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Welcome to Tenable Core + Nessus

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

To get started quickly with Tenable Core + Nessus, 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 Network Monitor
- Tenable Core + Tenable.sc
- Tenable Core + Tenable.io Web Application Scanning
- Tenable Core + Tenable.ot
- Tenable Core + Tenable.ot 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 + Nessus.

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 + Nessus.

3. (Optional) If you want to increase your disk space to accommodate your organization's data storage needs, do one of the following:
   - If you are deploying Tenable Core + Nessus as a virtual machine or on hardware, see [Disk Management](#).
   - If you are deploying Tenable Core + Nessus in a cloud environment, refer to your cloud platform's documentation for information about increasing disk space.

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 + Nessus deployment.

5. (Optional) If necessary, log in as a wizard user and create an administrator account, as described in [Create an Initial Administrator User Account](#).

   **Note:** You must create an administrator account if you deployed Tenable Core + Nessus via one of the following methods:
   - As a virtual machine
   - On hardware

   If you deployed Tenable Core + Nessus in a cloud environment and you did not create a password during deployment, you must **create a password for your administrator 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 Nessus to meet the specifications you want for your application.
   
   For more information about configuring and operating Nessus, see the [Nessus 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 + Nessus on any system that meets the following Tenable Core and Nessus 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 + Nessus, your application and system must meet the following requirements established for Nessus. For more information about Nessus requirements, see Nessus in the General Requirements User Guide.

**Note:** Tenable Support does not assist with issues related to your CentOS 7 operating system, even if you encounter them during installation or deployment.

<table>
<thead>
<tr>
<th>Environment</th>
<th>Tenable Core File Format</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtual Machine</td>
<td>VMware</td>
<td>.ova file</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deploy Tenable Core in VMware</td>
</tr>
<tr>
<td></td>
<td>Microsoft Hyper-V</td>
<td>.zip file</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deploy Tenable Core in Hyper-V</td>
</tr>
<tr>
<td>Cloud</td>
<td>Microsoft Azure</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deploy Tenable Core in Microsoft Azure</td>
</tr>
<tr>
<td>Hardware</td>
<td>.iso image</td>
<td>Install Tenable Core on Hardware</td>
</tr>
</tbody>
</table>

**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 + Nessus, your Nessus application must meet the requirements described in Nessus Licensing Requirements in the General Requirements User Guide.

Nessus Hardware Requirements

Enterprise networks can vary in performance, capacity, protocols, and overall activity. Resource requirements to consider for Nessus deployments include raw network speed, the size of the network being monitored, and the Nessus configuration.
**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.

Nessus Scanners and Nessus Professional Hardware Requirements

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Minimum Recommended Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scanning up to 50,000 hosts per scan</td>
<td><strong>CPU:</strong> 4 2GHz cores</td>
</tr>
<tr>
<td></td>
<td><strong>Memory:</strong> 4 GB RAM (8 GB RAM recommended)</td>
</tr>
<tr>
<td></td>
<td><strong>Disk space:</strong> 30 GB, not including space used by the host operating system</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> Your usage (e.g., scan results, plugin updates, and logs) increases the amount of disk space needed over time.</td>
</tr>
<tr>
<td>Scanning more than 50,000 hosts per scan</td>
<td><strong>CPU:</strong> 8 2GHz cores</td>
</tr>
<tr>
<td></td>
<td><strong>Memory:</strong> 8 GB RAM (16 GB RAM recommended)</td>
</tr>
<tr>
<td></td>
<td><strong>Disk space:</strong> 30 GB, not including space used by the host operating system</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> Your usage (e.g., scan results, plugin updates, and logs) increases the amount of disk space needed over time.</td>
</tr>
</tbody>
</table>

Nessus Manager Hardware Requirements

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Minimum Recommended Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nessus Manager with 0-10,000 agents</td>
<td><strong>CPU:</strong> 4 2GHz cores</td>
</tr>
<tr>
<td></td>
<td><strong>Memory:</strong> 16 GB RAM</td>
</tr>
<tr>
<td></td>
<td><strong>Disk space:</strong> 30 GB, not including space used by the host operating system</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> Scan results and plugin updates require more disk space over time.</td>
</tr>
<tr>
<td>Scenario</td>
<td>Minimum Recommended Hardware</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------</td>
</tr>
</tbody>
</table>
| Nessus Manager with 10,001-20,000 agents | **CPU:** 8 2GHz cores  
**Memory:** 64 GB RAM  
**Disk space:** 30 GB, not including space used by the host operating system. |

**Note:** Scan results and plugin updates require more disk space over time.

**Note:** Engage with your Tenable representative for large deployments.

Nessus Supported Browsers

Nessus supports the following browsers:

- Google Chrome (76+)
- Apple Safari (10+)
- Mozilla Firefox (50+)
Access Requirements

Your Tenable Core + Nessus 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.

<table>
<thead>
<tr>
<th>Environment</th>
<th>Tenable Core Format</th>
<th>Internet Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtual Machine</td>
<td>VMware</td>
<td>.ova file</td>
</tr>
<tr>
<td></td>
<td>Microsoft Hyper-V</td>
<td>.zip file</td>
</tr>
<tr>
<td>Cloud</td>
<td>Microsoft Azure</td>
<td>n/a</td>
</tr>
<tr>
<td>Hardware</td>
<td>.iso image</td>
<td></td>
</tr>
</tbody>
</table>

Tip: You do not need access to the internet when you install updates to Tenable Core + Nessus 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:
### Port Traffic

<table>
<thead>
<tr>
<th>Port</th>
<th>Traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP 22</td>
<td>Inbound SSH connections.</td>
</tr>
<tr>
<td>TCP 8000</td>
<td>Inbound HTTPS communications to the Tenable Core interface.</td>
</tr>
<tr>
<td>TCP 8090</td>
<td>Inbound HTTPS communications for restoring backups.</td>
</tr>
<tr>
<td></td>
<td>Inbound communications with the file upload server.</td>
</tr>
</tbody>
</table>

### Outbound Traffic

Allow outbound traffic to the following ports:

<table>
<thead>
<tr>
<th>Port</th>
<th>Traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP 22</td>
<td>Outbound SSH connections, including remote storage connections.</td>
</tr>
<tr>
<td>TCP 443</td>
<td>Outbound communications to the appliance.cloud.tenable.com server for system updates.</td>
</tr>
<tr>
<td>UDP 53</td>
<td>Outbound DNS communications for Nessus and Tenable Core.</td>
</tr>
</tbody>
</table>
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.

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'
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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 + Nessus in the following environments.

**Note:** Tenable Support does not assist with issues related to your CentOS 7 operating system, even if you encounter them during installation or deployment.

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<th>Environment</th>
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<tr>
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<td>Microsoft Azure</td>
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</tr>
<tr>
<td>Hardware</td>
<td>.iso image</td>
<td>Install Tenable Core on Hardware</td>
</tr>
</tbody>
</table>

**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 + Nessus as a VMware virtual machine, you must download the Tenable Core + Nessus .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.

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

1. Download the Tenable Core Nessus VMware Image file from the Tenable Downloads page.
2. Open your VMware virtual machine in the hypervisor.
3. Import the Tenable Core + Nessus 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 + Nessus 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 + Nessus deployment is complete.

What to do next:

- Continue getting started with Tenable Core + Nessus, as described in Get Started.
Deploy Tenable Core in Hyper-V

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

**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 + Nessus as a Hyper-V virtual machine:

1. Download the Tenable Core Nessus 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 + Nessus.
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 + Nessus, as described in **Get Started**.
Deploy Tenable Core in Microsoft Azure

It is typically simplest to create and configure Tenable Core + Nessus using the Microsoft Azure portal, as described in Deploy Tenable Core in Microsoft Azure via the Portal.

In some cases, you may prefer to use the Microsoft Azure command line interface (CLI) to deploy Tenable Core in Azure, as described in Deploy Tenable Core in Microsoft Azure via the CLI.
Deploy Tenable Core in Microsoft Azure via the Portal

It is typically simplest to create and configure Tenable Core + Nessus using the Microsoft Azure portal.

In some cases, you may prefer to use the Microsoft Azure command line interface (CLI) to deploy Tenable Core in Azure, as described in Deploy Tenable Core in Microsoft Azure via the CLI.

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 a Tenable Core + Nessus virtual machine via the Azure portal:

1. Log in to the Microsoft Azure portal. For more information, see the Microsoft Azure Documentation.
2. Create a new resource by searching for the TenableCore Nessus template.
3. Configure all desired options.

**Note:** If you want Tenable Core + Nessus to link automatically to Tenable.io on first boot, enter the following in the advanced settings using the custom data box:

```shell
#cloud-config
runcmd:
  # Link Nessus to tenable.io
  - /opt/nessus/sbin/nessuscli
    - managed
    - link
    - "--key=<Your Tenable.io linking key>"
    - "--cloud"
```

4. Start the virtual machine deployment.
Azure begins the virtual machine deployment. Azure displays a success message when finished.

What to do next:

- Continue getting started with Tenable Core + Nessus, as described in Get Started.
Deploy Tenable Core in Microsoft Azure via the CLI

It is typically simplest to create and configure Tenable Core + Nessus using the Microsoft Azure portal, as described in Deploy Tenable Core in Microsoft Azure via the Portal.

In some cases, you may prefer to use the Microsoft Azure command line interface (CLI) to deploy Tenable Core in Azure.

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 a Tenable Core + Nessus virtual machine via the Azure CLI:

1. In a text editor, open a new file.
2. If you want Tenable Core + Nessus to link automatically to Tenable.io on first boot, copy and paste the following configuration variables:

   ```
   #cloud-config
   runcmd:
   # Link Nessus to tenable.io
   -
     - /opt/nessus/sbin/nessuscli
     - managed
     - link
     - "--key=<Your Tenable.io linking key>"
     - "--cloud"
   ```
3. Save and close the configuration file.
4. Log in to the Azure CLI.
5. In the Azure CLI, run the `az vm create` command to deploy the file, using the following variables:

```
az vm create --size <The size of your virtual machine>
    --image <tenable:tenablecorenessus:tenablecorenessusbyol:latest>
    --resource-group <Your resource group name>
    --location <Your location (for example, eastus)>
    --name <The name you want to call your VM (for example, Nessus_123)>
    --admin-username <The username for your Tenable Core administrator>
    --admin-password <The password for your Tenable Core administrator>
```

**Tip:** For more information about the Azure CLI, see the *Microsoft Azure CLI Documentation*.

The system deploys your Tenable Core + Nessus virtual machine.

**What to do next:**

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

You can install Tenable Core + Nessus 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 + Nessus on hardware:

1. Download the Tenable Core Nessus 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 serial console, see the Tenable.ot User Guide.

The installer installs Tenable Core + Nessus on your hardware.

The installation begins if there are no configuration errors.

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

If you need to resolve configuration errors with your 4) Installation source and/or 5) Software selection settings, either 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.
**Note:** When installing on the Lenovo M90n-1 supported hardware platform, it is important that you connect the installer image to the right-most USB port on the side of the unit with the serial ports (location 10 in the following image):

![Diagram showing USB and serial port locations]

- For Lenovo hardware: nic0 is port 1, nic1 is port 3

To watch the install on either unit, you need to select the `ttyS0` console entry in the menu.

**What to do next:**

- Continue getting started with Tenable Core + Nessus, 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.

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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 + Nessus, 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 + Nessus 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`. 

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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 + Nessus 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>.

   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 + Nessus, 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 + Nessus, 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.

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.
Create a Password for the Initial Administrator User Account

If you deployed Tenable Core + Nessus in a cloud environment and did not create a password during deployment, you cannot access the Tenable Core interface. Create a password for your administrator account via SSH to access the Tenable Core interface.

You do not need to create a password via SSH when deploying Tenable Core + Nessus in any of the other supported environments.

Before you begin:

- Confirm you have an SSH client installed that can access your Tenable Core server.

To create a password for the initial administrator user account:

1. Open a connection to Tenable Core with your SSH client via one of the following methods:

   - If your SSH client uses a command-line interface (CLI), run the following command:
     
     ```
     ssh <your administrator username>@<your Tenable Core hostname or IP address>
     ```

   - If your SSH client uses a user interface, open the interface and follow the prompts to connect to Tenable Core via SSH.

     Tenable Core connects to your SSH client.

     **Note:** When prompted, provide your Tenable Core username via one of the following methods:

     - If you deployed in Amazon Web Service (AWS), type ec2-user as your username.
     - If you deployed in Microsoft Azure, type the username you configured during your deployment.

2. Run the `sudo passwd` command.

   ```
   sudo passwd "$USERNAME"
   ```

   The SSH client prompts you to provide a password.
3. Type the password you want to use for your administrator account.

4. Press **Enter**.

   Tenable Core assigns the password to your administrator account.

5. Run the **exit** command to log out of Tenable Core.

What to do next:

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

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

Before you begin:

- Deploy Tenable Core + Nessus, as described in Deploy or Install Tenable Core.

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. Select the Reuse my password for privileged tasks check box.

   **Note:** You cannot configure or manage your instance of Tenable Core + Nessus 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 Nessus in the Nessus User Interface

After you deploy Tenable Core + Nessus and complete the initial configuration tasks, complete the configuration steps for Nessus.

To configure Nessus:

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 Nessus.
   The Nessus page appears.

3. In the Nessus Installation Info section, next to URLs, click the URL hyperlink.
   The Welcome to Nessus page appears.

4. Complete the confirmation tasks for your selected Nessus product, as described in Configure Nessus in the Nessus User Guide.
Configure and Manage

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

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 Nessus 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 Dashboard.
   The Dashboard page appears.

You can:

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<th>Action</th>
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<td>• View a graph of the Memory usage on your instance.</td>
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<td>• View a graph of the Network bandwidth usage on your instance.</td>
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<td>• View a graph of the Disk I/O bandwidth usage on your instance.</td>
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<td></td>
<td>• To change the time range for data displayed in the graph:</td>
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<tr>
<td></td>
<td>1. In the top-right corner of the graph, click the drop-down box.</td>
</tr>
<tr>
<td></td>
<td>2. Select a time range.</td>
</tr>
<tr>
<td></td>
<td>The system refreshes the graph.</td>
</tr>
</tbody>
</table>

| Servers table | • 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:

<table>
<thead>
<tr>
<th>Section</th>
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<td>Section section</td>
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<td></td>
<td><a href="#">Change Performance Profile</a>.</td>
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<td></td>
<td>• Restart or shut down your instance, as described in <a href="#">Restart Tenable Core</a> and <a href="#">Shut Down Tenable Core</a>.</td>
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<tr>
<td></td>
<td>• Edit the hostname for your instance, as described in <a href="#">Edit Your Tenable Core Hostname</a>.</td>
</tr>
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<td></td>
<td>• Edit the time and time zone settings for your instance, as described in <a href="#">Edit Your Time Settings</a>.</td>
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</tbody>
</table>

| Data graphs      | • 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:          |
|                  |   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 System option. The System page displays.

3. Click on the link next to the Performance Profile option in the information list to the left of the graph charts. 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.
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.
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.
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 **System** option.

   The **System** page displays.

3. Click the link next to the **Host Name** option in the information list to the left of the graph charts.

   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](image)
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. Next to System Time, click the link. The Change System Time window appears.

3. 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.

4. 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**.

5. 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.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 24</td>
<td>11:21</td>
<td>Error probing device: Error sending STA command IDENTIFY PACKET DEVICE to /dev/sr3: ATA command failed: erro r=0x81 count=0x82 status=0x5b (g-i-o-err.. stored)</td>
</tr>
<tr>
<td>August 24</td>
<td>11:21</td>
<td>Error probing device: Error sending STA command IDENTIFY PACKET DEVICE to /dev/sr1: ATA command failed: erro r=0x81 count=0x82 status=0x5b (g-i-o-err.. stored)</td>
</tr>
<tr>
<td>August 24</td>
<td>11:21</td>
<td>Error probing device: Error sending STA command IDENTIFY PACKET DEVICE to /dev/sr8: ATA command failed: erro r=0x81 count=0x82 status=0x5b (g-i-o-err.. stored)</td>
</tr>
<tr>
<td>August 24</td>
<td>11:21</td>
<td>Error probing device: Error sending STA command IDENTIFY PACKET DEVICE to /dev/sr1: ATA command failed: erro r=0x81 count=0x82 status=0x5b (g-i-o-err.. stored)</td>
</tr>
<tr>
<td>August 24</td>
<td>11:21</td>
<td>Error probing device: Error sending STA command IDENTIFY PACKET DEVICE to /dev/sr1: ATA command failed: erro r=0x81 count=0x82 status=0x5b (g-i-o-err.. stored)</td>
</tr>
<tr>
<td>August 24</td>
<td>11:21</td>
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</tr>
<tr>
<td>August 24</td>
<td>11:21</td>
<td>Error probing device: Error sending STA command IDENTIFY PACKET DEVICE to /dev/sr1: ATA command failed: erro r=0x81 count=0x82 status=0x5b (g-i-o-err.. stored)</td>
</tr>
</tbody>
</table>

**August 21, 2017**

15:04: Fatal: Read from packet failed: Connection reset by peer [preauth]  

**August 20, 2017**

15:15: Failed to start Crash recovery kernel loading.  
15:15: Failed to start Network Manager Wait Online.  
15:14: piilex: kernel: 00:00:07.3: Host MBus controller not enabled!  
15:14: wd:0:0:0:0: [dev] Assuming drive cache: write through
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:

<table>
<thead>
<tr>
<th>Section</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Graphs</strong></td>
<td>• View a graph of the Sending (outbound) network traffic on your instance.</td>
</tr>
<tr>
<td></td>
<td>• View a graph of the Receiving (inbound) network traffic on your instance.</td>
</tr>
<tr>
<td><strong>Firewall section</strong></td>
<td>• View Firewall rules.</td>
</tr>
<tr>
<td></td>
<td>• Add Zones.</td>
</tr>
<tr>
<td></td>
<td>• Add Allowed Services.</td>
</tr>
<tr>
<td><strong>Interfaces table</strong></td>
<td>• Aggregate multiple network interfaces into a single-bonded interface, as described in Add a Bonded Interface.</td>
</tr>
<tr>
<td></td>
<td>• Add a team of interfaces, as described in Add a Team of Interfaces.</td>
</tr>
<tr>
<td></td>
<td>• Add a bridge to create a single aggregate network from multiple communication networks, as described in Add a Bridge Network.</td>
</tr>
<tr>
<td></td>
<td>• Add a VLAN, as described in Add a VLAN.</td>
</tr>
<tr>
<td>Networking Logs table</td>
<td>View a log of activity for the system network.</td>
</tr>
</tbody>
</table>
**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.
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: team0
Ports: ens192
Runner: Active Backup
Link Watch: Ethtool
Link up delay: 0
Link down delay: 0

[Apply] [Cancel]
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.
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

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>ens192</td>
</tr>
<tr>
<td>VLAN Id</td>
<td>1</td>
</tr>
<tr>
<td>Name</td>
<td>ens192.1</td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>Section</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Graphs</strong></td>
<td>• View a graph of the <strong>Reading</strong> storage activity on your instance.</td>
</tr>
<tr>
<td></td>
<td>• View a graph of the <strong>Writing</strong> storage activity on your instance.</td>
</tr>
<tr>
<td><strong>Filesystems</strong> table</td>
<td>• View information about each filesystem.</td>
</tr>
<tr>
<td></td>
<td>• Click a row to view more details about the filesystem.</td>
</tr>
<tr>
<td></td>
<td>• Rename a filesystem, as described in <a href="#">Rename a Filesystem</a>.</td>
</tr>
<tr>
<td></td>
<td>• Delete a filesystem, as described in <a href="#">Delete a Filesystem</a>.</td>
</tr>
</tbody>
</table>
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.
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:

<table>
<thead>
<tr>
<th>Section</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Name</strong></td>
<td>Type a name for the user account.</td>
</tr>
<tr>
<td><strong>Roles</strong></td>
<td>• To grant the user account administrator access, select the <strong>Server Administrator</strong> check box.</td>
</tr>
<tr>
<td></td>
<td>• To remove administrator access from the user account, clear the <strong>Server Administrator</strong> check box.</td>
</tr>
<tr>
<td><strong>Access</strong></td>
<td>• To lock the user account, select the <strong>Lock Account</strong> check box to lock the user account.</td>
</tr>
<tr>
<td></td>
<td>• To unlock the user account, clear the <strong>Lock Account</strong> check box to unlock the user account.</td>
</tr>
<tr>
<td></td>
<td>• To configure the account to remain unlocked indefinitely:</td>
</tr>
</tbody>
</table>
Note: If you do not configure the account to remain unlocked indefinitely, Tenable Core automatically locks the account on the set expiration date.

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.

   - Select an expiration date for the account:
     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.

---

<table>
<thead>
<tr>
<th><strong>Password</strong></th>
</tr>
</thead>
</table>

- To set a new user account password:

  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.
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.

     3. Click **Change**.

        Tenable Core sets the password to remain active indefinitely.

   - Select an expiration date for the user account password:

     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 90 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.

<table>
<thead>
<tr>
<th>Authorized Public SSH Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>• To add a public SSH key to the user account:</td>
</tr>
<tr>
<td>1. In the <strong>Authorized Public SSH Keys</strong> table, click the icon.</td>
</tr>
<tr>
<td>The <strong>Add public key</strong> window appears.</td>
</tr>
<tr>
<td>2. In the text box, type or paste your public SSH key.</td>
</tr>
<tr>
<td>3. Click <strong>Add key</strong>.</td>
</tr>
<tr>
<td>Tenable Core adds the SSH key to the user account.</td>
</tr>
<tr>
<td>• To remove a public SSH key:</td>
</tr>
<tr>
<td>1. In the <strong>Authorized Public SSH Keys</strong> table, next to the key you want to remove, click the icon.</td>
</tr>
<tr>
<td>Tenable Core removes the SSH key from your account.</td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>Tab</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targets</td>
<td>1. Click <strong>Stop, Start, Restart</strong>, or <strong>Reload</strong>.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong>: Restarting a service completely stops and restarts the service. Reloading a service only reloads the service's configuration files.</td>
</tr>
<tr>
<td></td>
<td>The system changes the status of the service.</td>
</tr>
<tr>
<td>System Services</td>
<td>• View a list of system services.</td>
</tr>
<tr>
<td></td>
<td>• Click a row to view detailed information about a service.</td>
</tr>
<tr>
<td></td>
<td>• To change the status of a service:</td>
</tr>
<tr>
<td></td>
<td>1. Click a row.</td>
</tr>
<tr>
<td></td>
<td>The service details page appears.</td>
</tr>
<tr>
<td></td>
<td>2. Click <strong>Stop, Start, Restart</strong>, or <strong>Reload</strong>.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong>: Restarting a service completely stops and restarts the service. Reloading a service only reloads the service's configuration files.</td>
</tr>
</tbody>
</table>
| **Sockets** | - View a list of socket 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.  
| **Timers** | - 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:  
  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.  
| **Paths** | - View a list of path services.  
| **The system changes the status of the service.** |
- 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.
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 Nessus in Tenable Core

The **Nessus** page displays summary information about your Nessus configuration.

**Nessus Installation Info**

The **Nessus Installation Info** section provides information for the Nessus application. You can view the URLs, Service Status, License, Challenge Code, Application version, and Binary version.

After you start up Tenable Core + Nessus, the message **Error: Invalid/Expired Activation Code** appears until you fully configure the Nessus application. For more information, see Configure **Nessus** in the **Nessus User Guide**.

**Edit Nessus Users**

The **Edit Nessus Users** section provides a place where you can update user passwords and configure user rules.

To update a password:

1. Select the user from the drop-down list.
2. Enter the New Password in the **New Password** field.
3. Confirm the New Password in the **Confirm New Password** field.
4. Click **Reset Password**. A green success message displays at the bottom of the card.

![Edit Nessus® Users]

To configure user rules:

1. Select the user from the drop-down list.
2. Click the **Configure User Rules** link. A new window opens with a text box to enter the user rules.
3. Enter the user rules and click **Save**.
4. A success message appears at the bottom of the **Edit Nessus User** card.

**Nessus Plugin Management**

The **Nessus Plugin Management** section enables users to update their Nessus plugin set manually. This is useful in offline situations where Tenable.sc will not have direct access to the Tenable plugin servers. It is important to disable the Tenable.sc nightly plugin update process when using the manual method.

**Note:** While performing these builds, Nessus cannot be running. Stop Nessus by selecting the Stop option in the Service Status section on the Nessus Installation Info card.

To rebuild the plugin database:
1. Click the **Rebuild Plugin Database** button.

2. A message with a status update that the system is rebuilding the plugin database appears at the bottom of the card.

3. A green Success message appears when the rebuild is complete.

To remove plugins:

1. Click the **Remove Plugins** button.

2. A message with a status update that the system is removing the plugins appears at the bottom of the card.

3. A green Success message appears when the removal is complete.

**Nessus 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 Nessus server via SSL client certificate or password authentication.

- The **SSL Client Certificate** option configures the Nessus 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 Nessus web server to ignore any SSL client certificates but allow the browser connection. This is the default setting and works with most browsers without issue.

To change the Nessus Webserver Authentication:

1. Click the arrow in the drop-down menu to display the options on the **Nessus Webserver Authentication** card.

2. Select the desired type of authentication.
3. Click Set Authentication Type to save the new selection. A green **Success** message appears to confirm the update and prompts you to restart Nessus for the changes to take effect.

![Set Authentication Type](image)

**Edit Nessus Rules**

This section allows you to define the `nessusd.rules`, that function the same as the user rules discussed above, to forbid or allow `nessusd` to connect to some or all ports for the specified IP address or Plugin ID. These rules affect Nessus globally regardless of the defined Nessus user rules.

1. Make edits directly in the text box displayed.
2. Click **Save Nessus Rules** to confirm the update.

**Nessus Logs**

The Nessus Logs section contains four different log types. Click on the drop-down menu to view the Backend log, Webserver log, Error log, and `nessusd.messages` log. 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.io Web Application 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 **Nessus**.
   
   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, see Nessus see, **Start or Stop Nessus**, in the Nessus **User Guide**.
Manage Updates

You can use the Updates Management page and the Software Updates 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 Nessus.
- The latest version of CentOS included in Tenable Core.
- The latest version of any additional packages required by Tenable Core.
- The latest version of any additional CentOS packages you installed.

Caution: Updates may not work with the released patches for Tenable.sc. You must install patches separately, as indicated in the patch release notes.

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 link in Scheduled updates can be enabled/disabled Here.

   The Services details page appears, displaying the details for the tenablecore.update.timer service.

4. Confirm that you have set Automatic Startup to enabled.

   Note: Tenable does not recommend disabling automatic updates or otherwise modifying Automatic Startup for the tenablecore.update.timer service.

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

What to do next:
• If the update included any of the following packages, restart Tenable Core as described in **Start, Stop, or Restart Your Application**.

  • kernel
  • glibc
  • linux-firmware
  • systemd
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 Nessus.
- The latest version of CentOS included in Tenable Core.
- The latest version of any additional packages required by Tenable Core.
- The latest version of any additional CentOS packages you installed.

**Caution:** Updates may not work with the released patches for Tenable.sc. You must install patches separately, as indicated in the [patch release notes](#).

Before you begin:

- Refresh the packages:
  1. Navigate to the **Updates Management** page.
  2. Click **Configure** when this pop-up appears:

    ![Configure Tenable Core Update Caching]

    This system is not configured to display the latest Tenable Core updates on the "Software Updates" page. Click "Configure" to configure it.

    ![Confirmation of the upgrade success appears]

    ✓ Success: Checking for Tenable Core updates has been fixed.

To update on demand:
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 performs the updates.

What to do next:

1. If the update included any of the following packages, restart Tenable Core as described in Start, Stop, or Restart Your Application.
   
   - kernel
   - glibc
   - linux-firmware
   - systemd

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

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 or on the next Tenable Core reboot. 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 Nessus. To use a different server certificate for Nessus, 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 Nessus. 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.
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 Nessus.
- You want to configure Nessus Manager to use your custom certificates when communicating with Nessus Agents.

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 Nessus. 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**.

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 Nessus. 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.

   - 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 Nessus application service. You cannot use Nessus or the Nessus interface during this time.

After the backup or restore completes, your services restart and Nessus 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.sc 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:
Note: Tenable Core + Tenable.sc configuration-only backups don't include any of their data.

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

For more information on Tenable.sc configuration backups, see Backup and Restore in the Tenable.sc documentation.

Tenable Core configuration backups do not include configurations for managed Tenable Core + Tenable.sc instances, such as scans, scan policies, or credentials. Perform a separate backup for each Tenable Core + Tenable.sc 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 repopulate your repositories with vulnerability data. For more information, see Scanning Overview in the Tenable.sc documentation.

Configuration-only backup requirements:
• Restore a backup file to a Tenable Core + Tenable.sc running the same version. For example, you cannot restore a backup file created on version 5.20.0 to a Tenable Core + Tenable.sc 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.sc.

Configurations Included in a Configuration-only Backup

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

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 Nessus application service. You cannot use Nessus or the Nessus interface during this time.

After the backup or restore completes, your services restart and Nessus 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.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>• In the Day of Week and Day of Month boxes, type an asterisk (*).&lt;br&gt;• In the Hour box, type the hour when you want Tenable Core to perform a backup as an integer between 0 and 23.</td>
</tr>
</tbody>
</table>
In the **Minute** box, type the minute when you want Tenable Core to perform a backup as an integer between 0 and 59.

### Weekly

- **Day of Week** box, type the day of the week when you want Tenable Core to perform a backup (for example, *Monday* or *Mon*).
- **Day of Month** box, type an asterisk (*).
- **Hour** box, type the hour you want Tenable Core to perform a backup as an integer between 0 and 23.
- **Minute** box, type the minute you want Tenable Core to perform a backup as an integer between 0 and 59.

### Monthly

- **Day of Week** box, type an asterisk (*).
- **Day of Month** box, type the day of the month when you want Tenable Core to perform a backup as an integer (for example, 15).
- **Hour** box, type the hour you want Tenable Core to perform a backup as an integer between 0 and 23.
- **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 Nessus application service. You cannot use Nessus or the Nessus interface during this time.

After the backup or restore completes, your services restart and Nessus 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.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact</td>
<td>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.</td>
</tr>
<tr>
<td>Location</td>
<td>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.</td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>read-only access community name</td>
<td>Specifies the read-only community string for the SNMPv2c NMS.</td>
</tr>
<tr>
<td>read-write access community name</td>
<td>Specifies the read-write community string for the SNMPv2c NMS.</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read-only Hash algorithm</td>
<td>Specifies the read-only hash algorithm for the SNMPv3 NMS.</td>
</tr>
<tr>
<td>Read-only access user-name</td>
<td>Specifies the username and password for an account on the SNMPv3 NMS.</td>
</tr>
<tr>
<td>Read-only access user password</td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read-write Hash algorithm</td>
<td>Specifies the read-write hash algorithm for the SNMPv3 NMS that you want to grant read-write access on Tenable Core.</td>
</tr>
<tr>
<td>Read-write access username</td>
<td>Specifies the username and password for an account on the SNMPv3 NMS.</td>
</tr>
<tr>
<td>Read-write</td>
<td></td>
</tr>
</tbody>
</table>
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 + Nessus, 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 Nessus until the general availability (GA) date in Tenable.io. This is usually a week after the stand-alone Nessus GA. Releases for other products on Tenable Core usually occur within 24 hours of the GA date.

**How can I disable or reenable 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.sc down every morning?**
Tenable Core shuts down Tenable.sc 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.sc remains down pending user intervention. Automatic backups can also shut down Tenable.sc, 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](https://tenable.com/community/knowledge/article).