Restore** page appears.

3. In the **AVAILABLE MODULES** section, select the box next to the application you want to back up.

4. Click **Take Backup Now**.

The **BACKUP IN PROGRESS** window appears. The window disappears after the system completes the backup.

What to do next:

- (Optional) Restore the backup, as described in [Restore a Backup](#).



Change the Scheduled Backup Time

By default, Tenable Core backs up your applications daily at 2:30 AM local time. You can edit your schedule preferences in Tenable Core to change the time and frequency of your scheduled backups.

For more information about managing your time preferences, see [Edit Your Time Settings](#).

Note: Tenable Core cannot perform a backup (scheduled or on-demand) until you configure a remote storage host on your computer. For more information, see [Configure a Remote Storage Host](#).

To change the scheduled backup time:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation bar, click **Backup/Restore**.

The **Backup/Restore** page appears.

3. In the **AUTOMATIC BACKUPS** table, locate the **Timer Config Line** row.

4. Click **Edit**.

The **EDIT TIMER CONFIGURATION** window appears.

5. On the **EDIT TIMER CONFIGURATION** window, update the configuration based on your desired backup frequency:

Note: If you specify a day of the week and a day of the month for your scheduled backups, Tenable Core performs the backups only when those values overlap. For example, if you specify *Monday* and *15*, Tenable Core performs your backups only on Mondays that fall on the 15th day of the month.

Frequency	Configuration
Daily	<ul style="list-style-type: none">• In the Day of Week and Day of Month boxes, type an asterisk (*).• In the Hour box, type the hour when you want Tenable Core to perform a backup as an integer between 0 and 23.• In the Minute box, type the minute when you want Tenable Core



	to perform a backup as an integer between 0 and 59.
Weekly	<ul style="list-style-type: none">• In the Day of Week box, type the day of the week when you want Tenable Core to perform a backup (for example, <i>Monday</i> or <i>Mon</i>).• In the Day of Month box, type an asterisk (*).• In the Hour box, type the hour you want Tenable Core to perform a backup as an integer between 0 and 23.• In the Minute box, type the minute you want Tenable Core to perform a backup as an integer between 0 and 59.
Monthly	<ul style="list-style-type: none">• In the Day of Week box, type an asterisk (*).• In the Day of Month box, type the day of the month when you Tenable Core to perform a backup as an integer (for example, <i>15</i>).• In the Hour box, type the hour you want Tenable Core to perform a backup as an integer between 0 and 23.• In the Minute box, type the minute you want Tenable Core to perform a backup as an integer between 0 and 59.

6. Click **Save**.

Your scheduled backup time updates.

What to do next:

- (Optional) Perform an on-demand backup, as described in [Perform a Backup On Demand](#).
- (Optional) Restore the backup, as described in [Restore a Backup](#).



Restore a Backup

You can restore a backup to return an application to a prior state.

Note: During a backup or a restore, Tenable Core stops the Tenable Nessus Network Monitor application service. You cannot use Tenable Nessus Network Monitor or the Tenable Nessus Network Monitor interface during this time.

After the backup or restore completes, your services restart and Tenable Nessus Network Monitor resumes normal function.

Before you begin:

- Check your firewall settings and confirm that your computer can access port 8090 on Tenable Core, as described in [Access Requirements](#).

To restore an application backup:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation bar, click **Backup/Restore**.

The **Backup/Restore** page appears.

3. In the **UPLOAD AND RESTORE** section, click **Choose a file**.

Your file manager appears.

4. Select the desired backup file.

5. Click **Open**.

A details window for the backup appears.

6. If prompted, confirm that you want to upgrade or downgrade your current Tenable Core application version to match the application version from your backup file.

- a. Click **Install Correct Version**.

A confirmation window appears.

- b. Click **Replace**.



Tenable Core installs the correct version of your application.

The restore window appears.

7. Click **Restore**.

The system restores your backup to Tenable Core.

Note: Do not log out of Tenable Core or close your browser until after the **Uploading the archive** task is complete. If you end your session early, the restore fails.

When the restore finishes, a success message appears.

Tip: If the restore attempt fails, an error message appears with details and remediation instructions. Resolve the errors and click **Retry**.



SNMP Agent Configuration

If your organization uses a Simple Network Monitoring Protocol (SNMP) network management station (NMS) for device monitoring, you can install a net - snmp agent onto Tenable Core to report device data to your NMS.

You can use the user interface to configure common SNMPv2 or SNMPv3 settings. To configure other advanced or uncommon SNMP settings, use the CLI.

- [Configure an SNMP Agent via the User Interface](#)
- [Configure an SNMP Agent via the CLI](#)

To stop, start, restart, or reload the SNMP service in Tenable Core, or to view SNMP logs, see [Manage Services](#).



Configure an SNMP Agent via the User Interface

Required User Role: Administrator with **Reuse my password for privileged tasks** enabled

If your organization uses a Simple Network Monitoring Protocol (SNMP) network management station (NMS) for device monitoring, you can install a net - snmp agent onto Tenable Core to report device data to your NMS.

You can use the user interface to configure common SNMPv2c or SNMPv3 settings. To configure other advanced or uncommon SNMP settings, use the CLI as described in [Configure an SNMP Agent via the CLI](#).

To install and configure an SNMP agent on Tenable Core via the user interface:

1. Log in to Tenable Core via the user interface, as described in [Log In to Tenable Core](#).

The **System** page appears.

2. In the left navigation bar, click **SNMP**.

If you already installed an SNMP agent on Tenable Core, the **SNMP** page appears. If you do not have an SNMP agent installed on Tenable Core, the **Install SNMP Packages** window appears.

3. (Optional) In the **Install SNMP Packages** window, click **Install SNMP** to install the SNMP service.

Tenable Core installs the SNMP service and opens inbound ports 161 and 162 on Tenable Core.

The **SNMP** page appears.

4. In the **SNMP common setup** section, configure the contact properties you want to appear on your NMS for this instance of Tenable Core.

Option	Description
Contact	A name, email address, or other identifier for the person you want to list as the contact for questions about this instance of Tenable Core.



Location	A geographic, organizational, or other location descriptor for the person you want to list as the contact for questions about this instance of Tenable Core.
----------	--------------------------------------------------------------------------------------------------------------------------------------------------------------

5. If you want to grant an SNMPv2c NMS access to Tenable Core, in the **SNMPv2c access control setup** section, configure one or both of the settings:

Option	Description
read-only access community name	Specifies the read-only community string for the SNMPv2c NMS.
read-write access community name	Specifies the read-write community string for the SNMPv2c NMS.

6. If you want to grant an SNMPv3 NMS read-only access to Tenable Core, in the **SNMPv3 access control setup** section, configure the settings:

Option	Description
Read-only Hash algorithm	Specifies the read-only hash algorithm for the SNMPv3 NMS.
Read-only access user-name	Specifies the username and password for an account on the SNMPv3 NMS.
Read-only access user password	

7. If you want to grant an SNMPv3 NMS read-write access to Tenable Core, in the **SNMPv3 access control setup** section, configure the settings:

Option	Description
Read-write Hash algorithm	Specifies the read-write hash algorithm for the SNMPv3 NMS that you want to grant read-write access on Tenable Core.
Read-write	Specifies the username and password for an account on the



access username	SNMPv3 NMS.
Read-write	
access user pass- word	

8. Click **Save Configuration**.

Tenable Core saves your SNMP configuration.



Configure an SNMP Agent via the CLI

Required User Role: Root user

If your organization uses a Simple Network Monitoring Protocol (SNMP) network management station (NMS) for device monitoring, you can install a `net-snmp` agent onto Tenable Core to report device data to your NMS.

To install and configure an SNMP agent on Tenable Core via the CLI:

1. Prepare the `net-snmp` agent configuration file and add it to Tenable Core, as described in the *Net-SNMP Documentation*.

2. Log in to Tenable Core via [the Terminal page](#) or command line interface (CLI).

The command line appears.

3. In the `/etc/snmp/` directory, open the `snmpd.local.conf` file.

The file opens.

4. Locate the **IncludeFile** line in the file.

5. Comment out the **IncludeFile** line to instruct Tenable Core to ignore all current and future configurations on the **SNMP** page of the Tenable Core user interface.

Tenable Core ignores SNMP configurations in the Tenable Core user interface.



Take a Virtual Machine Snapshot

You can take a snapshot to back up your entire machine, including application-installed files, application data, OS files, and configurations.

Before you begin:

- Stop your instance of Tenable Core + Tenable Nessus Network Monitor, as described in [Start, Stop and Restart Tenable Core](#).

To take a snapshot of Tenable Core:

1. Take a snapshot, as described in the documentation for your environment.



FAQ

When are Tenable Core offline update ISOs released?

Tenable Core releases offline updates throughout the year on a quarterly basis, within two weeks after the end of a quarter.

Can I skip offline updates?

Tenable recommends that you apply updates in order. Tenable does not test, or support, skipping updates. If you have an old version of Tenable Core, it is best to back up the data and restore it on a newer version of Tenable Core.

Does Tenable provide old Tenable Core ISOs?

The [downloads page](#) has the current ISO and images from the last four quarters. Tenable does not provide any ISOs older than what is available on the downloads page. If you are looking for an older ISO to downgrade one of the products, you can follow the Tenable Core [documentation](#).

How can I find out what updates are in an offline Tenable Core ISO?

The [release notes](#) for offline ISOs have a section for package updates that are present in the ISO.

How long does it take for a Tenable software update to be available in Tenable Core?

Tenable Core holds a new version of Tenable Nessus until the general availability (GA) date in Tenable Vulnerability Management. This is usually a week after the stand-alone Tenable Nessus GA. Releases for other products on Tenable Core usually occur within 24 hours of the GA date.

How can I disable or reen able automatic updates?

Automatic update configuration is in Tenable Core [documentation](#).

Can I use a local repository for software updates?

Tenable Core does not support this feature. Tenable encourages you to submit a feature request.



How long will Tenable Core support RHEL/CentOS 7?

Tenable Core bases off of CentOS 7 and support ends when RHEL 7 support officially ends.

Why is Tenable Security Center down every morning?

Tenable Core shuts down Tenable Security Center if you have automatic updates enabled while detecting an updated version. If the update fails for any reason, or stalls because a service is not stopping, Tenable Security Center remains down pending user intervention. Automatic backups can also shut down Tenable Security Center, and if a problem occurs, it may not properly restart.

Does Tenable support X software that I installed on my Tenable Core instance?

You can install any software you wish on Tenable Core instances. Tenable does not support the additional software, but fully supports Tenable Core and the installed product in that situation. Tenable reserves the right to require that you remove the additional software if it is impacting an issue you are having, and requesting support for.

How do I reset my administrator password in Tenable Core?

The process to reset your password is in this [Tenable Community Knowledge Article](#).